Appendix A

Notice of Preparation and Scoping Comments

A-1 Notice of Preparation

A-2 Scoping Comments

A-1 Notice of Preparation

NOTICE OF PREPARATION

TO:	Office of Land Use & Climate Innovation, Responsible and Trustee Agencies, Other Public Agencies and Interested Parties	FROM:	City of Calexico 608 Heber Avenue Calexico, CA 92231 760.768.2105

SUBJECT: Notice of Preparation of a Draft Environmental Impact Report.

The City of Calexico will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The Project description, location, and the potential environmental effects are contained in the attached materials.

☐	A copy of the Initial Study IS attached.
☒	A copy of the Initial Study IS NOT attached.
☒	The proposed project IS considered a project of statewide, regional or areawide significance.
☐	The proposed project IS NOT considered a project of statewide, regional or areawide significance.
☒	The proposed project WILL affect highways or other facilities under the jurisdiction of the State Department of Transportation.
☐	The proposed project WILL NOT affect highways or other facilities under the jurisdiction of the State Department of Transportation.
☒	A scoping meeting WILL be held by the Lead Agency.
☐	A scoping meeting WILL NOT be held by the Lead Agency.

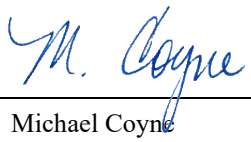
If the project meets the criteria requiring the scoping meeting, or if the agency voluntarily elects to hold such a meeting, the date, time and location of the scoping meeting are as follows:

Date: 4/9/2026	Time: 6pm	Location: Camarena Memorial Library 850 Encinas Avenue, Calexico, CA 92231

Due to the time limits mandated by State law, your response must be sent at the earliest possible date, but not later than 30 days after receipt of this notice.

Please send your response to Michael Coyne at the address shown above. We will need the name of a contact person in your agency.

Project Title:	City of Calexico Housing Element Update and Rezone Project
Project Location – Specific: Identify street address and cross street or attach a map showing project site (preferably a U.S.G.S. 15' or 7 ½' topographical map identified by quadrangle name):	Citywide (see attachment)
Project Description:	See attachment
Project Applicant (if any):	City of Calexico
California Environmental Protection Agency Hazardous Waste List (if applicable):	

Date: 3/19/2026	Signature:	
	Name:	Michael Coyne
	Title:	Planning & Building Director
	Telephone:	760.768.2105

Consulting firm retained to prepare draft EIR (if applicable):

Name:	Rick Engineering
Address:	5620 Friars Road
City/State/Zip:	San Diego, CA 92110
Contact Person:	Shannon Baer

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

NOTICE OF PREPARATION
of a Draft Program Environmental Impact Report, Notice of Public Scoping Meeting

Date: March 20, 2026

To: Office of Land Use and Climate Innovation, Responsible and Trustee Agencies, Other Public Agencies and Other Interested Parties

Subject: Notice of Preparation of a Draft Program Environmental Impact Report for the City of Calexico Housing Element Update and Rezone Project

Lead Agency: City of Calexico

Contact: Michael Coyne AICP, Director
City of Calexico
Planning & Building Department
608 Heber Avenue
Calexico, CA 92231
Telephone: 760.768.2105
Email: mcoyne@calexico.ca.gov

Review Period: March 20, 2026 to April 21, 2026

Purpose of this Notice

This Notice of Preparation (NOP) has been prepared to notify agencies and interested parties that the City of Calexico (City), as the Lead Agency, will prepare a Draft Program Environmental Impact Report (PEIR) pursuant to the California Environmental Quality Act (CEQA) for the proposed Housing Element Update and Rezone Project (Project). The City will be the lead agency under the CEQA for the project. This NOP describes the proposed project that will be analyzed in the Program EIR and identifies areas of probable environmental effects of the project. The purpose of this NOP is to provide agencies, interested parties, and organizations with sufficient information describing the proposed project and the potential environmental effects to enable meaningful input related to the scope and content of information to be included in the PEIR.

Public Review Period

As specified in the CEQA Guidelines, the NOP will be circulated for a 30-day review period. Agencies, organizations, and interested members of the public are invited to provide input on the scope of the environmental analysis. If you are a responsible or trustee agency, the views of your agency are requested as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Hard copies of the NOP will be available at City

Hall, at 608 Heber Ave, Calexico, CA 92231, and at the Camarena Memorial Library, at 850 Encinas Ave, Calexico, CA 92231. In the event that no response or well justified request for additional time is received by any responsible agency or trustee agency by the end of the review period, we presume that these agencies have no response.

The Notice of Preparation comment period closes at 5:00 p.m. on **April 21, 2026.** All comments concerning this environmental document must be submitted in writing to Project Contact, Michael Coyne, at the address or email provided above, prior to the close of the public comment period as noted above. Please include the commenter's full name, address, phone number and/or email so that we may contact you for clarification, if necessary. The City will consider all written comments received during the noticed public review period prior to approving the project.

The City will hold a scoping meeting to provide an opportunity for agency staff and interested members of the public to submit comments, either written or verbal, on the scope of the environmental issues to be addressed in the Program EIR. The scoping meeting will be held on **Thursday, April 9, 2026** from 6:00 p.m. to 7:00 p.m. at the City of Calexico **Camarena Memorial Library**, at 850 Encinas Ave, Calexico, CA 92231, within the Robert F. Morales Multipurpose Room. The scoping meeting will have an introductory presentation followed by public questions and answers. Written comments regarding relevant issues may be submitted at the meeting.

Project Location:
The project area includes the entirety of Calexico. The City of Calexico is located within the County of Imperial, about 200 miles southeast of Los Angeles 120 miles east of San Diego, and 60 miles west of Yuma. The city in its entirety is approximately 5,516.8 acres or 8.62 square miles. As shown in Figure 1, Regional Location, the City is generally bounded to the north by Imperial County, with Heber approximately 2 miles north; to the west, the All-American Canal separates Calexico from farmland and the Mt. Signal solar farm; to the east the City is bounded by Imperial County; and the southern boundary of the city is delineated by the U.S.- Mexico border.

Project Background:
The Housing Element is the City's main housing policy and planning document that identifies housing needs and constraints, sets forth goals, policies and programs that address these needs and constraints, and plans for projected housing needs for all income levels over an eight-year planning period that coincides with a Regional Housing Needs Allocation (RHNA) from the Southern California Association of Governments (SCAG). The City is required by State law to update its Housing Element every eight years. The Housing Element is a mandatory element of the City's General Plan and must be certified by the California Department of Housing and Community Development (HCD) that it meets strict statutory requirements. The Housing Element consists of four sections and four supporting appendices that cover the following main topics:

- Identification of a Housing Sites Inventory demonstrating adequate capacity to accommodate the RHNA allocation;
- Rezoning of commercial and industrial properties to allow residential or mixed-use development;
- Upzoning of select residential properties to increase allowable densities;
- Implementation programs to facilitate housing production and remove regulatory constraints; and
- Policies to affirmatively further fair housing and promote equitable housing opportunities.

Proposed Project:
The project consists of the following components: 1) the City of Calexico 6th Cycle 2021–2029 Housing

Element, 2) associated General Plan Amendments, and 3) Zoning Amendments to rezone the candidate sites listed in Table 1, Candidate Rezone Sites. The proposed project does not approve specific development projects. Rather, it establishes regulatory and policy changes that would allow future residential development consistent with amended land use designations and zoning standards. This project description is intended to provide the level of detail necessary to evaluate potential environmental effects of Housing Element implementation at a programmatic level.

The Housing Element Sites Inventory identifies suitable sites throughout the City, that can adequately accommodate the required housing capacity set forth by the City's RHNA, which for the 2021-2029 Sixth Cycle planning period is 4,868 housing units. The Sites Inventory identifies 53 sites throughout the City (Figure 2). The Sites Inventory has the capacity to accommodate a minimum of 7,939 housing units, consisting of 2,468 very low and low income, 1,835 moderate income, and 3,636 above moderate income units. Because the existing land uses throughout the City do not currently have the prescribed residential densities to meet the City's RHNA, of the 53 sites in the Sites Inventory, 34 sites have been identified as candidate housing sites for rezoning (see Table 1 below).

Potential Environmental Effect Areas:
The Program EIR will describe the reasonably foreseeable and potentially significant adverse effects of the proposed project (both direct and indirect). The Program EIR also will evaluate the cumulative impacts of the project when considered in conjunction with other related past, present, and reasonably foreseeable future projects. The City anticipates that the proposed project could result in potentially significant environmental impacts in the following topic areas, which will be further evaluated in the Program EIR.

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire
- Cumulative Effects
- Growth Inducing Effects

As environmental documentation for this project is completed, it will be available for review at the City's Planning & Building Department located at Calexico City Hall, 608 Heber Avenue, Calexico, CA 92231, and online at: **calexico.ca.gov**

Table 1: Candidate Rezone Sites

MAP ID#	APN	Address/Cross Street	Existing Zoning	Proposed Zoning*	Gross Acreage
5	059010020	Robinson Blvd.	R2	RC*	13.03
6	059010048	Robinson Blvd.	CH	RA*	4.25
7	059342030	615 Scaroni Rd.	CH	RA*	1.16
8	059342033	2402 Van De Graaf Ave.	CH	RA*	2.32
13	059491004	Cole Blvd.	CN	RA*	10.30
14	059496059	Cole Blvd.	CN	RC*	13.19
19	059471040	Cole Blvd.	CN	RA*	5.78
20	059471041	Cole Blvd.	CN	RA*	2.10
21	059471042	Cole Blvd.	CN	RA*	3.01
22	059455042	Cole Blvd.	CN	RA*	2.80
23	059180034	570 Bowker Rd.	NC	RA*	4.42
26	059180044A	Highway 98	CH	R2*	15.50
27	059180044B	Highway 98	R1	RA*	2.12
28	059441003	Sapphire St.	R1	RA*	7.79
31	059240040	Highway 98	CH	RC*	8.97
32	059240048	Highway 98	CH	RA*	2.94
33	059240050	Highway 98	CH	RA*	1.50

MAP ID#	APN	Address/Cross Street	Existing Zoning	Proposed Zoning*	Gross Acreage
34	058791005	1071 E Birch Ave	CH	RA*	6.60
35	058264002	1037 Rockwood Ave	CH	RC*	0.31
36	058294001	915 Ollie Ave.	IR	RA*	2.23
37	058400058	Pierce Ct.	IR	RA*	0.85
38	058400057	Pierce Ct.	IR	RA*	1.46
39	058400056	Pierce Ct.	IR	RA*	0.84
40	058400055	Pierce Ct.	IR	RA*	0.84
41	058400054	Sherman Ct.	IR	RA*	0.89
42	058400053	Sherman Ct.	IR	RA*	1.09
43	058400052	Sherman Ct.	IR	RA*	1.68
44	058400051	Sherman Ct.	IR	RA*	0.95
45	058400065	Sherman Ct.	IR	RA*	1.62
47	058233027	Lincoln St.	R1	R2*	1.24
50	058180090	Highway 98	CH	RA*	0.88
51	058180091	Highway 98	CH	RA*	0.90
52	058180092	Highway 98	CH	RA*	0.89
53	058180093	Highway 98	CH	RA*	1.61

*Indicates a rezone is required.

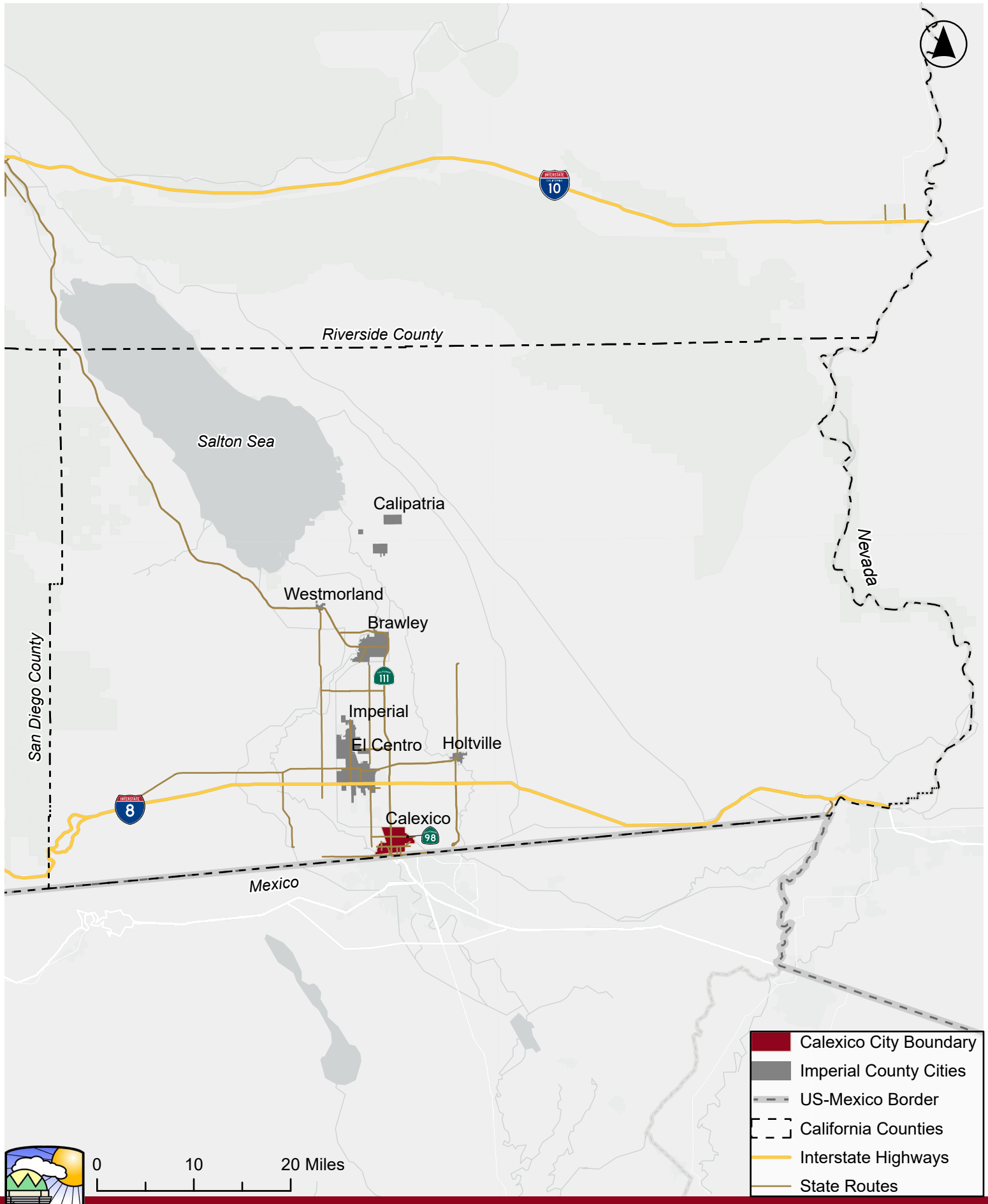


Figure 1:
Regional Location

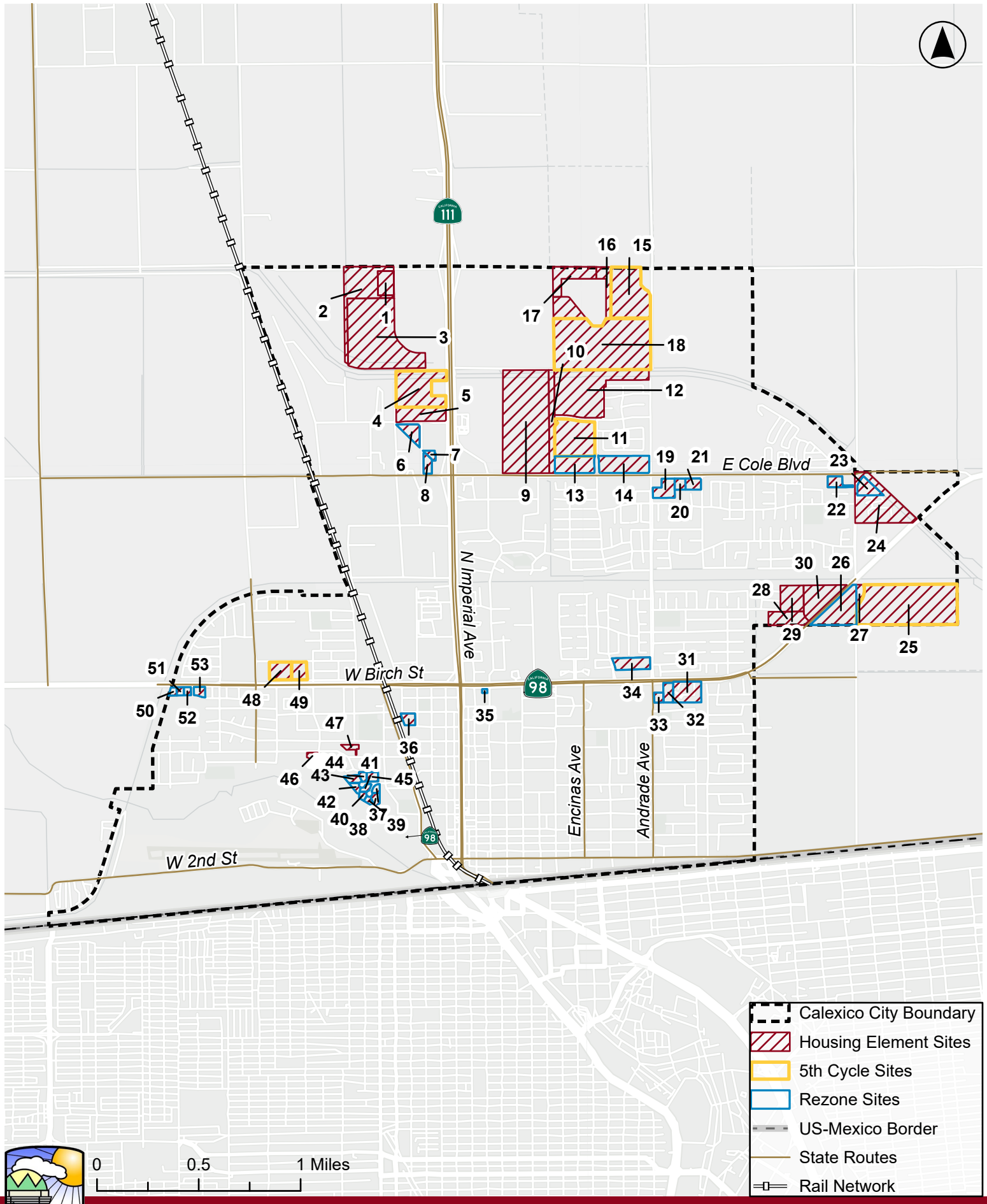


Figure 2:
Housing Element Sites

A-2 Scoping Comments

April 20, 2026

VIA ELECTRONIC MAIL ONLY

Michael Coyne AICP, Director
City of Calexico
Planning & Building Department
608 Heber Avenue
Calexico, CA 92231
Telephone: 760.768.2105
Email: mcoyne@calexico.ca.gov

Re Notice of Preparation of a Draft Program Environmental Impact Report for the City of Calexico Housing Element Update and Rezone Project

Dear Mr. Coyne:

This letter is a follow up to our recent discussions regarding the City's efforts to rezone certain properties consistent with its proposed Housing Element Update. On February 15, 2023, Alliance Investors, LLC applied to the City to rezone its property located at Highway 98 and Bowker Road (Assessor Parcel No. 059-180-029-00) from Residential Condominium (RC) to Industrial for potential warehouse and storage facility use ("Rezone Site"). The Rezone Site is surrounded by residential uses, including Alliance Investors' 114-single family home project (located on Assessor Parcel Nos. 059-180-025-00) originally approved by the City on January 19, 2022 ("Residential Project"). Alliance Investors plans to file its final map for the Residential Project in the next 60 days.

The Rezone Site would bring much-needed employment to the City and would be ideally located near these adjacent residential uses, further reducing any potential environmental effects of the Housing Element Update and Rezone Project. Accordingly, Alliance Investors supports and appreciates your email dated April 20, 2026 confirming the City's intent to include the Rezone Site as part of the Housing Element Update and Rezone Project to be analyzed in the Draft Environmental Impact Report ("EIR") under the California Environmental Quality Act ("CEQA"). The Notice of Preparation for the Draft EIR does not include the Rezone Site as part of the sites listed for future residential use, consistent with Alliance Investors' proposal to amend the zoning for the Rezone Site to Industrial. Including the Rezone Site as part of the proposed Housing Element Update

and Rezone Project and analyzing the Rezone Site in the Draft EIR at a programmatic level would ensure that any potential environmental effects would be adequately considered and avoid potential project segmentation under CEQA.

Alliance Investors reiterates its commitment to working with the City to implement the Residential Project and pursue the Rezone Site based on the highest and best use for the Rezone Site. Alliance Investors greatly appreciates staff's recent efforts to assist in this vision and looks forward to working with staff in the future.

Sincerely,



Thad L. Meyer, Manager

Alliance Investors

California Department of Transportation

DISTRICT 11
4050 TAYLOR STREET, MS-240
SAN DIEGO, CA 92110
PHONE (619) 985-1587 | FAX (619) 688-4299 TTY 711
www.dot.ca.gov

April 20, 2026

11-IMP- VAR
SR-98, SR-111
City of Calexico Housing Update NOP
SCH #2026030920

Mr. Michael Coyne
City of Calexico
Planning and Building
608 Heber Avenue
Calexico, CA 92231

Dear Mr. Coyne:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process of the Notice of Preparation (NOP) for the City of Calexico Housing Element Update and Rezone Project located near State Routes 111, and 98 (SR-98, SR-111). The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. The Local Development Review (LDR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities.

Caltrans has the following comments:

Safety
Safety is one of Caltrans' strategic goals. Caltrans aims for 2050 to be the first year with no deaths or serious injuries on California's roads. We seek more equitable outcomes for the diverse users of the transportation network. To reach these ambitious goals, we will collaborate meaningfully with our partners. We encourage the adoption of new technologies, innovations, and best practices that will improve transportation safety. These goals are ambitious and urgent, requiring a deliberate departure from the status quo as we embed safety into all aspects of our work.

Traffic Analysis
New developments resulting from the City of Calexico Housing Element should provide a Vehicle Miles of Travel (VMT) based Traffic Impact Study (TIS) should be provided for this project. Please use the Governor's Office of Planning and Research Guidance to identify VMT related impacts.[1]

[1] California Governor's Office of Planning and Research (OPR) 2018. "Technical Advisory on Evaluating Transportation Impacts in CEQA." https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

The TIS may also need to identify the proposed project's near-term and long-term safety or operational issues, on or adjacent any existing or proposed State facilities.

Future Housing Projects that are within the Housing Element will need to confirm with the Caltrans "Local Development Review (LDR) Safety Review Practitioner's Guidance" https://dot.ca.gov/-/media/dot-media/programs/safety-programs/documents/202402-ldr-safety-review-practitioners-guidance-a11y.pdf to determine if the project meets both of the screening criteria. If both screening criteria are not met, then a safety review will be needed.

Planning
As part of the City of Calexico Housing Element update 2021-2029, Caltrans requests that the City include discussions and mapping/graphics that describe the City's existing and future housing inventory per the City's Regional Housing Needs Assessment (RHNA).

Housing-element law requires a quantification of each jurisdiction's share of the regional housing need as established in the RHNA Plan prepared by the jurisdiction's metropolitan planning organization (MPO) or council of governments.

In accordance with California Government Code Sections 65583 and 65584, housing elements shall contain an analysis of population and employment trends and documentation of projections and quantification of the locality's existing and projected housing needs for all income levels. These projected needs shall include the locality's share of the regional housing needs (i.e. RHNA) per Government Code Section 65584.

Land Use and Smart Growth
Caltrans recognizes there is a strong link between transportation and land use. Development can have a significant impact on traffic and congestion on State transportation facilities. In particular, the pattern of land use can affect both local vehicle miles traveled and the number of trips. Caltrans supports collaboration with local agencies to work towards a safe, functional, interconnected, multi-modal transportation network integrated through applicable "smart growth" type land use planning and policies.

The City should continue to coordinate with Caltrans to implement necessary improvements at intersections and interchanges where the agencies have joint jurisdiction.

Noise
The applicant must be informed that, in accordance with 23 Code of Federal Regulations (CFR) 772, Caltrans is not responsible for existing or future traffic noise impacts associated with the existing configuration of SR-98 and SR-111.

Design
Please be aware of Caltrans SR-98 environmental document for the proposed improvements to state facilities in the Calexico area.

Please see attachment, *SR.98 Final ED,* for reference.

Hydraulics
Caltrans generally does not allow development projects to impact hydraulics within the State's Right of Way (R/W). Any modifications to existing Caltrans drainage and/or increased runoff to State facilities will not be allowed. It is recommended to connect to City drainage, not Caltrans' R/W.

Environmental
Should future projects based upon the changes enacted from the Housing Element have elements and/or mitigation measures that affect Caltrans' R/W, Caltrans would welcome the opportunity to be a Responsible Agency under the California Environmental Quality Act (CEQA).

Right-of-Way
Any work performed within Caltrans' R/W will require discretionary review and approval by Caltrans, and an encroachment permit will be required for any work within Caltrans' R/W before construction. As part of the encroachment permit process, the applicant must provide approved final environmental documents for this project, corresponding technical studies, and necessary regulatory and resource agency permits—specifically, CEQA determination or exemption. The supporting documents must address all environmental impacts within Caltrans' R/W and address any impacts from avoidance and/or mitigation measures.

Per Business and Profession Code 8771, perpetuation of survey monuments by a licensed land surveyor is required if they are being destroyed by any construction.

If you have any questions or concerns, please contact Roger Sanchez, of the LDR Branch, by phone (619) 987-1043 or by e-mail at roger.sanchez-rangel@dot.ca.gov.

Sincerely,

Kimberly D. Dodson

KIMBERLY D. DODSON, GISP
Branch Chief
Local Development Review

Attachments: SR.98 Final ED.

STATE OF CALIFORNIA
DEPARTMENT OF FISH AND WILDLIFE

GAVIN NEWSOM, Governor
MEGHAN HERTEL, Director

Inland Deserts Region
3602 Inland Empire Blvd., Suite C-220
Ontario, CA 91764
wildlife.ca.gov

April 20, 2026
Sent via email

Michael Coyne
City of Calexico
608 Herber Ave
Calexico, CA 92231
mcoyne@calexico.ca.gov

Subject: Notice of Preparation of a Draft Environmental Impact Report
Housing Element Update and Rezone Project
State Clearinghouse No. 2026030920

Dear Michael Coyne:

The California Department of Fish and Wildlife (CDFW) received a Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) from the City of Calexico for the Housing Element Update and Rezone Project (Project) pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's Trustee Agency for fish and wildlife resources, and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the Project proponent may seek related take authorization as provided by the Fish and Game Code.

PROJECT DESCRIPTION SUMMARY

The proposed Project is located within the entirety of Calexico. The City of Calexico is located within the County of Imperial, about 200 miles southeast of Los Angeles, 120 miles east of San Diego, and 60 miles west of Yuma. The City is generally bounded to the north by Imperial County, with Heber approximately 2 miles north; to the west, the All-American Canal separates Calexico from farmland and the Mt. Signal solar farm; to the east the City is bounded by Imperial County; and the southern boundary of the city is delineated by the U.S.- Mexico border.

The Project proposes the following components: 1) the City of Calexico 6th Cycle 2021–2029 Housing Element, 2) associated General Plan Amendments, and 3) Zoning Amendments to rezone the 34 candidate sites listed in Table 1 of the NOP, Candidate Rezone Sites. The proposed Project does not approve specific development projects. Rather, it establishes regulatory and policy changes that would allow future residential development consistent with amended land use designations and zoning standards.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist the City of Calexico in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

CDFW recognizes that the general plan EIR need not be as detailed as CEQA documents prepared for specific projects that may follow (CEQA Guidelines § 15146). CDFW also recognizes that the level of detail should be reflective of the level contained in the plan or plan element being considered (Rio Vista Farm Bureau Center v. County of Solano (1992) 5 Cal.App.4th 351). However, please note that the City of Calexico cannot defer the analysis of significant effects of the general plan to later-tiered CEQA documents (Stanislaus Natural Heritage Project v. County of Stanislaus (1996) 48 Cal.App.4th 182).

CDFW recommends that the forthcoming DEIR address the following:

Assessment of Biological Resources

Section 15125(c) of the CEQA Guidelines states that knowledge of the regional setting of a project is critical to the assessment of environmental impacts and that special emphasis should be placed on environmental resources that are rare or unique to the region. To enable CDFW staff to adequately review and comment on the project, the DEIR should include a complete assessment of the flora and fauna within and adjacent to the Project footprint, with particular emphasis on identifying rare, threatened, endangered, and other sensitive species and their associated habitats.

The CDFW recommends that the DEIR specifically include:

1. An assessment of the various habitat types located within the project footprint, and a map that identifies the location of each habitat type. CDFW recommends that floristic, alliance- and/or association-based mapping and assessment be completed following *The Manual of California Vegetation*, second edition (Sawyer et al. 2009[2]). Adjoining habitat areas should also be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions.

2. A general biological inventory of the fish, amphibian, reptile, bird, and mammal species that are present or have the potential to be present within each habitat type onsite and within adjacent areas that could be affected by the project. CDFW's California Natural Diversity Database (CNDDB) in Sacramento should be contacted at (916) 322-2493 or CNDDB@wildlife.ca.gov or https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data to obtain current information on any previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code, in the vicinity of the proposed Project.

   CDFW's CNDDB is not exhaustive in terms of the data it houses, nor is it an absence database. CDFW recommends that it be used as a starting point in gathering information about the *potential presence* of species within the general area of the project site.

3. A complete, *recent* inventory of rare, threatened, endangered, and other sensitive species located within the Project footprint and within offsite areas with the potential to be affected, including California Species of Special Concern (CSSC) and California Fully Protected Species (Fish & G. Code, § 3511). Species to be addressed should include all those which meet the CEQA definition (CEQA Guidelines § 15380). The inventory should address seasonal variations in use of the Project area and should not be limited to resident species. Focused species-specific surveys, completed by a qualified biologist and conducted at the appropriate time of year and time of day when the sensitive species

[2] Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens. 2009. A manual of California Vegetation, 2nd ed. California Native Plant Society Press, Sacramento, California. http://vegetation.cnps.org/

are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the U.S. Fish and Wildlife Service, where necessary. Note that CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years. Some aspects of the proposed Project may warrant periodic updated surveys for certain sensitive taxa, particularly if the Project is proposed to occur over a protracted time frame, or in phases, or if surveys are completed during periods of drought.

Burrowing Owl (*Athene cunicularia*)

On October 10, 2024, the Fish and Game Commission determined that western burrowing owl warrants protection as a candidate species under the California Endangered Species Act (Fish & G. Code, § 2050 et seq.). During the candidacy period, western burrowing owl will be afforded the same protection as threatened and endangered species under CESA. If Project activities, including burrow exclusion and closure, could result in take, appropriate CESA authorization (i.e., Incidental Take Permit under Fish and Game Code section 2081) should be obtained prior to commencement of Project activities.

The Project site has the potential to provide suitable foraging and/or nesting habitat for burrowing owl. Take of individual burrowing owls and their nests is defined by Fish and Game Code section 86, and prohibited by sections 3503, 3503.5 and 3513. Take is defined in Fish and Game Code section 86 as "hunt, pursue, catch, capture or kill, or attempt to hunt, pursue, catch, capture or kill." Fish and Game Code sections 3503, 3503.5, and 3513 afford protective measures as follows: section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game Code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by Fish and Game Code or any regulation adopted pursuant thereto. Fish and Game Code section 3513 makes it unlawful to take or possess any migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.).

CDFW recommends that the City of Calexico follow the recommendations and guidelines provided in the *Staff Report on Burrowing Owl Mitigation* (Department of Fish and Game, March 2012); available for download from CDFW's website: https://www.wildlife.ca.gov/conservation/survey-protocols. The Staff Report on Burrowing Owl Mitigation, specifies three steps for project impact evaluations:

a. A habitat assessment;

b. Focused surveys; and

c. An impact assessment

As stated in the Staff Report on Burrowing Owl Mitigation, the three progressive steps are effective in evaluating whether a project will result in impacts to burrowing owls, and the information gained from the steps will inform any subsequent avoidance, minimization, and mitigation measures. Habitat assessments are conducted to evaluate the likelihood that a site supports burrowing owl. Burrowing owl surveys provide information needed to determine the potential effects of proposed projects and activities on burrowing owls, and to avoid take in accordance with Fish and Game Code sections 86, 3503, and 3503.5. Impact assessments evaluate the extent to which burrowing owls and their habitat may be impacted, directly or indirectly, on and within a reasonable distance of a proposed CEQA project activity or non-CEQA project.

Within the 2012 Staff Report, the minimum habitat replacement recommendation was purposely excluded as it was shown to serve as a default, replacing any site-specific analysis and discounting the wide variation in natal area, home range, foraging area, and other factors influencing burrowing owls and burrowing owl population persistence in a particular area. It hypothesized that mitigation for permanent impacts to nesting, occupied, and satellite burrows and burrowing owl habitat should be on, adjacent or proximate to the impact site where possible and where habitat is sufficient to support burrowing owls present. If mitigation occurs offsite, it should include (a) permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and (b) be sufficiently large acreage with the presence of fossorial mammals. Furthermore, the report noted that suitable mitigation lands should be based on a comparison of the habitat attributes of the impacted and conserved lands, including but not limited to: type and structure of habitat being impacted or conserved; density of burrowing owls in impacted and conserved habitat; and significance of impacted or conserved habitat to the species range-wide.

4. A thorough, recent, floristic-based assessment of special status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018[3])

[3] CDFW, 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities, State of California, California Natural Resources Agency, Department of Fish and Wildlife: March 20, 2018 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline)

5. Information on the regional setting that is critical to an assessment of environmental impacts, with special emphasis on resources that are rare or unique to the region (CEQA Guidelines § 15125[c]).

6. A full accounting of all open space and mitigation/conservation lands within and adjacent to the Project.

Analysis of Direct, Indirect, and Cumulative Impacts to Biological Resources

The DEIR should provide a thorough discussion of the direct, indirect, and cumulative impacts expected to adversely affect biological resources as a result of the Project, including the plan's land use designations, policies and programs. To ensure that Project impacts to biological resources are fully analyzed, the following information should be included in the DEIR:

1. A discussion of potential impacts from lighting, noise, human activity (e.g., recreation), defensible space, and wildlife-human interactions created by zoning of development projects or other project activities adjacent to natural areas, exotic and/or invasive species, and drainage. The latter subject should address Project-related changes on drainage patterns and water quality within, upstream, and downstream of the Project site, including: volume, velocity, and frequency of existing and post-Project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and post-Project fate of runoff from the Project site.

   With respect to defensible space: please ensure that the DEIR fully describes and identifies the location, acreage, and composition of defensible space *within* the proposed Project footprint. Please ensure that any graphics and descriptions of defensible space associated with this project comply with applicable agency regulations/requirements. The City of Calexico, through their planning processes, should be ensuring that defensible space is provided and accounted for *within proposed development areas*, and not transferred to adjacent open space or conservations lands. Please note that lands proposed to be managed for defensible space purposes will have lower conservation resource value as they require in-perpetuity vegetation management.

2. A discussion of potential indirect Project impacts on biological resources, including resources in areas adjacent to the project footprint, such as nearby public lands (e.g., National Forests, State Parks, etc.), open space, adjacent natural habitats, riparian ecosystems, wildlife corridors, and any designated and/or proposed reserve or mitigation lands (e.g., preserved lands associated with a Natural Community Conservation Plan, or other conserved lands).

   Please note that the Project area supports significant biological resources and contains habitat connections, providing for wildlife movement across the broader landscape, sustaining both transitory and permanent wildlife populations. CDFW encourages project

design that avoids and preserves onsite features that contribute to habitat connectivity. The DEIR should include a discussion of both direct and indirect impacts to wildlife movement and connectivity, including maintenance of wildlife corridor/movement areas to adjacent undisturbed habitats.

3. An evaluation of impacts to adjacent open space lands from both the construction of the Project and any long-term operational and maintenance needs.

4. A cumulative effects analysis developed as described under CEQA Guidelines section 15130. The DEIR should analyze the cumulative effects of the plan's land use designations, policies and programs on the environment. Please include all potential direct and indirect Project related impacts to riparian areas, wetlands, vernal pools, alluvial fan habitats, wildlife corridors or wildlife movement areas, aquatic habitats, sensitive species and other sensitive habitats, open lands, open space, and adjacent natural habitats in the cumulative effects analysis. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.

Alternatives Analysis

CDFW recommends the DEIR describe and analyze a range of reasonable alternatives to the Project that are potentially feasible, would "feasibly attain most of the basic objectives of the Project," and would avoid or substantially lessen any of the Project's significant effects (CEQA Guidelines § 15126.6[a]). The alternatives analysis should also evaluate a "no project" alternative (CEQA Guidelines § 15126.6[e]). The no Project alternative should evaluate how the changing environment, such as climate change and drought, may affect the community if a new or revised general plan were not adopted.

Mitigation Measures for Project Impacts to Biological Resources

The DEIR should identify mitigation measures and alternatives that are appropriate and adequate to avoid or minimize potential impacts, to the extent feasible. The City of Calexico should assess all direct, indirect, and cumulative impacts that are expected to occur as a result of the implementation of the Project and its long-term operation and maintenance. When proposing measures to avoid, minimize, or mitigate impacts, CDFW recommends consideration of the following:

1. *Fully Protected Species*: Fully protected species, such as ringtail (*Bassariscus astutus*) and California Ridgway's rail (*Rallus obsoletus obsoletus*), may not be taken or possessed at any time and no licenses or permits may be issued for their take except as follows:

    - Take is for necessary scientific research,

    - Efforts to recover a fully protected, endangered, or threatened species,

- Live capture and relocation of a bird species for the protection of livestock, or
- They are a covered species whose conservation and management is provided for in a Natural Community Conservation Plan (Fish & G. Code, §§ 3511, 4700, 5050, & 5515).

Specified types of infrastructure projects may be eligible for an incidental take permit for unavoidable impacts to fully protected species if certain conditions are met (see Fish & G. Code §2081.15). Project proponents should consult with CDFW early in the project planning process.

Project activities described in the DEIR should generally be designed to completely avoid any fully protected species that have the potential to be present within or adjacent to the Project area. CDFW also recommends that the DEIR fully analyze potential adverse impacts to fully protected species due to habitat modification, loss of foraging habitat, and/or interruption of migratory and breeding behaviors. CDFW recommends that City of Calexico include in the analysis how appropriate avoidance, minimization, and mitigation measures will reduce indirect impacts to fully protected species.

2. *Sensitive Plant Communities*: CDFW considers sensitive plant communities to be imperiled habitats having both local and regional significance. Plant communities, alliances, and associations with a statewide ranking of S-1, S-2, S-3, and S-4 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by querying the CNDDB and are included in *The Manual of California Vegetation* (Sawyer et al. 2009). The DEIR should include measures to fully avoid and otherwise protect sensitive plant communities from project-related direct and indirect impacts.

3. *California Species of Special Concern* (CSSC): CSSC status applies to animals generally not listed under the federal Endangered Species Act or the CESA, but which nonetheless are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. CSSCs should be considered during the environmental review process. CSSC have the potential or have been documented to occur within or adjacent to the Project area, including, but not limited to: American badger (*Taxidea taxus*), Western yellow bat (*Lasiurus xanthinus*), least bittern (*Ixobrychus exilis*), and yellow warbler (*Dendroica petechia*).

4. *Mitigation*: CDFW considers adverse project-related impacts to sensitive species and habitats to be significant to both local and regional ecosystems, and the DEIR should include mitigation measures for adverse project-related impacts to these resources. Mitigation measures should emphasize avoidance and reduction of project impacts. For unavoidable impacts, onsite habitat restoration and/or enhancement, and preservation should be evaluated and discussed in detail. Where habitat preservation is not available onsite, offsite land acquisition, management, and preservation should be evaluated and discussed in detail.

The DEIR should include measures to perpetually protect the targeted habitat values within mitigation areas from direct and indirect adverse impacts in order to meet mitigation objectives to offset project-induced qualitative and quantitative losses of biological values. Specific issues that should be addressed include restrictions on access, proposed land dedications, long-term monitoring and management programs, control of illegal dumping, water pollution, increased human intrusion, etc.

If sensitive species and/or their habitat may be impacted from the Project, CDFW recommends the inclusion of specific mitigation in the DEIR. CEQA Guidelines section 15126.4, subdivision (a)(1)(8) states that formulation of feasible mitigation measures should not be deferred until some future date. The Court of Appeal in *San Joaquin Raptor Rescue Center* v. *County* of *Merced* (2007) 149 Cal.App.4th 645 struck down mitigation measures which required formulating management plans developed in consultation with State and Federal wildlife agencies after Project approval. Courts have also repeatedly not supported conclusions that impacts are mitigable when essential studies, and therefore impact assessments, are incomplete *(Sundstrom* v. *County* of *Mendocino* (1988) 202 Cal. App. 3d. 296; *Gentry* v. *City* of *Murrieta (1995)* 36 Cal. App. 4th 1359; *Endangered Habitat League, Inc.* v. *County* of *Orange* (2005) 131 Cal. App. 4th 777).

CDFW recommends that the DEIR specify mitigation that is roughly proportional to the level of impacts, in accordance with the provisions of CEQA (CEQA Guidelines, §§ 15126.4(a)(4)(B), 15064, 15065, and 16355). The mitigation should provide long-term conservation value for the suite of species and habitat being impacted by the Project. Furthermore, in order for mitigation measures to be effective, they need to be specific, enforceable, and feasible actions that will improve environmental conditions.

5. *Habitat Revegetation/Restoration Plans*: Plans for restoration and revegetation should be prepared by persons with expertise in southern California ecosystems and native plant restoration techniques. Plans should identify the assumptions used to develop the proposed restoration strategy. Each plan should include, at a minimum: (a) the location of restoration sites and assessment of appropriate reference sites; (b) the plant species to be used, sources of local propagules, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) a local seed and cuttings and planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity. Monitoring of restoration areas should extend across a sufficient time frame to ensure that the new habitat is established, self-sustaining, and capable of surviving drought.

   CDFW recommends that local onsite propagules from the Project area and nearby vicinity be collected and used for restoration purposes. Onsite seed collection should be

initiated in advance of project impacts in order to accumulate sufficient propagule material for subsequent use in future years. Onsite vegetation mapping at the alliance and/or association level should be used to develop appropriate restoration goals and local plant palettes. Reference areas should be identified to help guide restoration efforts. Specific restoration plans should be developed for various project components as appropriate.

Restoration objectives should include protecting special habitat elements or re-creating them in areas affected by the Project; examples could include retention of woody material, logs, snags, rocks, and brush piles.

6. *Nesting Birds and Migratory Bird Treaty Act:* Please note that it is the Project proponent's responsibility to comply with all applicable laws related to nesting birds and birds of prey. Fish and Game Code sections 3503, 3503.5, and 3513 afford protective measures as follows: Fish and Game Code section 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game Code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by Fish and Game Code or any regulation adopted pursuant thereto. Fish and Game Code section 3513 makes it unlawful to take or possess any migratory nongame bird except as provided by the rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.).

   CDFW recommends that the DEIR include the results of avian surveys, as well as specific avoidance and minimization measures to ensure that impacts to nesting birds do not occur. Project-specific avoidance and minimization measures may include, but not be limited to: project phasing and timing (e.g., conducting work outside the peak nesting season), monitoring of project-related noise (where applicable), sound walls, and buffers, where appropriate. The DEIR should also include specific avoidance and minimization measures that will be implemented should a nest be located within the project site. If pre-construction surveys are proposed in the DEIR, the CDFW recommends that they be required no more than three (3) days prior to vegetation clearing or ground disturbance activities, as instances of nesting could be missed if surveys are conducted sooner. CDFW recommends that disturbance of occupied nests of migratory birds and raptors within the Project site and surrounding area be avoided any time birds are nesting on-site. CDFW therefore recommends the completion of nesting bird surveys *regardless of the time of year* to ensure compliance with all applicable laws pertaining to nesting and migratory birds.

7. *Moving out of Harm's Way:* To avoid direct mortality to any non-listed terrestrial wildlife, CDFW recommends that the lead agency condition the DEIR to require that a CDFW-

approved qualified biologist be retained to be onsite prior to and during all ground- and habitat-disturbing activities to inspect the Project area prior to any Project activities. Any individuals found shall not be harassed and shall be allowed to leave the Project area unharmed. If needed, a qualified biologist may guide, handle, or capture an individual non-listed, non–fully protected wildlife species to move it to a nearby safe location within nearby refugium, or it shall be allowed to leave the Project site of its own volition. Capture methods may include hand, dip net, lizard lasso, snake tongs and snake hook. If the wildlife species is discovered or is caught in any pits, ditches, or other types of excavations, the qualified biologist shall release it into the most suitable habitat near the site of capture. Movement of wildlife out of harm's way should be limited to only those individuals that would otherwise by injured or killed, and individuals should be moved only as far a necessary to ensure their safety (i.e., CDFW does not recommend relocation to other areas). Only biologists with appropriate authorization by CDFW shall move CESA-listed species. Furthermore, it should be noted that the temporary relocation of onsite wildlife does not constitute effective mitigation for the purposes of offsetting Project impacts associated with habitat loss.

8. *Translocation of Species*: CDFW generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species as studies have shown that these efforts are experimental in nature and largely unsuccessful.

California Endangered Species Act

CDFW is responsible for ensuring appropriate conservation of fish and wildlife resources including threatened, endangered, and/or candidate plant and animal species, pursuant to CESA. CDFW recommends that a CESA Incidental Take Permit (ITP) be obtained if the Project has the potential to result in "take" (California Fish and Game Code Section 86 defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") of State-listed CESA species, either through construction or over the life of the project. It is the policy of CESA to conserve, protect, enhance, and restore State-listed CESA species and their habitats.

CDFW encourages early consultation, as significant modification to the proposed Project and avoidance, minimization, and mitigation measures may be necessary to obtain a CESA ITP. CDFW must comply with CEQA for issuance of a CESA ITP. CDFW therefore recommends that the DEIR addresses all Project impacts to listed species and specify a mitigation monitoring and reporting program that will meet the requirements of CESA.

Based on review of CNDDB and Biogeographic Information and Observation System (BIOS), and/or knowledge of the project site/vicinity/general area, CDFW is aware that the following CESA-listed species have the potential to occur onsite/have previously been reported onsite:

least Bell's vireo (*Vireo bellii pusillus*), burrowing owl (*Athene cunicularia*), and tricolored blackbird (*Agelaius tricolor*).

CDFW Lake and Streambed Alteration Program

Based on review of material submitted with the NOP and review of aerial photography, the New River, the All American Canal, and various agricultural drains traverse various portions of the City of Calexico and Project area. Depending on how the Project is designed and constructed, it is likely that the Project applicant will need to notify CDFW per Fish and Game Code section 1602. Fish and Game Code section 1602 requires an entity to notify CDFW prior to commencing any activity that may do one or more of the following: Substantially divert or obstruct the natural flow of any river, stream or lake; Substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or Deposit debris, waste or other materials that could pass into any river, stream or lake. Please note that "any river, stream or lake" includes those that are episodic (i.e., those that are dry for periods of time) as well as those that are perennial (i.e., those that flow year-round). This includes ephemeral streams, desert washes, and watercourses with a subsurface flow.

Upon receipt of a complete notification, CDFW determines if the proposed Project activities may substantially adversely affect existing fish and wildlife resources and whether a Lake and Streambed Alteration (LSA) Agreement is required. An LSA Agreement includes measures necessary to protect existing fish and wildlife resources. CDFW may suggest ways to modify your Project that would eliminate or reduce harmful impacts to fish and wildlife resources.

CDFW's issuance of an LSA Agreement is a "project" subject to CEQA (see Pub. Resources Code 21065). To facilitate issuance of an LSA Agreement, if necessary, the DEIR should fully identify the potential impacts to the lake, stream, or riparian resources, and provide adequate avoidance, mitigation, and monitoring and reporting commitments. Early consultation with CDFW is recommended, since modification of the proposed Project may be required to avoid or reduce impacts to fish and wildlife resources. To submit a Lake or Streambed Alteration notification package, please go to https://wildlife.ca.gov/Conservation/Environmental-Review/EPIMS.

ADDITIONAL COMMENTS AND RECOMMENDATIONS

Landscaping

To ameliorate the water demands of this Project, CDFW recommends incorporation of water-wise concepts in any Project landscape design plans. In particular, CDFW recommends xeriscaping with locally native California species and installing water-efficient and targeted irrigation systems (such as drip irrigation). Native plants support butterflies, birds, reptiles, amphibians, small mammals, bees, and other pollinators that evolved with those

plants, more information on native plants suitable for the Project location and nearby nurseries is available at CALSCAPE: https://calscape.org/. Local water agencies/districts and resource conservation districts in your area may be able to provide information on plant nurseries that carry locally native species, and some facilities display drought-tolerant locally native species demonstration gardens. Information on drought-tolerant landscaping and water-efficient irrigation systems is available on California's Save our Water website: https://saveourwater.com/.

Construction Noise

Project-related construction has the potential to generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project. CDFW recommends that the DEIR include an analysis of impacts to wildlife from Project-related construction noise, and appropriate avoidance, minimization, and mitigation measures that will reduce impacts to less than significant.

Construction may result in substantial noise through road use, equipment, and other Project-related activities. This may adversely affect wildlife species in several ways as wildlife responses to noise can occur at exposure levels of only 55 to 60 dB[4]. Anthropogenic noise can disrupt the communication of many wildlife species including frogs, birds, and bats[5,6,7,8]. Noise can also affect predator-prey relationships as many nocturnal animals such as bats and owls primarily use auditory cures (i.e., hearing) to hunt. Additionally, many prey species increase their vigilance behavior when exposed to noise because they need to rely more on visual detection of predators when auditory cues may be masked by noise[9,10]. Noise has also been shown to reduce the density of nesting birds[11] and cause increased stress that results in decreased immune responses[12]. The City of Calexico should include measures in the DEIR to ensure the following: restricting the use of equipment to hours least likely to disrupt wildlife (e.g., not at night or in early morning); restricting the use of generators except for temporary use in emergencies; provide power to sites by solar PV (photovoltaic) systems, cogeneration systems (natural gas generator), small micro-hydroelectric systems, or small wind turbine systems; ensure the use of noise suppression devices such as mufflers or enclosure for

[4] Barber, J. R., K. R. Crooks, and K. M. Fristrup. 2009. The costs of chronic noise exposure for terrestrial organisms. Trends in Ecology and Evolution 25:180-189.
[5] Sun, J. W. C., and P. M. Narins. 2005. Anthropogenic sounds differentially affect amphibian call rate. Biological Conservation 121:419–427.
[6] Patricelli, G., and J. J. L. Blickley. 2006. Avian communication in urban noise: causes and consequences of vocal adjustment. Auk 123:639–649.
[7] Gillam, E. H., and G. F. McCracken. 2007. Variability in the echolocation of *Tadarida brasiliensis*: effects of geography and local acoustic environment. Animal Behaviour 74:277–286.
[8] Slabbekoorn, H., and E. A. P. Ripmeester. 2008. Birdsong and anthropogenic noise: Implications and applications for conservation. Molecular Ecology 17:72–83.
[9] Rabin, L. A., R. G. Coss, and D. H. Owings. 2006. The effects of wind turbines on antipredator behavior in California ground squirrels (*Spermophilus beecheyi*). Biological Conservation 131:410–420.
[10] Quinn, J. L., M. J. Whittingham, S. J. Butler, W. Cresswell, J. L. Quinn, M. J. Whittingham, S. J. Butler, W. Cresswell, and W. Noise. 2017. Noise, predation risk compensation and vigilance in the chaffinch Fringilla coelebs. Journal of Avian Biology 37:601–608.
[11] Francis, C. D., C. P. Ortega, and A. Cruz. 2009. Noise pollution changes avian communities and species interactions. Current Biology 19:1415–1419.
[12] Kight, C. R., and J. P. Swaddle. 2011. How and why environmental noise impacts animals: An integrative, mechanistic review. Ecology Letters 14:1052–1061.

generators; and sounds generated from any means must be below the 55-60 dB range within 50-feet from the source.

Artificial Nighttime Lighting

The Project will introduce new sources of artificial lighting. CDFW recommends that the DEIR include lighting design specifications for all artificial nighttime lighting that will be used by the Project, an analysis of the direct and indirect impacts of artificial nighttime lighting on biological resources, and appropriate avoidance, minimization, and mitigation measures that will reduce impacts to less than significant. The direct and indirect impacts of artificial nighttime lighting on biological resources including migratory birds that fly at night, bats, and other nocturnal and crepuscular wildlife should be analyzed, and appropriate avoidance and minimization measures should be included in the DEIR.

Artificial nighttime lighting often results in light pollution, which has the potential to significantly and adversely affect fish and wildlife. Artificial lighting alters ecological processes including, but not limited to, the temporal niches of species; the repair and recovery of physiological function; the measurement of time through interference with the detection of circadian and lunar and seasonal cycles; the detection of resources and natural enemies; and navigation[13]. Many species use photoperiod cues for communication (e.g., bird song[14]), determining when to begin foraging[15], behavioral thermoregulation[16], and migration[17]. Phototaxis, a phenomenon that results in attraction and movement towards light, can disorient, entrap, and temporarily blind wildlife species that experience it[17]. The City of Calexico should include measures in the DEIR to ensure the following: eliminate all nonessential lighting throughout the Project area; avoid or limit the use of artificial light during the hours of dawn and dusk when many wildlife species are most active; lighting for Project activities is fully shielded, cast downward, reduced in intensity to the greatest extent, and does not result in spill over onto other properties or upward into the night sky (see the International Dark-Sky Association standards at http://darksky.org/); the use of LED lighting with a correlated color temperature of 3,000 Kelvins or less; proper disposal of hazardous waste; and recycling of lighting that contains toxic compounds with a qualified recycler.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).)

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[13] Gatson, K. J., Bennie, J., Davies, T., Hopkins, J. 2013. The ecological impacts of nighttime light pollution: a mechanistic appraisal. Biological Reviews, 88.4: 912-927.
[14] Miller, M. W. 2006. Apparent effects of light pollution on singing behavior of American robins. The Condor 108:130–139.
[15] Stone, E. L., G. Jones, and S. Harris. 2009. Street lighting disturbs commuting bats. Current Biology 19:1123–1127.
[16] Beiswenger, R. E. 1977. Diet patterns of aggregative behavior in tadpoles of *Bufo americanus*, in relation to light and temperature. Ecology 58:98–108.
[17] Longcore, T., and C. Rich. 2004. Ecological light pollution - Review. Frontiers in Ecology and the Environment 2:191–198.

Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). Information can be submitted online or via completion of the CNDDB field survey form at the following link: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported to CNDDB can be found at the following link: https://wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.).

CONCLUSION

CDFW appreciates the opportunity to comment on the NOP of a DEIR for the Housing Element Update and Rezone Project (SCH No. 2026030920) and recommends that the City of Calexico address CDFW's comments and concerns in the forthcoming DEIR. Questions regarding this letter or further coordination should be directed to Jacob Skaggs, Senior Environmental Scientist Specialist, at jacob.skaggs@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Kim Freeburn
84F92FFEEFD24C8...

Kim Freeburn
Environmental Program Manager

ec: Heather Brashear, Senior Environmental Scientist (Supervisor), CDFW
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CITY OF CALEXICO
FIRE DEPARTMENT

"Where California and Mexico meet"

City of Calexico Fire Department
415 E. Fourth Ave
Calexico, CA 92231

April 6th, 2026

Michael Coyne, AICP
Planning & Building Director
City of Calexico
608 Heber Avenue
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mcoyne@calexico.ca.gov

Subject: CEQA Scoping Comments – Notice of Preparation (NOP) for the Housing Element Update and Rezone Project (6th Cycle 2021–2029)

Dear Mr. Coyne,

On behalf of the City of Calexico Fire Department (CFD), I appreciate the opportunity to provide comments on the Notice of Preparation (NOP) for the proposed Housing Element Update and Rezone Project. As the agency responsible for fire protection and emergency medical services (EMS) within the City, CFD respectfully submits the following comments regarding environmental issues that should be analyzed in the forthcoming Program Environmental Impact Report (PEIR).

1. Fire Protection and Emergency Medical Service (EMS) Demand

The proposed project plans for the accommodation of 4,868 additional housing units over the planning period. This level of growth will significantly increase demand for fire and EMS services.

The PEIR should include a detailed analysis of:

- Projected increase in annual call volume, including both fire and EMS incidents.
- Impacts on existing response times and compliance with adopted performance standards.
- Service demand associated with higher-density and multi-family residential development, which historically generates higher incident rates.
- Cumulative impacts of growth on regional mutual aid systems.

2. Staffing Impacts and Service Level Sustainability

CFD currently operates with finite staffing resources and maintains minimum staffing levels necessary to support fire suppression and Advanced Life Support (ALS) transport services.

The PEIR should evaluate:

- The extent to which projected population and housing growth will necessitate additional sworn personnel, including Firefighters, Engineers, and Captains.
- Impacts to minimum staffing standards for fire engines (3 personnel) and ambulances (2 personnel).
- Increased workload, fatigue, and potential degradation of service reliability due to sustained call volume growth without proportional staffing increases.
- Long-term fiscal impacts are associated with maintaining adequate staffing to meet service demand.

Failure to account for staffing increases may result in longer response times, reduced unit availability, and increased risk to both the public and emergency responders.

3. EMS Transport Projections and System Capacity

CFD provides Advanced Life Support (ALS) transport services and plays a critical role in the City's emergency medical response system.

Based on current operational data:

- EMS incidents represent the majority of CFD responses.
- Transport rates range approximately between 55% and 58% of EMS incidents.

The PEIR should analyze:

- Projected EMS incident growth associated with the planned housing units.
- Anticipated increase in ambulance transport, including impacts on hospital system coordination.
- Effects on unit-hour utilization (UHU) and ambulance availability.
- Whether existing ambulance resources and deployment models are sufficient to meet future demand.

This analysis should consider whether additional ambulances, staffing models, or alternative deployment strategies will be required to maintain acceptable service levels.

4. Emergency Response Times and Coverage Gaps

As development occurs across multiple sites, particularly those requiring rezoning for higher density, the PEIR should evaluate:

- Impacts on travel times and first-due response coverage.
- Identification of geographic service gaps resulting from increased density or traffic congestion.
- Effects of roadway design, traffic volumes, and intersection delays on fire apparatus response.

Maintaining acceptable response times is critical to limiting property loss, improving medical outcomes, and ensuring firefighter safety.

5. Fire Station Needs and Capital Infrastructure

Based on projected growth, the city may require additional fire protection infrastructure to maintain service levels.

The PEIR should include:

- An evaluation of the need for new or expanded fire station facilities.
- Long-term planning considerations for station siting, land acquisition, and capital improvement costs.
- Impacts on existing facilities, including increased apparatus deployment and operational strain.
- Identification of potential funding mechanisms or mitigation strategies to support required infrastructure.

Future station development may be necessary to avoid overextension of existing resources and unacceptable response time increases.

6. Fire Flow, Hydrant Capacity, and Vertical Development Impacts

Higher-density residential development will require enhanced fire protection systems.

The PEIR should assess:

- Adequacy of fire flow and water system capacity.
- Compliance with fire code requirements for hydrant spacing and fire apparatus access.
- Impacts of multi-story and high-density construction on fire suppression operations, including ladder access and rescue operations.

7. Emergency Access and Circulation

The rezoning of sites to allow higher densities may impact roadway conditions and emergency access.

The PEIR should evaluate:

- Compliance with California Fire Code (CFC) Section 503 for fire apparatus access.
- Potential conflicts between increased traffic congestion and emergency response mobility.
- Adequacy of turning radii, road widths, and access points for fire apparatus.

Conclusion

The City of Calexico Fire Department strongly recommends that the Program EIR includes a comprehensive public safety impact analysis that fully evaluates the relationship between planned housing growth and the City's ability to provide effective fire and EMS services.

Given the scale of the proposed housing capacity, it is critical that the environmental review:

- Accurately projects service demand increases.
- Identifies necessary staffing and infrastructure investments; and
- Establishes appropriate mitigation measures to ensure that public safety services remain reliable, effective, and sustainable.

CFD appreciates the opportunity to provide input during this early stage of the CEQA process and looks forward to continued coordination as the project advances.

If you have any questions or require additional information, please do not hesitate to contact me.

Respectfully submitted,

Juan Contreras

Juan Contreras
Fire Chief
City of Calexico Fire Department

COMMENT CARD
Calexico Housing Element Update Program Environmental Impact Report Scoping Meeting
April 9, 2026, 6:00 – 7:00 PM

Consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines, the following 19 environmental topics would be analyzed further in the Draft PEIR:

- Aesthetics
- Agriculture/Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Greenhouse Gas Emissions
- Geology/Soils
- Hazards/Hazardous Materials
- Hydrology and Water Quality
- Land Use/Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Tribal Cultural Resources
- Utilities/Service Systems
- Wildfire

Please identify any comments or concerns you may have regarding the Calexico Housing Element Update Program Environmental Impact Report, including any additional environmental topic areas, potential mitigation measures, or project alternatives (please print): development & permitting

Can the process for the 5th cycle sites start while the 6th cycle gets adopted?

And how that process could be like for these 6th cycle sites

~~draft comment for~~

Very Informative ~~meeting~~ meeting and all thank you

Commenter Name: Morgan Botros

If submitting later: please fold in half, tape and return this comment card to Planning and Building Director, c/o Michael Coyne, at the end of the Scoping Meeting or fold, or mail to the City of Calexico using the address provided (see reverse). Comments may also be submitted via email to mcoyne@calexico.ca.gov.
Comments must be submitted by April 21, 2026, at 5:00 p.m.

From:	Jill Mccormick
To:	Michael Coyne
Subject:	Re: [EXTERNAL]:Notice of Preparation of a Draft Program Environmental Impact Report for the Housing Element Update and Rezone Project
Date:	Sunday, March 22, 2026 6:15:53 AM
Attachments:	image001.jpg Outlook-0kftv1ng.png

Good morning,

This email is to inform you that the Historic Preservation Office of the Ft. Yuma Quechan Tribe does not wish to provide comments on this project at this time.

Jill

H. Jill McCormick, M.A.
Historic Preservation Office
Ft. Yuma Quechan Indian Tribe
P.O. Box 1899
Yuma, AZ 85366-1899
Office: 760-919-3631
Cell: 928-920-6521



From: Michael Coyne <mcoyne@calexico.ca.gov>
Sent: Thursday, March 19, 2026 3:36 PM
To: Michael Coyne <mcoyne@calexico.ca.gov>
Subject: [EXTERNAL]:Notice of Preparation of a Draft Program Environmental Impact Report for the Housing Element Update and Rezone Project

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Agencies and Interested Parties:

150 SOUTH NINTH STREET
EL CENTRO, CA 92243-2850

TELEPHONE: (442) 265-1800
FAX: (442) 265-1799

AIR POLLUTION CONTROL DISTRICT

April 20, 2026

Michael Coyne, Director
Planning and Building Department
City of Calexico
608 Heber Avenue
Calexico, CA 92231

SUBJECT: Notice of Preparation (NOP) of a Draft Program Environmental Impact Report (DPEIR) for the City of Calexico Housing Element Update and Rezone Project

Dear Mr. Coyne:

The Imperial County Air Pollution Control District (Air District) has reviewed the Notice of Preparation (NOP) of a Draft Program Environmental Impact Report (DPEIR) for the City of Calexico 6th Cycle 2021–2029 Housing Element Update and Rezone Project (Project). The Housing Element is a mandatory element of the City's General Plan. State law requires updates to a city's Housing Element every eight years to identify housing needs and set forth goals, policies and programs that address identified needs. Calexico last adopted a Housing Element in January 2014 for the 5th Cycle of the 2014-2021 planning period.

The Regional Housing Needs Allocation (RHNA) projects 4,868 new housing units are required for the 2021-2029 6th Cycle planning period. As discussed in the NOP, the project has the potential for significant direct and indirect environmental impacts. As such, the Air District reviewed the proposed project for potential air quality impacts, both direct and indirect, resulting from the proposed project to the district's State Implementation Plans (SIPs) for Ozone, $PM_{2.5}$ (24-hr and Annual), and approved Maintenance Plan for PM_{10}. Together, these are the driving criteria in establishing the National Ambient Air Quality Standards (NAAQS) thresholds for NOx, ROG, PM_{10}, SOx and CO.

To accommodate the demand for 4,868 new housing units, 34 of the 53 sites in the City's Sites Inventory must be rezoned residential. Based on the 6th Cycle Housing Element Update (2021-2029) retrieved from the City's website, 381.6 acres will be rezoned to a denser Residential Condominium (RC) zone. Additionally, the City has seen a marked increase in the permitting of Accessory Dwelling Units (ADUs) per *Table B-5: ADU Assumptions* (B-12) with a projected development of 291 ADUs from 2021 to 2029. The City also has a history of developing housing on sites larger than 10 acres (B-9). The rezoning to allow an expansion of residential housing and the potential increase in housing density has implications for the degradation of air

quality. **Therefore, the Air District requests an air quality analysis (AQA) for all developments occurring on rezoned land use.**

Section 6 of the Air District's California Environmental Quality Act (CEQA) Handbook (Handbook) describes the preparation of an AQA. A thorough AQA should include a description of impacts and health consequences of all air quality and emissions. The analysis should be conducted using Air District approved modeling factors such as the California Emissions Estimator Modeler (CalEEMod). The analysis should include short- and long-term emissions as well as daily and yearly emission calculations. Project alternatives should be included along with a thorough emissions analysis. The analysis should include a description of the district's attainment status, both at the state and federal levels, as well as describing any regulatory restrictions to the project. As discussed in CEQA § 15125(d), the EIR shall discuss any inconsistencies between the proposed project and applicable air quality attainment or maintenance plan or State Implementation Plan and impacts to the Air District's non-attainment status. All construction and grading impacts should quantify fugitive dust and combustion emissions and propose mitigation measures. All mitigation measures should follow CEQA and Air District rules and regulations and those identified in the CEQA handbook.

Consultation with the most recent State Implementation Plans (SIPs) and Air District rules and regulations is strongly recommended for effective applicability of standards. Keep in mind that many Air District rules and regulations have changed since the last update. Rule 428—Wood Burning Appliances and Rule 400.5—Natural Gas-Fired Water Heaters, Small Boilers and Process Heaters are among the rules that should be reviewed prior to any development. Finally, per CEQA § 15183.5(a), a programmatic EIR allows a lead agency to analyze and mitigate significant effects of greenhouse gas (GHG) emissions resulting from the project. As such, all GHG emissions should be discussed in a qualitative manner. As a reminder, the City of Calexico is included in the El Centro-Heber-Calexico Corridor, which is one of the disadvantaged communities identified under Assembly Bill 617 that are disproportionately burdened by air pollution.

The Air District looks forward to reviewing a draft EIR. Air District rules and regulations and forms, along with our CEQA Handbook, can be found on our website at https://apcd.imperialcounty.org by accessing the Planning drop-down menu. The Air District can be contacted at (442) 265-1800.

Sincerely,

Curtis Blondell
APC Environmental Coordinator II

Reviewed by,

Monica N. Soucier
APC Division Manager

SCAG
INNOVATING FOR A BETTER TOMORROW

SOUTHERN CALIFORNIA
ASSOCIATION OF GOVERNMENTS
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017
T: (213) 236-1800
www.scag.ca.gov

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Energy & Environment
Rick Denison, Yucca Valley

Transportation
Mike T. Judge, Ventura County Transportation Commission

April 16, 2026

Michael Coyne AICP, Director
City of Calexico, Planning & Building Department
608 Heber Avenue
Calexico, CA 92231
Phone: (760) 768-2105
E-mail: mcoyne@calexico.ca.gov

Subject: SCAG Staff Comments on the Notice of Preparation of a Draft Program Environmental Impact Report for the City of Calexico Housing Element Update and Rezone Project [SCAG NO. IGR11298]

Dear Michael Coyne:

Thank you for submitting the Notice of Preparation of a Draft Program Environmental Impact Report for the City of Calexico Housing Element Update and Rezone Project ("proposed project") to the Southern California Association of Governments (SCAG) for review. SCAG is responsible for providing informational resources to regionally significant plans, projects, and programs per the California Environmental Quality Act (CEQA) to facilitate the consistency of these projects with SCAG's adopted regional plans, to be determined by the lead agencies.[1]

Pursuant to Senate Bill (SB) 375, SCAG is the designated Regional Transportation Planning Agency under state law and is responsible for preparation of the Regional Transportation Plan (RTP), including the Sustainable Communities Strategy (SCS). SCAG's feedback is intended to assist local jurisdictions and project proponents to implement projects that have the potential to contribute to attainment of and alignment with adopted Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) goals and policies. Finally, SCAG is the authorized regional agency for Intergovernmental Review (IGR) of programs proposed for Federal financial assistance and direct Federal development activities, pursuant to Presidential Executive Order 12372.

SCAG staff has reviewed the Notice of Preparation of a Draft Program Environmental Impact Report for the City of Calexico Housing Element Update and Rezone Project in Imperial County. The proposed project includes an update to the City of Calexico's Housing Element and candidate rezone sites to meet state housing requirements and accommodate the City's 2021–2029 Regional Housing Needs Assessment allocation on 8.62 square miles.

When available, please email environmental documentation to IGR@scag.ca.gov providing, at a minimum, the full public comment period for review.

If you have any questions regarding the attached SCAG staff comments, please contact the IGR Program, attn.: Ryan Bañuelos, Senior Regional Planner, at (213) 630-1532 or IGR@scag.ca.gov. Thank you.

Sincerely,

Lijin Sun

Lijin Sun
Planning Supervisor, Planning Strategy Department

[1] Local jurisdictions and other lead agencies shall have the sole discretion to determine a local project's or plan's consistency and/or alignment with Connect SoCal 2024 for the purpose of determining consistency for CEQA purposes.

SCAG STAFF COMMENTS ON THE NOTICE OF PREPARATION OF A DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT FOR THE CITY OF CALEXICO HOUSING ELEMENT UPDATE AND REZONE PROJECT [SCAG NO. IGR11298]

CONNECT SOCAL 2024

Connect SoCal 2024 (Plan) is a long-range visioning plan for the six-county SCAG region, reflecting a continuation of the shift towards more efficient resource management including transportation infrastructure resources, land resources and environmental resources. The Plan highlights the existing land use and transportation conditions throughout the SCAG region and forecasts the region's evolving transportation needs between 2024 and 2050. The Plan identifies and prioritizes expenditures of the anticipated funding for transportation projects of all transportation modes: highways, streets and roads, transit, rail, bicycle, and pedestrian, as well as aviation ground access.

The Plan was developed to achieve greenhouse gas (GHG) per capita emission reduction targets, consistent with Senate Bill (SB) 375 and other regional goals. In accordance with federal fiscal constraint requirements, Connect SoCal 2024 is a financially constrained Plan in terms of transportation revenues and expenditures. Connect SoCal 2024 would reduce traffic congestion, improve air quality, and improve the region's long-term economic viability through more than $751 billion in transportation investments and a more sustainable regional development pattern. To view Connect SoCal 2024 and the accompanying technical reports, please visit the Connect SoCal 2024 webpage.

Connect SoCal 2024 Vision and Goals

The SCAG Regional Council fully adopted the Plan on April 4, 2024. Connect SoCal 2024 represents the vision for the region and reflects the planned transportation investments, policies, and strategies that integrate with the Forecasted Regional Development Pattern to achieve the Plan's goals. The Vision and Goals for Connect SoCal 2024 are rooted in the direction set forth by Connect SoCal 2020, reflecting both SCAG's statutory requirements, the emerging trends, and persistent challenges facing the region. Reflecting input from engagement with stakeholders and members of the public, SCAG's vision for Southern California in the year 2050 is "*A healthy, prosperous, accessible and connected region for a more resilient and equitable future."* The following goals and subgoals helps the SCAG region to achieve this vision.

Mobility: ***Build and maintain an integrated multimodal transportation network***

- Support investments that are well-maintained and operated, coordinated, resilient and result in improved safety, improved air quality and minimized greenhouse gas emissions
- Ensure that reliable, accessible, affordable and appealing travel options are readily available, while striving to enhance equity in the offerings in high-need communities
- Support planning for people of all ages, abilities and backgrounds

Communities: ***Develop, connect and sustain communities that are livable and thriving***

- Create human-centered communities in urban, suburban and rural settings to increase mobility options and reduce travel distances
- Produce and preserve diverse housing types in an effort to improve affordability, accessibility and opportunities for all households

Environment: ***Create a healthy region for the people of today and tomorrow***

- Develop communities that are resilient and can mitigate, adapt to and respond to chronic and acute stresses and disruptions, such as climate change
- Integrate the region's development pattern and transportation network to improve air quality, reduce greenhouse gas emissions and enable more sustainable use of energy and water
- Conserve the region's resources

Economy: ***Support a sustainable, efficient and productive regional economic environment that provides opportunities for all residents***

- Improve access to jobs and educational resources
- Advance a resilient and efficient goods movement system that supports the economic vitality of the region, attainment of clean air and quality of life for our communities

For ease of review, SCAG staff encourages the use of a side-by-side comparison of SCAG goals with discussions of the consistency, non-consistency, or non-applicability of the goals and supportive analysis in a table format. Suggested format is as follows:

SCAG CONNECT SOCAL 2024 GOALS AND SUBGOALS		
	Goal/Subgoal	Analysis
Mobility Goal:	*Build and maintain an integrated multimodal transportation network*	*Consistent: Statement as to why; Not-Consistent: Statement as to why; or Not Applicable: Statement as to why; DEIR page number reference*
Mobility Subgoal:	*Support investments that are well-maintained and operated, coordinated, resilient and result in improved safety, improved air quality and minimized greenhouse gas emissions*	*Consistent: Statement as to why; Not-Consistent: Statement as to why; or Not Applicable: Statement as to why; DEIR page number reference*
etc.		etc.

Connect SoCal 2024 Key Elements

Unique to this plan cycle, SCAG developed a set of Regional Planning Policies and Implementation Strategies to guide decision-making in the region toward integrated land use and transportation planning and other goals in Connect SoCal 2024. Eighty-eight Regional Planning Policies provide guidance for integrating land use and transportation planning to realize the vision of Connect SoCal 2024. The Implementation Strategies help the region to achieve this vision for the future and are priorities for SCAG efforts in fulfilling or going beyond the Regional Planning Policies. The Regional Planning Policies and Implementation Strategies were developed to achieve California's greenhouse gas emission reduction goals as set forth in SB 375 and federal Clean Air Act Section 176(c) requirements for transportation conformity while meeting the broader regional objectives, such as improved equity and resilience in addition to preservation of natural lands, improvement of public health, increased roadway safety, support for the region's vital goods movement industries and more efficient use of resources. The Plan also includes a detailed project list; strategic investments to bridge local plans with overarching regional performance targets and goals; a growth forecast and regional development pattern based on population, household and employment growth projections by 2050; and a transportation network including a list of transportation projects and investments.

Connect SoCal 2024 presents a summary of that work in five chapters of the Main Plan with additional details on Plan elements and analysis in the Plan's accompanying 15 Technical Reports, including the Housing Technical Report. Connect SoCal 2024 builds upon the progress from previous RTP/SCS cycles, reflecting both SCAG's statutory requirements, the emerging trends, and persistent challenges facing the region. These policies offer a resource by which County Transportation Commissions (CTCs) or local jurisdictions within the SCAG region, when seeking resources from state or federal programs, can refer to specific policies to demonstrate alignment with the RTP/SCS.

Regional Growth Forecast and Forecasted Regional Development Pattern

As part of developing a Sustainable Communities Strategy per SB 375, SCAG must include a "forecasted development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies …" enables SCAG to reach its per capita GHG emission reduction target of 19 percent below 2005 levels by 2035. SCAG staff prepared a Forecasted Regional Development Pattern for Connect SoCal 2024 through 2050, the horizon year of the Plan. The regional growth forecast determines the projected increase in population, households, and jobs based on local general plans and known development entitlement agreements, including available data from 6th cycle housing element updates. The Connect SoCal 2024 Demographic and Growth Forecast Technical Report includes detailed discussions on socioeconomic data, including additional detail on the growth forecast, growth vision, and Sustainable Communities Strategy (SCS) consistency in Section of the Technical Report. The Connect SoCal 2024 Land Use and Communities Technical Report includes the most recent planning assumptions and estimates of population and housing.

SCAG's work helps facilitate implementation, but SCAG does not directly implement or construct projects or have land use authority. Achieving a sustained regional outcome depends upon informed and intentional local action. To access jurisdictional level growth estimates and forecasts for years 2035 and 2050, please refer to the Final Connect SoCal 2024 growth forecast data. The growth forecasts for the region and the applicable jurisdiction is below.

	Adopted SCAG Region Growth Forecasts				City of Calexico Growth Forecasts		
	Year 2019	**Year 2030**	**Year 2035**	**Year 2050**	**Year 2019**	**Year 2035**	**Year 2050**
Population	18,827,000	19,476,000	19,946,000	20,909,000	38,800	44,400	47,400
Households	6,193,000	7,006,000	7,311,000	7,814,000	10,400	14,100	15,800
Employment	8,976,000	9,609,000	9,885,000	10,276,000	10,800	12,900	14,100

Consistency with Connect SoCal 2024

SCAG provides informational resources to facilitate the lead agency's consistency determination of the proposed project with Connect SoCal 2024. For the purpose of determining consistency with CEQA, local jurisdictions shall have the sole discretion to determine a local project's or plan's consistency and/or alignment with Connect SoCal 2024[2].

CEQA MITIGATION MEASURES

The SCAG Regional Council certified the Final Program Environmental Impact Report for Connect SoCal 2024 (2024 PEIR) and adopted the Mitigation Monitoring and Reporting Program (MMRP), Findings of Fact, and a Statement of Overriding Considerations on April 4, 2024. The mitigation approach used in the 2024 PEIR recognizes the limits of SCAG's authority; distinguishes between SCAG commitments and project-level responsibilities and authorities; optimizes flexibility for project implementation; and facilitates CEQA streamlining (e.g., SB 375) and tiering where appropriate on a project-by project basis determined by each lead agency. Consistent with the approach, the 2024 PEIR identifies regional-level mitigation measures to be implemented by SCAG over the lifetime of the Plan as well as project-level mitigation measures that lead agencies can and should consider, as applicable and feasible, in subsequent project-specific design, CEQA review, and decision-making processes. Given that SCAG is not an implementing agency and has no decision-making authority over projects or any land use authority, it is ultimately up to each lead agency's own discretion to determine the appropriateness of mitigation measures, including exploring opportunities of voluntary regional advance mitigation programs, based on project-specific circumstances such as individual site conditions, project specific details, and community values. Therefore, SCAG staff recommends that the proposed project's CEQA lead agency review the 2024 PEIR for guidance, as appropriate.

[2] SCAG. April 2024. Connect SoCal 2024 Demographic and Growth Forecast Technical Report. Accessible at: https://scag.ca.gov/sites/main/files/file-attachments/23-2987-tr-demographics-growth-forecast-final-040424.pdf

Appendix B

Mitigation Monitoring and Reporting Program (MMRP)

Appendix B

This Mitigation Monitoring and Reporting Program (MMRP) has been prepared pursuant to Public Resources Code (PRC) Section 21081.6, which requires a Lead Agency to adopt a "reporting or monitoring program for changes to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment." In addition, Section 15097(a) of the State California Environmental Quality Act (CEQA) Guidelines requires that a public agency adopt a program for monitoring or reporting mitigation measures and project revisions, which it has required to mitigate or avoid significant environmental effects.

Table B-1, Mitigation Monitoring and Reporting Program for the Calexico Housing Element Update and associated discretionary actions (proposed project), has been prepared in compliance with the requirements of CEQA, Public Resources Code Section 21081.6 and Section 15097 of the CEQA Guidelines. The MMRP provides the mitigation measures for the proposed project and the monitoring implementation responsibility for each measure. The MMRP for the proposed project will be in place through all phases of implementation of the proposed project, including design, construction, and operation.

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule
Agricultural Resources				
Impact AG-1: Farmland Conversion	Currently, no mitigation currently exists for addressing conversion of farmland impacts of the proposed project. If the City has established an agricultural impact mitigation program prior to grading of the proposed project site, then the following mitigation measure will apply: **MM AG-1:** The applicant shall contribute fair share fees towards, and/or shall comply with, any applicable agricultural impact mitigation program initiated by the City of Calexico or County of Imperial prior to grading of the project site. The City shall verify compliance with this measure prior to issuance of grading permits or other discretionary approvals, as applicable.	City of Calexico Planning & Building Department; Project Applicant	City of Calexico Planning & Building Department	Prior to discretionary approval or grading permit issuance
Impact AG-5: Other Changes to the Existing Environment	**MM AG-2: Agricultural Compatibility and Buffering:** For future discretionary development projects located adjacent to active agricultural operations, the project applicant shall prepare an agricultural compatibility assessment and incorporate appropriate measures to minimize land use conflicts between agricultural and urban uses. Such measures may include, but are not limited to: • Physical buffers, setbacks, walls, fences, roads, landscaped areas, or drainage features between agricultural and urban uses; • Disclosure statements notifying future residents of nearby agricultural operations and associated noise, dust, odors, lighting, pesticide application, and truck traffic; • Site design features that minimize sensitive receptor exposure to routine agricultural activities; and • Coordination with adjacent agricultural operators and the Imperial Irrigation District regarding access, irrigation facilities, and drainage infrastructure. The City shall review and approve proposed compatibility measures during project-level environmental review and discretionary permit processing.	Project Applicant	City of Calexico Planning & Building Department	During discretionary project review
Air Quality				
Impact AQ-2: Cumulative Net Increase of Criteria Pollutants	Emissions due to construction of the By-Right Development Sites would be less than significant. For all Discretionary Development Sites, construction emissions would be potentially significant and the following mitigation measures would be required: **MM AQ-1: Fugitive Dust Control:** Prior to commencing construction, the project applicant shall be required to submit an Enhanced Dust Control Plan to the Imperial County Air Pollution Control District (ICAPCD) for approval. The Enhanced Dust Control Plan shall identify all sources of particulate matter less than 10 microns (PM_{10}) emissions and associated mitigation measures during construction (see Rule 801 F.2). The applicant shall submit a "Construction Notification Form" to the ICAPCD 10 days prior to the commencement of any earthmoving activity. The Enhanced Dust Control Plan submitted to the ICAPCD shall meet all applicable requirements for control of fugitive dust emissions, including the following measures designed to achieve the no greater than 20 percent opacity performance standard for dust control and address the following parameters as stipulated in ICAPCD Regulation VIII – Fugitive Dust Control Measures:	Project Applicant	ICAPCD City of Calexico Planning & Building Department	Prior to commencement of construction and throughout construction activities

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule
	a) All disturbed areas, including bulk material storage which is not being actively utilized, shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material such as vegetative ground cover. b) All on-site and off-site unpaved roads shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. c) All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day shall be effectively stabilized, and visible emission shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. The transport of bulk materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at the delivery site after the removal of bulk material. d) The transport of bulk materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at the delivery site after the removal of bulk material. e) All track-out or carry-out shall be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area. f) Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line. g) The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering. In order to provide a greater degree of PM_{10} reductions, above that required by Regulation VIII, the ICAPCD recommends the following discretionary measures for fugitive PM_{10} control: a) Water exposed soil with adequate frequency for continued moist soil. b) Replace ground cover in disturbed areas as quickly as possible. c) Install an automatic sprinkler system on all soil piles. d) Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site. e) Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees.			

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule
	f) Implement a shuttle service to and from retail services and food establishments during lunch hours. **MM AQ-2: Construction Combustion Equipment:** Prior to commencing construction, the project applicant shall be required to submit a Construction Combustion Equipment Plan to the Imperial County Air Pollution Control District (ICAPCD) for approval. The ICAPCD requires that, regardless of the size of a project, all feasible standard measures for construction equipment must be implemented at construction sites. Standard measures from the ICAPCD handbook include the following: a) Use of alternative-fueled or catalyst-equipped diesel construction equipment, including all off-road and portable diesel powered equipment. b) Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to five minutes as a maximum. c) Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use. d) Replace fossil-fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set). To help provide a greater degree of reduction of particulate matter emissions from construction combustion equipment, the ICAPCD recommends the following enhanced measures: a) Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing construction activity during the peak hour of vehicular traffic on adjacent roadways. b) Implement activity management (e.g., rescheduling activities to reduce short-term impacts). **MM AQ-3: Low/No Volatile Organic Compound Architectural Coatings:** Prior to commencing construction, for projects that would result in reactive organic gas (ROG) emissions that exceed the applicable threshold, the project applicant shall be required to submit an ROG Reduction Plan to the City of Calexico for approval. It shall identify the maximum allowable volatile organic compound content limits (in grams per liter) for all required architectural coatings, as defined in ICAPCD Rule 424, necessary to result in total ROG emissions that are less than 137 pound per day.			
Biological Resources				
Impact BIO-1: Sensitive and Special Status Species	The following biological resources mitigation measures would be implemented during construction of projects in the planning area. **MM BIO-1**: **General Biological Survey and Report**. Applications for future development within the Discretionary Development Sites shall be required to comply with the following mitigation measure: Prior to issuance of any construction permit or any earth-moving activities within the Discretionary Development Sites, a site-specific general biological resources survey shall be conducted to identify the presence of any sensitive biological resources, including any sensitive plant or wildlife species. A biological resources report shall be submitted to the project proponent to document the results of the biological resources survey. The report shall include:	Project Applicant	City of Calexico Planning & Building Department USFWS CDFW	Prior to issuance of construction permits or commencement of earth-disturbing activities

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule
	1) the methods used to determine the presence of sensitive biological resources; 2) vegetation mapping of all vegetation communities and/or land cover types; 3) the locations of any sensitive plant or wildlife species; 4) an evaluation of the potential for occurrence of any listed, rare, and narrow endemic species; and 5) an evaluation of the significance of any potential direct or indirect impacts from the proposed project. If suitable habitat for sensitive species is identified based on the general biological survey, then focused presence/absence surveys shall be conducted in accordance with applicable resource agency survey protocols and incorporated into the biological resources report. If potentially significant impacts to sensitive biological resources are identified, project-level grading and site plans shall incorporate project design features to avoid or minimize direct impacts on sensitive biological resources to the extent feasible, and the report shall also recommend appropriate mitigation to reduce the impacts to a level less than significant. Future site-specific projects shall be required to obtain all necessary permits to ensure compliance with applicable federal, state, and local regulations, such as the federal and state Endangered Species Acts. By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development. **MM BIO-2: Environmentally Sensitive Areas**. Environmentally Sensitive Areas identified within Discretionary Development Sites should be avoided to the maximum extent practicable. In areas near or adjacent to Environmentally Sensitive Areas (i.e., natural habitats and vegetation, wetlands, sensitive wildlife use-areas, wildlife corridors), the following measures should be followed: Avoidance.of.Environmentally.Sensitive.Areas¡.In areas near or adjacent to Environmentally Sensitive Areas, construction limits shall be clearly demarcated using highly visible barriers (such as silt fencing), which shall be installed under the supervision of a qualified biologist prior to the commencement of work. Construction personnel shall strictly limit their activities, vehicles, equipment, and construction materials to the project footprint, including designated staging areas and routes of travel. The construction areas shall be limited to the minimal area necessary to complete the proposed project. The fencing shall remain in place until the completion of all construction activities and shall be promptly removed when construction is complete. Biological.Monitoring¡.A qualified biological monitor shall conduct construction monitoring of all work conducted within/adjacent to Environmentally Sensitive Areas during all vegetation removal and ground-disturbing activities, such as staging and grading, for the duration of the proposed project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat outside the project footprint and to survey for sensitive wildlife species. When vegetation removal and ground-disturbing activities are not occurring, as needed monitoring at the project sites shall occur. Worker.Environmental.Awareness.Program¡.In areas near or adjacent to Environmentally Sensitive Areas, a qualified biologist shall conduct a Worker Environmental Awareness Program training			

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule
	session for project and construction personnel prior to the commencement of work. The training shall include a description of the species of concern and their habitats, the general provisions of both federal and state Endangered Species Acts, the general measures that are being implemented to conserve the species of concern as they relate to the proposed project, and the access routes and project site boundaries. Best.Management.Practices¡.During future proposed project construction activities, the following best management practices (BMPs) shall be implemented: • All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities shall occur in developed or designated non-sensitive upland habitat areas. The designated upland areas shall be located to prevent runoff from any spills from entering Waters of the U.S. • A construction Storm Water Pollution Prevention Plan (SWPPP) and a soil erosion and sedimentation plan shall be developed (where requirements are met) to minimize erosion and identify specific pollution prevention measures that shall eliminate or control potential point and nonpoint pollution sources on-site during and following the project construction phase. The SWPPP shall identify specific BMPs during project construction to prevent any water quality standard exceedances. In addition, the SWPPP shall contain provisions for changes to the plan such as alternative mechanisms, if necessary, during project design and/or construction to achieve the stated goals and performance standards. • Trash shall be stored in closed containers so that it is not readily accessible to scavengers and shall be removed from the construction site on a daily basis. • Water quality shall be visually monitored by the biological monitor to ensure that no substantial increases in turbidity occur during construction. • All relevant natural resource permits and authorizations shall be obtained from appropriate agencies (i.e., USACE, RWQCB, and CDFW) prior to the initiation of construction activities. Permit conditions contained within the permits and authorizations shall be employed throughout the duration of the proposed project. • Hydrologic connectivity shall be maintained within drainages during the duration of construction. Brush, debris material, mud, silt, or other pollutants from construction activities shall not be placed within drainages and shall not be allowed to enter a flowing stream. • Dust control measures shall be implemented by the contractor to reduce excessive dust emissions. Dust control measures shall be carried out at least two times per day on all construction days, or more during windy or dry periods, and may include wetting work areas, the use of soil binders on dirt roads, and wetting or covering stockpiles. • No pets shall be allowed in, or adjacent to, the project sites.			

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule
	• Rodenticides, herbicides, insecticides, or other chemicals that could potentially harm wildlife or native plants shall not be used near or within Environmentally Sensitive Areas within or near the roadway segments. • Construction equipment shall be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to the site and before leaving the site during the course of construction. • The cleaning of equipment shall occur at least 300 feet from Environmentally Sensitive Area fencing. Use.of.Native.Plants¡.All project-related planting and landscaping shall not use plants listed on California Invasive Plant Council. Locally native plants shall be used near open space and native areas to the greatest extent feasible. No plants documented as noxious weeds by the California Department of Agriculture shall be used within planting or landscaping. By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development. **MM BIO-3a: Burrowing Owl Focused Survey and Pre-Construction Survey**. Future development of Discretionary Development Sites determined to have potential to support burrowing owl shall be required to comply with the following measure: A qualified biologist shall be retained to conduct a habitat assessment and focused burrowing owl surveys in accordance with the California Department of Fish and Wildlife 2012 Staff.Report.for. Burrowing.Owl.Mitigation. These focused surveys should be conducted either during the breeding season or non-breeding season in the year or months prior to the specific residential project if potential burrowing owl habitat is located within 500 feet of the proposed impact footprint for that project phase. Additionally, 14-day and a 24-hour pre-construction "take avoidance" surveys for burrowing owls are required by the California Department of Fish and Wildlife 2012 guidelines prior to initial ground-disturbing activities (e.g., vegetation clearing, clearing and grubbing, grading, tree removal, site watering, equipment staging and trenching/excavation) to ensure that no owls have colonized the site in the days or weeks preceding the ground-disturbing activities. These take avoidance surveys are required both inside and outside of the breeding season whenever work would occur within 500 feet of potential burrowing owl habitat. Working in collaboration with the construction contractor, the qualified biologist will ensure these survey parameters (i.e., within 14 days and again within 24 hours prior to the start of the activity) are implemented. If burrowing owl are not detected during the take avoidance survey, no further action is required. If burrowing owl are detected, mitigation measure **MM-BIO-3b** shall be followed. **MM BIO-3b: Burrowing Owl Mitigation**. A Burrowing Owl Take Avoidance Plan (BUOW Plan) shall be prepared by a qualified biologist. The BUOW Plan must be sent for approval by the California Department of Fish and Wildlife (CDFW) prior to initiating ground disturbance. The BUOW Plan shall include the number and location of occupied or known burrow sites, if applicable, and shall describe proposed avoidance (setback), shelter-in-place, unoccupied burrow/burrow surrogate			

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule

collapse procedures, monitoring, minimization, and/or mitigation actions. The project proponent shall implement the BUOW Plan following CDFW review and approval. Avoidance and minimization measures may include:

a. Setback: No construction activities shall occur within specified setback distances. The default setback distances from the CDFW 2012 Staff Report are provided below.

Time of Year	Level of Disturbance (meters/feet)		
	Low	Medium	High
April 1–Aug 15	200/656	200/656	500/1,640
Aug 16–Oct 15	200/656	200/656	200/656
Oct 16–Mar 31	50/164	100/328	500/1,640

When setback distances are applied to occupied burrows, an intensive monitoring program shall be implemented to ensure that the setback distance applied to the burrow is considered an effective buffer. Once a setback distance is applied to an occupied burrow, the biological monitor shall be present at all times during construction activities that occur adjacent to the setback distance to monitor the burrowing owl's behavior. The biological monitor will have the authority to increase the setback distance if the construction activities are affecting the burrowing owl. Setback distances may be reduced through shelter-in-place methods described below, which would be determined by the biological monitor.

b. Shelter in Place: If a reduced setback is needed to complete construction, shelter-in-place can be implemented to minimize impacts while allowing existing burrows to remain intact. Where appropriate, the setback buffers may be reduced by screening burrows (i.e., installing hay bales to create a visual and auditory barrier between construction and the burrow) to minimize disturbance. During the breeding season, hay bales (or other similar material) shall be stacked up to three bales high and 25 feet on either side of the burrow for a total length of 50 feet. During the non-breeding season, hay bales shall be stacked up to two bales high and 25 feet on either side of the burrow for a total length of 50 feet. Hay bales are generally three feet long and 18 inches tall. A minimum distance of five feet between the hay bales and the occupied burrow shall be left, allowing for perches near the burrow to be maintained. The minimum distance may be increased depending on the slope and topography of the area adjacent to the burrows.

If shelter-in-place is determined feasible, the biological monitor will provide guidance to the construction contractor regarding the location of the hay bales. During and following installation of the hay bales, a biological monitor shall be present daily to evaluate the effectiveness of the hay bales, monitor burrowing owl behavior for signs of stress or disturbance due to construction, and make adjustments to the buffer and/or hay bales in

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule
	order to minimize impacts on the burrowing owl. If the burrowing owl continues to appear distressed from construction, the biological monitor will have the authority to halt construction until the project proponent and the CDFW can be contacted to determine the best course of action. Following installation of the hay bales, the biological monitor shall provide a report to the project proponent and the CDFW describing the installation time frame; a map of the area; photographs of hay bales and construction activities; and a description of site conditions (e.g., surrounding vegetation, topography, observed species, burrowing owl line-of-sight conditions). c. Burrow Collapse Procedures: No collapsing of occupied or known (i.e., those exhibiting signs of current or past burrowing owl use) burrows shall be conducted without a Section 2081 Incidental Take Permit, regardless of the time of year. Procedures for the collapse of unoccupied/potential (i.e., any subterranean hole three inches or larger for which no evidence is present to conclude that the burrow is being used or has been used by a burrowing owl) burrows shall be included in the BUOW Plan. Unoccupied and potential burrowing owl burrows may be excavated under the direct supervision of a qualified biologist after approval of the BUOW Plan. d. If ground-disturbing activities occur but the site is left undisturbed for more than 14 days, another pre-construction "take avoidance" survey for burrowing owl shall be conducted and reported to CDFW as described above. If a burrowing owl is found, the same coordination described above shall be necessary. No take of burrowing owl shall be conducted unless the specific project secures a Section 2081 Incidental Take Permit from CDFW. Take includes any actions that could harm burrowing owl, including but not limited to burrow exclusions on occupied or known burrows, passive relocation activities, and burrow collapse of an occupied or known burrow. Those activities shall only be conducted in accordance with the permit conditions contained in an Incidental Take Permit. By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development. **MM BIO-4: Maternal Bat Roost Avoidance**. Prior to construction within any Discretionary Development Sites, the project proponent shall obtain a qualified biologist to conduct a survey of potential bat roosts for sensitive bat species, including western yellow bat, western mastiff bat, and pocketed freetailed bat, located within and/or immediately adjacent to the areas where project activities have the potential to directly impact active roosts or disrupt bat breeding activities. Potential roost sites (e.g., palm fronds, trees, rock crevices, abandoned buildings, etc.) will be identified by a qualified bat biologist and searched for signs of bat use, such as urine streaking, grease marks and droppings, moth wings, and dead bats.			

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule
	If any project activities are proposed during the bat maternity season (April 1 through August 31), a qualified biologist will conduct a dusk emergent bat survey of potential roost sites that have signs of bat use no more than two weeks prior to construction. Dusk emergence count surveys shall be conducted on a warm night when nighttime lows are not less than 45 degrees Fahrenheit and during dry weather conditions. Surveys should be conducted from approximately 15 minutes before sunset to 1 hour after sunset. Prior to any dusk emergence count, the lead biologist shall identify the primary locations where bats may be roosting so these locations can be targeted during the emergence count. Surveys should include both a visual component using night vision goggles as appropriate, as well as an electronic acoustic monitoring device/bat detector (e.g., Anabat). If bats are detected during the dusk emergence surveys, the project proponent shall not trim or remove the roost (e.g., palm trees) until it can be determined that the bats no longer are present. In addition, if a maternal roost is identified, no construction will occur within 200 feet of the maternal roost during the pupping season (typically April 1 through August 31). By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development. **MM BIO-5: Yuma Ridgway's Rail Focused Survey**. If suitable freshwater marsh habitat is observed within the Discretionary Development Sites during the general biological survey, the following measure would apply: 1) Focused surveys for Yuma Ridgway's rail shall be performed prior to the start of construction activities. Surveys shall include the following: a) A permitted biologist, holding a U.S. Fish and Wildlife Service (USFWS) 10(a)1(a) Recovery Permit for the Yuma Ridgway's rail and a Memorandum of Understanding from the California Department of Fish and Wildlife (CDFW), will conduct focused surveys consistent with the Yuma Ridgway's Rail Survey Protocol for Project Evaluation. Surveys will be conducted within the project site and a 150-meter survey buffer. The current USFWS survey protocol requires surveys be conducted through a series of six survey passes between March 1 and May 15. b) All Yuma Ridgway's rail detections will be recorded on standardized data forms adapted from the National Marsh Bird Monitoring Program, and their locations will be recorded using GPS devices. c) The results of the surveys will be detailed in a 45-day letter report required by the permitted biologist's recovery permit and shall be submitted to USFWS and CDFW. One letter report will be provided to USFWS including methods and results of Yuma Ridgway's rail surveys, and a second letter report will be submitted to CDFW including methods and results of the Yuma Ridgway's rail surveys. 2) Construction in suitable marsh habitats shall occur between September 1 and February 28, which is outside the breeding season, whenever feasible.			

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule
	3) Where work must occur during the breeding season, species-specific no disturbance buffers shall be established around all active nests, as determined by a qualified biologist in consultation with USFWS and CDFW. The buffer shall remain undisturbed until the nest is no longer active. 4) A qualified biological monitor shall be present during all ground-disturbing activities within or adjacent to rail habitat to ensure compliance with buffer zones and avoidance and minimization measures. 5) Noise attenuation measures shall be implemented near occupied rail habitat if work is to occur during the breeding season (typically March 1 to August 31). If predicted sound levels exceed 60 A-weighted decibels at the edge of the closest rail habitat, noise-reduction measures such as temporary sound walls or hay bale barriers shall be installed. Noise monitoring shall be conducted during construction to confirm effectiveness. 6) If an active nest is discovered during construction, work within the buffer shall cease until the nest is no longer active. Any observed mortality or disturbance shall be documented and reported to USFWS and CDFW. Additional measures shall be implemented if repeated disturbance occurs. By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development. **MM BIO-6: Avoidance of Nesting Birds and Raptors**. To prevent direct impacts to nesting migratory birds or raptors protected under the Migratory Bird Treaty Act and California Fish and Game Code, the project proponent shall implement the following within Discretionary Development Sites: Any proposed activity that could affect nesting migratory birds or raptors shall occur outside of the general bird breeding season of February 15 to August 31. If such activities cannot be conducted outside the general bird breeding season, a qualified biologist with experience in conducting nesting bird surveys shall be retained to conduct a pre-activity nesting bird survey (i.e., prior to any project activities, such as ground disturbance or vegetation removal, that could disrupt nesting birds). The pre-activity survey shall occur within 500 feet of the construction activity and no more than three days prior to the activities to confirm the presence or absence of active bird nests. If an active nest is found by the qualified biologist, a nest avoidance buffer of 300 feet for passerine birds and 500 feet for raptors should be demarcated by temporary fencing, flagging, and/or staking as deemed appropriate to avoid impacts. No project construction activities, including vegetation removal and/or trimming activities, will be allowed within the buffer until the qualified biologist has determined that the nest is no longer active. The qualified biologist shall monitor the active nest with sufficient frequency and duration to determine if the buffer distances are appropriately sized to protect the breeding success of the nest. Avoidance buffers may be either increased or decreased by the qualified biologist based on such factors as the avian species involved, ambient levels of human activity, and screening vegetation.			

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule
Impact BIO-2: Sensitive Natural Communities	Refer to **MM BIO-1** and **MM BIO-2**. **MM BIO-7a: Formal Aquatic Resource Delineation**. Future development of Discretionary Development Sites, determined to have potentially jurisdictional aquatic resources via National Wetlands Inventory and National Hydrography Dataset data, aerial imagery, or field surveys shall be required to comply with the following measure: Prior to issuance of any construction permit, a formal, site-specific aquatic resources delineation and reporting per the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife standards and guidelines is recommended to confirm the extent of the aquatic resources on-site and anticipated jurisdictional status. The aquatic resources delineation shall be conducted following the agencies' standards and guidelines for determining the extent of jurisdictional resources present on-site. Regulatory aquatic resources permitting requirements would be assessed based on the results of the formal delineation and reporting. **MM BIO-7b: Acquire Permits for Impacts to Jurisdictional Aquatic Resources**. Prior to construction or ground-disturbing activities occurring within potentially jurisdictional aquatic resources for any future development within the By-Right and Discretionary Development Sites, the project proponent shall apply for and obtain the following regulatory permits and approvals from the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and/or California Department of Fish and Wildlife, as applicable: • Clean Water Act Section 404 Permit; • Clean Water Act Section 401 Water Quality Certification; and/or • California Fish and Game Code Section 1602 Streambed Alteration Agreement. **MM BIO-7c: Mitigation for Jurisdictional Impacts**. The project proponent shall mitigate for permanent and temporary impacts to jurisdictional aquatic resources off-site in accordance with the applicable permit condition(s) described in **MM BIO-7b**, estimated at no less than a 1:1 ratio. Temporary impacts are to be restored in place and permanent impacts shall include a minimum 1:1 establishment/re-establishment component, unless otherwise negotiated by the project proponent with the regulatory agencies. By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.	Project Applicant; Qualified Biologist	City of Calexico Planning & Building Department; USACE, RWQCB, and/or CDFW, as applicable	Prior to issuance of construction permits; prior to disturbance of jurisdictional resources; and following construction pursuant to permit requirements
Impact BIO-3: Wetlands	Refer to **MM BIO-1, MM BIO-2,** and **MM BIO-7**.	Project Applicant; Qualified Biologist	Refer to Impact BIO-1 and Impact BIO-2 above.	Refer to Impact BIO-1 and Impact BIO-2 above
Impact BIO-4: Wildlife Corridors	Refer to **MM BIO-1** and **MM BIO-4**.	Project Applicant; Qualified Biologist	Refer to Impact BIO-1 and Impact BIO-2 above.	Refer to Impact BIO-1 and Impact BIO-2 above
Cultural and Tribal Cultural				
Impact CUL-1: Historic Resources	**MM-CUL-1: Historic Evaluation**: For Discretionary Development, prior to approving a future project that would directly or indirectly affect a building or structure over 50 years old, a historic evaluation should be completed by a qualified architectural historian to determine where the affected building or structure is historically significant and eligible for the California Register of	Project Applicant; Qualified Architectural Historian	City of Calexico Planning & Building Department	Prior to project approval and issuance of demolition or construction permits

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule
	Historical Resources. The evaluation shall be based on criteria such as age, location, context, association with an important person or event, uniqueness, or structural integrity, as indicated in the California Environmental Quality Act guidelines. If the evaluation determines that the building/structure is not historic, no further evaluation or mitigation would be required. If the building/structure is determined to be historically significant, the preferred mitigation would be to avoid the resource through project redesign. If the resource cannot be avoided, all prudent and feasible measures to minimize or mitigate harm to the resource shall be taken per the recommendations of the City or qualified architectural historian prior to the demolition of the building. Development of By-Right Development Sites 23 and 36 shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.			
Impact CUL-2 and CUL-4: Archaeological Resources, Religious and Sacred Uses or Tribal Cultural Resources	**MM-CUL-2: Archaeological Resource Assessment:** For Discretionary Development, prior to approving a future project or issuance of grading permits, the City shall require applicants for future ground-disturbing projects to determine the presence or absence of archaeological resources and appropriate mitigation measures. Following are steps to complete an assessment: 1. A qualified archaeologist meeting the Secretary of the Interior Standards shall conduct a cultural resources pedestrian survey and request a sacred lands search from the Native American Heritage Commission. 2. If an archaeological resource is identified that has not been evaluated for significance per California Environmental Quality Act thresholds, then an evaluation program shall be completed. 3. If the resource is determined to be significant and avoidance through project redesign is not feasible, a data recovery and construction monitoring program shall be implemented to reduce impacts to the archaeological resource to below a significant level. 4. After construction, a final data recovery and monitoring report shall be submitted to the City. Confidential attachments must be submitted under separate covers. Any artifacts collected during the evaluation, data recovery, and monitoring efforts shall be curated at an appropriate facility or repatriated to a local Native American tribe if requested during Assembly Bill 52 consultation. For development of By-Right Sites 23 and 36, the City's By-Right Ordinance[1] requires the following: **MM-CUL-3: Construction Monitoring**: A qualified Native American monitor shall be on-site during earth-disturbing activities at By-Right Sites 23 and 36 because there is a potential for buried significant historic cultural resource deposits given that houses on these sites may be or are over 50 years old. Additionally, any mitigation measures developed through the Assembly Bill 52 Tribal consultation process shall also be completed. If cultural resources are identified during construction monitoring, the archaeological monitor shall have the authority to divert or	Project Applicant; Qualified Archaeologist; Qualified Native American Monitor	City of Calexico Planning & Building Department	During all earth-disturbing activities

[1] The City's By-Right Ordinance amends the Zoning Ordinance consistent with Program 2E of the Housing Element Update, establishing a ministerial review process for By-Right Development Sites.

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule
	temporarily halt ground disturbance operations in the area of the discovery. The archaeological monitor shall contact the City Project Manager at the time of discovery and, in consultation with the City Project Manager, shall determine the significance of discovered resources. Isolates and non-significant deposits shall be minimally documented in the field. If the discovery is determined to be significant, a research design and data recovery program shall be prepared by the project archaeologist and approved by the City Project Manager. Construction activities shall be allowed to resume after the City Project Manager has concurred with the significance evaluation and data recovery program.			
Geology and Soils				
Impact GEO-6: Paleontological Resources and Unique Geology	**MM GEO-1: Paleontological Resources Monitoring**: To address potential impacts to paleontological resources, the City shall review project application materials, including any geotechnical investigations, to determine whether proposed grading or excavation activities have the potential to disturb geologic formations with moderate or high paleontological sensitivity. If ground-disturbing activities are limited to previously disturbed soils or surficial deposits with low paleontological sensitivity, no monitoring shall be required. The City may require the applicant to provide information regarding grading depths, geologic formations, and paleontological sensitivity to determine the potential for impacts. If grading or excavation activities may disturb geologic formations with moderate or high paleontological sensitivity, the following measures shall be implemented prior to and during ground-disturbing activities: 1. **Preconstruction Personnel and Repository.** Prior to the issuance of grading permits, the applicant shall retain a qualified paleontologist to oversee implementation of the mitigation program. A qualified paleontologist shall possess a graduate degree in paleontology, geology, or a related field and have demonstrated experience in paleontological resource identification, monitoring, and mitigation within southern California. A qualified regional repository, such as a museum or university collection that meets professional curation standards, shall be identified to receive any recovered fossil specimens. 2. **Preconstruction Meeting.** The qualified paleontologist shall attend a preconstruction meeting with grading and excavation contractors to review excavation schedules, paleontological monitoring procedures, fossil recovery protocols, and site safety requirements. 3. **Worker Environmental Awareness Training.** Prior to commencement of grading activities, the qualified paleontologist shall provide paleontological resource awareness training to construction personnel involved in ground-disturbing activities. Training shall include the identification of fossil resources, reporting procedures, and avoidance requirements. 4. **Construction Monitoring.** A qualified paleontological monitor working under the direction of the qualified paleontologist shall monitor grading and excavation activities in areas underlain by geologic units with moderate or high paleontological sensitivity. Monitoring	Project Applicant; Qualified Paleontologist	City of Calexico Planning & Building Department	Prior to grading permit issuance and during grading and excavation activities

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule
	shall occur during original excavation of previously undisturbed native sediments and continue as determined necessary by the qualified paleontologist. 5. **Fossil Recovery.** If paleontological resources are encountered, the qualified paleontologist or paleontological monitor shall evaluate and recover the resources. Construction activities within the immediate vicinity of the discovery may be temporarily redirected, diverted, or halted, as necessary, to allow for the identification, documentation, and recovery of significant fossil specimens. 6. **Laboratory Treatment.** Recovered fossil specimens shall be cleaned, stabilized, identified, cataloged, and prepared in accordance with current professional paleontological standards. 7. **Curation.** All scientifically significant fossil specimens, together with associated field notes, photographs, maps, and other documentation, shall be curated at the designated repository in accordance with repository requirements and accepted professional standards. **Final Report.** Upon completion of monitoring and mitigation activities, the qualified paleontologist shall prepare a final paleontological resources report documenting the results of the monitoring program, the geologic units encountered, fossil discoveries, recovery methods, and curation information. The report shall be submitted to the City and retained as part of the project record.			
Greenhouse Gas Emissions				
Impact GHG-1: GHG Emissions	**MM-GHG-1**: For Discretionary Development, applications for future development, wherein the City of Calexico (City) or their designee has determined a potential for greenhouse gas (GHG) impacts, the City shall evaluate the project to identify the potential for GHG emissions to exceed the South Coast Air Quality Management District (SCAQMD) thresholds detailed below. If a project may exceed the thresholds, the City shall require a technical assessment evaluating potential project GHG impacts to the City for review and approval. The significance of project-level GHG impacts shall be evaluated using one of the following criteria: 1. In the absence of a City plan to reduce GHG emissions, the evaluation shall be prepared in conformance with SCAQMD methodology for assessing GHG impacts, which consists of the following tiered approach: a. Tier 1 – The project is exempt from the California Environmental Quality Act. b. Tier 2 – The project is consistent with an applicable regional GHG emissions reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions. c. Tier 3 – Project GHG emissions represent an incremental increase below or mitigated to less than a 3,000 metric tons of carbon dioxide equivalent screening level.	Project Applicant	City of Calexico Planning & Building Department	Prior to discretionary approval, during environmental review

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule
	d. Tier 4 – The project achieves performance standards, where performance standards may include a percent emission reduction target or an efficiency target per service population. e. Tier 5 – Offsets along or in combination with the above the target Significance Screening Level. Offsets must be provided for a 30-year project life, unless the project life is limited by permit, lease, or other legally binding condition. If GHG emissions are determined to have the potential to exceed the SCAQMD's recommended thresholds, the City shall require that applicants for new development projects incorporate features to reduce GHG emissions. These identified measures shall be incorporated into all appropriate documents submitted to the City and shall be verified by the City. Measures can include, but are not limited to, the following: • **Affordable Housing**. Provide below-market-rate housing that reduces VMT. • **Electric Vehicle Parking**. Implement electric vehicle charging infrastructure beyond requirements set forth in the 2025 California Green Building Standards Code mandatory measures, such as Tier 2 voluntary measures set forth in the 2025 California Green Building Standards Code (or future more stringent) standards. • **Transportation Demand Management**. Implementation of transportation demand management measures. • **Unbundling Parking**. Require residential developers to separate the cost to rent or purchase a parking space from the cost of the unit. • **Transit Subsidies**. Require implementation of a transit subsidy program that covers a portion of the cost of transit passes on a per-unit basis to residential tenants for a period of five years after issuance of the first occupancy permit. The Owner/Permittee shall provide an annual report to the City Engineer in each of the first five years demonstrating how the offer was publicized to residents and documenting the results of the program each year, including the number of participants and driveway traffic counts. • **Commute Trip Reduction Program**. Develop and implement a commute trip reduction program that requires each homeowner and tenant to be provided with a one-page flyer every year that provides information regarding available transit, designated bicycle routes, local bicycle groups and programs, local walking routes and programs, and rideshare programs. • **Active Transportation Network**. Expand and facilitate completion of planned networks of active transportation infrastructure for projects that are required to provide public improvements related to that infrastructure. • **Bicycle Micro-mobility Fleet**. Provide bicycles to the first buyer of each unit. • **All Electric Development**. Require all-electric development with no sources of natural gas.			

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule
	• **Energy Efficiency**. Demonstrate building energy efficiency beyond applicable code requirements. • **Energy Star Appliances**. Provide Energy Star-rated appliances (e.g., clothes washers, dishwashers, refrigerators, and ceiling fans). • **Alternative Water Heating**. Incorporate non-gas water heaters (e.g., electric or solar water heating). • **Water-Efficient Landscaping**. Provide low-water use/drought tolerant plant species with low water use irrigation (e.g., spray head or drip), where required. • **Outdoor Electrical Outlets to Allow for Electric Landscape Equipment**. Provide exterior electrical outlets necessary for sufficient powering of electric lawnmowers and other landscaping equipment. By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.			
Impact GHG-2: Policies, Plans, and Regulations Intended to Reduce GHG Emissions	Impacts associated with applicable plans, policies, and regulations intended to reduce GHG emissions adopted for the purpose of reducing the emission of GHGs would be significant. Refer to Section 4.6.5.2 and above for Mitigation Measure **MM GHG-1** to reduce impacts to policies, plans, and regulations.	Project Applicant	City of Calexico Planning & Building Department	Prior to discretionary approval, during environmental review
Hazards and Hazardous Materials				
Impact HAZ-5: Airport Hazards	**MM HAZ-1: Airport Compatibility Hazards.** For any Discretionary or By-Right development project identified in the Housing Element that is subject to review under the Imperial County Airport Land Use Compatibility Plan (ALUCP) and is determined to be inconsistent with the applicable ALUCP, the City shall require the project applicant to implement the following measures, as applicable: 1. Prior to approval of the applicable discretionary development entitlement, the project applicant shall submit the proposed development to the Federal Aviation Administration (FAA) for aeronautical review and obtain the applicable FAA determination prior to approval of the project. If the FAA issues a Determination of No Hazard to Air Navigation with conditions, the project shall comply with all applicable conditions of that determination. The FAA's obstruction evaluation process applies to proposed construction or alterations that may affect navigable airspace. 2. Prior to issuance of building permits, the project applicant shall record an avigation easement over the project property in favor of the applicable airport owner/operator, where required by the ALUCP. The easement shall be in a form acceptable to the City and shall acknowledge the right of aircraft to overfly the property, including associated aircraft noise and other effects of normal airport operations. The applicant shall also provide notice of the property's proximity to the airport and associated aircraft overflight and noise conditions to present and future property owners and occupants, as applicable.	Project Applicant	City of Calexico Planning & Building Department; FAA;	Prior to discretionary approval, during environmental review

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule
	3. Prior to issuance of building permits, the project applicant shall demonstrate to the Calexico Planning and Building Division that the final project design incorporates the following measures to reduce potential hazards associated with aircraft operations: a. All outdoor lighting shall be designed, located, and installed so that it is hooded, shielded, or otherwise directed downward to prevent direct light spillage or reflection into the sky and to minimize the potential for confusion with airport or aircraft navigation lighting. b. Residential structures shall incorporate noise attenuation measures, as determined by a qualified acoustical consultant, sufficient to achieve an interior aircraft noise level of 45 CNEL or less in habitable rooms. The acoustical analysis and proposed attenuation measures shall be reviewed and approved by the City prior to issuance of building permits, and the measures shall be incorporated into the final building plans and implemented during construction. 4. If the City Council elects to overrule an ALUC determination that a proposed development is inconsistent with the applicable ALUCP, the project applicant shall enter into a Defense and Indemnification Agreement with the City, in a form acceptable to the City Attorney, as a condition of project approval. These requirements shall be incorporated into the project's conditions of approval and, where applicable, the project's recorded covenants, conditions, and restrictions (CC&Rs), so that the requirements remain applicable to subsequent property owners and occupants.			
Land Use and Planning				
Impact LU-2: Conflict with Airport Land Use Compatibility Plan	Refer to **MM HAZ-1** above.	Refer to **MM HAZ-1** above.	Refer to **MM HAZ-1** above.	Refer to **MM HAZ-1** above.
Noise				
Impact NOS-1: Noise Standards	Stationary noise impacts related to potential industrial noise generated at the Bowker Site would be significant and require mitigation. The following mitigation measures shall be applied to the Discretionary Development Site #24b, the Bowker Site: **MM-NOS-1: Bowker Site Industrial Noise Sources.** Prior to the issuance of building permits for the Bowker Site, a site-specific noise analysis shall be prepared that evaluates noise levels generated by on-site equipment and activities. The noise study shall include noise reduction measures necessary to reduce noise levels to the applicable limits established in Section 8.46.031 of the City's Municipal Code.	Project Applicant; Qualified Acoustical Consultant	City of Calexico Planning & Building Department	Prior to issuance of building permits

Potentially Significant Impact	Mitigation Measure	Implementing Responsibility	Monitoring/Enforcement Responsibility	Monitoring Schedule
Impact NOS-2: Vibration	**MM-NOS-2: Construction Vibration.** For Discretionary Development, prior to issuance of a building permit for a project requiring heavy construction equipment such as large bulldozers within 20 feet of fragile buildings, 12 feet of non-engineered timber and masonry buildings (e.g., most residential buildings), or 8 feet of engineered concrete and masonry buildings, the project applicant shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer. The vibration levels shall not exceed Federal Transit Administration architectural damage thresholds (e.g., 0.12 inches per second [in/sec] peak particle velocity [PPV] for fragile or historical resources, 0.2 in/sec PPV for non-engineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). If necessary, construction vibration monitoring shall be conducted to ensure vibration thresholds are not exceeded. By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.	Project Applicant	City of Calexico Planning & Building Department	Prior to issuance of building permits
Transportation				
Impact TRA-1: Vehicle Miles Traveled	**MM TRA-1: VMT Reduction Measures**. Future development of housing sites identified in the Housing Element shall incorporate feasible VMT-reducing project features during project design, as determined appropriate by the City during discretionary review. Consistent with the Transportation Study, VMT reduction measures may include, but are not limited to: • Development at residential densities that support reduced vehicle travel and increase opportunities for walking, bicycling, and transit use; • Construction of new sidewalks and pedestrian connections that improve access between residential neighborhoods, schools, parks, commercial centers, and transit stops; • Installation or expansion of bicycle facilities consistent with the City of Calexico Bicycle Master Plan Update, the ICTC Regional Active Transportation Plan, and applicable City standards; • Improvements that enhance connectivity to existing Imperial Valley Transit (IVT) routes and transit stops; • Additional transportation demand management (TDM) measures or VMT reduction strategies determined appropriate during project-level environmental review. Consistent with the Transportation Study, these project features are intended to reduce VMT through increased residential density, improved pedestrian connectivity, and expansion of the City's bicycle network. The estimated effectiveness of these measures was evaluated using methodologies contained in the California Air Pollution Control Officers Association (CAPCOA) Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (2021).	Project Applicant	City of Calexico Planning & Building Department	During project design and discretionary approval

Appendix C

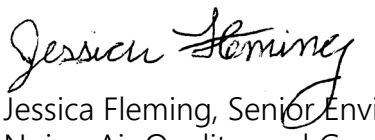
Air Quality Technical Report

Air Quality Analysis for the City of Calexico Housing Element Update Calexico, California

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September 9, 2026



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5: CalEEMod Output and Fugitive Dust Reduction Calculations – Bowker Site
6: ICAPCD Rule 801

Acronyms and Abbreviations

$\mu g/m^3$	micrograms per cubic meter
AAC	All American Canal
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
BAAQMD	Bay Area Air Quality Management District
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
City	City of Calexico
CO	carbon monoxide
DPM	diesel particulate matter
HEU	Housing Element Update
ICAPCD	Imperial County Air Pollution Control District
MERV	minimum efficiency reporting value
mph	miles per hour
NAAQS	National Ambient Air Quality Standards
NO_2	nitrogen dioxide
NO_X	oxides of nitrogen
Pb	lead
PM_{10}	particulate matter less than 10 microns
$PM_{2.5}$	particulate matter less than 2.5 microns
ppb	parts per billion
ppm	parts per million
project	City of Calexico Housing Element Update
RHNA	Regional Housing Needs Allocation
ROG	reactive organic gases
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_X	oxides of sulfur
SR-98	State Route 98
SR-111	State Route 111
SSAB	Salton Sea Air Basin
TAC	toxic air contaminant
U.S.	United States
U.S. EPA	U.S. Environmental Protection Agency
U.S.C.	U.S. Code
VMT	vehicle miles traveled

1.0 Introduction

This report evaluates the significance of potential air quality impacts that may be generated by the proposed City of Calexico (City) Housing Element Update (HEU, project). This report characterizes existing conditions within the City and the region, identifies applicable rules and regulations, and assesses impacts to air quality from construction and operation of the project. The significance of potential air quality impacts is assessed based on the air quality thresholds defined by the regional air quality management district, the Imperial County Air Pollution Control District (ICAPCD).

Air pollution affects all southern Californians. Effects can include increased respiratory infections, increased discomfort, missed days from work and school, and increased mortality. Polluted air also damages agriculture and our natural environment.

The state of California is divided geographically into 15 air basins for managing the air resources of the state on a regional basis. Areas within each air basin are considered to share the same air masses and therefore are expected to have similar ambient air quality. The City is located within the Salton Sea Air Basin (SSAB). The Imperial County portion of the SSAB is classified as a federal moderate non-attainment area for the 2008 8-hour ozone standards, marginal non-attainment area for the 2015 8-hour ozone standards, a partial serious maintenance area for the particulate matter less than 10 microns (PM_{10}) standards, and a partial moderate non-attainment area for the particulate matter less than 2.5 microns ($PM_{2.5}$) standards. The county is a non-attainment area for the state ozone standards and the state PM_{10} standard.

Air quality impacts can result from construction and operation of a project. Construction impacts are short term and result from fugitive dust, equipment exhaust, and indirect effects associated with construction workers and deliveries. Operational impacts can occur on two levels: regional impacts resulting from growth-inducing development, or local hot spot effects stemming from sensitive receivers being placed close to highly congested roadways.

The analysis of impacts is based on federal and state Ambient Air Quality Standards (AAQS) and is assessed in accordance with the guidelines, policies, and standards established by the ICAPCD. Project compatibility with the adopted air quality plan for the area is also assessed. Measures are recommended, as required, to reduce potentially significant impacts.

2.0 Project Description

This programmatic air quality report analyzes potentially significant impacts related to air quality that could result from implementation of the project. This report summarizes the existing air quality conditions and regulatory framework, calculation methodology and results, and recommended mitigation measures. The City is implementing its 6th Cycle 2021–2029 Housing Element, a state-mandated update designed to accommodate a Regional Housing Needs Allocation (RHNA) through strategic rezoning, upzoning, and General Plan amendments. This programmatic air quality report provides the necessary environmental analysis to support future development of the project's "By-Right Development Sites", primarily vacant or underutilized parcels that meet specific state criteria

for streamlined approval; and "Discretionary Development Sites", requiring further amendments to the General Plan and Zoning Code to enable residential development.

This report is being prepared to support the California Environmental Quality Act (CEQA) document for this project, which is a program-level environmental impact report. The impact analysis provided in this report is a program-level analysis, consistent with Section 15168 of the CEQA Guidelines. It follows guidance provided by the ICAPCD (ICAPCD 2017a).

2.1 Project Location

The project is located within the city of Calexico, California, and lies approximately 4.50 miles south of Interstate 8 and 0.45 miles north of the United States (U.S.)/Mexico international border in southern Imperial County, California (Figure 1).

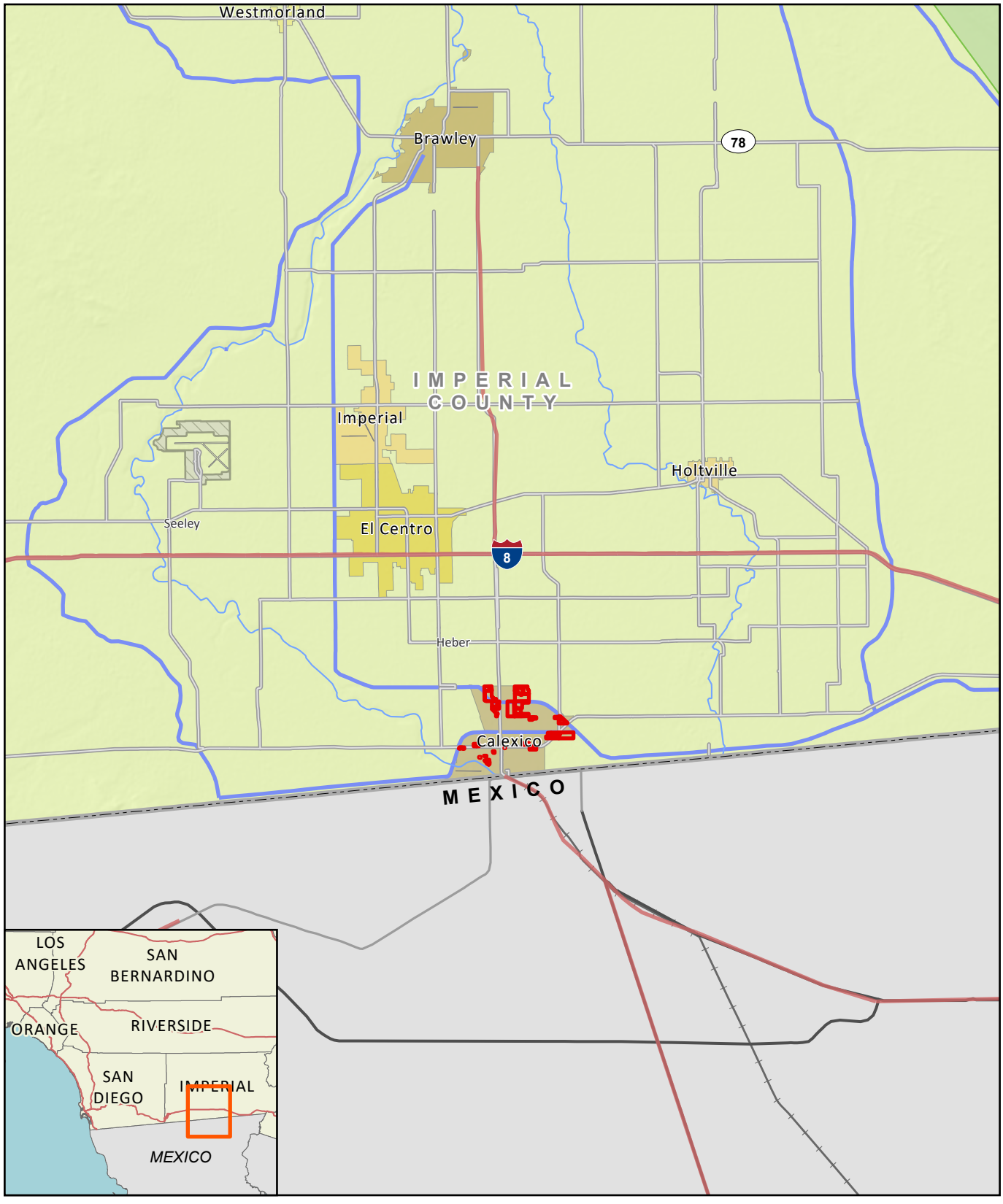
The project identifies 54 parcels throughout the City, including 49 By-Right Development Sites and 5 Discretionary Development Sites, and is generally bounded by development, agricultural land, and canals to the north, east, and west, and the New River and the U.S./Mexico border to the south (Figure 2). The By-Right Sites and Discretionary Development Sites consist of vacant, underdeveloped, and developed parcels throughout the city.

2.2 Project Background and Description

This section introduces the objectives of the project and summarizes specific information describing the project. This includes a description of the project characteristics, including the City's housing site inventory, rezone sites, and associated discretionary actions. These aspects of the project provide the basis for the impact analysis provided in Section 7.0. This project description is intended to provide the level of detail necessary to evaluate potential environmental effects of the Housing Element implementation at a programmatic level.

2.2.1 Project Background

The Housing Element is one of the state-mandated elements of the General Plan. It identifies the City's housing conditions and needs, and establishes the goals, objectives, and policies that comprise the City's housing strategy to accommodate projected housing needs. State law requires that housing elements be updated every eight years (California Government Code Sections 65580 to 65589.8). Calexico's Housing Element was last adopted in January 2014 for the 5th Cycle of the 2014–2021 planning period. In accordance with state law, the City has prepared the 6th Cycle 2021–2029 Housing Element to address the housing needs of all types of households and income levels for current and future Calexico residents.



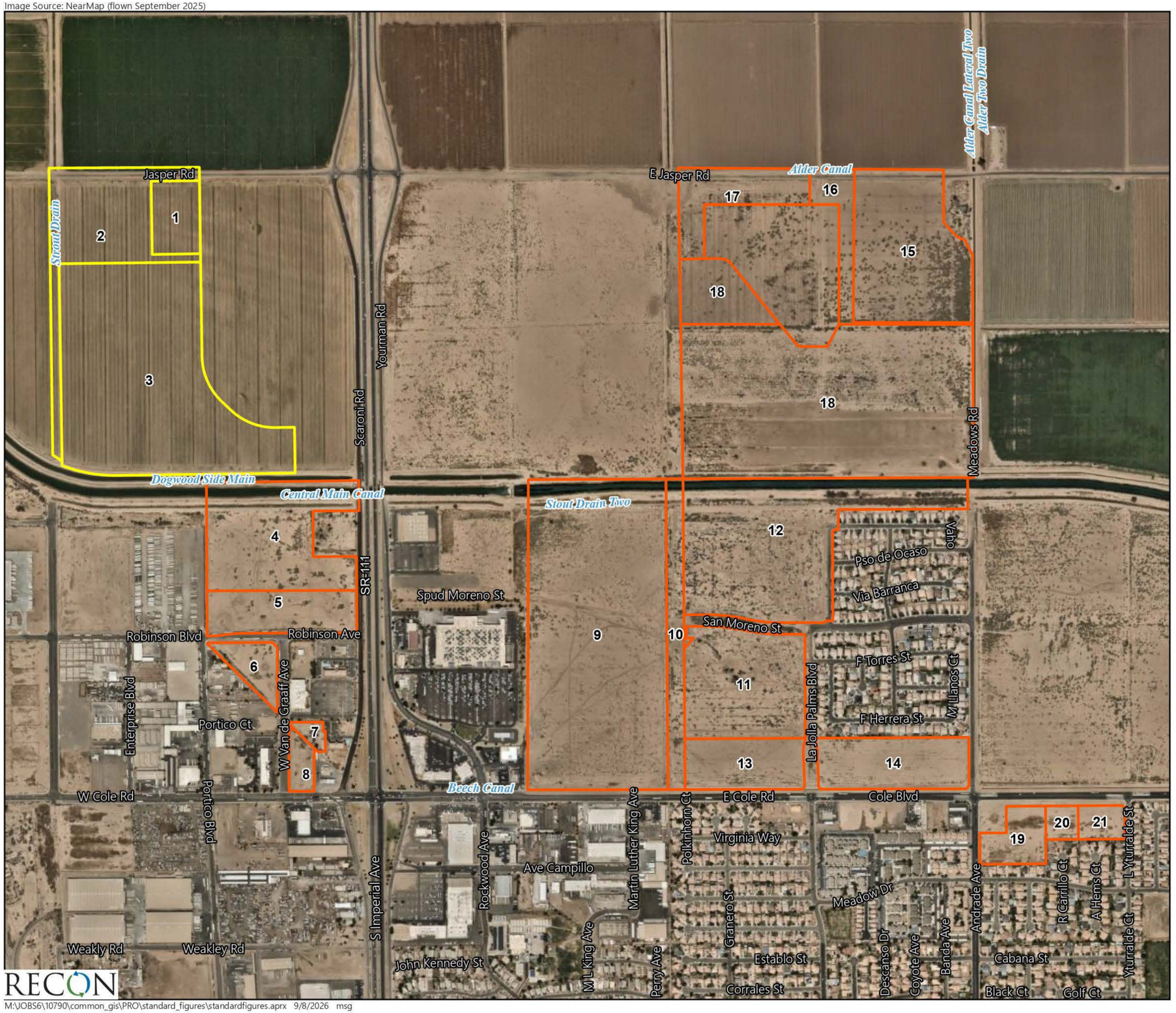
Project Sites

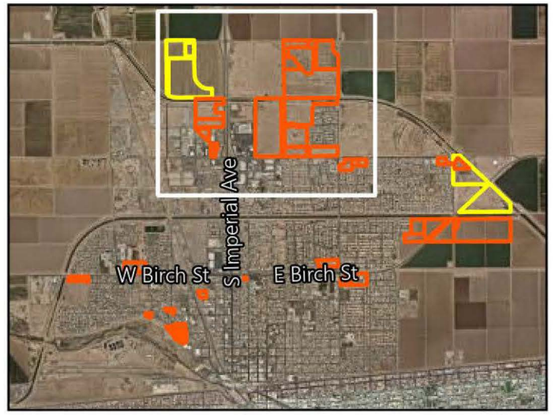
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FIGURE 1
Regional Location

Image Source: NearMap (flown September 2025)





By-Right Development Sites

Discretionary Development Sites

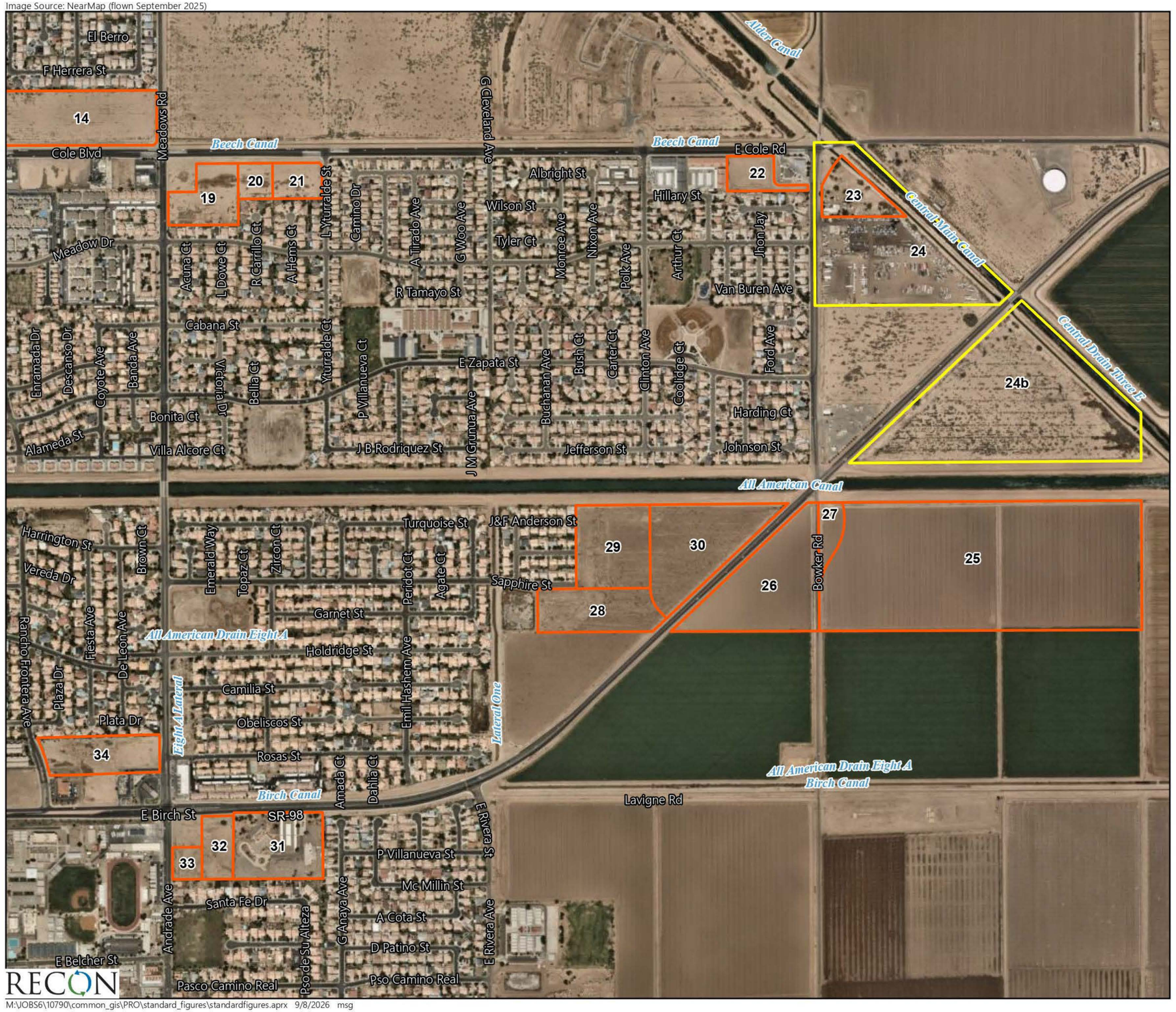
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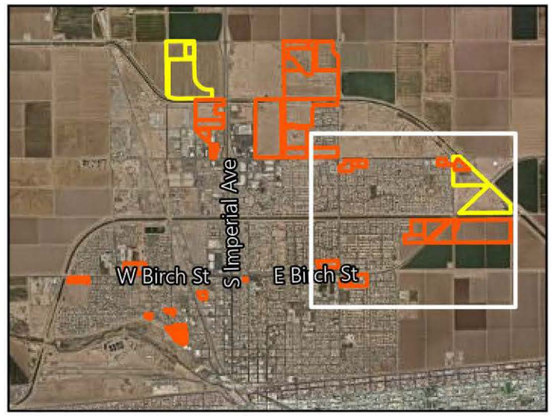
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FIGURE 2-1
Project Location on Aerial Photograph

Image Source: NearMap (flown September 2025)





By-Right Development Sites

Discretionary Development Sites

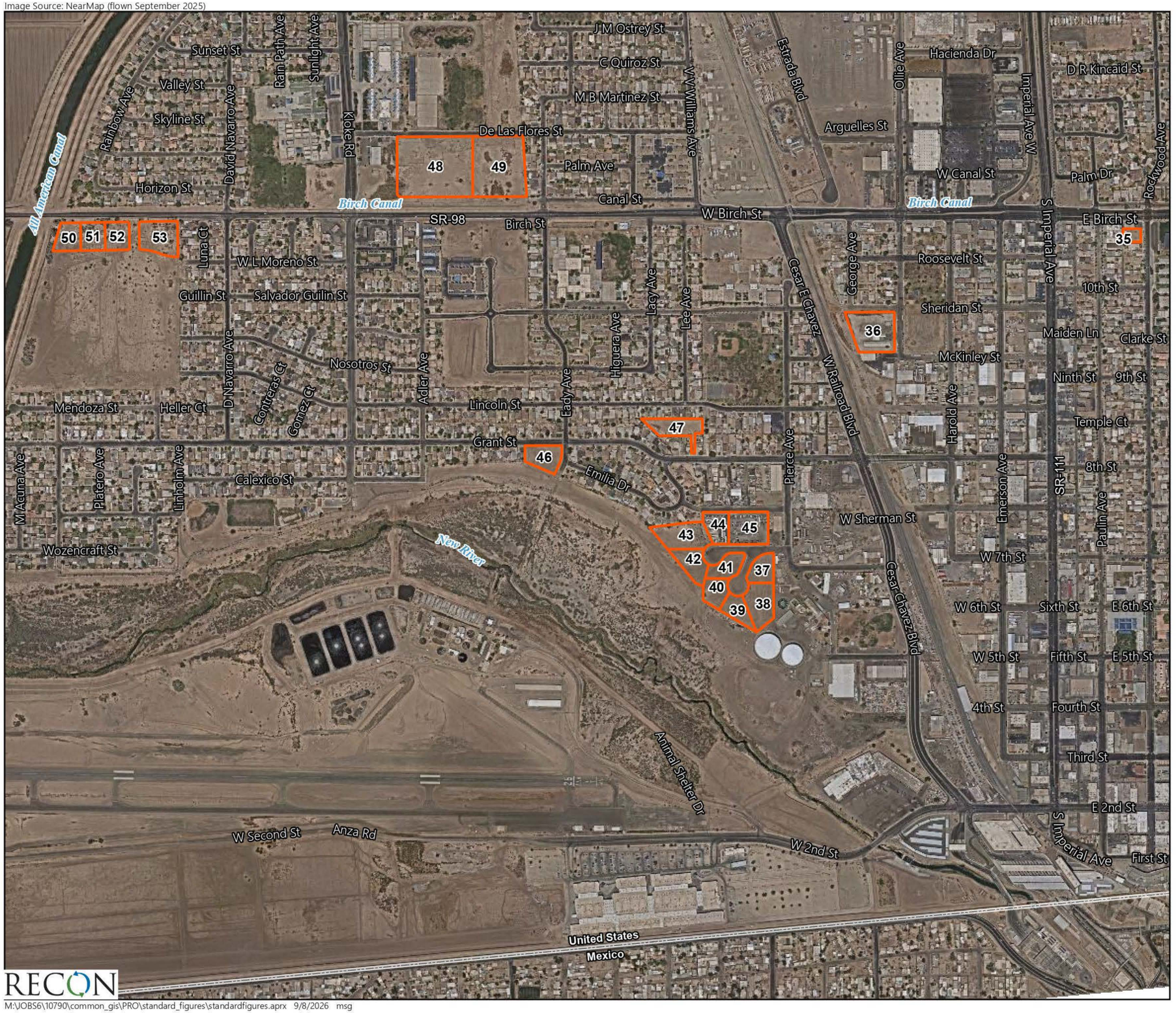
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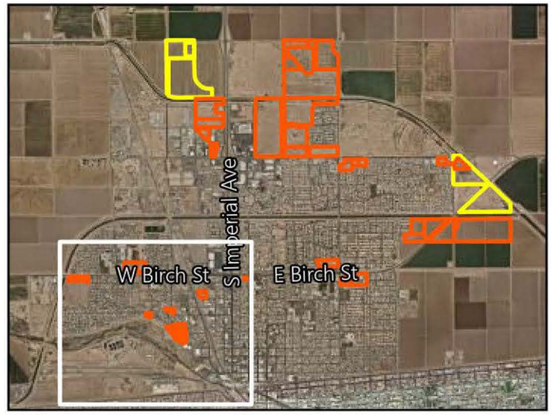
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FIGURE 2-2
Project Location on Aerial Photograph

Image Source: NearMap (flown September 2025)





By-Right Development Sites

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FIGURE 2-3
Project Location on Aerial Photograph

The California Department of Housing and Community Development is required to prepare an RHNA for each Council of Governments in the state that identifies projected housing units needed for all economic segments based on Department of Finance population estimates. The Southern California Association of Governments (SCAG) is responsible for preparing the RHNA for all jurisdictions within the SCAG region, in which Calexico is a member agency. The Housing Element includes goals, policies, and implementation programs identified to help the City meet its 6th Cycle RHNA.

2.2.2 Project Description

Consistent with CEQA Guidelines Section 15168, this air quality report provides a programmatic analysis of the environmental impacts associated with implementation of the project components: (1) the City's 6th Cycle 2021–2029 Housing Element; (2) associated General Plan Amendments, including the corresponding consistency updates to the City Land Use Element; (3) Zoning Ordinance Amendments to implement by-right housing per the Housing Element; and (4) rezoning the Bowker Site, Assessor's Parcel Number 059-180-029, from Residential Condominium to Industrial as later discussed in this section.

The 6th Cycle Housing Element Sites Inventory identifies suitable sites throughout the City that can accommodate the required housing capacity set forth by the City's RHNA. The Housing Element identifies 53 sites throughout the City with the capacity to accommodate the RHNA, as shown in Figure 2. These 53 sites in the inventory will have changes made to zoning or applied General Plan land use designation as a result of the project. There are 35 rezone sites, inclusive of the Bowker site (see below), with four of those considered upzones. The housing sites are categorized into By-Right Development Sites and Discretionary Development Sites. These terms are defined in Section 2.2.2.2, Eligible By-Right Development Sites, and Section 2.2.2.3, Discretionary Development Sites, below. This analysis assumes full implementation of the Housing Element rezoning program and associated development by 2050.

2.2.2.1 Bowker Rezone Site

Site 24b is a Discretionary Development Site proposed to rezone from Residential Condominium to Industrial (Assessor's Parcel Number 059-180-029). The site is bounded to the northwest by State Route 98, the All-American Canal (AAC) to the south, and the AAC Central Drain Three E to the northeast. While the site was previously zoned for housing, upon further evaluation, the City has determined this site is a poor location for residential and better suited for industrial for the following reasons: the site is physically isolated by State Route 98 and the AAC, thus disconnecting the site from public services, including parks and schools, and; the site's boundaries would create emergency access and vehicle miles traveled (VMT) concerns. Furthermore, the City plans to foster industrial development east of the site to leverage the international commercial port of entry with Mexico located approximately six miles due east of the site, and to limit truck traffic through residential areas of the City by limiting new industrial development on the west side of the City. As such, the site is better suited for industrial or commercial development. Because the Housing Element identifies a surplus of housing sites to meet the City's RHNA, this rezone is considered appropriate given the geographical context of the site. This site is referred to in this document as the Bowker Site.

2.2.2.1 Eligible By-Right Development Sites

By-Right Development Sites refer to sites that are subject to ministerial processing and not subject to discretionary review by the City, and no review is required under CEQA per Cal. Gov. Code, § 65583.2(i). Ministerial processing involves little or no personal judgment by the City as to the wisdom or manner of carrying out the project. The City merely ensures that the proposed development meets all objective standards without using special discretion or judgment. By-Right Development Sites do not require a public hearing.

As shown in Figures 2-1 through 2-3, the 49 Eligible By-Right Development Sites include sites: 4 through 23 and 25 through 53. The Housing Element establishes the following criteria as pathways for By-Right Development Sites:

1. **5th Housing Cycle sites:** Sites identified in the City's 6th Cycle Housing Element that were also included in the City's 5th Cycle Housing Element sites inventory to accommodate a portion of the RHNA. This criterion goes above and beyond what is legally required for by-right processing of prior cycle housing sites.

2. **Qualified residential sites:** Sites zoned for Residential Condominium (RC) or Residential Apartment (RA), less than ten (10) gross net buildable acres, with existing adequate access to infrastructure, public right-of-way, and public services.

Additionally, per Housing Element Program 2E, the City will permit residential uses by-right for housing development in which at least 20 percent of the units are affordable to lower-income households for sites that:

- Are non-vacant and identified in the prior planning period; or
- Vacant sites included in two or more consecutive planning periods.

2.2.2.2 Discretionary Development Sites

Discretionary Development Sites refer to sites that are subject to discretionary processing where the City has the discretion to approve, modify, or deny a project based on personal judgment. Projects subject to discretionary processing may be subject to CEQA, and the discretionary review process for multi-family projects and subdivisions may require a public hearing.

As shown in Figures 2-1 through 2-3, the 5 Discretionary Development Sites include sites: 1, 2, 3, and 24 (24a and 24b). The Housing Element establishes Discretionary Development Sites as greater than ten (10) net buildable acres, for which zoning amendments are proposed to allow residential or mixed-use development at densities sufficient to meet RHNA requirements. These sites may currently be designated for commercial, mixed-use, or other non-residential uses, or have limited or no access to infrastructure and right-of-way.

3.0 Regulatory Framework

3.1 Federal Regulations

AAQS represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect the public health and welfare. The federal Clean Air Act (CAA) was enacted in 1970 and amended in 1977 and 1990 (42 U.S. Code [U.S.C.] 7401) for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. In 1971, in order to achieve the purposes of Section 109 of the CAA (42 U.S.C. 7409), the U.S. Environmental Protection Agency (U.S. EPA) developed primary and secondary National AAQS (NAAQS).

Six pollutants of primary concern were designated: ozone, carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), lead, PM_{10}, and $PM_{2.5}$. The primary NAAQS "in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health . . ." and the secondary standards ". . . protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air" [42 U.S.C. 7409(b)(2)]. The primary NAAQS were established, with a margin of safety, considering long-term exposure for the most sensitive groups in the general population (i.e., children, senior citizens, and people with breathing difficulties). The NAAQS are presented in Table 1 (California Air Resources Board [CARB] 2024).

If an air basin is not in either federal or state attainment for a particular pollutant, the basin is classified as a non-attainment area for that pollutant. The project is located within the SSAB. As discussed, the Imperial County portion of the SSAB is classified as a federal moderate non-attainment area for the 2008 8-hour ozone standards, marginal non-attainment area for the 2015 8-hour ozone standards, a partial serious maintenance area for the PM_{10} standards, and a partial moderate non-attainment area for the $PM_{2.5}$ standards.

3.2 State Regulations

3.2.1 Criteria Pollutants

The CARB has developed the California AAQS (CAAQS) and generally has set more stringent limits on the criteria pollutants than the NAAQS (see Table 1). In addition to the federal criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride.

Table 1
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM_{10})[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		–		
Fine Particulate Matter ($PM_{2.5}$)[9]	24 Hour	–	–	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	9 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-dispersive Infrared Photometry	35 ppm (40 mg/m^3)	–	Non-dispersive Infrared Photometry
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–	–	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemi-luminescence	100 ppb (188 µg/m^3)	–	Gas Phase Chemi-luminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		53 ppb (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3 Hour	–		–	0.5 ppm (1,300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[11]	–	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	–		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chroma-tography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chroma-tography			

See footnotes on next page.

Table 1
Ambient Air Quality Standards

ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter; – = not applicable.

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 degrees Celsius and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25 degrees Celsius and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4] Any equivalent measurement method which can be shown to the satisfaction of the Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.

[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7] Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

[8] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[9] On February 7, 2024, the national annual $PM_{2.5}$ primary standard was lowered from 12.0 µg/m^3 to 9.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standards of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[10] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national standards are in units of ppb. California standards are in units of ppm. To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[11] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated non-attainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[12] The Air Resources Board has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[13] The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated non-attainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[14] In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

SOURCE: CARB 2024.

Similar to the federal CAA, the state classifies either "attainment" or "non-attainment" areas for each pollutant based on the comparison of measured data with the CAAQS. The county is a non-attainment area for the state ozone standards and the state PM_{10} standard. The California CAA, which became effective on January 1, 1989, requires all areas of the state to attain the CAAQS at the earliest practicable date. The California CAA has specific air quality management strategies that must be adopted by the agency responsible for the non-attainment area. In the case of the SSAB, the responsible agency is the ICAPCD.

3.2.2 Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is a significant public health issue in California. Diesel particulate matter (DPM) emissions have been identified as TACs. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (Assembly Bill [AB] 1807: Health and Safety Code Sections 39650–39674). The California Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

The California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. Additionally, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly Bill) was enacted in 1987 and requires stationary sources to report the types and quantities of certain substances routinely released into the air.

The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels.

The Children's Environmental Health Protection Act, California Senate Bill 25 (Chapter 731, Escutia, Statutes of 1999), focuses on children's exposure to air pollutants. The act requires CARB to review its air quality standards from a children's health perspective, evaluate the statewide air monitoring network, and develop any additional air toxic control measures needed to protect children's health. Locally, toxic air pollutants are regulated through the ICAPCD Regulation X. Of particular concern statewide are DPM emissions. DPM was established as a TAC in 1998 and is estimated to represent a majority of the cancer risk from TACs statewide (based on the statewide average). Diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB and are listed as carcinogens either under the state's Proposition 65 or under the federal Hazardous Air Pollutants program.

Following the identification of DPM as a TAC in 1998, CARB has worked on developing strategies and regulations aimed at reducing the risk from DPM. The overall strategy for achieving these reductions is found in the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (CARB 2000). To monitor the effectiveness of the efforts to reduce DPM, CARB has

supported field campaigns that measure real-world emissions from heavy-duty vehicles, and results indicate that regulations aimed at reducing emissions of DPM have been successful.

In April 2005, CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005). The handbook makes recommendations directed at protecting sensitive land uses from air pollutant emissions while balancing a myriad of other land use issues (housing, transportation needs, economics, etc.). Sensitive land uses include, but are not limited to, schools, hospitals, residences, resident care facilities, and day-care centers. The handbook is not regulatory or binding on local agencies and recognizes that application takes a qualitative approach. Therefore, the CARB has provided guidelines for the siting of land uses near heavily traveled roadways. Of pertinence to this study, the CARB guidelines indicate that siting new sensitive land uses within 500 feet of a freeway or urban roads with 100,000 or more vehicles/day should be avoided when possible.

As an ongoing process, CARB will continue to establish new programs and regulations for the control of DPM and other air-toxics emissions as appropriate. The continued development and implementation of these programs and policies will ensure that the public's exposure to DPM and other TACs will continue to decline.

3.2.3 State Implementation Plan

The State Implementation Plan (SIP) is a collection of documents that set forth the state's strategies for achieving the NAAQS. In California, the SIP is a compilation of new and previously submitted plans, programs (such as air quality management plans, monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. The CARB is the lead agency for all purposes related to the SIP under state law. Local air districts and other agencies, such as the Department of Pesticide Regulation and the Bureau of Automotive Repair, prepare SIP elements and submit them to CARB for review and approval. The CARB then forwards SIP revisions to the U.S. EPA for approval and publication in the Federal Register. All of the items included in the California SIP are listed in the Code of Federal Regulations at 40 CFR 52.220.

The ICAPCD is the air district responsible for the project area. Applicable ICAPCD SIPs include the following:

- Imperial County 2009 Reasonably Available Control Technology State Implementation Plan;
- Imperial County 2009 State Implementation Plan for Particulate Matter Less than 10 Microns in Aerodynamic Diameter;
- Imperial County 2013 State Implementation Plan for the 2006 24-Hour $PM_{2.5}$ Moderate Non-attainment Area;
- Imperial County 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard;
- Imperial County 2018 State Implementation Plan for the 2012 Annual Standard for $PM_{2.5}$; and
- Imperial County 2018 Redesignation Request and Maintenance Plan for PM_{10}.

3.2.4 The California Environmental Quality Act

Section 15125(d) of the CEQA Guidelines requires discussion of any inconsistencies between the project and applicable general plans and regional plans, including the applicable air quality attainment or maintenance plan (or SIP).

3.3 Local Regulations

3.3.1 CEQA Air Quality Handbook

The ICAPCD adopted its *CEQA Air Quality Handbook: Guidelines for the Implementation of the California Environmental Quality Act of 1970* in 2007 and amended the handbook in December 2017 (ICAPCD 2017a). The ICAPCD CEQA Air Quality Handbook provides guidance on how to determine the significance of impacts, including air pollutant emissions, related to the development of residential, commercial, and industrial projects. Where impacts are determined to be significant, the ICAPCD CEQA Air Quality Handbook provides guidance to mitigate adverse impacts to air quality from development projects.

3.3.2 Stationary Source Permitting

Pursuant to ICAPCD Rule 207 (New & Modified Stationary Source Review) and associated rules such as Rule 201 (Permits Required) and Rule 208 (Permit to Operate), the construction, installation, modification, replacement, and operation of any equipment which may emit air contaminants require ICAPCD permits. The ICAPCD requires that all such equipment be assessed for the potential to result in health risk impacts, and permits to operate equipment must be renewed each year equipment is in use or upon the modification of equipment.

3.3.3 Policy Number 5 – Off-site Mitigation/In-Lieu Fee

The ICAPCD issued Policy Number 5, Off-site Mitigation/In-lieu Fee, in April 2014. The policy references the ICAPCD CEQA Air Quality Handbook and discusses how project proponents may achieve additional mitigation by either proposing an off-site mitigation project or paying an in-lieu mitigation fee. Mitigation fees collected by the ICAPCD are used to fund the emissions offsets projects through the ICAPCD Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program). Specific projects funded by the program achieve emissions reductions by replacing old, highly polluting equipment with newer, cleaner equipment earlier than required by regulation or through normal attrition. As outlined in Policy Number 5, total in-lieu fees for mitigation of construction emissions are calculated based on the quantity and duration of the project's construction emissions and the cost-effectiveness of the Carl Moyer Program for offsetting oxides of nitrogen (NO_X) and PM_{10} emissions.

3.3.4 Operational Development Fee Mitigation Program

Adopted in November 2007, Rule 310, Operational Development Fee Mitigation Program, is designed to assist in the reduction of excess air emissions resulting from new residential and commercial development (warehousing is considered a commercial use under the program) in Imperial County. Funds collected by the program are used to offset NO_X and PM_{10} emissions through local emission reduction projects, such as paving unpaved roadways to reduce fugitive dust.

3.3.5 Fugitive Dust Control

The ICAPCD Regulation VIII regulates emissions of fugitive dust. Fugitive dust is:

> Particulate Matter entrained in the ambient air which is caused from man-made and natural activities such as, but not limited to, movement of soil, vehicles, equipment, blasting, and wind. This excludes Particulate Matter emitted directly in the exhaust of motor vehicles or other fuel combustion devices, from portable brazing, soldering, or welding equipment, pile drivers, and stack emissions from stationary sources [ICAPCD, Rule 800 (c)(18)].

Regulation VIII includes the following specific rules:

- Rule 800–Fugitive Dust Requirements for Control of $PM_{2.5}$
- Rule 801–Construction and Earthmoving Activities
- Rule 802–Bulk Materials
- Rule 803–Carry Out and Track Out
- Rule 804–Open Areas
- Rule 805–Paved and Unpaved Roads
- Rule 806–Conservation Management Practices

3.3.6 ICAPCD Rule 428

Adopted on September 11, 2018, Rule 428, Wood Burning Appliances, is to limit emissions of particulate matter from wood burning appliances. This rule applies to any person who manufactures, sells, offers for sale, or operates a permanently installed, indoor or outdoor, wood burning appliance within the Imperial County $PM_{2.5}$ nonattainment area. This rule also applies to any person who installs a wood burning appliance in any residential or commercial, single- or multi-building unit within the Imperial County $PM_{2.5}$ nonattainment area.

4.0 Environmental Setting

4.1 Physical Description

Imperial County extends over 4,284 square miles in the southeastern corner of California. It is bordered on the south by Mexico, on the east by Arizona, on the west by the Coyote and Fish Creek

Mountains (which are in San Diego County), and on the north by Riverside County. The Salton Trough runs approximately northwest to southeast through the center of the Imperial County and extends into Mexico. The elevation in Imperial County ranges from about 230 feet below sea level at the Salton Sea in the north to more than 2,800 feet on the mountain summits to the east.

The City is situated directly along the U.S./Mexico International border, adjacent to the city of Mexicali, Baja California, Mexico. The City's port of entry is a major entrance point for thousands of persons as well as large amounts of goods traveling between the two countries. Its economy reflects its proximity to the Mexican border and its location in an agriculturally oriented county. The City is located in a predominantly flat agricultural area with few natural features. The New River and the Imperial Irrigation District canals are the only variations in the otherwise expansive plain that surrounds the City. The City consists of a mix of residential, commercial, industrial/business park, and agricultural land uses. The transportation system within the City is dominated by Imperial Avenue/Highway 111, which travels north/ south, and Birch Street/Highway 98, which travels east/west.

4.2 Climate and Meteorology

Climate conditions at the project site, like the rest of Imperial County, are governed by the large-scale sinking and warming of air in the semi-permanent tropical high-pressure center of the Pacific Ocean. The high-pressure ridge blocks out most storms, except in winter when it is weakest and farthest south. The coastal mountains prevent the intrusion of any cool, damp air found in California coastal environs. Because of the barrier and weakened storms, Imperial County experiences clear skies, extremely hot summers, mild winters, and little rainfall (ICAPCD 2017b).

Winters are mild and dry with daily average temperatures ranging between 65 and 75 degrees Fahrenheit. Summers are extremely hot with daily average temperatures ranging between 104 and 115 degrees Fahrenheit. The flat terrain and the strong temperature differentials created by intense solar heating result in moderate winds and deep thermal convection. The combination of subsiding air, protective mountains, and distance from the ocean all combine to severely limit precipitation (ICAPCD 2017b).

Imperial County experiences surface inversions almost every day of the year. Due to strong surface heating, these inversions are usually broken and allow pollutants to be more easily dispersed. In some circumstances, the presence of the Pacific high-pressure cell can cause the air to warm to a temperature higher than the air below. This highly stable atmospheric condition, termed a subsidence inversion, can act as a nearly impenetrable lid to the vertical mixing of pollutants. The strength of these inversions makes them difficult to disrupt. Consequently, they can persist for one or more days, causing air stagnation and the buildup of pollutants. Highest and worst-case ozone levels are often associated with the presence of subsidence inversions (ICAPCD 2017b).

The large daily oscillation of temperature produces a corresponding large variation in the relative humidity. Nocturnal humidity rises to 50 to 60 percent but drops to about 10 percent during the day. Prevailing winds are from the west-northwest through southwest; a secondary flow maximum from the southeast is also evident. The prevailing winds from the west and northwest occur seasonally from fall through spring and are known to be from the Los Angeles area. Occasionally, Imperial

County experiences periods of extremely high wind speeds. Wind speeds can exceed 31 miles per hour (mph), and this occurs most frequently during the months of April and May. However, speeds of less than 6.8 mph account for more than one-half of the observed wind measurements (ICAPCD 2017b).

4.3 Criteria Pollutants

4.3.1 Ozone

Ozone is the primary component of smog. Ozone is not directly emitted into the air but is formed through complex chemical reactions between precursor emissions of NO_X and reactive organic gases (ROG; also known as volatile organic compounds or reactive organic compounds) in the presence of sunlight. The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as asthma sufferers and children, but healthy adults as well. Exposure to ozone has been found to significantly alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes (the amount of air inhaled and exhaled), and impairing respiratory mechanics. Symptomatic responses include throat dryness, chest tightness, headache, and nausea. About half of smog-forming emissions come from automobiles.

4.3.2 Carbon Monoxide

CO is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide. CO enters the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells. However, CO combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. Adverse health effects associated with exposure to CO concentrations include such symptoms as dizziness, headaches, and fatigue (U.S. EPA 2017a).

Small-scale, localized concentrations of CO above the NAAQS and CAAQS may occur at intersections with stagnation points such as those that occur on major highways and heavily traveled and congested roadways. Localized high concentrations of CO are referred to as "CO hotspots" and are a concern at congested intersections, where automobile engines burn fuel less efficiently and their exhaust contains more CO.

4.3.3 Nitrogen Dioxide

NO_2 is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Inhalation is the most common route of exposure to NO_2. Because NO_2 has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects depends primarily on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye

irritation during or shortly after exposure. After a period of approximately 4 to 12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat.

4.3.4 Sulfur Dioxide

SO_2 is a combustion product, with the primary source being power plants and heavy industries that use coal or oil as fuel. SO_2 is also a product of diesel engine combustion. The health effects of SO_2 include lung disease and breathing problems for people with asthma. SO_2 in the atmosphere contributes to the formation of acid rain.

4.3.5 Particulate Matter

Health studies have shown a significant association between exposure to particulate matter and premature death in people with heart or lung diseases. Other important effects include aggravation of respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems such as heart attacks and irregular heartbeat (U.S. EPA 2017b).

4.3.5.1 Inhalable Coarse Particles (PM_{10})

PM_{10} is particulate matter with an aerodynamic diameter of 10 microns or less. Ten microns is about one-seventh of the diameter of a human hair. Particulate matter is a complex mixture of very tiny solid or liquid particles composed of chemicals, soot, and dust. Under typical conditions (i.e., no wildfires), particles classified under the PM_{10} category are mainly emitted directly from activities that disturb the soil, including travel on roads and construction, mining, or agricultural operations. Other sources include windblown dust, salts, brake dust, and tire wear.

4.3.5.2 Inhalable Fine Particles ($PM_{2.5}$)

Airborne, inhalable particles with an aerodynamic diameter of 2.5 microns or less have been recognized as an air quality concern requiring regular monitoring. Federal regulations required that $PM_{2.5}$ monitoring begin January 1, 1999. Similar to PM_{10}, $PM_{2.5}$ is also inhaled into the lungs and causes serious health problems.

4.3.6 Lead

Lead is a metal found naturally in the environment as well as in manufactured products. At high levels of exposure, lead can have detrimental effects on the central nervous system. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions.

4.4 Existing Air Quality

Air quality at a particular location is a function of the kinds, amounts, and dispersal rates of pollutants being emitted into the air locally and throughout the basin. The major factors affecting pollutant dispersion are wind speed and direction, the vertical dispersion of pollutants (which is affected by inversions), and the local topography.

Air quality is commonly expressed as the number of days in which air pollution levels exceed state standards set by the CARB or federal standards set by the U.S. EPA. The ICAPCD maintains air quality monitoring stations throughout the SSAB. Air pollutant concentrations and meteorological information are continuously recorded at these stations. Measurements are then used by scientists to help forecast daily air pollution levels.

The Calexico monitoring station is located within the City at Calexico High School at 1029 Ethel Street. The Calexico monitoring station measures ozone, NO_2, PM_{10}, and $PM_{2.5.}$ Table 2 provides a summary of measurements collected at the El Centro monitoring station for the years 2022 through 2024.

Table 2
Summary of Air Quality Measurements Recorded at the Calexico Monitoring Station

Pollutant/Standard	2022	2023	2024
Ozone			
Federal Max 8-hour (ppm)	0.083	0.087	0.095
Days 2015 Federal 8-hour Standard Exceeded (0.07 ppm)	6	22	29
Days 2008 Federal 8-hour Standard Exceeded (0.075 ppm)	1	9	13
State Max 8-hour (ppm)	0.083	0.087	0.096
Days State 8-hour Standard Exceeded (0.07 ppm)	7	23	32
Max. 1-hour (ppm)	0.097	0.111	0.139
Days State 1-hour Standard Exceeded (0.09 ppm)	1	8	12
Nitrogen Dioxide			
Max 1-hour (ppm)	0.0602	0.1095	0.0782
Days Federal 1-hour Standard Exceeded (0.100 ppm)	0	1	0
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0
Annual Average (ppm)	0.0090	0.0090	0.010
PM_{10}*			
Federal Max. Daily (µg/m^3)	184.8	199.3	183.4
Measured Days Federal 24-hour Standard Exceeded (150 µg/m^3)	2	2	5
Calculated Days Federal 24-hour Standard Exceeded (150 µg/m^3)	2.0	2.0	5.1
Federal Annual Average (µg/m^3)	52.6	48.0	53.9
State Max. Daily (µg/m^3)	182.8	197.0	185.5
Measured Days State 24-hour Standard Exceeded (50 µg/m^3)	162	133	163
Calculated Days State 24-hour Standard Exceeded (50 µg/m^3)	163.9	134.1	165.2
State Annual Average (µg/m^3)	54.0	48.2	54.1

Table 2 Summary of Air Quality Measurements Recorded at the Calexico Monitoring Station			
Pollutant/Standard	2022	2023	2024
$PM_{2.5}$*			
Federal Max. Daily (µg/m^3)	41.9	40.5	59.1
Measured Days Federal 24-hour Standard Exceeded (35 µg/m^3)	5	1	9
Calculated Days Federal 24-hour Standard Exceeded (35 µg/m^3)	5.1	1.2	9.3
Federal Annual Average (µg/m^3)	10.9	9.4	10.0
State Max. Daily (µg/m^3)	41.9	40.5	59.1
State Annual Average (µg/m^3)	11.0	10.3	10.2

ppm = parts per million; µg/m^3 = micrograms per cubic meter; -- = Not available.
*Calculated days value. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.
SOURCE: CARB 2026.

5.0 Significance Criteria

Thresholds used to evaluate potential impacts to air quality are based on applicable criteria in the CEQA Guidelines Appendix G. The project would have a significant air quality impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan.

2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

3. Expose sensitive receptors to substantial pollutant concentrations.

4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

As stated in the CEQA Guidelines, these questions are "intended to encourage thoughtful assessment of impacts and do not necessarily represent thresholds of significance" (Title 14, Division 6, Chapter 3 Guidelines for Implementation of the CEQA, Appendix G, Environmental Checklist Form). The CEQA Guidelines encourage lead agencies to adopt regionally specific thresholds of significance. When adopting these thresholds, the amended CEQA Guidelines allow lead agencies to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence.

The ICAPCD CEQA Air Quality Handbook establishes the following four separate evaluation categories (ICAPCD 2017a):

1. Comparison of calculated project emissions to ICAPCD emission thresholds.

2. Consistency with the most recent Clean Air Plan for Imperial County.

3. Comparison of predicted ambient pollutant concentrations resulting from the project to state and federal health standards, when applicable.

4. The evaluation of special conditions which apply to certain projects.

Any development with a potential to emit criteria pollutants below significance levels defined by the ICAPCD is called a "Tier I project," and is considered by the ICAPCD to have less than significant potential adverse impacts on local air quality. For Tier I projects, the project proponent should implement a set of feasible "standard" mitigation measures (enumerated by the ICAPCD) to reduce the air quality impact to an insignificant level. A "Tier II project" is one whose emissions exceed any of the thresholds. Its impact is significant, and the project proponent should select and implement all feasible discretionary mitigation measures (also enumerated by the ICAPCD) in addition to the standard measures.

The significance thresholds presented in the following sections were used to evaluate the significance of future projects that would be constructed at the 53 identified sites. At the program level, the analysis quantifies emissions generated by HEU buildout and compares potential development to development that would occur under the existing land use and zoning designations to determine if the emissions would exceed the emissions estimates included in the ICAPCD air quality plans, and to determine whether it would obstruct attainment, or result in an exceedance of AAQS.

5.1 Operational Impacts

Table 3 provides general guidelines for determining the significance of project-level impacts based on the total emissions that are expected from project operation established by the ICAPCD.

Table 3
Significance Thresholds for Operations

Pollutant	Tier I	Tier II
NO_X and ROG	Less than 137 lbs./day	137 lbs./day and greater
PM_{10} and SO_X	Less than 150 lbs./day	150 lbs./day and greater
CO and $PM_{2.5}$	Less than 550 lbs./day	550 lbs./day and greater

ROG = reactive organic gas; NO_X = oxides of nitrogen; SO_X = oxides of sulfur;
CO = carbon monoxide; PM_{10} =particulate matter less than 10 microns;
$PM_{2.5}$ = particulate matter with an aerodynamic diameter 2.5 microns or less;
lbs./day = pounds per day
SOURCE: ICAPCD 2017a.

As stated above, Tier 1 projects are required to implement all feasible standard measures specified by the ICAPCD. Tier II projects are required to implement all feasible standard measures as well as all feasible discretionary measures specified by the ICAPCD.

5.2 Construction Impacts

The ICAPCD has also established thresholds of significance for project-level construction. Table 4 provides general guidelines for determining significance of impacts based on the total emissions that are expected from project construction.

Table 4
Significance Thresholds for Construction

Pollutant	Thresholds (pounds/day)
PM_{10}	150
ROG	75
NO_X	100
CO	550

PM_{10} =particulate matter less than 10 microns; ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide
SOURCE: ICAPCD 2017a.

Regardless of project size, all feasible standard measures specified by the ICAPCD for construction equipment and fugitive PM_{10} control for construction activities should be implemented at construction sites. Control measures for fugitive PM_{10} construction emissions in Imperial County are found in ICAPCD Regulation VIII and in the ICAPCD CEQA Air Quality Handbook, and are discussed below.

5.3 Public Nuisance Law (Odors)

State of California Health and Safety Code Sections 41700 and 41705 and ICAPCD Rule 407 prohibit emissions from any source whatsoever in quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to the public health or damage to property.

The ICAPCD CEQA Air Quality Handbook provides screening level distances for potential odor sources. If a project is proposed within one mile of a wastewater treatment plant, sanitary landfill, composting station, feedlot, asphalt plant, painting and coating operation, or rendering plant, a potential odor problem may result (ICAPCD 2017a).

6.0 Air Quality Calculations

Air quality impacts can result from the construction and operation of a project. Construction impacts are short term and result from fugitive dust, equipment exhaust, and indirect effects associated with construction workers and deliveries. Operational impacts can occur on two levels: regional impacts resulting from development or local effects stemming from sensitive receivers being placed close to roadways or stationary sources. Approval of the project would not specifically permit the construction of an individual project, and no specific development details are available at this program level of analysis.

For the purposes of this program-level analysis, emissions were calculated for the following:

- Buildout (year 2050) of the existing land use and zoning designations
- Buildout (year 2050) of the proposed HEU land use and zoning designations

To evaluate potential project-level impacts for future development that could be implemented under the HEU, construction and operational emissions were calculated for the following:

- Site 3, which represents the greatest number of units and trips of all the 53 housing sites;
- Site 18, which represents the greatest number of units and trips of all the By-Right Development Sites;
- Bowker Site (Site 24b), which is the only site that would include a rezone from Residential Condominium to Industrial.

Emissions were calculated using California Emissions Estimator Model (CalEEMod) Version 2022.1.1.45 (California Air Pollution Control Officers Association 2022). The CalEEMod program is a tool used to estimate emissions resulting from land development projects in the state of California. CalEEMod was developed with the participation of several state air districts.

CalEEMod estimates parameters such as the type and amount of construction equipment required, trip generation, and utility consumption based on the size and type of each specific land use using data collected from surveys performed by the ICAPCD. Where available, parameters were modified to reflect project-specific data.

6.1 Buildout of Existing and Proposed Land Uses

Table 5 summarizes the modeled parameters for buildout of the existing land use and zoning designations and buildout of the proposed HEU for all 53 housing sites (including the Bowker Site). For modeling purposes, the sites zoned as Low Density Residential were modeled as single-family units, and all other residential zoning designations were modeled as multi-family units. The commercial and industrial zoned sites were modeled using a maximum lot coverage of 60 percent as specified in the City's Zoning Code.

Table 5
Program-Level Modeled Land Uses and Trips

Use	Adopted Land Use and Zoning		Proposed HEU Land Use and Zoning	
	Amount	Trips	Amount	Trips
Residential	5,856 units	40,495	8,032 units	56,327
Low Density Residential	*1,771 units*	*16,108*	*1,694 units*	15,397
All Other Residential Designations	*4,085 units*	*24,387*	*6,338 units*	*40,930*
Non-Residential	98 acres*	31,958	37 acres	3,330
Total Trips		72,452		59,657

SOURCE: RICK 2026.
*Total non-residential acres are based on only those sites that currently do not allow any residential uses, and were used for modeling purposes only.

The estimated decrease in trip generation with the proposed HEU is primarily attributed to the Rezone Sites where the rezoning proposes a change in land use from commercial to residential, as commercial uses are typically more intensive and generate a higher number of trips within a site than residential uses.

Operation-related sources of air pollutant emissions include the direct emission of criteria pollutants. Common direct emission sources associated with typical projects include mobile sources such as project-generated traffic; area sources such as the use of landscaping equipment, consumer products, and architectural coatings; and energy sources such as the combustion of natural gas.

6.1.2 Mobile Sources

CalEEMod calculates mobile source emissions using emission factors derived from CARB's motor vehicle emission inventory program, EMFAC2021 (CARB 2021). The total number of trips generated under the existing and proposed land use and zoning designations are summarized in Table 5. The CalEEMod default trip length of 8.63 miles was used to calculate total daily VMT. Emission factors for buildout year 2050 were modeled. Residents would access the site via 100 percent paved roads.

6.1.2 Area Sources

Area sources of emissions include fireplaces, consumer products, architectural coatings, and landscaping equipment. CalEEMod calculates the emissions from fireplaces and wood stoves. Default values for fireplaces and wood stoves were modeled.

Consumer products are chemically formulated products used by household and institutional consumers, including but not limited to detergents, cleaning compounds, polishes, floor finishes, disinfectants, sanitizers, and aerosol paints, but do not include other paint products, furniture coatings, or architectural coatings.

For architectural coatings, emissions result from evaporation of solvents contained in surface coatings such as in paints and primers. Emission estimates are based on the parking lot surface area, architectural coating emission factors, and a reapplication rate of 10 percent of area per year. Architectural coatings would comply with ICAPCD Rule 424, which limits the volatile organic compound content of paints sold within Imperial County.

Landscaping maintenance includes fuel combustion emission from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers, as well as air compressors, generators, and pumps. Emission calculations take into account building area, equipment emission factors, and the number of operational days (summer days).

6.1.3 Energy Sources

Energy source emissions associated with the project include natural gas used in space and water heating. Emissions are generated from the combustion of natural gas used in space and water heating. Emissions are based on the Residential Appliance Saturation Survey, which is a

comprehensive energy use assessment that includes the end use for various climate zones in California.

6.1.4 Total Operational Emissions

Table 6 presents a comparison of operations emissions under buildout of the existing and proposed land use and zoning designations. Calculations for the existing land uses are provided in Attachment 1. Calculations for the proposed HEU are provided in Attachment 2.

Table 6
Comparison Total Operational Buildout Emissions

Source	Pollutant (pounds per day)					
	ROG	NO_X	CO	SO_x	PM_{10}	$PM_{2.5}$
SUMMER						
Adopted Land Use and Zoning Designations (2050)						
Mobile Source	158	165	1,525	5	444	114
Area Source	297	54	466	<1	4	4
Energy Source	2	34	17	<1	3	3
TOTAL	**458**	**253**	**2,008**	**5**	**451**	**121**
Proposed HEU Land Use and Zoning Designations (2050)						
Mobile Source	130	136	1,256	4	366	9
Area Source	308	73	529	<1	6	6
Energy Source	2	39	18	<1	3	3
TOTAL	**441**	**247**	**1,803**	**4**	**375**	**103**
Change (HEU – Adopted Land Use)	*-17*	*-6*	*-205*	*-1*	*-77*	*-18*
WINTER						
Adopted Land Use and Zoning Designations (2050)						
Mobile Source	137	182	1,057	4	444	114
Area Source	250	50	21	<1	4	4
Energy Source	2	34	17	<1	3	3
TOTAL	**389**	**266**	**1,094**	**5**	**451**	**121**
Proposed HEU Land Use and Zoning Designations (2050)						
Mobile Source	113	150	870	3	366	94
Area Source	261	68	29	<1	6	6
Energy Source	2	39	18	<1	3	3
TOTAL	**376**	**257**	**917**	**4**	**375**	**103**
Change (HEU – Adopted Land Use)	*-13*	*-9*	*-178*	*-1*	*-77*	*-18*

SOURCE: Attachments 1 and 2.

6.2 Site 3

Site 3 would allow for the development of up to 1,200 medium density residential units on 60 acres. This is the maximum number of units out of all 53 housing sites. It is a Discretionary Development Site, and any future project would require subsequent environmental review prior to approval. Although no specific development is proposed at this time, construction and operational emissions associated with maximum development of this site were calculated using CalEEMod in order to provide a top range of emissions that could occur from an individual project under the proposed HEU.

6.2.1 Construction Emissions

Construction-related activities are temporary, short-term sources of air pollutant emissions. Sources of construction-related emissions include the following:

- Fugitive dust from grading activities;
- Exhaust emissions from construction equipment;
- Application of chemical coatings (paints, stains, sealants, etc.); and
- Exhaust and fugitive dust emission from on-road vehicles (trips by workers, delivery trucks, and material-hauling trucks).

Heavy-duty construction equipment is usually diesel powered. Based on CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation, heavy-duty construction equipment includes off-road diesel vehicles 25 horsepower or greater. In general, emissions from diesel-powered equipment contain more NO_X, oxides of sulfur (SO_X), and particulate matter than gasoline-powered engines. However, diesel-powered engines generally produce less CO and less ROG than gasoline-powered engines. Standard construction equipment includes tractors/loaders/backhoes, rubber-tired dozers, excavators, graders, cranes, forklifts, rollers, paving equipment, generator sets, welders, cement and mortar mixers, and air compressors.

Primary inputs are the numbers of each piece of equipment and the length of each construction stage. The construction equipment estimates are based on surveys performed by the South Coast Air Quality Management District (SCAQMD) and the Sacramento Metropolitan Air Quality Management District of typical construction projects which provide a basis for scaling equipment needs and schedule with a project's size. Air emission estimates in CalEEMod are based on the duration of construction phases; construction equipment type, quantity, and usage; grading area; season; and ambient temperature, among other parameters. Emissions were modeled beginning in January 2027. Default CalEEMod duration, construction equipment, and trips were modeled.

6.2.1.1 Fugitive Dust

Fugitive dust would be associated with construction activities that involve ground disturbance. Fugitive dust emissions vary greatly during construction and are dependent on the amount and type of activity, silt content of the soil, and the weather. Vehicles moving over paved and unpaved surfaces, excavation, earth movement, grading, and wind erosion from exposed surfaces are all

sources of fugitive dust. Calculation of fugitive dust emissions are based on the area of disturbed ground and the fugitive dust measures implemented. The dust control efficiencies of various control methods are summarized in Table 7.

Table 7
Fugitive Dust Mitigation Efficiencies

Activity	Measure	PM_{10} Control Efficiency
Track-out	Use a gravel apron, 25 feet long by road width, to reduce mud/dirt track-out from unpaved truck exit routes.	46%
Travel over unpaved roads (15 mph)	Limit maximum speed on unpaved roads to 15 mph.	57%
Travel over unpaved roads (25 mph)	Limit maximum speed on unpaved roads to 25 mph.	44%
Water Truck	Apply water every 3 hours to disturbed areas within a construction site.	61%
Grading	Replace ground cover in disturbed areas as quickly as possible.	5%
Travel over unpaved roads	Apply chemical dust suppressant annually to unpaved parking areas.	84%

mph = miles per hour; PM_{10} = particulate matter less than 10 microns
SOURCE: SCAQMD 2007.

The ICAPCD requires that, regardless of the size of a project, all feasible standard measures for fugitive PM_{10} must be implemented at construction sites. Additionally, all feasible discretionary measures for PM_{10} apply to those construction sites that are 5 acres or more for non-residential developments or 10 acres or more in size for residential developments. Standard and discretionary measures from the ICAPCD handbook that are required for project implementation include the following:

Standard Measures for Fugitive PM_{10} Control:

a) All disturbed areas, including bulk material storage which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material such as vegetative ground cover.

b) All on-site and off-site unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.

c) All unpaved traffic areas one acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emission shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. The transport of bulk materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage nor loss of bulk

material. In addition, the cargo compartment of all haul trucks are to be cleaned and/or washed at the delivery site after the removal of bulk material.

d) The transport of bulk materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage nor loss of bulk material. In addition, the cargo compartment of all haul trucks are to be cleaned and/or washed at the delivery site after the removal of bulk material.

e) All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.

f) Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.

g) The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering.

Discretionary Measures for Fugitive PM_{10} Control

a) Water exposed soil with adequate frequency for continued moist soil.

b) Replace ground cover in disturbed areas as quickly as possible.

c) Automatic sprinkler system installed on all soil piles.

d) Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.

e) Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees.

f) Implement a shuttle service to and from retail services and food establishments during lunch hours.

6.2.1.2 Construction Equipment

CalEEMod calculates emissions of all pollutants from construction equipment using emission factors from CARB's off-road diesel equipment emission factors database. All default construction equipment was modeled. The modeled construction equipment is summarized in Table 8.

Table 8 Construction Phases and Equipment		
Equipment	Quantity	Daily Operation Time (hours)
Site Preparation		
Rubber Tired Dozers	3	8
Tractors/Loaders/Backhoes	4	8
Grading		
Excavators	2	8
Graders	1	8
Rubber Tired Dozers	1	8
Scrapers	2	8
Tractors/Loaders/Backhoes	2	8
Building Construction		
Cranes	1	7
Forklifts	3	8
Generator Sets	1	8
Tractors/Loaders/Backhoes	3	7
Welders	1	8
Paving		
Pavers	2	8
Paving Equipment	2	8
Rollers	2	8
Architectural Coatings		
Air Compressors	1	6
NOTE: Each phase would also include vehicles associated with work commutes and trucks for deliveries.		

The ICAPCD requires that, regardless of the size of a project, all feasible standard measures for construction equipment must be implemented at construction sites. Standard measures from the ICAPCD handbook include the following:

Standard Measures for Construction Combustion Equipment

a) Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel powered equipment.

b) Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to five minutes as a maximum.

c) Limit, to the extent feasible, the hours of operation of heavy duty equipment and/or the amount of equipment in use.

d) Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

To help provide a greater degree of reduction of particulate matter emissions from construction combustion equipment, the ICAPCD recommends the following enhanced measures:

Enhanced Mitigation Measures for Construction Combustion Equipment

a) Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing construction activity during the peak hour of vehicular traffic on adjacent roadways.

b) Implement activity management (e.g., rescheduling activities to reduce short-term impacts).

6.2.1.3 Unpaved Roads

Construction would generate mobile source emissions from worker trips and delivery trips. CalEEMod calculates emissions of all pollutants from on-road trucks and passenger vehicles using emission factors derived from CARB's motor vehicle emission inventory program EMFAC2021 (CARB 2021). Vehicle emission factors were multiplied by the model default total estimated number of trips and the average trip length to calculate the total mobile emissions.

CalEEMod calculates dust emissions from travel on paved and unpaved roads. By default, CalEEMod assumes the percentage of paved and unpaved roads for each district as provided by the district. For Imperial County, the default assumption is 50 percent paved and 50 percent unpaved. A majority of the roads in the City are paved; however, it should be noted that Imperial County roadways do experience higher levels of entrained roadway dust. As a conservative analysis, emissions were modeled using the default assumption of 50 percent paved and 50 percent unpaved roads.

In accordance with ICAPCD rules and regulations, the project would be required to implement dust control measures both on- and off-site. Based on discussions with ICAPCD staff, watering during ground-disturbing activities would achieve a 50 percent reduction in fugitive dust, and reducing speed would achieve an additional 44 percent reduction in fugitive dust (SCAQMD 2007; California Air Pollution Control Officers Association 2022). However, as a conservative analysis, these reductions due to dust control measures were not modeled.

6.2.1.4 Construction Emissions Estimates

Table 9 summarizes the maximum daily criteria pollutant emissions associated with construction of Site 3. CalEEMod output files are contained in Attachment 3.

Table 9 Site 3 Maximum Daily Construction Emissions						
Year	Maximum Daily Emissions (pounds per day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
SUMMER						
2027	6	26	99	<1	12,732	1,272
2028	6	17	93	<1	12,732	1,272
2029	5	16	87	<1	12,763	1,272
2030	5	15	81	<1	12,732	1,272
2031	71	16	90	<1	15,086	1,507
WINTER						
2027	5	28	62	<1	369	41
2028	5	18	59	<1	360	37
2029	4	17	55	<1	360	37
2030	70	18	61	<1	426	43
2031	70	17	57	<1	426	43
2032	1	6	10	<1	205	21
Max Daily Emissions	**71**	**28**	**99**	**<1**	**12,732**	**1,272**
Significance Threshold	*75*	*100*	*550*	-	*150*	-
Exceeds Threshold?	*No*	*No*	*No*	-	*Yes*	-

SOURCE: Attachment 3.
ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide;
PM_{10} = particulate matter with an aerodynamic diameter 10 microns or less;
$PM_{2.5}$ = particulate matter with an aerodynamic diameter 2.5 microns or less.

6.2.2 Operational Emissions

6.2.2.1 Mobile Sources

Based on the Transportation Study, Site 3 would generate 6,876 daily weekday trips (RICK 2026). Weekend trip rates were calculated by adjusting the CalEEMod default rates proportionately. CalEEMod default emission factors for the soonest operational year of 2032 were modeled. Residents would access the site via 100 percent paved roads.

6.2.2.2 Area Sources

Area sources associated with operation of Site 3 are the same as those discussed in Section 6.1.2. Area source emissions were calculated using CalEEMod defaults.

6.2.2.3 Energy Sources

Energy sources associated with operation of Site 3 are the same as those discussed in Section 6.1.3. Energy source emissions were calculated using CalEEMod defaults.

6.2.2.4 Total Operational Emissions

Table 10 summarizes the maximum daily criteria pollutant emissions associated with operation of Site 3. CalEEMod output files are contained in Attachment 3.

Table 10
Site 3 Maximum Daily Operational Emissions

Source	Emissions (pounds per day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
SUMMER						
Mobile Sources	25	19	214	1	46	12
Area Sources	35	11	73	<1	1	1
Energy Sources	<1	4	2	<1	<1	<1
TOTAL	**60**	**34**	**288**	**1**	**48**	**13**
WINTER						
Mobile Sources	20	22	147	<1	46	12
Area Sources	29	10	4	<1	1	1
Energy Sources	<1	4	2	<1	<1	<1
TOTAL	**49**	**36**	**153**	**1**	**48**	**13**
Significance Threshold	*137*	*137*	*550*	*150*	*150*	*550*
Exceeds Threshold?	*No*	*No*	*No*	*No*	*No*	*No*

SOURCE: Attachment 3.
NOTE: Totals may vary due to independent rounding.
ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide;
SO_X = oxides of sulfur; CO = carbon monoxide; PM_{10} =particulate matter less than 10 microns;
$PM_{2.5}$ = particulate matter less than 2.5 microns

6.3 Site 18

Site 18 would allow for the development of up to 380 low-density residential units on 76.05 acres. This is the maximum number of units of all By-Right Development Sites. Although no specific development is proposed at this time, construction and operational emissions associated with maximum development of this site were calculated using CalEEMod in order to provide a top range of emissions that could occur from an individual By-Right Development Site under the proposed HEU.

6.3.1 Construction Emissions

Construction emissions were modeled using the same parameters discussed for Site 3 in Section 6.2.1. Emissions were modeled beginning in January 2027. Default CalEEMod duration, construction equipment, and trips were modeled.

Table 11 summarizes the maximum daily criteria pollutant emissions associated with construction of Site 18. CalEEMod output files are contained in Attachment 4.

Table 11 Site 18 Maximum Daily Construction Emissions						
Year	Maximum Daily Emissions (pounds per day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
SUMMER						
2027	3	26	29	<1	280	30
2028	2	11	26	<1	2,169	217
2029	2	10	25	<1	2,169	217
2030	2	10	24	<1	2,169	217
2031	2	10	23	<1	2,169	217
2032	32	10	25	<1	2,541	254
2033	31	10	25	<1	2,541	254
WINTER						
2027	3	28	29	<1	2,169	217
2028	2	11	20	<1	2,169	217
2029	2	11	20	<1	2,169	217
2030	1	10	19	<1	2,169	217
2031	1	10	19	<1	2,169	217
2032	31	10	20	<1	2,541	254
2033	31	10	20	<1	2,541	254
2034	1	6	10	<1	204	21
Max Daily Emissions	**32**	**28**	**29**	**<1**	**2,169**	**217**
Significance Threshold	*75*	*100*	*550*	-	*150*	-
Exceeds Threshold?	*No*	*No*	*No*	-	*Yes*	-

SOURCE: Attachment 4.
ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide;
PM_{10} = particulate matter with an aerodynamic diameter 10 microns or less;
$PM_{2.5}$ = particulate matter with an aerodynamic diameter 2.5 microns or less.

6.3.2 Operational Emissions

6.3.2.1 Mobile Sources

Based on the Transportation Study, Site 18 would generate 3,454 daily weekday trips (RICK 2026). Weekend trip rates were calculated by adjusting the CalEEMod default rates proportionately. CalEEMod default emission factors for the soonest operational year of 2034 were modeled. Residents would access the site via 100 percent paved roads.

6.3.2.2 Area Sources

Area sources associated with operation of Site 18 are the same as those discussed in Section 6.1.2. Area source emissions were calculated using CalEEMod defaults.

6.3.2.3 Energy Sources

Energy sources associated with operation of Site 18 are the same as those discussed in Section 6.1.3. Energy source emissions were calculated using CalEEMod defaults.

6.3.2.4 Total Operational Emissions

Table 12 summarizes the maximum daily criteria pollutant emissions associated with operation of Site 18. CalEEMod output files are contained in Attachment 4.

Table 12
Site 18 Maximum Daily Operational Emissions

Source	Emissions (pounds per day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
SUMMER						
Mobile Sources	11	9	104	<1	25	6
Area Sources	20	3	23	<1	<1	<1
Energy Sources	<1	3	1	<1	<1	<1
TOTAL	**32**	**16**	**128**	**<1**	**26**	**7**
WINTER						
Mobile Sources	9	10	71	<1	25	6
Area Sources	19	3	1	<1	<1	<1
Energy Sources	<1	3	1	<1	<1	<1
TOTAL	**28**	**17**	**74**	**<1**	**26**	**7**
Significance Threshold	*137*	*137*	*550*	*150*	*150*	*550*
Exceeds Threshold?	*No*	*No*	*No*	*No*	*No*	*No*

SOURCE: Attachment 4.
NOTE: Totals may vary due to independent rounding.
ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide;
SO_X = oxides of sulfur; CO = carbon monoxide; PM_{10} =particulate matter less than 10 microns;
$PM_{2.5}$ = particulate matter less than 2.5 microns

6.4 Bowker Site (Site 24b)

The Bowker Site (Site 24b) is a 37-acre site that would be rezoned from Residential Condominium to Industrial. Although no specific development is proposed at this time, construction and operational emissions associated with maximum industrial development of this site were calculated using CalEEMod. For modeling purposes, the total industrial square footage was calculated using a maximum lot coverage of 60 percent as specified in the City's Zoning Code.

6.4.1 Construction Emissions

Construction emissions were modeled using the same parameters discussed for Site 3 in Section 6.2.1. Emissions were modeled beginning in January 2027. Default CalEEMod duration, construction equipment, and trips were modeled.

Table 13 summarizes the maximum daily criteria pollutant emissions associated with construction of the Bowker Site. CalEEMod output files are contained in Attachment 5.

Table 13
Bowker Site Maximum Daily Construction Emissions

Year	Maximum Daily Emissions (pounds per day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
SUMMER						
2027	4	26	55	<1	6,723	672
2028	3	16	52	<1	6,723	672
2029	94	16	57	<1	7,829	782
2030	1	6	11	<1	205	21
WINTER						
2027	3	28	37	<1	6,723	672
2028	3	17	36	<1	6,723	672
2029	94	17	39	<1	7,829	782
2030	94	16	37	<1	7,829	782
Max Daily Emissions	**94**	**28**	**55**	**<1**	**7,829**	**782**
Significance Threshold	*75*	*100*	*550*	-	*150*	-
Exceeds Threshold?	*Yes*	*No*	*No*	-	*Yes*	-

SOURCE: Attachment 5.
ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide;
PM_{10} = particulate matter with an aerodynamic diameter 10 microns or less;
$PM_{2.5}$ = particulate matter with an aerodynamic diameter 2.5 microns or less.

6.4.2 Operational Emissions

6.4.2.1 Mobile Sources

Based on the Transportation Study, the Bowker Site would generate 3,330 daily weekday trips (RICK 2026). Weekend trip rates were calculated by adjusting the CalEEMod default rates proportionately. CalEEMod default emission factors for the soonest operational year of 2030 were modeled. Employees would access the site via 100 percent paved roads.

6.4.2.2 Area Sources

Area sources associated with operation of the Bowker Site are the same as those discussed in Section 6.1.2. Area source emissions were calculated using CalEEMod defaults.

6.4.2.3 Energy Sources

Energy sources associated with operation of the Bowker Site are the same as those discussed in Section 6.1.3. Energy source emissions were calculated using CalEEMod defaults.

6.4.2.4 Total Operational Emissions

Table 14 summarizes the maximum daily criteria pollutant emissions associated with operation of the Bowker Site. CalEEMod output files are contained in Attachment 5.

Table 14
Bowker Site Maximum Daily Operational Emissions

Source	Emissions (pounds per day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
SUMMER						
Mobile Sources	12	9	97	<1	20	5
Area Sources	31	<1	42	<1	<1	<1
Energy Sources	<1	3	2	<1	<1	<1
TOTAL	**44**	**12**	**142**	**<1**	**20**	**5**
WINTER						
Mobile Sources	10	10	68	<1	20	5
Area Sources	24	<1	<1	<1	<1	<1
Energy Sources	<1	3	2	<1	<1	<1
TOTAL	**34**	**13**	**70**	**<1**	**20**	**5**
Significance Threshold	*137*	*137*	*550*	*150*	*150*	*550*
Exceeds Threshold?	*No*	*No*	*No*	*No*	*No*	*No*

SOURCE: Attachment 5.
NOTE: Totals may vary due to independent rounding.
ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide;
SO_X = oxides of sulfur; CO = carbon monoxide; PM_{10} =particulate matter less than 10 microns;
$PM_{2.5}$ = particulate matter less than 2.5 microns

7.0 Impact Analysis

7.1 Air Quality Plans

CARB is the lead agency for preparation of the SIP, which outlines the state measures to achieve NAAQS. CARB delegates responsibility for preparation of SIP elements to local air districts and requires local air districts to prepare Air Quality Attainment Plans outlining measures required to achieve CAAQS.

The ICAPCD is the air district responsible for the project area. Applicable ICAPCD air quality plans include the following:

- Imperial County 2009 State Implementation Plan for Particulate matter Less than 10 Microns in Aerodynamic Diameter;
- Imperial County 2013 State Implementation Plan for the 2006 24-Hour $PM_{2.5}$ Moderate Non-attainment Area;

- Imperial County 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard;
- Imperial County 2018 State Implementation Plan for the 2012 Annual Standard for $PM_{2.5}$; and
- Imperial County 2018 Redesignation Request and Maintenance Plan for PM_{10}.

The primary concern for assessing consistency with air quality plans is whether the project would induce growth that would result in a net increase in criteria pollutant emissions that exceed the assumptions used to develop the plan. The criteria pollutant emission projections for the ICAPCD air quality plans are based on SCAG population growth and regional VMT projections, which are based in part on the land uses established by local general plans. As such, projects that propose development that is consistent with the local land use plans would be consistent with growth projections and air quality plans criteria pollutant emissions estimates. In the event that a project would result in development that is less dense than anticipated by the growth projections, the project would be considered consistent with the air quality plans. In the event a project would result in development that results in greater than anticipated growth projections, the project would result in air pollutant emissions that may not have been accounted for in the air quality plans and thus may obstruct or conflict with the air quality plans.

The project would result in additional housing opportunities throughout the City consistent with the RHNA. The project would also provide for industrial uses at the Bowker Site. When compared to the existing zoning and land use designations, the project would increase the residential development potential in the City; however, it would result in an overall decrease in trip generation. A total of 72,452 daily trips would be generated by the 53 sites under buildout of the existing zoning and land use designations, and a total of 59,657 daily trips would be generated under buildout of the project. The estimated decrease in trip generation with the project is primarily attributed to the Rezone Sites where the rezoning proposes a change in land use from commercial to residential, as commercial uses are typically more intensive and generate a higher number of trips within a site than residential uses. The HEU would promote land use patterns and housing programs that would also facilitate housing opportunities within areas supported by adequate infrastructure, utilities, access, and public services. Total emissions associated with buildout of the existing and proposed zoning and land use designations were calculated as described in Section 6.1. As shown in Table 6, buildout of the HEU would result in an overall decrease in emissions when compared to the existing zoning and land use designations. Although the HEU would result in an increase in residential development in the City, the HEU would not conflict with implementation of the ICAPCD air quality plans because buildout of the project would not exceed the assumptions used to develop the plans. Therefore, impacts would be less than significant.

7.2 Criteria Pollutants

The SSAB is in non-attainment areas for NAAQS and CAAQS for ozone, PM_{10}, and $PM_{2.5}$. The majority of regional PM_{10} and $PM_{2.5}$ emissions originate from dust stirred up by wind or by vehicle traffic on unpaved roads (ICAPCD 2009). Other PM_{10} and $PM_{2.5}$ emissions originate from grinding operations, combustion sources such as motor vehicles, power plants, wood burning, forest fires, agricultural burning, and industrial processes. Ozone is not emitted directly but is a result of atmospheric activity on precursors. NO_X and ROG are known as the chief "precursors" of ozone. These compounds react

in the presence of sunlight to produce ozone. Approximately 88 percent of NO_X and 40 percent of ROG regional emissions originate from on- and off-road vehicles (ICAPCD 2010). Other major sources include solvent evaporation and miscellaneous processes such as pesticide application.

7.2.1 Construction Emissions

As discussed in Section 6.0, construction-related emissions were calculated for development of Site 3, which proposes the greatest number of units and trips; construction and operation of Site 18, which proposes the greatest number of units and trips of all the By-Right Development Sites; and construction and operation of the Bowker Site.

As shown in Table 9, construction of Site 3 would result in PM_{10} emissions that exceed the applicable threshold. All other emissions would be below the applicable thresholds. The exceedance is due to construction worker vehicles and deliveries traveling over unpaved roads. As discussed in Section 6.2.1.1, the ICAPCD requires that all feasible standard measures for fugitive PM_{10} must be implemented at all construction sites, and all feasible discretionary measures for PM_{10} must be implemented at construction sites that are 5 acres or more for non-residential developments or 10 acres or more in size for residential developments. Additionally, as discussed in Section 6.2.1.2, the ICAPCD requires that all feasible standard measures for construction equipment must be implemented at construction sites. Site 3 is a Discretionary Development Site, and no specific development is proposed at this time. Any future project would require subsequent environmental review prior to approval, and a dust mitigation plan would be required demonstrating that the project would reduce emissions of PM_{10}. A dust control plan that describes all fugitive dust control measures would be prepared for all Discretionary Development Sites as required by ICAPCD Rule 801 (see Attachment 6). However, because construction emissions would remain above the threshold for PM_{10} and the level of fugitive PM_{10} reduction cannot be known at this time, construction-related impacts at Discretionary Development Sites would be significant and mitigation would be required.

As shown in Table 11, construction of Site 18 would result in PM_{10} emissions that exceed the applicable threshold. All other emissions that are less than the applicable thresholds for all criteria pollutants. As discussed, emissions take into account dust control measures as required by the ICAPCD, including watering and reduced speeds. A dust control plan that describes all fugitive dust control measures would be prepared for all By-Right Development Sites as required by ICAPCD Rule 801 (see Attachment 6). Although no further discretionary CEQA review would be conducted for the By-Right Development Sites, preparation of a dust control plan would still be required through implementation of ICAPCD Rules and Regulations. Because construction emissions for By-Right Development Sites could be above the threshold for PM_{10} and the level of fugitive PM_{10} reduction cannot be known at this time, construction-related impacts at By-Right Development Sites would be significant.

As shown in Table 13, construction of the Bowker Site would result in ROG and PM_{10} emissions that exceed the applicable threshold. All other emissions would be below the applicable thresholds. ROG emissions are due to architectural coatings (e.g., paints) used during the final stages of construction, and PM_{10} emissions are largely due to construction worker vehicles and deliveries traveling over unpaved roads. The Bowker Site is a Discretionary Development Site, and no specific development is proposed at this time. Any future project would require subsequent environmental review prior to

approval, and ROG and PM_{10} mitigation measures would be required at that time. Construction-related impacts associated with the Bowker Site would be significant, and mitigation would be required.

For all Discretionary Development Sites and By-Right Development Sites, construction emissions would be potentially significant and the following mitigation measures would be required:

AQ-1: Fugitive Dust Control. For Discretionary Development, prior to commencing construction, the project applicant shall be required to submit an Enhanced Dust Control Plan to the Imperial County Air Pollution Control District (ICAPCD) for approval. The Enhanced Dust Control Plan shall identify all sources of particulate matter less than 10 microns (PM_{10}) emissions and associated mitigation measures during construction (see Rule 801 F.2). The applicant shall submit a "Construction Notification Form" to the ICAPCD 10 days prior to the commencement of any earthmoving activity. The Enhanced Dust Control Plan submitted to the ICAPCD shall meet all applicable requirements for control of fugitive dust emissions, including the following measures designed to achieve the no greater than 20 percent opacity performance standard for dust control and address the following parameters as stipulated in ICAPCD Regulation VIII – Fugitive Dust Control Measures:

a) All disturbed areas, including bulk material storage which is not being actively utilized, shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material such as vegetative ground cover.

b) All on-site and off-site unpaved roads shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.

c) All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day shall be effectively stabilized, and visible emission shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. The transport of bulk materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at the delivery site after the removal of bulk material.

d) The transport of bulk materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at the delivery site after the removal of bulk material.

e) All track-out or carry-out shall be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.

f) Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.

g) The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering.

In order to provide a greater degree of PM_{10} reductions, above that required by Regulation VIII, the ICAPCD recommends the following discretionary measures for fugitive PM_{10} control:

a) Water exposed soil with adequate frequency for continued moist soil.

b) Replace ground cover in disturbed areas as quickly as possible.

c) Install an automatic sprinkler system on all soil piles.

d) Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site.

e) Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees.

f) Implement a shuttle service to and from retail services and food establishments during lunch hours.

By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.

AQ-2: **Construction Combustion Equipment.** For Discretionary Development, prior to commencing construction, the project applicant shall be required to submit a Construction Combustion Equipment Plan to the Imperial County Air Pollution Control District (ICAPCD) for approval. The ICAPCD requires that, regardless of the size of a project, all feasible standard measures for construction equipment must be implemented at construction sites. Standard measures from the ICAPCD handbook include the following:

a) Use of alternative-fueled or catalyst-equipped diesel construction equipment, including all off-road and portable diesel powered equipment.

b) Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to five minutes as a maximum.

c) Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use.

d) Replace fossil-fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

To help provide a greater degree of reduction of particulate matter emissions from construction combustion equipment, the ICAPCD recommends the following enhanced measures:

a) Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing construction activity during the peak hour of vehicular traffic on adjacent roadways.

b) Implement activity management (e.g., rescheduling activities to reduce short-term impacts).

By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.

AQ-3: Low/No Volatile Organic Compound Architectural Coatings. For Discretionary Development, prior to commencing construction, for projects that would result in reactive organic gas (ROG) emissions that exceed the applicable threshold, the project applicant shall be required to submit an ROG Reduction Plan to the City of Calexico for approval. It shall identify the maximum allowable volatile organic compound content limits (in grams per liter) for all required architectural coatings, as defined in ICAPCD Rule 424, necessary to result in total ROG emissions that are less than 137 pound per day.

For Discretionary Development Sites, implementation of mitigation measures AQ-1 through AQ-3 would occur during subsequent environmental CEQA review prior to approval. For By-Right Development Sites, applicable requirements consistent with the protections established in mitigation measures AQ-1 through AQ-3 would be incorporated and implemented through the City's ministerial review process for by-right housing sites, as established pursuant to Program 2E in the HEU. With implementation of measures AQ-1 and AQ-2, construction-related emissions associated with future Discretionary Development Sites and By-Right Development Sites would be reduced. However, because the level of fugitive PM_{10} reduction cannot be known at this time, construction-related impacts at Discretionary Development Sites and By-Right Development Sites would remain

significant and unavoidable. Implementation of mitigation measure AQ-3 would reduce architectural coating impacts to a level less than significant.

7.2.2 Operational Emissions

Long-term emissions of regional air pollutants occur from operational sources. As shown in Tables 10, 12, and 14, operation of Site 3, Site 18, and the Bowker Site would result in emissions that would be less than the applicable thresholds for all criteria pollutants. These are the largest development sites; therefore, emissions associated with operation of all other Discretionary Development Sites and By-Right Development Sites would also be less than the applicable thresholds. Additionally, as shown in Table 6, buildout of the HEU would result in an overall decrease in emissions when compared to the existing zoning and land use designations. Therefore, the HEU would not result in a cumulatively considerable net increase in emissions of ozone, PM_{10}, or $PM_{2.5}$, and impacts would be less than significant.

7.3 Sensitive Receptors

Air quality regulators typically define sensitive receptors as schools (Preschool–12th Grade), hospitals, resident care facilities, or day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. Residential uses can also be considered sensitive receptors. Sensitive receptors are located throughout the City. The Calexico Unified School District includes schools within the City. The El Centro Regional Medical Center and Calexico Health Center are located adjacent to State Route 98 (SR-98) east of State Route 111 (SR-111). The two primary emissions of concern regarding health effects are CO and TACs, including DPM.

7.3.1 Localized Carbon Monoxide Hot Spots

It has long been recognized that CO hot spots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last 20 years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams per mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, the introduction of cleaner fuels, and the implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SSAB is now designated as attainment. All air basins are attainment or maintenance areas for CO.

The Bay Area Air Quality Management District (BAAQMD) developed a screening threshold in their 2022 CEQA Guidelines (BAAQMD 2022). If all the following screening criteria are met, operation of a project would result in a less than significant impact related to CO:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.

- Project-generated traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.

- Project-generated traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

The Bay Area and the SSAB have the same federal and state CO attainment designations, and therefore experience similar CO concentrations; thus, these screening volumes are appropriate for evaluating CO impacts in the SSAB. Based on existing and buildout intersection turning volumes provided in the Transportation Study, volumes are projected to be substantially less than the screening criteria of 44,000 vehicles per hour. The busiest intersection is located at SR-111 and SR-98 and has a projected peak hour turning volume of 4,528 vehicles per hour (RICK 2026). Thus, based on BAAQMD screening criteria, the project would not result in CO hot spots.

7.3.2 Toxic Air Emissions

7.3.2.1 Construction

Construction of future development and redevelopment under the project would result in short-term diesel exhaust emissions from on-site heavy-duty equipment. Construction would result in the generation of DPM emissions from the use of off-road diesel equipment required for site grading and excavation, paving, and other construction activities and on-road diesel equipment used to bring materials to and from project sites. Generation of DPM from construction projects typically occurs in a single area for a short period. According to the Office of Environmental Health Hazard Assessment(2015), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Therefore, if the duration of proposed construction activities near any specific sensitive receptor were a year, the exposure would be 3 percent of the total exposure period used for health risk calculation.

Considering this information, the highly dispersive nature of DPM, and the fact that construction activities would occur intermittently and at various locations over the lifetime of project buildout, DPM generated by construction is not expected to create conditions where the probability is greater than 10 in 1 million of developing cancer for the Maximally Exposed Individual, or to generate ground-level concentrations of non-carcinogenic TACs that exceed a Hazard Index greater than one for the Maximally Exposed Individual. Additionally, with ongoing implementation of U.S. EPA and CARB requirements for cleaner fuels, off-road diesel engine retrofits, and new, low-emission diesel engine types, the DPM emissions of individual equipment would be substantially reduced over the years as project buildout continues. Additionally, construction of future site-specific projects would adhere to the requirements of California Code of Regulations, Title 13, Section 2449, to reduce nonessential idling, and the construction requirements of ICAPCD rules and regulations. Further, future construction activities would be required to comply with all applicable CARB off-road equipment regulations in effect at the time that construction activities are proposed. Therefore, the project would not expose sensitive receptors to toxic air emissions during construction of future development at the housing sites, and impacts would be less than significant.

7.3.2.2 Stationary Sources

The project would not result in the construction and operation of a stationary source of TACs. Various uses, such as dry cleaners and gasoline-dispensing facilities, have the potential to be substantial stationary sources that would require a permit from the ICAPCD. In April 2005, CARB published the Air Quality and Land Use Handbook: A Community Health Perspective (CARB 2005). The handbook makes recommendations directed at protecting sensitive land uses from air pollutant emissions while balancing a myriad of other land use issues (e.g., housing, transportation needs, economics, etc.). It notes that the handbook is not regulatory or binding on local agencies and recognizes that application takes a qualitative approach. Table 15 summarizes the recommended siting distances from various facilities.

Table 15
Recommended Siting Distances for New Sensitive Land Uses

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units per day, or where transport refrigeration unit operations exceed 300 hours per week. Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit point.
Rail Yards	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the CARB on the status of pending analyses of health risks.
Refineries	Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult with the local air district. Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.
SOURCE: CARB 2005.	

There are no large-scale distribution centers, rail yards, ports, or refineries within the City. Although future development and redevelopment under the project could be located near existing types of

dry cleaning and gasoline facilities, emissions of TACs are regulated by ICAPCD through permitting and monitoring requirements. The California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. In accordance with AB 2588, if adverse health impacts exceeding public notification levels are identified, the facility would provide public notice, and if the facility poses a potentially significant public health risk, the facility would be required to submit a risk reduction audit and plan to demonstrate how the facility would reduce health risks. The ICAPCD prepares annual reports in accordance with these requirements. Additionally, as discussed in Section 3.3.2, pursuant to ICAPCD Rule 207 (New & Modified Stationary Source Review) and associated rules such as Rule 201 (Permits Required) and Rule 208 (Permit to Operate), the construction, installation, modification, replacement, and operation of any equipment which may emit air contaminants requires ICAPCD permits. The ICAPCD requires that all such equipment be assessed for the potential to result in health risk impacts, and permits to operate equipment must be renewed each year equipment is in use or upon the modification of equipment. Therefore, adherence with these regulations would ensure that future development and redevelopment would not expose sensitive receptors to TACs associated with stationary sources within the City.

7.3.2.3 Mobile Sources

As discussed in Section 3.2.2, CARB guidelines indicate that siting new sensitive land uses within 500 feet of a freeway or an urban road with 100,000 or more vehicles per day should be avoided when possible. SR-98 and SR-111 are the most heavily traveled roadways within the City. Based on Caltrans traffic counts (Caltrans 2024) and intersection turning volumes provided in the Transportation Study (RICK 2026), these roadways are not projected to carry more than 100,000 vehicles per day. CARB notes that these recommendations are advisory and should not be interpreted as defined "buffer zones," and that local agencies must balance other considerations such as transportation needs, the benefits of urban infill, community economic development priorities, and other quality-of-life issues. With careful evaluation of exposure, health risks, and affirmative steps to reduce risk, where necessary, CARB's position is that infill development; mixed-use, higher-density, transit-oriented development; and other concepts that benefit regional air quality can be compatible with protecting the health of individuals at the neighborhood level. Additionally, the 2025 California Building Code–Title 24 requires that all new residential uses include improved air filtration systems. Filters are categorized according to minimum efficiency reporting value (MERV) rating. The higher the MERV rating, the better the filtration. MERV-13 filters are effective at filtering DPM. Given the roadway volumes within the City and the requirements for improved air filtration systems, the project would not expose sensitive receptors to TACs associated with mobile sources. Impacts would be less than significant.

7.4 Odors

In the context of land use planning, one of the most important factors influencing the potential for an odor impact to occur is the distance between the odor source and receptors. The City considers prudent land use planning as the key mechanism to avoid odor impacts. The greater the distance between an odor source and receptor, the less concentrated the odor emission would be when it reaches the receptor. Odors can be generated from a variety of source types, including both construction and operational activities. Although less common, construction activities that include

the operation of a substantial number of diesel-fueled construction equipment and heavy-duty trucks can generate odors from diesel exhaust emissions. A project's operations, depending on the project type, can generate a large range of odors that can be considered offensive to receptors. Examples of common land use types that typically generate significant odor impacts include, but are not limited to, the following:

- Wastewater treatment plants
- Sanitary landfills
- Composting/green waste facilities
- Recycling facilities
- Petroleum refineries
- Chemical manufacturing plants
- Painting/Coating operations
- Rendering plants
- Food packaging plants

When land uses such as these or other odor-generating land uses are sited proximate to sensitive receptors, odor impacts may occur and further analysis of the nature of the odor source, the prevailing wind patterns, the number of potentially effected receivers, and other considerations would be warranted.

Emissions from construction equipment, such as diesel exhaust, and volatile organic compounds from architectural coatings and paving activities may generate odors; however, these odors would be temporary, intermittent, and not expected to affect a substantial number of people. Additionally, noxious odors would be confined to the immediate vicinity of construction equipment. By the time such emissions reach a receptor (e.g., people in residential units, day care centers, schools, nursing homes), they would be diluted to well below any level of air quality concern. Therefore, construction would not result in emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be less than significant.

Once operational, future development implemented under the project would include residential uses that are generally not a source of objectionable odors. Therefore, project operation would not result in odors affecting a substantial number of people, and impacts would be less than significant.

Existing sources of odor within the City primarily stem from the polluted New River. The State of California's Clean Water Act lists the New River as impaired by numerous constituents and is a State priority for cleanup purposes. The New River runs north from Mexico and is threatened by discharges of waste and storm water runoff from domestic, agricultural, and industrial sources. A New River Improvement Project Strategic Plan was developed to address sources of pollution. Additionally, a New River Improvement Project has been approved that would install infrastructure improvements to reduce pollution and odors associated with the New River. One of the key objectives of the New River Improvement Project is to eliminate the offensive odors being emitted and impacting the residents of the City. The MND prepared for the New River Improvement Project states that the project would "intercept flows of the New River just north of the international boundary via an underground pipe that would bypass the populated area of southern Calexico and discharge water to the east of the All-American Canal. Diverting the New River and undergrounding flows through the city as proposed would reduce potential long-term effects of objectionable odors on the

residents of Calexico" (City of Calexico 2020). Accordingly, implementation of the State's ongoing cleanup efforts and the approved New River Improvement Project is expected to substantially reduce objectionable odors associated with the New River.

Implementation of the project would facilitate future residential development throughout the City, including on sites located in proximity to the New River. While this could result in additional sensitive receptors being located near an existing source of odor, the HEU would not generate new odor sources or intensify existing odor-generating activities. Furthermore, implementation of the approved New River Improvement Project is expected to substantially reduce odor emissions from the New River over time. Therefore, implementation of the HEU would not expose a substantial number of people to objectionable odors, and odor impacts would be less than significant.

8.0 Mitigation Measures

Impacts related to air quality plans, operational emissions, sensitive receptors, and odors would be less than significant and no mitigation is required. However, impacts related to construction emissions from Discretionary Development Sites and By-Right Development Sites would be significant and require mitigation.

The following mitigation measures shall be applied to future development of all Discretionary Development Sites and By-Right Development Sites:

AQ-1: Fugitive Dust Control. For Discretionary Development, prior to commencing construction, the project applicant shall be required to submit an Enhanced Dust Control Plan to the Imperial County Air Pollution Control District (ICAPCD) for approval. The Enhanced Dust Control Plan shall identify all sources of particulate matter less than 10 microns (PM_{10}) emissions and associated mitigation measures during construction (see Rule 801 F.2). The applicant shall submit a "Construction Notification Form" to the ICAPCD 10 days prior to the commencement of any earthmoving activity. The Enhanced Dust Control Plan submitted to the ICAPCD shall meet all applicable requirements for control of fugitive dust emissions, including the following measures designed to achieve the no greater than 20 percent opacity performance standard for dust control and address the following parameters as stipulated in ICAPCD Regulation VIII – Fugitive Dust Control Measures:

a) All disturbed areas, including bulk material storage which is not being actively utilized, shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material such as vegetative ground cover.

b) All on-site and off-site unpaved roads shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.

c) All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day shall be effectively stabilized, and visible emission shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. The transport of bulk materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at the delivery site after the removal of bulk material.

d) The transport of bulk materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at the delivery site after the removal of bulk material.

e) All track-out or carry-out shall be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.

f) Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.

g) The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering.

In order to provide a greater degree of PM_{10} reductions, above that required by Regulation VIII, the ICAPCD recommends the following discretionary measures for fugitive PM_{10} control:

a) Water exposed soil with adequate frequency for continued moist soil.

b) Replace ground cover in disturbed areas as quickly as possible.

c) Install an automatic sprinkler system on all soil piles.

d) Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site.

e) Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees.

f) Implement a shuttle service to and from retail services and food establishments during lunch hours.

By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.

AQ-2: Construction Combustion Equipment. For Discretionary Development, prior to commencing construction, the project applicant shall be required to submit a Construction Combustion Equipment Plan to the Imperial County Air Pollution Control District (ICAPCD) for approval. The ICAPCD requires that, regardless of the size of a project, all feasible standard measures for construction equipment must be implemented at construction sites. Standard measures from the ICAPCD handbook include the following:

a) Use of alternative-fueled or catalyst-equipped diesel construction equipment, including all off-road and portable diesel powered equipment.

b) Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to five minutes as a maximum.

c) Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use.

d) Replace fossil-fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

To help provide a greater degree of reduction of particulate matter emissions from construction combustion equipment, the ICAPCD recommends the following enhanced measures:

a) Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing construction activity during the peak hour of vehicular traffic on adjacent roadways.

b) Implement activity management (e.g., rescheduling activities to reduce short-term impacts).

By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.

AQ-3: Low/No Volatile Organic Compound Architectural Coatings. For Discretionary development, prior to commencing construction, for projects that would result in reactive organic gas (ROG) emissions that exceed the applicable threshold, the project applicant shall be required to submit an ROG Reduction Plan to the City of

Calexico for approval. It shall identify the maximum allowable volatile organic compound content limits (in grams per liter) for all required architectural coatings, as defined in ICAPCD Rule 424, necessary to result in total ROG emissions that are less than 137 pound per day.

By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.

For Discretionary Development Sites, implementation of mitigation measures AQ-1 through AQ-3 would occur during subsequent environmental CEQA review prior to approval. For By-Right Development Sites, applicable requirements consistent with the protections established in mitigation measures AQ-1 through AQ-3 would incorporated and implemented through the City's ministerial review process for by-right housing sites, as established pursuant to by Program 2E in the HEU. With implementation of measures AQ-1 and AQ-2, construction-related emissions associated with Discretionary Development Sites and By-Right Development Sites would be reduced. However, because the level of fugitive PM_{10} reduction cannot be known at this time, construction-related impacts at Discretionary Development Sites and By-Right Development Sites would remain significant and unavoidable. Implementation of mitigation measure AQ-3 would reduce architectural coating impacts to a level less than significant.

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ATTACHMENTS

ATTACHMENT 1

CalEEMod Output – Existing Land Use and Zoning Designations

Calexico HEU - Adopted GP and Zoning Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Calexico HEU - Adopted GP and Zoning
Operational Year	2050
Lead Agency	City of Calexico
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	3.40000
Precipitation (days)	4.80000
Location	Calexico, CA, USA
County	Imperial
City	Calexico
Air District	Imperial County APCD
Air Basin	Salton Sea
TAZ	5612
EDFZ	19
Electric Utility	Imperial Irrigation District
Gas Utility	Southern California Gas
App Version	2022.1.1.45

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	1,771.00	Dwelling Unit	348.820	3,453,450	20,743,470	—	6,305.00	—
Apartments Mid Rise	4,085.00	Dwelling Unit	210.980	3,921,600	1,838,058	—	14,543.0	—
Industrial Park	325.393	1000sqft	37.0000	325,393	108,464	—	—	—
Strip Mall	2,225.48	1000sqft	85.1500	2,225,480	741,827	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.3. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	475.823	457.797	252.801	2,008.01	5.08434	9.65271	441.832	451.484	9.43190	111.975	121.407	5,160.82	629,753	634,914	541.446	24.9479	211.268	656,096
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	403.930	389.159	266.016	1,094.33	4.54523	9.31053	441.832	451.142	9.17372	111.975	121.149	5,160.82	576,011	581,172	541.984	25.5253	152.935	602,481

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	428.714	415.271	212.456	1,441.07	4.45447	5.50803	440.471	445.979	5.32981	111.635	116.965	5,160.82	535,809	540,970	540.366	25.0754	177.241	562,129
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	78.2403	75.7869	38.7733	262.996	0.81294	1.00522	80.3859	81.3911	0.97269	20.3734	21.3461	854.433	88,709.3	89,563.7	89.4638	4.15152	29.3442	93,066.8
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137.000	137.000	550.000	150.000	—	—	150.000	—	—	550.000	—	—	—	—	—	—	—
Unmit.	—	Yes	Yes	Yes	No	—	—	Yes	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137.000	137.000	550.000	150.000	—	—	150.000	—	—	550.000	—	—	—	—	—	—	—
Unmit.	—	Yes	Yes	Yes	No	—	—	Yes	—	—	No	—	—	—	—	—	—	—

2.4. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	168.384	158.386	164.951	1,525.42	4.53000	2.55184	441.832	444.384	2.41517	111.975	114.390	—	462,117	462,117	10.0332	21.4130	59.8859	468,809

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Area	303.477	297.430	53.7005	466.002	0.33826	4.36385	—	4.36385	4.27971	—	4.27971	0.00000	64,429.9	64,429.9	1.24415	0.13007	—	64,499.7
Energy	3.96147	1.98073	34.1495	16.5830	0.21608	2.73701	—	2.73701	2.73701	—	2.73701	—	100,332	100,332	11.4818	1.01170	—	100,921
Water	—	—	—	—	—	—	—	—	—	—	—	963.128	2,873.98	3,837.11	99.1425	2.39309	—	7,028.81
Waste	—	—	—	—	—	—	—	—	—	—	—	4,197.69	0.00000	4,197.69	419.544	0.00000	—	14,686.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	151.382	151.382
Total	475.823	457.797	252.801	2,008.01	5.08434	9.65271	441.832	451.484	9.43190	111.975	121.407	5,160.82	629,753	634,914	541.446	24.9479	211.268	656,096
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	146.724	136.841	182.167	1,056.59	4.01192	2.55523	441.832	444.387	2.41841	111.975	114.394	—	409,719	409,719	10.6274	22.0017	1.55303	416,543
Area	253.245	250.337	49.6999	21.1489	0.31723	4.01829	—	4.01829	4.01829	—	4.01829	0.00000	63,085.4	63,085.4	1.18788	0.11879	—	63,150.5
Energy	3.96147	1.98073	34.1495	16.5830	0.21608	2.73701	—	2.73701	2.73701	—	2.73701	—	100,332	100,332	11.4818	1.01170	—	100,921
Water	—	—	—	—	—	—	—	—	—	—	—	963.128	2,873.98	3,837.11	99.1425	2.39309	—	7,028.81
Waste	—	—	—	—	—	—	—	—	—	—	—	4,197.69	0.00000	4,197.69	419.544	0.00000	—	14,686.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	151.382	151.382
Total	403.930	389.159	266.016	1,094.33	4.54523	9.31053	441.832	451.142	9.17372	111.975	121.149	5,160.82	576,011	581,172	541.984	25.5253	152.935	602,481
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	152.483	142.603	175.748	1,204.86	4.22428	2.55326	440.471	443.024	2.41653	111.635	114.051	—	431,197	431,197	10.1561	21.6637	25.8584	437,932
Area	272.269	270.687	2.55839	219.629	0.01411	0.21775	—	0.21775	0.17626	—	0.17626	0.00000	1,406.24	1,406.24	0.04174	0.00696	—	1,409.36
Energy	3.96147	1.98073	34.1495	16.5830	0.21608	2.73701	—	2.73701	2.73701	—	2.73701	—	100,332	100,332	11.4818	1.01170	—	100,921
Water	—	—	—	—	—	—	—	—	—	—	—	963.128	2,873.98	3,837.11	99.1425	2.39309	—	7,028.81
Waste	—	—	—	—	—	—	—	—	—	—	—	4,197.69	0.00000	4,197.69	419.544	0.00000	—	14,686.3

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	151.382	151.382
Total	428.714	415.271	212.456	1,441.07	4.45447	5.50803	440.471	445.979	5.32981	111.635	116.965	5,160.82	535,809	540,970	540.366	25.0754	177.241	562,129
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	27.8281	26.0250	32.0741	219.887	0.77093	0.46597	80.3859	80.8519	0.44102	20.3734	20.8144	—	71,389.5	71,389.5	1.68146	3.58667	4.28116	72,504.7
Area	49.6892	49.4004	0.46691	40.0823	0.00257	0.03974	—	0.03974	0.03217	—	0.03217	0.00000	232.819	232.819	0.00691	0.00115	—	233.335
Energy	0.72297	0.36148	6.23229	3.02640	0.03943	0.49951	—	0.49951	0.49951	—	0.49951	—	16,611.1	16,611.1	1.90095	0.16750	—	16,708.6
Water	—	—	—	—	—	—	—	—	—	—	—	159.457	475.820	635.277	16.4142	0.39620	—	1,163.70
Waste	—	—	—	—	—	—	—	—	—	—	—	694.976	0.00000	694.976	69.4603	0.00000	—	2,431.48
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0630	25.0630
Total	78.2403	75.7869	38.7733	262.996	0.81294	1.00522	80.3859	81.3911	0.97269	20.3734	21.3461	854.433	88,709.3	89,563.7	89.4638	4.15152	29.3442	93,066.8

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	11,170.5	11,170.5	1.49538	0.18126	—	11,261.9
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	15,612.9	15,612.9	2.09009	0.25334	—	15,740.7
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	8,358.02	8,358.02	1.11888	0.13562	—	8,426.40
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	22,220.7	22,220.7	2.97467	0.36057	—	22,402.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	57,362.1	57,362.1	7.67902	0.93079	—	57,831.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	11,170.5	11,170.5	1.49538	0.18126	—	11,261.9
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	15,612.9	15,612.9	2.09009	0.25334	—	15,740.7
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	8,358.02	8,358.02	1.11888	0.13562	—	8,426.40
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	22,220.7	22,220.7	2.97467	0.36057	—	22,402.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	57,362.1	57,362.1	7.67902	0.93079	—	57,831.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,849.40	1,849.40	0.24758	0.03001	—	1,864.53
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	2,584.90	2,584.90	0.34604	0.04194	—	2,606.05
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	1,383.77	1,383.77	0.18524	0.02245	—	1,395.09
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	3,678.89	3,678.89	0.49249	0.05970	—	3,708.99
Total	—	—	—	—	—	—	—	—	—	—	—	—	9,496.95	9,496.95	1.27135	0.15410	—	9,574.66

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.86094	0.93047	15.9026	6.76706	0.10151	1.28574	—	1.28574	1.28574	—	1.28574	—	20,185.6	20,185.6	1.78641	0.03801	—	20,241.6
Apartments Mid Rise	1.55611	0.77805	13.2976	5.65857	0.08488	1.07513	—	1.07513	1.07513	—	1.07513	—	16,879.0	16,879.0	1.49379	0.03178	—	16,925.9
Industrial Park	0.10303	0.05151	0.93662	0.78676	0.00562	0.07118	—	0.07118	0.07118	—	0.07118	—	1,117.55	1,117.55	0.09890	0.00210	—	1,120.65
Strip Mall	0.44139	0.22070	4.01266	3.37063	0.02408	0.30496	—	0.30496	0.30496	—	0.30496	—	4,787.77	4,787.77	0.42372	0.00902	—	4,801.05

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Total	3.96147	1.98073	34.1495	16.5830	0.21608	2.73701	—	2.73701	2.73701	—	2.73701	—	42,969.9	42,969.9	3.80282	0.08091	—	43,089.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.86094	0.93047	15.9026	6.76706	0.10151	1.28574	—	1.28574	1.28574	—	1.28574	—	20,185.6	20,185.6	1.78641	0.03801	—	20,241.6
Apartments Mid Rise	1.55611	0.77805	13.2976	5.65857	0.08488	1.07513	—	1.07513	1.07513	—	1.07513	—	16,879.0	16,879.0	1.49379	0.03178	—	16,925.9
Industrial Park	0.10303	0.05151	0.93662	0.78676	0.00562	0.07118	—	0.07118	0.07118	—	0.07118	—	1,117.55	1,117.55	0.09890	0.00210	—	1,120.65
Strip Mall	0.44139	0.22070	4.01266	3.37063	0.02408	0.30496	—	0.30496	0.30496	—	0.30496	—	4,787.77	4,787.77	0.42372	0.00902	—	4,801.05
Total	3.96147	1.98073	34.1495	16.5830	0.21608	2.73701	—	2.73701	2.73701	—	2.73701	—	42,969.9	42,969.9	3.80282	0.08091	—	43,089.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.33962	0.16981	2.90222	1.23499	0.01852	0.23465	—	0.23465	0.23465	—	0.23465	—	3,341.95	3,341.95	0.29576	0.00629	—	3,351.22
Apartments Mid Rise	0.28399	0.14199	2.42682	1.03269	0.01549	0.19621	—	0.19621	0.19621	—	0.19621	—	2,794.52	2,794.52	0.24731	0.00526	—	2,802.27
Industrial Park	0.01880	0.00940	0.17093	0.14358	0.00103	0.01299	—	0.01299	0.01299	—	0.01299	—	185.023	185.023	0.01637	0.00035	—	185.536
Strip Mall	0.08055	0.04028	0.73231	0.61514	0.00439	0.05566	—	0.05566	0.05566	—	0.05566	—	792.670	792.670	0.07015	0.00149	—	794.869
Total	0.72297	0.36148	6.23229	3.02640	0.03943	0.49951	—	0.49951	0.49951	—	0.49951	—	7,114.16	7,114.16	0.62960	0.01340	—	7,133.90

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	5.81595	2.90797	49.6999	21.1489	0.31723	4.01829	—	4.01829	4.01829	—	4.01829	0.00000	63,085.4	63,085.4	1.18788	0.11879	—	63,150.5
Consumer Products	212.415	212.415	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	35.0142	35.0142	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	50.2320	47.0933	4.00057	444.853	0.02103	0.34556	—	0.34556	0.26142	—	0.26142	—	1,344.50	1,344.50	0.05627	0.01129	—	1,349.27
Total	303.477	297.430	53.7005	466.002	0.33826	4.36385	—	4.36385	4.27971	—	4.27971	0.00000	64,429.9	64,429.9	1.24415	0.13007	—	64,499.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	5.81595	2.90797	49.6999	21.1489	0.31723	4.01829	—	4.01829	4.01829	—	4.01829	0.00000	63,085.4	63,085.4	1.18788	0.11879	—	63,150.5
Consumer Products	212.415	212.415	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	35.0142	35.0142	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	253.245	250.337	49.6999	21.1489	0.31723	4.01829	—	4.01829	4.01829	—	4.01829	0.00000	63,085.4	63,085.4	1.18788	0.11879	—	63,150.5

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01250	0.00625	0.10685	0.04547	0.00068	0.00864	—	0.00864	0.00864	—	0.00864	0.00000	123.045	123.045	0.00232	0.00023	—	123.172
Consumer Products	38.7657	38.7657	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	6.39009	6.39009	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	4.52088	4.23839	0.36005	40.0368	0.00189	0.03110	—	0.03110	0.02353	—	0.02353	—	109.774	109.774	0.00459	0.00092	—	110.163
Total	49.6892	49.4004	0.46691	40.0823	0.00257	0.03974	—	0.03974	0.03217	—	0.03217	0.00000	232.819	232.819	0.00691	0.00115	—	233.335

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	152.135	1,382.04	1,534.17	15.7847	0.39307	—	2,045.92
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	350.916	685.896	1,036.81	36.0742	0.86606	—	2,196.75

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	144.191	245.590	389.781	14.8180	0.35528	—	866.105
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	315.886	560.458	876.343	32.4655	0.77868	—	1,920.03
Total	—	—	—	—	—	—	—	—	—	—	—	963.128	2,873.98	3,837.11	99.1425	2.39309	—	7,028.81
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	152.135	1,382.04	1,534.17	15.7847	0.39307	—	2,045.92
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	350.916	685.896	1,036.81	36.0742	0.86606	—	2,196.75
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	144.191	245.590	389.781	14.8180	0.35528	—	866.105
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	315.886	560.458	876.343	32.4655	0.77868	—	1,920.03
Total	—	—	—	—	—	—	—	—	—	—	—	963.128	2,873.98	3,837.11	99.1425	2.39309	—	7,028.81
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	25.1877	228.812	253.999	2.61334	0.06508	—	338.726
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	58.0981	113.558	171.656	5.97250	0.14339	—	363.698
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	23.8725	40.6603	64.5328	2.45330	0.05882	—	143.393

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	52.2985	92.7902	145.089	5.37503	0.12892	—	317.882
Total	—	—	—	—	—	—	—	—	—	—	—	159.457	475.820	635.277	16.4142	0.39620	—	1,163.70

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1,092.75	0.00000	1,092.75	109.217	0.00000	—	3,823.18
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	1,628.11	0.00000	1,628.11	162.724	0.00000	—	5,696.22
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	217.455	0.00000	217.455	21.7338	0.00000	—	760.801
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1,259.37	0.00000	1,259.37	125.869	0.00000	—	4,406.10
Total	—	—	—	—	—	—	—	—	—	—	—	4,197.69	0.00000	4,197.69	419.544	0.00000	—	14,686.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1,092.75	0.00000	1,092.75	109.217	0.00000	—	3,823.18
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	1,628.11	0.00000	1,628.11	162.724	0.00000	—	5,696.22
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	217.455	0.00000	217.455	21.7338	0.00000	—	760.801
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1,259.37	0.00000	1,259.37	125.869	0.00000	—	4,406.10
Total	—	—	—	—	—	—	—	—	—	—	—	4,197.69	0.00000	4,197.69	419.544	0.00000	—	14,686.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	180.918	0.00000	180.918	18.0821	0.00000	—	632.971
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	269.553	0.00000	269.553	26.9408	0.00000	—	943.074
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	36.0022	0.00000	36.0022	3.59829	0.00000	—	125.959
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	208.503	0.00000	208.503	20.8391	0.00000	—	729.480
Total	—	—	—	—	—	—	—	—	—	—	—	694.976	0.00000	694.976	69.4603	0.00000	—	2,431.48

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.7336	24.7336
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0865	28.0865
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	84.7012	84.7012
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.8608	13.8608
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	151.382	151.382
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.7336	24.7336
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0865	28.0865
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	84.7012	84.7012
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.8608	13.8608
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	151.382	151.382

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.09493	4.09493
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.65004	4.65004
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.0233	14.0233
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.29481	2.29481
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0630	25.0630

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	72,452.0	72,452.0	72,452.0	26,444,980	624,971	624,971	624,971	228,114,415

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Single Family Housing	Wood Fireplaces	0	0
Single Family Housing	Gas Fireplaces	974	974
Single Family Housing	Propane Fireplaces	0	0
Single Family Housing	Electric Fireplaces	0	0

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Single Family Housing	No Fireplaces	797	797
Single Family Housing	Conventional Wood Stoves	0	0
Single Family Housing	Catalytic Wood Stoves	0	0
Single Family Housing	Non-Catalytic Wood Stoves	0	0
Single Family Housing	Pellet Wood Stoves	0	0
Apartments Mid Rise	Wood Fireplaces	0	0
Apartments Mid Rise	Gas Fireplaces	2,247	2,247
Apartments Mid Rise	Propane Fireplaces	0	0
Apartments Mid Rise	Electric Fireplaces	0	0
Apartments Mid Rise	No Fireplaces	1,838	1,838
Apartments Mid Rise	Conventional Wood Stoves	0	0
Apartments Mid Rise	Catalytic Wood Stoves	0	0
Apartments Mid Rise	Non-Catalytic Wood Stoves	0	0
Apartments Mid Rise	Pellet Wood Stoves	0	0
Industrial Park	Wood Fireplaces	0	0
Industrial Park	Gas Fireplaces	0	0
Industrial Park	Propane Fireplaces	0	0
Industrial Park	Electric Fireplaces	0	0
Industrial Park	No Fireplaces	0	0
Industrial Park	Conventional Wood Stoves	0	0
Industrial Park	Catalytic Wood Stoves	0	0

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Industrial Park	Non-Catalytic Wood Stoves	0	0
Industrial Park	Pellet Wood Stoves	0	0
Strip Mall	Wood Fireplaces	0	0
Strip Mall	Gas Fireplaces	0	0
Strip Mall	Propane Fireplaces	0	0
Strip Mall	Electric Fireplaces	0	0
Strip Mall	No Fireplaces	0	0
Strip Mall	Conventional Wood Stoves	0	0
Strip Mall	Catalytic Wood Stoves	0	0
Strip Mall	Non-Catalytic Wood Stoves	0	0
Strip Mall	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
14,934,476	4,978,159	3,826,310	1,275,437	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	180.000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	16,539,801	246.509	0.0330	0.0040	62,984,400
Apartments Mid Rise	23,117,664	246.509	0.0330	0.0040	52,667,139
Industrial Park	12,375,497	246.509	0.0330	0.0040	3,487,047
Strip Mall	32,901,630	246.509	0.0330	0.0040	14,939,129

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	79,392,690	518,975,781
Apartments Mid Rise	183,127,691	45,985,922
Industrial Park	75,247,131	2,220,246
Strip Mall	164,846,915	15,185,117

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	2,027.60	0.00000
Apartments Mid Rise	3,020.96	0.00000
Industrial Park	403.487	0.00000
Strip Mall	2,336.75	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000
Industrial Park	Other commercial A/C and heat pumps	R-410A	2,088.00	0.30000	4.00000	4.00000	18.0000
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.03750	1.000000	0.00000	1.000000
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922.00	0.00040	7.50000	7.50000	20.0000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.4100	annual days of extreme heat
Extreme Precipitation	0.30000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—

Indicator	Result for Project Census Tract
AQ-Ozone	70.2800
AQ-PM	71.1637
AQ-DPM	96.6024
Drinking Water	52.7414
Lead Risk Housing	72.5772
Pesticides	0.00000
Toxic Releases	49.0873
Traffic	95.0125
Effect Indicators	—
CleanUp Sites	50.3173
Groundwater	72.4888
Haz Waste Facilities/Generators	50.1390
Impaired Water Bodies	99.5170
Solid Waste	0.00000
Sensitive Population	—
Asthma	69.3420
Cardio-vascular	90.9521
Low Birth Weights	29.6638
Socioeconomic Factor Indicators	—
Education	92.5209
Housing	92.9404

Indicator	Result for Project Census Tract
Linguistic	99.6211
Poverty	88.7312
Unemployment	99.8829

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	0.744257667
Employed	5.530604389
Median HI	0.333632747
Education	—
Bachelor's or higher	34.49249326
High school enrollment	100
Preschool enrollment	26.78044399
Transportation	—
Auto Access	4.978827153
Active commuting	64.80174516
Social	—
2-parent households	12.53689208
Voting	9.534197357

Indicator	Result for Project Census Tract
Neighborhood	—
Alcohol availability	37.35403567
Park access	81.35506224
Retail density	86.68035416
Supermarket access	72.93725138
Tree canopy	9.508533299
Housing	—
Homeownership	18.58077762
Housing habitability	25.1764404
Low-inc homeowner severe housing cost burden	64.49377647
Low-inc renter severe housing cost burden	12.38290774
Uncrowded housing	27.15257282
Health Outcomes	—
Insured adults	9.008084178
Arthritis	0.0
Asthma ER Admissions	41.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0

Indicator	Result for Project Census Tract
Diagnosed Diabetes	0.0
Life Expectancy at Birth	85.8
Cognitively Disabled	22.1
Physically Disabled	3.2
Heart Attack ER Admissions	6.4
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	73.3
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	6.8
Elderly	27.3
English Speaking	0.3

Indicator	Result for Project Census Tract
Foreign-born	88.7
Outdoor Workers	10.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	18.3
Traffic Density	87.1
Traffic Access	23.0
Other Indices	—
Hardship	98.9
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	96.0000
Healthy Places Index Score for Project Location (b)	3.00000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	El Centro Corridor

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	1,771 low density residential units, 348.82 acres 4,085 medium to high density residential units, 210.98 acres 12.45 acres industrial sites, modeled using 60% lot coverage per Zoning Code 85.15 acres commercial sites, modeled using 60% lot coverage per Zoning Code
Operations: Road Dust	All roads paved

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	575.000	348.820
Lot Area	acre	107.500	210.980
Landscape Area	sq. ft	—	1,838,058
Lot Area	acre	7.47000	37.0000

Model Parameter	Units	Default Value	New Value
Landscape Area	sq. ft	—	108,464
Lot Area	acre	51.0900	85.1500
Landscape Area	sq. ft	—	741,827

8.5. Operations

8.5.1. Mobile Sources

8.5.1.4. Road Dust

Model Parameter	Units	Default Value	New Value
% Paved	%	50.0000	100.0000

ATTACHMENT 2

CalEEMod Output – Proposed HEU Land Use and Zoning Designations

Calexico HEU - Proposed Rezone Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Calexico HEU - Proposed Rezone
Operational Year	2050
Lead Agency	City of Calexico
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	3.40000
Precipitation (days)	4.80000
Location	Calexico, CA, USA
County	Imperial
City	Calexico
Air District	Imperial County APCD
Air Basin	Salton Sea
TAZ	5612
EDFZ	19
Electric Utility	Imperial Irrigation District
Gas Utility	Southern California Gas
App Version	2022.1.1.45

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	1,694.00	Dwelling Unit	338.730	3,303,300	19,841,580	—	6,031.00	—
Apartments Mid Rise	6,338.00	Dwelling Unit	281.670	6,084,480	2,453,909	—	22,563.0	—
Industrial Park	967.032	1000sqft	37.0000	967,032	322,344	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.3. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	457.887	440.622	247.175	1,802.67	4.43287	11.0005	363.804	374.805	10.8203	92.2003	103.021	5,335.98	580,085	585,421	558.893	21.6426	368.268	606,211
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	390.764	376.388	256.790	916.598	3.98401	10.7249	363.804	374.529	10.6122	92.2003	102.813	5,335.98	535,550	540,886	559.325	22.1158	320.237	561,779

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	411.929	400.119	186.390	1,256.61	3.73987	5.41405	362.683	368.098	5.26810	91.9202	97.1883	5,335.98	468,412	473,748	557.355	21.6821	340.250	494,484
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	75.1771	73.0218	34.0161	229.332	0.68253	0.98806	66.1897	67.1778	0.96143	16.7754	17.7369	883.433	77,551.0	78,434.5	92.2765	3.58972	56.3322	81,867.4
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137.000	137.000	550.000	150.000	—	—	150.000	—	—	550.000	—	—	—	—	—	—	—
Unmit.	—	Yes	Yes	Yes	No	—	—	Yes	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137.000	137.000	550.000	150.000	—	—	150.000	—	—	550.000	—	—	—	—	—	—	—
Unmit.	—	Yes	Yes	Yes	No	—	—	Yes	—	—	No	—	—	—	—	—	—	—

2.4. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	138.648	130.415	135.820	1,256.03	3.73000	2.10119	363.804	365.905	1.98865	92.2003	94.1890	—	380,507	380,507	8.26133	17.6315	49.3100	386,017

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Area	314.739	307.956	72.7282	529.051	0.45739	5.78981	—	5.78981	5.72214	—	5.72214	0.00000	87,918.3	87,918.3	1.68746	0.17452	—	88,012.4
Energy	4.50057	2.25028	38.6264	17.5905	0.24549	3.10948	—	3.10948	3.10948	—	3.10948	—	108,565	108,565	12.3187	1.06142	—	109,190
Water	—	—	—	—	—	—	—	—	—	—	—	1,118.50	3,094.36	4,212.86	115.103	2.77519	—	7,917.45
Waste	—	—	—	—	—	—	—	—	—	—	—	4,217.49	0.00000	4,217.49	421.523	0.00000	—	14,755.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	318.958	318.958
Total	457.887	440.622	247.175	1,802.67	4.43287	11.0005	363.804	374.805	10.8203	92.2003	103.021	5,335.98	580,085	585,421	558.893	21.6426	368.268	606,211
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	120.812	112.675	149.996	870.000	3.30341	2.10397	363.804	365.908	1.99132	92.2003	94.1917	—	337,363	337,363	8.75064	18.1162	1.27876	342,982
Area	265.452	261.463	68.1676	29.0075	0.43511	5.51142	—	5.51142	5.51142	—	5.51142	0.00000	86,527.0	86,527.0	1.62928	0.16293	—	86,616.2
Energy	4.50057	2.25028	38.6264	17.5905	0.24549	3.10948	—	3.10948	3.10948	—	3.10948	—	108,565	108,565	12.3187	1.06142	—	109,190
Water	—	—	—	—	—	—	—	—	—	—	—	1,118.50	3,094.36	4,212.86	115.103	2.77519	—	7,917.45
Waste	—	—	—	—	—	—	—	—	—	—	—	4,217.49	0.00000	4,217.49	421.523	0.00000	—	14,755.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	318.958	318.958
Total	390.764	376.388	256.790	916.598	3.98401	10.7249	363.804	374.529	10.6122	92.2003	102.813	5,335.98	535,550	540,886	559.325	22.1158	320.237	561,779
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	125.554	117.419	144.711	992.084	3.47827	2.10236	362.683	364.786	1.98977	91.9202	93.9099	—	355,047	355,047	8.36256	17.8379	21.2918	360,593
Area	281.874	280.450	3.05212	246.938	0.01611	0.20222	—	0.20222	0.16884	—	0.16884	0.00000	1,705.48	1,705.48	0.04789	0.00764	—	1,708.95
Energy	4.50057	2.25028	38.6264	17.5905	0.24549	3.10948	—	3.10948	3.10948	—	3.10948	—	108,565	108,565	12.3187	1.06142	—	109,190
Water	—	—	—	—	—	—	—	—	—	—	—	1,118.50	3,094.36	4,212.86	115.103	2.77519	—	7,917.45
Waste	—	—	—	—	—	—	—	—	—	—	—	4,217.49	0.00000	4,217.49	421.523	0.00000	—	14,755.6

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	318.958	318.958
Total	411.929	400.119	186.390	1,256.61	3.73987	5.41405	362.683	368.098	5.26810	91.9202	97.1883	5,335.98	468,412	473,748	557.355	21.6821	340.250	494,484
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	22.9137	21.4290	26.4098	181.055	0.63479	0.38368	66.1897	66.5734	0.36313	16.7754	17.1386	—	58,782.1	58,782.1	1.38452	2.95326	3.52510	59,700.3
Area	51.4421	51.1821	0.55701	45.0662	0.00294	0.03690	—	0.03690	0.03081	—	0.03081	0.00000	282.362	282.362	0.00793	0.00126	—	282.937
Energy	0.82135	0.41068	7.04932	3.21026	0.04480	0.56748	—	0.56748	0.56748	—	0.56748	—	17,974.2	17,974.2	2.03950	0.17573	—	18,077.6
Water	—	—	—	—	—	—	—	—	—	—	—	185.180	512.307	697.487	19.0567	0.45946	—	1,310.82
Waste	—	—	—	—	—	—	—	—	—	—	—	698.253	0.00000	698.253	69.7879	0.00000	—	2,442.95
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	52.8071	52.8071
Total	75.1771	73.0218	34.0161	229.332	0.68253	0.98806	66.1897	67.1778	0.96143	16.7754	17.7369	883.433	77,551.0	78,434.5	92.2765	3.58972	56.3322	81,867.4

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	10,684.8	10,684.8	1.43036	0.17338	—	10,772.2
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	24,223.9	24,223.9	3.24284	0.39307	—	24,422.1
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	24,839.1	24,839.1	3.32519	0.40305	—	25,042.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	59,747.8	59,747.8	7.99839	0.96950	—	60,236.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	10,684.8	10,684.8	1.43036	0.17338	—	10,772.2
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	24,223.9	24,223.9	3.24284	0.39307	—	24,422.1
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	24,839.1	24,839.1	3.32519	0.40305	—	25,042.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	59,747.8	59,747.8	7.99839	0.96950	—	60,236.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,768.99	1,768.99	0.23681	0.02870	—	1,783.46

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	4,010.55	4,010.55	0.53689	0.06508	—	4,043.36
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	4,112.40	4,112.40	0.55052	0.06673	—	4,146.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	9,891.93	9,891.93	1.32422	0.16051	—	9,972.87

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.78003	0.89002	15.2112	6.47284	0.09709	1.22984	—	1.22984	1.22984	—	1.22984	—	19,307.9	19,307.9	1.70874	0.03636	—	19,361.5
Apartments Mid Rise	2.41435	1.20717	20.6317	8.77944	0.13169	1.66809	—	1.66809	1.66809	—	1.66809	—	26,188.3	26,188.3	2.31766	0.04931	—	26,261.0
Industrial Park	0.30619	0.15309	2.78354	2.33817	0.01670	0.21155	—	0.21155	0.21155	—	0.21155	—	3,321.23	3,321.23	0.29393	0.00625	—	3,330.44
Total	4.50057	2.25028	38.6264	17.5905	0.24549	3.10948	—	3.10948	3.10948	—	3.10948	—	48,817.5	48,817.5	4.32033	0.09192	—	48,952.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.78003	0.89002	15.2112	6.47284	0.09709	1.22984	—	1.22984	1.22984	—	1.22984	—	19,307.9	19,307.9	1.70874	0.03636	—	19,361.5

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Apartments Mid Rise	2.41435	1.20717	20.6317	8.77944	0.13169	1.66809	—	1.66809	1.66809	—	1.66809	—	26,188.3	26,188.3	2.31766	0.04931	—	26,261.0
Industrial Park	0.30619	0.15309	2.78354	2.33817	0.01670	0.21155	—	0.21155	0.21155	—	0.21155	—	3,321.23	3,321.23	0.29393	0.00625	—	3,330.44
Total	4.50057	2.25028	38.6264	17.5905	0.24549	3.10948	—	3.10948	3.10948	—	3.10948	—	48,817.5	48,817.5	4.32033	0.09192	—	48,952.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.32486	0.16243	2.77604	1.18129	0.01772	0.22445	—	0.22445	0.22445	—	0.22445	—	3,196.65	3,196.65	0.28290	0.00602	—	3,205.52
Apartments Mid Rise	0.44062	0.22031	3.76528	1.60225	0.02403	0.30443	—	0.30443	0.30443	—	0.30443	—	4,335.78	4,335.78	0.38371	0.00816	—	4,347.80
Industrial Park	0.05588	0.02794	0.50800	0.42672	0.00305	0.03861	—	0.03861	0.03861	—	0.03861	—	549.867	549.867	0.04866	0.00104	—	551.392
Total	0.82135	0.41068	7.04932	3.21026	0.04480	0.56748	—	0.56748	0.56748	—	0.56748	—	8,082.30	8,082.30	0.71528	0.01522	—	8,104.71

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	7.97706	3.98853	68.1676	29.0075	0.43511	5.51142	—	5.51142	5.51142	—	5.51142	0.00000	86,527.0	86,527.0	1.62928	0.16293	—	86,616.2

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Consumer Products	221.593	221.593	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	35.8815	35.8815	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	49.2871	46.4933	4.56058	500.043	0.02227	0.27839	—	0.27839	0.21071	—	0.21071	—	1,391.30	1,391.30	0.05818	0.01159	—	1,396.21
Total	314.739	307.956	72.7282	529.051	0.45739	5.78981	—	5.78981	5.72214	—	5.72214	0.00000	87,918.3	87,918.3	1.68746	0.17452	—	88,012.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	7.97706	3.98853	68.1676	29.0075	0.43511	5.51142	—	5.51142	5.51142	—	5.51142	0.00000	86,527.0	86,527.0	1.62928	0.16293	—	86,616.2
Consumer Products	221.593	221.593	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	35.8815	35.8815	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	265.452	261.463	68.1676	29.0075	0.43511	5.51142	—	5.51142	5.51142	—	5.51142	0.00000	86,527.0	86,527.0	1.62928	0.16293	—	86,616.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01715	0.00858	0.14656	0.06237	0.00094	0.01185	—	0.01185	0.01185	—	0.01185	0.00000	168.766	168.766	0.00318	0.00032	—	168.941
Consumer Products	40.4407	40.4407	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	6.54838	6.54838	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Landscape Equipment	4.43584	4.18440	0.41045	45.0039	0.00200	0.02505	—	0.02505	0.01896	—	0.01896	—	113.595	113.595	0.00475	0.00095	—	113.996
Total	51.4421	51.1821	0.55701	45.0662	0.00294	0.03690	—	0.03690	0.03081	—	0.03081	0.00000	282.362	282.362	0.00793	0.00126	—	282.937

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	145.521	1,321.95	1,467.47	15.0984	0.37598	—	1,956.97
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	544.456	1,042.55	1,587.01	55.9673	1.34337	—	3,386.51
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	428.520	729.867	1,158.39	44.0376	1.05584	—	2,573.97
Total	—	—	—	—	—	—	—	—	—	—	—	1,118.50	3,094.36	4,212.86	115.103	2.77519	—	7,917.45
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	145.521	1,321.95	1,467.47	15.0984	0.37598	—	1,956.97

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	544.456	1,042.55	1,587.01	55.9673	1.34337	—	3,386.51
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	428.520	729.867	1,158.39	44.0376	1.05584	—	2,573.97
Total	—	—	—	—	—	—	—	—	—	—	—	1,118.50	3,094.36	4,212.86	115.103	2.77519	—	7,917.45
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	24.0926	218.863	242.956	2.49972	0.06225	—	323.999
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	90.1410	172.606	262.747	9.26603	0.22241	—	560.676
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	70.9464	120.838	191.784	7.29092	0.17481	—	426.150
Total	—	—	—	—	—	—	—	—	—	—	—	185.180	512.307	697.487	19.0567	0.45946	—	1,310.82

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1,045.27	0.00000	1,045.27	104.471	0.00000	—	3,657.03
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	2,525.97	0.00000	2,525.97	252.461	0.00000	—	8,837.50
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	646.252	0.00000	646.252	64.5906	0.00000	—	2,261.02
Total	—	—	—	—	—	—	—	—	—	—	—	4,217.49	0.00000	4,217.49	421.523	0.00000	—	14,755.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1,045.27	0.00000	1,045.27	104.471	0.00000	—	3,657.03
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	2,525.97	0.00000	2,525.97	252.461	0.00000	—	8,837.50
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	646.252	0.00000	646.252	64.5906	0.00000	—	2,261.02
Total	—	—	—	—	—	—	—	—	—	—	—	4,217.49	0.00000	4,217.49	421.523	0.00000	—	14,755.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	173.056	0.00000	173.056	17.2963	0.00000	—	605.463
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	418.203	0.00000	418.203	41.7979	0.00000	—	1,463.15

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	106.994	0.00000	106.994	10.6937	0.00000	—	374.337
Total	—	—	—	—	—	—	—	—	—	—	—	698.253	0.00000	698.253	69.7879	0.00000	—	2,442.95

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.6582	23.6582
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	43.5771	43.5771
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	251.723	251.723
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	318.958	318.958
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.6582	23.6582

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	43.5771	43.5771
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	251.723	251.723
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	318.958	318.958
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.91689	3.91689
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.21468	7.21468
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	41.6756	41.6756
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	52.8071	52.8071

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	59,657.0	59,657.0	59,657.0	21,774,805	514,601	514,601	514,601	187,829,365

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Single Family Housing	Wood Fireplaces	0	0
Single Family Housing	Gas Fireplaces	932	932

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Single Family Housing	Propane Fireplaces	0	0
Single Family Housing	Electric Fireplaces	0	0
Single Family Housing	No Fireplaces	762	762
Single Family Housing	Conventional Wood Stoves	0	0
Single Family Housing	Catalytic Wood Stoves	0	0
Single Family Housing	Non-Catalytic Wood Stoves	0	0
Single Family Housing	Pellet Wood Stoves	0	0
Apartments Mid Rise	Wood Fireplaces	0	0
Apartments Mid Rise	Gas Fireplaces	3,486	3,486
Apartments Mid Rise	Propane Fireplaces	0	0
Apartments Mid Rise	Electric Fireplaces	0	0
Apartments Mid Rise	No Fireplaces	2,852	2,852
Apartments Mid Rise	Conventional Wood Stoves	0	0
Apartments Mid Rise	Catalytic Wood Stoves	0	0
Apartments Mid Rise	Non-Catalytic Wood Stoves	0	0
Apartments Mid Rise	Pellet Wood Stoves	0	0
Industrial Park	Wood Fireplaces	0	0
Industrial Park	Gas Fireplaces	0	0
Industrial Park	Propane Fireplaces	0	0
Industrial Park	Electric Fireplaces	0	0
Industrial Park	No Fireplaces	0	0

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Industrial Park	Conventional Wood Stoves	0	0
Industrial Park	Catalytic Wood Stoves	0	0
Industrial Park	Non-Catalytic Wood Stoves	0	0
Industrial Park	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
19,010,255	6,336,752	1,450,548	483,516	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	180.000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	15,820,679	246.509	0.0330	0.0040	60,245,948
Apartments Mid Rise	35,867,749	246.509	0.0330	0.0040	81,714,645

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Industrial Park	36,778,608	246.509	0.0330	0.0040	10,363,118

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	75,940,834	496,411,617
Apartments Mid Rise	284,128,103	61,393,747
Industrial Park	223,626,150	6,598,346

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	1,939.49	0.00000
Apartments Mid Rise	4,686.93	0.00000
Industrial Park	1,199.12	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000
Industrial Park	Other commercial A/C and heat pumps	R-410A	2,088.00	0.30000	4.00000	4.00000	18.0000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.4100	annual days of extreme heat

Climate Hazard	Result for Project Location	Unit
Extreme Precipitation	0.30000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	70.2800
AQ-PM	71.1637
AQ-DPM	96.6024
Drinking Water	52.7414
Lead Risk Housing	72.5772
Pesticides	0.00000
Toxic Releases	49.0873
Traffic	95.0125
Effect Indicators	—
CleanUp Sites	50.3173
Groundwater	72.4888
Haz Waste Facilities/Generators	50.1390
Impaired Water Bodies	99.5170
Solid Waste	0.00000
Sensitive Population	—
Asthma	69.3420
Cardio-vascular	90.9521
Low Birth Weights	29.6638
Socioeconomic Factor Indicators	—

Indicator	Result for Project Census Tract
Education	92.5209
Housing	92.9404
Linguistic	99.6211
Poverty	88.7312
Unemployment	99.8829

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	0.744257667
Employed	5.530604389
Median HI	0.333632747
Education	—
Bachelor's or higher	34.49249326
High school enrollment	100
Preschool enrollment	26.78044399
Transportation	—
Auto Access	4.978827153
Active commuting	64.80174516
Social	—

Indicator	Result for Project Census Tract
2-parent households	12.53689208
Voting	9.534197357
Neighborhood	—
Alcohol availability	37.35403567
Park access	81.35506224
Retail density	86.68035416
Supermarket access	72.93725138
Tree canopy	9.508533299
Housing	—
Homeownership	18.58077762
Housing habitability	25.1764404
Low-inc homeowner severe housing cost burden	64.49377647
Low-inc renter severe housing cost burden	12.38290774
Uncrowded housing	27.15257282
Health Outcomes	—
Insured adults	9.008084178
Arthritis	0.0
Asthma ER Admissions	41.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0

Indicator	Result for Project Census Tract
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	85.8
Cognitively Disabled	22.1
Physically Disabled	3.2
Heart Attack ER Admissions	6.4
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	73.3
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	6.8

Indicator	Result for Project Census Tract
Elderly	27.3
English Speaking	0.3
Foreign-born	88.7
Outdoor Workers	10.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	18.3
Traffic Density	87.1
Traffic Access	23.0
Other Indices	—
Hardship	98.9
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	96.0000
Healthy Places Index Score for Project Location (b)	3.00000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	El Centro Corridor

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	1,694 low density residential units, 338.73 acres 6,338 medium to high density residential units, 281.67 acres 37 acre industrial site (Bowker Site), modeled using 60% lot coverage per Zoning Code
Operations: Road Dust	All roads paved

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	550.000	338.730
Lot Area	acre	166.789	281.670

Model Parameter	Units	Default Value	New Value
Landscape Area	sq. ft	—	2,453,909
Lot Area	acre	22.2000	37.0000
Landscape Area	sq. ft	—	322,344

8.5. Operations

8.5.1. Mobile Sources

8.5.1.4. Road Dust

Model Parameter	Units	Default Value	New Value
% Paved	%	50.0000	100.0000

ATTACHMENT 3

CalEEMod Output – Site 3

Calexico HEU - Site 3 Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Calexico HEU - Site 3
Construction Start Date	1/4/2027
Operational Year	2031
Lead Agency	City of Calexico
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40000
Precipitation (days)	4.80000
Location	32.704563304178706, -115.50650209129189
County	Imperial
City	Calexico
Air District	Imperial County APCD
Air Basin	Salton Sea
TAZ	5611
EDFZ	19
Electric Utility	Imperial Irrigation District
Gas Utility	Southern California Gas

Data Field	Value
App Version	2022.1.1.45

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	1,200.00	Dwelling Unit	60.0000	1,152,000	522,720	—	4,272.00	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	71.2627	70.5463	25.6853	99.4030	0.06093	1.04307	15,085.6	15,085.9	0.95962	1,506.35	1,506.64	—	20,312.3	20,312.3	0.65065	0.99613	47.6151	20,651.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	70.2641	69.9400	28.0787	62.1395	0.06093	1.17173	15,085.6	15,086.0	1.07799	1,506.35	1,506.66	—	18,432.6	18,432.6	0.68875	0.99613	1.23264	18,738.7

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	41.8913	41.6892	16.3723	50.3809	0.04010	0.56004	9,001.98	9,002.20	0.51661	898.893	899.105	—	12,619.9	12,619.9	0.46401	0.67672	13.2346	12,846.4
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.64515	7.60827	2.98794	9.19451	0.00732	0.10221	1,642.86	1,642.90	0.09428	164.048	164.087	—	2,089.37	2,089.37	0.07682	0.11204	2.19114	2,126.87
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0000	100.0000	550.000	—	—	—	150.000	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	No	—	—	—	Yes	—	—	—	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0000	100.0000	550.000	—	—	—	150.000	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	No	—	—	—	Yes	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	6.89227	6.23039	25.6853	99.4030	0.06093	1.04307	12,731.9	12,732.3	0.95962	1,271.34	1,271.71	—	19,103.8	19,103.8	0.65065	0.99272	47.6151	19,463.5
2028	6.56420	5.56026	17.0141	93.1155	0.05225	0.35793	12,731.9	12,732.3	0.33391	1,271.34	1,271.67	—	18,763.7	18,763.7	0.63162	0.96104	42.7494	19,108.6
2029	5.91087	5.26164	16.1135	86.8473	0.05224	0.33334	12,731.9	12,732.3	0.31128	1,271.34	1,271.65	—	18,427.9	18,427.9	0.62876	0.96104	38.2090	18,768.3
2030	5.66321	5.02165	15.3693	81.3741	0.05224	0.31781	12,731.9	12,732.3	0.29700	1,271.34	1,271.64	—	18,102.9	18,102.9	0.25733	0.91314	33.9023	18,415.4
2031	71.2627	70.5463	15.9690	89.7245	0.05397	0.31035	15,085.6	15,085.9	0.29014	1,506.35	1,506.64	—	20,312.3	20,312.3	0.28560	0.99613	35.0911	20,651.4
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	5.49792	4.84867	28.0787	62.1395	0.06093	1.17173	12,731.9	12,732.3	1.07799	1,271.34	1,271.71	—	17,124.9	17,124.9	0.68875	0.99554	1.23264	17,440.0
2028	5.27489	4.60429	18.0894	58.6209	0.05508	0.35793	12,731.9	12,732.3	0.33391	1,271.34	1,271.67	—	16,825.9	16,825.9	0.31450	0.96387	1.11017	17,122.1
2029	5.08823	4.41995	16.8103	55.0738	0.05224	0.33334	12,731.9	12,732.3	0.31128	1,271.34	1,271.65	—	16,531.3	16,531.3	0.29542	0.94482	0.98977	16,821.2
2030	70.2641	69.9400	17.5984	60.6041	0.05397	0.32878	15,085.6	15,086.0	0.30709	1,506.35	1,506.66	—	18,432.6	18,432.6	0.33132	0.99613	1.02544	18,738.7
2031	70.0485	69.7322	16.7163	56.9148	0.05397	0.31035	15,085.6	15,085.9	0.29014	1,506.35	1,506.64	—	18,124.3	18,124.3	0.30846	0.99613	0.91122	18,429.7
2032	0.77585	0.65295	6.04920	10.4204	0.01395	0.19870	204.313	204.511	0.18280	20.4004	20.5832	—	1,683.49	1,683.49	0.06359	0.01937	0.01024	1,690.86
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.33433	2.89638	16.3723	34.1372	0.04010	0.56004	3,846.88	3,847.44	0.51661	384.805	385.322	—	8,011.12	8,011.12	0.30239	0.31423	6.27407	8,118.60
2028	3.97720	3.51053	12.6216	50.3809	0.03742	0.25637	8,999.29	8,999.55	0.23916	898.625	898.864	—	12,619.9	12,619.9	0.46401	0.67672	13.2346	12,846.4
2029	3.79017	3.32644	11.9252	47.2762	0.03732	0.23810	8,974.70	8,974.94	0.22235	896.169	896.392	—	12,363.0	12,363.0	0.19741	0.67285	11.7710	12,580.2
2030	4.40397	3.94451	11.4252	44.5103	0.03734	0.22714	9,001.98	9,002.20	0.21226	898.893	899.105	—	12,174.5	12,174.5	0.19779	0.65322	10.4739	12,384.6
2031	41.8913	41.6892	10.5976	41.8916	0.03372	0.20886	8,879.93	8,880.14	0.19489	886.698	886.893	—	11,512.0	11,512.0	0.17721	0.59485	9.01949	11,702.7

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
2032	0.06703	0.05645	0.52084	0.91012	0.00120	0.01711	17.3612	17.3783	0.01574	1.73351	1.74925	—	146.059	146.059	0.00545	0.00167	0.01469	146.707
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.60851	0.52859	2.98794	6.23005	0.00732	0.10221	702.055	702.157	0.09428	70.2269	70.3212	—	1,326.33	1,326.33	0.05006	0.05202	1.03874	1,344.13
2028	0.72584	0.64067	2.30344	9.19451	0.00683	0.04679	1,642.37	1,642.42	0.04365	163.999	164.043	—	2,089.37	2,089.37	0.07682	0.11204	2.19114	2,126.87
2029	0.69171	0.60707	2.17635	8.62791	0.00681	0.04345	1,637.88	1,637.93	0.04058	163.551	163.591	—	2,046.84	2,046.84	0.03268	0.11140	1.94882	2,082.80
2030	0.80372	0.71987	2.08509	8.12313	0.00681	0.04145	1,642.86	1,642.90	0.03874	164.048	164.087	—	2,015.63	2,015.63	0.03275	0.10815	1.73408	2,050.41
2031	7.64515	7.60827	1.93405	7.64522	0.00615	0.03812	1,620.59	1,620.62	0.03557	161.822	161.858	—	1,905.94	1,905.94	0.02934	0.09848	1.49328	1,937.51
2032	0.01223	0.01030	0.09505	0.16610	0.00022	0.00312	3.16842	3.17155	0.00287	0.31637	0.31924	—	24.1818	24.1818	0.00090	0.00028	0.00243	24.2890

2.2.2. Onsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.50534	2.94546	25.5801	27.2816	0.06093	1.04307	6.07097	7.11404	0.95962	1.69292	2.65254	—	6,598.08	6,598.08	0.26765	0.05353	0.00000	6,620.72
2028	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	0.00000	0.30024	0.27622	0.00000	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	0.00000	2,405.68
2029	1.15336	0.96514	8.58166	12.9012	0.02340	0.27564	0.00000	0.27564	0.25359	0.00000	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	0.00000	2,405.06
2030	1.12372	0.94034	8.39196	12.8848	0.02340	0.26012	0.00000	0.26012	0.23931	0.00000	0.23931	—	2,396.83	2,396.83	0.09723	0.01945	0.00000	2,405.06
2031	66.1717	65.9726	8.89546	13.9488	0.02512	0.25266	0.00000	0.25266	0.23245	0.00000	0.23245	—	2,530.35	2,530.35	0.10264	0.02053	0.00000	2,539.03
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.63178	3.05170	27.9724	28.2794	0.06093	1.17173	7.66623	8.83797	1.07799	3.93995	5.01795	—	6,598.08	6,598.08	0.26765	0.05353	0.00000	6,620.72

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
2028	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	0.00000	0.30024	0.27622	0.00000	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	0.00000	2,405.68
2029	1.15336	0.96514	8.58166	12.9012	0.02340	0.27564	0.00000	0.27564	0.25359	0.00000	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	0.00000	2,405.06
2030	66.2016	65.9975	9.17669	13.9919	0.02512	0.27109	0.00000	0.27109	0.24940	0.00000	0.24940	—	2,530.35	2,530.35	0.10264	0.02053	0.00000	2,539.03
2031	66.1717	65.9726	8.89546	13.9488	0.02512	0.25266	0.00000	0.25266	0.23245	0.00000	0.23245	—	2,530.35	2,530.35	0.10264	0.02053	0.00000	2,539.03
2032	0.72492	0.60914	5.99778	9.85925	0.01395	0.19870	0.00000	0.19870	0.18280	0.00000	0.18280	—	1,510.63	1,510.63	0.06128	0.01226	0.00000	1,515.81
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.82050	1.52845	13.5679	15.1694	0.03068	0.54287	2.66974	3.21262	0.49944	0.94197	1.44141	—	3,282.07	3,282.07	0.13314	0.02663	0.00000	3,293.33
2028	0.84861	0.71011	6.39243	9.26478	0.01676	0.21504	0.00000	0.21504	0.19784	0.00000	0.19784	—	1,717.16	1,717.16	0.06966	0.01393	0.00000	1,723.05
2029	0.82383	0.68938	6.12975	9.21517	0.01671	0.19689	0.00000	0.19689	0.18114	0.00000	0.18114	—	1,712.02	1,712.02	0.06945	0.01389	0.00000	1,717.90
2030	1.56678	1.43555	6.00347	9.21640	0.01673	0.18593	0.00000	0.18593	0.17105	0.00000	0.17105	—	1,713.59	1,713.59	0.06951	0.01390	0.00000	1,719.47
2031	39.4526	39.3203	5.99925	9.43946	0.01656	0.17453	0.00000	0.17453	0.16057	0.00000	0.16057	—	1,679.75	1,679.75	0.06814	0.01363	0.00000	1,685.52
2032	0.06242	0.05245	0.51644	0.84894	0.00120	0.01711	0.00000	0.01711	0.01574	0.00000	0.01574	—	130.074	130.074	0.00528	0.00106	0.00000	130.520
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.33224	0.27894	2.47615	2.76842	0.00560	0.09907	0.48723	0.58630	0.09115	0.17191	0.26306	—	543.384	543.384	0.02204	0.00441	0.00000	545.249
2028	0.15487	0.12959	1.16662	1.69082	0.00306	0.03925	0.00000	0.03925	0.03611	0.00000	0.03611	—	284.296	284.296	0.01153	0.00231	0.00000	285.271
2029	0.15035	0.12581	1.11868	1.68177	0.00305	0.03593	0.00000	0.03593	0.03306	0.00000	0.03306	—	283.445	283.445	0.01150	0.00230	0.00000	284.418
2030	0.28594	0.26199	1.09563	1.68199	0.00305	0.03393	0.00000	0.03393	0.03122	0.00000	0.03122	—	283.705	283.705	0.01151	0.00230	0.00000	284.678
2031	7.20010	7.17596	1.09486	1.72270	0.00302	0.03185	0.00000	0.03185	0.02930	0.00000	0.02930	—	278.102	278.102	0.01128	0.00226	0.00000	279.056
2032	0.01139	0.00957	0.09425	0.15493	0.00022	0.00312	0.00000	0.00312	0.00287	0.00000	0.00287	—	21.5352	21.5352	0.00087	0.00017	0.00000	21.6091

2.2.3. Offsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	5.66151	5.20051	8.64084	86.4651	0.03167	0.05769	12,731.9	12,732.0	0.05769	1,271.34	1,271.40	—	16,706.7	16,706.7	0.55341	0.97327	47.6151	17,058.2
2028	5.37939	4.56883	8.08915	80.1802	0.02885	0.05769	12,731.9	12,732.0	0.05769	1,271.34	1,271.40	—	16,366.2	16,366.2	0.53437	0.94159	42.7494	16,702.9
2029	4.75750	4.29650	7.53181	73.9461	0.02885	0.05769	12,731.9	12,732.0	0.05769	1,271.34	1,271.40	—	16,031.1	16,031.1	0.53154	0.94159	38.2090	16,363.2
2030	4.53949	4.08132	6.97730	68.4894	0.02885	0.05769	12,731.9	12,732.0	0.05769	1,271.34	1,271.40	—	15,706.1	15,706.1	0.16010	0.89370	33.9023	16,010.3
2031	5.09096	4.57374	7.07352	75.7757	0.02885	0.05769	15,085.6	15,085.7	0.05769	1,506.35	1,506.41	—	17,782.0	17,782.0	0.18296	0.97561	35.0911	18,112.4
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	4.26716	3.81879	9.74776	49.2015	0.03167	0.05769	12,731.9	12,732.0	0.05769	1,271.34	1,271.40	—	14,727.8	14,727.8	0.59151	0.97610	1.23264	15,034.7
2028	4.09008	3.61285	9.16441	45.6856	0.03167	0.05769	12,731.9	12,732.0	0.05769	1,271.34	1,271.40	—	14,428.5	14,428.5	0.21725	0.94442	1.11017	14,716.5
2029	3.93486	3.45481	8.22866	42.1725	0.02885	0.05769	12,731.9	12,732.0	0.05769	1,271.34	1,271.40	—	14,134.5	14,134.5	0.19820	0.92537	0.98977	14,416.2
2030	4.06249	3.94244	8.42175	46.6122	0.02885	0.05769	15,085.6	15,085.7	0.05769	1,506.35	1,506.41	—	15,902.2	15,902.2	0.22868	0.97561	1.02544	16,199.7
2031	3.87680	3.75958	7.82082	42.9660	0.02885	0.05769	15,085.6	15,085.7	0.05769	1,506.35	1,506.41	—	15,593.9	15,593.9	0.20582	0.97561	0.91122	15,890.7
2032	0.05093	0.04382	0.05142	0.56119	0.00000	0.00000	204.313	204.313	0.00000	20.4004	20.4004	—	172.860	172.860	0.00231	0.00711	0.01024	175.047
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.51382	1.36793	2.80432	18.9678	0.00942	0.01716	3,844.21	3,844.23	0.01716	383.863	383.880	—	4,729.05	4,729.05	0.16926	0.28760	6.27407	4,825.27
2028	3.12859	2.80043	6.22916	41.1161	0.02066	0.04132	8,999.29	8,999.33	0.04132	898.625	898.666	—	10,902.8	10,902.8	0.39435	0.66279	13.2346	11,123.4
2029	2.96634	2.63705	5.79546	38.0611	0.02060	0.04121	8,974.70	8,974.74	0.04121	896.169	896.211	—	10,651.0	10,651.0	0.12796	0.65896	11.7710	10,862.3
2030	2.83719	2.50896	5.42168	35.2939	0.02060	0.04121	9,001.98	9,002.02	0.04121	898.893	898.934	—	10,460.9	10,460.9	0.12828	0.63932	10.4739	10,665.1

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
2031	2.43867	2.36882	4.59830	32.4522	0.01716	0.03432	8,879.93	8,879.96	0.03432	886.698	886.732	—	9,832.21	9,832.21	0.10907	0.58122	9.01949	10,017.2
2032	0.00461	0.00400	0.00440	0.06118	0.00000	0.00000	17.3612	17.3612	0.00000	1.73351	1.73351	—	15.9857	15.9857	0.00017	0.00061	0.01469	16.1871
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.27627	0.24965	0.51179	3.46162	0.00172	0.00313	701.568	701.571	0.00313	70.0550	70.0581	—	782.949	782.949	0.02802	0.04762	1.03874	798.878
2028	0.57097	0.51108	1.13682	7.50369	0.00377	0.00754	1,642.37	1,642.38	0.00754	163.999	164.007	—	1,805.08	1,805.08	0.06529	0.10973	2.19114	1,841.60
2029	0.54136	0.48126	1.05767	6.94614	0.00376	0.00752	1,637.88	1,637.89	0.00752	163.551	163.558	—	1,763.40	1,763.40	0.02119	0.10910	1.94882	1,798.39
2030	0.51779	0.45788	0.98946	6.44114	0.00376	0.00752	1,642.86	1,642.87	0.00752	164.048	164.055	—	1,731.93	1,731.93	0.02124	0.10585	1.73408	1,765.73
2031	0.44506	0.43231	0.83919	5.92252	0.00313	0.00626	1,620.59	1,620.59	0.00626	161.822	161.829	—	1,627.83	1,627.83	0.01806	0.09623	1.49328	1,658.45
2032	0.00084	0.00073	0.00080	0.01116	0.00000	0.00000	3.16842	3.16842	0.00000	0.31637	0.31637	—	2.64661	2.64661	0.00003	0.00010	0.00243	2.67995

2.3. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	62.8895	60.1935	34.0197	288.071	0.61065	1.48649	46.0763	47.5628	1.45984	11.6682	13.1281	581.342	75,554.7	76,136.0	61.2140	2.51120	114.397	78,529.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	51.7109	49.3523	35.6310	152.635	0.54552	1.45596	46.0763	47.5323	1.43677	11.6682	13.1050	581.342	69,083.7	69,665.1	61.3137	2.59739	11.0029	71,982.9
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	53.8777	52.0362	24.0708	194.372	0.48447	0.64165	43.6663	44.3080	0.61973	11.0584	11.6781	581.342	56,557.0	57,138.3	60.9136	2.42148	51.8212	59,434.6

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.83269	9.49661	4.39292	35.4728	0.08842	0.11710	7.96911	8.08621	0.11310	2.01815	2.13125	96.2478	9,363.65	9,459.90	10.0849	0.40090	8.57959	9,840.07
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137.000	137.000	550.000	150.000	—	—	150.000	—	—	550.000	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137.000	137.000	550.000	150.000	—	—	150.000	—	—	550.000	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.4. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	26.4222	24.8820	19.2957	213.725	0.51776	0.31646	46.0763	46.3928	0.29729	11.6682	11.9655	—	52,700.0	52,700.0	1.51305	2.14720	106.146	53,483.8
Area	36.0102	35.0830	10.8177	72.6839	0.06796	0.85420	—	0.85420	0.84673	—	0.84673	0.00000	13,109.4	13,109.4	0.25103	0.02585	—	13,123.3
Energy	0.45712	0.22856	3.90628	1.66225	0.02493	0.31583	—	0.31583	0.31583	—	0.31583	—	9,544.77	9,544.77	1.05279	0.08376	—	9,596.05
Water	—	—	—	—	—	—	—	—	—	—	—	103.084	200.551	303.635	10.5970	0.25440	—	644.369

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Waste	—	—	—	—	—	—	—	—	—	—	—	478.258	0.00000	478.258	47.8002	0.00000	—	1,673.26
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.25063	8.25063
Total	62.8895	60.1935	34.0197	288.071	0.61065	1.48649	46.0763	47.5628	1.45984	11.6682	13.1281	581.342	75,554.7	76,136.0	61.2140	2.51120	114.397	78,529.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	21.4583	19.9241	21.5403	146.639	0.45558	0.31671	46.0763	46.3930	0.29753	11.6682	11.9657	—	46,411.1	46,411.1	1.62036	2.23490	2.75229	47,120.3
Area	29.7955	29.1996	10.1844	4.33379	0.06501	0.82342	—	0.82342	0.82342	—	0.82342	0.00000	12,927.3	12,927.3	0.24342	0.02434	—	12,940.7
Energy	0.45712	0.22856	3.90628	1.66225	0.02493	0.31583	—	0.31583	0.31583	—	0.31583	—	9,544.77	9,544.77	1.05279	0.08376	—	9,596.05
Water	—	—	—	—	—	—	—	—	—	—	—	103.084	200.551	303.635	10.5970	0.25440	—	644.369
Waste	—	—	—	—	—	—	—	—	—	—	—	478.258	0.00000	478.258	47.8002	0.00000	—	1,673.26
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.25063	8.25063
Total	51.7109	49.3523	35.6310	152.635	0.54552	1.45596	46.0763	47.5323	1.43677	11.6682	13.1050	581.342	69,083.7	69,665.1	61.3137	2.59739	11.0029	71,982.9
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	21.7381	20.2955	19.7322	158.952	0.45731	0.30094	43.6663	43.9673	0.28271	11.0584	11.3411	—	46,569.6	46,569.6	1.45712	2.08229	43.5705	47,270.1
Area	31.6825	31.5121	0.43229	33.7580	0.00222	0.02488	—	0.02488	0.02119	—	0.02119	0.00000	242.060	242.060	0.00662	0.00103	—	242.533
Energy	0.45712	0.22856	3.90628	1.66225	0.02493	0.31583	—	0.31583	0.31583	—	0.31583	—	9,544.77	9,544.77	1.05279	0.08376	—	9,596.05
Water	—	—	—	—	—	—	—	—	—	—	—	103.084	200.551	303.635	10.5970	0.25440	—	644.369
Waste	—	—	—	—	—	—	—	—	—	—	—	478.258	0.00000	478.258	47.8002	0.00000	—	1,673.26
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.25063	8.25063
Total	53.8777	52.0362	24.0708	194.372	0.48447	0.64165	43.6663	44.3080	0.61973	11.0584	11.6781	581.342	56,557.0	57,138.3	60.9136	2.42148	51.8212	59,434.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Mobile	3.96720	3.70394	3.60113	29.0087	0.08346	0.05492	7.96911	8.02403	0.05159	2.01815	2.06974	—	7,710.13	7,710.13	0.24124	0.34475	7.21360	7,826.11
Area	5.78206	5.75096	0.07889	6.16083	0.00041	0.00454	—	0.00454	0.00387	—	0.00387	0.00000	40.0758	40.0758	0.00110	0.00017	—	40.1541
Energy	0.08342	0.04171	0.71290	0.30336	0.00455	0.05764	—	0.05764	0.05764	—	0.05764	—	1,580.25	1,580.25	0.17430	0.01387	—	1,588.74
Water	—	—	—	—	—	—	—	—	—	—	—	17.0668	33.2034	50.2702	1.75445	0.04212	—	106.683
Waste	—	—	—	—	—	—	—	—	—	—	—	79.1811	0.00000	79.1811	7.91386	0.00000	—	277.028
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.36599	1.36599
Total	9.83269	9.49661	4.39292	35.4728	0.08842	0.11710	7.96911	8.08621	0.11310	2.01815	2.13125	96.2478	9,363.65	9,459.90	10.0849	0.40090	8.57959	9,840.07

3. Construction Emissions Details

3.1. Site Preparation (2027)

3.1.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.63178	3.05170	27.9724	28.2794	0.04891	1.17173	—	1.17173	1.07799	—	1.07799	—	5,297.82	5,297.82	0.21490	0.04298	—	5,316.00

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Dust From Material Movement	—	—	—	—	—	—	7.66623	7.66623	—	3.93995	3.93995	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39800	0.33443	3.06547	3.09911	0.00536	0.12841	—	0.12841	0.11814	—	0.11814	—	580.583	580.583	0.02355	0.00471	—	582.575
Dust From Material Movement	—	—	—	—	—	—	0.84014	0.84014	—	0.43178	0.43178	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07264	0.06103	0.55945	0.56559	0.00098	0.02343	—	0.02343	0.02156	—	0.02156	—	96.1221	96.1221	0.00390	0.00078	—	96.4520
Dust From Material Movement	—	—	—	—	—	—	0.15332	0.15332	—	0.07880	0.07880	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08314	0.07446	0.10629	0.95931	0.00000	0.00000	238.365	238.365	0.00000	23.8005	23.8005	—	219.640	219.640	0.01100	0.00868	0.02041	222.522
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01053	0.00958	0.01078	0.13337	0.00000	0.00000	25.7788	25.7788	0.00000	2.57400	2.57400	—	25.8727	25.8727	0.00112	0.00091	0.03736	26.2090
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00192	0.00175	0.00197	0.02434	0.00000	0.00000	4.70463	4.70463	0.00000	0.46975	0.46975	—	4.28352	4.28352	0.00019	0.00015	0.00619	4.33919
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2. Grading (2027)

3.2.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.50534	2.94546	25.5801	27.2816	0.06093	1.04307	—	1.04307	0.95962	—	0.95962	—	6,598.08	6,598.08	0.26765	0.05353	—	6,620.72
Dust From Material Movement	—	—	—	—	—	—	6.07097	6.07097	—	1.69292	1.69292	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.50534	2.94546	25.5801	27.2816	0.06093	1.04307	—	1.04307	0.95962	—	0.95962	—	6,598.08	6,598.08	0.26765	0.05353	—	6,620.72
Dust From Material Movement	—	—	—	—	—	—	6.07097	6.07097	—	1.69292	1.69292	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.05640	0.88767	7.70907	8.22187	0.01836	0.31435	—	0.31435	0.28920	—	0.28920	—	1,988.46	1,988.46	0.08066	0.01613	—	1,995.29

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Dust From Material Movement	—	—	—	—	—	—	1.82961	1.82961	—	0.51019	0.51019	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19279	0.16200	1.40691	1.50049	0.00335	0.05737	—	0.05737	0.05278	—	0.05278	—	329.213	329.213	0.01335	0.00267	—	330.342
Dust From Material Movement	—	—	—	—	—	—	0.33390	0.33390	—	0.09311	0.09311	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12610	0.11662	0.10516	1.95991	0.00000	0.00000	272.417	272.417	0.00000	27.2005	27.2005	—	296.902	296.902	0.01168	0.00992	0.90168	301.052
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09502	0.08510	0.12147	1.09636	0.00000	0.00000	272.417	272.417	0.00000	27.2005	27.2005	—	251.017	251.017	0.01257	0.00992	0.02333	254.311
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03309	0.03010	0.03388	0.41917	0.00000	0.00000	81.0190	81.0190	0.00000	8.08971	8.08971	—	81.3142	81.3142	0.00352	0.00286	0.11741	82.3710
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00604	0.00549	0.00618	0.07650	0.00000	0.00000	14.7860	14.7860	0.00000	1.47637	1.47637	—	13.4625	13.4625	0.00058	0.00047	0.01944	13.6375
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3. Building Construction (2027)

3.3.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36610	0.30634	2.79339	3.84847	0.00696	0.10012	—	0.10012	0.09211	—	0.09211	—	713.025	713.025	0.02892	0.00578	—	715.472
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06681	0.05591	0.50979	0.70235	0.00127	0.01827	—	0.01827	0.01681	—	0.01681	—	118.049	118.049	0.00479	0.00096	—	118.455
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.44771	5.03818	4.54293	84.6681	0.00000	0.00000	11,768.4	11,768.4	0.00000	1,175.06	1,175.06	—	12,826.2	12,826.2	0.50477	0.42858	38.9525	13,005.5
Vendor	0.21380	0.16233	4.09790	1.79697	0.03167	0.05769	963.539	963.597	0.05769	96.2776	96.3353	—	3,880.54	3,880.54	0.04864	0.54469	8.66261	4,052.74
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.10483	3.67625	5.24771	47.3627	0.00000	0.00000	11,768.4	11,768.4	0.00000	1,175.06	1,175.06	—	10,843.9	10,843.9	0.54287	0.42858	1.00783	10,986.2
Vendor	0.16233	0.14254	4.50006	1.83882	0.03167	0.05769	963.539	963.597	0.05769	96.2776	96.3353	—	3,883.91	3,883.91	0.04864	0.54752	0.22482	4,048.51
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.41081	1.28333	1.44481	17.8732	0.00000	0.00000	3,454.57	3,454.57	0.00000	344.937	344.937	—	3,467.15	3,467.15	0.15015	0.12182	5.00639	3,512.22
Vendor	0.05939	0.04492	1.31485	0.54209	0.00942	0.01716	282.844	282.861	0.01716	28.2624	28.2796	—	1,154.71	1,154.71	0.01447	0.16202	1.11291	1,204.47
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25747	0.23421	0.26368	3.26185	0.00000	0.00000	630.458	630.458	0.00000	62.9510	62.9510	—	574.027	574.027	0.02486	0.02017	0.82887	581.487
Vendor	0.01084	0.00820	0.23996	0.09893	0.00172	0.00313	51.6190	51.6221	0.00313	5.15789	5.16102	—	191.176	191.176	0.00240	0.02682	0.18425	199.414
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4. Building Construction (2028)

3.4.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	—	0.30024	0.27622	—	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	—	2,405.68
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	—	0.30024	0.27622	—	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	—	2,405.68
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.84861	0.71011	6.39243	9.26478	0.01676	0.21504	—	0.21504	0.19784	—	0.19784	—	1,717.16	1,717.16	0.06966	0.01393	—	1,723.05
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15487	0.12959	1.16662	1.69082	0.00306	0.03925	—	0.03925	0.03611	—	0.03611	—	284.296	284.296	0.01153	0.00231	—	285.271

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.20009	4.43817	4.15245	78.5156	0.00000	0.00000	11,768.4	11,768.4	0.00000	1,175.06	1,175.06	—	12,583.6	12,583.6	0.48572	0.42858	35.3243	12,758.8
Vendor	0.17930	0.13066	3.93670	1.66461	0.02885	0.05769	963.539	963.597	0.05769	96.2776	96.3353	—	3,782.61	3,782.61	0.04864	0.51302	7.42509	3,944.13
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.93340	3.50482	4.85722	43.9531	0.00000	0.00000	11,768.4	11,768.4	0.00000	1,175.06	1,175.06	—	10,642.4	10,642.4	0.17143	0.42858	0.91712	10,775.3
Vendor	0.15668	0.10803	4.30718	1.73249	0.03167	0.05769	963.539	963.597	0.05769	96.2776	96.3353	—	3,786.09	3,786.09	0.04582	0.51584	0.19305	3,941.15
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.00827	2.71495	3.19927	39.9056	0.00000	0.00000	8,318.23	8,318.23	0.00000	830.572	830.572	—	8,192.46	8,192.46	0.36154	0.29332	10.9360	8,299.85
Vendor	0.12032	0.08548	3.02989	1.21050	0.02066	0.04132	681.058	681.099	0.04132	68.0529	68.0942	—	2,710.31	2,710.31	0.03281	0.36947	2.29863	2,823.53
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.54901	0.49548	0.58387	7.28278	0.00000	0.00000	1,518.08	1,518.08	0.00000	151.579	151.579	—	1,356.36	1,356.36	0.05986	0.04856	1.81058	1,374.13

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Vendor	0.02196	0.01560	0.55296	0.22092	0.00377	0.00754	124.293	124.301	0.00754	12.4197	12.4272	—	448.723	448.723	0.00543	0.06117	0.38056	467.468
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5. Building Construction (2029)

3.5.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.15336	0.96514	8.58166	12.9012	0.02340	0.27564	—	0.27564	0.25359	—	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.15336	0.96514	8.58166	12.9012	0.02340	0.27564	—	0.27564	0.25359	—	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	0.82383	0.68938	6.12975	9.21517	0.01671	0.19689	—	0.19689	0.18114	—	0.18114	—	1,712.02	1,712.02	0.06945	0.01389	—	1,717.90
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15035	0.12581	1.11868	1.68177	0.00305	0.03593	—	0.03593	0.03306	—	0.03306	—	283.445	283.445	0.01150	0.00230	—	284.418
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.58103	4.17150	3.76197	72.3822	0.00000	0.00000	11,768.4	11,768.4	0.00000	1,175.06	1,175.06	—	12,351.7	12,351.7	0.48572	0.42858	31.8977	12,523.5
Vendor	0.17647	0.12500	3.76984	1.56393	0.02885	0.05769	963.539	963.597	0.05769	96.2776	96.3353	—	3,679.39	3,679.39	0.04582	0.51302	6.31133	3,839.73
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.78102	3.35244	4.11435	40.5435	0.00000	0.00000	11,768.4	11,768.4	0.00000	1,175.06	1,175.06	—	10,451.6	10,451.6	0.15238	0.40953	0.82642	10,578.2
Vendor	0.15385	0.10238	4.11431	1.62898	0.02885	0.05769	963.539	963.597	0.05769	96.2776	96.3353	—	3,682.92	3,682.92	0.04582	0.51584	0.16335	3,837.95
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.85039	2.55787	2.91161	36.9258	0.00000	0.00000	8,295.51	8,295.51	0.00000	828.302	828.302	—	8,021.83	8,021.83	0.09524	0.29252	9.82631	8,121.21
Vendor	0.11595	0.07919	2.88384	1.13528	0.02060	0.04121	679.197	679.238	0.04121	67.8669	67.9082	—	2,629.18	2,629.18	0.03273	0.36644	1.94467	2,741.14
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.52020	0.46681	0.53137	6.73896	0.00000	0.00000	1,513.93	1,513.93	0.00000	151.165	151.165	—	1,328.11	1,328.11	0.01577	0.04843	1.62686	1,344.56
Vendor	0.02116	0.01445	0.52630	0.20719	0.00376	0.00752	123.953	123.961	0.00752	12.3857	12.3932	—	435.291	435.291	0.00542	0.06067	0.32196	453.827
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6. Building Construction (2030)

3.6.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12372	0.94034	8.39196	12.8848	0.02340	0.26012	—	0.26012	0.23931	—	0.23931	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	1.12372	0.94034	8.39196	12.8848	0.02340	0.26012	—	0.26012	0.23931	—	0.23931	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80266	0.67167	5.99426	9.20340	0.01671	0.18580	—	0.18580	0.17093	—	0.17093	—	1,712.02	1,712.02	0.06945	0.01389	—	1,717.90
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14649	0.12258	1.09395	1.67962	0.00305	0.03391	—	0.03391	0.03120	—	0.03120	—	283.445	283.445	0.01150	0.00230	—	284.418
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.37150	3.96197	3.37149	66.9916	0.00000	0.00000	11,768.4	11,768.4	0.00000	1,175.06	1,175.06	—	12,134.1	12,134.1	0.11429	0.40953	28.6223	12,287.6
Vendor	0.16799	0.11935	3.60581	1.49776	0.02885	0.05769	963.539	963.597	0.05769	96.2776	96.3353	—	3,571.98	3,571.98	0.04582	0.48417	5.28007	3,722.69
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.25720	3.20005	3.72387	37.5435	0.00000	0.00000	11,768.4	11,768.4	0.00000	1,175.06	1,175.06	—	10,272.2	10,272.2	0.15238	0.40953	0.74075	10,398.8
Vendor	0.15385	0.10238	3.95310	1.55997	0.02885	0.05769	963.539	963.597	0.05769	96.2776	96.3353	—	3,575.58	3,575.58	0.04582	0.48417	0.13654	3,721.14
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.71433	2.42181	2.64630	34.0958	0.00000	0.00000	8,295.51	8,295.51	0.00000	828.302	828.302	—	7,882.51	7,882.51	0.09524	0.29252	8.81848	7,980.88
Vendor	0.11393	0.07919	2.76668	1.08599	0.02060	0.04121	679.197	679.238	0.04121	67.8669	67.9082	—	2,552.50	2,552.50	0.03273	0.34583	1.62645	2,658.00
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.49537	0.44198	0.48295	6.22249	0.00000	0.00000	1,513.93	1,513.93	0.00000	151.165	151.165	—	1,305.04	1,305.04	0.01577	0.04843	1.46000	1,321.33
Vendor	0.02079	0.01445	0.50492	0.19819	0.00376	0.00752	123.953	123.961	0.00752	12.3857	12.3932	—	422.595	422.595	0.00542	0.05726	0.26928	440.063
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7. Building Construction (2031)

3.7.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	1.09751	0.91839	8.11856	12.8454	0.02340	0.24323	—	0.24323	0.22377	—	0.22377	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.09751	0.91839	8.11856	12.8454	0.02340	0.24323	—	0.24323	0.22377	—	0.22377	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.65292	0.54636	4.82983	7.64187	0.01392	0.14470	—	0.14470	0.13313	—	0.13313	—	1,425.90	1,425.90	0.05784	0.01157	—	1,430.80
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11916	0.09971	0.88144	1.39464	0.00254	0.02641	—	0.02641	0.02430	—	0.02430	—	236.075	236.075	0.00958	0.00192	—	236.885
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.10483	3.71435	3.00005	61.9534	0.00000	0.00000	11,768.4	11,768.4	0.00000	1,175.06	1,175.06	—	11,932.2	11,932.2	0.11429	0.40953	25.5988	12,082.7
Vendor	0.16516	0.11652	3.47346	1.43158	0.02885	0.05769	963.539	963.597	0.05769	96.2776	96.3353	—	3,463.38	3,463.38	0.04582	0.48417	4.37256	3,613.18
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.10481	3.04767	3.33339	34.5625	0.00000	0.00000	11,768.4	11,768.4	0.00000	1,175.06	1,175.06	—	10,105.7	10,105.7	0.13334	0.40953	0.66517	10,231.8
Vendor	0.15102	0.10238	3.82075	1.49097	0.02885	0.05769	963.539	963.597	0.05769	96.2776	96.3353	—	3,467.07	3,467.07	0.04582	0.48417	0.11303	3,612.61
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.94908	1.91508	1.97174	26.2502	0.00000	0.00000	6,909.13	6,909.13	0.00000	689.874	689.874	—	6,457.61	6,457.61	0.06799	0.24363	6.56527	6,538.47
Vendor	0.09321	0.06427	2.22556	0.86344	0.01716	0.03432	565.687	565.722	0.03432	56.5248	56.5591	—	2,061.32	2,061.32	0.02726	0.28804	1.11904	2,148.96
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.35571	0.34950	0.35984	4.79067	0.00000	0.00000	1,260.92	1,260.92	0.00000	125.902	125.902	—	1,069.13	1,069.13	0.01126	0.04034	1.08696	1,082.52
Vendor	0.01701	0.01173	0.40617	0.15758	0.00313	0.00626	103.238	103.244	0.00626	10.3158	10.3220	—	341.276	341.276	0.00451	0.04769	0.18527	355.785
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8. Paving (2031)

3.8.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74689	0.62759	6.12541	9.88333	0.01395	0.20981	—	0.20981	0.19303	—	0.19303	—	1,510.63	1,510.63	0.06128	0.01226	—	1,515.81
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08624	0.07246	0.70724	1.14113	0.00161	0.02422	—	0.02422	0.02229	—	0.02229	—	174.417	174.417	0.00708	0.00142	—	175.016
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01574	0.01322	0.12907	0.20826	0.00029	0.00442	—	0.00442	0.00407	—	0.00407	—	28.8767	28.8767	0.00117	0.00023	—	28.9758
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05390	0.05291	0.05787	0.60004	0.00000	0.00000	204.313	204.313	0.00000	20.4004	20.4004	—	175.446	175.446	0.00231	0.00711	0.01155	177.635
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00657	0.00645	0.00664	0.08845	0.00000	0.00000	23.2798	23.2798	0.00000	2.32448	2.32448	—	21.7584	21.7584	0.00023	0.00082	0.02212	22.0309
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00120	0.00118	0.00121	0.01614	0.00000	0.00000	4.24857	4.24857	0.00000	0.42422	0.42422	—	3.60236	3.60236	0.00004	0.00014	0.00366	3.64747
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.9. Paving (2032)

3.9.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72492	0.60914	5.99778	9.85925	0.01395	0.19870	—	0.19870	0.18280	—	0.18280	—	1,510.63	1,510.63	0.06128	0.01226	—	1,515.81
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06242	0.05245	0.51644	0.84894	0.00120	0.01711	—	0.01711	0.01574	—	0.01574	—	130.074	130.074	0.00528	0.00106	—	130.520
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01139	0.00957	0.09425	0.15493	0.00022	0.00312	—	0.00312	0.00287	—	0.00287	—	21.5352	21.5352	0.00087	0.00017	—	21.6091
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.9.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05093	0.04382	0.05142	0.56119	0.00000	0.00000	204.313	204.313	0.00000	20.4004	20.4004	—	172.860	172.860	0.00231	0.00711	0.01024	175.047
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00461	0.00400	0.00440	0.06118	0.00000	0.00000	17.3612	17.3612	0.00000	1.73351	1.73351	—	15.9857	15.9857	0.00017	0.00061	0.01469	16.1871
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00084	0.00073	0.00080	0.01116	0.00000	0.00000	3.16842	3.16842	0.00000	0.31637	0.31637	—	2.64661	2.64661	0.00003	0.00010	0.00243	2.67995
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.10. Architectural Coating (2030)

3.10.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11905	0.09839	0.78473	1.10719	0.00173	0.01097	—	0.01097	0.01009	—	0.01009	—	133.513	133.513	0.00542	0.00108	—	133.971
Architectural Coatings	64.9588	64.9588	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00140	0.00116	0.00921	0.01300	0.00002	0.00013	—	0.00013	0.00012	—	0.00012	—	1.56767	1.56767	0.00006	0.00001	—	1.57305
Architectural Coatings	0.76273	0.76273	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00026	0.00021	0.00168	0.00237	< 0.000005	0.00002	—	0.00002	0.00002	—	0.00002	—	0.25954	0.25954	0.00001	< 0.000005	—	0.26044
Architectural Coatings	0.13920	0.13920	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.10.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.65144	0.64001	0.74477	7.50870	0.00000	0.00000	2,353.68	2,353.68	0.00000	235.013	235.013	—	2,054.44	2,054.44	0.03048	0.08191	0.14815	2,079.76
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00892	0.00796	0.00870	0.11210	0.00000	0.00000	27.2729	27.2729	0.00000	2.72319	2.72319	—	25.9151	25.9151	0.00031	0.00096	0.02899	26.2385
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00163	0.00145	0.00159	0.02046	0.00000	0.00000	4.97730	4.97730	0.00000	0.49698	0.49698	—	4.29054	4.29054	0.00005	0.00016	0.00480	4.34409
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.11. Architectural Coating (2031)

3.11.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11542	0.09539	0.77690	1.10346	0.00173	0.00943	—	0.00943	0.00867	—	0.00867	—	133.518	133.518	0.00542	0.00108	—	133.976
Architectural Coatings	64.9588	64.9588	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11542	0.09539	0.77690	1.10346	0.00173	0.00943	—	0.00943	0.00867	—	0.00867	—	133.518	133.518	0.00542	0.00108	—	133.976
Architectural Coatings	64.9588	64.9588	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	0.06867	0.05675	0.46219	0.65646	0.00103	0.00561	—	0.00561	0.00516	—	0.00516	—	79.4312	79.4312	0.00322	0.00064	—	79.7038
Architectural Coatings	38.6448	38.6448	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01253	0.01036	0.08435	0.11980	0.00019	0.00102	—	0.00102	0.00094	—	0.00094	—	13.1507	13.1507	0.00053	0.00011	—	13.1959
Architectural Coatings	7.05267	7.05267	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.11.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.82097	0.74287	0.60001	12.3907	0.00000	0.00000	2,353.68	2,353.68	0.00000	235.013	235.013	—	2,386.44	2,386.44	0.02286	0.08191	5.11976	2,416.54
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.62096	0.60953	0.66668	6.91250	0.00000	0.00000	2,353.68	2,353.68	0.00000	235.013	235.013	—	2,021.14	2,021.14	0.02667	0.08191	0.13303	2,046.35
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.38982	0.38302	0.39435	5.25004	0.00000	0.00000	1,381.83	1,381.83	0.00000	137.975	137.975	—	1,291.52	1,291.52	0.01360	0.04873	1.31305	1,307.69
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07114	0.06990	0.07197	0.95813	0.00000	0.00000	252.183	252.183	0.00000	25.1804	25.1804	—	213.826	213.826	0.00225	0.00807	0.21739	216.504
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	26.4222	24.8820	19.2957	213.725	0.51776	0.31646	46.0763	46.3928	0.29729	11.6682	11.9655	—	52,700.0	52,700.0	1.51305	2.14720	106.146	53,483.8
Total	26.4222	24.8820	19.2957	213.725	0.51776	0.31646	46.0763	46.3928	0.29729	11.6682	11.9655	—	52,700.0	52,700.0	1.51305	2.14720	106.146	53,483.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	21.4583	19.9241	21.5403	146.639	0.45558	0.31671	46.0763	46.3930	0.29753	11.6682	11.9657	—	46,411.1	46,411.1	1.62036	2.23490	2.75229	47,120.3
Total	21.4583	19.9241	21.5403	146.639	0.45558	0.31671	46.0763	46.3930	0.29753	11.6682	11.9657	—	46,411.1	46,411.1	1.62036	2.23490	2.75229	47,120.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	3.96720	3.70394	3.60113	29.0087	0.08346	0.05492	7.96911	8.02403	0.05159	2.01815	2.06974	—	7,710.13	7,710.13	0.24124	0.34475	7.21360	7,826.11
Total	3.96720	3.70394	3.60113	29.0087	0.08346	0.05492	7.96911	8.02403	0.05159	2.01815	2.06974	—	7,710.13	7,710.13	0.24124	0.34475	7.21360	7,826.11

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	4,586.42	4,586.42	0.61398	0.07442	—	4,623.95
Total	—	—	—	—	—	—	—	—	—	—	—	—	4,586.42	4,586.42	0.61398	0.07442	—	4,623.95
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	4,586.42	4,586.42	0.61398	0.07442	—	4,623.95
Total	—	—	—	—	—	—	—	—	—	—	—	—	4,586.42	4,586.42	0.61398	0.07442	—	4,623.95
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	759.334	759.334	0.10165	0.01232	—	765.547
Total	—	—	—	—	—	—	—	—	—	—	—	—	759.334	759.334	0.10165	0.01232	—	765.547

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Apartments Mid Rise	0.45712	0.22856	3.90628	1.66225	0.02493	0.31583	—	0.31583	0.31583	—	0.31583	—	4,958.35	4,958.35	0.43881	0.00934	—	4,972.10
Total	0.45712	0.22856	3.90628	1.66225	0.02493	0.31583	—	0.31583	0.31583	—	0.31583	—	4,958.35	4,958.35	0.43881	0.00934	—	4,972.10
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.45712	0.22856	3.90628	1.66225	0.02493	0.31583	—	0.31583	0.31583	—	0.31583	—	4,958.35	4,958.35	0.43881	0.00934	—	4,972.10
Total	0.45712	0.22856	3.90628	1.66225	0.02493	0.31583	—	0.31583	0.31583	—	0.31583	—	4,958.35	4,958.35	0.43881	0.00934	—	4,972.10
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.08342	0.04171	0.71290	0.30336	0.00455	0.05764	—	0.05764	0.05764	—	0.05764	—	820.911	820.911	0.07265	0.00155	—	823.188
Total	0.08342	0.04171	0.71290	0.30336	0.00455	0.05764	—	0.05764	0.05764	—	0.05764	—	820.911	820.911	0.07265	0.00155	—	823.188

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	1.19179	0.59590	10.1844	4.33379	0.06501	0.82342	—	0.82342	0.82342	—	0.82342	0.00000	12,927.3	12,927.3	0.24342	0.02434	—	12,940.7

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Consumer Products	24.6528	24.6528	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	3.95092	3.95092	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	6.21466	5.88338	0.63329	68.3501	0.00295	0.03078	—	0.03078	0.02331	—	0.02331	—	182.025	182.025	0.00761	0.00151	—	182.665
Total	36.0102	35.0830	10.8177	72.6839	0.06796	0.85420	—	0.85420	0.84673	—	0.84673	0.00000	13,109.4	13,109.4	0.25103	0.02585	—	13,123.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	1.19179	0.59590	10.1844	4.33379	0.06501	0.82342	—	0.82342	0.82342	—	0.82342	0.00000	12,927.3	12,927.3	0.24342	0.02434	—	12,940.7
Consumer Products	24.6528	24.6528	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	3.95092	3.95092	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	29.7955	29.1996	10.1844	4.33379	0.06501	0.82342	—	0.82342	0.82342	—	0.82342	0.00000	12,927.3	12,927.3	0.24342	0.02434	—	12,940.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00256	0.00128	0.02190	0.00932	0.00014	0.00177	—	0.00177	0.00177	—	0.00177	0.00000	25.2141	25.2141	0.00047	0.00005	—	25.2401
Consumer Products	4.49914	4.49914	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.72104	0.72104	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Landscape Equipment	0.55932	0.52950	0.05700	6.15151	0.00027	0.00277	—	0.00277	0.00210	—	0.00210	—	14.8617	14.8617	0.00062	0.00012	—	14.9140
Total	5.78206	5.75096	0.07889	6.16083	0.00041	0.00454	—	0.00454	0.00387	—	0.00387	0.00000	40.0758	40.0758	0.00110	0.00017	—	40.1541

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	103.084	200.551	303.635	10.5970	0.25440	—	644.369
Total	—	—	—	—	—	—	—	—	—	—	—	103.084	200.551	303.635	10.5970	0.25440	—	644.369
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	103.084	200.551	303.635	10.5970	0.25440	—	644.369
Total	—	—	—	—	—	—	—	—	—	—	—	103.084	200.551	303.635	10.5970	0.25440	—	644.369
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	17.0668	33.2034	50.2702	1.75445	0.04212	—	106.683
Total	—	—	—	—	—	—	—	—	—	—	—	17.0668	33.2034	50.2702	1.75445	0.04212	—	106.683

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	478.258	0.00000	478.258	47.8002	0.00000	—	1,673.26
Total	—	—	—	—	—	—	—	—	—	—	—	478.258	0.00000	478.258	47.8002	0.00000	—	1,673.26
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	478.258	0.00000	478.258	47.8002	0.00000	—	1,673.26
Total	—	—	—	—	—	—	—	—	—	—	—	478.258	0.00000	478.258	47.8002	0.00000	—	1,673.26
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	79.1811	0.00000	79.1811	7.91386	0.00000	—	277.028
Total	—	—	—	—	—	—	—	—	—	—	—	79.1811	0.00000	79.1811	7.91386	0.00000	—	277.028

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.25063	8.25063
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.25063	8.25063
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.25063	8.25063
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.25063	8.25063
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.36599	1.36599
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.36599	1.36599

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/4/2027	2/26/2027	5.00000	40.0000	—
Grading	Grading	3/1/2027	7/30/2027	5.00000	110.000	—
Building Construction	Building Construction	8/2/2027	10/31/2031	5.00000	1,110.00	—
Paving	Paving	11/3/2031	2/13/2032	5.00000	75.0000	—
Architectural Coating	Architectural Coating	12/26/2030	10/31/2031	5.00000	222.000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00000	8.00000	367.000	0.40000
Site Preparation	Tractors/Loaders/ Backhoes	Diesel	Average	4.00000	8.00000	84.0000	0.37000
Grading	Excavators	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Grading	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Grading	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Grading	Scrapers	Diesel	Average	2.00000	8.00000	423.000	0.48000
Grading	Tractors/Loaders/ Backhoes	Diesel	Average	2.00000	8.00000	84.0000	0.37000
Building Construction	Cranes	Diesel	Average	1.000000	7.00000	367.000	0.29000

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Forklifts	Diesel	Average	3.00000	8.00000	82.0000	0.20000
Building Construction	Generator Sets	Diesel	Average	1.000000	8.00000	14.0000	0.74000
Building Construction	Tractors/Loaders/ Backhoes	Diesel	Average	3.00000	7.00000	84.0000	0.37000
Building Construction	Welders	Diesel	Average	1.000000	8.00000	46.0000	0.45000
Paving	Pavers	Diesel	Average	2.00000	8.00000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Average	2.00000	8.00000	89.0000	0.36000
Paving	Rollers	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Architectural Coating	Air Compressors	Diesel	Average	1.000000	6.00000	37.0000	0.48000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	Worker	17.5000	18.5000	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	20.0000	18.5000	LDA,LDT1,LDT2
Grading	Vendor	—	10.2000	HHDT,MHDT
Grading	Hauling	0.00000	20.0000	HHDT
Grading	Onsite truck	—	—	HHDT

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction	Worker	864.000	18.5000	LDA,LDT1,LDT2
Building Construction	Vendor	128.280	10.2000	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	15.0000	18.5000	LDA,LDT1,LDT2
Paving	Vendor	—	10.2000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	172.800	18.5000	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	2,332,800	777,600	0.00000	0.00000	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	60.0000	0.00000	0.00000
Grading	—	—	330.000	0.00000	0.00000
Paving	0.00000	0.00000	0.00000	0.00000	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	Apartments Mid Rise	—	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00000	456.543	0.03300	0.00400
2028	0.00000	456.543	0.03300	0.00400
2029	0.00000	456.543	0.03300	0.00400
2030	0.00000	456.543	0.03300	0.00400

Year	kWh per Year	CO2	CH4	N2O
2031	0.00000	456.543	0.03300	0.00400
2032	0.00000	456.543	0.03300	0.00400

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	6,876.00	6,204.00	5,172.00	2,385,849	65,418.4	59,025.0	49,206.5	22,699,008

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Apartments Mid Rise	Wood Fireplaces	0	0
Apartments Mid Rise	Gas Fireplaces	660	660
Apartments Mid Rise	Propane Fireplaces	0	0
Apartments Mid Rise	Electric Fireplaces	0	0
Apartments Mid Rise	No Fireplaces	540	540
Apartments Mid Rise	Conventional Wood Stoves	0	0
Apartments Mid Rise	Catalytic Wood Stoves	0	0
Apartments Mid Rise	Non-Catalytic Wood Stoves	0	0

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Apartments Mid Rise	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
2,332,800	777,600	0.00000	0.00000	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	180.000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	6,790,991	246.509	0.0330	0.0040	15,471,375

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	53,795,160	13,077,803

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	887.407	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	28.2300	annual days of extreme heat
Extreme Precipitation	0.10000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction

measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	65.7250
AQ-PM	48.6994
AQ-DPM	30.1431
Drinking Water	57.2374
Lead Risk Housing	30.7246
Pesticides	89.4828
Toxic Releases	46.0490
Traffic	8.75000
Effect Indicators	—
CleanUp Sites	50.3173
Groundwater	74.8298
Haz Waste Facilities/Generators	86.6049

Indicator	Result for Project Census Tract
Impaired Water Bodies	99.5170
Solid Waste	95.0057
Sensitive Population	—
Asthma	68.4696
Cardio-vascular	89.3819
Low Birth Weights	20.3490
Socioeconomic Factor Indicators	—
Education	73.4244
Housing	39.6958
Linguistic	85.2483
Poverty	72.0854
Unemployment	65.6299

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	24.4193507
Employed	22.93083537
Median HI	21.92993712
Education	—

Indicator	Result for Project Census Tract
Bachelor's or higher	23.23880405
High school enrollment	14.0639035
Preschool enrollment	58.10342615
Transportation	—
Auto Access	48.80020531
Active commuting	25.67688952
Social	—
2-parent households	77.12049275
Voting	20.99319902
Neighborhood	—
Alcohol availability	67.0986783
Park access	38.22661363
Retail density	7.955857821
Supermarket access	24.95829591
Tree canopy	1.424355191
Housing	—
Homeownership	51.98254844
Housing habitability	38.4832542
Low-inc homeowner severe housing cost burden	37.62350828
Low-inc renter severe housing cost burden	23.55960477
Uncrowded housing	28.33311947

Indicator	Result for Project Census Tract
Health Outcomes	—
Insured adults	30.39907609
Arthritis	0.0
Asthma ER Admissions	42.3
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	90.7
Cognitively Disabled	19.2
Physically Disabled	15.4
Heart Attack ER Admissions	7.5
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	39.5
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—

Indicator	Result for Project Census Tract
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	33.8
Elderly	39.7
English Speaking	4.1
Foreign-born	93.6
Outdoor Workers	18.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	72.6
Traffic Density	16.8
Traffic Access	23.0
Other Indices	—
Hardship	80.6
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	84.0000
Healthy Places Index Score for Project Location (b)	26.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	El Centro Corridor

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	1,200 units 60 acres 20% landscaping modeled

Screen	Justification
Construction: Construction Phases	No demolition Architectural coatings simultaneous with last 20% of building construction All other defaults modeled
Operations: Vehicle Data	6,876 weekday trips Weekend trip rates adjusted proportionately
Operations: Road Dust	All roads paved

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	31.5789	60.0000
Landscape Area	sq. ft	—	522,720

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Site Preparation	Site Preparation	Start Date	4/13/2027	1/4/2027
Site Preparation	Site Preparation	End Date	6/8/2027	2/26/2027
Grading	Grading	Start Date	6/9/2027	3/1/2027
Grading	Grading	End Date	11/10/2027	7/30/2027
Building Construction	Building Construction	Start Date	11/11/2027	8/2/2027
Building Construction	Building Construction	End Date	2/12/2032	10/31/2031
Paving	Paving	Start Date	2/13/2032	11/3/2031

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Paving	Paving	End Date	5/28/2032	2/13/2032
Architectural Coating	Architectural Coating	Start Date	5/29/2032	12/26/2030
Architectural Coating	Architectural Coating	End Date	9/11/2032	10/31/2031
Architectural Coating	Architectural Coating	Work Days per Phase	75.0000	222.000

8.5. Operations

8.5.1. Mobile Sources

8.5.1.1. Vehicle Data

Land Use	Model Parameter	Units	Default Value	New Value
Apartments Mid Rise	Weekday Trip Rate	size/day	5.44000	5.73000
Apartments Mid Rise	Saturday Trip Rate	size/day	4.91000	5.17000
Apartments Mid Rise	Sunday Trip Rate	size/day	4.09000	4.31000

8.5.1.4. Road Dust

Model Parameter	Units	Default Value	New Value
% Paved	%	50.0000	100.0000

ATTACHMENT 4

CalEEMod Output – Site 18

Calexico HEU -Site 18 Detailed Report

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3.11. Paving (2034)
3.11.1. Onsite - Unmitigated
3.11.2. Offsite - Unmitigated
3.12. Architectural Coating (2032)
3.12.1. Onsite - Unmitigated
3.12.2. Offsite - Unmitigated
3.13. Architectural Coating (2033)
3.13.1. Onsite - Unmitigated
3.13.2. Offsite - Unmitigated
4. Operations Emissions Details
4.1. Mobile Emissions by Land Use
4.1.1. Unmitigated
4.2. Energy
4.2.1. Electricity Emissions By Land Use - Unmitigated
4.2.3. Natural Gas Emissions By Land Use - Unmitigated
4.3. Area Emissions by Source
4.3.1. Unmitigated
4.4. Water Emissions by Land Use
4.4.1. Unmitigated

4.5. Waste Emissions by Land Use
4.5.1. Unmitigated
4.6. Refrigerant Emissions by Land Use
4.6.1. Unmitigated
4.7. Offroad Emissions By Equipment Type
4.7.1. Unmitigated
4.8. Stationary Emissions By Equipment Type
4.8.1. Unmitigated
4.9. User Defined Emissions By Equipment Type
4.9.1. Unmitigated
4.10. Soil Carbon Accumulation By Vegetation Type
4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated
4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated
4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated
5. Activity Data
5.1. Construction Schedule
5.2. Off-Road Equipment
5.2.1. Unmitigated
5.3. Construction Vehicles
5.3.1. Unmitigated
5.4. Vehicles
5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings
5.6. Dust Mitigation
5.6.1. Construction Earthmoving Activities
5.6.2. Construction Earthmoving Control Strategies
5.7. Construction Paving
5.8. Construction Electricity Consumption and Emissions Factors
5.9. Operational Mobile Sources
5.9.1. Unmitigated
5.10. Operational Area Sources
5.10.1. Hearths
5.10.2. Architectural Coatings
5.10.3. Landscape Equipment
5.11. Operational Energy Consumption
5.11.1. Unmitigated
5.12. Operational Water and Wastewater Consumption
5.12.1. Unmitigated
5.13. Operational Waste Generation
5.13.1. Unmitigated
5.14. Operational Refrigeration and Air Conditioning Equipment
5.14.1. Unmitigated
5.15. Operational Off-Road Equipment
5.15.1. Unmitigated

5.16. Stationary Sources
5.16.1. Emergency Generators and Fire Pumps
5.16.2. Process Boilers
5.17. User Defined
5.18. Vegetation
5.18.1. Land Use Change
5.18.1.1. Unmitigated
5.18.1. Biomass Cover Type
5.18.1.1. Unmitigated
5.18.2. Sequestration
5.18.2.1. Unmitigated
6. Climate Risk Detailed Report
6.1. Climate Risk Summary
6.2. Initial Climate Risk Scores
6.3. Adjusted Climate Risk Scores
6.4. Climate Risk Reduction Measures
7. Health and Equity Details
7.1. CalEnviroScreen 4.0 Scores
7.2. Healthy Places Index Scores
7.3. Overall Health & Equity Scores
7.4. Health & Equity Measures
7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures
8. User Changes to Default Data
8.1. Justifications
8.3. Land Use
8.4. Construction
8.4.1. Construction Phases
8.5. Operations
8.5.1. Mobile Sources
8.5.1.1. Vehicle Data
8.5.1.4. Road Dust

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Calexico HEU -Site 18
Construction Start Date	1/4/2027
Operational Year	2034
Lead Agency	City of Calexico
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40000
Precipitation (days)	4.80000
Location	32.70340696487979, -115.48617532238903
County	Imperial
City	Calexico
Air District	Imperial County APCD
Air Basin	Salton Sea
TAZ	5613
EDFZ	19
Electric Utility	Imperial Irrigation District
Gas Utility	Southern California Gas

Data Field	Value
App Version	2022.1.1.45

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	380.000	Dwelling Unit	76.0500	741,000	4,450,886	—	1,353.00	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	31.8305	31.6136	25.6853	29.2416	0.06093	1.04307	2,541.12	2,541.37	0.95962	253.750	253.982	—	6,894.98	6,894.98	0.27933	0.24976	7.94430	6,921.77
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	31.7102	31.4228	28.0787	29.2387	0.06093	1.17173	2,541.12	2,541.37	1.07799	253.750	253.982	—	6,849.10	6,849.10	0.28021	0.26069	0.23076	6,875.03

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	17.4913	17.3166	16.9048	19.7738	0.03790	0.67792	1,642.12	1,642.29	0.62386	163.980	164.143	—	4,479.39	4,479.39	0.17861	0.17737	2.45943	4,504.15
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.19216	3.16028	3.08513	3.60871	0.00692	0.12372	299.686	299.718	0.11385	29.9264	29.9561	—	741.614	741.614	0.02957	0.02937	0.40719	745.714
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0000	100.0000	550.000	—	—	—	150.000	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	No	—	—	—	Yes	—	—	—	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0000	100.0000	550.000	—	—	—	150.000	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	No	—	—	—	Yes	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.63145	3.06209	25.6853	29.2416	0.06093	1.04307	278.488	279.531	0.95962	28.8935	29.8531	—	6,894.98	6,894.98	0.27933	0.06345	0.90168	6,921.77
2028	2.06494	1.73552	10.8290	25.8940	0.03254	0.31851	2,168.45	2,168.77	0.29449	216.540	216.834	—	5,587.69	5,587.69	0.18956	0.24976	7.94430	5,674.80
2029	1.93458	1.66521	10.3711	24.8570	0.03253	0.29391	2,168.45	2,168.75	0.27186	216.540	216.811	—	5,517.66	5,517.66	0.18864	0.24976	7.04906	5,603.85
2030	1.86907	1.60544	10.0676	23.9661	0.03253	0.27839	2,168.45	2,168.73	0.25758	216.540	216.797	—	5,449.20	5,449.20	0.12983	0.23761	6.20388	5,529.45
2031	1.79974	1.54339	9.69349	23.1080	0.03253	0.26150	2,168.45	2,168.71	0.24204	216.540	216.782	—	5,382.83	5,382.83	0.12983	0.23761	5.43778	5,462.32
2032	31.8305	31.6136	10.2038	25.2881	0.03426	0.25039	2,541.12	2,541.37	0.23182	253.750	253.982	—	5,827.08	5,827.08	0.13886	0.24252	5.45883	5,908.29
2033	31.7742	31.4933	9.89123	24.5328	0.03426	0.22889	2,541.12	2,541.35	0.21204	253.750	253.962	—	5,765.72	5,765.72	0.13435	0.17557	4.74674	5,826.14
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.71492	3.12616	28.0787	29.2387	0.06093	1.17173	2,168.45	2,168.81	1.07799	216.540	216.868	—	6,849.10	6,849.10	0.28021	0.26069	0.23076	6,875.03
2028	1.85721	1.58057	11.0580	20.4431	0.03343	0.31851	2,168.45	2,168.77	0.29449	216.540	216.834	—	5,281.43	5,281.43	0.13890	0.25066	0.20634	5,359.81
2029	1.80074	1.52836	10.5360	19.8365	0.03253	0.29391	2,168.45	2,168.75	0.27186	216.540	216.811	—	5,217.92	5,217.92	0.13586	0.24764	0.18258	5,295.30
2030	1.68816	1.47943	10.2334	19.3231	0.03253	0.27839	2,168.45	2,168.73	0.25758	216.540	216.797	—	5,155.53	5,155.53	0.13586	0.23761	0.16052	5,229.90
2031	1.63692	1.43335	9.85625	18.7899	0.03253	0.26150	2,168.45	2,168.71	0.24204	216.540	216.782	—	5,094.81	5,094.81	0.13285	0.23761	0.14111	5,169.08
2032	31.7102	31.4228	10.3716	20.4899	0.03426	0.25039	2,541.12	2,541.37	0.23182	253.750	253.982	—	5,487.17	5,487.17	0.14248	0.24252	0.14141	5,563.14
2033	31.6647	31.3811	10.0508	20.0584	0.03426	0.22889	2,541.12	2,541.35	0.21204	253.750	253.962	—	5,431.16	5,431.16	0.13886	0.24252	0.12335	5,507.03
2034	0.73127	0.61481	5.89367	10.3091	0.01395	0.17702	204.313	204.490	0.16286	20.4004	20.5633	—	1,678.91	1,678.91	0.06326	0.01937	0.00798	1,686.27
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.39210	2.01943	16.9048	19.7738	0.03790	0.67792	412.123	412.801	0.62386	42.1363	42.7601	—	4,479.39	4,479.39	0.17861	0.06584	0.68103	4,504.15

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
2028	1.36302	1.16704	7.85845	15.9665	0.02330	0.22813	1,532.72	1,532.95	0.21093	153.057	153.268	—	3,872.57	3,872.57	0.13729	0.17737	2.45943	3,931.31
2029	1.31186	1.11946	7.50398	15.4213	0.02324	0.20994	1,528.53	1,528.74	0.19419	152.639	152.833	—	3,814.72	3,814.72	0.09489	0.17624	2.17164	3,871.78
2030	1.26851	1.08020	7.28937	14.9458	0.02324	0.19885	1,528.53	1,528.73	0.18398	152.639	152.823	—	3,768.38	3,768.38	0.09489	0.16972	1.91130	3,823.24
2031	1.18990	1.04449	7.01998	14.4938	0.02324	0.18679	1,528.53	1,528.72	0.17289	152.639	152.812	—	3,723.37	3,723.37	0.09274	0.16972	1.67355	3,777.94
2032	10.1151	9.92282	7.04641	14.8341	0.02381	0.17594	1,642.12	1,642.29	0.16291	163.980	164.143	—	3,832.20	3,832.20	0.09568	0.16782	1.55683	3,886.15
2033	17.4913	17.3166	6.46384	13.5552	0.02104	0.15512	1,406.84	1,407.00	0.14351	140.484	140.628	—	3,326.17	3,326.17	0.08637	0.13604	1.14906	3,370.02
2034	0.09906	0.08333	0.79573	1.40998	0.00188	0.02390	27.2255	27.2495	0.02199	2.71846	2.74045	—	228.376	228.376	0.00850	0.00261	0.01796	229.386
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.43656	0.36855	3.08513	3.60871	0.00692	0.12372	75.2125	75.3362	0.11385	7.68987	7.80372	—	741.614	741.614	0.02957	0.01090	0.11275	745.714
2028	0.24875	0.21299	1.43417	2.91388	0.00425	0.04163	279.722	279.763	0.03849	27.9330	27.9714	—	641.147	641.147	0.02273	0.02937	0.40719	650.874
2029	0.23941	0.20430	1.36948	2.81438	0.00424	0.03831	278.957	278.996	0.03544	27.8566	27.8921	—	631.570	631.570	0.01571	0.02918	0.35954	641.018
2030	0.23150	0.19714	1.33031	2.72761	0.00424	0.03629	278.957	278.994	0.03358	27.8566	27.8902	—	623.898	623.898	0.01571	0.02810	0.31644	632.981
2031	0.21716	0.19062	1.28115	2.64513	0.00424	0.03409	278.957	278.992	0.03155	27.8566	27.8882	—	616.447	616.447	0.01535	0.02810	0.27708	625.481
2032	1.84600	1.81092	1.28597	2.70722	0.00435	0.03211	299.686	299.718	0.02973	29.9264	29.9561	—	634.464	634.464	0.01584	0.02778	0.25775	643.397
2033	3.19216	3.16028	1.17965	2.47383	0.00384	0.02831	256.748	256.777	0.02619	25.6384	25.6646	—	550.686	550.686	0.01430	0.02252	0.19024	557.945
2034	0.01808	0.01521	0.14522	0.25732	0.00034	0.00436	4.96866	4.97303	0.00401	0.49612	0.50013	—	37.8103	37.8103	0.00141	0.00043	0.00297	37.9775

2.2.2. Onsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
2027	3.50534	2.94546	25.5801	27.2816	0.06093	1.04307	6.07097	7.11404	0.95962	1.69292	2.65254	—	6,598.08	6,598.08	0.26765	0.05353	0.00000	6,620.72
2028	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	0.00000	0.30024	0.27622	0.00000	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	0.00000	2,405.68
2029	1.15336	0.96514	8.58166	12.9012	0.02340	0.27564	0.00000	0.27564	0.25359	0.00000	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	0.00000	2,405.06
2030	1.12372	0.94034	8.39196	12.8848	0.02340	0.26012	0.00000	0.26012	0.23931	0.00000	0.23931	—	2,396.83	2,396.83	0.09723	0.01945	0.00000	2,405.06
2031	1.09751	0.91839	8.11856	12.8454	0.02340	0.24323	0.00000	0.24323	0.22377	0.00000	0.22377	—	2,396.83	2,396.83	0.09723	0.01945	0.00000	2,405.06
2032	31.1051	30.9108	8.64086	13.8879	0.02512	0.23212	0.00000	0.23212	0.21355	0.00000	0.21355	—	2,530.34	2,530.34	0.10264	0.02053	0.00000	2,539.02
2033	31.0813	30.8909	8.43072	13.8782	0.02512	0.21063	0.00000	0.21063	0.19378	0.00000	0.19378	—	2,530.35	2,530.35	0.10264	0.02053	0.00000	2,539.03
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.63178	3.05170	27.9724	28.2794	0.06093	1.17173	7.66623	8.83797	1.07799	3.93995	5.01795	—	6,598.08	6,598.08	0.26765	0.05353	0.00000	6,620.72
2028	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	0.00000	0.30024	0.27622	0.00000	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	0.00000	2,405.68
2029	1.15336	0.96514	8.58166	12.9012	0.02340	0.27564	0.00000	0.27564	0.25359	0.00000	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	0.00000	2,405.06
2030	1.12372	0.94034	8.39196	12.8848	0.02340	0.26012	0.00000	0.26012	0.23931	0.00000	0.23931	—	2,396.83	2,396.83	0.09723	0.01945	0.00000	2,405.06
2031	1.09751	0.91839	8.11856	12.8454	0.02340	0.24323	0.00000	0.24323	0.22377	0.00000	0.22377	—	2,396.83	2,396.83	0.09723	0.01945	0.00000	2,405.06
2032	31.1051	30.9108	8.64086	13.8879	0.02512	0.23212	0.00000	0.23212	0.21355	0.00000	0.21355	—	2,530.34	2,530.34	0.10264	0.02053	0.00000	2,539.02
2033	31.0813	30.8909	8.43072	13.8782	0.02512	0.21063	0.00000	0.21063	0.19378	0.00000	0.19378	—	2,530.35	2,530.35	0.10264	0.02053	0.00000	2,539.03
2034	0.68465	0.57529	5.85515	9.82294	0.01395	0.17702	0.00000	0.17702	0.16286	0.00000	0.16286	—	1,510.64	1,510.64	0.06128	0.01226	0.00000	1,515.83
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.23249	1.87540	16.5820	17.7785	0.03671	0.67574	3.83829	4.51402	0.62168	1.36657	1.98825	—	3,958.95	3,958.95	0.16059	0.03212	0.00000	3,972.53
2028	0.84861	0.71011	6.39243	9.26478	0.01676	0.21504	0.00000	0.21504	0.19784	0.00000	0.19784	—	1,717.16	1,717.16	0.06966	0.01393	0.00000	1,723.05
2029	0.82383	0.68938	6.12975	9.21517	0.01671	0.19689	0.00000	0.19689	0.18114	0.00000	0.18114	—	1,712.02	1,712.02	0.06945	0.01389	0.00000	1,717.90

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
2030	0.80266	0.67167	5.99426	9.20340	0.01671	0.18580	0.00000	0.18580	0.17093	0.00000	0.17093	—	1,712.02	1,712.02	0.06945	0.01389	0.00000	1,717.90
2031	0.78393	0.65599	5.79897	9.17527	0.01671	0.17374	0.00000	0.17374	0.15984	0.00000	0.15984	—	1,712.02	1,712.02	0.06945	0.01389	0.00000	1,717.90
2032	9.70055	9.56961	5.86647	9.48617	0.01727	0.16285	0.00000	0.16285	0.14982	0.00000	0.14982	—	1,756.42	1,756.42	0.07125	0.01425	0.00000	1,762.45
2033	17.1443	17.0219	5.58018	9.20206	0.01603	0.14511	0.00000	0.14511	0.13350	0.00000	0.13350	—	1,631.86	1,631.86	0.06620	0.01324	0.00000	1,637.46
2034	0.09245	0.07768	0.79062	1.32639	0.00188	0.02390	0.00000	0.02390	0.02199	0.00000	0.02199	—	203.981	203.981	0.00827	0.00165	0.00000	204.681
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.40743	0.34226	3.02622	3.24457	0.00670	0.12332	0.70049	0.82381	0.11346	0.24940	0.36286	—	655.449	655.449	0.02659	0.00532	0.00000	657.698
2028	0.15487	0.12959	1.16662	1.69082	0.00306	0.03925	0.00000	0.03925	0.03611	0.00000	0.03611	—	284.296	284.296	0.01153	0.00231	0.00000	285.271
2029	0.15035	0.12581	1.11868	1.68177	0.00305	0.03593	0.00000	0.03593	0.03306	0.00000	0.03306	—	283.445	283.445	0.01150	0.00230	0.00000	284.418
2030	0.14649	0.12258	1.09395	1.67962	0.00305	0.03391	0.00000	0.03391	0.03120	0.00000	0.03120	—	283.445	283.445	0.01150	0.00230	0.00000	284.418
2031	0.14307	0.11972	1.05831	1.67449	0.00305	0.03171	0.00000	0.03171	0.02917	0.00000	0.02917	—	283.445	283.445	0.01150	0.00230	0.00000	284.418
2032	1.77035	1.74645	1.07063	1.73123	0.00315	0.02972	0.00000	0.02972	0.02734	0.00000	0.02734	—	290.796	290.796	0.01180	0.00236	0.00000	291.794
2033	3.12884	3.10650	1.01838	1.67938	0.00293	0.02648	0.00000	0.02648	0.02436	0.00000	0.02436	—	270.173	270.173	0.01096	0.00219	0.00000	271.100
2034	0.01687	0.01418	0.14429	0.24207	0.00034	0.00436	0.00000	0.00436	0.00401	0.00000	0.00401	—	33.7714	33.7714	0.00137	0.00027	0.00000	33.8873

2.2.3. Offsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.12610	0.11662	0.10516	1.95991	0.00000	0.00000	272.417	272.417	0.00000	27.2005	27.2005	—	296.902	296.902	0.01168	0.00992	0.90168	301.052
2028	0.88013	0.74409	1.90409	12.9588	0.00913	0.01827	2,168.45	2,168.47	0.01827	216.540	216.558	—	3,190.23	3,190.23	0.09231	0.23031	7.94430	3,269.12

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
2029	0.78121	0.70007	1.78943	11.9558	0.00913	0.01827	2,168.45	2,168.47	0.01827	216.540	216.558	—	3,120.83	3,120.83	0.09141	0.23031	7.04906	3,198.80
2030	0.74535	0.66510	1.67566	11.0813	0.00913	0.01827	2,168.45	2,168.47	0.01827	216.540	216.558	—	3,052.36	3,052.36	0.03260	0.21816	6.20388	3,124.39
2031	0.70223	0.62500	1.57494	10.2626	0.00913	0.01827	2,168.45	2,168.47	0.01827	216.540	216.558	—	2,986.00	2,986.00	0.03260	0.21816	5.43778	3,057.26
2032	0.72545	0.70281	1.56297	11.4002	0.00913	0.01827	2,541.12	2,541.14	0.01827	253.750	253.768	—	3,296.75	3,296.75	0.03622	0.22200	5.45883	3,369.27
2033	0.69288	0.60239	1.46051	10.6546	0.00913	0.01827	2,541.12	2,541.14	0.01827	253.750	253.768	—	3,235.36	3,235.36	0.03171	0.15504	4.74674	3,287.11
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.70134	0.62721	2.25590	8.08139	0.01003	0.01827	2,168.45	2,168.47	0.01827	216.540	216.558	—	2,946.86	2,946.86	0.10136	0.24124	0.23076	3,021.51
2028	0.67240	0.58914	2.13300	7.50787	0.01003	0.01827	2,168.45	2,168.47	0.01827	216.540	216.558	—	2,883.97	2,883.97	0.04165	0.23121	0.20634	2,954.12
2029	0.64738	0.56322	1.95430	6.93524	0.00913	0.01827	2,168.45	2,168.47	0.01827	216.540	216.558	—	2,821.09	2,821.09	0.03864	0.22819	0.18258	2,890.24
2030	0.56444	0.53909	1.84143	6.43838	0.00913	0.01827	2,168.45	2,168.47	0.01827	216.540	216.558	—	2,758.70	2,758.70	0.03864	0.21816	0.16052	2,824.84
2031	0.53942	0.51497	1.73769	5.94453	0.00913	0.01827	2,168.45	2,168.47	0.01827	216.540	216.558	—	2,697.98	2,697.98	0.03562	0.21816	0.14111	2,764.02
2032	0.60517	0.51195	1.73076	6.60195	0.00913	0.01827	2,541.12	2,541.14	0.01827	253.750	253.768	—	2,956.83	2,956.83	0.03984	0.22200	0.14141	3,024.12
2033	0.58345	0.49024	1.62007	6.18025	0.00913	0.01827	2,541.12	2,541.14	0.01827	253.750	253.768	—	2,900.81	2,900.81	0.03622	0.22200	0.12335	2,967.99
2034	0.04663	0.03952	0.03853	0.48612	0.00000	0.00000	204.313	204.313	0.00000	20.4004	20.4004	—	168.266	168.266	0.00198	0.00711	0.00798	170.443
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.15961	0.14403	0.32282	1.99530	0.00120	0.00218	408.285	408.287	0.00218	40.7697	40.7719	—	520.442	520.442	0.01802	0.03372	0.68103	531.622
2028	0.51441	0.45694	1.46602	6.70171	0.00654	0.01309	1,532.72	1,532.74	0.01309	153.057	153.070	—	2,155.40	2,155.40	0.06763	0.16344	2.45943	2,208.26
2029	0.48803	0.43007	1.37422	6.20609	0.00652	0.01305	1,528.53	1,528.55	0.01305	152.639	152.652	—	2,102.70	2,102.70	0.02544	0.16236	2.17164	2,153.89
2030	0.46585	0.40853	1.29511	5.74240	0.00652	0.01305	1,528.53	1,528.55	0.01305	152.639	152.652	—	2,056.36	2,056.36	0.02544	0.15583	1.91130	2,105.34
2031	0.40597	0.38850	1.22101	5.31856	0.00652	0.01305	1,528.53	1,528.55	0.01305	152.639	152.652	—	2,011.35	2,011.35	0.02329	0.15583	1.67355	2,060.04

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
2032	0.41454	0.35321	1.17994	5.34789	0.00654	0.01309	1,642.12	1,642.13	0.01309	163.980	163.993	—	2,075.77	2,075.77	0.02443	0.15357	1.55683	2,123.70
2033	0.34696	0.29473	0.88365	4.35315	0.00501	0.01001	1,406.84	1,406.85	0.01001	140.484	140.494	—	1,694.31	1,694.31	0.02017	0.12280	1.14906	1,732.56
2034	0.00661	0.00565	0.00511	0.08359	0.00000	0.00000	27.2255	27.2255	0.00000	2.71846	2.71846	—	24.3951	24.3951	0.00022	0.00096	0.01796	24.7047
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.02913	0.02629	0.05891	0.36414	0.00022	0.00040	74.5120	74.5124	0.00040	7.44047	7.44087	—	86.1651	86.1651	0.00298	0.00558	0.11275	88.0160
2028	0.09388	0.08339	0.26755	1.22306	0.00119	0.00239	279.722	279.724	0.00239	27.9330	27.9353	—	356.852	356.852	0.01120	0.02706	0.40719	365.603
2029	0.08907	0.07849	0.25080	1.13261	0.00119	0.00238	278.957	278.960	0.00238	27.8566	27.8590	—	348.125	348.125	0.00421	0.02688	0.35954	356.600
2030	0.08502	0.07456	0.23636	1.04799	0.00119	0.00238	278.957	278.960	0.00238	27.8566	27.8590	—	340.453	340.453	0.00421	0.02580	0.31644	348.563
2031	0.07409	0.07090	0.22284	0.97064	0.00119	0.00238	278.957	278.960	0.00238	27.8566	27.8590	—	333.002	333.002	0.00386	0.02580	0.27708	341.064
2032	0.07565	0.06446	0.21534	0.97599	0.00119	0.00239	299.686	299.689	0.00239	29.9264	29.9288	—	343.667	343.667	0.00404	0.02543	0.25775	351.603
2033	0.06332	0.05379	0.16127	0.79445	0.00091	0.00183	256.748	256.750	0.00183	25.6384	25.6402	—	280.513	280.513	0.00334	0.02033	0.19024	286.845
2034	0.00121	0.00103	0.00093	0.01526	0.00000	0.00000	4.96866	4.96866	0.00000	0.49612	0.49612	—	4.03889	4.03889	0.00004	0.00016	0.00297	4.09015

2.3. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	33.1034	31.8811	15.9249	128.231	0.31160	0.69938	24.9446	25.6440	0.68795	6.31728	7.00523	267.139	38,488.0	38,755.1	28.3160	1.22794	43.6133	39,872.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	29.1272	28.0155	16.7750	73.5306	0.27842	0.68985	24.9446	25.6345	0.68076	6.31728	6.99805	267.139	35,169.2	35,436.4	28.3582	1.27048	6.30032	36,530.2

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	30.0486	29.0930	13.0971	91.3946	0.26610	0.43339	24.3032	24.7365	0.42335	6.15507	6.57842	267.139	31,913.0	32,180.2	28.2303	1.21637	21.4720	33,269.9
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.48388	5.30947	2.39022	16.6795	0.04856	0.07909	4.43533	4.51442	0.07726	1.12330	1.20056	44.2280	5,283.57	5,327.79	4.67384	0.20138	3.55493	5,508.21
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137.000	137.000	550.000	150.000	—	—	150.000	—	—	550.000	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137.000	137.000	550.000	150.000	—	—	150.000	—	—	550.000	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.4. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	11.9604	11.2313	9.08851	103.743	0.26830	0.15310	24.9446	25.0978	0.14402	6.31728	6.46131	—	27,312.2	27,312.2	0.70844	1.08836	38.3062	27,692.5

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Area	20.7437	20.4502	3.42424	23.0364	0.02152	0.27040	—	0.27040	0.26805	—	0.26805	0.00000	4,151.30	4,151.30	0.07949	0.00819	—	4,155.72
Energy	0.39930	0.19965	3.41219	1.45199	0.02178	0.27588	—	0.27588	0.27588	—	0.27588	—	6,728.00	6,728.00	0.70417	0.04705	—	6,759.63
Water	—	—	—	—	—	—	—	—	—	—	—	32.6433	296.541	329.184	3.38690	0.08434	—	438.990
Waste	—	—	—	—	—	—	—	—	—	—	—	234.496	0.00000	234.496	23.4370	0.00000	—	820.422
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.30704	5.30704
Total	33.1034	31.8811	15.9249	128.231	0.31160	0.69938	24.9446	25.6440	0.68795	6.31728	7.00523	267.139	38,488.0	38,755.1	28.3160	1.22794	43.6133	39,872.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	9.95171	9.22844	10.1377	70.7063	0.23605	0.15322	24.9446	25.0979	0.14413	6.31728	6.46142	—	24,051.0	24,051.0	0.75302	1.13138	0.99328	24,408.0
Area	18.7761	18.5874	3.22506	1.37237	0.02059	0.26075	—	0.26075	0.26075	—	0.26075	0.00000	4,093.66	4,093.66	0.07708	0.00771	—	4,097.88
Energy	0.39930	0.19965	3.41219	1.45199	0.02178	0.27588	—	0.27588	0.27588	—	0.27588	—	6,728.00	6,728.00	0.70417	0.04705	—	6,759.63
Water	—	—	—	—	—	—	—	—	—	—	—	32.6433	296.541	329.184	3.38690	0.08434	—	438.990
Waste	—	—	—	—	—	—	—	—	—	—	—	234.496	0.00000	234.496	23.4370	0.00000	—	820.422
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.30704	5.30704
Total	29.1272	28.0155	16.7750	73.5306	0.27842	0.68985	24.9446	25.6345	0.68076	6.31728	6.99805	267.139	35,169.2	35,436.4	28.3582	1.27048	6.30032	36,530.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.2758	9.57379	9.54870	79.2428	0.24362	0.14968	24.3032	24.4528	0.14080	6.15507	6.29587	—	24,811.8	24,811.8	0.70006	1.08465	16.1650	25,168.7
Area	19.3735	19.3196	0.13622	10.6998	0.00070	0.00783	—	0.00783	0.00667	—	0.00667	0.00000	76.6524	76.6524	0.00210	0.00033	—	76.8022
Energy	0.39930	0.19965	3.41219	1.45199	0.02178	0.27588	—	0.27588	0.27588	—	0.27588	—	6,728.00	6,728.00	0.70417	0.04705	—	6,759.63
Water	—	—	—	—	—	—	—	—	—	—	—	32.6433	296.541	329.184	3.38690	0.08434	—	438.990
Waste	—	—	—	—	—	—	—	—	—	—	—	234.496	0.00000	234.496	23.4370	0.00000	—	820.422

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.30704	5.30704
Total	30.0486	29.0930	13.0971	91.3946	0.26610	0.43339	24.3032	24.7365	0.42335	6.15507	6.57842	267.139	31,913.0	32,180.2	28.2303	1.21637	21.4720	33,269.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.87534	1.74722	1.74264	14.4618	0.04446	0.02732	4.43533	4.46264	0.02570	1.12330	1.14900	—	4,107.88	4,107.88	0.11590	0.17958	2.67629	4,166.97
Area	3.53566	3.52582	0.02486	1.95271	0.00013	0.00143	—	0.00143	0.00122	—	0.00122	0.00000	12.6907	12.6907	0.00035	0.00005	—	12.7155
Energy	0.07287	0.03644	0.62272	0.26499	0.00397	0.05035	—	0.05035	0.05035	—	0.05035	—	1,113.90	1,113.90	0.11658	0.00779	—	1,119.13
Water	—	—	—	—	—	—	—	—	—	—	—	5.40448	49.0957	54.5002	0.56074	0.01396	—	72.6798
Waste	—	—	—	—	—	—	—	—	—	—	—	38.8235	0.00000	38.8235	3.88027	0.00000	—	135.830
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.87864	0.87864
Total	5.48388	5.30947	2.39022	16.6795	0.04856	0.07909	4.43533	4.51442	0.07726	1.12330	1.20056	44.2280	5,283.57	5,327.79	4.67384	0.20138	3.55493	5,508.21

3. Construction Emissions Details

3.1. Site Preparation (2027)

3.1.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.63178	3.05170	27.9724	28.2794	0.04891	1.17173	—	1.17173	1.07799	—	1.07799	—	5,297.82	5,297.82	0.21490	0.04298	—	5,316.00
Dust From Material Movement	—	—	—	—	—	—	7.66623	7.66623	—	3.93995	3.93995	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59700	0.50165	4.59820	4.64866	0.00804	0.19261	—	0.19261	0.17720	—	0.17720	—	870.874	870.874	0.03533	0.00707	—	873.863
Dust From Material Movement	—	—	—	—	—	—	1.26020	1.26020	—	0.64766	0.64766	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10895	0.09155	0.83917	0.84838	0.00147	0.03515	—	0.03515	0.03234	—	0.03234	—	144.183	144.183	0.00585	0.00117	—	144.678

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Dust From Material Movement	—	—	—	—	—	—	0.22999	0.22999	—	0.11820	0.11820	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08314	0.07446	0.10629	0.95931	0.00000	0.00000	238.365	238.365	0.00000	23.8005	23.8005	—	219.640	219.640	0.01100	0.00868	0.02041	222.522
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01579	0.01436	0.01617	0.20006	0.00000	0.00000	38.6682	38.6682	0.00000	3.86100	3.86100	—	38.8091	38.8091	0.00168	0.00136	0.05604	39.3135
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00288	0.00262	0.00295	0.03651	0.00000	0.00000	7.05694	7.05694	0.00000	0.70463	0.70463	—	6.42528	6.42528	0.00028	0.00023	0.00928	6.50879

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2. Grading (2027)

3.2.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.50534	2.94546	25.5801	27.2816	0.06093	1.04307	—	1.04307	0.95962	—	0.95962	—	6,598.08	6,598.08	0.26765	0.05353	—	6,620.72
Dust From Material Movement	—	—	—	—	—	—	6.07097	6.07097	—	1.69292	1.69292	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.50534	2.94546	25.5801	27.2816	0.06093	1.04307	—	1.04307	0.95962	—	0.95962	—	6,598.08	6,598.08	0.26765	0.05353	—	6,620.72

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Dust From Material Movement	—	—	—	—	—	—	6.07097	6.07097	—	1.69292	1.69292	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.48857	1.25081	10.8628	11.5854	0.02587	0.44295	—	0.44295	0.40751	—	0.40751	—	2,801.92	2,801.92	0.11366	0.02273	—	2,811.54
Dust From Material Movement	—	—	—	—	—	—	2.57808	2.57808	—	0.71891	0.71891	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27166	0.22827	1.98246	2.11433	0.00472	0.08084	—	0.08084	0.07437	—	0.07437	—	463.890	463.890	0.01882	0.00376	—	465.482
Dust From Material Movement	—	—	—	—	—	—	0.47050	0.47050	—	0.13120	0.13120	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12610	0.11662	0.10516	1.95991	0.00000	0.00000	272.417	272.417	0.00000	27.2005	27.2005	—	296.902	296.902	0.01168	0.00992	0.90168	301.052
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09502	0.08510	0.12147	1.09636	0.00000	0.00000	272.417	272.417	0.00000	27.2005	27.2005	—	251.017	251.017	0.01257	0.00992	0.02333	254.311
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04662	0.04241	0.04775	0.59065	0.00000	0.00000	114.163	114.163	0.00000	11.3991	11.3991	—	114.579	114.579	0.00496	0.00403	0.16545	116.068
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00851	0.00774	0.00871	0.10779	0.00000	0.00000	20.8348	20.8348	0.00000	2.08034	2.08034	—	18.9699	18.9699	0.00082	0.00067	0.02739	19.2164
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3. Building Construction (2027)

3.3.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14692	0.12294	1.12103	1.54445	0.00279	0.04018	—	0.04018	0.03696	—	0.03696	—	286.148	286.148	0.01161	0.00232	—	287.130
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02681	0.02244	0.20459	0.28186	0.00051	0.00733	—	0.00733	0.00675	—	0.00675	—	47.3751	47.3751	0.00192	0.00038	—	47.5377
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.64993	0.58207	0.83089	7.49909	0.00000	0.00000	1,863.33	1,863.33	0.00000	186.052	186.052	—	1,716.96	1,716.96	0.08595	0.06786	0.15957	1,739.49
Vendor	0.05141	0.04514	1.42502	0.58229	0.01003	0.01827	305.121	305.139	0.01827	30.4879	30.5062	—	1,229.90	1,229.90	0.01540	0.17338	0.07119	1,282.03
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08965	0.08155	0.09181	1.13569	0.00000	0.00000	219.509	219.509	0.00000	21.9179	21.9179	—	220.309	220.309	0.00954	0.00774	0.31811	223.172
Vendor	0.00755	0.00571	0.16710	0.06889	0.00120	0.00218	35.9447	35.9469	0.00218	3.59168	3.59386	—	146.745	146.745	0.00184	0.02059	0.14143	153.068
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01636	0.01488	0.01675	0.20726	0.00000	0.00000	40.0604	40.0604	0.00000	4.00001	4.00001	—	36.4746	36.4746	0.00158	0.00128	0.05267	36.9487
Vendor	0.00138	0.00104	0.03049	0.01257	0.00022	0.00040	6.55991	6.56031	0.00040	0.65548	0.65588	—	24.2953	24.2953	0.00030	0.00341	0.02342	25.3421
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4. Building Construction (2028)

3.4.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	—	0.30024	0.27622	—	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	—	2,405.68
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	—	0.30024	0.27622	—	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	—	2,405.68
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.84861	0.71011	6.39243	9.26478	0.01676	0.21504	—	0.21504	0.19784	—	0.19784	—	1,717.16	1,717.16	0.06966	0.01393	—	1,723.05
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15487	0.12959	1.16662	1.69082	0.00306	0.03925	—	0.03925	0.03611	—	0.03611	—	284.296	284.296	0.01153	0.00231	—	285.271
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.82335	0.70271	0.65747	12.4316	0.00000	0.00000	1,863.33	1,863.33	0.00000	186.052	186.052	—	1,992.40	1,992.40	0.07691	0.06786	5.59302	2,020.14
Vendor	0.05678	0.04137	1.24662	0.52713	0.00913	0.01827	305.121	305.139	0.01827	30.4879	30.5062	—	1,197.83	1,197.83	0.01540	0.16245	2.35128	1,248.98
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.62279	0.55493	0.76906	6.95924	0.00000	0.00000	1,863.33	1,863.33	0.00000	186.052	186.052	—	1,685.04	1,685.04	0.02714	0.06786	0.14521	1,706.09
Vendor	0.04961	0.03421	1.36394	0.54862	0.01003	0.01827	305.121	305.139	0.01827	30.4879	30.5062	—	1,198.93	1,198.93	0.01451	0.16335	0.06113	1,248.03
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47631	0.42987	0.50655	6.31839	0.00000	0.00000	1,317.05	1,317.05	0.00000	131.507	131.507	—	1,297.14	1,297.14	0.05724	0.04644	1.73153	1,314.14
Vendor	0.03810	0.02707	0.95947	0.38332	0.00654	0.01309	215.668	215.681	0.01309	21.5501	21.5632	—	858.265	858.265	0.01039	0.11700	0.72790	894.118
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08693	0.07845	0.09245	1.15311	0.00000	0.00000	240.362	240.362	0.00000	24.0001	24.0001	—	214.756	214.756	0.00948	0.00769	0.28668	217.571
Vendor	0.00695	0.00494	0.17510	0.06996	0.00119	0.00239	39.3595	39.3618	0.00239	3.93289	3.93528	—	142.096	142.096	0.00172	0.01937	0.12051	148.032
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5. Building Construction (2029)

3.5.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.15336	0.96514	8.58166	12.9012	0.02340	0.27564	—	0.27564	0.25359	—	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.15336	0.96514	8.58166	12.9012	0.02340	0.27564	—	0.27564	0.25359	—	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82383	0.68938	6.12975	9.21517	0.01671	0.19689	—	0.19689	0.18114	—	0.18114	—	1,712.02	1,712.02	0.06945	0.01389	—	1,717.90
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	0.15035	0.12581	1.11868	1.68177	0.00305	0.03593	—	0.03593	0.03306	—	0.03306	—	283.445	283.445	0.01150	0.00230	—	284.418
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.72533	0.66049	0.59564	11.4605	0.00000	0.00000	1,863.33	1,863.33	0.00000	186.052	186.052	—	1,955.69	1,955.69	0.07691	0.06786	5.05047	1,982.88
Vendor	0.05588	0.03958	1.19378	0.49525	0.00913	0.01827	305.121	305.139	0.01827	30.4879	30.5062	—	1,165.14	1,165.14	0.01451	0.16245	1.99859	1,215.91
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59866	0.53080	0.65144	6.41939	0.00000	0.00000	1,863.33	1,863.33	0.00000	186.052	186.052	—	1,654.83	1,654.83	0.02413	0.06484	0.13085	1,674.89
Vendor	0.04872	0.03242	1.30286	0.51584	0.00913	0.01827	305.121	305.139	0.01827	30.4879	30.5062	—	1,166.26	1,166.26	0.01451	0.16335	0.05173	1,215.35
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45131	0.40500	0.46101	5.84658	0.00000	0.00000	1,313.46	1,313.46	0.00000	131.148	131.148	—	1,270.12	1,270.12	0.01508	0.04632	1.55583	1,285.86
Vendor	0.03672	0.02508	0.91322	0.35950	0.00652	0.01305	215.079	215.092	0.01305	21.4912	21.5042	—	832.574	832.574	0.01036	0.11604	0.61581	868.028
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08236	0.07391	0.08413	1.06700	0.00000	0.00000	239.706	239.706	0.00000	23.9345	23.9345	—	210.283	210.283	0.00250	0.00767	0.25759	212.888
Vendor	0.00670	0.00458	0.16666	0.06561	0.00119	0.00238	39.2519	39.2543	0.00238	3.92214	3.92453	—	137.842	137.842	0.00172	0.01921	0.10195	143.712
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6. Building Construction (2030)

3.6.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12372	0.94034	8.39196	12.8848	0.02340	0.26012	—	0.26012	0.23931	—	0.23931	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12372	0.94034	8.39196	12.8848	0.02340	0.26012	—	0.26012	0.23931	—	0.23931	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80266	0.67167	5.99426	9.20340	0.01671	0.18580	—	0.18580	0.17093	—	0.17093	—	1,712.02	1,712.02	0.06945	0.01389	—	1,717.90
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14649	0.12258	1.09395	1.67962	0.00305	0.03391	—	0.03391	0.03120	—	0.03120	—	283.445	283.445	0.01150	0.00230	—	284.418
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.69215	0.62731	0.53382	10.6070	0.00000	0.00000	1,863.33	1,863.33	0.00000	186.052	186.052	—	1,921.24	1,921.24	0.01810	0.06484	4.53186	1,945.54
Vendor	0.05320	0.03779	1.14184	0.47429	0.00913	0.01827	305.121	305.139	0.01827	30.4879	30.5062	—	1,131.13	1,131.13	0.01451	0.15332	1.67202	1,178.85
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.51572	0.50668	0.58961	5.94439	0.00000	0.00000	1,863.33	1,863.33	0.00000	186.052	186.052	—	1,626.43	1,626.43	0.02413	0.06484	0.11729	1,646.48

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Vendor	0.04872	0.03242	1.25182	0.49399	0.00913	0.01827	305.121	305.139	0.01827	30.4879	30.5062	—	1,132.27	1,132.27	0.01451	0.15332	0.04324	1,178.36
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.42977	0.38345	0.41900	5.39850	0.00000	0.00000	1,313.46	1,313.46	0.00000	131.148	131.148	—	1,248.06	1,248.06	0.01508	0.04632	1.39626	1,263.64
Vendor	0.03608	0.02508	0.87612	0.34390	0.00652	0.01305	215.079	215.092	0.01305	21.4912	21.5042	—	808.291	808.291	0.01036	0.10951	0.51504	841.701
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07843	0.06998	0.07647	0.98523	0.00000	0.00000	239.706	239.706	0.00000	23.9345	23.9345	—	206.631	206.631	0.00250	0.00767	0.23117	209.210
Vendor	0.00658	0.00458	0.15989	0.06276	0.00119	0.00238	39.2519	39.2543	0.00238	3.92214	3.92453	—	133.822	133.822	0.00172	0.01813	0.08527	139.353
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7. Building Construction (2031)

3.7.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.09751	0.91839	8.11856	12.8454	0.02340	0.24323	—	0.24323	0.22377	—	0.22377	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.09751	0.91839	8.11856	12.8454	0.02340	0.24323	—	0.24323	0.22377	—	0.22377	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.78393	0.65599	5.79897	9.17527	0.01671	0.17374	—	0.17374	0.15984	—	0.15984	—	1,712.02	1,712.02	0.06945	0.01389	—	1,717.90
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14307	0.11972	1.05831	1.67449	0.00305	0.03171	—	0.03171	0.02917	—	0.02917	—	283.445	283.445	0.01150	0.00230	—	284.418
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.64993	0.58811	0.47501	9.80929	0.00000	0.00000	1,863.33	1,863.33	0.00000	186.052	186.052	—	1,889.26	1,889.26	0.01810	0.06484	4.05314	1,913.09

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Vendor	0.05230	0.03690	1.09993	0.45333	0.00913	0.01827	305.121	305.139	0.01827	30.4879	30.5062	—	1,096.74	1,096.74	0.01451	0.15332	1.38464	1,144.17
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.49160	0.48255	0.52779	5.47239	0.00000	0.00000	1,863.33	1,863.33	0.00000	186.052	186.052	—	1,600.07	1,600.07	0.02111	0.06484	0.10532	1,620.03
Vendor	0.04782	0.03242	1.20990	0.47214	0.00913	0.01827	305.121	305.139	0.01827	30.4879	30.5062	—	1,097.91	1,097.91	0.01451	0.15332	0.03579	1,143.99
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.37053	0.36407	0.37484	4.99028	0.00000	0.00000	1,313.46	1,313.46	0.00000	131.148	131.148	—	1,227.62	1,227.62	0.01293	0.04632	1.24809	1,242.99
Vendor	0.03544	0.02444	0.84618	0.32829	0.00652	0.01305	215.079	215.092	0.01305	21.4912	21.5042	—	783.732	783.732	0.01036	0.10951	0.42547	817.052
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06762	0.06644	0.06841	0.91073	0.00000	0.00000	239.706	239.706	0.00000	23.9345	23.9345	—	203.246	203.246	0.00214	0.00767	0.20663	205.791
Vendor	0.00647	0.00446	0.15443	0.05991	0.00119	0.00238	39.2519	39.2543	0.00238	3.92214	3.92453	—	129.756	129.756	0.00172	0.01813	0.07044	135.272
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8. Building Construction (2032)

3.8.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07014	0.89545	7.87082	12.7872	0.02340	0.22400	—	0.22400	0.20608	—	0.20608	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07014	0.89545	7.87082	12.7872	0.02340	0.22400	—	0.22400	0.20608	—	0.20608	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76648	0.64136	5.63741	9.15876	0.01676	0.16044	—	0.16044	0.14760	—	0.14760	—	1,716.71	1,716.71	0.06964	0.01393	—	1,722.60
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13988	0.11705	1.02883	1.67147	0.00306	0.02928	—	0.02928	0.02694	—	0.02694	—	284.222	284.222	0.01153	0.00231	—	285.197
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.56096	0.55493	0.41318	9.13222	0.00000	0.00000	1,863.33	1,863.33	0.00000	186.052	186.052	—	1,860.73	1,860.73	0.01810	0.06484	3.60634	1,884.11
Vendor	0.05230	0.03690	1.06715	0.44151	0.00913	0.01827	305.121	305.139	0.01827	30.4879	30.5062	—	1,063.87	1,063.87	0.01451	0.14419	1.13123	1,108.33
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.46445	0.39961	0.46898	5.11802	0.00000	0.00000	1,863.33	1,863.33	0.00000	186.052	186.052	—	1,576.48	1,576.48	0.02111	0.06484	0.09335	1,596.43
Vendor	0.04782	0.03242	1.16799	0.46032	0.00913	0.01827	305.121	305.139	0.01827	30.4879	30.5062	—	1,065.05	1,065.05	0.01451	0.14419	0.02939	1,108.41
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34994	0.30350	0.33374	4.64105	0.00000	0.00000	1,317.05	1,317.05	0.00000	131.507	131.507	—	1,212.70	1,212.70	0.01296	0.04644	1.11435	1,227.98
Vendor	0.03554	0.02450	0.81848	0.32136	0.00654	0.01309	215.668	215.681	0.01309	21.5501	21.5632	—	762.341	762.341	0.01039	0.10327	0.34992	793.726
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06386	0.05539	0.06091	0.84699	0.00000	0.00000	240.362	240.362	0.00000	24.0001	24.0001	—	200.777	200.777	0.00215	0.00769	0.18449	203.306
Vendor	0.00649	0.00447	0.14937	0.05865	0.00119	0.00239	39.3595	39.3618	0.00239	3.93289	3.93528	—	126.214	126.214	0.00172	0.01710	0.05793	131.410
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.9. Building Construction (2033)

3.9.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.04826	0.87711	7.66646	12.7788	0.02340	0.20357	—	0.20357	0.18729	—	0.18729	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.04826	0.87711	7.66646	12.7788	0.02340	0.20357	—	0.20357	0.18729	—	0.18729	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.57439	0.48061	4.20080	7.00206	0.01282	0.11155	—	0.11155	0.10262	—	0.10262	—	1,313.33	1,313.33	0.05327	0.01065	—	1,317.84
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	0.10483	0.08771	0.76665	1.27788	0.00234	0.02036	—	0.02036	0.01873	—	0.01873	—	217.437	217.437	0.00882	0.00176	—	218.184
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.9.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.53382	0.47199	0.35437	8.51998	0.00000	0.00000	1,863.33	1,863.33	0.00000	186.052	186.052	—	1,834.80	1,834.80	0.01508	0.00905	3.19145	1,841.07
Vendor	0.05230	0.03600	1.03527	0.43059	0.00913	0.01827	305.121	305.139	0.01827	30.4879	30.5062	—	1,033.60	1,033.60	0.01361	0.14419	0.91700	1,077.83
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44636	0.38151	0.41017	4.77572	0.00000	0.00000	1,863.33	1,863.33	0.00000	186.052	186.052	—	1,555.00	1,555.00	0.01810	0.06484	0.08298	1,574.86
Vendor	0.04782	0.03242	1.12787	0.44939	0.00913	0.01827	305.121	305.139	0.01827	30.4879	30.5062	—	1,034.81	1,034.81	0.01451	0.14419	0.02377	1,078.17
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25945	0.22392	0.22310	3.33735	0.00000	0.00000	1,007.58	1,007.58	0.00000	100.607	100.607	—	914.949	914.949	0.00992	0.03553	0.75633	926.542
Vendor	0.02719	0.01875	0.60869	0.23986	0.00501	0.01001	164.992	165.002	0.01001	16.4864	16.4964	—	566.636	566.636	0.00795	0.07901	0.21688	590.595
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04735	0.04087	0.04071	0.60907	0.00000	0.00000	183.884	183.884	0.00000	18.3607	18.3607	—	151.480	151.480	0.00164	0.00588	0.12522	153.400
Vendor	0.00496	0.00342	0.11109	0.04378	0.00091	0.00183	30.1111	30.1129	0.00183	3.00877	3.01059	—	93.8130	93.8130	0.00132	0.01308	0.03591	97.7797
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.10. Paving (2033)

3.10.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69877	0.58716	5.91413	9.83565	0.01395	0.18283	—	0.18283	0.16820	—	0.16820	—	1,510.63	1,510.63	0.06128	0.01226	—	1,515.81
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11350	0.09537	0.96061	1.59757	0.00227	0.02970	—	0.02970	0.02732	—	0.02732	—	245.366	245.366	0.00995	0.00199	—	246.208

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02071	0.01741	0.17531	0.29156	0.00041	0.00542	—	0.00542	0.00499	—	0.00499	—	40.6232	40.6232	0.00165	0.00033	—	40.7626
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.10.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04894	0.04183	0.04497	0.52365	0.00000	0.00000	204.313	204.313	0.00000	20.4004	20.4004	—	170.504	170.504	0.00198	0.00711	0.00910	172.681
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00843	0.00728	0.00725	0.10847	0.00000	0.00000	32.7496	32.7496	0.00000	3.27003	3.27003	—	29.7387	29.7387	0.00032	0.00115	0.02458	30.1155

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00154	0.00133	0.00132	0.01980	0.00000	0.00000	5.97680	5.97680	0.00000	0.59678	0.59678	—	4.92359	4.92359	0.00005	0.00019	0.00407	4.98597
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.11. Paving (2034)

3.11.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68465	0.57529	5.85515	9.82294	0.01395	0.17702	—	0.17702	0.16286	—	0.16286	—	1,510.64	1,510.64	0.06128	0.01226	—	1,515.83
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	0.09245	0.07768	0.79062	1.32639	0.00188	0.02390	—	0.02390	0.02199	—	0.02199	—	203.981	203.981	0.00827	0.00165	—	204.681
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01687	0.01418	0.14429	0.24207	0.00034	0.00436	—	0.00436	0.00401	—	0.00401	—	33.7714	33.7714	0.00137	0.00027	—	33.8873
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.11.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04663	0.03952	0.03853	0.48612	0.00000	0.00000	204.313	204.313	0.00000	20.4004	20.4004	—	168.266	168.266	0.00198	0.00711	0.00798	170.443
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00661	0.00565	0.00511	0.08359	0.00000	0.00000	27.2255	27.2255	0.00000	2.71846	2.71846	—	24.3951	24.3951	0.00022	0.00096	0.01796	24.7047
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00121	0.00103	0.00093	0.01526	0.00000	0.00000	4.96866	4.96866	0.00000	0.49612	0.49612	—	4.03889	4.03889	0.00004	0.00016	0.00297	4.09015
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.12. Architectural Coating (2032)

3.12.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11264	0.09309	0.77005	1.10069	0.00173	0.00813	—	0.00813	0.00748	—	0.00748	—	133.504	133.504	0.00542	0.00108	—	133.962
Architectural Coatings	29.9223	29.9223	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11264	0.09309	0.77005	1.10069	0.00173	0.00813	—	0.00813	0.00748	—	0.00748	—	133.504	133.504	0.00542	0.00108	—	133.962
Architectural Coatings	29.9223	29.9223	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03350	0.02769	0.22905	0.32741	0.00051	0.00242	—	0.00242	0.00222	—	0.00222	—	39.7115	39.7115	0.00161	0.00032	—	39.8477
Architectural Coatings	8.90057	8.90057	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00611	0.00505	0.04180	0.05975	0.00009	0.00044	—	0.00044	0.00041	—	0.00041	—	6.57469	6.57469	0.00027	0.00005	—	6.59725
Architectural Coatings	1.62435	1.62435	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.12.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11219	0.11099	0.08264	1.82644	0.00000	0.00000	372.666	372.666	0.00000	37.2103	37.2103	—	372.146	372.146	0.00362	0.01297	0.72127	376.822
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09289	0.07992	0.09380	1.02360	0.00000	0.00000	372.666	372.666	0.00000	37.2103	37.2103	—	315.296	315.296	0.00422	0.01297	0.01867	319.285
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02907	0.02521	0.02772	0.38549	0.00000	0.00000	109.395	109.395	0.00000	10.9230	10.9230	—	100.727	100.727	0.00108	0.00386	0.09256	101.996
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00530	0.00460	0.00506	0.07035	0.00000	0.00000	19.9645	19.9645	0.00000	1.99345	1.99345	—	16.6765	16.6765	0.00018	0.00064	0.01532	16.8866
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.13. Architectural Coating (2033)

3.13.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11071	0.09150	0.76425	1.09943	0.00173	0.00705	—	0.00705	0.00649	—	0.00649	—	133.516	133.516	0.00542	0.00108	—	133.975
Architectural Coatings	29.9223	29.9223	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11071	0.09150	0.76425	1.09943	0.00173	0.00705	—	0.00705	0.00649	—	0.00649	—	133.516	133.516	0.00542	0.00108	—	133.975
Architectural Coatings	29.9223	29.9223	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	0.06066	0.05014	0.41877	0.60243	0.00095	0.00386	—	0.00386	0.00356	—	0.00356	—	73.1597	73.1597	0.00297	0.00059	—	73.4108
Architectural Coatings	16.3958	16.3958	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01107	0.00915	0.07643	0.10994	0.00017	0.00071	—	0.00071	0.00065	—	0.00065	—	12.1124	12.1124	0.00049	0.00010	—	12.1540
Architectural Coatings	2.99223	2.99223	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.13.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10676	0.09440	0.07087	1.70400	0.00000	0.00000	372.666	372.666	0.00000	37.2103	37.2103	—	366.960	366.960	0.00302	0.00181	0.63829	368.213
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08927	0.07630	0.08203	0.95514	0.00000	0.00000	372.666	372.666	0.00000	37.2103	37.2103	—	310.999	310.999	0.00362	0.01297	0.01660	314.971
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05189	0.04478	0.04462	0.66747	0.00000	0.00000	201.516	201.516	0.00000	20.1213	20.1213	—	182.990	182.990	0.00198	0.00711	0.15127	185.308
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00947	0.00817	0.00814	0.12181	0.00000	0.00000	36.7767	36.7767	0.00000	3.67214	3.67214	—	30.2961	30.2961	0.00033	0.00118	0.02504	30.6799
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	11.9604	11.2313	9.08851	103.743	0.26830	0.15310	24.9446	25.0978	0.14402	6.31728	6.46131	—	27,312.2	27,312.2	0.70844	1.08836	38.3062	27,692.5
Total	11.9604	11.2313	9.08851	103.743	0.26830	0.15310	24.9446	25.0978	0.14402	6.31728	6.46131	—	27,312.2	27,312.2	0.70844	1.08836	38.3062	27,692.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	9.95171	9.22844	10.1377	70.7063	0.23605	0.15322	24.9446	25.0979	0.14413	6.31728	6.46142	—	24,051.0	24,051.0	0.75302	1.13138	0.99328	24,408.0
Total	9.95171	9.22844	10.1377	70.7063	0.23605	0.15322	24.9446	25.0979	0.14413	6.31728	6.46142	—	24,051.0	24,051.0	0.75302	1.13138	0.99328	24,408.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.87534	1.74722	1.74264	14.4618	0.04446	0.02732	4.43533	4.46264	0.02570	1.12330	1.14900	—	4,107.88	4,107.88	0.11590	0.17958	2.67629	4,166.97
Total	1.87534	1.74722	1.74264	14.4618	0.04446	0.02732	4.43533	4.46264	0.02570	1.12330	1.14900	—	4,107.88	4,107.88	0.11590	0.17958	2.67629	4,166.97

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	2,396.82	2,396.82	0.32086	0.03889	—	2,416.43
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,396.82	2,396.82	0.32086	0.03889	—	2,416.43
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	2,396.82	2,396.82	0.32086	0.03889	—	2,416.43
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,396.82	2,396.82	0.32086	0.03889	—	2,416.43
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	396.821	396.821	0.05312	0.00644	—	400.068
Total	—	—	—	—	—	—	—	—	—	—	—	—	396.821	396.821	0.05312	0.00644	—	400.068

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Single Family Housing	0.39930	0.19965	3.41219	1.45199	0.02178	0.27588	—	0.27588	0.27588	—	0.27588	—	4,331.18	4,331.18	0.38331	0.00816	—	4,343.19
Total	0.39930	0.19965	3.41219	1.45199	0.02178	0.27588	—	0.27588	0.27588	—	0.27588	—	4,331.18	4,331.18	0.38331	0.00816	—	4,343.19
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.39930	0.19965	3.41219	1.45199	0.02178	0.27588	—	0.27588	0.27588	—	0.27588	—	4,331.18	4,331.18	0.38331	0.00816	—	4,343.19
Total	0.39930	0.19965	3.41219	1.45199	0.02178	0.27588	—	0.27588	0.27588	—	0.27588	—	4,331.18	4,331.18	0.38331	0.00816	—	4,343.19
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.07287	0.03644	0.62272	0.26499	0.00397	0.05035	—	0.05035	0.05035	—	0.05035	—	717.076	717.076	0.06346	0.00135	—	719.065
Total	0.07287	0.03644	0.62272	0.26499	0.00397	0.05035	—	0.05035	0.05035	—	0.05035	—	717.076	717.076	0.06346	0.00135	—	719.065

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.37740	0.18870	3.22506	1.37237	0.02059	0.26075	—	0.26075	0.26075	—	0.26075	0.00000	4,093.66	4,093.66	0.07708	0.00771	—	4,097.88

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Consumer Products	15.8574	15.8574	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.54135	2.54135	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.96756	1.86271	0.19917	21.6640	0.00094	0.00965	—	0.00965	0.00730	—	0.00730	—	57.6412	57.6412	0.00241	0.00048	—	57.8439
Total	20.7437	20.4502	3.42424	23.0364	0.02152	0.27040	—	0.27040	0.26805	—	0.26805	0.00000	4,151.30	4,151.30	0.07949	0.00819	—	4,155.72
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.37740	0.18870	3.22506	1.37237	0.02059	0.26075	—	0.26075	0.26075	—	0.26075	0.00000	4,093.66	4,093.66	0.07708	0.00771	—	4,097.88
Consumer Products	15.8574	15.8574	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.54135	2.54135	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	18.7761	18.5874	3.22506	1.37237	0.02059	0.26075	—	0.26075	0.26075	—	0.26075	0.00000	4,093.66	4,093.66	0.07708	0.00771	—	4,097.88
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00081	0.00041	0.00693	0.00295	0.00004	0.00056	—	0.00056	0.00056	—	0.00056	0.00000	7.98447	7.98447	0.00015	0.00002	—	7.99271
Consumer Products	2.89398	2.89398	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.46380	0.46380	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Landscape Equipment	0.17708	0.16764	0.01793	1.94976	0.00008	0.00087	—	0.00087	0.00066	—	0.00066	—	4.70621	4.70621	0.00020	0.00004	—	4.72277
Total	3.53566	3.52582	0.02486	1.95271	0.00013	0.00143	—	0.00143	0.00122	—	0.00122	0.00000	12.6907	12.6907	0.00035	0.00005	—	12.7155

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	32.6433	296.541	329.184	3.38690	0.08434	—	438.990
Total	—	—	—	—	—	—	—	—	—	—	—	32.6433	296.541	329.184	3.38690	0.08434	—	438.990
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	32.6433	296.541	329.184	3.38690	0.08434	—	438.990
Total	—	—	—	—	—	—	—	—	—	—	—	32.6433	296.541	329.184	3.38690	0.08434	—	438.990
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	5.40448	49.0957	54.5002	0.56074	0.01396	—	72.6798
Total	—	—	—	—	—	—	—	—	—	—	—	5.40448	49.0957	54.5002	0.56074	0.01396	—	72.6798

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	234.496	0.00000	234.496	23.4370	0.00000	—	820.422
Total	—	—	—	—	—	—	—	—	—	—	—	234.496	0.00000	234.496	23.4370	0.00000	—	820.422
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	234.496	0.00000	234.496	23.4370	0.00000	—	820.422
Total	—	—	—	—	—	—	—	—	—	—	—	234.496	0.00000	234.496	23.4370	0.00000	—	820.422
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	38.8235	0.00000	38.8235	3.88027	0.00000	—	135.830
Total	—	—	—	—	—	—	—	—	—	—	—	38.8235	0.00000	38.8235	3.88027	0.00000	—	135.830

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.30704	5.30704
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.30704	5.30704
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.30704	5.30704
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.30704	5.30704
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.87864	0.87864
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.87864	0.87864

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/4/2027	3/26/2027	5.00000	60.0000	—
Grading	Grading	3/29/2027	10/29/2027	5.00000	155.000	—
Building Construction	Building Construction	11/1/2027	10/7/2033	5.00000	1,550.00	—
Paving	Paving	10/10/2033	3/10/2034	5.00000	110.000	—
Architectural Coating	Architectural Coating	8/2/2032	10/7/2033	5.00000	310.000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00000	8.00000	367.000	0.40000
Site Preparation	Tractors/Loaders/ Backhoes	Diesel	Average	4.00000	8.00000	84.0000	0.37000
Grading	Excavators	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Grading	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Grading	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Grading	Scrapers	Diesel	Average	2.00000	8.00000	423.000	0.48000
Grading	Tractors/Loaders/ Backhoes	Diesel	Average	2.00000	8.00000	84.0000	0.37000
Building Construction	Cranes	Diesel	Average	1.000000	7.00000	367.000	0.29000

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Forklifts	Diesel	Average	3.00000	8.00000	82.0000	0.20000
Building Construction	Generator Sets	Diesel	Average	1.000000	8.00000	14.0000	0.74000
Building Construction	Tractors/Loaders/ Backhoes	Diesel	Average	3.00000	7.00000	84.0000	0.37000
Building Construction	Welders	Diesel	Average	1.000000	8.00000	46.0000	0.45000
Paving	Pavers	Diesel	Average	2.00000	8.00000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Average	2.00000	8.00000	89.0000	0.36000
Paving	Rollers	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Architectural Coating	Air Compressors	Diesel	Average	1.000000	6.00000	37.0000	0.48000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	Worker	17.5000	18.5000	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	20.0000	18.5000	LDA,LDT1,LDT2
Grading	Vendor	—	10.2000	HHDT,MHDT
Grading	Hauling	0.00000	20.0000	HHDT
Grading	Onsite truck	—	—	HHDT

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction	Worker	136.800	18.5000	LDA,LDT1,LDT2
Building Construction	Vendor	40.6220	10.2000	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	15.0000	18.5000	LDA,LDT1,LDT2
Paving	Vendor	—	10.2000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	27.3600	18.5000	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	1,500,525	500,175	0.00000	0.00000	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	90.0000	0.00000	0.00000
Grading	—	—	465.000	0.00000	0.00000
Paving	0.00000	0.00000	0.00000	0.00000	4.18733

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	Single Family Housing	4.18733	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00000	456.543	0.03300	0.00400
2028	0.00000	456.543	0.03300	0.00400
2029	0.00000	456.543	0.03300	0.00400
2030	0.00000	456.543	0.03300	0.00400

Year	kWh per Year	CO2	CH4	N2O
2031	0.00000	456.543	0.03300	0.00400
2032	0.00000	456.543	0.03300	0.00400
2033	0.00000	456.543	0.03300	0.00400
2034	0.00000	456.543	0.03300	0.00400

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	3,454.20	3,492.20	3,127.40	1,245,724	35,019.6	35,404.9	31,706.4	12,629,494

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Single Family Housing	Wood Fireplaces	0	0
Single Family Housing	Gas Fireplaces	209	209
Single Family Housing	Propane Fireplaces	0	0
Single Family Housing	Electric Fireplaces	0	0
Single Family Housing	No Fireplaces	171	171
Single Family Housing	Conventional Wood Stoves	0	0

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Single Family Housing	Catalytic Wood Stoves	0	0
Single Family Housing	Non-Catalytic Wood Stoves	0	0
Single Family Housing	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
1,500,525	500,175	0.00000	0.00000	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	180.000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	3,548,913	246.509	0.0330	0.0040	13,514,439

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	17,035,134	111,355,624

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	435.107	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	28.9900	annual days of extreme heat
Extreme Precipitation	0.00000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	65.7250
AQ-PM	48.6994
AQ-DPM	30.1431
Drinking Water	57.2374
Lead Risk Housing	30.7246
Pesticides	89.4828
Toxic Releases	46.0490
Traffic	8.75000
Effect Indicators	—
CleanUp Sites	50.3173

Indicator	Result for Project Census Tract
Groundwater	74.8298
Haz Waste Facilities/Generators	86.6049
Impaired Water Bodies	99.5170
Solid Waste	95.0057
Sensitive Population	—
Asthma	68.4696
Cardio-vascular	89.3819
Low Birth Weights	20.3490
Socioeconomic Factor Indicators	—
Education	73.4244
Housing	39.6958
Linguistic	85.2483
Poverty	72.0854
Unemployment	65.6299

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	24.4193507
Employed	22.93083537

Indicator	Result for Project Census Tract
Median HI	21.92993712
Education	—
Bachelor's or higher	23.23880405
High school enrollment	14.0639035
Preschool enrollment	58.10342615
Transportation	—
Auto Access	48.80020531
Active commuting	25.67688952
Social	—
2-parent households	77.12049275
Voting	20.99319902
Neighborhood	—
Alcohol availability	67.0986783
Park access	38.22661363
Retail density	7.955857821
Supermarket access	24.95829591
Tree canopy	1.424355191
Housing	—
Homeownership	51.98254844
Housing habitability	38.4832542
Low-inc homeowner severe housing cost burden	37.62350828

Indicator	Result for Project Census Tract
Low-inc renter severe housing cost burden	23.55960477
Uncrowded housing	28.33311947
Health Outcomes	—
Insured adults	30.39907609
Arthritis	0.0
Asthma ER Admissions	42.3
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	90.7
Cognitively Disabled	19.2
Physically Disabled	15.4
Heart Attack ER Admissions	7.5
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	39.5
Physical Health Not Good	0.0

Indicator	Result for Project Census Tract
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	33.8
Elderly	39.7
English Speaking	4.1
Foreign-born	93.6
Outdoor Workers	18.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	72.6
Traffic Density	16.8
Traffic Access	23.0
Other Indices	—
Hardship	80.6
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	84.0000
Healthy Places Index Score for Project Location (b)	26.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	El Centro Corridor

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	380 units 76.05 acres
Construction: Construction Phases	No demolition Architectural coatings simultaneous with last 20% of building construction All other defaults modeled
Operations: Vehicle Data	3,454 weekday trips Weekend trip rates adjusted proportionately
Operations: Road Dust	All roads paved

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	123.377	76.0500

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Site Preparation	Site Preparation	Start Date	5/25/2027	1/4/2027
Site Preparation	Site Preparation	End Date	8/17/2027	3/26/2027
Grading	Grading	Start Date	8/18/2027	3/29/2027
Grading	Grading	End Date	3/22/2028	10/29/2027
Building Construction	Building Construction	Start Date	3/23/2028	11/1/2027
Building Construction	Building Construction	End Date	3/2/2034	10/7/2033

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Paving	Paving	Start Date	3/3/2034	10/10/2033
Paving	Paving	End Date	8/4/2034	3/10/2034
Architectural Coating	Architectural Coating	Start Date	8/5/2034	8/2/2032
Architectural Coating	Architectural Coating	End Date	1/6/2035	10/7/2033
Architectural Coating	Architectural Coating	Work Days per Phase	110.000	310.000

8.5. Operations

8.5.1. Mobile Sources

8.5.1.1. Vehicle Data

Land Use	Model Parameter	Units	Default Value	New Value
Single Family Housing	Weekday Trip Rate	size/day	9.44000	9.09000
Single Family Housing	Saturday Trip Rate	size/day	9.54000	9.19000
Single Family Housing	Sunday Trip Rate	size/day	8.55000	8.23000

8.5.1.4. Road Dust

Model Parameter	Units	Default Value	New Value
% Paved	%	50.0000	100.0000

ATTACHMENT 5

CalEEMod Output – Bowker Site

Calexico HEU - Bowker Site Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Calexico HEU - Bowker Site
Construction Start Date	1/4/2027
Operational Year	2030
Lead Agency	City of Calexico
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40000
Precipitation (days)	4.80000
Location	32.688516049985026, -115.46064025309668
County	Imperial
City	Calexico
Air District	Imperial County APCD
Air Basin	Salton Sea
TAZ	5699
EDFZ	19
Electric Utility	Imperial Irrigation District
Gas Utility	Southern California Gas

Data Field	Value
App Version	2022.1.1.45

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Industrial Park	967.032	1000sqft	37.0000	967,032	322,344	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	94.9608	94.4565	25.6853	56.7766	0.06253	1.04307	7,829.09	7,829.45	0.95962	781.811	782.148	—	14,044.0	14,044.0	0.43325	0.89615	29.0141	14,347.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	94.4816	93.9665	28.0787	38.8968	0.06254	1.17173	7,829.09	7,829.45	1.07799	781.811	782.148	—	12,976.5	12,976.5	0.41253	0.89740	0.75154	13,248.2

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	23.4086	23.0773	14.7962	29.5194	0.04285	0.48224	4,990.91	4,991.16	0.44606	498.402	498.636	—	9,006.10	9,006.10	0.28015	0.61330	7.98093	9,200.15
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.27206	4.21161	2.70031	5.38730	0.00782	0.08801	910.842	910.888	0.08141	90.9583	91.0011	—	1,491.06	1,491.06	0.04638	0.10154	1.32133	1,523.19
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0000	100.0000	550.000	—	—	—	150.000	—	—	—	—	—	—	—	—	—	—
Unmit.	—	Yes	No	No	—	—	—	Yes	—	—	—	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0000	100.0000	550.000	—	—	—	150.000	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	No	—	—	—	Yes	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	4.05581	3.59882	25.6853	54.9594	0.06253	1.04307	6,722.66	6,723.06	0.95962	671.336	671.716	—	13,221.1	13,221.1	0.39462	0.89391	29.0141	13,526.3
2028	3.85083	3.23918	15.7410	51.9010	0.05904	0.37152	6,722.66	6,723.03	0.34750	671.336	671.683	—	12,986.4	12,986.4	0.38568	0.85478	25.7795	13,276.6
2029	94.9608	94.4565	16.1558	56.7766	0.06076	0.35977	7,829.09	7,829.45	0.33669	781.811	782.148	—	14,044.0	14,044.0	0.43325	0.89615	25.7915	14,347.7
2030	0.84244	0.71290	6.33873	11.0587	0.01395	0.22035	204.313	204.533	0.20272	20.4004	20.6031	—	1,721.29	1,721.29	0.06326	0.01937	0.49691	1,729.14
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.71492	3.12616	28.0787	37.4744	0.06253	1.17173	6,722.66	6,723.06	1.07799	671.336	671.716	—	12,293.4	12,293.4	0.41253	0.89740	0.75154	12,571.9
2028	3.22743	2.77248	16.5300	35.7375	0.06254	0.37152	6,722.66	6,723.03	0.34750	671.336	671.683	—	12,078.2	12,078.2	0.23445	0.85827	0.66965	12,340.5
2029	94.4816	93.9665	16.7802	38.8968	0.06076	0.35977	7,829.09	7,829.45	0.33669	781.811	782.148	—	12,976.5	12,976.5	0.24521	0.88890	0.66801	13,248.2
2030	94.1517	93.8518	16.1616	37.0977	0.06076	0.34237	7,829.09	7,829.43	0.32068	781.811	782.132	—	12,742.7	12,742.7	0.24521	0.84976	0.58656	13,002.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.60895	2.24890	14.7962	26.5912	0.04285	0.48224	2,867.79	2,868.27	0.44606	286.867	287.313	—	7,198.04	7,198.04	0.24194	0.38950	5.38192	7,325.54
2028	2.41142	2.09198	11.6399	29.5194	0.04229	0.26610	4,751.76	4,752.02	0.24890	474.522	474.771	—	8,917.04	8,917.04	0.28015	0.60832	7.98093	9,113.31
2029	23.4086	23.0773	11.3335	29.3553	0.04257	0.25077	4,990.91	4,991.16	0.23478	498.402	498.636	—	9,006.10	9,006.10	0.15880	0.61330	7.32060	9,200.15
2030	16.3934	16.2886	3.72041	8.98619	0.01257	0.09216	1,360.92	1,361.01	0.08577	135.902	135.987	—	2,524.65	2,524.65	0.04996	0.14926	1.71613	2,572.09
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.47613	0.41042	2.70031	4.85289	0.00782	0.08801	523.371	523.459	0.08141	52.3533	52.4347	—	1,191.72	1,191.72	0.04006	0.06449	0.89104	1,212.83
2028	0.44008	0.38179	2.12429	5.38730	0.00772	0.04856	867.196	867.245	0.04542	86.6003	86.6457	—	1,476.32	1,476.32	0.04638	0.10071	1.32133	1,508.81
2029	4.27206	4.21161	2.06836	5.35734	0.00777	0.04577	910.842	910.888	0.04285	90.9583	91.0011	—	1,491.06	1,491.06	0.02629	0.10154	1.21201	1,523.19

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
2030	2.99179	2.97267	0.67898	1.63998	0.00229	0.01682	248.367	248.384	0.01565	24.8020	24.8177	—	417.985	417.985	0.00827	0.02471	0.28413	425.839

2.2.2. Onsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.50534	2.94546	25.5801	27.2816	0.06093	1.04307	6.07097	7.11404	0.95962	1.69292	2.65254	—	6,598.08	6,598.08	0.26765	0.05353	0.00000	6,620.72
2028	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	0.00000	0.30024	0.27622	0.00000	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	0.00000	2,405.68
2029	92.1586	91.9489	9.37581	14.0134	0.02512	0.28848	0.00000	0.28848	0.26540	0.00000	0.26540	—	2,530.34	2,530.34	0.10264	0.02053	0.00000	2,539.03
2030	0.76655	0.64411	6.28020	9.89564	0.01395	0.22035	0.00000	0.22035	0.20272	0.00000	0.20272	—	1,510.63	1,510.63	0.06128	0.01226	0.00000	1,515.81
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.63178	3.05170	27.9724	28.2794	0.06093	1.17173	7.66623	8.83797	1.07799	3.93995	5.01795	—	6,598.08	6,598.08	0.26765	0.05353	0.00000	6,620.72
2028	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	0.00000	0.30024	0.27622	0.00000	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	0.00000	2,405.68
2029	92.1586	91.9489	9.37581	14.0134	0.02512	0.28848	0.00000	0.28848	0.26540	0.00000	0.26540	—	2,530.34	2,530.34	0.10264	0.02053	0.00000	2,539.03
2030	92.1242	91.9201	9.17669	13.9919	0.02512	0.27109	0.00000	0.27109	0.24940	0.00000	0.24940	—	2,530.35	2,530.35	0.10264	0.02053	0.00000	2,539.03
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.53661	1.28937	11.5065	13.3737	0.02638	0.45225	1.87756	2.32981	0.41607	0.67169	1.08776	—	2,799.76	2,799.76	0.11357	0.02271	0.00000	2,809.37
2028	0.84861	0.71011	6.39243	9.26478	0.01676	0.21504	0.00000	0.21504	0.19784	0.00000	0.19784	—	1,717.16	1,717.16	0.06966	0.01393	0.00000	1,723.05
2029	21.8387	21.6993	6.31314	9.47199	0.01711	0.19985	0.00000	0.19985	0.18386	0.00000	0.18386	—	1,742.85	1,742.85	0.07070	0.01414	0.00000	1,748.83

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
2030	15.9803	15.9267	2.52666	3.90070	0.00643	0.07989	0.00000	0.07989	0.07350	0.00000	0.07350	—	663.383	663.383	0.02691	0.00538	0.00000	665.659
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.28043	0.23531	2.09993	2.44070	0.00481	0.08254	0.34265	0.42519	0.07593	0.12258	0.19852	—	463.533	463.533	0.01880	0.00376	0.00000	465.123
2028	0.15487	0.12959	1.16662	1.69082	0.00306	0.03925	0.00000	0.03925	0.03611	0.00000	0.03611	—	284.296	284.296	0.01153	0.00231	0.00000	285.271
2029	3.98557	3.96013	1.15215	1.72864	0.00312	0.03647	0.00000	0.03647	0.03356	0.00000	0.03356	—	288.549	288.549	0.01170	0.00234	0.00000	289.540
2030	2.91641	2.90663	0.46112	0.71188	0.00117	0.01458	0.00000	0.01458	0.01341	0.00000	0.01341	—	109.831	109.831	0.00446	0.00089	0.00000	110.207

2.2.3. Offsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.82505	2.56894	7.19873	42.0214	0.03914	0.07128	6,722.66	6,722.73	0.07128	671.336	671.407	—	10,824.0	10,824.0	0.29739	0.87446	29.0141	11,121.0
2028	2.66602	2.24775	6.81600	38.9657	0.03564	0.07128	6,722.66	6,722.73	0.07128	671.336	671.407	—	10,589.0	10,589.0	0.28843	0.83533	25.7795	10,870.9
2029	2.80221	2.50760	6.77997	42.7632	0.03564	0.07128	7,829.09	7,829.16	0.07128	781.811	781.883	—	11,513.7	11,513.7	0.33060	0.87562	25.7915	11,808.7
2030	0.07589	0.06878	0.05853	1.16305	0.00000	0.00000	204.313	204.313	0.00000	20.4004	20.4004	—	210.662	210.662	0.00198	0.00711	0.49691	213.327
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.13019	1.90426	8.02692	24.5365	0.03914	0.07128	6,722.66	6,722.73	0.07128	671.336	671.407	—	9,896.34	9,896.34	0.31529	0.87796	0.75154	10,166.6
2028	2.04261	1.78104	7.60505	22.8023	0.03914	0.07128	6,722.66	6,722.73	0.07128	671.336	671.407	—	9,680.74	9,680.74	0.13719	0.83882	0.66965	9,934.81
2029	2.32297	2.01761	7.40435	24.8834	0.03564	0.07128	7,829.09	7,829.16	0.07128	781.811	781.883	—	10,446.2	10,446.2	0.14257	0.86837	0.66801	10,709.2
2030	2.02748	1.93165	6.98491	23.1058	0.03564	0.07128	7,829.09	7,829.16	0.07128	781.811	781.883	—	10,212.4	10,212.4	0.14257	0.82923	0.58656	10,463.6

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.07233	0.95953	3.28977	13.2175	0.01647	0.02999	2,865.91	2,865.94	0.02999	286.196	286.226	—	4,398.27	4,398.27	0.12836	0.36679	5.38192	4,516.17
2028	1.56280	1.38187	5.24751	20.2547	0.02553	0.05106	4,751.76	4,751.81	0.05106	474.522	474.573	—	7,199.88	7,199.88	0.21050	0.59439	7.98093	7,390.25
2029	1.56983	1.37800	5.02034	19.8833	0.02546	0.05092	4,990.91	4,990.96	0.05092	498.402	498.452	—	7,263.25	7,263.25	0.08810	0.59916	7.32060	7,451.32
2030	0.41304	0.36183	1.19375	5.08550	0.00614	0.01228	1,360.92	1,360.93	0.01228	135.902	135.914	—	1,861.27	1,861.27	0.02305	0.14387	1.71613	1,906.43
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.19570	0.17511	0.60038	2.41219	0.00301	0.00547	523.028	523.034	0.00547	52.2307	52.2362	—	728.185	728.185	0.02125	0.06073	0.89104	747.703
2028	0.28521	0.25219	0.95767	3.69648	0.00466	0.00932	867.196	867.205	0.00932	86.6003	86.6096	—	1,192.02	1,192.02	0.03485	0.09841	1.32133	1,223.54
2029	0.28649	0.25148	0.91621	3.62870	0.00465	0.00929	910.842	910.851	0.00929	90.9583	90.9676	—	1,202.51	1,202.51	0.01459	0.09920	1.21201	1,233.65
2030	0.07538	0.06603	0.21786	0.92810	0.00112	0.00224	248.367	248.370	0.00224	24.8020	24.8043	—	308.154	308.154	0.00382	0.02382	0.28413	315.632

2.3. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	45.3004	43.8591	12.1258	141.603	0.24397	0.42819	19.6036	20.0318	0.40129	4.96453	5.36582	1,074.77	51,939.8	53,014.6	112.974	2.42984	302.860	56,865.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	35.2346	34.3688	12.7952	70.0278	0.21455	0.35361	19.6036	19.9573	0.34493	4.96453	5.30947	1,074.77	49,044.9	50,119.7	113.025	2.46661	253.049	53,933.4

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	38.2522	37.2004	11.3964	89.9681	0.20070	0.37263	17.1002	17.4728	0.35605	4.33071	4.68676	1,074.77	47,586.2	48,660.9	112.890	2.32415	271.043	52,446.8
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.98102	6.78908	2.07984	16.4192	0.03663	0.06801	3.12078	3.18878	0.06498	0.79035	0.85533	177.941	7,878.43	8,056.37	18.6903	0.38479	44.8743	8,683.17
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137.000	137.000	550.000	150.000	—	—	150.000	—	—	550.000	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137.000	137.000	550.000	150.000	—	—	150.000	—	—	550.000	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.4. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	13.1264	12.4154	8.98840	97.2067	0.22476	0.14194	19.6036	19.7456	0.13326	4.96453	5.09780	—	22,876.7	22,876.7	0.71936	0.96321	51.1373	23,232.9

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Area	31.8678	31.2905	0.35389	42.0587	0.00251	0.07470	—	0.07470	0.05647	—	0.05647	—	172.950	172.950	0.00726	0.00148	—	173.574
Energy	0.30619	0.15309	2.78354	2.33817	0.01670	0.21155	—	0.21155	0.21155	—	0.21155	—	28,160.3	28,160.3	3.61912	0.40931	—	28,372.8
Water	—	—	—	—	—	—	—	—	—	—	—	428.520	729.867	1,158.39	44.0376	1.05584	—	2,573.97
Waste	—	—	—	—	—	—	—	—	—	—	—	646.252	0.00000	646.252	64.5906	0.00000	—	2,261.02
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	251.723	251.723
Total	45.3004	43.8591	12.1258	141.603	0.24397	0.42819	19.6036	20.0318	0.40129	4.96453	5.36582	1,074.77	51,939.8	53,014.6	112.974	2.42984	302.860	56,865.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.5489	9.83613	10.0116	67.6896	0.19785	0.14206	19.6036	19.7457	0.13339	4.96453	5.09792	—	20,154.7	20,154.7	0.77747	1.00147	1.32595	20,473.9
Area	24.3795	24.3795	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.30619	0.15309	2.78354	2.33817	0.01670	0.21155	—	0.21155	0.21155	—	0.21155	—	28,160.3	28,160.3	3.61912	0.40931	—	28,372.8
Water	—	—	—	—	—	—	—	—	—	—	—	428.520	729.867	1,158.39	44.0376	1.05584	—	2,573.97
Waste	—	—	—	—	—	—	—	—	—	—	—	646.252	0.00000	646.252	64.5906	0.00000	—	2,261.02
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	251.723	251.723
Total	35.2346	34.3688	12.7952	70.0278	0.21455	0.35361	19.6036	19.9573	0.34493	4.96453	5.30947	1,074.77	49,044.9	50,119.7	113.025	2.46661	253.049	53,933.4
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	9.87360	9.25964	8.43831	66.8887	0.18276	0.12424	17.1002	17.2244	0.11665	4.33071	4.44736	—	18,610.7	18,610.7	0.63964	0.85827	19.3206	18,901.7
Area	28.0724	27.7877	0.17452	20.7413	0.00124	0.03684	—	0.03684	0.02785	—	0.02785	—	85.2906	85.2906	0.00358	0.00073	—	85.5981
Energy	0.30619	0.15309	2.78354	2.33817	0.01670	0.21155	—	0.21155	0.21155	—	0.21155	—	28,160.3	28,160.3	3.61912	0.40931	—	28,372.8
Water	—	—	—	—	—	—	—	—	—	—	—	428.520	729.867	1,158.39	44.0376	1.05584	—	2,573.97
Waste	—	—	—	—	—	—	—	—	—	—	—	646.252	0.00000	646.252	64.5906	0.00000	—	2,261.02

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	251.723	251.723
Total	38.2522	37.2004	11.3964	89.9681	0.20070	0.37263	17.1002	17.4728	0.35605	4.33071	4.68676	1,074.77	47,586.2	48,660.9	112.890	2.32415	271.043	52,446.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.80193	1.68988	1.53999	12.2072	0.03335	0.02267	3.12078	3.14345	0.02129	0.79035	0.81164	—	3,081.21	3,081.21	0.10590	0.14210	3.19875	3,129.40
Area	5.12321	5.07126	0.03185	3.78528	0.00023	0.00672	—	0.00672	0.00508	—	0.00508	—	14.1208	14.1208	0.00059	0.00012	—	14.1718
Energy	0.05588	0.02794	0.50800	0.42672	0.00305	0.03861	—	0.03861	0.03861	—	0.03861	—	4,662.26	4,662.26	0.59919	0.06777	—	4,697.44
Water	—	—	—	—	—	—	—	—	—	—	—	70.9464	120.838	191.784	7.29092	0.17481	—	426.150
Waste	—	—	—	—	—	—	—	—	—	—	—	106.994	0.00000	106.994	10.6937	0.00000	—	374.337
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	41.6756	41.6756
Total	6.98102	6.78908	2.07984	16.4192	0.03663	0.06801	3.12078	3.18878	0.06498	0.79035	0.85533	177.941	7,878.43	8,056.37	18.6903	0.38479	44.8743	8,683.17

3. Construction Emissions Details

3.1. Site Preparation (2027)

3.1.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.63178	3.05170	27.9724	28.2794	0.04891	1.17173	—	1.17173	1.07799	—	1.07799	—	5,297.82	5,297.82	0.21490	0.04298	—	5,316.00
Dust From Material Movement	—	—	—	—	—	—	7.66623	7.66623	—	3.93995	3.93995	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29850	0.25082	2.29910	2.32433	0.00402	0.09631	—	0.09631	0.08860	—	0.08860	—	435.437	435.437	0.01766	0.00353	—	436.931
Dust From Material Movement	—	—	—	—	—	—	0.63010	0.63010	—	0.32383	0.32383	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05448	0.04578	0.41959	0.42419	0.00073	0.01758	—	0.01758	0.01617	—	0.01617	—	72.0916	72.0916	0.00292	0.00058	—	72.3390

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Dust From Material Movement	—	—	—	—	—	—	0.11499	0.11499	—	0.05910	0.05910	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08314	0.07446	0.10629	0.95931	0.00000	0.00000	238.365	238.365	0.00000	23.8005	23.8005	—	219.640	219.640	0.01100	0.00868	0.02041	222.522
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00790	0.00718	0.00809	0.10003	0.00000	0.00000	19.3341	19.3341	0.00000	1.93050	1.93050	—	19.4045	19.4045	0.00084	0.00068	0.02802	19.6567
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00144	0.00131	0.00148	0.01826	0.00000	0.00000	3.52847	3.52847	0.00000	0.35232	0.35232	—	3.21264	3.21264	0.00014	0.00011	0.00464	3.25440

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2. Grading (2027)

3.2.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.50534	2.94546	25.5801	27.2816	0.06093	1.04307	—	1.04307	0.95962	—	0.95962	—	6,598.08	6,598.08	0.26765	0.05353	—	6,620.72
Dust From Material Movement	—	—	—	—	—	—	6.07097	6.07097	—	1.69292	1.69292	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.50534	2.94546	25.5801	27.2816	0.06093	1.04307	—	1.04307	0.95962	—	0.95962	—	6,598.08	6,598.08	0.26765	0.05353	—	6,620.72

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Dust From Material Movement	—	—	—	—	—	—	6.07097	6.07097	—	1.69292	1.69292	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72028	0.60523	5.25619	5.60582	0.01252	0.21433	—	0.21433	0.19718	—	0.19718	—	1,355.77	1,355.77	0.05500	0.01100	—	1,360.42
Dust From Material Movement	—	—	—	—	—	—	1.24746	1.24746	—	0.34786	0.34786	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13145	0.11045	0.95925	1.02306	0.00228	0.03912	—	0.03912	0.03599	—	0.03599	—	224.463	224.463	0.00911	0.00182	—	225.233
Dust From Material Movement	—	—	—	—	—	—	0.22766	0.22766	—	0.06348	0.06348	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12610	0.11662	0.10516	1.95991	0.00000	0.00000	272.417	272.417	0.00000	27.2005	27.2005	—	296.902	296.902	0.01168	0.00992	0.90168	301.052
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09502	0.08510	0.12147	1.09636	0.00000	0.00000	272.417	272.417	0.00000	27.2005	27.2005	—	251.017	251.017	0.01257	0.00992	0.02333	254.311
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02256	0.02052	0.02310	0.28580	0.00000	0.00000	55.2402	55.2402	0.00000	5.51571	5.51571	—	55.4415	55.4415	0.00240	0.00195	0.08005	56.1621
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00412	0.00375	0.00422	0.05216	0.00000	0.00000	10.0813	10.0813	0.00000	1.00662	1.00662	—	9.17898	9.17898	0.00040	0.00032	0.01325	9.29827
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3. Building Construction (2027)

3.3.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51783	0.43331	3.95118	5.44356	0.00984	0.14161	—	0.14161	0.13028	—	0.13028	—	1,008.56	1,008.56	0.04091	0.00818	—	1,012.02
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09450	0.07908	0.72109	0.99345	0.00180	0.02584	—	0.02584	0.02378	—	0.02378	—	166.978	166.978	0.00677	0.00135	—	167.551

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.56089	2.36837	2.13556	39.8012	0.00000	0.00000	5,532.15	5,532.15	0.00000	552.380	552.380	—	6,029.39	6,029.39	0.23728	0.20147	18.3110	6,113.67
Vendor	0.26417	0.20057	5.06317	2.22025	0.03914	0.07128	1,190.50	1,190.57	0.07128	118.956	119.027	—	4,794.61	4,794.61	0.06010	0.67299	10.7031	5,007.36
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.92962	1.72815	2.46687	22.2645	0.00000	0.00000	5,532.15	5,532.15	0.00000	552.380	552.380	—	5,097.57	5,097.57	0.25519	0.20147	0.47376	5,164.46
Vendor	0.20057	0.17611	5.56005	2.27196	0.03914	0.07128	1,190.50	1,190.57	0.07128	118.956	119.027	—	4,798.76	4,798.76	0.06010	0.67649	0.27777	5,002.14
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.93808	0.85332	0.96069	11.8843	0.00000	0.00000	2,297.02	2,297.02	0.00000	229.356	229.356	—	2,305.39	2,305.39	0.09984	0.08100	3.32887	2,335.35
Vendor	0.10379	0.07851	2.29790	0.94739	0.01647	0.02999	494.313	494.343	0.02999	49.3929	49.4229	—	2,018.04	2,018.04	0.02529	0.28316	1.94498	2,105.00
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17120	0.15573	0.17533	2.16888	0.00000	0.00000	419.206	419.206	0.00000	41.8575	41.8575	—	381.684	381.684	0.01653	0.01341	0.55113	386.644

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Vendor	0.01894	0.01433	0.41937	0.17290	0.00301	0.00547	90.2121	90.2176	0.00547	9.01421	9.01968	—	334.109	334.109	0.00419	0.04688	0.32201	348.506
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4. Building Construction (2028)

3.4.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	—	0.30024	0.27622	—	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	—	2,405.68
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	—	0.30024	0.27622	—	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	—	2,405.68
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	0.84861	0.71011	6.39243	9.26478	0.01676	0.21504	—	0.21504	0.19784	—	0.19784	—	1,717.16	1,717.16	0.06966	0.01393	—	1,723.05
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15487	0.12959	1.16662	1.69082	0.00306	0.03925	—	0.03925	0.03611	—	0.03611	—	284.296	284.296	0.01153	0.00231	—	285.271
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.44448	2.08632	1.95200	36.9090	0.00000	0.00000	5,532.15	5,532.15	0.00000	552.380	552.380	—	5,915.36	5,915.36	0.22833	0.20147	16.6054	5,997.71
Vendor	0.22154	0.16143	4.86400	2.05672	0.03564	0.07128	1,190.50	1,190.57	0.07128	118.956	119.027	—	4,673.61	4,673.61	0.06010	0.63386	9.17409	4,873.18
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.84903	1.64756	2.28331	20.6617	0.00000	0.00000	5,532.15	5,532.15	0.00000	552.380	552.380	—	5,002.83	5,002.83	0.08059	0.20147	0.43113	5,065.31
Vendor	0.19358	0.13348	5.32174	2.14058	0.03914	0.07128	1,190.50	1,190.57	0.07128	118.956	119.027	—	4,677.91	4,677.91	0.05661	0.63735	0.23853	4,869.50
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.41414	1.27626	1.50393	18.7590	0.00000	0.00000	3,910.28	3,910.28	0.00000	390.439	390.439	—	3,851.15	3,851.15	0.16995	0.13789	5.14085	3,901.63
Vendor	0.14866	0.10562	3.74359	1.49563	0.02553	0.05106	841.482	841.533	0.05106	84.0828	84.1339	—	3,348.73	3,348.73	0.04054	0.45650	2.84008	3,488.62
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25808	0.23292	0.27447	3.42352	0.00000	0.00000	713.626	713.626	0.00000	71.2552	71.2552	—	637.602	637.602	0.02814	0.02283	0.85113	645.960
Vendor	0.02713	0.01927	0.68320	0.27295	0.00466	0.00932	153.570	153.580	0.00932	15.3451	15.3544	—	554.420	554.420	0.00671	0.07558	0.47021	577.581
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5. Building Construction (2029)

3.5.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.15336	0.96514	8.58166	12.9012	0.02340	0.27564	—	0.27564	0.25359	—	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	1.15336	0.96514	8.58166	12.9012	0.02340	0.27564	—	0.27564	0.25359	—	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82383	0.68938	6.12975	9.21517	0.01671	0.19689	—	0.19689	0.18114	—	0.18114	—	1,712.02	1,712.02	0.06945	0.01389	—	1,717.90
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15035	0.12581	1.11868	1.68177	0.00305	0.03593	—	0.03593	0.03306	—	0.03306	—	283.445	283.445	0.01150	0.00230	—	284.418
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.15347	1.96096	1.76844	34.0258	0.00000	0.00000	5,532.15	5,532.15	0.00000	552.380	552.380	—	5,806.35	5,806.35	0.22833	0.20147	14.9946	5,887.10
Vendor	0.21804	0.15445	4.65784	1.93232	0.03564	0.07128	1,190.50	1,190.57	0.07128	118.956	119.027	—	4,546.08	4,546.08	0.05661	0.63386	7.79797	4,744.18
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.77740	1.57593	1.93410	19.0589	0.00000	0.00000	5,532.15	5,532.15	0.00000	552.380	552.380	—	4,913.12	4,913.12	0.07163	0.19251	0.38849	4,972.67
Vendor	0.19009	0.12649	5.08344	2.01269	0.03564	0.07128	1,190.50	1,190.57	0.07128	118.956	119.027	—	4,550.44	4,550.44	0.05661	0.63735	0.20183	4,741.98
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.33992	1.20241	1.36871	17.3583	0.00000	0.00000	3,899.59	3,899.59	0.00000	389.373	389.373	—	3,770.94	3,770.94	0.04477	0.13751	4.61920	3,817.66
Vendor	0.14326	0.09784	3.56314	1.40269	0.02546	0.05092	839.183	839.234	0.05092	83.8531	83.9040	—	3,248.49	3,248.49	0.04043	0.45276	2.40274	3,386.82
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24454	0.21944	0.24979	3.16788	0.00000	0.00000	711.676	711.676	0.00000	71.0605	71.0605	—	624.322	624.322	0.00741	0.02277	0.76476	632.057
Vendor	0.02615	0.01786	0.65027	0.25599	0.00465	0.00929	153.151	153.160	0.00929	15.3032	15.3125	—	537.824	537.824	0.00669	0.07496	0.39780	560.727
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6. Building Construction (2030)

3.6.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.12372	0.94034	8.39196	12.8848	0.02340	0.26012	—	0.26012	0.23931	—	0.23931	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19352	0.16194	1.44519	2.21890	0.00403	0.04480	—	0.04480	0.04121	—	0.04121	—	412.762	412.762	0.01674	0.00335	—	414.178
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03532	0.02955	0.26375	0.40495	0.00074	0.00818	—	0.00818	0.00752	—	0.00752	—	68.3374	68.3374	0.00277	0.00055	—	68.5720
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.53116	1.50430	1.75054	17.6486	0.00000	0.00000	5,532.15	5,532.15	0.00000	552.380	552.380	—	4,828.81	4,828.81	0.07163	0.19251	0.34822	4,888.32
Vendor	0.19009	0.12649	4.88426	1.92743	0.03564	0.07128	1,190.50	1,190.57	0.07128	118.956	119.027	—	4,417.81	4,417.81	0.05661	0.59822	0.16870	4,597.66
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30763	0.27448	0.29992	3.86427	0.00000	0.00000	940.176	940.176	0.00000	93.8761	93.8761	—	893.369	893.369	0.01079	0.03315	0.99945	904.518
Vendor	0.03394	0.02359	0.82416	0.32350	0.00614	0.01228	202.323	202.336	0.01228	20.2166	20.2289	—	760.355	760.355	0.00975	0.10302	0.48450	791.783
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05614	0.05009	0.05474	0.70523	0.00000	0.00000	171.582	171.582	0.00000	17.1324	17.1324	—	147.907	147.907	0.00179	0.00549	0.16547	149.753
Vendor	0.00619	0.00430	0.15041	0.05904	0.00112	0.00224	36.9240	36.9263	0.00224	3.68954	3.69178	—	125.885	125.885	0.00161	0.01706	0.08021	131.089
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7. Paving (2030)

3.7.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	0.76655	0.64411	6.28020	9.89564	0.01395	0.22035	—	0.22035	0.20272	—	0.20272	—	1,510.63	1,510.63	0.06128	0.01226	—	1,515.81
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11551	0.09706	0.94633	1.49112	0.00210	0.03320	—	0.03320	0.03055	—	0.03055	—	227.628	227.628	0.00923	0.00185	—	228.410
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02108	0.01771	0.17271	0.27213	0.00038	0.00606	—	0.00606	0.00557	—	0.00557	—	37.6865	37.6865	0.00153	0.00031	—	37.8158
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07589	0.06878	0.05853	1.16305	0.00000	0.00000	204.313	204.313	0.00000	20.4004	20.4004	—	210.662	210.662	0.00198	0.00711	0.49691	213.327
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00994	0.00887	0.00969	0.12488	0.00000	0.00000	30.3821	30.3821	0.00000	3.03364	3.03364	—	28.8696	28.8696	0.00035	0.00107	0.03230	29.2298
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00181	0.00162	0.00177	0.02279	0.00000	0.00000	5.54474	5.54474	0.00000	0.55364	0.55364	—	4.77968	4.77968	0.00006	0.00018	0.00535	4.83933
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8. Architectural Coating (2029)

3.8.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12385	0.10236	0.79416	1.11216	0.00173	0.01284	—	0.01284	0.01181	—	0.01181	—	133.510	133.510	0.00542	0.00108	—	133.968
Architectural Coatings	90.8814	90.8814	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12385	0.10236	0.79416	1.11216	0.00173	0.01284	—	0.01284	0.01181	—	0.01181	—	133.510	133.510	0.00542	0.00108	—	133.968
Architectural Coatings	90.8814	90.8814	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02860	0.02364	0.18339	0.25682	0.00040	0.00297	—	0.00297	0.00273	—	0.00273	—	30.8300	30.8300	0.00125	0.00025	—	30.9358
Architectural Coatings	20.9863	20.9863	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00522	0.00431	0.03347	0.04687	0.00007	0.00054	—	0.00054	0.00050	—	0.00050	—	5.10426	5.10426	0.00021	0.00004	—	5.12178
Architectural Coatings	3.83000	3.83000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.43069	0.39219	0.35369	6.80515	0.00000	0.00000	1,106.43	1,106.43	0.00000	110.476	110.476	—	1,161.27	1,161.27	0.04567	0.04029	2.99893	1,177.42
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.35548	0.31519	0.38682	3.81178	0.00000	0.00000	1,106.43	1,106.43	0.00000	110.476	110.476	—	982.625	982.625	0.01433	0.03850	0.07770	994.535
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08664	0.07775	0.08850	1.12234	0.00000	0.00000	252.138	252.138	0.00000	25.1759	25.1759	—	243.820	243.820	0.00289	0.00889	0.29867	246.840
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01581	0.01419	0.01615	0.20483	0.00000	0.00000	46.0152	46.0152	0.00000	4.59460	4.59460	—	40.3671	40.3671	0.00048	0.00147	0.04945	40.8672
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.9. Architectural Coating (2030)

3.9.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11905	0.09839	0.78473	1.10719	0.00173	0.01097	—	0.01097	0.01009	—	0.01009	—	133.513	133.513	0.00542	0.00108	—	133.971

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Architectural Coatings	90.8814	90.8814	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02050	0.01694	0.13514	0.19067	0.00030	0.00189	—	0.00189	0.00174	—	0.00174	—	22.9924	22.9924	0.00093	0.00019	—	23.0713
Architectural Coatings	15.6508	15.6508	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00374	0.00309	0.02466	0.03480	0.00005	0.00034	—	0.00034	0.00032	—	0.00032	—	3.80666	3.80666	0.00015	0.00003	—	3.81972
Architectural Coatings	2.85627	2.85627	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.9.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30623	0.30086	0.35011	3.52973	0.00000	0.00000	1,106.43	1,106.43	0.00000	110.476	110.476	—	965.762	965.762	0.01433	0.03850	0.06964	977.664
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06153	0.05490	0.05998	0.77285	0.00000	0.00000	188.035	188.035	0.00000	18.7752	18.7752	—	178.674	178.674	0.00216	0.00663	0.19989	180.904
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01123	0.01002	0.01095	0.14105	0.00000	0.00000	34.3164	34.3164	0.00000	3.42648	3.42648	—	29.5815	29.5815	0.00036	0.00110	0.03309	29.9507
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	13.1264	12.4154	8.98840	97.2067	0.22476	0.14194	19.6036	19.7456	0.13326	4.96453	5.09780	—	22,876.7	22,876.7	0.71936	0.96321	51.1373	23,232.9
Total	13.1264	12.4154	8.98840	97.2067	0.22476	0.14194	19.6036	19.7456	0.13326	4.96453	5.09780	—	22,876.7	22,876.7	0.71936	0.96321	51.1373	23,232.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	10.5489	9.83613	10.0116	67.6896	0.19785	0.14206	19.6036	19.7457	0.13339	4.96453	5.09792	—	20,154.7	20,154.7	0.77747	1.00147	1.32595	20,473.9
Total	10.5489	9.83613	10.0116	67.6896	0.19785	0.14206	19.6036	19.7457	0.13339	4.96453	5.09792	—	20,154.7	20,154.7	0.77747	1.00147	1.32595	20,473.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	1.80193	1.68988	1.53999	12.2072	0.03335	0.02267	3.12078	3.14345	0.02129	0.79035	0.81164	—	3,081.21	3,081.21	0.10590	0.14210	3.19875	3,129.40
Total	1.80193	1.68988	1.53999	12.2072	0.03335	0.02267	3.12078	3.14345	0.02129	0.79035	0.81164	—	3,081.21	3,081.21	0.10590	0.14210	3.19875	3,129.40

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	24,839.1	24,839.1	3.32519	0.40305	—	25,042.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	24,839.1	24,839.1	3.32519	0.40305	—	25,042.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	24,839.1	24,839.1	3.32519	0.40305	—	25,042.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	24,839.1	24,839.1	3.32519	0.40305	—	25,042.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	4,112.40	4,112.40	0.55052	0.06673	—	4,146.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	4,112.40	4,112.40	0.55052	0.06673	—	4,146.05

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.30619	0.15309	2.78354	2.33817	0.01670	0.21155	—	0.21155	0.21155	—	0.21155	—	3,321.23	3,321.23	0.29393	0.00625	—	3,330.44
Total	0.30619	0.15309	2.78354	2.33817	0.01670	0.21155	—	0.21155	0.21155	—	0.21155	—	3,321.23	3,321.23	0.29393	0.00625	—	3,330.44

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.30619	0.15309	2.78354	2.33817	0.01670	0.21155	—	0.21155	0.21155	—	0.21155	—	3,321.23	3,321.23	0.29393	0.00625	—	3,330.44
Total	0.30619	0.15309	2.78354	2.33817	0.01670	0.21155	—	0.21155	0.21155	—	0.21155	—	3,321.23	3,321.23	0.29393	0.00625	—	3,330.44
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.05588	0.02794	0.50800	0.42672	0.00305	0.03861	—	0.03861	0.03861	—	0.03861	—	549.867	549.867	0.04866	0.00104	—	551.392
Total	0.05588	0.02794	0.50800	0.42672	0.00305	0.03861	—	0.03861	0.03861	—	0.03861	—	549.867	549.867	0.04866	0.00104	—	551.392

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	20.6945	20.6945	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	3.68505	3.68505	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Landscape Equipment	7.48827	6.91101	0.35389	42.0587	0.00251	0.07470	—	0.07470	0.05647	—	0.05647	—	172.950	172.950	0.00726	0.00148	—	173.574
Total	31.8678	31.2905	0.35389	42.0587	0.00251	0.07470	—	0.07470	0.05647	—	0.05647	—	172.950	172.950	0.00726	0.00148	—	173.574
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	20.6945	20.6945	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	3.68505	3.68505	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	24.3795	24.3795	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	3.77674	3.77674	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.67252	0.67252	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.67394	0.62199	0.03185	3.78528	0.00023	0.00672	—	0.00672	0.00508	—	0.00508	—	14.1208	14.1208	0.00059	0.00012	—	14.1718
Total	5.12321	5.07126	0.03185	3.78528	0.00023	0.00672	—	0.00672	0.00508	—	0.00508	—	14.1208	14.1208	0.00059	0.00012	—	14.1718

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	428.520	729.867	1,158.39	44.0376	1.05584	—	2,573.97
Total	—	—	—	—	—	—	—	—	—	—	—	428.520	729.867	1,158.39	44.0376	1.05584	—	2,573.97
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	428.520	729.867	1,158.39	44.0376	1.05584	—	2,573.97
Total	—	—	—	—	—	—	—	—	—	—	—	428.520	729.867	1,158.39	44.0376	1.05584	—	2,573.97
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	70.9464	120.838	191.784	7.29092	0.17481	—	426.150
Total	—	—	—	—	—	—	—	—	—	—	—	70.9464	120.838	191.784	7.29092	0.17481	—	426.150

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	646.252	0.00000	646.252	64.5906	0.00000	—	2,261.02
Total	—	—	—	—	—	—	—	—	—	—	—	646.252	0.00000	646.252	64.5906	0.00000	—	2,261.02
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	646.252	0.00000	646.252	64.5906	0.00000	—	2,261.02
Total	—	—	—	—	—	—	—	—	—	—	—	646.252	0.00000	646.252	64.5906	0.00000	—	2,261.02
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	106.994	0.00000	106.994	10.6937	0.00000	—	374.337
Total	—	—	—	—	—	—	—	—	—	—	—	106.994	0.00000	106.994	10.6937	0.00000	—	374.337

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	251.723	251.723
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	251.723	251.723
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	251.723	251.723
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	251.723	251.723
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	41.6756	41.6756
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	41.6756	41.6756

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/4/2027	2/12/2027	5.00000	30.0000	—
Grading	Grading	2/15/2027	5/28/2027	5.00000	75.0000	—
Building Construction	Building Construction	5/31/2027	3/29/2030	5.00000	740.000	—
Paving	Paving	4/1/2030	6/14/2030	5.00000	55.0000	—
Architectural Coating	Architectural Coating	9/5/2029	3/29/2030	5.00000	148.000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00000	8.00000	367.000	0.40000
Site Preparation	Tractors/Loaders/ Backhoes	Diesel	Average	4.00000	8.00000	84.0000	0.37000
Grading	Excavators	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Grading	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Grading	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Grading	Scrapers	Diesel	Average	2.00000	8.00000	423.000	0.48000
Grading	Tractors/Loaders/ Backhoes	Diesel	Average	2.00000	8.00000	84.0000	0.37000
Building Construction	Cranes	Diesel	Average	1.000000	7.00000	367.000	0.29000
Building Construction	Forklifts	Diesel	Average	3.00000	8.00000	82.0000	0.20000
Building Construction	Generator Sets	Diesel	Average	1.000000	8.00000	14.0000	0.74000
Building Construction	Tractors/Loaders/ Backhoes	Diesel	Average	3.00000	7.00000	84.0000	0.37000
Building Construction	Welders	Diesel	Average	1.000000	8.00000	46.0000	0.45000
Paving	Pavers	Diesel	Average	2.00000	8.00000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Average	2.00000	8.00000	89.0000	0.36000
Paving	Rollers	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Architectural Coating	Air Compressors	Diesel	Average	1.000000	6.00000	37.0000	0.48000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	Worker	17.5000	18.5000	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	20.0000	18.5000	LDA,LDT1,LDT2
Grading	Vendor	—	10.2000	HHDT,MHDT
Grading	Hauling	0.00000	20.0000	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	406.153	18.5000	LDA,LDT1,LDT2
Building Construction	Vendor	158.497	10.2000	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	15.0000	18.5000	LDA,LDT1,LDT2
Paving	Vendor	—	10.2000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	81.2307	18.5000	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00000	0.00000	1,450,548	483,516	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	45.0000	0.00000	0.00000
Grading	—	—	225.000	0.00000	0.00000
Paving	0.00000	0.00000	0.00000	0.00000	0.00000

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	Industrial Park	0.00000	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00000	456.543	0.03300	0.00400
2028	0.00000	456.543	0.03300	0.00400
2029	0.00000	456.543	0.03300	0.00400
2030	0.00000	456.543	0.03300	0.00400

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Industrial Park	3,326.59	2,514.28	1,228.13	1,062,430	27,831.8	21,035.7	10,275.1	8,888,787

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Industrial Park	Wood Fireplaces	0	0
Industrial Park	Gas Fireplaces	0	0
Industrial Park	Propane Fireplaces	0	0
Industrial Park	Electric Fireplaces	0	0
Industrial Park	No Fireplaces	0	0

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Industrial Park	Conventional Wood Stoves	0	0
Industrial Park	Catalytic Wood Stoves	0	0
Industrial Park	Non-Catalytic Wood Stoves	0	0
Industrial Park	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0.00000	0.00000	1,450,548	483,516	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	180.000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Industrial Park	36,778,608	246.509	0.0330	0.0040	10,363,118

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Industrial Park	223,626,150	6,598,346

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Industrial Park	1,199.12	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Industrial Park	Other commercial A/C and heat pumps	R-410A	2,088.00	0.30000	4.00000	4.00000	18.0000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	28.9900	annual days of extreme heat
Extreme Precipitation	0.00000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction

measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	65.7250
AQ-PM	48.6994
AQ-DPM	30.1431
Drinking Water	57.2374
Lead Risk Housing	30.7246
Pesticides	89.4828
Toxic Releases	46.0490
Traffic	8.75000
Effect Indicators	—
CleanUp Sites	50.3173
Groundwater	74.8298
Haz Waste Facilities/Generators	86.6049

Indicator	Result for Project Census Tract
Impaired Water Bodies	99.5170
Solid Waste	95.0057
Sensitive Population	—
Asthma	68.4696
Cardio-vascular	89.3819
Low Birth Weights	20.3490
Socioeconomic Factor Indicators	—
Education	73.4244
Housing	39.6958
Linguistic	85.2483
Poverty	72.0854
Unemployment	65.6299

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	24.4193507
Employed	22.93083537
Median HI	21.92993712
Education	—

Indicator	Result for Project Census Tract
Bachelor's or higher	23.23880405
High school enrollment	14.0639035
Preschool enrollment	58.10342615
Transportation	—
Auto Access	48.80020531
Active commuting	25.67688952
Social	—
2-parent households	77.12049275
Voting	20.99319902
Neighborhood	—
Alcohol availability	67.0986783
Park access	38.22661363
Retail density	7.955857821
Supermarket access	24.95829591
Tree canopy	1.424355191
Housing	—
Homeownership	51.98254844
Housing habitability	38.4832542
Low-inc homeowner severe housing cost burden	37.62350828
Low-inc renter severe housing cost burden	23.55960477
Uncrowded housing	28.33311947

Indicator	Result for Project Census Tract
Health Outcomes	—
Insured adults	30.39907609
Arthritis	0.0
Asthma ER Admissions	42.3
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	90.7
Cognitively Disabled	19.2
Physically Disabled	15.4
Heart Attack ER Admissions	7.5
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	39.5
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—

Indicator	Result for Project Census Tract
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	33.8
Elderly	39.7
English Speaking	4.1
Foreign-born	93.6
Outdoor Workers	18.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	72.6
Traffic Density	16.8
Traffic Access	23.0
Other Indices	—
Hardship	80.6
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	84.0000
Healthy Places Index Score for Project Location (b)	26.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	El Centro Corridor

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	967,032 square feet (60% lot coverage) 37 acres 20% landscaping modeled

Screen	Justification
Construction: Construction Phases	No demo Architectural coatings simultaneous with last 20% of building construction All other defaults modeled
Operations: Vehicle Data	3,330 weekday trips Weekend trips adjusted proportionately
Operations: Road Dust	All roads paved

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	22.2000	37.0000
Landscape Area	sq. ft	—	322,344

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Site Preparation	Site Preparation	Start Date	3/16/2027	1/4/2027
Site Preparation	Site Preparation	End Date	4/27/2027	2/12/2027
Grading	Grading	Start Date	4/28/2027	2/15/2027
Grading	Grading	End Date	8/11/2027	5/28/2027
Building Construction	Building Construction	Start Date	8/12/2027	5/31/2027
Building Construction	Building Construction	End Date	6/13/2030	3/29/2030
Paving	Paving	Start Date	6/14/2030	4/1/2030

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Paving	Paving	End Date	8/30/2030	6/14/2030
Architectural Coating	Architectural Coating	Start Date	8/31/2030	9/5/2029
Architectural Coating	Architectural Coating	End Date	11/16/2030	3/29/2030
Architectural Coating	Architectural Coating	Work Days per Phase	55.0000	148.000

8.5. Operations

8.5.1. Mobile Sources

8.5.1.1. Vehicle Data

Land Use	Model Parameter	Units	Default Value	New Value
Industrial Park	Weekday Trip Rate	size/day	3.37000	3.44000
Industrial Park	Saturday Trip Rate	size/day	2.54000	2.60000
Industrial Park	Sunday Trip Rate	size/day	1.24000	1.27000

8.5.1.4. Road Dust

Model Parameter	Units	Default Value	New Value
% Paved	%	50.0000	100.0000

ATTACHMENT 6

ICAPCD Rule 801

RULE 801 CONSTRUCTION AND EARTHMOVING ACTIVITIES (Adopted 11/08/2005)

A. Purpose

The purpose of this rule is to reduce the amount of fine Particulate Matter (PM-10) entrained in the ambient air as a result of emissions generated from Construction and other Earthmoving Activities by requiring actions to prevent, reduce, or mitigate PM-10 emissions.

B. Applicability

This rule applies to any Construction and other Earthmoving Activities, including, but not limited to, land clearing, excavation related to construction, land leveling, grading, cut and fill grading, erection or demolition of any structure, cutting and filling, trenching, loading or unloading of bulk materials, demolishing, drilling, adding to or removing bulk of materials from open storage piles, weed abatement through disking, back filling, travel on-site and travel on access roads to and from the site.

C. Definitions

The definitions of terms found in Rule 800 (General Requirements for Control of Fine Particulate Matter (PM-10) shall apply to this rule.

D. Exemptions

In addition to the exemptions listed in Rule 800, Section E, the following exemptions are established for this rule:

D.1 Construction or demolition at existing single family residential dwellings.

D.2 The 20% opacity limit of Sections E.1.a and E.2.b shall not apply when Wind Gusts exceed 25 miles per hour, provided that at least one of the following control measures is implemented for each applicable Fugitive Dust source type:

D.2.a Cease dust generating activities for a period of one hour after Wind Gusts last exceed the threshold. If operations cease for the remainder of the day, stabilization measures must be implemented.

D.2.b Apply water or dust Suppressants once per hour.

D.2.c Apply water to maintain 12% soil moisture content.

D.2.d Construct fences 3-5 feet high with 50% or less porosity, and must

be done in conjunction with another measure, as above.

E. Requirements

E.1 Construction sites and Earthmoving Activities:

E.1.a All Persons who own or operate a Construction site shall comply with the requirements of Section F.1 so as to limit VDE to 20% opacity and comply with the conditions for a Stabilized Surface when applicable.

E.1.b All Persons who perform any Earthmoving Activities shall comply with the requirements of Section F.1 so as to limit VDE to 20% opacity.

E.1.c All Persons who own or operate a Construction site of 10 acres or more in size for residential developments or 5 acres or more for non-residential developments shall develop a dust control plan. The dust control plan shall be made available to the APCD upon request. The dust control plan shall comply with the requirements of Section F.

E.1.d The owner or operator required to develop a dust control plan shall provide written notification to the APCD within 10 days prior to the commencement of any Construction activities via fax or mail. The requirement to develop a dust control plan shall apply to all such activities conducted for residential and non-residential (e.g., commercial, industrial, or institutional) purposes or conducted by any governmental entity. Regardless of whether a dust control plan is in place or not the owner or operator is still subject to comply with all requirements of the applicable rules under Regulation VIII at all times.

F. Best Available Control Measures for Fugitive Dust (PM-10)

F.1 Construction and Earthmoving Activities shall comply with the following requirements:

F.1.a Pre-Activity:

F.1.a.1 Pre-water site sufficient to limit VDE to 20% opacity, and

F.1.a.2 Phase work to minimize the amount of disturbed surface area at any one time.

F.1.b During Active Operations:

F.1.b.1 Apply water or Chemical Stabilization as directed by product manufacturer to limit VDE to 20% opacity, or

F.1.b.2 Construct and maintain wind barriers sufficient to limit VDE to 20% opacity. If utilizing wind barriers, control measure F.1.b.1 above shall be implemented.

F.1.b.3 Apply water or Chemical Stabilization as directed by product manufacturer to unpaved haul/access roads and Unpaved Traffic Areas sufficient to limit VDE to 20% opacity and meet the conditions of a Stabilized Unpaved Road.

F.1.c Temporary Stabilization During Periods of Inactivity:

F.1.c.1 Restrict vehicular access to the area by fencing or signage; and

F.1.c.2 Apply water or Chemical Stabilization, as directed by product manufacturer, sufficient to comply with the conditions of a Stabilized Surface. If an area having 0.5 acres or more of disturbed surface area remains unused for seven or more days, the area must comply with the conditions for a Stabilized Surface area.

F.1.d Track Out/Carry Out of Bulk Materials at the site shall be mitigated in compliance with Rule 803.

F.1.e Unpaved Roads and Unpaved Traffic Areas at the site shall comply with Rule 805.

F.1.f Bulk Material handling operations at the site shall comply with Rule 802.

F.1.g Material transport of Bulk Material to, from, or around the site shall comply with Rule 802.

F.1.h Haul trucks transporting Bulk Material to, from, or around the site shall comply with Rule 802.

F.2 Dust Control Plan:

F.2.a Retain a copy of the dust control plan at the project site.

F.2.b Comply with the requirements of the approved dust control plan.

F.2.c A dust control plan shall contain all of the following information:

1. Name, address, and phone number of the Person responsible for the preparation, submittal, and implementation of the dust control plan and responsible for the project site.

2. A plot plan which shows the type and location of each project.

3. The total area of land surface to be disturbed, estimated daily throughput volume of earthmoving in cubic yards, and total area in acres of the entire project site.

4. The expected start and completion dates of dust generating and soil disturbance activities to be performed on the site.

5. The actual and potential sources of Fugitive Dust emissions on the site and the location of Bulk Material handling and storage areas, Paved and Unpaved Roads, entrances and exits where Track Out/Carry Out may occur, and Unpaved Traffic Areas.

6. Dust Suppressants to be applied, including: product specifications; manufacturer's usage instructions (method, frequency, and intensity of application); type, number, and capacity of application equipment; and information on environmental impacts and approvals or certifications related to appropriate and safe use for ground application.

7. Specific surface treatment(s) and/or control measures utilized to control Track Out/Carry Out, and sedimentation where unpaved and/or access points join paved public access roads.

8. The dust control plan should describe all Fugitive Dust control measures to be implemented before, during, and after any dust generating activity.

G. Record of Control Implementation

Any Person subject to the requirements of this rule shall compile and retain records that provide evidence of control measure application (i.e., receipts and/or purchase records). Such Person shall describe, in the records, the type of treatment or control measure, extent of coverage, and date applied. For control measures which require multiple daily applications, recording the frequency of application will fulfill the recordkeeping requirements of this rule (i.e., water being applied three times a day and the date) Records shall be maintained and be readily accessible for two

years after the date of each entry and shall be provided to the APCD upon request.

H. Violations

Failure to comply with any provisions of this rule shall constitute a violation of Regulation VIII.

Appendix D

Biological Resources Technical Report

RECON

Biological Resources Report for the City of Calexico Housing Element Update Calexico, California

Prepared for
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Prepared by
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RECON Number 10790
September 10, 2026

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ATTACHMENTS

1: Site Inventory
2: Sensitive Plant Species Evaluated for Potential to Occur
3: Sensitive Wildlife Species Evaluated for Potential to Occur

Acronyms and Abbreviations

AAC	All-American Canal
BMPs	Best Management Practices
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
City	City of Calexico
CNPS	California Native Plant Society
COSE	Conservation and Open Space Element
CRPR	California Rare Plant Rank
CWA	Clean Water Act
FESA	Federal Endangered Species Act
MBTA	Migratory Bird Treaty Act
NHD	National Hydrography Dataset
NWI	National Wetlands Inventory
proposed project	City of Calexico Housing Element Update
RC	Residential Condominium
RECON	RECON Environmental, Inc.
RHNA	Regional Housing Needs Allocation
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SWPPP	Storm Water Pollution Prevention Plan
U.S.	United States
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 Introduction

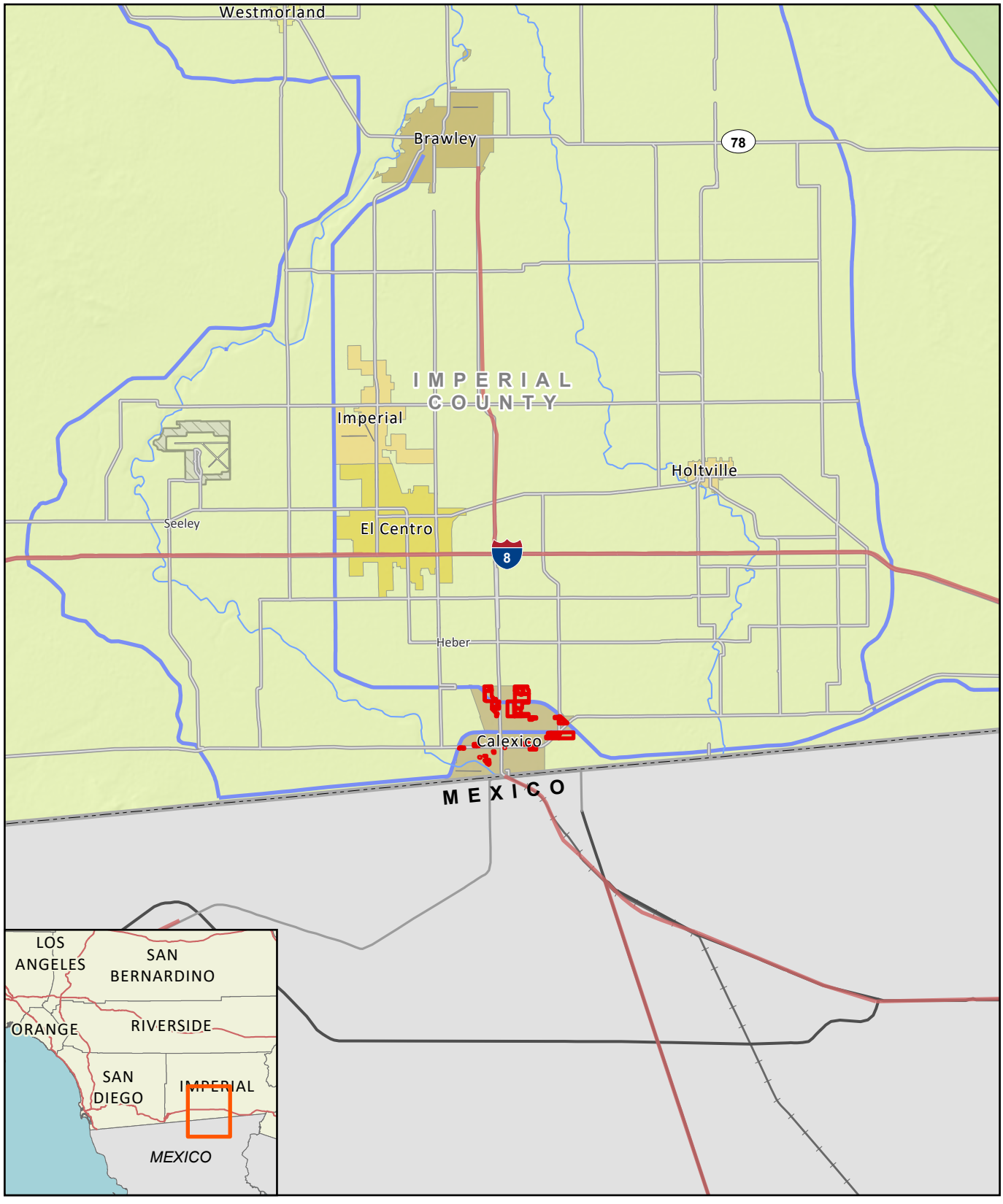
This programmatic biological resources report analyzes potentially significant impacts related to biological resources that could result from implementation of the City of Calexico (City) Housing Element Update (proposed project). This report summarizes the biological resources assessment methods and results, potential impacts to biological resources, and recommended avoidance, minimization, and mitigation measures for the proposed project. The City is implementing its 6th Cycle 2021–2029 Housing Element, a state-mandated update designed to accommodate a Regional Housing Needs Allocation (RHNA) through strategic rezoning, upzoning, and General Plan amendments. This programmatic biological resources report provides the necessary environmental analysis to support future development of the proposed project's "By-Right" sites, primarily vacant or underutilized parcels that meet specific state criteria for streamlined approval; and "Discretionary Development" sites, requiring further amendments to the General Plan and Zoning Code to enable residential development.

This report is being prepared to support the California Environmental Quality Act (CEQA) document for this proposed project, which is a program-level environmental impact report. The impact analysis provided in this report is a program-level analysis, consistent with Section 15168 of the CEQA Guidelines.

1.1 Project Location

The proposed project is located within the City of Calexico, California, and lies approximately 4.50 miles south of Interstate 8 and 0.45 miles north of the United States (U.S.)/Mexico international border in southern Imperial County, California (Figures 1 and 2). The proposed project is located within Township 17 South, Range 14 and 15 East, as depicted on the U.S. Geological Survey 7.5-minute topographic map, Calexico and Heber quadrangles (Figure 3; U.S. Geological Survey 1957, 1976).

The proposed project identifies 54 parcels throughout the City, including 49 By-Right Development Sites and 5 Discretionary Development Sites, and is generally bounded by development, agricultural land, canals to the north, east, and west, and the New River and the U.S./Mexico border to the south (see Figure 2). The By-Right and Discretionary Development sites consist of vacant, underdeveloped, and developed parcels throughout the City.



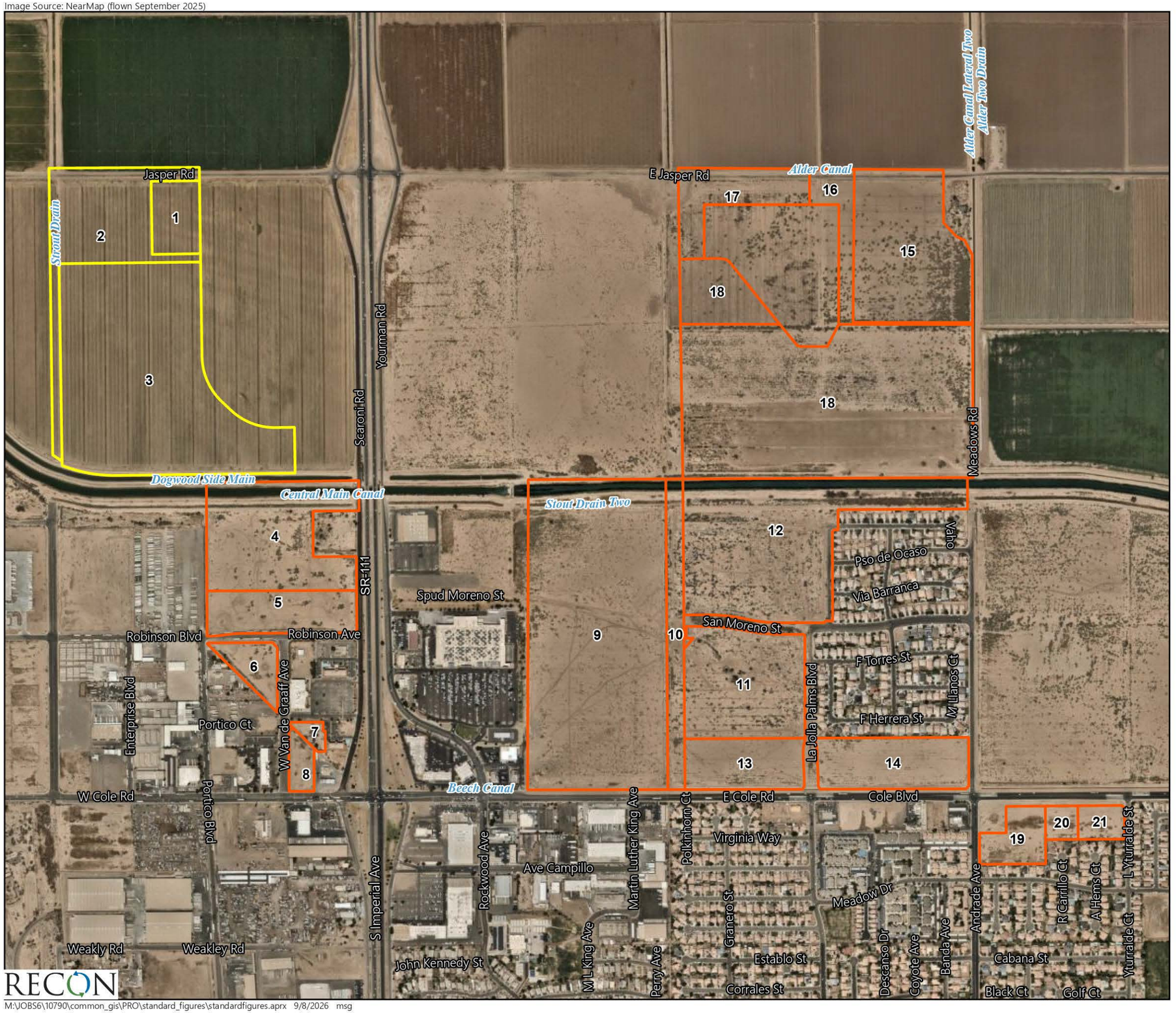
Project Sites

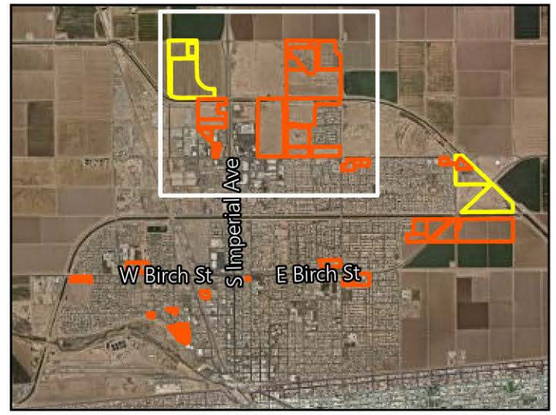
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FIGURE 1
Regional Location

Image Source: NearMap (flown September 2025)





By-Right Development Sites

Discretionary Development Sites

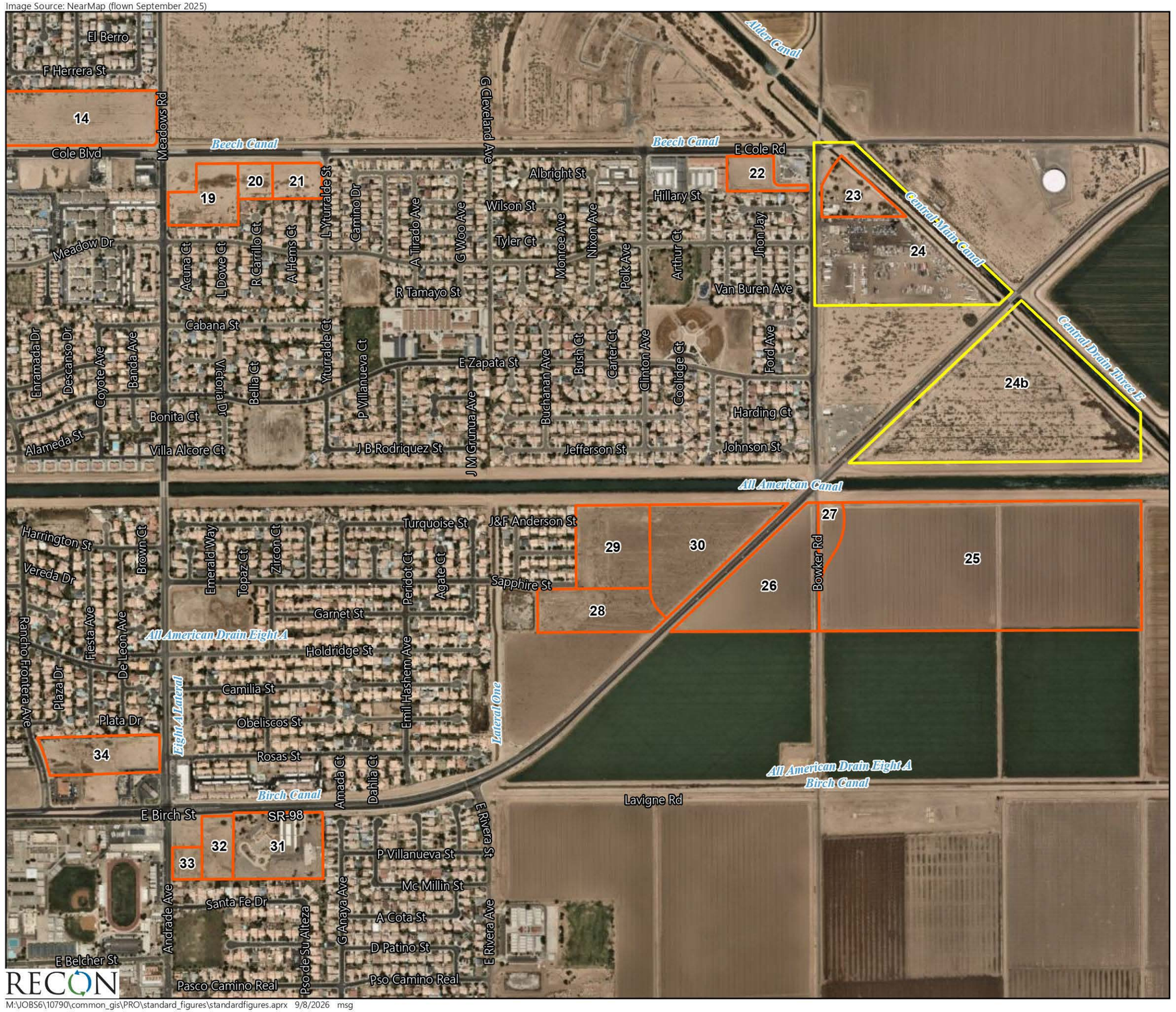
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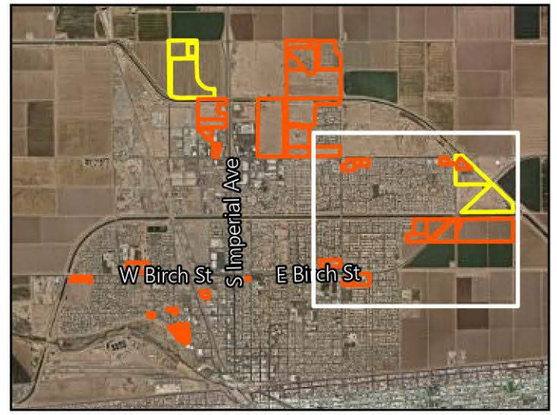
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FIGURE 2-1
Project Location on Aerial Photograph

Image Source: NearMap (flown September 2025)





By-Right Development Sites

Discretionary Development Sites

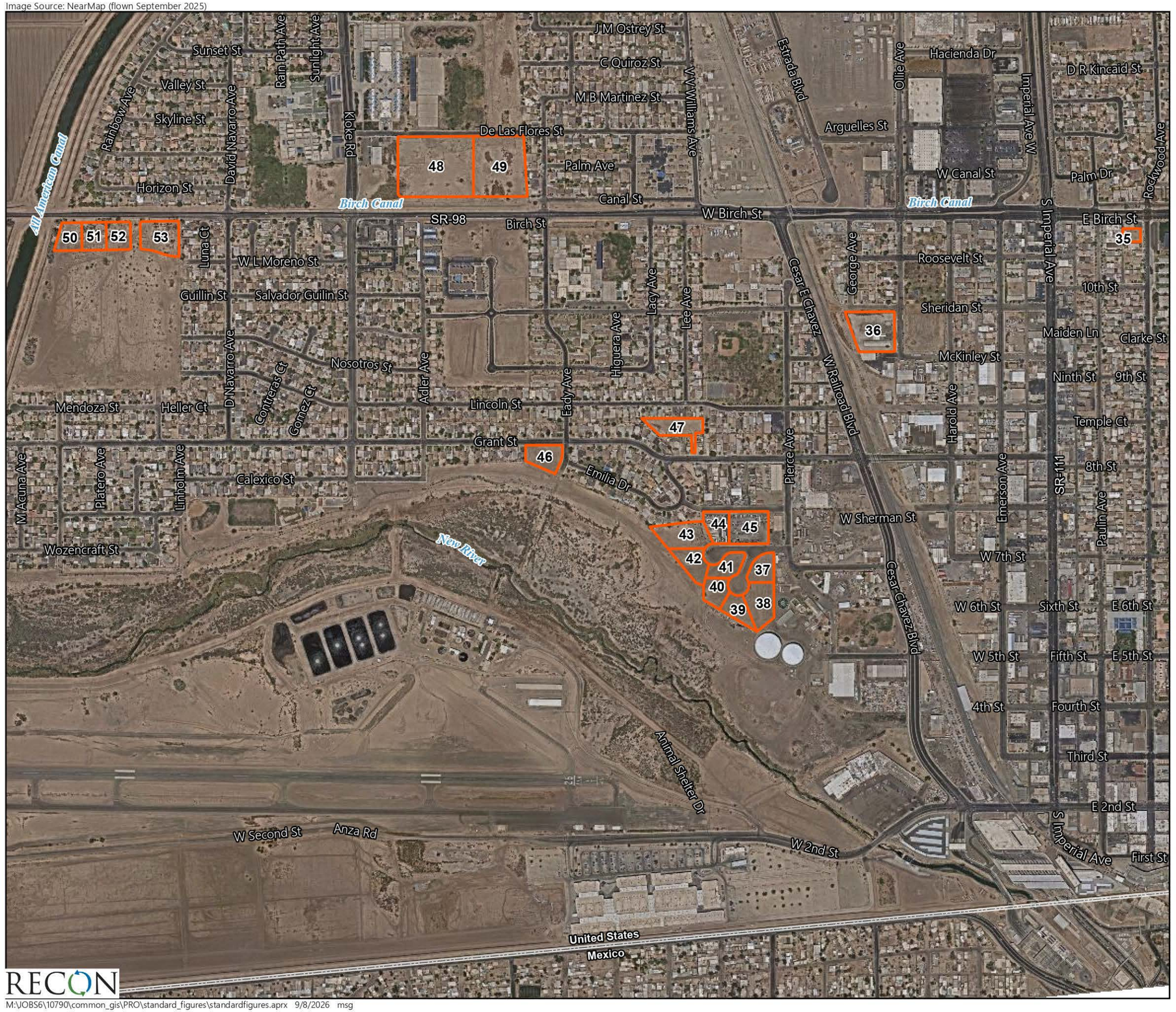
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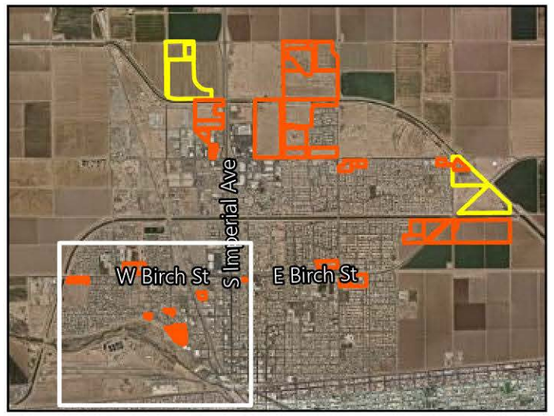
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FIGURE 2-2
Project Location on Aerial Photograph

Image Source: NearMap (flown September 2025)





By-Right Development Sites

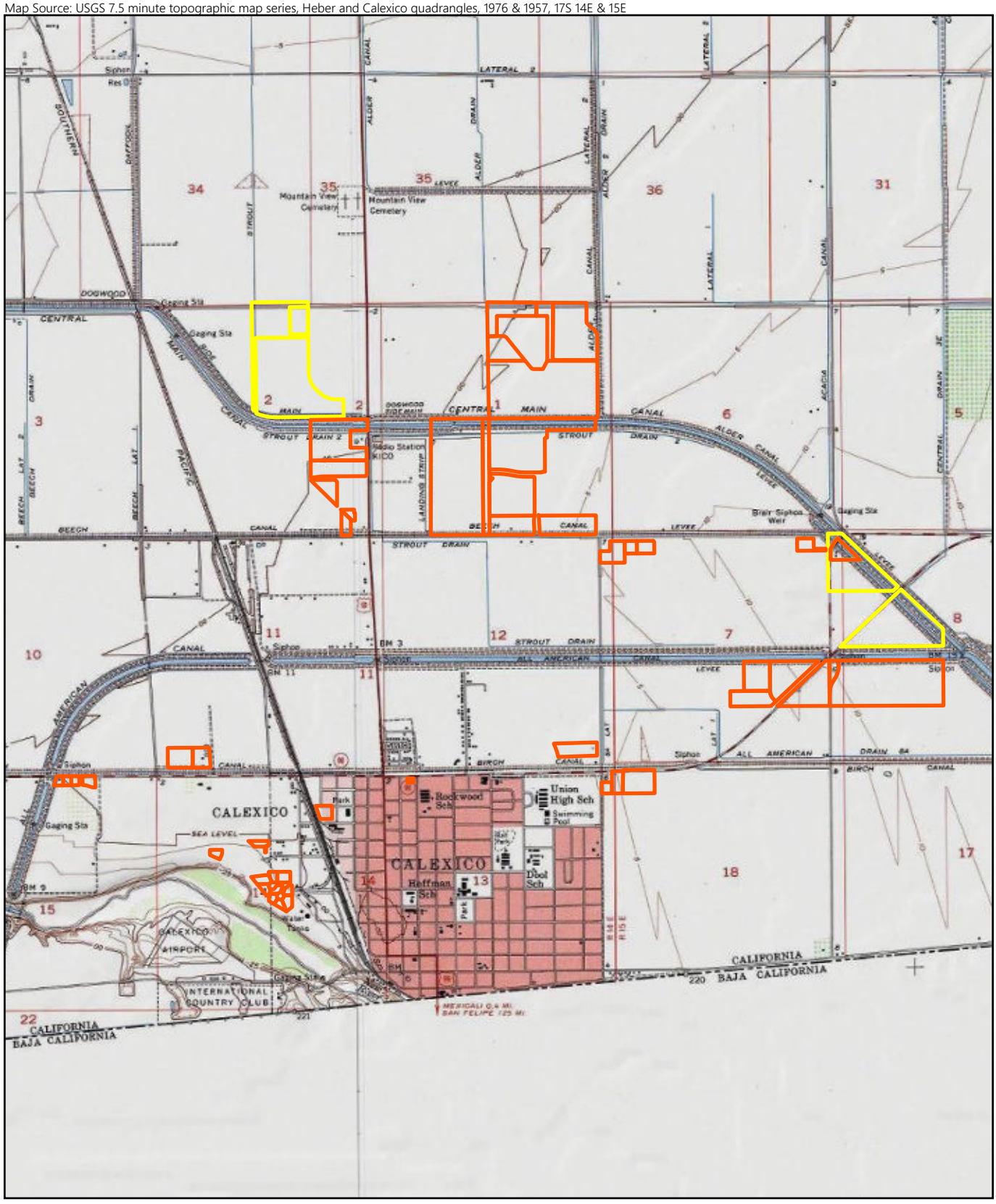
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FIGURE 2-3
Project Location on Aerial Photograph

Map Source: USGS 7.5 minute topographic map series, Heber and Calexico quadrangles, 1976 & 1957, 17S 14E & 15E



By-Right Development Sites

Discretionary Development Sites

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FIGURE 3
Project Location on USGS Map

1.2 Project Description

This section introduces the objectives of the proposed project and summarizes specific information describing the proposed project. This includes a description of the proposed project characteristics, including the City's housing site inventory, rezone sites, and associated discretionary actions. These aspects of the proposed project provide the basis for the impact analysis provided in Section 5. This proposed project description is intended to provide the level of detail necessary to evaluate potential environmental effects of the Housing Element implementation at a programmatic level.

1.2.1 Project Background

The Housing Element is one of the state-mandated elements of the General Plan. It identifies the City's housing conditions and needs, and establishes the goals, objectives, and policies that comprise the City's housing strategy to accommodate projected housing needs. State law requires that housing elements be updated every eight years (California Government Code Sections 65580 to 65589.8). Calexico's Housing Element was last adopted in January 2014 for the 5th Cycle of the 2014–2021 planning period. In accordance with state law, the City has prepared the 6th Cycle 2021–2029 Housing Element to address the housing needs of all types of households and income levels for current and future Calexico residents.

The California Department of Housing and Community Development is required to prepare an RHNA for each Council of Governments in the state that identifies projected housing units needed for all economic segments based on Department of Finance population estimates. The Southern California Association of Governments (SCAG) is responsible for preparing the RHNA for all jurisdictions within the SCAG region, in which Calexico is a member agency. The Housing Element includes goals, policies, and implementation programs identified to help the City meet its 6th Cycle RHNA.

1.2.2 Project Description

Consistent with CEQA Guidelines Section 15168, this biological technical report provides a programmatic analysis of the environmental impacts associated with implementation of the proposed project components: (1) the City's 6th Cycle 2021–2029 Housing Element; (2) associated General Plan Amendments, including the corresponding consistency updates to the City of Calexico Land Use Element; (3) Zoning Ordinance Amendments to implement by-right housing per the Housing Element; and (4) rezoning the Bowker site, APN 059-180-029, from Residential Condominium to Industrial as later discussed in this section. These project components make up the term "proposed project" or "project" used throughout this document.

The 6th Cycle Housing Element Sites Inventory identifies suitable sites throughout the City that can accommodate the required housing capacity set forth by the City's RHNA. The Housing Element identifies 53 sites throughout the City with the capacity to accommodate the RHNA, as shown in Figure 2. These 53 sites in the inventory will have changes made to zoning or applied General Plan land use designation as a result of the proposed project. There are 35 rezone sites, inclusive of the Bowker site (see below), with four of those considered upzones. The housing sites are categorized into By-Right Development Sites and Discretionary Development Sites. These terms are defined in

Section 1.2.2.1, Eligible By-Right Development Sites, and Section 1.2.2.2, Discretionary Development Sites, below. This analysis assumes full implementation of the Housing Element rezoning program and associated development by 2050.

Bowker Rezone Site

Site 24b is a Discretionary Development Site proposed to rezone from Residential Condominium to Industrial (APN 059-180-029). The site is bounded to the northwest by State Route 98, the All-American Canal (AAC) to the south, and the AAC Central Drain Three E to the northeast. While the site was previously zoned for housing, upon further evaluation, the City has determined this site is a poor location for residential and better suited for industrial for the following reasons: the site is physically isolated by State Route 98 and the AAC, thus disconnecting the site from public services, including parks and schools, and; the site's boundaries would create emergency access and vehicle miles traveled concerns. Furthermore, the City plans to foster industrial development east of the site to leverage the international commercial port of entry with Mexico located approximately six miles due east of the site, and to limit truck traffic through residential areas of the City by limiting new industrial development on the west side of the City. As such, the site is better suited for industrial or commercial development. Because the Housing Element identifies a surplus of housing sites to meet the City's RHNA, this rezone is considered appropriate given the geographical context of the site. This site is referred to in this document as the Bowker site.

1.2.2.1 Eligible By-Right Development Sites

By-Right Development Sites refer to sites that are subject to ministerial processing and not subject to discretionary review by the City, and no review is required under CEQA per Cal. Gov. Code, § 65583.2(i). Ministerial processing involves little or no personal judgment by the City as to the wisdom or manner of carrying out the project. The City merely ensures that the proposed development meets all objective standards without using special discretion or judgment. By-Right Development Sites do not require a public hearing.

Pursuant to Cal. Gov. Code § 65583.2(c), any non-vacant sites identified in the prior 5th Cycle or vacant sites identified in two or more consecutive planning periods shall be provided by-right development when at least 20 percent of the units in the proposed development are affordable to lower-income households. As shown in Attachment 1, the 49 Eligible By-Right Development Sites include all sites except 1, 2, 3, 24, and 24b (Bowker Site).

As part of Program 2E in the Housing Element Update, the City shall amend the Zoning Ordinance to establish a ministerial review process for by-right housing projects, including any by-right projects with tentative maps. Development of these sites would be subject to applicable objective development standards and other regulatory requirements, but would not be subject to discretionary review. The ministerial review process codified in the Zoning Ordinance would govern development of these sites, and no project-level review under CEQA would be required for these sites.

1.2.2.2 Discretionary Development Sites

Discretionary Development Sites refer to sites that are subject to discretionary processing where the City has the discretion to approve, modify, or deny a project based on personal judgment. Projects subject to discretionary processing may be subject to CEQA, and the discretionary review process for multifamily projects and subdivisions may require a public hearing.

As shown in Attachment 1, the five Discretionary Development Sites include sites: 1, 2, 3, 24, and 24b. The Housing Element establishes Discretionary Development Sites as greater than ten (10) net buildable acres, for which zoning amendments are proposed to allow residential or mixed-use development at densities sufficient to meet RHNA requirements. These sites may currently be designated for commercial, mixed-use, or other non-residential uses, or have limited or no access to infrastructure and right-of-way.

2.0 Regulatory Context

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The federal Endangered Species Act (FESA) provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered "take" under the FESA. Section 9(a) of the FESA defines "take" as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." The FESA is administered by the United States Fish and Wildlife Service (USFWS). An authorization or permit to incidentally take listed species can be obtained either through the Section 7 consultation process for projects with a federal nexus, or through the Section 10 incidental take permit process, for projects without a federal nexus. In the context of Section 7, incidental take is authorized through an Incidental Take Statement that is issued consistent with a Biological Opinion. In the context of Section 10, incidental take is authorized through an incidental take permit issued pursuant to Section 10(a)(1)(B). Measures contained in the incidental take permit reflect the measures set out in a Habitat Conservation Plan developed by the applicant in conjunction with the USFWS.

2.1.2 Migratory Bird Treaty Act (16 U.S.C. 703 through 711)

The MBTA is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive and is listed at 50 Code of Federal Regulations 10.13. The regulatory definition of "migratory bird" is broad and includes any mutation or hybrid of a listed species and any part, egg, or nest of such birds. The MBTA, which is enforced by USFWS, makes it unlawful "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird, or attempt such actions, except as permitted by regulation. The take, possession, import, export, transport, sale, purchase, barter, or offering of these activities is prohibited, except under a valid permit or as permitted in the implementing regulations.

2.1.3 Bald and Golden Eagle Protection Act (16 U.S.C. 668)

The Bald and Golden Eagle Protection Act provides protection for both the bald eagle (*Haliaeetus leucocephalus*) and the golden eagle (*Aquila chrysaetos*) by prohibiting the "take" of either of these species, including their parts, nests, or eggs. The MBTA defines "take" as to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" any bald or golden eagle. The Bald and Golden Eagle Protection Act is administered by the USFWS, and limited take authorizations are granted for qualifying activities. Persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle [or any golden eagle], alive or dead, or any part, nest, or egg thereof" without prior approval are subject to criminal penalties.

2.1.4 Clean Water Act of 1972 (33 U.S.C. 1251 et seq.) and the Rivers and Harbors Act

The Rivers and Harbors Act of 1899 and the Clean Water Act of 1972 (CWA) regulate project activities within non-marine navigable waters and/or waters of the U.S. The discharge of any pollutant from a point source into navigable waters is illegal unless a permit under the CWA's provisions is acquired.

Sections 404 and 401 of the CWA apply to potential impacts to wetlands, waters of the U.S., and waters of the State, respectively. The U.S. Environmental Protection Agency administers the CWA; however, some sections of the CWA are administered by other agencies. Section 404 of the CWA regulates the discharge of dredged or fill material into navigable waters, including both wetlands and other waters of the U.S. The discharge of dredged or fill material is typically associated with a variety of development projects, agricultural activities, and water resource projects. The United States Army Corps of Engineers (USACE) administers Section 404 of the CWA and is responsible for issuing general and individual permits and for making jurisdictional determinations. Projects can be permitted on an individual basis or be covered by one of several approved nationwide or regional general permits.

Section 401 of the CWA requires a State Water Quality Certification or waiver for any activity requiring a Section 404 permit. The State Water Quality Certification ensures the activity will not violate any established state water quality standards. The State Water Resources Control Board, in conjunction with the nine California Regional Water Quality Control Boards (RWQCB), administers Section 401 of the CWA and is responsible for issuing permits pursuant to the Section 401 Water Quality Certification Program. The proposed project is within the jurisdiction of the Colorado River Basin RWQCB (Region 7).

2.2 State Regulations

2.2.1 California Endangered Species Act (California Fish and Game Code 2050 et seq.)

The California Endangered Species Act (CESA) parallels FESA and protects and/or preserves native plant and wildlife species and their habitats, especially those that are threatened with extinction and those that are experiencing significant decline that may lead to a threatened or endangered designation, within the state of California. CESA designates special-status species that are protected from unauthorized "take," which is defined as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

The CESA is administered by the California Department of Fish and Wildlife (CDFW). A state-lead agency is required to consult with the CDFW to ensure that a project is not likely to jeopardize the continued existence of a special-status species or result in the destruction or adverse modification of essential habitat for a species. The CESA allows for the issuance of incidental take permits for lawful development projects and emphasizes the benefits of early consultation between the lead agency and the CDFW to avoid potential impacts to special-status species and to develop appropriate mitigation measures to reduce impacts to and avoid loss of a special-status species.

2.2.2 California Environmental Quality Act

The CEQA requires that biological resources be considered when assessing the environmental impacts that are the result of proposed actions. The lead agencies determine the scope of what is considered an impact and what constitutes an "adverse effect" on a biological resource.

The FESA and CESA protect only those species formally listed as threatened or endangered (or rare/candidate species in the case of the CESA). Section 15380 of the CEQA Guidelines independently defines "endangered" species of plants or animals as those whose survival and reproduction in the wild are in immediate jeopardy, and "rare" species as those who are in such low numbers that they could become endangered if their environment worsens. Therefore, a project normally would have a significant effect on the environment if it would substantially affect a rare or endangered species of animal or plant or the habitat of the species. The significance of impacts to a species under CEQA must be based on analyzing actual rarity and threat of extinction despite legal status or lack thereof.

2.2.3 California Fish and Game Code

Section 3503 from the California Fish and Game Code (CFGC) applies to projects in the state. This section states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto," and Section 3503.5 prohibits take, possession, or destruction of any birds in the orders Falconiformes (raptors) or Strigiformes (owls), or of their nests and eggs. Compliance with Sections 3503 and 3503.5 of the CFGC and all applicable federal and state laws pertaining to migratory and nesting birds is

anticipated. Compliance measures would be determined by the project biologist prior to the start of construction and may include pre-activity surveys, nest avoidance, and construction monitoring.

The CFGC (Sections 1600 through 1603) regulates project activities within wetlands and riparian habitats. The CDFW can issue a Streambed Alteration Agreement for projects affecting riparian and wetland habitats. Project activities that fill or dredge within wetland waters of the U.S. and waters of the U.S. as well as wetland waters of the state and waters of the state, including isolated waters such as vernal pools and other waters showing lack of connectivity to a Traditional Navigable Waters, require a Water Quality Certification by the California RWQCB under Section 401 of the CWA and Section 13000 et seq. of the California Water Code under the Porter-Cologne Water Quality Control Act.

2.2.4 State Fully Protected Species

The State of California designated species as fully protected prior to the creation of CESA and FESA. Lists of fully protected species were initially developed to provide protection to species that were rare or faced possible extinction/extirpation. Most fully protected species have since been state listed as threatened or endangered species. Under CFGC Section 4700, fully protected mammals may not be taken or possessed at any time.

In September 2011, the Natural Community Conservation Planning Act was amended to permit the incidental take of 36 fully protected species pursuant to a Natural Community Conservation Plan approved by CDFW (CFGC Section 2835). The amendment gives fully protected species the same level of protection as endangered and threatened species under the Natural Community Conservation Planning Act (CFGC Section 2835). The Natural Community Conservation Planning Act, enacted in the 1990s, authorizes the incidental take of species "whose conservation and management" is provided for in a conservation plan approved by CDFW.

2.2.5 California Species of Special Concern

In addition to formal listing under FESA and CESA, certain species receive additional consideration by CDFW and lead agencies during the CEQA process. Species that may be considered for review are identified as California Species of Special Concern by CDFW. These species numbers, reproductive success, or habitat may be in decline.

2.3 Local Regulations

2.3.1 Imperial County's Conservation and Open Space Element of the General Plan

Imperial County's Conservation and Open Space Element (COSE) of the General Plan establishes policies and objectives for protecting natural resources, including biological resources, within Imperial County (County of Imperial 2016). The COSE aims to preserve and manage sensitive habitats,

special-status species, wildlife movement corridors, wetlands, and other areas of biological significance. The underlying goals of the COSE are to:

- Promote protection and sustainable management of Imperial County's biological resources and prevent their wasteful exploitation or neglect;
- Conserve habitats and ecological values through thoughtful land use planning and open space management;
- Maintain connectivity of wildlife corridors and avoid fragmentation of important natural communities;
- Protect jurisdictional waters, wetlands, riparian zones, and other sensitive natural communities; and
- Apply mitigation, restoration, and management measures to support regional conservation priorities within Imperial County.

Projects within Imperial County are evaluated for consistency with the policies and objectives of the COSE as part of the environmental review process. Project design and mitigation measures should be developed to minimize and avoid impacts to biological resources in accordance with Imperial County requirements, ensuring compliance with local conservation and open space policies.

3.0 Program-Level Biological Analysis

3.1 Literature Review

RECON Environmental, Inc. (RECON) conducted a search of existing biological data for all 53 parcels subject to the Housing Element Update as well as the Bowker site (proposed project), including a review of biological databases for sensitive plant and animal species reported within five miles of the survey area and a review of the site's physical characteristics (e.g., location, elevation, soils/substrate, topography). Databases consulted included the California Natural Diversity Database (CDFW 2026a), the USFWS All Species Occurrences Database (USFWS 2026), and a search of the California Native Plant Society (CNPS) online rare plants database within six U.S. Geological Survey (USGS) quadrangles surrounding the project site (CNPS 2026). A review of the National Wetlands Inventory (NWI) and the National Hydrography Dataset (NHD) was conducted to identify potential aquatic resources present in the vicinity of the project sites (USGS 2026; USFWS 2026b). Additional maps, imagery, and databases reviewed included USGS topographic maps (1957, 1976), soil survey maps (U.S. Department of Agriculture 2026), and online aerial satellite imagery (Google Earth 2026).

3.2 Analysis Methods

RECON reviewed all By-Right Development Sites subject to the proposed project within the City of Calexico using Google Street View (Google Earth 2026) and mapped vegetation communities observed on high-resolution aerial imagery using the ArcGIS Field Map application. Vegetation

community classifications have been modified from the Manual of California Vegetation (Sawyer et al. 2009), with cross reference to Oberbauer et al. (2008). No field verification was conducted for the vegetation mapping within the By-Right Development Sites; only heads-up digitizing of aerial signatures, combined with review of Google Street View (2026), was implemented during the vegetation mapping process. As such, it is possible that errors may be present within the vegetation mapping. In addition, some parcels mapped in 2026 may have different vegetation communities over time due to changes in frequency that these sites are maintained (e.g., disced or planted in row crops, etc.). Vegetation mapping utilized an aerial image from Nearmap that was taken on September 23, 2025, five days after Tropical Storm Mario dropped heavy rain on the Calexico area. As such, standing water is visible in this aerial image in places.

Special-status plant and wildlife species were analyzed based on their potential to occur within the proposed project (Attachments 1 and 2). Plant or wildlife species are considered special-status if they are (1) listed by state or federal agencies as threatened or endangered or are proposed for listing; (2) included on CNPS California Rare Plant Ranks 1, 2, 3, or 4; or (3) considered rare, endangered, or threatened by local conservation organizations or specialists (CDFW 2026a; USFWS 2026; CNPS 2026). Determination of the potential occurrence for sensitive species was based upon known ranges and habitat preferences for the species (CNPS 2026; Jennings and Hayes 1994; Unitt 2004; Tremor et al. 2017; Western Bat Working Group 2026; and Harvey et al. 2011).

Nomenclature in this report follows the Jepson Online Interchange (Jepson Flora Project 2026) and Rebman and Simpson (2014) for common plants, Crother et al. (2017) for amphibians and reptiles, Chesser et al. (2026) for birds, and Bradley et al. (2014) and American Society of Mammalogists (2026) for mammals.

3.3 Analysis Limitations

As mentioned above, biological conditions were assessed using publicly available geographic information system data (e.g., aerial imagery, etc.) and Google Street View (2026). Because site visits were not conducted, this analysis cannot definitively confirm the presence or absence of biological resources. Aerial imagery is limited by its resolution and may not capture small-scale habitat features. To account for these limitations, the potential for special-status plant and wildlife species to occur are analyzed conservatively based on species records, known ranges, and habitat preferences.

4.0 Results

This section provides a general overview and assessment of the existing conditions within the proposed project.

4.1 Physical Characteristics/Setting

The proposed project is located within 54 parcels in the City of Calexico, California, most of which are vacant or underdeveloped (i.e., not utilizing all of the area of the lot for development purposes) lots. The By-Right and Discretionary Development sites are generally very flat, with elevations ranging from 20 to 40 feet below mean sea level. By-Right Development Sites 15, 16, 17, and 23 are bisected

by unnamed concrete-lined canals. By-Right Development Sites 4, 9, 10, and 12 are bisected by Stout Drain Two and Central Main Canal. The Beech Canal occurs directly south of By-Right Development Sites 9, 10, 13, and 14. Irrigation laterals area also present within multiple sites.

4.2 Soils

Seven soil series occur within the By-Right and Discretionary Development sites, as shown in Figure 4. Of these, seven soil series occur within the proposed project. These soil series are described below (U.S. Department of Agriculture 2026).

- Holtville silty clay, wet. The Holtville series consists of deep, well-drained soils formed in mixed and stratified alluvium. These soils are found on flood plains and basins with slopes of 0 to 3 percent and are subject to saturation.

- Imperial silty clay, wet. The Imperial series consists of well- and moderately well-drained soils formed in calcareous alluvium from mixed sources. Geographically, these soils are nearly level to gently sloping, found in flood plains or old lake beds, and are subject to saturation.

- Imperial-Glenbar silty clay loams, wet, 0 to 2percent slopes. The Imperial-Glenbar complex consists of both the Imperial and Glenbar soil series. The Glenbar series consists of deep, well-drained soils that are formed in stratified stream alluvium. This soil complex is subject to saturation.

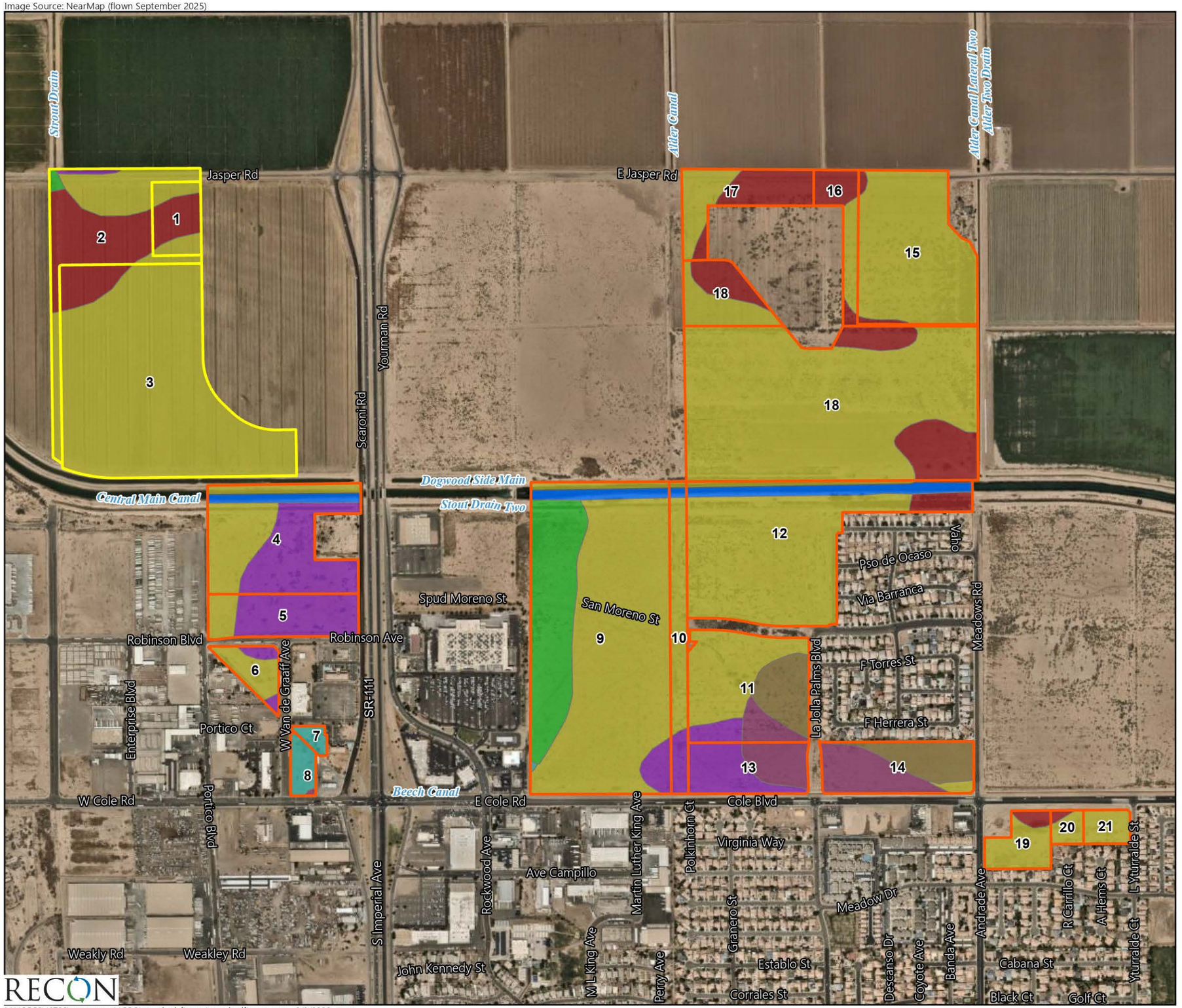
- Indio loam, wet. The Indio series consists of deep, well- or moderately-drained soils formed in alluvium from mixed rock sources. This soil series is found on alluvial fans, lacustrine basins, and flood plains with slopes of 0 to 3 percent, and is subject to saturation.

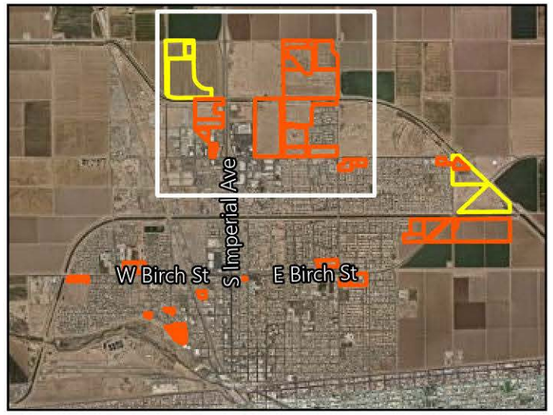
- Meloland very fine sandy loam, wet. The Meloland series consists of naturally well-drained soils that often have a perched water table under irrigation. This soil series occurs in nearly level lacustrine basins and flood plains and is subject to saturation.

- Vint loamy very fine sand, wet. The Vint series consists of very deep, somewhat excessively drained soils formed in stratified stream alluvium. This soil series occurs on flood plains with slopes of 0 to 3 percent and is subject to saturation.

- Vint and Indio very fine sandy loams, wet. The Vint and Indio complex represents an intermixed combination of the Vint and Indio soil series, consisting of deep, well-, moderately well-, or excessively drained soils formed in alluvium. This soil complex is found on alluvial fans, lacustrine basins, or flood plains with slopes of 0 to 3 percent, and is subject to saturation.

Image Source: NearMap (flown September 2025)





By-Right Development Sites

Discretionary Development Sites

Soils

- Holtville silty clay, wet
- Imperial silty clay, wet
- Imperial-Glenbar silty clay loams, wet, 0 to 2% slopes
- Indio loam, wet
- Meloland very fine sandy loam, wet
- Vint and Indio very fine sandy loams, wet
- Vint loamy very fine sand, wet
- Water

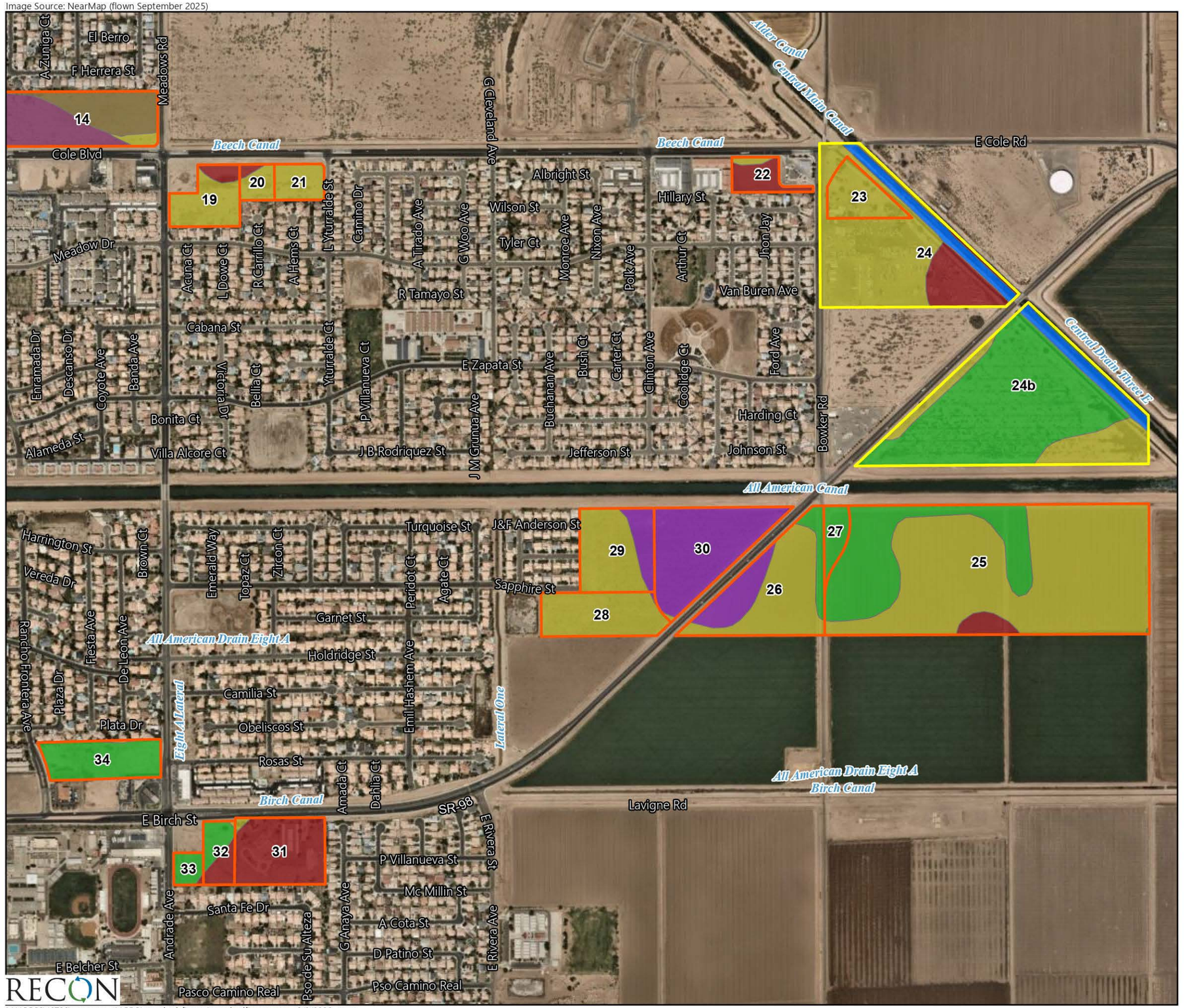
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FIGURE 4-1
Project Location on Soils Map

Image Source: NearMap (flown September 2025)



By-Right Development Sites

Discretionary Development Sites

Soils

- Holtville silty clay, wet
- Imperial silty clay, wet
- Imperial-Glenbar silty clay loams, wet, 0 to 2% slopes
- Indio loam, wet
- Meloland very fine sandy loam, wet
- Vint and Indio very fine sandy loams, wet
- Water

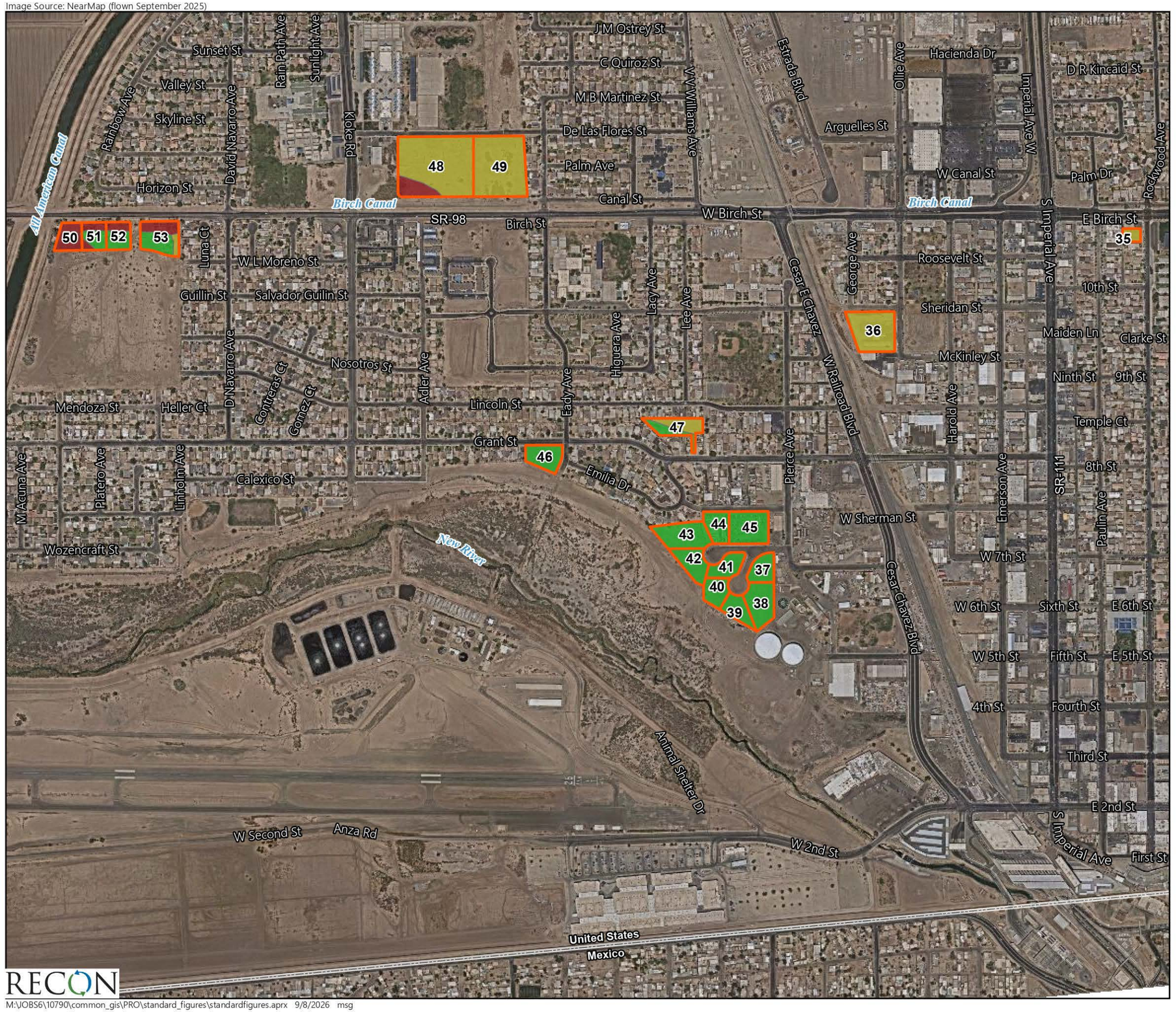
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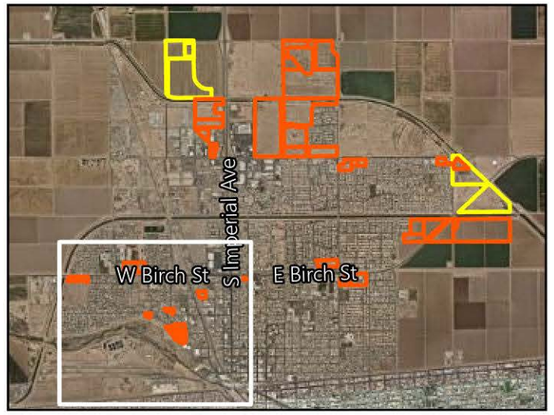
FIGURE 4-2
Project Location on Soils Map

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Image Source: NearMap (flown September 2025)





By-Right Development Sites

Soils

- Imperial silty clay, wet
- Imperial-Glenbar silty clay loams, wet, 0 to 2% slopes
- Meloland very fine sandy loam, wet

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FIGURE 4-3
Project Location on Soils Map

4.3 Vegetation Communities

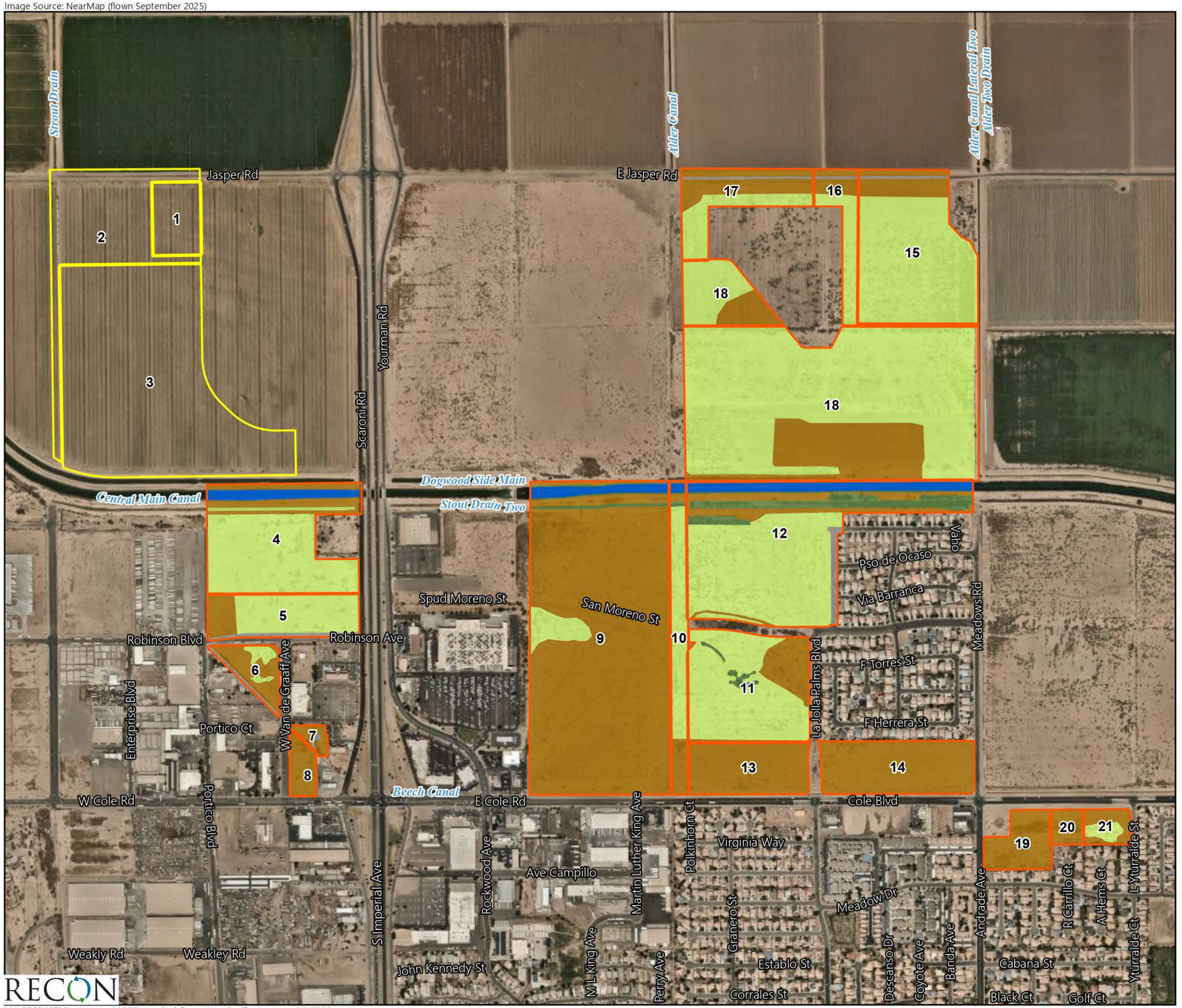
Eight vegetation communities/land cover types were identified within the By-Right Development Sites (Table 1; Figures 5-1 through 5-3). The acreage of each of these vegetation communities/land cover types is summarized in Table 1. Vegetation community and land cover descriptions below are provided below. As previously stated, the vegetation data contained herein is only intended for general use within this programmatic biological report, as site-specific field surveys were not conducted for the By-Right Development Sites.

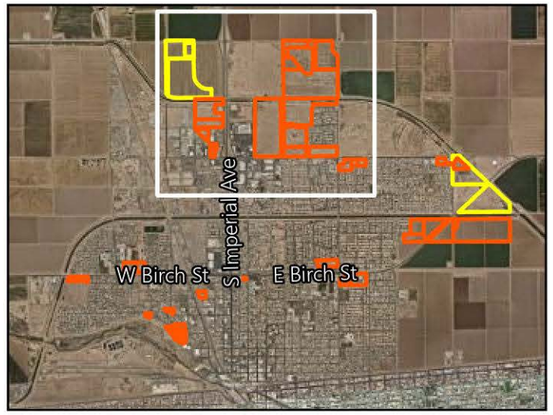
Table 1
Vegetation Communities and Land Cover Types
Within the By-Right Development Sites

Vegetation Community / Land Cover Type	Area (acre)	Sensitive Natural Community?[1]
Native Upland Habitats		
Mesquite Thickets	0.7	Yes[2]
Palo Verde Woodland	1.3	No
Saltbush Scrub	208.2	No
Riparian/Aquatic Habitats		
Tamarisk Scrub	9.2	Yes[2]
Open Water	9.9	Yes[2]
Land Covers		
Agriculture	76.8	No
Disturbed Habitat	190.7	No
Urban/developed	19.3	No
TOTAL[3]	**516.0**	**N/A**

[1]Source: CDFW 2026b.
[2]Vegetation community/land cover type that is typically associated with containing potentially jurisdictional aquatic resources. A formal site-specific aquatic resources delineation per regulatory agency standards and guidelines would be required to confirm the extent of potential aquatic resources on-site and anticipated jurisdictional status per agency.
[3]Areas are presented in acres, rounded to the nearest 0.1; discrepancies are due to rounding.

Image Source: NearMap (flown September 2025)





By-Right Development Sites

Discretionary Development Sites

Vegetation Communities

- Disturbed Habitat
- Open Water
- Saltbush Scrub
- Tamarisk Scrub
- Urban/Developed

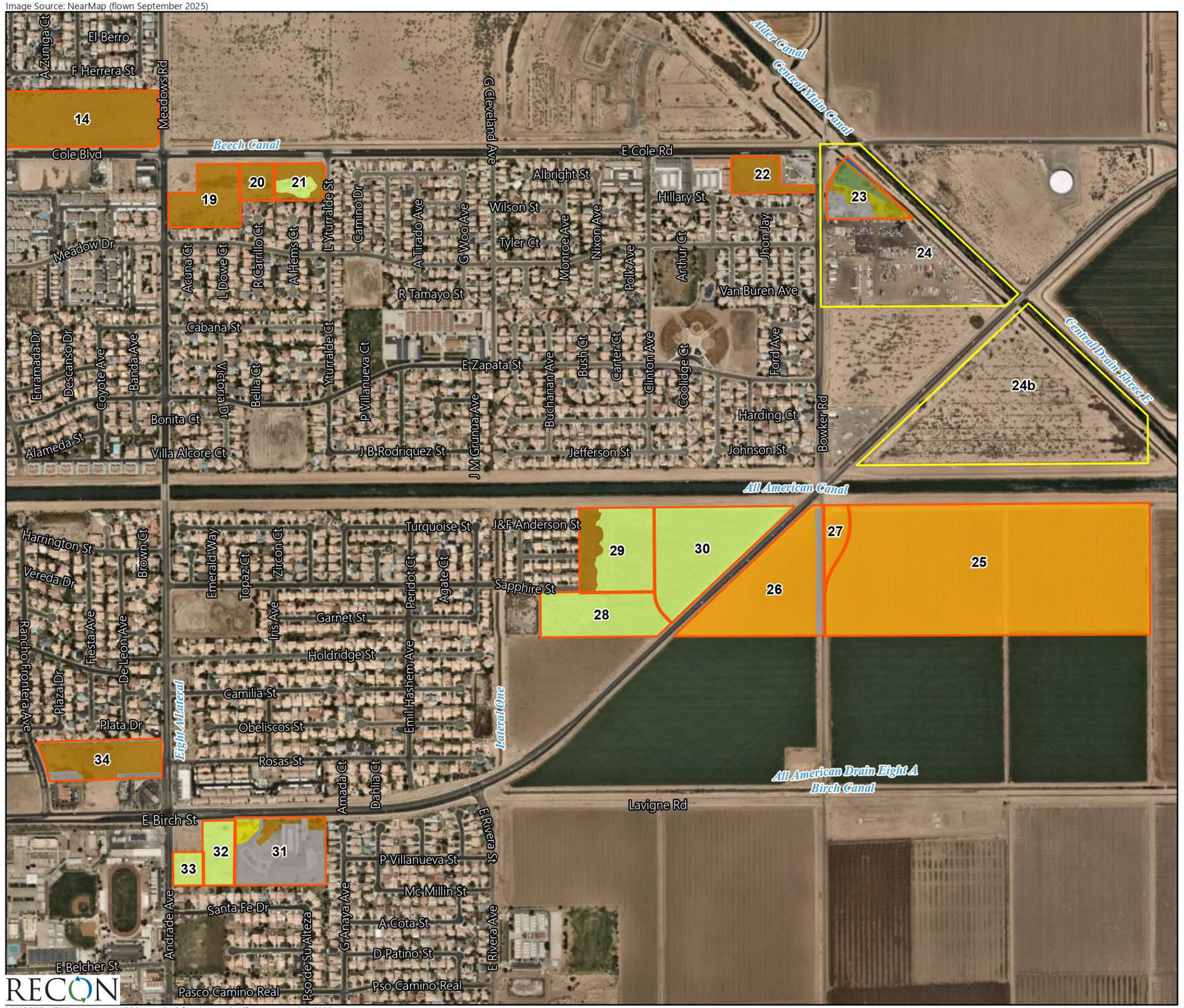
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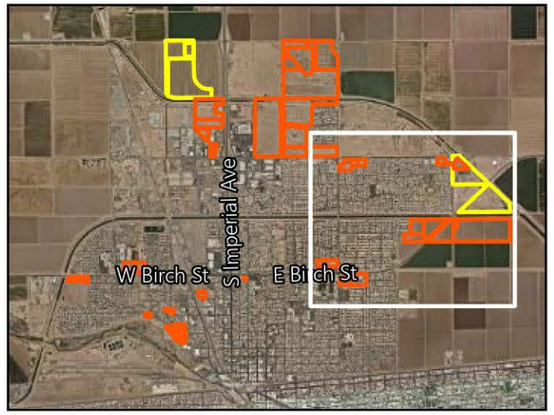
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FIGURE 5-1
Vegetation Communities and Land Covers

Image Source: NearMap (flown September 2025)





By-Right Development Sites

Discretionary Development Sites

Vegetation Communities

- Agriculture
- Disturbed Habitat
- Mesquite Thickets
- Open Water
- Palo Verde Woodland
- Saltbush Scrub
- Tamarisk Scrub
- Urban/Developed

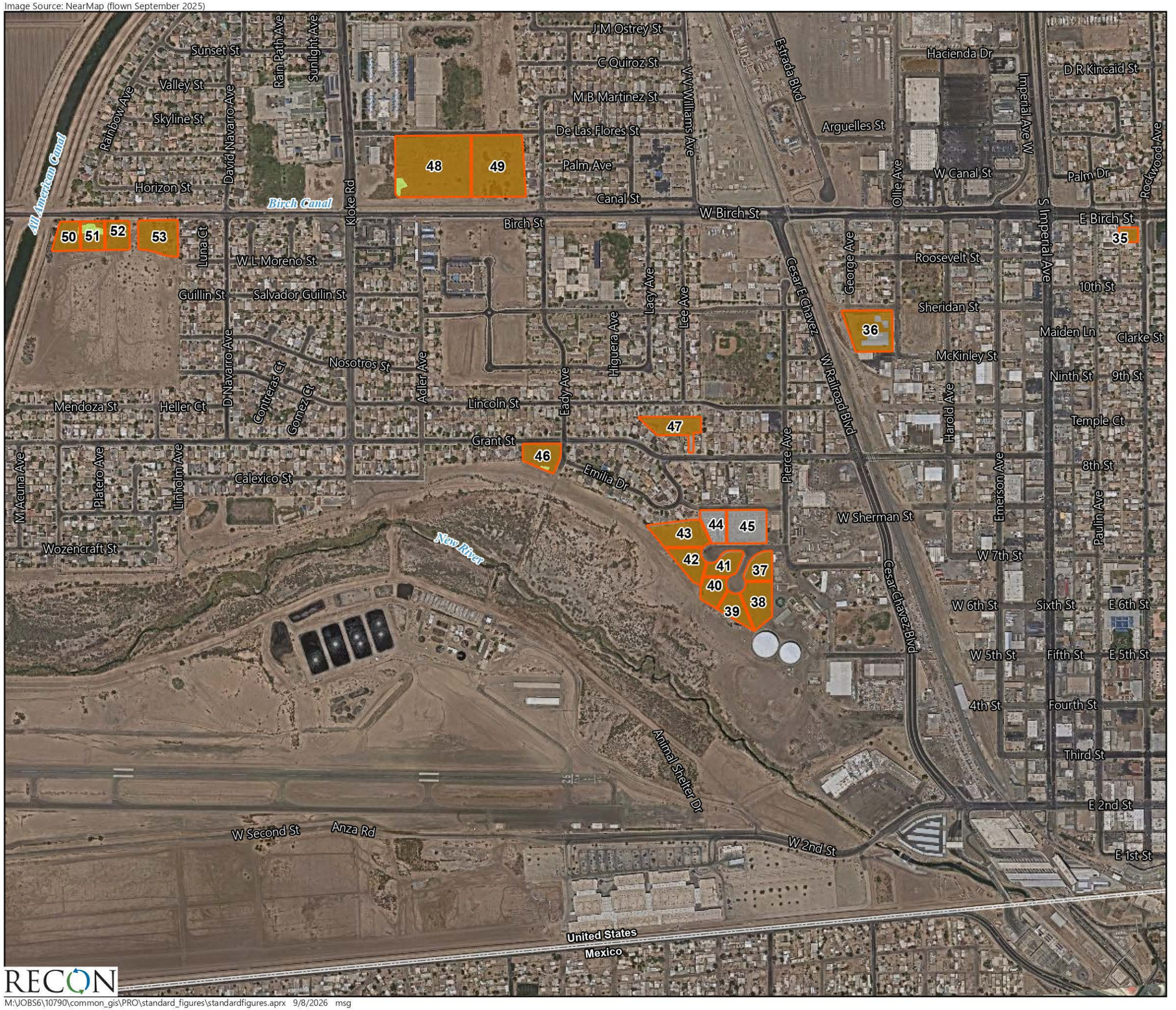
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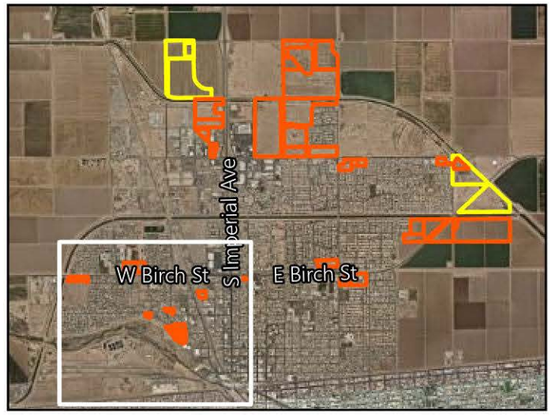
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FIGURE 5-2
Vegetation Communities and Land Covers

Image Source: NearMap (flown September 2025)





By-Right Development Sites

Vegetation Communities

- Disturbed Habitat
- Saltbush Scrub
- Urban/Developed

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FIGURE 5-3
Vegetation Communities and Land Covers

Table 2 summarizes the native upland or riparian/aquatic habitats potentially present within the by-right sites.

Table 2 By-Right Development Sites with Native Upland or Riparian/Aquatic Habitats Potentially Present		
Vegetation Community	Site(s)	Sensitive Natural Community?[1]
Native Upland Habitats		
Mesquite Thickets	31	Yes[2]
Palo Verde Woodland	23	No
Saltbush Scrub	4, 5, 6, 9, 10, 11, 12, 15, 16, 17, 18, 20, 21, 28, 29, 30, 32, 33, 46, 48, 50, 51	No
Riparian/Aquatic Habitats		
Tamarisk Scrub	9, 10, 11, 12, 23	Yes[2]
Open Water	4, 9, 10, 12, 23	Yes[2]

[1]Source: CDFW 2026b.
[2]Vegetation community/land cover type that is typically associated with containing potentially jurisdictional aquatic resources. A formal site-specific aquatic resources delineation per regulatory agency standards and guidelines would be required to confirm the extent of potential aquatic resources on-site and anticipated jurisdictional status per agency.

Native Upland Habitats

Palo Verde Woodland

Palo verde woodland is present within a small area in By-Right Development Site 23 (see Figure 5-2) and consists of dispersed stands of palo verde (*Parkinsonia* sp.). This vegetation community is defined by a high overall total cover of bare ground between stands.

Saltbush Scrub

Saltbush scrub is present throughout several By-Right Development Sites and consists of a low to dense cover of saltbush (*Atriplex* spp.). This vegetation community is defined by a generally open shrub canopy with a sparse understory of herbaceous plants. Saltbush scrub occurs as relatively large, contiguous habitat or small, interspersed patches in otherwise disturbed areas (see Figures 5-1 through 5-3).

Riparian/Aquatic Habitats

Mesquite Thickets

A stand of Mesquite thickets was observed within a small, isolated area within By-Right Development Site 31, in an area otherwise surrounded by urban development (see Figure 5-2), and includes greater than 3 percent absolute cover of mesquite trees with very low cover of herbaceous species in the understory. This vegetation community is often associated with riparian or aquatic habitats. Mesquite may also be present within Site 11, although that could not be determined through a review of the aerial imagery. Mesquite thickets are considered sensitive natural communities by CDFW (2026b).

Open Water

Open water is present within By-Right Development Sites 4, 9, 10, 12, and 23, where canals intersect with the parcels (see Figures 5-1 and 5-2). This land cover type lacks vegetative cover and consists of standing or flowing water that is present consistently throughout the year. Ephemeral standing water visible on aerial imagery was not mapped as Open Water but noted below under the aquatics resources section that aquatic features may be present.

Tamarisk Scrub

Tamarisk scrub is a weedy, virtual monoculture of any of several tamarisk species (*Tamarix* spp.). Areas dominated by tamarisk were mapped as tamarisk scrub. Tamarisk scrub is present within By-Right Development Sites 9, 10, 11, 12, and 23, within or adjacent to canals (see Figures 5-1 and 5-2). This vegetation community is defined by a variable cover of tamarisk, ranging from dense thickets to widely spaced individuals forming a monotypic stand. Tamarisk scrub is often associated with riparian or aquatic habitats. Within Site 11, additional riparian trees other than tamarisk may be present, but it was not clear from the aerial imagery what those trees may be.

Land Covers

Agriculture

Agricultural land typically consists of areas supporting active orchards, vineyards, and cultivated agricultural fields (Oberbauer et al. 2008). This land cover type is present within By-Right Development Sites 25, 26, and 27 (see Figure 5-2) and appears to frequently support row crops and to be constantly disturbed by agricultural activities (i.e., discing, harvesting, etc.).

Disturbed Habitat

Disturbed habitat is defined as areas that have been disturbed by previous human activity and which are no longer recognizable as a vegetation community but retain a soil substrate (Oberbauer et al. 2008). Disturbed habitat occurs within most By-Right Development Sites and consists primarily of bare ground with evidence of previous disturbance and a low overall cover of non-native herbaceous plant species (see Figures 5-1 through 5-3).

Urban/Developed

Urban/developed land is defined as areas that have been constructed upon or physically altered so that native vegetation no longer occurs (Oberbauer et al. 2008). Urban/developed land occurs in the form of paved areas, concrete-lined channels, vehicle storage areas, existing residences, or commercial buildings (see Figures 5-2 and 5-3).

4.4 Special-Status Species

For purposes of this report, species will be considered sensitive if they are (1) listed by state or federal agencies as threatened or endangered or are proposed for listing (CDFW 2026c); (2) designated as fully protected or species of special concern by CDFW (2026d); or (3) identified as California Rare Plant Rank (CRPR) 1B (considered endangered throughout its range), CRPR 2 (considered endangered in California but more common elsewhere), CRPR 3 (more information about the plant's distribution and rarity needed), or CRPR 4 (plants of limited distribution) on the CNPS Inventory of Rare and Endangered Vascular Plants of California (CNPS 2026).

4.4.1 Sensitive Plants

Nine special-status plant species have been documented as occurring within the six surrounding quadrangles (CNPS 2026) or within five miles of the proposed project (CDFW 2026a). These species were evaluated for their potential to occur (see Attachment 2).

Of these nine special-status plant species, none were determined to have a moderate or high potential to occur within the proposed project, including within the By-Right Development Sites, due to lack of suitable habitat. The basis for these determinations are presented in Attachment 2.

4.4.2 Sensitive Wildlife

Eight sensitive wildlife species have been reported within five miles of the proposed project in the California Natural Diversity Database, and therefore were evaluated for their potential to occur (CDFW 2026a). The basis for these determinations are presented in Attachment 3.

Five sensitive species were determined to have a moderate potential to occur in the proposed project, including within the By-Right Development Sites: burrowing owl (*Athene cunicularia*), Yuma Ridgway's rail (*Rallus obsoletus* [=*longirostris*] *yumanensis*), western yellow bat (*Lasiurus xanthinus*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), and western mastiff bat (*Eumops perotis californicus*)

Burrowing owl. The burrowing owl is a state candidate for listing as endangered and a state species of special concern (CDFW 2026c, 2026d). Burrowing owl is primarily restricted to the western U.S. and Mexico. Habitat for the burrowing owl includes dry, open, short-grass areas with level to gentle topography and well-drained soils (CDFW 2012). In Imperial County, this species can be found in desert scrub, grassland, disturbed, and agricultural areas, where it occupies existing mammal burrows. Several occurrences for this species have been reported within five miles of the project sites (CDFW 2026a). There is a moderate potential for burrowing owl to occur within most By-Right Development Sites where suitable burrows may occur, with the exception of Sites 44 and 45. Sites 44 and 45 are entirely developed and lack suitable habitat; however, because suitable habitat occurs within 500 feet of these sites, this species is not expected to occur within these sites, but has a moderate potential to occur within a 500-foot buffer. Although a site-specific analysis was not conducted for the Discretionary Development Sites, this species has a moderate potential to occur wherever there is suitable habitat present.

Yuma Ridgway's rail. The Yuma Ridgway's rail is state- and federally listed as endangered and a state fully protected species (CDFW 2026c, 2026d). The Yuma Ridgway's rail occurs along the lower Colorado River and its tributaries (Virgin River, Bill Williams River, and lower Gila River in Arizona, California, Nevada, and Utah); the Salton Sea in California within freshwater marshes at the Sonny Bono Salton Sea National Wildlife Refuge; and a majority of the population is found in Mexico. It typically occupies emergent dense marsh vegetation, such as pickleweed (*Salicornia virginica*) and cordgrass (*Spartina foliosa*), as well as dense, mature stands of bulrush (*Scirpus* spp.) and cattail (*Typha* spp.) around the Salton Sea (CDFW 2004; USFWS 2009). Nests are built on stable, elevated ground (such as bases of emergent plant clumps or trees, on or in deep mats of residual vegetation) to help protect nests from water level fluctuations (USFWS 2009). There is a moderate potential for this species to occur within By-Right Development Sites 4, 9, 10, and 12 due to the presence of partially vegetated channels which have potential to support patches of freshwater marsh habitat. Sites 25, 26, 27, 29, and 30 are just south of the All American Canal, and the banks of that canal support some emergent freshwater vegetation which could support this species. Other By-Right Development Sites contain concrete-lined channels, but these channels are unvegetated and do not contain suitable habitat for this species.

Although a site-specific analysis was not conducted for the Discretionary Development Sites, this species has a moderate potential to occur wherever suitable habitat is present. This species has been reported within five miles of the project sites (CDFW 2026a).

Western yellow bat. The western yellow bat is a state species of special concern (CDFW 2026d). This species' distribution extends from Los Angeles County east through western Arizona, southwestern New Mexico, and south to approximately Mexico City. It is found in riparian, desert wash, and palm oasis habitats in the deserts and mountains from near sea level up to over 5,000 feet in elevation, where it forages for flying insects over streams and ponds. Western yellow bats roost primarily in groves of California fan palm (*Washingtonia filifera*), but will also use non-native palms (*Washingtonia* spp.; *Phoenix* sp.), cottonwoods (*Populus* spp.), and yuccas (*Yucca* spp.). In palms, this species prefers tall trees with a skirt of dead fronds around the trunks. While most common in the mountains and deserts, the western yellow bat appears to have expanded its range into suburban areas, roosting in exotic palms used in landscaping. There is a moderate potential for this species to roost within By-Right Development Sites 23, 50, 51, and 53 due to the presence of non-native palm trees. There is low potential for this species to occur within the remaining By-Right Development Sites due to the lack of suitable roosting or foraging habitat. Although a site-specific analysis was not conducted for the Discretionary Development Sites, this species has a moderate potential to occur wherever there is suitable habitat present.

Pocketed free-tailed bat. The pocketed free-tailed bat is a state species of special concern (CDFW 2026d). This species is found in southwestern U.S. and western Mexico (Bat Conservation International 2026). This species roosts in crevices in rugged canyons, rock outcrops, and high cliffs, and has been found roosting in rock quarries (Tremor et al. 2017). Given its wide distribution, the species can be found foraging for large moths in a wide variety of habitats, including riparian areas, oak woodlands, grasslands, sage scrub, reservoirs, and ponds (Western Bat Working Group 2026). This species is not expected to roost within the By-Right Development Sites due to the lack of suitable vertical cliffs or quarries. There is low potential for this species to forage within the By-Right Development Sites; while potentially suitable saltbush scrub habitat is present throughout several of

these sites, this habitat is highly fragmented and is disconnected from suitable roosting habitat. This species has a moderate potential to occur within any Discretionary Development Sites where suitable roosting or foraging habitat occurs. This species has been reported within five miles of the project boundaries (CDFW 2026a).

Western mastiff bat. The western mastiff bat is a state species of special concern (CDFW 2026d). This subspecies ranges from central California, east to Texas, and south into northern Mexico (Tremor et al. 2017). In California it has been recorded from Butte County and the Bay Area south along much of the coast and the western slope of the Sierra Nevada, throughout the southern California coastal basins, and in the western portion of the desert (Williams 1986). It roosts primarily in cliffs (Western Bat working Group 2026), as well as rock quarries and other rugged, rocky areas where there are large rock outcrops, and occasionally in tall buildings with sufficient shelter (Tremor et al. 2017). The western mastiff bat feeds on large moths as well as other flying insects such as bees, crickets, and beetles. This species is not expected to roost within the By-Right Development Sites due to the lack of suitable cliff crevices, tall buildings, trees, or tunnels. There is low potential for this species to forage within the By-Right Development Sites; while potentially suitable saltbush scrub habitat is present throughout several of these sites, this habitat is highly fragmented and is disconnected from suitable roosting habitat. This species has a moderate potential to occur within any Discretionary Development Sites where suitable roosting or foraging habitat occurs. This species has been reported within five miles of the project boundaries (CDFW 2026a).

Migratory and Nesting Birds. All 54 sites within the proposed project support habitat for migratory and nesting bird species. Several ground-nesting species have the potential to nest within the open areas found within both the By-Right Development Sites and Discretionary Development Sites, and urban-adapted species have been known to nest within ornamental vegetation, the eves of houses, or openings in structures.

4.5 Critical Habitat

The USFWS designates critical habitat for endangered and threatened species under the FESA (16 United States Code § 1533 (a)(3)) for the survival and recovery of federally listed endangered and/or threatened species. Protected habitat includes areas for foraging, breeding, roosting, shelter, and movement or migration. No critical habitat is present within the proposed project, including within the By-Right Development Sites for any federally listed species.

4.6 Aquatic Resources

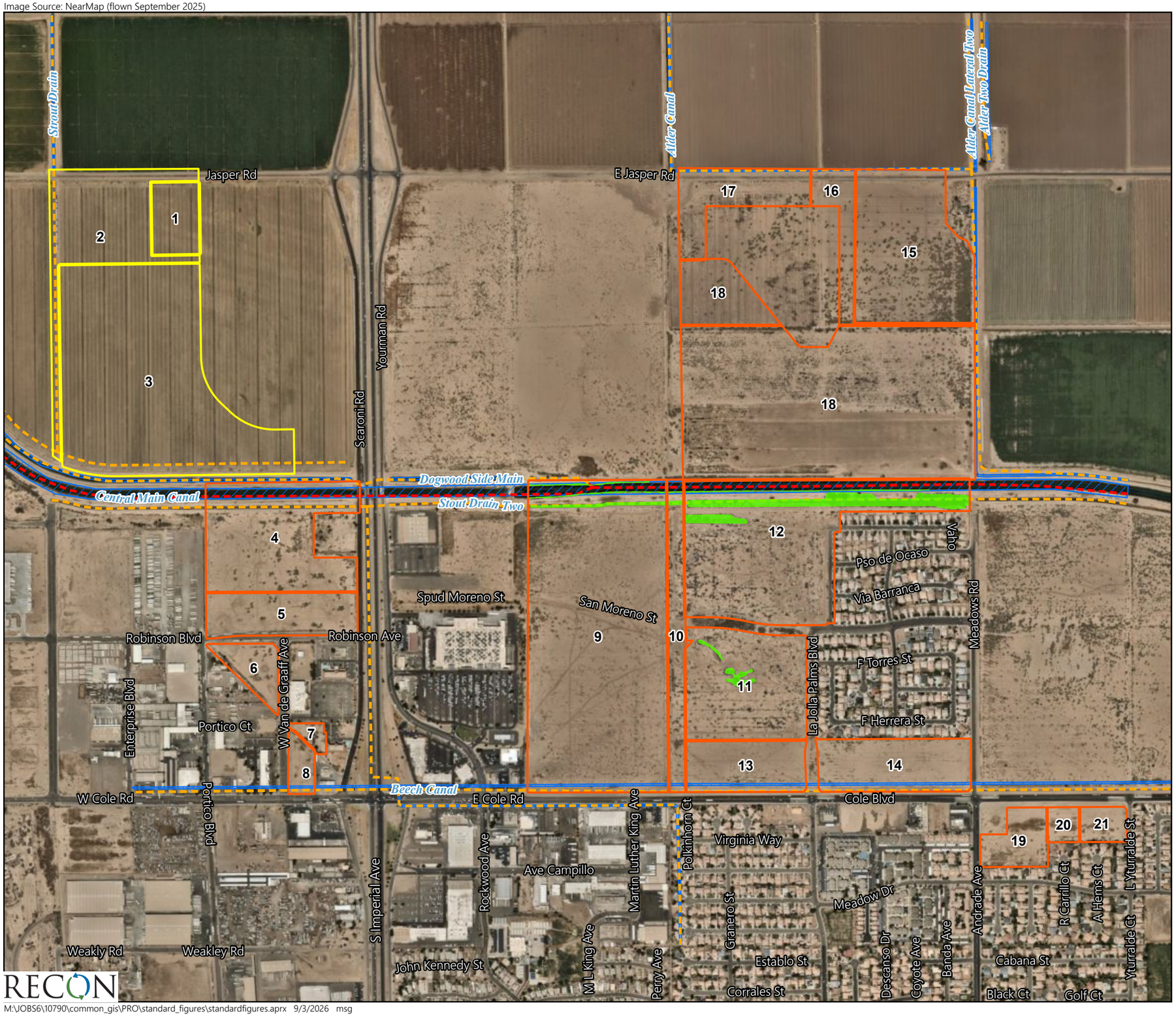
RECON reviewed NWI and NHD data and aerial imagery from September 23, 2025, to determine potentially jurisdictional aquatic resources within the proposed project (USFWS 2026b; USGS 2026). Nearly all sites showed either wet soils or some inundation following Tropical Storm Mario, which hit Calexico on September 18, 2026. Eleven sites do not appear to show standing water, however, indicating that there is a low potential for these sites to support naturally occurring aquatic resources such as streams or wetlands (Table 3).

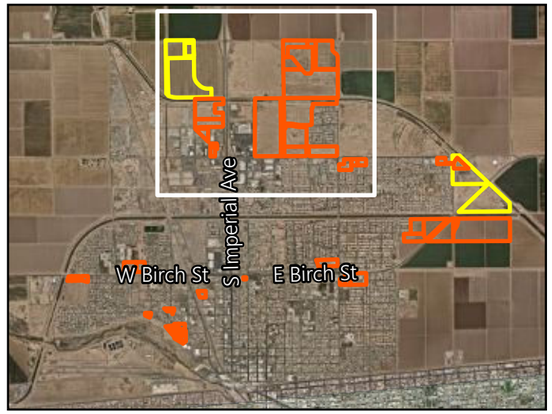
As shown in Figure 6, By-Right Development Sites 4, 8, 9, 10, 12, 15, 17, 23, and 50 contain NWI and NHD mapped features. Sites 4, 9, 10, and 12 contain mapped canal/ditch, artificial path, and riverine features; Sites 8, 15, and 17 contain mapped canal/ditch and riverine features; Site 23 contains a mapped canal/ditch feature; and Sites 13 and 50 contain a mapped riverine feature. RECON also considered the vegetation mapping conducted for this program-level assessment, as further detailed in Section 3, to determine additional potential jurisdictional aquatic resources within the proposed project. Sites 9, 19, 12, and 23 also contain tamarisk scrub, a riparian vegetation community typically associated with a potentially jurisdictional aquatic resource. Site 31 contains mesquite thickets, a vegetation community that may be considered a potentially jurisdictional resource if directly associated with a streambed feature.

Discretionary Development Sites 2 and 3 contain a mapped canal ditch; Site 14 contains a mapped canal/ditch and riverine features; and Sites 24 and 24b contain mapped canal/ditch, artificial path, and riverine features (see Figure 6).

The features noted above may meet the definition of jurisdictional aquatic resources by the USACE, RWQCB, and/or CDFW. A formal site-specific aquatic resources delineation and reporting per regulatory agency standards and guidelines would be required to confirm the extent of the aquatic resources within all By-Right Development Sites and Discretionary Development Sites and their anticipated jurisdictional status. As such, the areas noted above do not encompass all potential aquatic resources throughout the proposed project. All development parcels have the potential to contain potentially jurisdictional aquatic resources pending a formal site-specific aquatic resources delineation. Regulatory aquatic resources permitting requirements would be assessed based on the results of the formal delineation and reporting.

Image Source: NearMap (flown September 2025)





By-Right Development Sites

Discretionary Development Sites

Potentially Jurisdictional Aquatic Resources

Riparian Habitat*

National Hydrography Dataset (NHD)

Canal/Ditch

Artificial Path

National Wetland Inventory (NWI)

Riverine

*Includes areas mapped as Tamarisk Scrub and Mesquite Thickets per this assessment. A formal site-specific field survey (i.e., a biological assessment and aquatic resources delineation) would be required to confirm the vegetation and extent and type of potentially jurisdictional aquatic resources on-site.

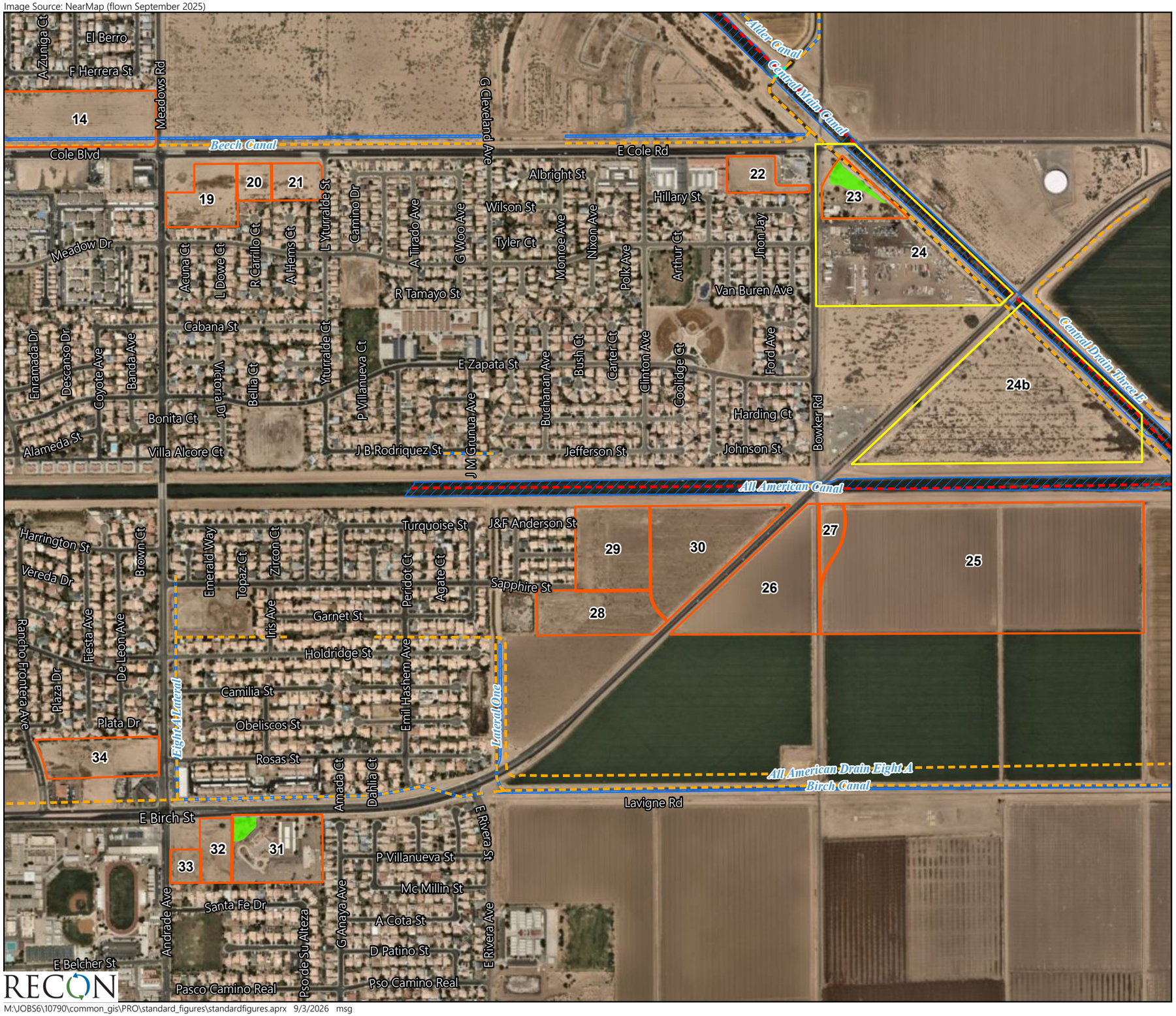
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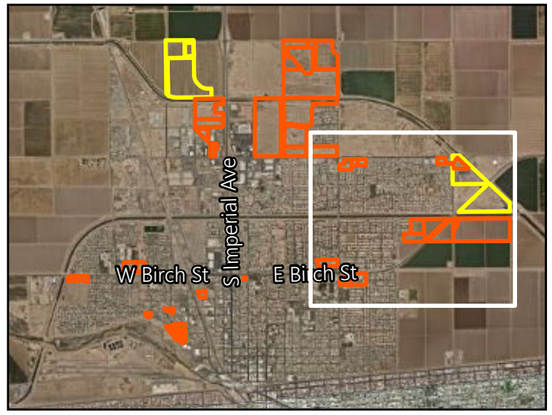
FIGURE 6-1
Potentially Jurisdictional Aquatic Resources

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Image Source: NearMap (flown September 2025)





By-Right Development Sites

Discretionary Development Sites

Potentially Jurisdictional Aquatic Resources

Riparian Habitat*

National Hydrography Dataset (NHD)

Canal/Ditch

Pipeline

Artificial Path

National Wetland Inventory (NWI)

Riverine

*Includes areas mapped as Tamarisk Scrub and Mesquite Thickets per this assessment. A formal site-specific field survey (i.e., a biological assessment and aquatic resources delineation) would be required to confirm the vegetation and extent and type of potentially jurisdictional aquatic resources on-site.

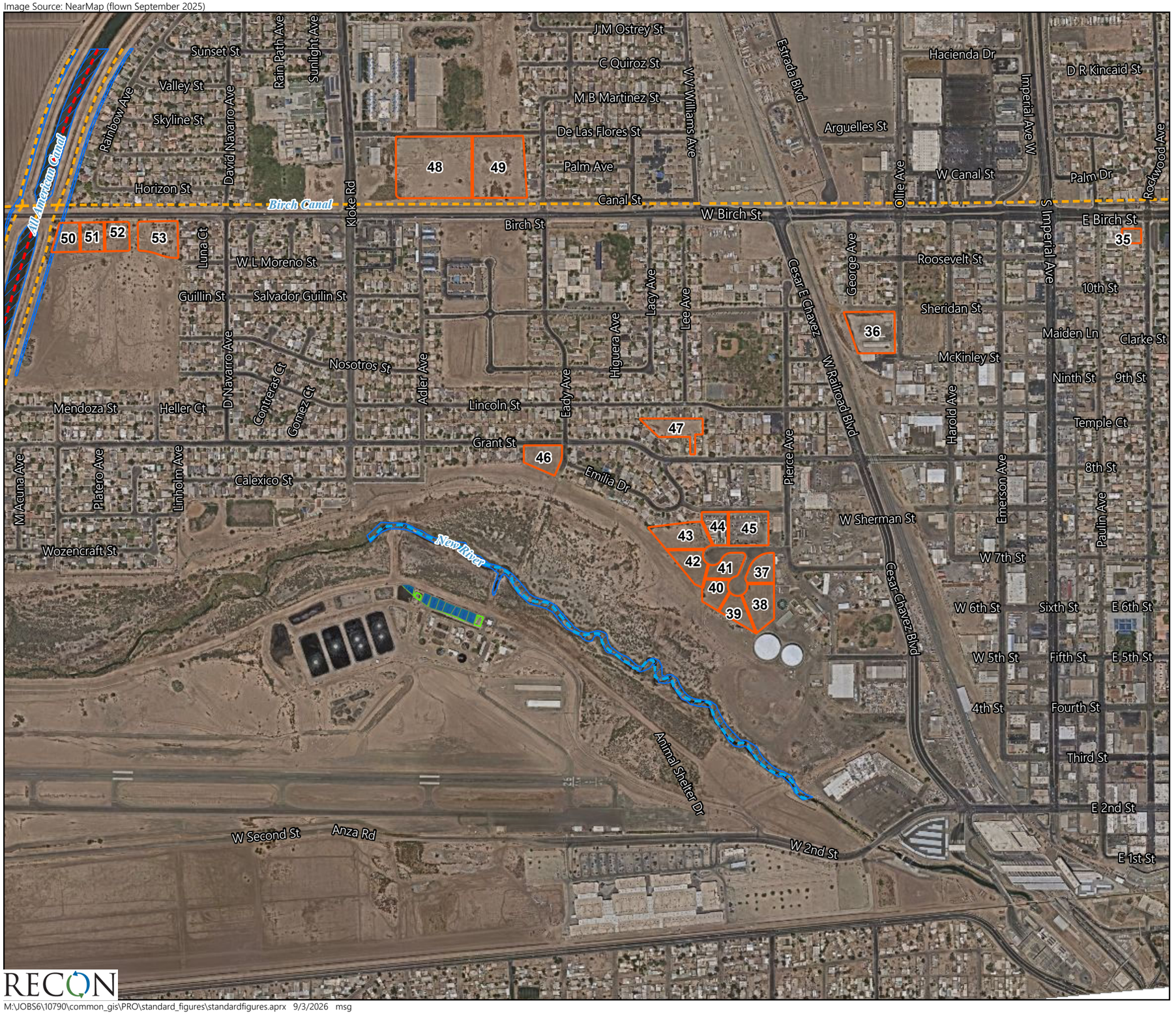
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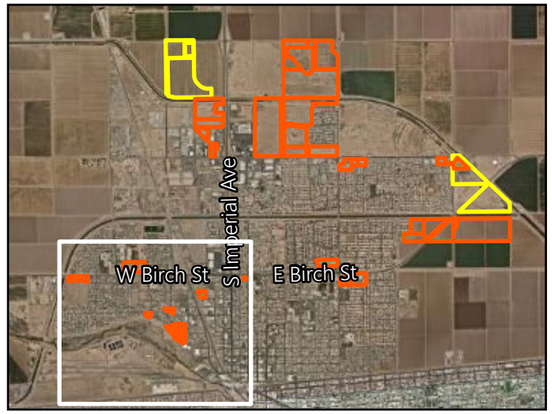
FIGURE 6-2
Potentially Jurisdictional Aquatic Resources

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Image Source: NearMap (flown September 2025)





By-Right Development Sites

Potentially Jurisdictional Aquatic Resources

National Hydrography Dataset (NHD)

- Canal/Ditch
- Stream/River
- Artificial Path
- Reservoir

National Wetland Inventory (NWI)

- Freshwater Pond
- Riverine

*Includes areas mapped as Tamarisk Scrub and Mesquite Thickets per this assessment. A formal site-specific field survey (i.e., a biological assessment and aquatic resources delineation) would be required to confirm the vegetation and extent and type of potentially jurisdictional aquatic resources on-site.

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FIGURE 6-3
Potentially Jurisdictional Aquatic Resources

Table 3 By-Right Development Sites Identified as Containing or with Potential to Contain Jurisdictional Aquatic Resources			
Housing Site	Aquatic Resources per Database Sources[1]	Potential for Jurisdictional Aquatic Resources?	Standing Water or Wet Soils Visible on Aerial from September 2025?
4	Yes	Yes	No
5	-	Yes	No
6	-	Yes	Yes
7	-	Yes	Yes
8	Yes	Yes	Yes
9	Yes. Beech Canal, although mapping is not precise and shows up directly south of parcel on aerial image	Possibly, but Beech Canal likely not present on-site	Yes
10			Yes
11	-	Yes	Yes
12	Yes	Yes	Yes
13	Yes. Beech Canal, although mapping is not precise and shows up directly south of parcel on aerial image	Possibly, but Beech Canal likely not present on-site	No
14			Yes
15	Yes. Unnamed irrigation channel.	Yes, but likely only unnamed irrigation channel.	No
16			No
17			No
18	-	Yes	Yes
19	-	Yes	Yes
20	-	Yes	Yes
21	-	Yes	Yes
22	-	Yes	Yes
23	Yes	Yes	Yes
25	-	Yes	Yes
26	-	Yes	Yes
27	-	Yes	Yes
28	-	Yes	No
29		Yes	Yes
30		Yes	No
31	-	Yes	Yes
32	-	Yes	Yes
33	-	Yes	Yes
34	-	Yes	Yes
35	-	Yes	Yes
36	-	Yes	Yes
37	-	Unlikely	No
38	-	Yes	Yes
39	-	Yes	Yes

Table 3 By-Right Development Sites Identified as Containing or with Potential to Contain Jurisdictional Aquatic Resources			
Housing Site	Aquatic Resources per Database Sources[1]	Potential for Jurisdictional Aquatic Resources?	Standing Water or Wet Soils Visible on Aerial from September 2025?
40	-	Yes	Yes
41	-	Unlikely	No
42	-	Yes	Yes
43	-	Yes	Yes
44	-	Yes	N/A. Developed Sites
45	-	Yes	N/A. Developed Sites
46	-	Unlikely	No
47	-	Yes	Yes
48	-	Yes	Yes
49	-	Yes	Yes
50	Yes	Yes	Yes
51	-	Yes	Yes
52	-	Yes	Yes
53	-	Yes	Yes
[1]Based on USFWS National Wetlands Inventory (USGS 2026) and USGS National Hydrology Dataset (USFWS 2026b).			

4.7 Wildlife Corridors and Wildlife Nursery Sites

Habitat linkages and wildlife corridors are defined as areas that connect suitable wildlife habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors for wildlife travel. Habitat linkages and wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and facilitate the exchange of genetic traits between populations. Wildlife movement corridors are considered sensitive by resource and conservation agencies.

Most of the proposed project, including the By-Right Development Sites, is of limited value for wildlife movement due to existing residential, commercial, and agricultural development either surrounding the sites (e.g., Site 47) or directly adjacent to the sites on one more sides (e.g., Site 46). Native habitats occurring within the proposed project, including the By-Right Development Sites, are highly fragmented and do not provide a habitat linkage for wildlife species. By-Right Development Sites 39, 40, 42, 43, and 46 are located along the edge of development in the southern portion of the City, approximately 0.10 miles north of the New River. While there is some potential for wildlife traveling through the corridor of the New River to access these southern By-Right Development Sites, these sites were identified as primarily disturbed land with mostly bare ground; thus, they provide little habitat value. Furthermore, these five sites are surrounded by urban development to their north, and as such do not provide linkages to other suitable habitat. Additionally, the U.S./Mexico border wall to the south of the New River and the City would ultimately restrict movement of wildlife along the southern portion of the New River.

Two earthen, partially vegetated channels, Central Main Canal and Stout Drain Two, flow east to west through the northern portion of By-Right Development Sites 4, 9, 10, and 12. These channels have some potential to serve as a movement corridor for certain wildlife species, including Yuma Ridgeway's rail, if present. However, these channels are only intermittently vegetated and flow through an otherwise heavily developed area. Therefore, these channels are not expected to serve as a significant local or regional wildlife movement corridor.

Several By-Right Development Sites may contain nursery sites for special-status bats (i.e., maternal bat roost sites). Sites 23, 50, 51, and 53 contain large palm trees based on Google Street View (2026) photos, many of which have not been trimmed and maintain dead fronds. These thick, overlapping palm fronds support microhabitat for western yellow bat roost sites. In addition, abandoned buildings or other lightly used infrastructure (e.g., sheds, outbuildings, bridges, etc.) could also support bat maternal roost sites for certain species of bats.

5.0 Impacts

5.1 Impact Summary

The following discussion describes the proposed project's potential to affect special-status biological resources. Implementation of the Housing Element Update would have the potential to directly and/or indirectly impact biological resources. Potential direct impacts would include removal of habitat through future development and redevelopment projects that support sensitive species, as well as potential direct impacts on regulated aquatic resources. Any defensible space associated with future development within the proposed project sites shall be included within the proposed project footprint. The proposed project sites are not located directly adjacent to open space or conservation lands, and therefore, impacts resulting from creation of defensible space would not occur.

5.1.1 Direct Impacts

Direct impacts are caused by and occur at the same time and place as the proposed project. Any alteration, disturbance, or destruction of biological resources that would result from project-related activities is considered a direct impact. Direct impacts would include direct losses to native habitats, potential jurisdictional waters, wetlands, and special status species; and diverting natural surface water flows. Direct impacts could include injury, death, and/or harassment of listed and/or special-status species. Direct impacts could also include the destruction of habitats necessary for species breeding, feeding, or sheltering. Direct impacts on plants can include crushing of adult plants, bulbs, or seeds.

Direct impacts can be categorized into permanent and temporary impacts. Permanent impacts are generally anticipated to last more than one year in duration, whereas temporary impacts are usually considered less than a year in duration and focused more on the construction timeframe for the residential developments. The proposed project would result in direct permanent impacts through an anticipated increase in residential housing development, as well as the utility infrastructure and defensible space (i.e., fire management) needs associated with residential development in the City. This residential development, as well as the infrastructure and defensible space needs associated

with that residential development, would permanently remove habitat for sensitive species. During construction of residential housing, there would be a temporary increase in the potential for direct mortality events such as vehicle or equipment strikes.

The extent of direct and indirect impacts for the proposed project cannot yet be quantified definitively, as specific project designs have not been prepared. A project-level impact analysis would be required to determine the full extent of direct permanent and temporary impacts. However, Table 3 provides a summary of impacts anticipated from the proposed project assuming 100 percent of the inventory sites are developed.

5.1.2 Indirect Impacts

As a result of project-related activities, biological resources may also be affected in a manner that is not direct. Indirect impacts may occur later in time or at a place that is farther removed from the proposed project, but indirect impacts are still reasonably foreseeable and attributable to project-related activities. Examples include habitat fragmentation; elevated noise, dust, and lighting levels; changes in hydrology, runoff, and sedimentation; decreased water quality; soil compaction; increased human activity; and the introduction of invasive wildlife (e.g., domestic cats and dogs) and plants. The magnitude of an indirect impact can be the same as a direct impact; however, the effect usually takes a longer time to become apparent.

Due to the proposed project's potential to increase residential development within the City, the following indirect impacts are anticipated:

- An increase in the overall residential lighting within the City, which may affect sensitive wildlife behavioral patterns.

- An increase in the overall level of human activity within areas previously used by sensitive species. As such, there may be an increase in wildlife-human interactions created by the increase in residential development projects.

- An increase in the risk of exotic species and/or invasive species escaping residential areas and spreading into adjacent natural areas, such as the New River to the south of the City.

  An increase in pervious surfaces resulting from the increased residential development could permanently alter natural hydrology and drainage patterns, which could further affect habitats that sensitive wildlife could utilize. This also has the potential to affect jurisdictional aquatic features.

Direct and indirect impacts on biological resources are described below.

Table 4 Maximum Project Impact Estimate		
Vegetation Community / Land Cover Type	Area (acre)	Sensitive Natural Community?[1]
By-Right Development Sites		
Native Upland Habitats		
Mesquite Thickets	0.7	Yes[2]
Palo Verde Woodland	1.3	No
Saltbush Scrub	208.2	No
Riparian/Aquatic Habitats		
Tamarisk Scrub	9.2	Yes[2]
Open Water	9.9	Yes[2]
Land Covers		
Agriculture	76.8	No
Disturbed Habitat	190.7	No
Urban/developed	19.3	No
SUB-TOTAL BY-RIGHT DEVELOPMENT SITES[3]	**516.0**	**N/A**
DISCRETIONARY DEVELOPMENT SITES[4]	**153.4**	**TBD**
GRAND TOTAL	**669.5**	**N/A**

[1]Source: CDFW 2026b.
[2]Vegetation community/land cover type that is typically associated with containing potentially jurisdictional aquatic resources. A formal site-specific aquatic resources delineation per regulatory agency standards and guidelines would be required to confirm the extent of potential aquatic resources on-site and anticipated jurisdictional status per agency.
[3]Areas are presented in acres, rounded to the nearest 0.1; discrepancies are due to rounding.
[4]Discretionary development site vegetation mapping to be provided during site-specific project analysis. Most of these sites share similar characteristics to the By-Right Development Sites.

5.2 Criteria for Determining Impact Significance

The significance of impacts to biological resources present or those with potential to occur was determined based upon the sensitivity of the resource and the extent of the anticipated impacts. For certain highly sensitive resources (e.g., a federally or state-listed species), any direct impact would be significant. Conversely, other resources that are of low sensitivity (e.g., species with a large, locally stable population in Imperial County but declining elsewhere) could sustain some impact with a less than significant effect.

According to Appendix G of the CEQA Guidelines, impacts to biological resources would be considered significant if they would:

(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.

(b) Have a substantial adverse effect on any riparian habitat or sensitive natural community identified by local or regional plans, policies, regulations or by CDFW or USFWS.

(c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling hydrological interruption, or other means.

(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

(e) Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

(f) Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.3 Sensitive Plants

No sensitive plant species have a moderate or high potential to occur within the proposed project, including within the By-Right Development Sites. Therefore, impacts to sensitive plants are not expected, and no avoidance or mitigation measures would be required.

5.4 Sensitive Wildlife

Direct and indirect impacts to sensitive wildlife species are expected to occur, consistent with those described above in Section 5.1, as a result the proposed project, which is assumed to result in additional residential development within 53 sites and the Bowker site within the City of Calexico. Table 5, below, summarizes the potential impacts on sensitive wildlife species from the proposed project.

5.4.1 Federally and State-Listed Wildlife Species

Burrowing owl. Direct impacts to burrowing owl, a state candidate for listing as endangered, could occur during implementation of the proposed project through the increase in residential development throughout the City. Specifically, permanent direct impacts to burrowing owl, a state candidate for listing as endangered, could occur during construction activity within the proposed project, including within the By-Right Development Sites, through habitat removal/modification or direct mortality associated with vehicular or excavation equipment strikes.

Indirect impacts to burrowing owls present within or adjacent to the proposed project are possible from increased noise, lighting, and human presence and traffic during construction. Suitable burrows for burrowing owl may be present within all By-Right Development Sites with the exception of Sites 44 and 45, which are completely developed and within an urbanized area. However, suitable burrows may occur within 500 feet of Sites 44 and 45; therefore, burrowing owl may be indirectly impacted by development of these parcels. Although a site-specific analysis was not conducted for the

Discretionary Development Sites, this species could occur wherever there is suitable habitat present. Removal of habitat, direct mortality, or indirect impacts to burrowing owl would be considered significant and require mitigation (Impact BIO-1).

Yuma Ridgway's rail. Direct impacts to this species are not anticipated, as impacts to canals are not expected as part of the residential development projects; therefore, direct loss of habitat is not anticipated. Indirect impacts to Yuma Ridgway's rail, a federally threatened species, could occur as a result of increased noise, lighting, and human presence and traffic during construction in By-Right Development sites that are directly adjacent or within approximately 500 feet of canals that support this species habitat. Although a site-specific analysis was not conducted for the Discretionary Development Sites, this species could occur wherever there is suitable habitat present. Indirect impacts to Yuma Ridgway's rail would be considered significant and require mitigation (Impact BIO-1).

5.4.1.1 Special-Status Mammals

Western yellow bat. Proposed construction activities may impact western yellow bat, a state species of special concern which has a moderate potential to roost within non-native palm trees occurring in By-Right Development Sites 23, 50, 51, and 53, and potentially other palms present within the Discretionary Development Sites. Impacts to maternal roost sites for western yellow bat, such as those occurring within palm trees in By-Right Development Sites 23, 50, 51, and 53, could occur if those trees were removed during construction activities. These impacts could cause direct mortality to numerous immature bats and adult females tending the roost site. These direct impacts would be significant and would require mitigation (Impact BIO-2).

Western mastiff bat and pocketed free-tailed bat. Suitable roosting habitat for the western mastiff bat and pocketed free-tailed bat is not expected to occur within the By-Right Development Sites, and there is a low potential for these species to forage within these sites. Although a site-specific analysis was not conducted for the Discretionary Development Sites, these species could occur wherever there is suitable habitat present. These impacts could cause direct mortality to numerous immature bats and adult females tending the roost site. These direct impacts would be significant and would require mitigation (Impact BIO-2).

5.4.1.2 Migratory Birds and Raptors

The proposed project may result in direct permanent removal of trees and native shrubs as a result of additional residential housing construction. In addition to these vegetation types, disturbed habitat, agricultural areas, bare ground, and developed areas may potentially support avian species protected under the MBTA and CFGC, including ground-nesting birds such as killdeer (*Charadrius vociferus*), and these areas would experience physical alteration (e.g., grading) as well from the proposed project. Moreover, tree trimming has the potential to result in direct take of nesting bird species, including raptors, covered under the MBTA and CFGC Sections 3503 and 3503.5.

In addition to these permanent direct impacts, indirect impacts such as noise, night lighting, and human presence from construction activities are expected near potential nest locations (i.e., trees). These construction activities could result in nest abandonment, which would result in direct take of eggs or chicks. These direct impacts would be significant, absent mitigation (**Impact BIO-3**).

For Discretionary Sites, impacts on migratory birds and raptors would be reduced through implementation of mitigation measure **MM BIO-6**, below. For the By-Right Development Sites, compliance with applicable provision of the MBTA and CFGC related to nesting birds would be required as part of the ministerial review process conducted by the City of Calexico Planning and Building Department in accordance with the Zoning Ordinance amendments pursuant to Program 2E in the Housing Element Update (i.e., promulgation of a new by-right development ordinance). Therefore, potential impacts on migratory birds and raptors would be addressed through MM BIO-6 for Discretionary Sites and through applicable regulatory requirements for By-Right Development Sites. Through implementation of these measures and regulations, the project is expected to avoid direct impacts and reduce the potential indirect impacts to MBTA- and CFGC-protected avian species to a level of less than significant.

Table 5
Potential Impacts to Sensitive Wildlife Species on By-Right Development Sites[1]

By-Right Development Site	Sensitive Plants	Sensitive Wildlife	Burrowing Owl	Yuma Ridgway's Rail	Western Yellow Bat	Nesting and Migratory Birds
4	-	Yes	Yes	Yes	-	Yes
5	-	Yes	Yes	-	-	Yes
6	-	Yes	Yes	-	-	Yes
7	-	Yes	Yes	-	-	Yes
8	-	Yes	Yes	-	-	Yes
9	-	Yes	Yes	Yes	-	Yes
10	-	Yes	Yes	Yes	-	Yes
11	-	Yes	Yes	-	Yes	Yes
12	-	Yes	Yes	Yes	-	Yes
13	-	Yes	Yes	-	-	Yes
14		Yes	Yes	-		Yes
15	-	Yes	Yes	-	-	Yes
16		Yes	Yes	-	-	Yes
17	-	Yes	Yes	-	-	Yes
18	-	Yes	Yes	-	-	Yes
19	-	Yes	Yes	-	-	Yes
20	-	Yes	Yes	-	-	Yes
21	-	Yes	Yes	-	-	Yes
22	-	Yes	Yes	-	-	Yes
23	-	Yes	Yes	-	Yes	Yes
25	-	Yes	Yes	Yes	-	Yes
26		Yes	Yes	Yes	-	Yes
27	-	Yes	Yes	Yes	-	Yes
28	-	Yes	Yes	-	-	Yes
29		Yes	Yes	Yes	-	Yes

Table 5 Potential Impacts to Sensitive Wildlife Species on By-Right Development Sites[1]						
By-Right Development Site	Sensitive Plants	Sensitive Wildlife	Burrowing Owl	Yuma Ridgway's Rail	Western Yellow Bat	Nesting and Migratory Birds
30		Yes	Yes	Yes	-	Yes
31	-	Yes	Yes	-	-	Yes
32	-	Yes	Yes	-	-	Yes
33	-	Yes	Yes	-	-	Yes
34	-	Yes	Yes	-	-	Yes
35	-	Yes	Yes	-	-	Yes
36	-	Yes	Yes	-	-	Yes
37	-	Yes	Yes	-	-	Yes
38	-	Yes	Yes	-	-	Yes
39	-	Yes	Yes	-	-	Yes
40	-	Yes	Yes	-	-	Yes
41	--	Yes	Yes	-	-	Yes
42	-	Yes	Yes	-	-	Yes
43	-	Yes	Yes	-	-	Yes
44	-	-	Yes[2]	-	-	Yes
45	-	-	Yes[2]	-	-	Yes
46	-	Yes	Yes	-	-	Yes
47	-	Yes	Yes	-	-	Yes
48	-	Yes	Yes	-	-	Yes
49	-	Yes	Yes	-	-	Yes
50	-	Yes	Yes	-	Yes	Yes
51	-	Yes	Yes	-	Yes	Yes
52	-	Yes	Yes	-	-	Yes
53	-	Yes	Yes	-	Yes	Yes

[1]Biological conditions were assessed using publicly available geographic information system data (e.g., aerial imagery, etc.) and Google Earth Pro (2026). Because site visits were not conducted, this analysis cannot definitively confirm the presence or absence of biological resources. Field verification would be required to confirm the presence or absence of suitable habitat for sensitive species. Sensitive species may occur wherever suitable habitat is present.

[2]While suitable habitat for burrowing owl does not exist within By-Right Development Sites 44 and 45, suitable habitat is present within 500 feet of these sites. Therefore, there is potential for indirect impacts to burrowing owl in response to development of these sites.

5.5 Riparian Habitat and Sensitive Natural Communities

The proposed project would not result in direct or temporary impacts to sensitive upland natural communities because none were confirmed to be on-site. Direct impacts to riparian habitat could occur within tamarisk scrub present within By-Right Development Site 9, 10, 11, 12, and 23. These riparian habitats may be considered jurisdictional by the USACE, RWQCB, and/or CDFW. Site 11 may support additional riparian trees other than tamarisk, but the identity of these trees was not verifiable from the aerial image. Additionally, mesquite thickets within By-Right Development Site 31 may be considered riparian habitat jurisdictional by CDFW. Even if this mesquite thicket is not considered

CDFW jurisdictional, it is also a sensitive natural community and CDFW may still require mitigation for those impacts.

Permanent and temporary impacts to riparian habitat are significant absent mitigation. Mitigation for direct impacts to riparian habitat considered jurisdictional by the USACE, RWQCB, and/or CDFW will be provided in accordance with mitigation measures BIO-7a, BIO-7b, and BIO-7c, described in Section 6.0, below (**Impact BIO-4**).

A formal site-specific aquatic resources delineation would be required to confirm the extent of the aquatic resources and their anticipated jurisdictional status within all sites identified in the proposed project. For Discretionary Sites, these would be conducted in accordance with mitigation measures **MM BIO-7a**, **MM BIO-7b**, and **MM BIO-7c**, below. For the By-Right Development Sites, compliance with applicable provision of the MBTA and CFGC related to nesting birds would be required as part of the ministerial review process conducted by the City of Calexico Planning and Building Department in accordance with the Zoning Ordinance amendments pursuant to Program 2E in the Housing Element Update (i.e., promulgation of a new by-right development ordinance).

5.6 Aquatic Resources

The proposed project could result in permanent direct or indirect impacts to potential jurisdictional aquatic resources. Table 3 in Section 4.6 above summarizes the potential for By-Right Development Sites to contain potentially jurisdictional aquatic features based on preliminary vegetation mapping. In addition, Discretionary Development Sites 2, 3, and 24 contain NWI and NHD mapped aquatic features and may be considered potentially jurisdictional resources based on the preliminary vegetation mapping conducted for this assessment. These features and/or areas, and any other unmapped canals or other aquatic features within the proposed project sites, may meet the definition of jurisdictional aquatic resources per the USACE, RWQCB, or CDFW. Any permanent or temporary impacts to jurisdictional aquatic resources would be significant absent mitigation (**Impact BIO-4**).

A formal site-specific aquatic resources delineation would be required to confirm the extent of the aquatic resources and their anticipated jurisdictional status within all sites identified in the proposed project. For Discretionary Sites, these would be conducted in accordance with **MM BIO-7a**, **MM BIO-7b**, and **MM BIO-7c**, below. For the By-Right Development Sites, compliance with applicable provisions of the MBTA and CFGC related to nesting birds would be required as part of the ministerial review process conducted by the City of Calexico Planning and Building Department in accordance with the Zoning Ordinance amendments pursuant to Program 2E in the Housing Element Update (i.e., promulgation of a new by-right development ordinance). Regulatory aquatic resources permitting requirements would be assessed based on the results of the formal delineation and reporting.

5.7 Indirect Impacts

The proposed project has the potential to inadvertently, indirectly impact sensitive native habitats, including those occupied by sensitive wildlife species. Indirect impacts are anticipated to occur to sensitive nesting birds (e.g., burrowing owl), if present within or adjacent to the proposed project, due to increased access to the area by humans during construction, excessive noise, removal of

vegetation, and lighting generated by project construction. Any indirect impacts to sensitive bird species would be avoided through compliance with mitigation measures MM-BIO-1, MM-BIO-2, MM-BIO-3a, MM-BIO-3b, MM-BIO-5, and MM-BIO-6, presented in Section 6.0. Therefore, no significant indirect impacts are anticipated to occur.

Indirect impacts may occur to adjacent jurisdictional aquatic resources and native vegetation communities as a result of altered hydrology, fugitive dust, chemical and particulate pollution, and introduction of non-native plant species during construction activities. To reduce impacts to adjacent aquatic resources and riparian habitat, the proposed project would implement mitigation measure MM-BIO-2, which would require fencing around proposed work areas located adjacent to Environmentally Sensitive Areas (including aquatic resources), and measures MM-BIO-7a and MM-BIO-7b, which require permits and mitigation for impacts to jurisdictional aquatic resource features.

If direct impacts to aquatic resources cannot be avoided, permits and approvals from the USACE, RWQCB, and/or CDFW under Sections 404 and 401 of the CWA, the Porter Cologne Water Quality Control Act, and Section 1602 of the CFGC would be obtained in accordance with mitigation measures MM-BIO-7a, MM-BIO-7b, and BIO-7c. Additional minimization measures and compensatory mitigation are typically required under these permits. Under the permits, the mitigation may include purchase of mitigation bank credits and/or permittee-responsible habitat preservation, enhancement, restoration, or creation.

In addition, indirect impacts to aquatic resources would be reduced through implementation of standard Best Management Practices (BMPs) as part of the proposed project's Storm Water Pollution Prevention Plan (SWPPP). Implementation of a SWPPP and associated BMPs are required under the statewide General Construction Permit (2009-0009-DWQ). Specific BMPs may include but would not necessarily be limited to maintaining the proposed project work areas free of trash and debris; employing appropriate standard spill prevention practices and clean-up materials; installing and maintaining sediment and erosion control measures; maintaining effective control of fugitive dust; and properly storing, handling, and disposing of toxins and pollutants, including waste materials. BMPs may also avoid direct impacts by establishing requirements that include flagging the limits of the aquatic resources, not operating equipment within the limits of aquatic resources, and educating the workers on the location and significance of these resources. Adherence to these BMPs and the SWPPP would reduce indirect impacts to aquatic resources to less than significant.

5.8 Wildlife Corridors and Wildlife Nursery Sites

Movement of wildlife through the proposed project is primarily restricted by developed land. Although By-Right Development Sites 39, 40, 42, 43, and 46 are adjacent to undeveloped land to the south, they do not function as significant wildlife movement corridors because they are otherwise bounded by development. Additionally, while two earthen, partially vegetated channels flow through By-Right Development Sites 4, 9, 10, and 12, these channels are only occasionally vegetated and are otherwise surrounded by dense development or agricultural land. Therefore, the proposed project would not result in a significant barrier to wildlife movement. By-Right Development Sites 23, 50, 51, and 53 contain habitat suitable for roosting western yellow bats, including palm trees, many of which have not been trimmed to remove the dead fronds. These thick, overlapping palm fronds support microhabitat for bat roost sites, and removal of these palms during project construction could impact

these potential nursery sites. Impacts could include direct mortality of maternal roost sites and multiple individual bats, including the sensitive western yellow bat. As stated above under Section 5.4, impacts to these potentially-occurring maternal bat roost sites would be significant, absent mitigation (Impact BIO-2). Mitigation measure MM-BIO-4 would require surveys for maternal bat roost sites prior to construction in suitable habitat areas. With implementation of this measure, impacts to wildlife nursery sites would be mitigated to less than significant.

6.0 Mitigation Measures

Mitigation measures are proposed for implementation of the proposed project. Table 6 summarizes significant impacts from the proposed project and mitigation measures that would reduce those impacts to less than significant.

Table 6
Summary of Impacts and Mitigation

Significant Impact Description	Mitigation Measure to Reduce Impacts	Impact after Mitigation Measure Implementation
Impact BIO-1: Impacts to Federally and State Listed Wildlife Species	MM-BIO-1, MM-BIO-2, MM-BIO-3a, MM-BIO-3b, MM-BIO-5	Less than Significant
Impact BIO-2: Impacts to Sensitive Mammal Species/ Bat Maternal Roost Sites	MM-BIO-1, MM-BIO-2, MM-BIO-4	Less than Significant
Impact BIO-3: Impacts to MBTA Avian Species and Raptors	MM-BIO-6	Less than Significant
Impact BIO-4: Impacts to Potential Jurisdictional Aquatic Resources	MM-BIO-1, MM-BIO-2, MM-BIO-7a, MM-BIO-7b, MM-BIO-7c	Less than Significant

Implementation of the proposed project would not result in significant impacts to the following two CEQA thresholds and as such, no mitigation is proposed:

(e) Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

(f) Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The following mitigation measures shall be applied to future development of all By-Right and Discretionary Development Sites:

MM BIO-1: **General Biological Survey and Report.** Applications for future development within the Discretionary Development Sites shall be required to comply with the following:

a) Prior to issuance of any construction permit or any earth-moving activities within the Discretionary Development Sites, a site-specific general biological resources survey shall be conducted to identify the presence of any sensitive biological resources, including any sensitive plant or wildlife species. A biological resources report shall be submitted to the project proponent to document the results of the biological resources survey. The report shall include: (1) the methods used to

determine the presence of sensitive biological resources; (2) vegetation mapping of all vegetation communities and/or land cover types; (3) the locations of any sensitive plant or wildlife species; (4) an evaluation of the potential for occurrence of any listed, rare, and narrow endemic species; and (5) an evaluation of the significance of any potential direct or indirect impacts from the proposed project. If suitable habitat for sensitive species is identified based on the general biological survey, then focused presence/absence surveys shall be conducted in accordance with applicable resource agency survey protocols and incorporated into the biological resources report. If potentially significant impacts to sensitive biological resources are identified, project-level grading and site plans shall incorporate project design features to avoid or minimize direct impacts on sensitive biological resources to the extent feasible, and the report shall also recommend appropriate mitigation to reduce the impacts to a level less than significant. Future site-specific projects shall be required to obtain all necessary permits to ensure compliance with applicable federal, state, and local regulations, such as the federal and state Endangered Species Acts.

By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.

MM BIO-2: Environmentally Sensitive Areas.

a) Environmentally Sensitive Areas identified within Discretionary Development Sites should be avoided to the maximum extent practicable. In areas near or adjacent to Environmentally Sensitive Areas (i.e., natural habitats and vegetation, wetlands, sensitive wildlife use-areas, wildlife corridors), the following measures should be followed:

Avoidance of Environmentally Sensitive Areas. In areas near or adjacent to Environmentally Sensitive Areas, construction limits shall be clearly demarcated using highly visible barriers (such as silt fencing), which shall be installed under the supervision of a qualified biologist prior to the commencement of work. Construction personnel shall strictly limit their activities, vehicles, equipment, and construction materials to the project footprint, including designated staging areas and routes of travel. The construction areas shall be limited to the minimal area necessary to complete the proposed project. The fencing shall remain in place until the completion of all construction activities and shall be promptly removed when construction is complete.

Biological Monitoring. A qualified biological monitor shall conduct construction monitoring of all work conducted within/adjacent to Environmentally Sensitive Areas during all vegetation removal and ground-disturbing activities, such as staging and grading, for the duration of the proposed project to ensure that

practicable measures are being employed to avoid incidental disturbance of habitat outside the project footprint and to survey for sensitive wildlife species. When vegetation removal and ground-disturbing activities are not occurring, as-needed monitoring at the project sites shall occur.

Worker Environmental Awareness Program. In areas near or adjacent to Environmentally Sensitive Areas, a qualified biologist shall conduct a Worker Environmental Awareness Program training session for project and construction personnel prior to the commencement of work. The training shall include a description of the species of concern and their habitats, the general provisions of both federal and state Endangered Species Acts, the general measures that are being implemented to conserve the species of concern as they relate to the proposed project, and the access routes and project site boundaries.

Best Management Practices. During future proposed project construction activities, the following best management practices (BMPs) shall be implemented:

All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities shall occur in developed or designated non-sensitive upland habitat areas. The designated upland areas shall be located to prevent runoff from any spills from entering Waters of the U.S.

A construction Storm Water Pollution Prevention Plan (SWPPP) and a soil erosion and sedimentation plan shall be developed (where requirements are met) to minimize erosion and identify specific pollution prevention measures that shall eliminate or control potential point and nonpoint pollution sources on-site during and following the project construction phase. The SWPPP shall identify specific BMPs during project construction to prevent any water quality standard exceedances. In addition, the SWPPP shall contain provisions for changes to the plan such as alternative mechanisms, if necessary, during project design and/or construction to achieve the stated goals and performance standards.

Trash shall be stored in closed containers so that it is not readily accessible to scavengers and shall be removed from the construction site on a daily basis.

Water quality shall be visually monitored by the biological monitor to ensure that no substantial increases in turbidity occur during construction.

All relevant natural resource permits and authorizations shall be obtained from appropriate agencies (i.e., USACE, RWQCB, and CDFW) prior to the initiation of construction activities. Permit conditions contained within the permits and authorizations shall be employed throughout the duration of the proposed project.

Hydrologic connectivity shall be maintained within drainages during the duration of construction. Brush, debris material, mud, silt, or other pollutants

from construction activities shall not be placed within drainages and shall not be allowed to enter a flowing stream.

Dust control measures shall be implemented by the contractor to reduce excessive dust emissions. Dust control measures shall be carried out at least two times per day on all construction days, or more during windy or dry periods, and may include wetting work areas, the use of soil binders on dirt roads, and wetting or covering stockpiles.

No pets shall be allowed in, or adjacent to, the project sites.

Rodenticides, herbicides, insecticides, or other chemicals that could potentially harm wildlife or native plants shall not be used near or within Environmentally Sensitive Areas within or near the roadway segments.

Construction equipment shall be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to the site and before leaving the site during the course of construction.

The cleaning of equipment shall occur at least 300 feet from Environmentally Sensitive Area fencing.

Use of Native Plants. All project-related planting and landscaping shall not use plants listed on California Invasive Plant Council. Locally native plants shall be used near open space and native areas to the greatest extent feasible. No plants documented as noxious weeds by the California Department of Agriculture shall be used within planting or landscaping.

By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.

MM BIO-3a: **Burrowing Owl Focused Survey and Pre-Construction Survey.** Future development of Discretionary Development Sites determined to have potential to support burrowing owl shall be required to comply with the following measure:

A qualified biologist shall be retained to conduct a habitat assessment and focused burrowing owl surveys in accordance with the California Department of Fish and Wildlife 2012 *Staff Report for Burrowing Owl Mitigation*. These focused surveys should be conducted either during the breeding season or non-breeding season in the year or months prior to the specific residential project if potential burrowing owl habitat is located within 500 feet of the proposed impact footprint for that project phase.

Additionally, 14-day and a 24-hour pre-construction "take avoidance" surveys for burrowing owls are required by the California Department of Fish and Wildlife 2012 guidelines prior to initial ground-disturbing activities (e.g., vegetation clearing, clearing and grubbing, grading, tree removal, site watering, equipment staging and trenching/excavation) to ensure that no owls have colonized the site in the days or weeks preceding the ground-disturbing activities. These take avoidance surveys are required both inside and outside of the breeding season whenever work would occur within 500 feet of potential burrowing owl habitat. Working in collaboration with the construction contractor, the qualified biologist will ensure these survey parameters (i.e., within 14 days and again within 24 hours prior to the start of the activity) are implemented. If burrowing owl are not detected during the take avoidance survey, no further action is required. If burrowing owl are detected, mitigation measure MM-BIO-3b shall be followed.

MM BIO-3b: Burrowing Owl Mitigation. A Burrowing Owl Take Avoidance Plan (BUOW Plan) shall be prepared by a qualified biologist. The BUOW Plan must be sent for approval by the California Department of Fish and Wildlife (CDFW) prior to initiating ground disturbance. The BUOW Plan shall include the number and location of occupied or known burrow sites, if applicable, and shall describe proposed avoidance (setback), shelter-in-place, unoccupied burrow/burrow surrogate collapse procedures, monitoring, minimization, and/or mitigation actions. The project proponent shall implement the BUOW Plan following CDFW review and approval. Avoidance and minimization measures may include:

a) Setback: No construction activities shall occur within specified setback distances. The default setback distances from the CDFW 2012 Staff Report are provided below.

	Level of Disturbance (meters/feet)		
Time of Year	Low	Medium	High
April 1–Aug 15	200/656	200/656	500/1,640
Aug 16–Oct 15	200/656	200/656	200/656
Oct 16–Mar 31	50/164	100/328	500/1,640

When setback distances are applied to occupied burrows, an intensive monitoring program shall be implemented to ensure that the setback distance applied to the burrow is considered an effective buffer. Once a setback distance is applied to an occupied burrow, the biological monitor shall be present at all times during construction activities that occur adjacent to the setback distance to monitor the burrowing owl's behavior. The biological monitor will have the authority to increase the setback distance if the construction activities are affecting the burrowing owl. Setback distances may be reduced through shelter-in-place methods described below, which would be determined by the biological monitor.

b) Shelter in Place: If a reduced setback is needed to complete construction, shelter-in-place can be implemented to minimize impacts while allowing existing burrows to remain intact. Where appropriate, the setback buffers may be reduced by screening burrows (i.e., installing hay bales to create a visual and auditory barrier between construction and the burrow) to minimize disturbance. During the breeding season, hay bales (or other similar material) shall be stacked up to three bales high and 25 feet on either side of the burrow for a total length of 50 feet. During the non-breeding season, hay bales shall be stacked up to two bales high and 25 feet on either side of the burrow for a total length of 50 feet. Hay bales are generally three feet long and 18 inches tall. A minimum distance of five feet between the hay bales and the occupied burrow shall be left, allowing for perches near the burrow to be maintained. The minimum distance may be increased depending on the slope and topography of the area adjacent to the burrows.

   If shelter-in-place is determined feasible, the biological monitor will provide guidance to the construction contractor regarding the location of the hay bales. During and following installation of the hay bales, a biological monitor shall be present daily to evaluate the effectiveness of the hay bales, monitor burrowing owl behavior for signs of stress or disturbance due to construction, and make adjustments to the buffer and/or hay bales in order to minimize impacts on the burrowing owl. If the burrowing owl continues to appear distressed from construction, the biological monitor will have the authority to halt construction until the project proponent and the CDFW can be contacted to determine the best course of action. Following installation of the hay bales, the biological monitor shall provide a report to the project proponent and the CDFW describing the installation time frame; a map of the area; photographs of hay bales and construction activities; and a description of site conditions (e.g., surrounding vegetation, topography, observed species, burrowing owl line-of-sight conditions).

c) Burrow Collapse Procedures: No collapsing of occupied or known (i.e., those exhibiting signs of current or past burrowing owl use) burrows shall be conducted without a Section 2081 Incidental Take Permit, regardless of the time of year. Procedures for the collapse of unoccupied/potential (i.e., any subterranean hole three inches or larger for which no evidence is present to conclude that the burrow is being used or has been used by a burrowing owl) burrows shall be included in the BUOW Plan. Unoccupied and potential burrowing owl burrows may be excavated under the direct supervision of a qualified biologist after approval of the BUOW Plan.

d) If ground-disturbing activities occur but the site is left undisturbed for more than 14 days, another pre-construction "take avoidance" survey for burrowing owl shall be conducted and reported to CDFW as described above. If a burrowing owl is found, the same coordination described above shall be necessary.

No take of burrowing owl shall be conducted unless the specific project secures a Section 2081 Incidental Take Permit from CDFW. Take includes any actions that could harm burrowing owl, including but not limited to burrow exclusions on occupied or known burrows, passive relocation activities, and burrow collapse of an occupied or known burrow. Those activities shall only be conducted in accordance with the permit conditions contained in an Incidental Take Permit.

By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.

MM-BIO-4: Maternal Bat Roost Avoidance. Prior to construction within any Discretionary Development Sites, the project proponent shall obtain a qualified biologist to conduct a survey of potential bat roosts for sensitive bat species, including western yellow bat, western mastiff bat, and pocketed free-tailed bat, located within and/or immediately adjacent to the areas where project activities have the potential to directly impact active roosts or disrupt bat breeding activities. Potential roost sites (e.g., palm fronds, trees, rock crevices, abandoned buildings, etc.) will be identified by a qualified bat biologist and searched for signs of bat use, such as urine streaking, grease marks and droppings, moth wings, and dead bats.

If any project activities are proposed during the bat maternity season (April 1 through August 31), a qualified biologist will conduct a dusk emergent bat survey of potential roost sites that have signs of bat use no more than two weeks prior to construction. Dusk emergence count surveys shall be conducted on a warm night when nighttime lows are not less than 45 degrees Fahrenheit and during dry weather conditions. Surveys should be conducted from approximately 15 minutes before sunset to 1 hour after sunset. Prior to any dusk emergence count, the lead biologist shall identify the primary locations where bats may be roosting so these locations can be targeted during the emergence count. Surveys should include both a visual component using night vision goggles as appropriate, as well as an electronic acoustic monitoring device/bat detector (e.g., Anabat).

If bats are detected during the dusk emergence surveys, the project proponent shall not trim or remove the roost (e.g., palm trees) until it can be determined that the bats no longer are present. In addition, if a maternal roost is identified, no construction will occur within 200 feet of the maternal roost during the pupping season (typically April 1 through August 31).

By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.

MM-BIO-5: Yuma Ridgway's Rail Focused Survey. If suitable freshwater marsh habitat is observed within Discretionary Development Sites during the general biological survey, the following measure would apply:

1. Focused surveys for Yuma Ridgway's rail shall be performed prior to the start of construction activities. Surveys shall include the following:

    a. A permitted biologist, holding a U.S. Fish and Wildlife Service (USFWS) 10(a)1(a) Recovery Permit for the Yuma Ridgway's rail and a Memorandum of Understanding from the California Department of Fish and Wildlife (CDFW), will conduct focused surveys consistent with the Yuma Ridgway's Rail Survey Protocol for Project Evaluation. Surveys will be conducted within the project site and a 150-meter survey buffer. The current USFWS survey protocol requires surveys be conducted through a series of six survey passes between March 1 and May 15.

    b. All Yuma Ridgway's rail detections will be recorded on standardized data forms adapted from the National Marsh Bird Monitoring Program, and their locations will be recorded using GPS devices.

    c. The results of the surveys will be detailed in a 45-day letter report required by the permitted biologist's recovery permit and shall be submitted to USFWS and CDFW. One letter report will be provided to USFWS including methods and results of Yuma Ridgway's rail surveys, and a second letter report will be submitted to CDFW including methods and results of the Yuma Ridgway's rail surveys.

2. Construction in suitable marsh habitats shall occur between September 1 and February 28, which is outside the breeding season, whenever feasible.

3. Where work must occur during the breeding season, species-specific no-disturbance buffers shall be established around all active nests, as determined by a qualified biologist in consultation with USFWS and CDFW. The buffer shall remain undisturbed until the nest is no longer active.

4. A qualified biological monitor shall be present during all ground-disturbing activities within or adjacent to rail habitat to ensure compliance with buffer zones and avoidance and minimization measures.

5. Noise attenuation measures shall be implemented near occupied rail habitat if work is to occur during the breeding season (typically March 1 to August 31). If predicted sound levels exceed 60 A-weighted decibels at the edge of the closest rail habitat, noise-reduction measures such as temporary sound walls or hay bale barriers shall be installed. Noise monitoring shall be conducted during construction to confirm effectiveness.

6. If an active nest is discovered during construction, work within the buffer shall cease until the nest is no longer active. Any observed mortality or disturbance

shall be documented and reported to USFWS and CDFW. Additional measures shall be implemented if repeated disturbance occurs.

By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.

MM-BIO-6: **Avoidance of Nesting Birds and Raptors.** To prevent direct impacts to nesting migratory birds or raptors protected under the Migratory Bird Treaty Act and California Fish and Game Code, the project proponent shall implement the following within Discretionary Development Sites:

Any proposed activity that could affect nesting migratory birds or raptors shall occur outside of the general bird breeding season of February 15 to August 31. If such activities cannot be conducted outside the general bird breeding season, a qualified biologist with experience in conducting nesting bird surveys shall be retained to conduct a pre-activity nesting bird survey (i.e., prior to any project activities, such as ground disturbance or vegetation removal, that could disrupt nesting birds). The pre-activity survey shall occur within 500 feet of the construction activity and no more than three days prior to the activities to confirm the presence or absence of active bird nests.

If an active nest is found by the qualified biologist, a nest avoidance buffer of 300 feet for passerine birds and 500 feet for raptors should be demarcated by temporary fencing, flagging, and/or staking as deemed appropriate to avoid impacts. No project construction activities, including vegetation removal and/or trimming activities, will be allowed within the buffer until the qualified biologist has determined that the nest is no longer active. The qualified biologist shall monitor the active nest with sufficient frequency and duration to determine if the buffer distances are appropriately sized to protect the breeding success of the nest. Avoidance buffers may be either increased or decreased by the qualified biologist based on such factors as the avian species involved, ambient levels of human activity, and screening vegetation.

By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.

MM-BIO-7a: **Formal Aquatic Resource Delineation.** Future development of Discretionary Development Sites, determined to have potentially jurisdictional aquatic resources via National Wetlands Inventory and National Hydrography Dataset data, aerial imagery, or field surveys shall be required to comply with the following measure:

Prior to issuance of any construction permit, a formal, site-specific aquatic resources delineation and reporting per the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife standards and guidelines is recommended to confirm the extent of the aquatic resources on-site and anticipated jurisdictional status. The aquatic resources delineation shall be conducted following the agencies' standards and guidelines for determining the extent of jurisdictional resources present on-site. Regulatory aquatic resources permitting requirements would be assessed based on the results of the formal delineation and reporting.

MM-BIO-7b: **Acquire Permits for Impacts to Jurisdictional Aquatic Resources.** Prior to construction or ground-disturbing activities occurring within potentially jurisdictional aquatic resources for any future development within the By-Right and Discretionary Development Sites, the project proponent shall apply for and obtain the following regulatory permits and approvals from the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and/or California Department of Fish and Wildlife, as applicable:

- Clean Water Act Section 404 Permit;
- Clean Water Act Section 401 Water Quality Certification; and/or
- California Fish and Game Code Section 1602 Streambed Alteration Agreement.

MM-BIO-7c: **Mitigation for Jurisdictional Impacts.** The project proponent shall mitigate for permanent and temporary impacts to jurisdictional aquatic resources off-site in accordance with the applicable permit condition(s) described in **MM-BIO-7b**, estimated at no less than a 1:1 ratio. Temporary impacts are to be restored in place and permanent impacts shall include a minimum 1:1 establishment/re-establishment component, unless otherwise negotiated by the project proponent with the regulatory agencies.

By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.

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ATTACHMENTS

ATTACHMENT 1

Sites Inventory

Table B-9: Sites Inventory

ID	APN	Address/Cross Street	Owner	Existing Zoning	Existing General Plan Land Use	Rezone	Proposed Zoning*	Proposed Land Use**	Vacant	4th Cycle Site	5th Cycle Site	Existing Units	Gross Acreage	Net Buildable Acreage	By Right	HCD Sizing Criteria	Existing Zone Density (MAX)	Existing Zone Density (Assumed)	Rezoned Density (MAX)	Rezoned Density (Assumed)	Inventory Category	Potential Unit Yield	Assumed Net Yield	Low/Very Low	Moderate	Above Moderate	Justification and Notes
1	059010066	Jasper Rd.	HSU CHAU-SHIN TRS ETAL	RA	High Density Residential	No	RA	High Density Residential	No	No	No	0	6.00	5.40	No	Yes	30	24	N/A	N/A	Existing Residential Parcel	180	130	130	0	0	Agricultural row crops. Exisitng residential zoning to be maintained.
2	059010065	Jasper Rd.	GENUS LP	RC	Medium Density Residential	No	RC	Medium Density Residential	No	No	No	0	21.36	19.22	No	N/A	20	16	N/A	N/A	Existing Residential Parcel	427	308	0	0	308	Agricultural row crops. Exisitng residential zoning to be maintained.
3	059010064	Jasper Rd.	GENUS LP	RC	Medium Density Residential	No	RC	Medium Density Residential	No	No	No	0	60.00	54.00	No	N/A	20	16	N/A	N/A	Existing Residential Parcel	1200	864	0	0	864	Agricultural row crops. Exisitng residential zoning to be maintained.
4	059010019	Scaroni Rd.	MARTINEZ BRENDA E SUCC-TR ETAL	R2	Commercial Highway	No	R2	Medium Density Residential**	Yes	No	Yes	0	22.36	20.12	Yes	N/A	12	10	N/A	N/A	Existing Residential Parcel	268	201	0	0	201	Vacant site. Existing medium density residential zoning.
5	059010020	Robinson Blvd.	MARTINEZ BRENDA E SUCC-TR ETAL	R2	Commercial Highway	Yes	RC*	Medium Density Residential**	Yes	No	Yes	0	13.03	11.73	Yes	N/A	12	10	20	16	Residential Upzone Parcel	261	188	0	188	0	Vacant upzone site.
6	059010048	Robinson Blvd.	MARTINEZ BRENDA E SUCC-TR	CH	Commercial Highway	Yes	RA*	High Density Residential**	Yes	No	No	0	4.25	3.83	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	128	92	92	0	0	Vacant rezone site.
7	059342030	615 Scaroni Rd.	MARTINEZ BRENDA E SUCC-TR ETAL	CH	Commercial Highway	Yes	RA*	High Density Residential**	No	No	No	0	1.16	1.04	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	35	25	25	0	0	Site of old burned down home to be demolished soon. Main access is through Van de Graaf Ave.
8	059342033	2402 Van De Graaf Ave.	LEON JOSE	CH	Commercial Highway	Yes	RA*	High Density Residential	Yes	No	No	0	2.32	2.09	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	70	50	50	0	0	Vacant rezone site.
9	059010032	Cole Blvd.	CHEE DAVID KING	R1	Medium Density Residential	No	R1	Low Density Residential**	Yes	Yes	No	0	63.53	57.18	Yes	N/A	5	4	N/A	N/A	Existing Residential Parcel	318	229	0	0	229	Vacant site. Existing low density residential zoning.
10	059010030	Cole Blvd.	CHEE DAVID KING	R1	Medium Density Residential	No	R1	Low Density Residential**	Yes	Yes	No	0	9.18	8.26	Yes	N/A	5	4	N/A	N/A	Existing Residential Parcel	46	33	0	0	33	Vacant site. Existing low density residential zoning.
11	059491003	Spud Moreno St.	PCG-LA JOLLA PALMS LP	R1	Low Density Residential	No	R1	Low Density Residential	Yes	Yes	Yes	0	21.94	19.75	Yes	N/A	5	4	N/A	N/A	Existing Residential Parcel	110	79	0	0	79	Vacant site. Existing low density residential zoning. Within CFD.
12	059500003	Spud Moreno St.	PCG-LA JOLLA PALMS LP	R1	Low Density Residential	No	R1	Low Density Residential	Yes	No	Yes	0	43.03	38.73	Yes	N/A	5	4	N/A	N/A	Existing Residential Parcel	215	155	0	0	155	Vacant site. Existing low density residential zoning. Within CFD.
13	059491004	Cole Blvd.	IMPERIAL VALLEY PROPERTIES LLC	CN	Commercial Neighborhood	Yes	RA*	High Density Residential**	Yes	Yes	No	0	10.30	9.27	Yes	No	N/A	N/A	30	24	Rezone Parcel	309	222	222	0	0	Vacant rezone site. Within CFD.
14	059496059	Cole Blvd.	IMPERIAL VALLEY PROPERTIES LLC	CN	Commercial Neighborhood	Yes	RC*	Medium Density Residential**	Yes	Yes	No	0	13.19	11.87	Yes	N/A	N/A	N/A	20	16	Rezone Parcel	264	190	0	190	0	Vacant rezone site. Within CFD.
15	059010057	Jasper Rd.	K & J INVESTMENTS INC	R1	Low Density Residential	No	R1	Low Density Residential	Yes	Yes	Yes	0	27.56	24.80	Yes	N/A	5	4	N/A	N/A	Existing Residential Parcel	138	99	0	0	99	Vacant site. Existing low density residential zoning.
16	059010058A	Jasper Rd.	K & J INVESTMENTS INC	R1	Low Density Residential	No	R1	Low Density Residential	Yes	Yes	Yes	0	14.26	12.83	Yes	N/A	5	4	N/A	N/A	Existing Residential Parcel	71	51	0	0	51	Vacant site. Existing low density residential zoning.
17	059010058B	Jasper Rd.	K & J INVESTMENTS INC	RA	High Density Residential	No	RA	High Density Residential	Yes	Yes	Yes	0	10.40	9.36	Yes	N/A	30	24	N/A	N/A	Existing Residential Parcel	312	225	0	0	225	Vacant site. Existing high density residential zoning.
18	059010059	Jasper Rd.	K & J INVESTMENTS INC	R1	Low Density Residential	No	R1	Low Density Residential	Yes	Yes	Yes	0	76.05	68.45	Yes	N/A	5	4	N/A	N/A	Existing Residential Parcel	380	274	0	0	274	Vacant site. Existing low density residential zoning.
19	059471040	Cole Blvd.	LOO MARIA & CELIA MARTINEZ TRUSTEE	CN	Commercial Neighborhood	Yes	RA*	High Density Residential**	Yes	No	No	0	5.78	5.20	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	173	125	125	0	0	Vacant rezone site.

Table B-9: Sites Inventory

ID	APN	Address/Cross Street	Owner	Existing Zoning	Existing General Plan Land Use	Rezone	Proposed Zoning*	Proposed Land Use**	Vacant	4th Cycle Site	5th Cycle Site	Existing Units	Gross Acreage	Net Buildable Acreage	By Right	HCD Sizing Criteria	Existing Zone Density (MAX)	Existing Zone Density (Assumed)	Rezoned Density (MAX)	Rezoned Density (Assumed)	Inventory Category	Potential Unit Yield	Assumed Net Yield	Low/Very Low	Moderate	Above Moderate	Justification and Notes
20	059471041	Cole Blvd.	LOO MARIA SUCC-TRUSTEE & ET AL TRUSTEE	CN	Commercial Neighborhood	Yes	RA*	High Density Residential**	Yes	No	No	0	2.10	1.89	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	63	45	45	0	0	Vacant rezone site.
21	059471042	Cole Blvd.	LOO MARIA SUCC-TRUSTEE & ET AL TRUSTEE	CN	Commercial Neighborhood	Yes	RA*	High Density Residential**	Yes	No	No	0	3.01	2.71	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	90	65	65	0	0	Vacant rezone site
22	059455042	Cole Blvd.	HRSR Ventures, LLC	CN	Commercial Neighborhood	Yes	RA*	High Density Residential	Yes	No	No	0	2.80	2.52	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	84	60	60	0	0	Vacant rezone site
23	059180034	570 Bowker Rd.	JOHNSON ANN T TRUSTEE	NC	Commercial Neighborhood	Yes	RA*	High Density Residential**	No	No	No	1	4.42	3.98	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	133	95	95	0	0	Underdeveloped property with one single family home surrounded by on-site vacant land.
24	059180035	Bowker Rd.	JOHNSON ANN T TRUSTEES	RC	Medium Density Residential	No	RC	Medium Density Residential	No	No	No	0	24.24	21.82	No	N/A	20	16	N/A	N/A	Existing Residential Parcel	485	349	0	349	0	Underdeveloped property with no major permanent structures and intermittent storage uses that is zoned for medium residential density development.
24b	059180029	Bowker Rd.	ALLIANCE INVESTORS LLC	RC	Medium Density Residential	Yes	IR	Industrial	Yes	No	No	N/A	37.00	33.30	No	N/A	N/A	20	N/A	N/A	Rezone Parcel	N/A	N/A	0	0	0	Better suited for industrial or commercial use, not residential.
25	059180045	Highway 98	YELLOW KILO II LLC	R1	Medium Density Residential	No	R1	Low Density Residential**	No	Yes	Yes	0	60.96	54.86	Yes	N/A	5	4	N/A	N/A	Existing Residential Parcel	305	219	0	0	219	Agricultural row crops. Exisitng residential zoning to be maintained.
26	059180044A	Highway 98	YELLOW KILO II LLC	CH	Commercial Neighborhood	Yes	R2*	Low-Medium Density Residential**	No	Yes	No	0	15.50	13.95	Yes	N/A	N/A	N/A	12	10	Rezone Parcel	186	140	0	0	140	Agricultural row crops. Rezone site.
27	059180044B	Highway 98	YELLOW KILO II LLC	R1	Medium Density Residential	Yes	RA*	High Density Residential**	No	Yes	No	0	2.12	1.91	Yes	Yes	5	4	30	24	Residential Upzone Parcel	64	46	46	0	0	Agricultural row cros. Upzone site.
28	059441003	Sapphire St.	YALOVA LLC	R1	Low Density Residential	Yes	RA*	High Density Residential**	Yes	Yes	No	0	7.79	7.01	Yes	Yes	5	4	30	24	Residential Upzone Parcel	234	168	168	0	0	Vacant upzone site.
29	059441004	Sapphire St.	YALOVA LLC	R1	Low Density Residential	No	R1	Low Density Residential	Yes	Yes	No	0	9.33	8.40	Yes	N/A	5	4	N/A	N/A	Existing Residential Parcel	47	34	0	0	34	Vacant site. Existiing low density residential zoning.
30	059441005	Highway 98	YALOVA LLC	R1	Low Density Residential	No	R1	Low Density Residential	Yes	Yes	No	0	12.89	11.60	Yes	N/A	5	4	N/A	N/A	Existing Residential Parcel	64	46	0	0	46	Vacant site. Existiing low density residential zoning.
31	059240040	Highway 98	AMERI MEX CAPITAL LLC	CH	Public Facilities	Yes	RC*	Medium Density Residential**	No	No	No	0	8.97	8.07	Yes	Yes	N/A	N/A	20	16	Rezone Parcel	179	129	0	129	0	Abandoned Border Patrol station. Current owner has indicated interest in developing multifamily residential on site.
32	059240048	Highway 98	YALOVA LLC	CH	Commercial Office	Yes	RA*	High Density Residential**	Yes	Yes	No	0	2.94	2.65	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	88	64	64	0	0	Vacant rezone site.
33	059240050	Highway 98	YALOVA LLC	CH	Commercial Office	Yes	RA*	High Density Residential**	Yes	Yes	No	0	1.50	1.35	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	45	32	32	0	0	Vacant rezone site.
34	058791005	1071 E Birch Ave	SELWICKS, INC	CH	Commercial Highway	Yes	RA*	High Density Residential**	Yes	Yes	No	0	6.60	5.94	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	198	143	143	0	0	Vacant rezone site.
35	058264002	1037 Rockwood Ave	EQUILITY TRUST COMPANY CUSTODIAN FBO HEMENDRA GOYA	CH	Commercial Highway	Yes	RC*	Medium Density Residential**	Yes	No	No	0	0.31	0.28	Yes	N/A	N/A	N/A	20	16	Rezone Parcel	6	4	0	4	0	Vacant rezone site.
36	058294001	915 Ollie Ave.	CROWN ENTERPRISES INC	IR	Industrial	Yes	RA*	High Density Residential**	No	No	No	0	2.23	2.01	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	67	48	48	0	0	Underutilized site next to Heber Park. Site is mostly vacant with two dilapidated buildings and intermittent trucking uses. Rezone site.
37	058400058	Pierce Ct.	ORTEGA ERIK TRUSTEE	IR	Industrial	Yes	RA*	High Density Residential**	Yes	No	No	0	0.85	0.77	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	26	18	18	0	0	Vacant rezone site.
38	058400057	Pierce Ct.	ORTEGA ERIK TRUSTEE	IR	Industrial	Yes	RA*	High Density Residential**	Yes	No	No	0	1.46	1.31	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	44	32	32	0	0	Vacant rezone site.
39	05840056	Pierce Ct.	DAVILA R & DAVILA R JR ADMIN EST DAVILA M B E ETAL	IR	Industrial	Yes	RA*	High Density Residential**	Yes	No	No	0	0.84	0.76	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	25	18	18	0	0	Vacant rezone site.

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ID	APN	Address/Cross Street	Owner	Existing Zoning	Existing General Plan Land Use	Rezone	Proposed Zoning*	Proposed Land Use**	Vacant	4th Cycle Site	5th Cycle Site	Existing Units	Gross Acreage	Net Buildable Acreage	By Right	HCD Sizing Criteria	Existing Zone Density (MAX)	Existing Zone Density (Assumed)	Rezoned Density (MAX)	Rezoned Density (Assumed)	Inventory Category	Potential Unit Yield	Assumed Net Yield	Low/Very Low	Moderate	Above Moderate	Justification and Notes
40	05840055	Pierce Ct.	DAVILA R & DAVILA R JR ADMIN EST DAVILA M B E ETAL	IR	Industrial	Yes	RA*	High Density Residential**	Yes	No	No	0	0.84	0.76	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	25	18	18	0	0	Vacant rezone site.
41	05840054	Sherman Ct.	DAVILA R & DAVILA R JR ADMIN EST DAVILA M B E ETAL	IR	Industrial	Yes	RA*	High Density Residential**	Yes	No	No	0	0.89	0.80	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	27	19	19	0	0	Vacant rezone site.
42	05840053	Sherman Ct.	DAVILA R & DAVILA R JR ADMIN EST DAVILA M B E ETAL	IR	Industrial	Yes	RA*	High Density Residential**	Yes	No	No	0	1.09	0.98	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	33	24	24	0	0	Vacant rezone site.
43	058400052	Sherman Ct.	DAVILA R & DAVILA R JR ADMIN EST DAVILA M B E ETAL	IR	Industrial	Yes	RA*	High Density Residential**	Yes	No	No	0	1.68	1.51	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	50	36	36	0	0	Vacant rezone site.
44	058400051	Sherman Ct.	SCHAEFER PAUL M & SCHAEFER MARIA F TRS	IR	Industrial	Yes	RA*	High Density Residential**	No	No	No	0	0.95	0.86	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	29	21	21	0	0	Underutilized site with intermittent storage uses. No permanent buildings. Rezone site.
45	05840065	Sherman Ct.	SCHAEFER PAUL M & SCHAEFER MARIA F TRS	IR	Industrial	Yes	RA*	High Density Residential**	No	No	No	0	1.62	1.46	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	49	35	35	0	0	Underutilized site with intermittent storage uses. No permanent buildings. Rezone site.
46	058223020	Grant St.	HOUSING AUTHORITY OF THE CITY OF CALEXICO	RA	Low Density Residential	No	RA	High Density Residential**	Yes	No	No	0	1.06	0.95	Yes	Yes	30	24	N/A	N/A	Existing Residential Parcel	32	23	23	0	0	Vacant site. Existing high density residential zoning.
47	058233027	Lincoln St.	ARROWS MARIO EDWARD	R1	Low Density Residential	Yes	R2*	Low-Medium Density Residential**	Yes	No	No	0	1.24	1.12	Yes	Yes	5	4	12	10	Residential Upzone Parcel	15	11	0	11	0	Vacant upzone site.
48	058853001	De Las Flores St.	CALEXICO UNIFIED SCHOOL DISTRICT	RA	High Density Residential	No	RA	High Density Residential	Yes	Yes	Yes	0	6.03	5.43	Yes	Yes	30	24	N/A	N/A	Existing Residential Parcel	181	130	130	0	0	Vacant site. Existing high density residential zoning.
49	058853002	De Las Flores St.	CALEXICO UNIFIED SCHOOL DISTRICT	RA	High Density Residential	No	RA	High Density Residential	Yes	Yes	Yes	0	4.16	3.74	Yes	Yes	30	24	N/A	N/A	Existing Residential Parcel	125	90	90	0	0	Vacant site. Existing high density residential zoning.
50	058180090	Highway 98	ORBIS FINANCIAL LLC	CH	High Density Residential	Yes	RA*	High Density Residential	Yes	Yes	Yes	0	0.88	0.79	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	26	19	19	0	0	Vacant rezone site.
51	058180091	Highway 98	ORBIS FINANCIAL LLC	CH	High Density Residential	Yes	RA*	High Density Residential	Yes	Yes	Yes	0	0.90	0.81	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	27	19	19	0	0	Vacant rezone site.
52	58180092	Highway 98	ORBIS FINANCIAL LLC	CH	High Density Residential	Yes	RA*	High Density Residential	Yes	Yes	Yes	0	0.89	0.80	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	27	19	19	0	0	Vacant rezone site.
53	58180093	Highway 98	ORBIS FINANCIAL LLC	CH	High Density Residential	Yes	RA*	High Density Residential	Yes	Yes	Yes	0	1.61	1.45	Yes	Yes	N/A	N/A	30	24	Rezone Parcel	48	35	35	0	0	Vacant rezone site.

TOTALS

*Indicates a rezone is required.

**Indicates a Land Use Element redesignation is required.

ATTACHMENT 2

Sensitive Plant Species Evaluated for Potential to Occur

Attachment 2 Sensitive Plant Species Evaluated for Potential to Occur										
Major Plant Group	Family	Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat Preference / Requirements	Potential to Occur within By-Right Sites (L/M/H/U)	Potential to Occur within Discretionary Sites (L/M/H/U)	Basis for Determination of Occurrence Potential
Angiosperms: Monocots	Poaceae (Gramineae) / Grass Family	*Imperata brevifolia*	California satintail			2B.1	Perennial rhizomatous herb; chaparral, coastal scrub, meadows and seeps (often alkali), Mojavean desert scrub, riparian scrub; mesic; blooms September–May; elevation 0–3,985 feet.	L	L	There is low potential for this species to occur within the proposed project sites. Although fragmented stands of saltbush scrub with alkali soils are present, these areas are generally highly disturbed, exhibiting low species diversity. Furthermore, the sites are located within an urbanized area on parcels that were likely previously farmed, further reducing the probability of occurrence. The nearest documented sighting is a historical record from 1963, located within five miles of the project area (CDFW 2026a).
Angiosperms: Eudicots	Amaranthaceae / Amaranth Family	*Amaranthus watsonii*	Watson's amaranth			4.3	Annual herb; Mojavean desert scrub, Sonoran desert scrub; blooms April–September; elevation 65–5,580 feet.	U	U	This species is not expected to occur within the proposed project sites. Although fragmented stands of saltbush scrub are present, these areas contain highly alkaline soils and are generally highly disturbed, exhibiting low species diversity. Furthermore, the sites are located within an urbanized area on parcels that were likely previously farmed, further reducing the probability of occurrence. This species has not been reported within 5 miles of the project site (CDFW 2026a).
Angiosperms: Eudicots	Boraginaceae / Borage Family	*Johnstonella costata*	ribbed cryptantha			4.3	Annual herb; desert dunes, Mojavean desert scrub, Sonoran desert scrub; sandy soils; blooms February–May; elevation –195 to 1,640 feet.	U	U	This species is not expected to occur within the proposed project sites. Although fragmented stands of saltbush scrub are present, these areas contain highly alkaline soils and are generally highly disturbed, exhibiting low species diversity. Furthermore, the sites are located within an urbanized area on parcels that were likely previously farmed, further reducing the probability of occurrence. This species has not been reported within 5 miles of the project site (CDFW 2026a).
Angiosperms: Eudicots	Boraginaceae / Borage Family	*Johnstonella holoptera*	winged cryptantha			4.3	Annual herb; Mojavean desert scrub, Sonoran desert scrub; blooms March–April; elevation 330–5,545 feet.	U	U	This species is not expected to occur within proposed project sites. Although fragmented stands of saltbush scrub are present, these areas contain highly alkaline soils and are generally highly disturbed, exhibiting low species diversity. Furthermore, the sites are located within an urbanized area on parcels that were likely previously farmed, further reducing the probability of occurrence. This species has not been reported within 5 miles of the project site (CDFW 2026a).

Attachment 2 Sensitive Plant Species Evaluated for Potential to Occur										
Major Plant Group	Family	Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat Preference / Requirements	Potential to Occur within By-Right Sites (L/M/H/U)	Potential to Occur within Discretionary Sites (L/M/H/U)	Basis for Determination of Occurrence Potential
Angiosperms: Eudicots	Euphorbiaceae / Spurge Family	*Euphorbia abramsiana*	Abrams' spurge			2B.2	Annual herb; Mojavean desert scrub, Sonoran desert scrub; sandy soils; blooms (August) September–November; elevation –15 to 4,300 feet.	U	U	This species is not expected to occur within the proposed project sites. Although fragmented stands of saltbush scrub are present, these areas contain highly alkaline soils and are generally highly disturbed, exhibiting low species diversity. Furthermore, the sites are located within an urbanized area on parcels that were likely previously farmed, further reducing the probability of occurrence. Historic records for this species from 1903 and 1904 occur within 5 miles of the project sites (CDFW 2026a).
Angiosperms: Eudicots	Fabaceae (Leguminosae) / Legume Family	*Astragalus sabulonum*	gravel milkvetch			2B.2	Annual/perennial herb; desert dunes, Mojavean desert scrub, Sonoran desert scrub; flats, gravelly (sometimes), roadsides, sandy soils (usually), washes; blooms February–June; elevation –195 to 3,050 feet.	U	U	This species is not expected to occur within the proposed project sites. Although fragmented stands of saltbush scrub are present, these areas contain highly alkaline soils and are generally highly disturbed, exhibiting low species diversity. Furthermore, the sites are located within an urbanized area on parcels that were likely previously farmed, further reducing the probability of occurrence. A historic record for this species from 1902 occurs within 5 miles of the project sites (CDFW 2026a).
Angiosperms: Eudicots	Lennoaceae / Lennoa Family	*Pholisma sonorae*	sand food			1B.2	Perennial herb (parasitic); desert dunes, Sonoran desert scrub (sandy soils); blooms (March) April–June; elevation 0–655 feet.	U	U	This species is not expected to occur within the proposed project sites. Although fragmented stands of saltbush scrub are present, these areas contain highly alkaline soils and are generally highly disturbed, exhibiting low species diversity. Furthermore, the sites are located within an urbanized area on parcels that were likely previously farmed, further reducing the probability of occurrence. This species has not been reported within 5 miles of the project site (CDFW 2026a).
Angiosperms: Eudicots	Loasaceae / Loasa Family	*Mentzelia hirsutissima*	hairy stickleaf			2B.3	Annual herb; Sonoran desert scrub (rocky); blooms March–May; elevation 0–2,295 feet.	U	U	This species is not expected to occur within the proposed project sites. Although fragmented stands of saltbush scrub are present, these areas contain highly alkaline soils and are generally highly disturbed, exhibiting low species diversity. Furthermore, the sites are located within an urbanized area on parcels that were likely previously farmed, further reducing the probability of occurrence. This species has not been reported within 5 miles of the project site (CDFW 2026a).

Attachment 2 Sensitive Plant Species Evaluated for Potential to Occur										
Major Plant Group	Family	Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat Preference / Requirements	Potential to Occur within By-Right Sites (L/M/H/U)	Potential to Occur within Discretionary Sites (L/M/H/U)	Basis for Determination of Occurrence Potential
Angiosperms: Eudicots	Nyctaginaceae / Four O'clock Family	*Abronia villosa var. aurita*	chaparral sand verbena [=foothill sand-verbena]			1B.1	Annual herb; sandy floodplains in inland, arid areas of coastal sage scrub and open chaparral; blooms January–September; elevation 300–5,300 feet.	U	U	This species is not expected to occur within the proposed project sites. Although fragmented stands of saltbush scrub are present, these areas contain highly alkaline soils and are generally highly disturbed, exhibiting low species diversity. Furthermore, the sites are located within an urbanized area on parcels that were likely previously farmed, further reducing the probability of occurrence. A historic record for this species from 1912 occurs within 5 miles of the project sites (CDFW 2026a).

STATUS CODES

Federal Status

FE = Listed as endangered by the federal government
FT = Listed as threatened by the federal government
FD = Delisted by the federal government

State Status

SE = Listed as endangered by the state of California
SR = Listed as rare by the state of California
ST = Listed as threatened by the state of California

California Native Plant Society (CNPS): California Rare Plant Ranks (CRPR)

1A = Species presumed extinct.
1B = Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.
2A = Plants presumed extirpated in California but more common elsewhere.
2B = Species rare, threatened, or endangered in California but more common elsewhere. These species are eligible for state listing.
3 = Species for which more information is needed. Distribution, endangerment, and/or taxonomic information is needed.
4 = A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.
0.1 = Species seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat).
0.2 = Species fairly threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat).
0.3 = Species not very threatened in California (<20% of occurrences threatened; low degree and immediacy of threat or no current threats known).
CBR = Considered but rejected.

POTENTIAL TO OCCUR ON-SITE

L = Low
M = Medium
H = High
U = Unexpected

ATTACHMENT 3

Sensitive Wildlife Species Evaluated for Potential to Occur

Attachment 3 Sensitive Wildlife Species Evaluated for Potential to Occur									
Major Wildlife Group	Family	Scientific Name	Common Name	Federal Status	State Status	Habitat Preference / Requirements	Potential to Occur within By-Right Development Sites (L/M/H/U)	Potential to Occur within Discretionary Development Sites (L/M/H/U)	Basis for Determination of Occurrence Potential
Invertebrates	Apidae / Honey Bees, Bumble Bees, and Allies	*Bombus crotchii*	Crotch's bumble bee		SCE	Coastal areas, open grasslands, shrub habitats.	L	L	There is a low potential for this species to occur within the proposed project sites. The project sites are expected to contain a very limited cover of floral resources, such as sage (*Salvia* sp.). There are no records of this species within 5 miles of the proposed project sites (CDFW 2026a).
Reptiles	Phrynosomatidae / Spiny Lizards	*Phrynosoma mcallii*	flat-tailed horned lizard		SSC	Dunes and sandy flats of low desert.	L	L	There is low potential for this species to occur within the proposed project sites; while potentially suitable saltbush scrub habitat is present in several By-Right Development Sites, the City of Calexico is outside of the known range of this species (Working Group of Flat-tailed Horned Lizard Interagency Coordinating Committee 1997). The saltbush scrub habitat is highly fragmented and disturbed, and the proposed project sites are generally surrounded by developed, disturbed, or agricultural lands, making the occurrence of this species unlikely. A historic record for this species from 1969 occurs within 5 miles of the project sites (CDFW 2026a).
Birds	Rallidae / Rails, Gallinules, & Coots	*Rallus obsoletus* [=*longirostris*] *yumanensis*	Yuma Ridgway's [=clapper] rail	FE	ST, CFP	Marshland vegetation, dense cattail stands, bulrush, reeds. Resident.	M (By-Right Development Sites 4 and 12) / U (remainder of By-Right Development Sites)	M	There is a moderate potential for this species to occur within By-Right Development Sites 4, 9, 10 and 12 due to the presence of earthen channels containing marshland vegetation. Moderate potential to occur adjacent to Sites 25, 26, 27, 29, and 30 due to their location directly south of the All American Canal. There is a moderate potential for this species to occur within any Discretionary Development Sites containing vegetated channels. This species has been reported within 5 miles of the project sites (CDFW 2026a).

Attachment 3 Sensitive Wildlife Species Evaluated for Potential to Occur									
Major Wildlife Group	Family	Scientific Name	Common Name	Federal Status	State Status	Habitat Preference / Requirements	Potential to Occur within By-Right Development Sites (L/M/H/U)	Potential to Occur within Discretionary Development Sites (L/M/H/U)	Basis for Determination of Occurrence Potential
Birds	Strigidae / Typical Owls	*Athene cunicularia*	burrowing owl		SCE (burrow sites and some wintering sites)	Grassland, agricultural land, coastal dunes. Require rodent burrows. Declining resident.	M (all By-Right Development Sites except for sites 44 and 45) / U (sites 44 and 45; moderate potential within 500 feet)	M	There is moderate potential for this species to occur within the By-Right Development Sites, with the exception of Sites 44 and 45, due to the presence of potentially suitable desert scrub habitat, agricultural land, and open, disturbed areas that may contain suitable rodent burrows. While this species is not expected to occur within sites 44 and 45, there is a moderate potential for this species to occur within 500 feet of these sites. There is a moderate potential for this species to occur within any Discretionary Development Sites with suitable saltbush scrub, disturbed land, agricultural land, or other habitat that may contain suitable rodent burrows. This species has been reported within 5 miles of the project boundaries (CDFW 2026a).
Birds	Parulidae / Wood Warblers	*Setophaga* [=*Dendroica*] *petechia*	yellow warbler		SSC	Breeding restricted to riparian woodland. Spring and fall migrant, localized summer resident, rare winter visitor.	L	L	There is low potential for this species to occur within the proposed project sites; while canals with non-native riparian habitat (i.e. tamarisk scrub) are present within By-Right Development Sites, this fragmented habitat is marginal, and does not contain native riparian vegetation. A historic record for this species from 1921 occurs within 5 miles of the project sites (CDFW 2026a).
Mammals	Vespertilionidae / Vesper Bats	*Lasiurus xanthinus*	western yellow bat		SSC	Active year-round. Roosts in the foliage of trees in arid habitats, particularly in native and exotic palm trees. Forage for a variety of flying insects over streams and ponds. Ranges from southern California and Arizona into western Mexico.	M (roosting/foraging: By-Right Development Sites 23, 50, 51, 53) / L (foraging: remainder of By-Right Development Sites)	M (roosting/ foraging)	There is a moderate potential for this species to occur within By-Right Development Sites 23, 50, 51, and 53 due to the presence of palm trees, which may provide suitable roosting habitat for this species. There is low potential for this species to forage within the remaining By-Right Development Sites. This species has a moderate potential to occur within any Discretionary Development Sites where suitable roosting or foraging habitat occurs. Historic records for this species from 1977 and 1985 occur within 5 miles of the project sites (CDFW 2026a).

Attachment 3 Sensitive Wildlife Species Evaluated for Potential to Occur									
Major Wildlife Group	Family	Scientific Name	Common Name	Federal Status	State Status	Habitat Preference / Requirements	Potential to Occur within By-Right Development Sites (L/M/H/U)	Potential to Occur within Discretionary Development Sites (L/M/H/U)	Basis for Determination of Occurrence Potential
Mammals	Molossidae / Free-tailed Bats	*Eumops perotis californicus*	western mastiff [=bonneted] bat		SSC	Roosts mainly in cliff crevices at least 10 feet above ground, but can also roost in high buildings, trees, and tunnels. When roosting in rock crevices, needs vertical faces to drop off to take flight. Roosts alone, or in small colonies, usually of fewer than 100 bats. Occurs in coastal and desert scrub, riparian woodland, and pine forests. Forages on large moths and other flying insects (Tremor et al. 2017).	U (roosting) / L (foraging)	M (roosting/ foraging)	This species is not expected to roost within the By-Right Development Sites due to the lack of suitable cliff crevices, tall buildings, trees, or tunnels. There is low potential for this species to forage within the By-Right Development Sites; while potentially suitable saltbush scrub habitat is present throughout several of these sites, this habitat is highly fragmented and is disconnected from suitable roosting habitat. This species has a moderate potential to occur within any Discretionary Development Sites where suitable roosting or foraging habitat occurs. This species has been reported within 5 miles of the project boundaries (CDFW 2026a).
Mammals	Molossidae / Free-tailed Bats	*Nyctinomops femorosaccus*	pocketed free-tailed bat		SSC	Roosts in crevices in vertical cliffs and quarries. Forages over a variety of habitats for flying beetles and large moths (Tremor et al. 2017). Ranges from Orange County south through San Diego and east through southern Arizona (Harvey et al. 2011).	U (roosting) / L (foraging)	M (roosting/ foraging)	This species is not expected to roost within the By-Right Development Sites due to the lack of suitable vertical cliffs or quarries. There is low potential for this species to forage within the By-Right Development Sites; while potentially suitable salt bush scrub habitat is present throughout several of these sites, this habitat is highly fragmented and is disconnected from suitable roosting habitat. This species has a moderate potential to occur within any Discretionary Development Sites where suitable roosting or foraging habitat occurs. This species has been reported within 5 miles of the project boundaries (CDFW 2026a).

Attachment 3 Sensitive Wildlife Species Evaluated for Potential to Occur									
Major Wildlife Group	Family	Scientific Name	Common Name	Federal Status	State Status	Habitat Preference / Requirements	Potential to Occur within By-Right Development Sites (L/M/H/U)	Potential to Occur within Discretionary Development Sites (L/M/H/U)	Basis for Determination of Occurrence Potential
Mammals	Mustelidae / Weasels, Otters, & Badgers	*Taxidea taxus*	American badger		SSC	Grasslands, Sonoran desert scrub.	L	L	There is low potential for this species to occur within the proposed project sites; while potentially suitable salt bush scrub habitat occurs throughout several of the By-Right Development Sites, this habitat is highly fragmented and is generally surrounded by disturbed, developed, or agricultural land and therefore has low potential to support this species. A historic record for this species from 1922 occurs within 5 miles of the project sites (CDFW 2026a). Due to the lack of any recent CNDDB data and the general rarity of this species throughout much of its historic range, this species has a low potential to occur within the proposed project sites.

STATUS CODES

Federal Status

FE = Listed as endangered by the federal government
FPE = Federally proposed endangered
FPT = Federally proposed threatened
FT = Listed as threatened by the federal government
FC = Federal candidate for listing (taxa for which the U.S. Fish and Wildlife Service has on file sufficient information on biological vulnerability and threat(s) to support proposals to list as endangered or threatened; development and publication of proposed rules for these taxa are anticipated)
BEPA = Bald and Golden Eagle Protection Act

State Status

CFP = California fully protected species
SE = Listed as endangered by the state of California
ST = Listed as threatened by the state of California
SCE = State candidate for listing as Endangered
SSC = California Department of Fish and Wildlife species of special concern
WL = California Department of Fish and Wildlife watch list species

POTENTIAL TO OCCUR ON-SITE

L = Low
M = Medium
H = High
U = Unexpected

Appendix E

Cultural Resources Report

RECON

An Employee-Owned Company

September 10, 2026

Ms. Shannon Baer
RICK Engineering
5620 Friars Road
San Diego, CA 92110

Reference: Cultural Resources Assessment for the Calexico Housing Element Update Project, Calexico, California (RECON Number 10790)

Dear Ms. Baer:

This letter details the results of a programmatic cultural resources assessment conducted for the Calexico Housing Element Update Project (project). RECON Environmental, Inc. (RECON) conducted background research and reviewed historic aerial photographs and topographic maps to assess the potentially significant impacts related to cultural resources that could result from implementation of the project.

PROJECT DESCRIPTION

The City of Calexico (City) is implementing its 6th Cycle 2021–2029 Housing Element, a state-mandated update designed to accommodate a Regional Housing Needs Allocation (RHNA) through strategic rezoning, upzoning, and General Plan amendments. This programmatic cultural resources assessment provides the necessary environmental analysis to support future implementation of the project components: (1) the City's 6th Cycle 2021–2029 Housing Element; (2) associated General Plan Amendments, including the corresponding consistency updates to the City Land Use Element; (3) Zoning Ordinance Amendments to implement by-right housing per the Housing Element; and (4) rezoning of the Bowker Site, Assessor's Parcel Number (APN) 059-180-029, from Residential Condominium (RC) to Industrial (I).

The project is located within the city of Calexico, California, and lies approximately 4.50 miles south of Interstate 8 and 0.45 miles north of the United States (U.S.)/Mexico international border in southern Imperial County, California (Figure 1). The project is located within Township 17 South, Range 14 and 15 East, as depicted on the U.S. Geological Survey (USGS) 7.5-minute topographic map, Calexico and Heber quadrangles (Figure 2). The project occurs within 54 parcels throughout the City, including 39 By-Right Development Sites and 15 Discretionary Development Sites, and is generally bounded by development, agricultural land, and canals to the north, east, and west, and the New River and the U.S./Mexico border to the south (Figure 3). The By-Right and Discretionary Development sites consist of vacant, underdeveloped, and developed parcels throughout the city.

This programmatic cultural resources assessment is being prepared to support the California Environmental Quality Act (CEQA) document for this project, which is expected to be a program-level environmental impact report. The impact analysis provided in this report is a program-level analysis consistent with Section 15168 of the CEQA Guidelines. This assessment provides the necessary environmental analysis to support future development of the project's "By-Right" sites, primarily vacant or underutilized parcels that meet specific state criteria for streamlined approval; and "Discretionary Development" sites, requiring further amendments to the General Plan and Zoning Code to enable residential development.

The 6th Cycle Housing Element sites inventory identifies suitable sites throughout the City that can accommodate the required housing capacity set forth by the City's RHNA. The Housing Element identifies 53 sites throughout the City with the capacity to accommodate the RHNA (see Figure 3). These 53 sites in the inventory will have changes made to zoning or applied General Plan land use designation as a result of the project. There are 35 rezone sites, inclusive of the Bowker site (see below), with four of those considered upzones. The housing sites are categorized into By-Right Development Sites and Discretionary Development Sites. These terms are defined below.

The Housing Element includes programs that will amend the General Plan, Zoning Ordinance, and/or the Municipal Code to comply with state law or incentivize housing development. This analysis assumes full implementation of the Housing Element rezoning and associated development by 2050.

Bowker Rezone Site

Site 24b, also known as the Bowker site, is a Discretionary Development Site proposed to rezone from Residential Condominium (RC) to Industrial (I) (APN 059-180-029). The site is bounded by to the northwest by State Route 98, the All-American Canal to the south, and the All-American Canal Central Drain Three E to the northeast. While the site was previously zoned for housing, upon further evaluation, the City has determined this site is a poor location for residential and better suited for industrial for the following reasons: the site is physically isolated by State Route 98 and the All-American Canal, thus disconnecting the site from public services, including parks and schools, and; the site's boundaries would create emergency access and vehicle miles traveled concerns. Furthermore, the City plans to foster industrial development east of the site to leverage the international commercial port of entry with Mexico located approximately six miles due east of the site, and to limit truck traffic through residential areas of the City by limiting new industrial development on the west side of the City. As such, the site is better suited for industrial or commercial development. Because the Housing Element identifies a surplus of housing sites to meet the City's RHNA, this rezone is considered appropriate given the geographical context of the site.

Eligible By-Right Development Sites

By-Right Development Sites refer to sites that are subject to ministerial processing and not subject to discretionary review by the City, and no review is required under CEQA per Cal. Gov. Code, § 65583.2(i). Ministerial processing involves little or no personal judgment by the City as to the wisdom or manner of carrying out the project. The City merely ensures that the proposed development meets all objective standards without using special discretion or judgment. By-Right Development Sites do not require a public hearing.

The 49 Eligible By-Right Development Sites include sites: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, and 53. The Housing Element establishes the following criteria as pathways for By-Right Development Sites:

1. **5th Housing Cycle sites:** Sites identified in the City's 6th Cycle Housing Element that were also included in the City's 5th Cycle Housing Element sites inventory to accommodate a portion of the RHNA. This criteria goes above and beyond what is legally required for by-right processing of prior cycle housing sites.

2. **Qualified residential sites:** Sites zoned for Residential Condominium (RC) or Residential Apartment (RA), less than 10 gross net buildable acres, with existing adequate access to infrastructure, public right-of-way, and public services.

Additionally, per Housing Element Program 2E, the City will permit residential uses by-right for housing development in which at least 20 percent of the units are affordable to lower-income households for sites that:

- Are non-vacant and identified in the prior planning period; or
- Vacant sites included in two or more consecutive planning periods.

Discretionary Development Sites

Discretionary Development Sites refer to sites that are subject to discretionary processing where the City has the discretion to approve, modify, or deny a project based on personal judgment. Projects subject to discretionary processing may be subject to CEQA, and the discretionary review process for multifamily projects and subdivisions may require a public hearing.

The five Discretionary Development Sites include sites: 1, 2, 3, 24, and 24b. The Housing Element establishes Discretionary Development Sites as greater than 10 net buildable acres, for which zoning amendments are proposed to allow residential or mixed-use development at densities sufficient to meet RHNA requirements. These sites may currently be designated for commercial, mixed-use, or other non-residential uses, or have limited or no access to infrastructure and right-of-way.

METHODS

RECON requested a records search of the project areas with a 0.25-mile buffer at the South Coastal Information Center, a part of the California Historical Resources Information System. RECON also sent a letter to the Native American Heritage Commission (NAHC) on April 2, 2026, requesting a search of the Sacred Lands File to identify spiritually significant and/or sacred sites and traditional use areas in the project vicinity. The NAHC was also asked to provide a list of local Native American tribes, bands, or individuals who may have concerns or interests in the cultural resources of the project. Pursuant to Assembly Bill 52 and Senate Bill 18, on July 23, 2026, the City notified California Native American tribes identified by the NAHC or included on the City's list of tribes seeking notice of projects subject to CEQA review.

RESULTS

The South Coastal Information Center records search indicated that there have been 66 cultural resources investigations conducted within the 0.25-mile search radius of the project areas, 28 of which intersect with the project areas. The records search results also indicate 21 cultural resources recorded within the 0.25-mile search area (Table 1; Confidential Attachment 1). These resources include 20 historic-era sites and 1 historic isolated artifact; no prehistoric sites are recorded within the search areas. The historic-era sites consist of an ancillary building, canals, water conveyance features, a fence line, military telegraph lines, a ranch complex, a road, trash scatters, and single-family properties. The historic isolate consists of a glass bottle fragment and a butchered bone fragment. Four historic addresses occur within the search areas, two of which occur on By-Right Sites 30 and 53. The built environment resource directory maintained by the Office of Historic Preservation lists five historic resources including the Central Main Canal, Dogwood Canal, De Anza Hotel, a bridge, and Camp Salvation. Of these resources, seven resources intersect or are within the project areas.

Sacred Lands Search

The NAHC responded on April 14, 2026, indicating that their search results were positive (Attachment 1).

Prehistoric Resources

No prehistoric resources have been recorded within the project areas.

Table 1 Previously Recorded Cultural Resources Within 0.25 Miles of Project Area					
Primary #	Trinomial #	Period	Site Type	Recording Events	Note
P-13-003311	CA-IMP-003311	Historic	Military telegraph line	1978 (Joe Vogel)	
P-13-003319	CA-IMP-003319	Historic	Road	1978 (Joe Vogel)	
P-13-003499	CA-IMP-003499	Historic	Military telegraph line	1978 (Joe Vogel)	
P-13-007130	CA-IMP-007130	Historic	Canal	1994 (E. Huber et al., Statistical Research Inc.); 1996 (Brad Strum, Ivan Strudwick, LSA Associates, Inc.); 1997 (G. Edward Collins, Imperial Irrigation District); 1999 (Barry G. Scott, Jones & Stokes Associates); 2000 (C. Dolan, KEA Environmental, Inc.); 2001 (Collin O'Neill, ASM Affiliates); 2005 (A. York, K. Norwood, J. White, EDAW, Inc.); 2006 (Jesse Belfasy, Michael Baker Corp.); 2010 (K. Tennesen, J. Whitaker, HDR); 2011 (Jennifer Krintz, ASM Affiliates, Inc.); 2011 (Pamela Daly, Daly & Associates); 2015 (Channon Carmack, Rincon Consultants); 2017 (Christopher E. Rayle, Steve Swanson, Environmental Planning Group, LLC); 2017 (M. DeCarlos, S. Lewis, Dudek); 2018 (HDR, Inc.)	All-American Canal4/16/2026 Is a district with element 13-008333; See also 13-007667
P-13-008469		Historic	Single-family property	2001 (CRM Tech)	
P-13-008470		Historic	Single-family property	2001 (CRM Tech)	
P-13-008682	CA-IMP-008166	Historic	Railroad	2003 (Karen Collins, J. Michael Pflaum, IVC Museum); 2005 (Andrea C. Craft, Michael J. Wise); 2011 (C. Ehringer, ESA)	Southern Pacific Railroad (Imperial and Gulf Branch); Niland to Calexico Railroad
P-13-008879	CA-IMP-008299	Historic	Trash scatter	2004 (SWCA Environmental Consultants)	All-American Canal
P-13-008880	CA-IMP-008300	Historic	Trash scatter	2004 (SWCA Environmental Consultants)	
P-13-008881		Historic	Isolate: glass bottle fragment; butchered bone	2004 (SWCA Environmental Consultants)	

Table 1 Previously Recorded Cultural Resources Within 0.25 Miles of Project Area					
Primary #	Trinomial #	Period	Site Type	Recording Events	Note
P-13-008911		**Historic**	**Single-family property**	**2007 (Harris Arch Cons.)**	
P-13-008912		**Historic**	**Ancillary building**	**2005 (N. Harris, Harris Arch Cons.)**	
P-13-008913		Historic	Water conveyance	2005 (N. Harris, Harris Arch Cons)	
P-13-008914		Historic	Water conveyance	2005 (N. Harris, Harris Arch Cons.)	
P-13-008915		Historic	Fence	2005 (N. Harris, Harris Arch Cons.)	
P-13-011937		Historic	Ranch complex	2010 (ASM Affiliates)	Gunterman Ranch
P-13-012242		**Historic**	**Canal**	**2010 (HDR/e2m)**	**Briar Canal**
P-13-012243		**Historic**	**Canal**	**2010 (HDR/e2m)**	**Central Main Canal**
P-13-012743		Historic	Water conveyance	2010 (Laguna Mountain Environmental, Inc.)	
P-13-012895		**Historic**	**Canal**	**2010 (HDR e2M)**	
P-13-012896		**Historic**	**Canal**	**2010 (HDR e2M)**	
Bold is adjacent to or within project areas					

Historic Resources

The following intersect or are located within the project areas:

- All-American Canal (P-13-007130): The resource is adjacent to Discretionary Sites 26, 29, and 30, and By-Right Sites 25, 27 and 50. The construction of the All-American Canal between 1934 and 1940 transformed agricultural development and settlement of the Imperial and Coachella valleys because of the canal's capacity to transport water from the Colorado River to Imperial Valley. The complete canal totals 80 miles. The canal was determined eligible under Criteria A and C of the National Register of Historic Properties in 2001 by the Bureau of Reclamation and California State Historic Preservation Officer (HDR 2018).

- Briar Canal (P-13-012242): This resource is located within Discretionary Site 24. This resource is a concrete-lined earthen waterway that is 2.5 miles long and located adjacent to the Central Main Canal at the Cole Boulevard/Bowker Road intersection. The 1957 Calexico USGS map exhibits the canal. The canal does not appear to be a major component of the overall Imperial Irrigation District (IID) system, and therefore does not appear to be a significant contributing element of the IID System (HDR 2010a).

- Central Main Canal (P-13-012243): This resource is located within Discretionary Site 24. This resource is an earthen waterway with no formal lining and extends 26 miles north past El Centro into Brawley. It is mapped on the 1940 Calexico USGS map. The canal has been recommended as a significant contributing element to the IID system since it is one of the main branches of the All-American Canal (P-13-007130), which is eligible under Criteria A for its association with the economic, agricultural, and social growth of the Imperial Valley in the early to mid-twentieth century (HDR 2010b).

- Unnamed Drain (P-13-012895): This resource is located within the Bowker Rezone Site 24b. This resource is a concrete-lined drain on the southeast side of Highway 98 that directs water underneath the highway, ending in a rounded collection chamber on the northwest side of the highway. The length is unknown. It is not present on the 1957 Calexico USGS map. The drain has not been evaluated for significance under CEQA criteria (HDR 2010c).

- Unnamed Drain (P-13-012896): This resource is located within Discretionary Site 30. This resource is a concrete-lined irrigation drain on the northwest side of Highway 98, south of the All-American Canal. The length is unknown. It is not present on the 1957 Calexico USGS map. The drain has not been evaluated for significance under CEQA criteria (HDR 2010d).

- Single-family property (P-13-008911): This resource is located within By-Right Site 53. This resource is a single-story, craftsman-style house built in 1935 that was abandoned at the time of recording. The house was recommended not eligible for the California Register of Historical Resources. The house is present in a 2005 aerial photograph; however, the house is not present on a 2009 aerial photograph and is presumed to have been demolished (Walter Enterprises 2007).

- Ancillary building (P-13-08912): This resource is located within By-Right Site 50. This resource is a small ancillary building associated with the single-story house (P-13-008911). The structure was likely a shelter for chickens or pigs. The structure is present in a 2005 aerial photograph; however, it is not present on a 2009 aerial photograph and is presumed to have been demolished (Harris Archaeological Consultants 2005).

Historic Aerial Photograph Review for By-Right Sites

RECON reviewed historic aerial photographs and topographic maps for the 39 by-right sites. The earliest photograph available online at Nationwide Environmental Title Research LLC dates to 1953. Aerial photographs from 1959, 1965, 1985, 1996, 2002, 2005, 2009, 2010, 2012, 2014, 2016, 2019, 2020, 2022, and 2024 were analyzed. Topographic maps from 1945, 1957, 1958, 1961, 1974, 1976, 1977, 1981, and 2012 were also reviewed. Results are presented in Table 2.

The majority of the By-Right Sites are currently vacant and have been used as agricultural fields in the past. The following is a discussion about sites with buildings or structures identified in aerial photographs and/or topographic maps. Sites 44 and 45 are being used as storage yards; site 7 contains a burned house; site 23 possesses a house that may be over 50 years old; and site 36 possesses a house that is over 50 years old. Topographic maps of five sites include buildings or structures currently or in the past. A 1957 topographic map of site 17 depicts two buildings, and a third building is added by the 1958 topographic map. All three are on the 1961 and 1976 maps. At site 23, two buildings are shown on 1957, 1958, 1961, and 1976 topographic maps. No buildings are noted on topographic maps for site 36 despite aerial photographs exhibiting a house that is over 50 years old. The buildings on sites 50 and 53 appear on topographic maps from 1945, 1956, 1958, 1961, 1974, 1977, and 1981 (Nationwide Environmental Title Research, LLC 2026).

Assembly Bill 52 and Senate Bill 18

Pursuant to Assembly Bill 52 and Senate Bill 18, on July 23, 2026, the City notified California Native American tribes identified by the NAHC or included on the City's list of tribes seeking notice of projects subject to CEQA review. The City received zero requests for consultations regarding the project's potential impacts on cultural or tribal cultural resources.

Table 2 Existing Conditions of By-Right Sites					
ID	APN	Address/Cross Street	Aerial Photographs*	Topographic Maps*	Mitigation
4	059010019	Scaroni Rd.	Canal Strout Drain 2, Central Main Canal, 1953–1984 agricultural fields, post 1986 vacant	n/a	n/a
5	059010020	Robinson Blvd.	1953–1984 agricultural fields, vacant post 1986	n/a	n/a
6	059010048	Robinson Blvd.	1953–1965 agricultural fields, 1985–2024 vacant	n/a	n/a
7	059342030	615 Scaroni Rd.	1953-1965 agricultural fields, 1996 building, 2022 building appears burnt	Building not shown on maps	n/a
8	059342033	2402 Van De Graaf Ave.	1953–1985 agricultural fields, 1996–2024 vacant	n/a	n/a
9	059010032	Cole Blvd.	1953-2005 agricultural fields, 2009-2022 vacant, 2024 grubbed	n/a	n/a
10	059010030	Cole Blvd.	1953-2005 agricultural fields, 2009-2024 vacant	n/a	n/a
11	059491003	Spud Moreno St.	1953-2005 agricultural fields, post 2009 vacant	n/a	n/a
12	059500003	Spud Moreno St.	Canal Strout Drain 2, Central Main Canal, 1953–2005 agricultural fields; post 2009 vacant	n/a	n/a
13	059491004	Cole Blvd.	1953-2005 agricultural fields, 2009-2022 vacant, 2024 grubbed	n/a	n/a
14	059496059	Cole Blvd.	1953-2002 agricultural fields, 2005 some grading, 2024 grubbed	n/a	n/a
15	059010057	Jasper Rd.	1953-2024 agricultural fields	n/a	n/a
16	059010058A	Jasper Rd.	1953-2024 agricultural fields	n/a	n/a

Table 2 Existing Conditions of By-Right Sites					
ID	APN	Address/Cross Street	Aerial Photographs*	Topographic Maps*	Mitigation
17	059010058B	Jasper Rd.	1953-2024 agricultural field, 1953 three structures, 2009 structures demolished	1957 exhibit two buildings, 1958–1976 exhibit three buildings	n/a
18	59010059	Jasper Rd.	1953–2024 agricultural fields	n/a	n/a
19	059471040	Cole Blvd.	1953–1996 agricultural field, 2002 possible staging yard for housing development, vacant post 2002	n/a	n/a
20	059471041	Cole Blvd.	1953–1996 agricultural field, 2002 possible staging yard for housing development, vacant post 2002	n/a	n/a
21	059471042	Cole Blvd.	1953–1996 agricultural field, 2002 possible staging yard for housing development, vacant post 2002	n/a	n/a
22	059455042	Cole Blvd.	1953–2022 agricultural field, 2005 vacant, 2009 development east	n/a	n/a
23	059180034	570 Bowker Rd.	1953 two houses, 1965 one house demolished, 1985 structure in the southwest (existing), 1996 house two demolished; 2002–2024 1985 structure	1957–1976 exhibit two structures	If the house is more than 50 years old, it should be evaluated for inclusion in the California Register of Historical Resources; construction monitoring recommended
25	059180045	Highway 98	1953–2024 agricultural field	n/a	n/a
26	059180044A	Highway 98	1953-2024 agricultural field	n/a	n/a
27	059180044B	Highway 98	1953–2024 agricultural field	n/a	n/a
28	059441003	Sapphire St.	1953–2019 agricultural field, vacant post 2019	n/a	n/a

Table 2 Existing Conditions of By-Right Sites					
ID	APN	Address/Cross Street	Aerial Photographs*	Topographic Maps*	Mitigation
29	059441004	Sapphire St.	1953-1996 agriculural field, 2002 partially graded, 2005-2009 agricultural field, Post 2010 vacant	n/a	n/a
30	059441005	Highway 98	1953-2009 agricultural field, Post 2010 vacant	n/a	n/a
31	059240040	Highway 98	1953–1985 agricultural field, public facility post 1996	n/a	n/a
32	059240048	Highway 98	1953–1985 agricultural field, 1996 vacant & development to east	n/a	n/a
33	059240050	Highway 98	1953–1985 agricultural field, 1996 vacant & development to east	n/a	n/a
34	058791005	1071 E Birch Ave	1953–1985 agricultural field, 1996 vacant with building to southwest, 2002 building southeast	n/a	n/a
35	058264002	1037 Rockwood Ave	1953 vacant, 1959 building, building present through 2022, 2024 building demolished	n/a	n/a
36	058294001	915 Ollie Ave.	1953 vacant in south, structure in north (1959–2024), 1959–2024 building in south	Building not shown on maps	Evaluate both buildings; construction monitoring recommended
37	058400058	Pierce Ct.	1953–1965 agricultural field, 1984 vacant, 1996 cul de sac, 2002 paved cul de sac, post 2005 vacant	n/a	n/a
38	058400057	Pierce Ct.	1953–1965 agricultural field, 1984 vacant, 1996 cul de sac,	n/a	n/a

Table 2 Existing Conditions of By-Right Sites					
ID	APN	Address/Cross Street	Aerial Photographs*	Topographic Maps*	Mitigation
			2002 paved cul de sac, post 2005 vacant		
39	05840056	Pierce Ct.	1953–1965 agricultural field, 1984 vacant, 1996 cul de sac, 2002 paved cul de sac, post 2005 vacant	n/a	n/a
40	05840055	Pierce Ct.	1953–1965 agricultural field, 1984 vacant, 1996 cul de sac, 2002 paved cul de sac, post 2005 vacant	n/a	n/a
41	05840054	Sherman Ct.	1953–1965 agricultural field, 1984 vacant, 1996 cul de sac, 2002 paved cul de sac, post 2005 vacant	n/a	n/a
42	05840053	Sherman Ct.	1953–1965 agricultural field, 1984 vacant, 1996 cul de sac, 2002 paved cul de sac, post 2005 vacant	n/a	n/a
43	058400052	Sherman Ct.	1953–1965 agricultural field, 1984 vacant, 1996 cul de sac, 2002 paved cul de sac, post 2005 vacant	n/a	n/a
44	058400051	Sherman Ct.	1953–1984 agricultural field, 1984 first building east, then start as parking lot/storage area, no buildings	n/a	n/a

Table 2 Existing Conditions of By-Right Sites					
ID	APN	Address/Cross Street	Aerial Photographs*	Topographic Maps*	Mitigation
45	05840065	Sherman Ct.	1953–1984 agricultural field, 1984 first building east, then start as parking lot/storage area, no buildings	n/a	n/a
46	058223020	Grant St.	1953–1965 agricultural field, 1984 vacant, 1996 cul de sac, 2002 paved cul de sac, post 2005 vacant	n/a	n/a
47	058233027	Grant St.	1953-2024 vacant	n/a	n/a
48	058853001	De Las Flores St.	1953 apiaries or nursery, 1984 agricultural fields, 1996 vacant, 2005 enclosed fenced area, 2012 storage containers in fenced area	n/a	n/a
49	058853002	De Las Flores St.	1953 apiaries or nursery, building, 1984 agricultural fields, 1996 vacant & building demolished	n/a	n/a
50	058180090	Highway 98	1953–2005 structure, 2009 structure demolished; 1953–1965 orchard, 1965–2024 vacant field	1945–1981 exhibit one building	n/a
51	058180091	Highway 98	1953–1965 orchard, 1984 agricultural fields, 1996 vacant	n/a	n/a
52	58180092	Highway 98	1953–1965 orchard, 1984 agricultural fields, 1996 vacant	n/a	n/a
53	58180093	Highway 98	1953–2005 house, 2009 house demolished, 2009–2024 vacant	1945–1981 exhibit one building	n/a

POTENTIAL IMPACTS /MITIGATION MEASURES

Analysis of impacts from future development on the built environment would be required at the project level. Any alteration, relocation, demolition, or excessive groundborne vibration associated with future development that would affect historic buildings or structures over 50 years of age would represent a significant impact to historic resources. The following mitigation measures shall be applied to future development of all Discretionary Development Sites and By-Right Development Sites:

CUL-1: Historic Evaluation: For Discretionary Development, prior to approving a future project that would directly or indirectly affect a building or structure over 50 years old, a historic evaluation should be completed by a qualified architectural historian to determine where the affected building or structure is historically significant and eligible for the California Register of Historical Resources. The evaluation shall be based on criteria such as age, location, context, association with an important person or event, uniqueness, or structural integrity, as indicated in the California Environmental Quality Act guidelines. If the evaluation determines that the building/structure is not historic, no further evaluation or mitigation would be required. If the building/structure is determined to be historically significant, the preferred mitigation would be to avoid the resource through project redesign. If the resource cannot be avoided, all prudent and feasible measures to minimize or mitigate harm to the resource shall be taken per the recommendations of the City or qualified architectural historian prior to the demolition of the building.

Development of By-Right Development Sites 23 and 36 shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.

The potential for future development to affect significant historic resources would be evaluated at the project level based on the location and characteristics of the proposed development and affected resources. Alteration, relocation, demolition, or excessive vibration could damage a historic structure, resulting in a significant impact. However, because the specific characteristics of future development are not known at the program level, even with implementation of CUL-1 for Discretionary Development Sites and applicable regulatory protections for By-Right Development Sites, it cannot be determined at the program level that impacts to significant historic resources would be fully avoided or reduced to a less than significant level. Therefore, impacts to historic resources would remain potentially significant.

CUL-2: Archaeological Resources Assessment. For Discretionary Development, prior to approving a future project or issuance of grading permits, the City shall require applicants for future ground-disturbing projects to determine the presence or absence of archaeological resources and appropriate mitigation measures. Following are steps to complete an assessment:

1. A qualified archaeologist meeting the Secretary of the Interior Standards shall conduct a cultural resources pedestrian survey and request a sacred lands search from the Native American Heritage Commission.

2. If an archaeological resource is identified that has not been evaluated for significance per California Environmental Quality Act thresholds, then an evaluation program shall be completed.

3. If the resource is determined to be significant and avoidance through project redesign is not feasible, a data recovery and construction monitoring program shall be implemented to reduce impacts to the archaeological resource to below a significant level.

4. After construction, a final data recovery and monitoring report shall be submitted to the City. Confidential attachments must be submitted under separate covers. Any artifacts collected during the evaluation, data recovery, and monitoring efforts shall be curated at an appropriate facility or repatriated to a local Native American tribe if requested during Assembly Bill 52 consultation.

The potential for ground-disturbing activities associated with future development could encounter and adversely affect known or previously unidentified archaeological resources, resulting in a potentially significant impact. However, because the specific characteristics of future development are not known at the program level, even with implementation of CUL-2, it cannot be determined that impacts to significant archaeological resources would be fully avoided or reduced to a less than significant level. Therefore, impacts to archaeological resources would remain potentially significant.

CUL-3: Construction Monitoring. For development of By-Right Sites 23 and 36, the City's By-Right Ordinance[1] requires the following:

1. A qualified archaeological monitor and Native American monitor shall be on-site during earth-disturbing activities at By-Right Sites 23 and 36 because there is a potential for buried significant historic cultural resource deposits given that houses on these sites may be or are over 50 years old.

2. Additionally, any mitigation measures developed through the Assembly Bill 52 Tribal consultation process shall also be completed.

3. If cultural resources are identified during construction monitoring, the archaeological monitor shall have the authority to divert or temporarily halt ground disturbance operations in the area of the discovery. The archaeological monitor shall contact the City Project Manager at the time of discovery and, in consultation with the City Project Manager, shall determine the significance of discovered resources. Isolates and non-significant deposits shall be minimally documented in the field. If the discovery is determined to be significant, a research design and data recovery program shall be prepared by the project archaeologist and approved by the City Project Manager.

4. Construction activities shall be allowed to resume after the City Project Manager has concurred with the significance evaluation and data recovery program.

5. A final data recovery and monitoring report shall be completed at the conclusion of the grading period.

[1] The City's By-Right Ordinance amends the Zoning Ordinance consistent with Program 2E of the Housing Element Update, establishing a ministerial review process for By-Right Development Sites.

The potential for ground-disturbing activities associated with future development within By-Right Sites 23 and 36 could result in adverse effects to unknown or previously unidentified archaeological resources, resulting in a potentially significant impact. However, because the specific characteristics of future development are not known at

the program level, even with implementation of CUL-3, it cannot be determined at the program level that impacts to significant archaeological resources would be fully avoided or reduced to a less than significant level. Therefore, impacts to archaeological resources would remain potentially significant.

If you have any questions or concerns about this project, please contact me at (619) 308-9333, ext. 133, or by email at czepeda@reconenvironmental.com.

Sincerely,

Carmen Zepeda-Herman

Carmen Zepeda-Herman, RPA
Senior Archaeologist

CZH:sjg

REFERENCES CITED

Harris Archaeological Consultants
2005 Site form for P-13-008912. On file with the South Coastal Information Center, San Diego State University.

HDR
2018 Site form for P-13-007130. On file with the South Coastal Information Center, San Diego State University.

2010a Site form for P-13-012241. On file with the South Coastal Information Center, San Diego State University.

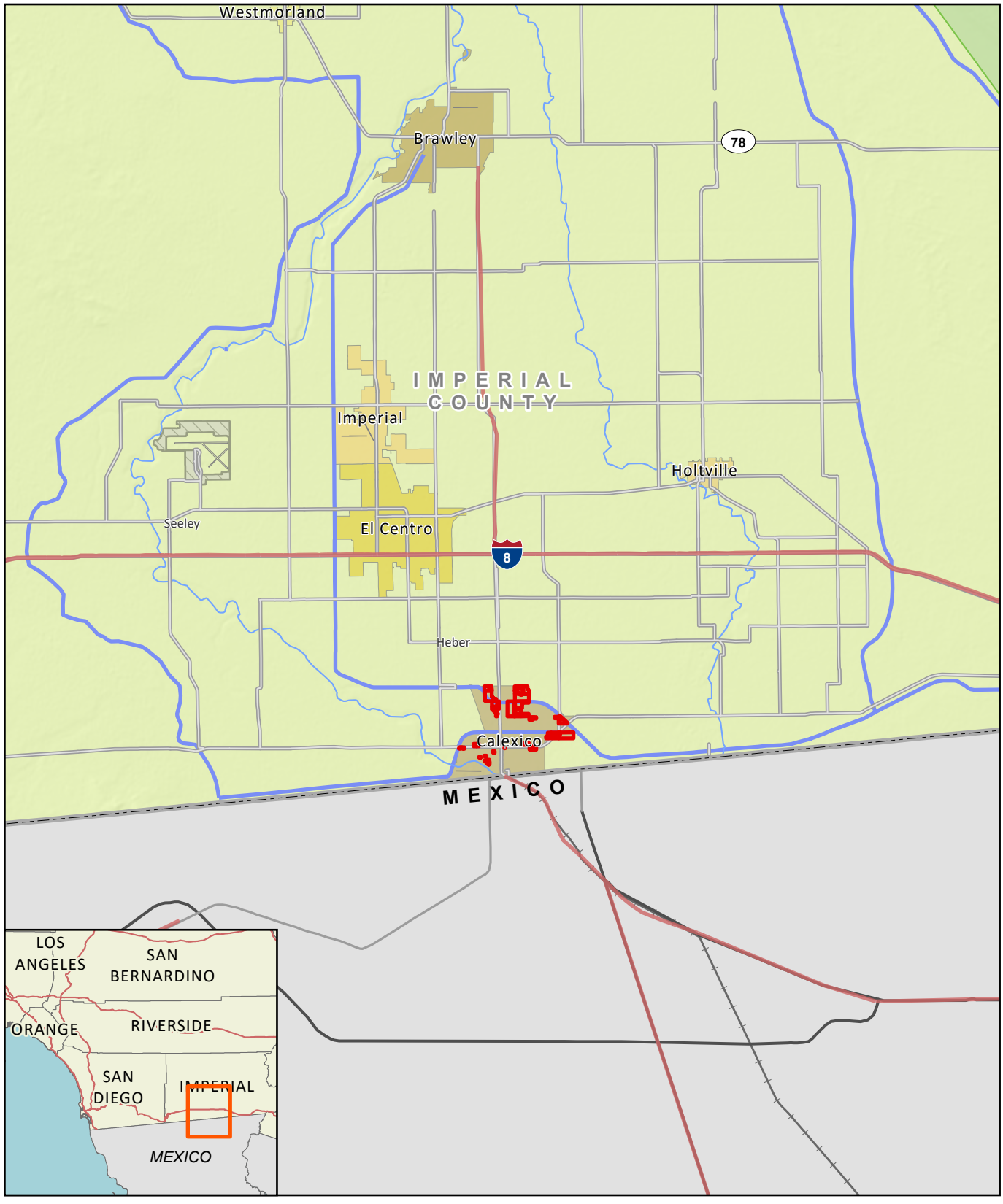
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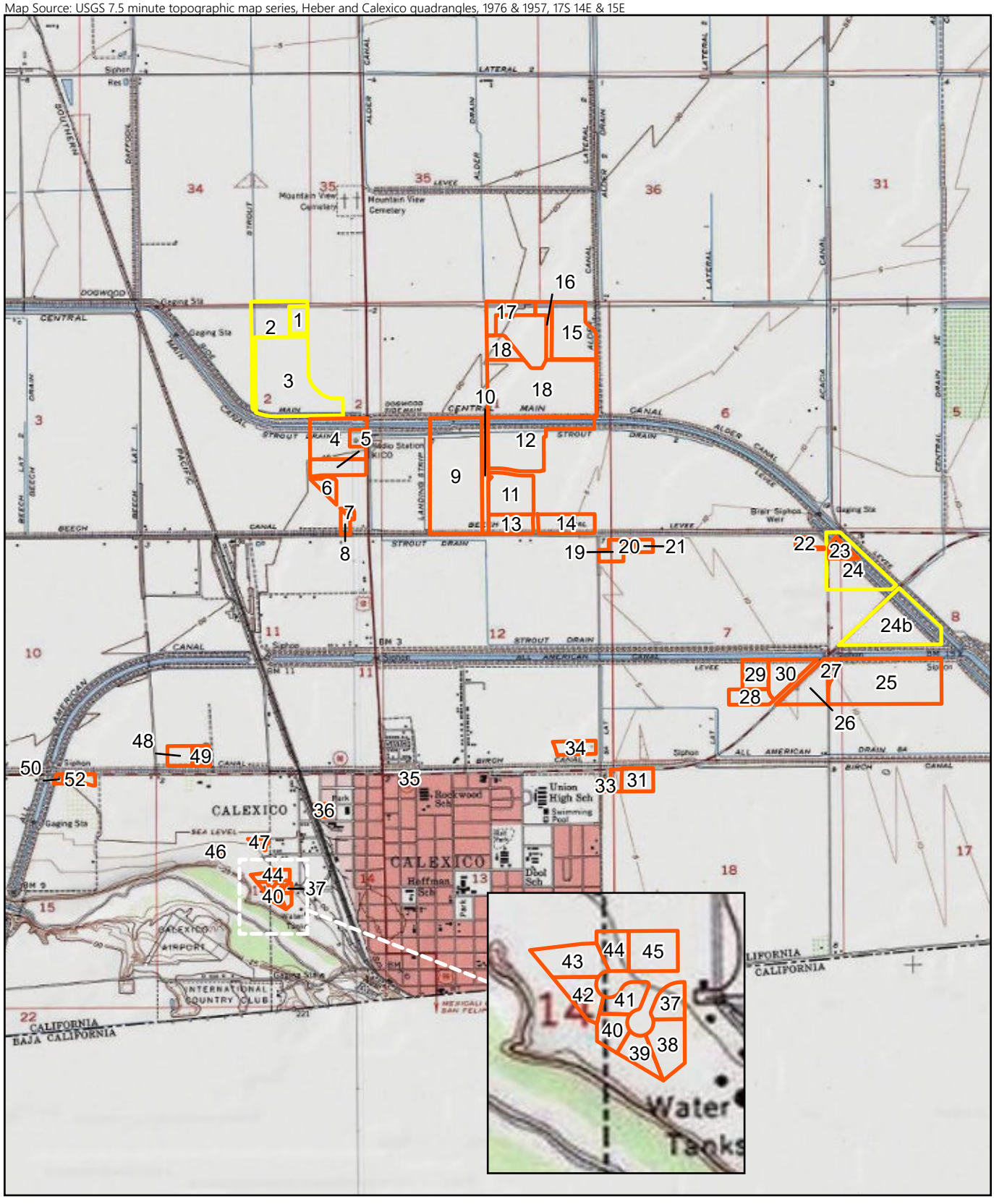
Project Sites

RECON

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FIGURE 1
Regional Location

Map Source: USGS 7.5 minute topographic map series, Heber and Calexico quadrangles, 1976 & 1957, 17S 14E & 15E

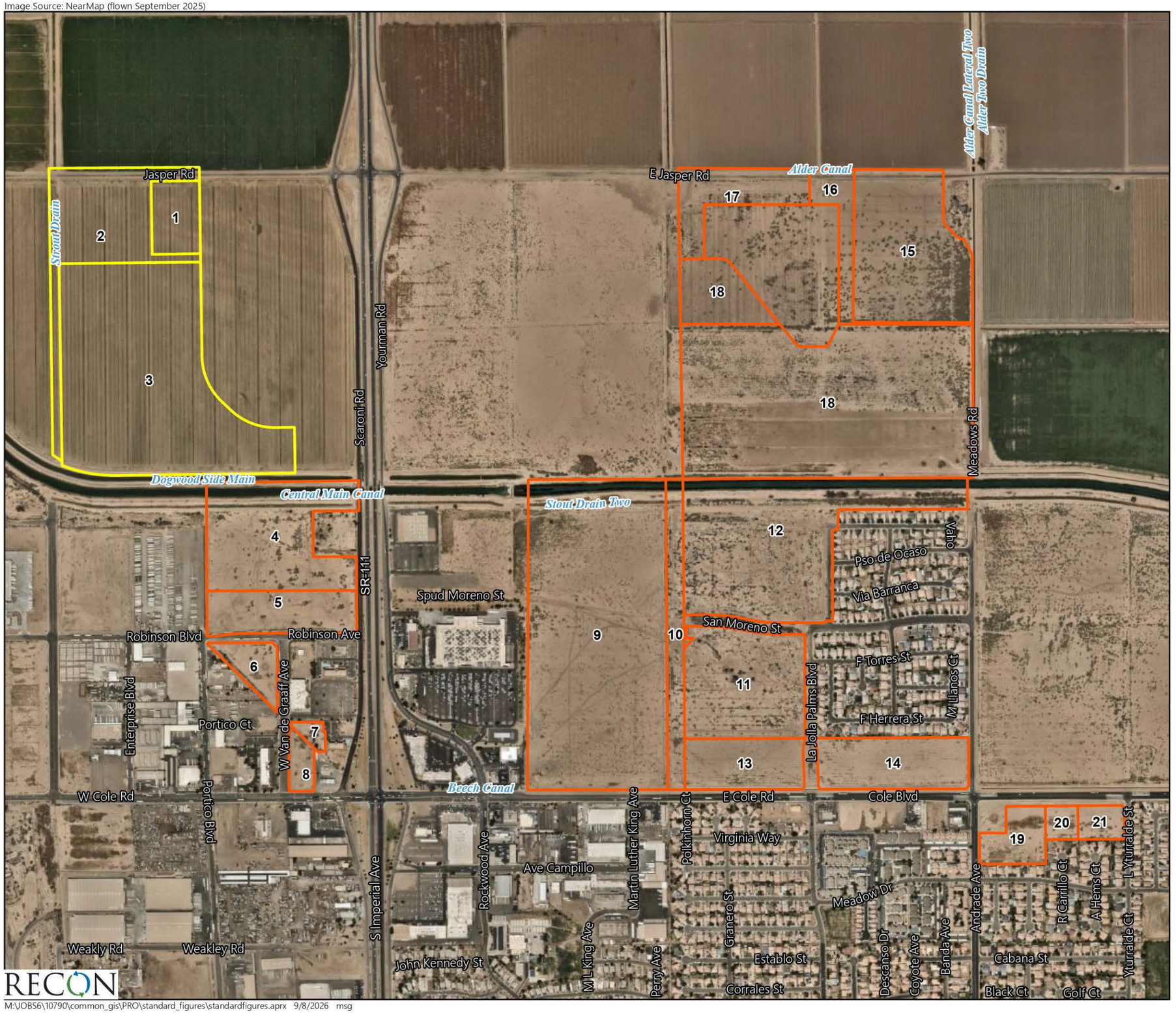


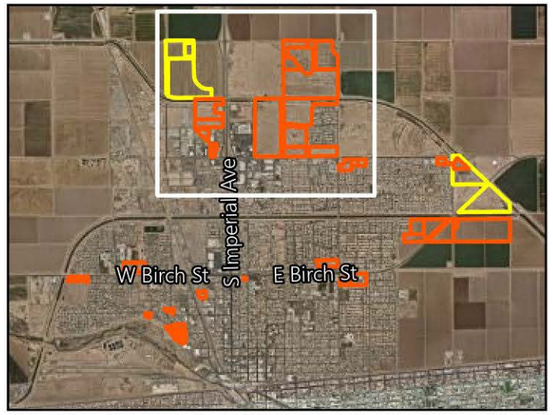
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FIGURE 2
Project Location on USGS Map

Image Source: NearMap (flown September 2025)





By-Right Development Sites

Discretionary Development Sites

0 Feet 850

FIGURE 3-1
Project Location on Aerial Photograph

RECON

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Appendix F

Paleontological Resources Report

7 July 2026

Shannon Baer
RICK Engineering
5620 Friars Road
San Diego, CA 92110

RE: Paleontological Records Search – City of Calexico Housing Element Update

Dear Ms. Baer:

This letter presents the results of a paleontological records search conducted for the City of Calexico Housing Element Update, which encompasses the entirety of the City of Calexico (City), located in the south-central portion of Imperial County, California.

Methods

A review of published geological maps covering the City and surrounding area was conducted to determine the specific geologic units underlying the Project. Each geologic unit was subsequently assigned a paleontological resource potential following the Fossil Prediction Map System (FPMS) developed by the Society of Vertebrate Paleontology (SVP, 2025). In addition, a search of the paleontological collection records housed at the San Diego Natural History Museum (SDNHM) was conducted in order to determine if any documented fossil collection localities occur within the City or in the immediate surrounding area.

Results

According to geologic mapping of the Project area (Jennings, 1967) and lake highstand mapping in the adjacent 15-minute quadrangle to the west (Dibblee and Minch, 2008), the City is underlain by late Pleistocene- to Holocene-age Lake Cahuilla Beds. This geologic unit and its paleontological resource potential are summarized below.

The SDNHM does not have any recorded fossil collection localities within a one-mile radius of the City.

Lake Cahuilla Beds –

Lake Cahuilla was a former freshwater lake that periodically occupied a major portion of the Salton Trough during late Pleistocene to Holocene time (approximately 37,000 to 240 years ago), depositing sediments that underlie the entirety of the City (mapped as Quaternary lake deposits by Jennings, 1967). Generally, Lake Cahuilla sediments consist of an interbedded sequence of both freshwater lacustrine (lake) and fluvial (river/stream) deposits. The nearest SDNHM localities from the Lake Cahuilla Beds are located about seven miles to the west of the City, and yielded remains of gastropods and the bivalve *Anodonta californiensis*. The paleontological resources of the Lake Cahuilla Beds are considered significant because of the paleoclimatic and paleoecological information they can provide, and these deposits are therefore assigned a moderate paleontological potential.

Summary and Recommendations

The moderate paleontological resource potential of the Lake Cahuilla Beds suggests the potential for future development within the City to result in impacts to paleontological resources. Any proposed excavation activities that extend deep enough to encounter previously undisturbed deposits of this geologic unit have the potential to impact the paleontological resources preserved therein. Therefore, implementation of mitigation measures to address potential impacts to paleontological resources is recommended.

This document reports solely on paleontological collection records held by the San Diego Natural History Museum and is not intended to serve in place of a paleontological resources assessment for the purposes of California Environmental Quality Act (CEQA) or National Environmental Policy Act (NEPA) review.

If you have any questions concerning these findings, please feel free to contact me at 619-255-0250 or zbrook@sdnhm.org.

Sincerely,



Zev Brook, M.S.
Report Writer
Department of PaleoServices
San Diego Natural History Museum

Literature Cited

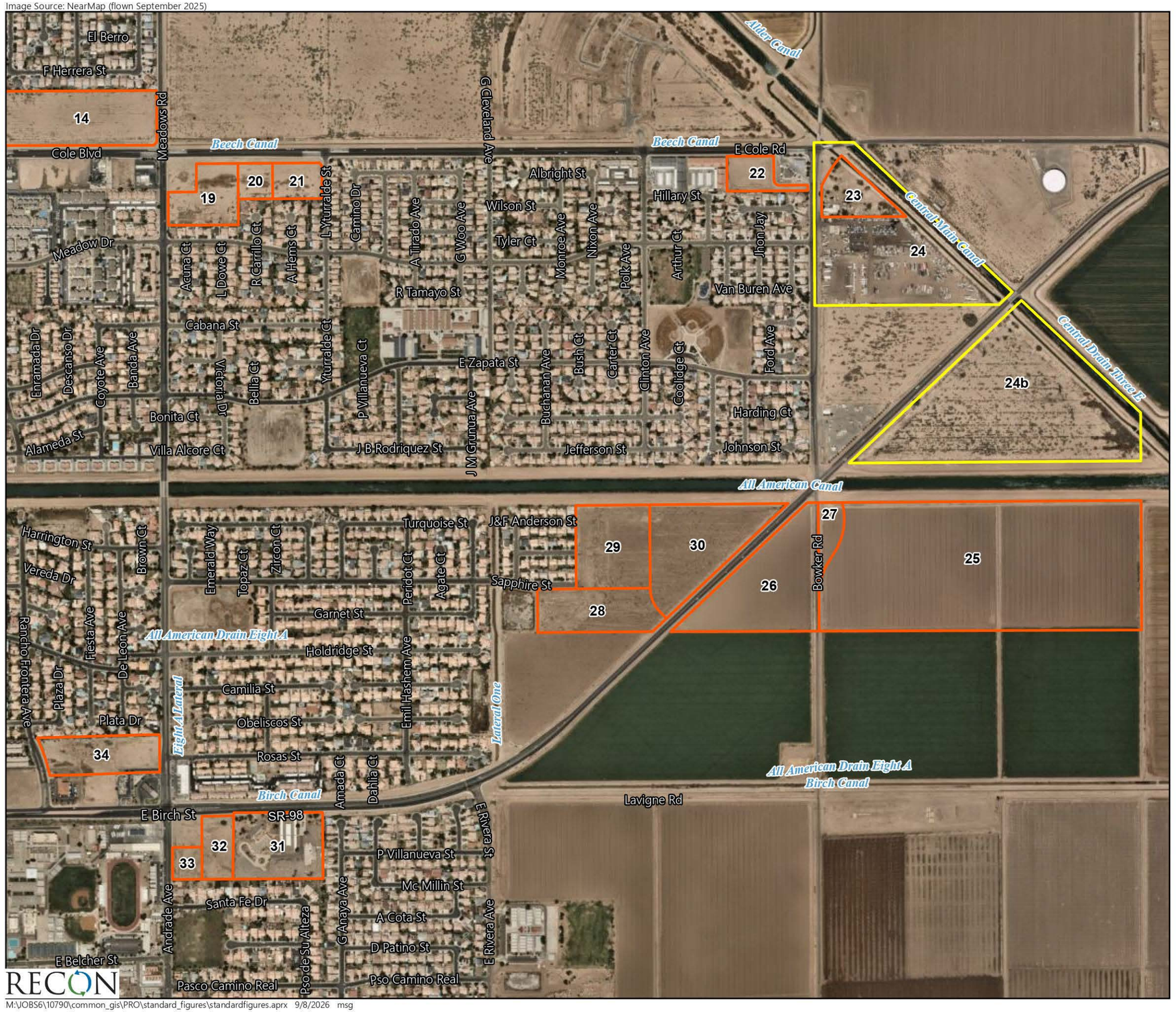
Dibblee, T.W., and J.A. Minch. 2008. Geologic map of the Coyote Wells & Heber 15 minute quadrangles, Imperial County, California. Dibblee Geological Foundation Map DF-405, scale 1:62,500.

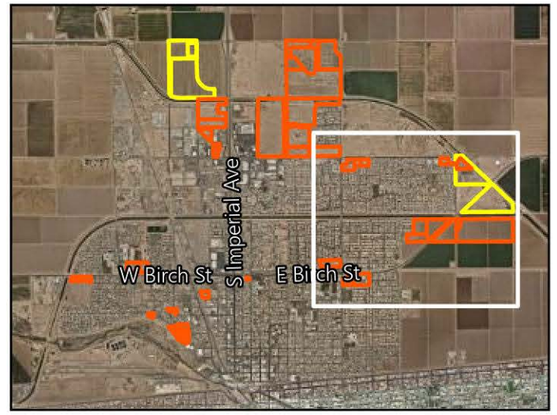
Jennings, C.W. 1967. Geologic map of California: Salton Sea sheet. Geologic Atlas of California GAM-13, scale 1:250,000.

SDNHM unpublished paleontological collections data.

SVP. 2025. Best Practice Guidelines for Mitigation of Adverse Impacts on Paleontological Resources. First edition, dated October 2025. 28 p.

Image Source: NearMap (flown September 2025)





By-Right Development Sites

Discretionary Development Sites

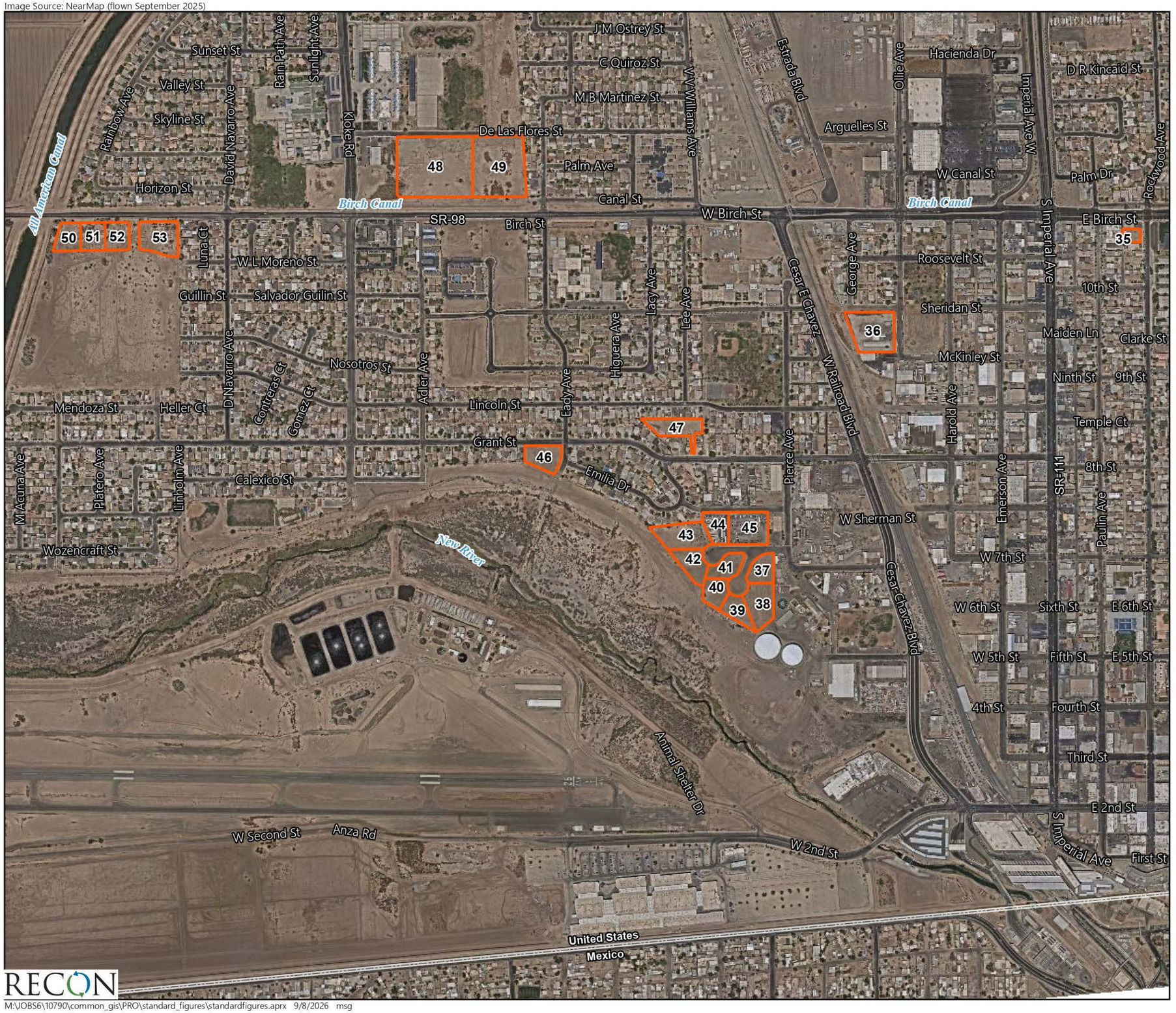
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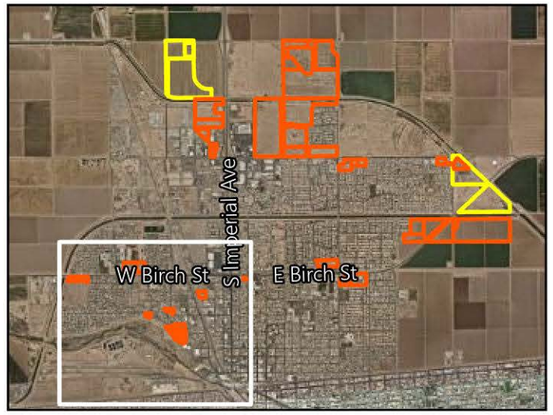
FIGURE 3-2
Project Location on Aerial Photograph

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Image Source: NearMap (flown September 2025)





By-Right Development Sites

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FIGURE 3-3
Project Location on Aerial Photograph

ATTACHMENT 1

Native American Heritage Commission Correspondence

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

SECRETARY
Isaac Bojorquez
Ohlone-Costanoan

PARLIAMENTARIAN
Wayne Nelson
Luiseño

COMMISSIONER
Sara Dutschke
Miwok

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
Bennae Calac
Pauma-Yuima Band of Luiseño Indians

COMMISSIONER
Vacant

COMMISSIONER
Vacant

EXECUTIVE SECRETARY
Andrew Alejandre
Paskenta Band of Nomlaki Indians

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov

April 14, 2026

Carmen Zepeda-Herman
RECON Environmental

Via Email to: czepeda@reconenvironmental.com

Re: Calexico Housing Element/10790 Project, Imperial County

To Whom It May Concern:

As requested, a search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed based on information submitted for the above referenced project. The results were positive. Please contact the Ewiiaapaayp Band of Kumeyaay Indians and the Torres-Martinez Desert Cahuilla Indians on the attached list for more information. Be aware that tribes do not always record their sacred sites in the SLF, nor are they required to do so. As such, an SLF search is not a substitute for consultation with all tribes that are traditionally and culturally affiliated with a project's geographic area.

Attached is a list of Native American tribes that are traditionally and culturally affiliated with the project's geographic area. Please contact all of the listed tribes as they may have information about sacred sites within the project area that is not listed with the NAHC.

If within two weeks of notification, a response has not been received, the Commission requests that you follow up with a telephone call or email to ensure that the project information was received.

If you receive notification of a change of address or phone number from a tribe, please inform the NAHC so that we can assure that our lists contain current information.

In addition to engaging in tribal consultation, you should consult the appropriate regional California Historical Research Information System (CHRIS) information center to determine whether it has information regarding the presence of recorded archaeological sites within the project area.

If you have any questions or need additional information, please contact me at Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Imperial County
4/14/2026

Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
Barona Group of the Capitan Grande	F	Art Bunce, Attorney	1095 Barona Road Lakeside, CA, 92040	(760) 489-0329		buncelaw@aol.com	Diegueno	Imperial,San Diego	7/25/2023
Campo Band of Diegueno Mission Indians	F	Marcus Cuero, Chairperson	36190 Church Road, Suite 1 Campo, CA, 91906	(619) 478-9046		marcuscuero@campo-nsn.gov	Diegueno	Imperial,San Diego	5/15/2024
Campo Band of Diegueno Mission Indians	F	Daniel Tsosie, THPO	36190 Church Road, Suite 1 Campo, CA, 91906	(619) 760-6480		dtsosie@campo-nsn.gov	Diegueno	Imperial,San Diego	5/24/2024
Campo Band of Diegueno Mission Indians	F	Ben Dyche, Vice Chairperson	36190 Church Road, Suite 1 Campo, CA, 91906	(619) 478-9046		bdyche@campo-nsn.gov	Diegueno	Imperial,San Diego	5/24/2024
Cocopah Indian Tribe of Arizona	F	Brandon Walter, Cultural Resources Manager	14515 S. Veterans Drive Somerton, AZ, 85350	(928) 722-7521		walterb@cocopah.gov	Cocopah	Imperial	11/21/2025
Ewiiaapaayp Band of Kumeyaay Indians	F	Eduardo Mercado, Principle, Grey Wolf Monitoring	1 Crestwood Road Boulevard, CA, 91905	(619) 301-4794		emercado75@hotmail.com	Kumeyaay	Imperial,San Diego	8/26/2025
Fort Yuma Quechan Indian Tribe	F	Jill McCormick, Historic Preservation Officer	P.O. Box 1899 Yuma, AZ, 85365	(760) 919-3631		historicpreservation@quechantribe.com	Quechan	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego	10/29/2025
Fort Yuma Quechan Indian Tribe	F	Jonathan Koteen, President	P.O.Box 1899 Yuma, AZ, 85365	(760) 919-3600		executivesecretary@quechantribe.com	Quechan	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego	10/29/2025
Iipay Nation of Santa Ysabel	F	Clint Linton, Director of Cultural Resources	P.O. Box 507 Santa Ysabel, CA, 92070	(760) 803-5694		clint@redtailenvironmental.com	Diegueno	Imperial,San Diego	11/30/2023
Inaja-Cosmit Band of Indians	F	Rebecca Osuna, Chairperson	2005 S. Escondido Blvd. Escondido, CA, 92025	(760) 737-7628	(760) 747-8568		Diegueno	Imperial,San Diego	
Jamul Indian Village	F	Erica Pinto, Chairperson	P.O. Box 612 Jamul, CA, 91935	(619) 669-4785	(619) 669-4817	epinto@jiv-nsn.gov	Diegueno	Imperial,San Diego	
Jamul Indian Village	F	Lisa Cumper, THPO / NAGPRA Coordinator	P.O. Box 612 Jamul, CA, 91935	(619) 928-8689	(619) 669-4817	lcumper@jiv-nsn.gov	Diegueno	Imperial,San Diego	4/6/2026
La Posta Band of Diegueno Mission Indians	F	Eric La Chappa, Chairman	8 Crestwood Road Boulevard, CA, 91905	(619) 478-2113	(619) 478-2125	ELaChappa@lptribe.net	Diegueno	Imperial,San Diego	5/7/2025
Manzanita Band of Kumeyaay Nation	F	Angela Elliott Santos, Chairperson	P.O. Box 1302 Boulevard, CA, 91905	(619) 766-4930	(619) 766-4957		Diegueno	Imperial,San Diego	
Mesa Grande Band of Diegueno Mission Indians	F	Michael Linton, Chairperson	P.O Box 270 Santa Ysabel, CA, 92070	(760) 782-3818	(760) 782-9092		Diegueno	Imperial,San Diego	
San Pasqual Band of Diegueno Mission Indians	F	Allen Lawson, Chairperson	P.O. Box 365 Valley Center, CA, 92082	(760) 749-3200	(760) 749-3876		Diegueno	Imperial,San Diego	
San Pasqual Band of Diegueno Mission Indians	F	John Flores, Environmental Coordinator	P. O. Box 365 Valley Center, CA, 92082	(760) 749-3200	(760) 749-3876	johnf@sanpasqualtribe.org	Diegueno	Imperial,San Diego	8/16/2016
Sycuan Band of the Kumeyaay Nation	F	Bernice Paipa, Cultural Resource Specialist	Sycuan Cultural Center: 910 Willow Glen Drive El Cajon, CA, 92019	(619) 445-6917		bpaipa2@sycuan-nsn.gov	Kumeyaay	Imperial,San Diego	8/7/2023
Sycuan Band of the Kumeyaay Nation	F	Cody Martinez, Chairman	Sycuan Tribal Office: 1 Kwaaypaay Court El Cajon, CA, 92019	(619) 445-2613		cmartinez@sycuan-nsn.gov	Kumeyaay	Imperial,San Diego	8/7/2023
Torres-Martinez Desert Cahuilla Indians	F	Mary Belardo, Cultural Committee Vice Chair	P.O. Box 1160 Thermal, CA, 92274	(760) 397-0300		belardom@gmail.com	Cahuilla	Imperial,Riverside,San Bernardino,San Diego	10/30/2023
Torres-Martinez Desert Cahuilla Indians	F	Abraham Becerra, Cultural Coordinator	P.O. Box 1160 Thermal, CA, 92274	(760) 397-0300		abecerra@tmdci.org	Cahuilla	Imperial,Riverside,San Bernardino,San Diego	10/30/2023
Torres-Martinez Desert Cahuilla Indians	F	Thomas Tortez, Chairperson	P.O. Box 1160 Thermal, CA, 92274	(760) 397-0300	(760) 397-8146	thomas.tortez@tmdci.org	Cahuilla	Imperial,Riverside,San Bernardino,San Diego	10/30/2023
Torres-Martinez Desert Cahuilla Indians	F	Alesia Reed, Cultural Committee Chairwoman	P.O. Box 1160 Thermal, CA, 92274	(760) 397-0300		lisareed990@gmail.com	Cahuilla	Imperial,Riverside,San Bernardino,San Diego	10/30/2023
Torres-Martinez Desert Cahuilla Indians	F	Gary Resvaloso, TM MLD	P.O. Box 1160 Thermal, CA, 92274	(760) 777-0365		grestmtm@gmail.com	Cahuilla	Imperial,Riverside,San Bernardino,San Diego	10/30/2023
Viejas Band of Kumeyaay Indians	F	Ernest Pingleton, THPO	1 Viejas Grade Road Alpine, CA, 91901	(619) 445-3810		epingleton@viejas-nsn.gov	Kumeyaay	Imperial,San Diego	6/29/2023
Viejas Band of Kumeyaay Indians	F	Ray Teran, Resource Management Director	1 Viejas Grade Road Alpine, CA, 91901	(619) 659-2312		rteran@viejas-nsn.gov	Kumeyaay	Imperial,San Diego	6/29/2023

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Calexico Housing Element/10790 Project, Imperial County.

Record: PROJ-2026-001927
Report Type: List of Tribes
Counties: Imperial
NAHC Group: All

CONFIDENTIAL ATTACHMENT

(Under Separate Cover)

Appendix G

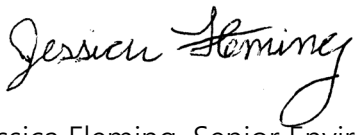
Greenhouse Gas Analysis Technical Report

Greenhouse Gas Analysis for the City of Calexico Housing Element Update Calexico, California

Prepared for
RICK Engineering
5620 Friars Road
San Diego, CA 92110
Contact: Ms. Shannon Baer

Prepared by
RECON Environmental, Inc.
3111 Camino del Rio North, Suite 600
San Diego, CA 92108
P 619.308.9333

RECON Number 10790
September 10, 2026



Jessica Fleming, Senior Environmental Specialist
Noise, Air Quality, and Greenhouse Gas

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ATTACHMENTS

1: CalEEMod Output – Baseline (Year 2019) Existing On-The-Ground Land Uses
2: CalEEMod Output – Buildout (Year 2050) of the Existing Land Use and Zoning Designations
3: CalEEMod Output – Buildout (Year 2050) of the Proposed HEU Land Use and Zoning Designations

Acronyms and Abbreviations

2017 Scoping Plan	*2017 Climate Change Scoping Plan Update, the Strategy for Achieving California's 2030 Greenhouse Gas Target*
2022 Scoping Plan	*2022 Scoping Plan Update for Achieving Carbon Neutrality*
AAC	All-American Canal
AB	Assembly Bill
ACC	Advanced Clean Cars II regulation
BAU	business as usual
CAA	Clean Air Act
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	methane
City	City of Calexico
CO_2	carbon dioxide
County	Imperial County
Energy Code	Title 24 of the California Code of Regulations (Building Standards Code), Part 6, the Building Energy Efficiency Standards
EO	Executive Order
GHG	greenhouse gas
GWP	global warming potential
HEU	City of Calexico Housing Element Update
ICAPCD	Imperial County Air Pollution Control District
IPCC	Intergovernmental Panel on Climate Change
MMT CO_2E	million metric tons carbon dioxide equivalent
MPO	Metropolitan Planning Organizations
MT CO_2E	metric tons of carbon dioxide equivalent
N_2O	nitrous oxide
POE	port of entry
project	City of Calexico Housing Element Update
RHNA	Regional Housing Needs Allocation
RPS	Renewables Portfolio Standard
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
Scoping Plan	*Climate Change Scoping Plan: A Framework for Change*
U.S. EPA	U.S. Environmental Protection Agency

1.0 Introduction

This report evaluates the significance of potential greenhouse gas (GHG) impacts that may be generated by the proposed City of Calexico (City) Housing Element Update (HEU, proposed project). This report characterizes existing conditions within the City and the region, identifies applicable rules and regulations, and assesses GHG impacts from construction and operation of the proposed project.

1.1 Understanding Global Climate Change

To evaluate the incremental effect of the proposed project on statewide GHG emissions and global climate change, it is important to have a basic understanding of the nature of the global climate change problem. Global climate change is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. The earth's climate is in a state of constant flux with periodic warming and cooling cycles. Extreme periods of cooling are termed "ice ages," which may then be followed by extended periods of warmth. For most of the earth's geologic history, these periods of warming and cooling have been the result of many complicated interacting natural factors that include volcanic eruptions that spew gases and particles (dust) into the atmosphere; the amount of water, vegetation, and ice covering the earth's surface; subtle changes in the earth's orbit; and the amount of energy released by the sun (sun cycles). However, since the beginning of the Industrial Revolution around 1750, the average temperature of the earth has been increasing at a rate that is faster than can be explained by natural climate cycles alone.

With the Industrial Revolution came an increase in the combustion of carbon-based fuels such as wood, coal, oil, natural gas, and biomass. Industrial processes have also created emissions of substances not found in nature. This in turn has led to a marked increase in the emissions of gases shown to influence the world's climate. These gases, termed "greenhouse" gases, influence the amount of heat trapped in the Earth's atmosphere. Recently observed increased concentrations of GHGs in the atmosphere appear to be related to increases in human activity. Therefore, the current cycle of "global warming" is believed to be largely due to human activity. Of late, the issue of global warming, or global climate change, has arguably become the most important and widely debated environmental issue in the United States and the world. Because it is believed that the increased GHG concentrations around the world are related to human activity and the collective of human actions taking place throughout the world, it is quintessentially a global or cumulative issue.

1.2 Greenhouse Gases of Primary Concern

There are numerous GHGs, both naturally occurring and manmade. Each GHG has variable atmospheric lifetime and global warming potential (GWP). The atmospheric lifetime of the gas is the average time a molecule stays stable in the atmosphere. Most GHGs have long atmospheric lifetimes, staying in the atmosphere hundreds or thousands of years. GWP is a measure of the potential for a gas to trap heat and warm the atmosphere. Although GWP is related to its atmospheric lifetime, many other factors including chemical reactivity of the gas also influence GWP. GWP is reported as a unitless factor representing the potential for the gas to affect global climate relative to the potential of carbon dioxide (CO_2). Because CO_2 is the reference gas for establishing GWP, by definition its

GWP is 1. Although methane (CH_4) has a shorter atmospheric lifetime than CO_2, it has a 100-year GWP of 28; this means that CH_4 has 28 times more effect on global warming than CO_2.

The GWP is officially defined as (U.S. Environmental Protection Agency [U.S. EPA] 2010):

> The cumulative radiative forcing—both direct and indirect effects—integrated over a period of time from the emission of a unit mass of gas relative to some reference gas.

GHG emissions estimates are typically represented in terms of equivalent metric tons of CO_2 (MT CO_2E). CO_2E emissions are the product of the amount of each gas by its GWP. The effects of several GHGs may be discussed in terms of MT CO_2E and can be summed to represent the total potential of these gases to warm the global climate. Table 1 summarizes some of the most common GHGs.

Table 1
Global Warming Potentials and Atmospheric Lifetimes
(years)

Gas	Atmospheric Lifetime (years)	100-year GWP	20-year GWP
Carbon dioxide (CO_2)	50–200	1	1
Methane (CH_4)	12.4	25/28*	84
Nitrous oxide (N_2O)	121	298/265*	264
HFC-23	222	12,400	10,800
HFC-32	5.2	677	2,430
HFC-125	28.2	3,170	6,090
HFC-134a	13.4	1,300	3,710
HFC-143a	47.1	4,800	6,940
HFC-152a	1.5	138	506
HFC-227ea	38.9	3,350	5,360
HFC-236fa	242	8,060	6,940
HFC-43-10mee	16.1	1,650	4,310
CF_4	50,000	6,630	4,880
C_2F_6	10,000	11,100	8,210
C_3F_8	2,600	8,900	6,640
C_4F_{10}	2,600	9,200	6,870
c-C_4F_8	3,200	9,540	7,110
C_5F_{12}	4,100	8,550	6,350
C_6F_{14}	3,100	7,910	5,890
SF_6	3,200	23,500	17,500

SOURCE: Intergovernmental Panel on Climate Change (IPCC) 2007, 2014.
*The CH_4 and N_2O 100-year GWPs included in CalEEMod are 25 and 298, respectively, from the IPCC Fourth Assessment Report. All other values are from the current Fifth Assessment Report.

It should be noted that the U.S. EPA and other organizations update the GWP values they use occasionally. This change can be due to updated scientific estimates of the energy absorption or lifetime of the gases or to changing atmospheric concentrations of GHGs that result in a change in the energy absorption of one additional ton of a gas relative to another. The GWPs shown in Table 1 are the most current. However, it should be noted that in the California Emissions Estimator

Model (CalEEMod), which is the model used in this analysis to calculate emission, CH_4 has a GWP of 25 and nitrous oxide (N_2O) has a GWP of 298, consistent with the Scoping Plan.

All of the gases in Table 1 are produced by either biogenic (natural) source, anthropogenic (human) sources, or both. These are the GHGs of primary concern in this analysis. CO_2 would be emitted by the future development implemented under the HEU due to the combustion of fossil fuels in vehicles (including construction), from electricity generation and natural gas consumption, from water use, and from solid waste disposal. Smaller amounts of CH_4 and N_2O would be emitted from the same operational sources.

2.0 Project Description

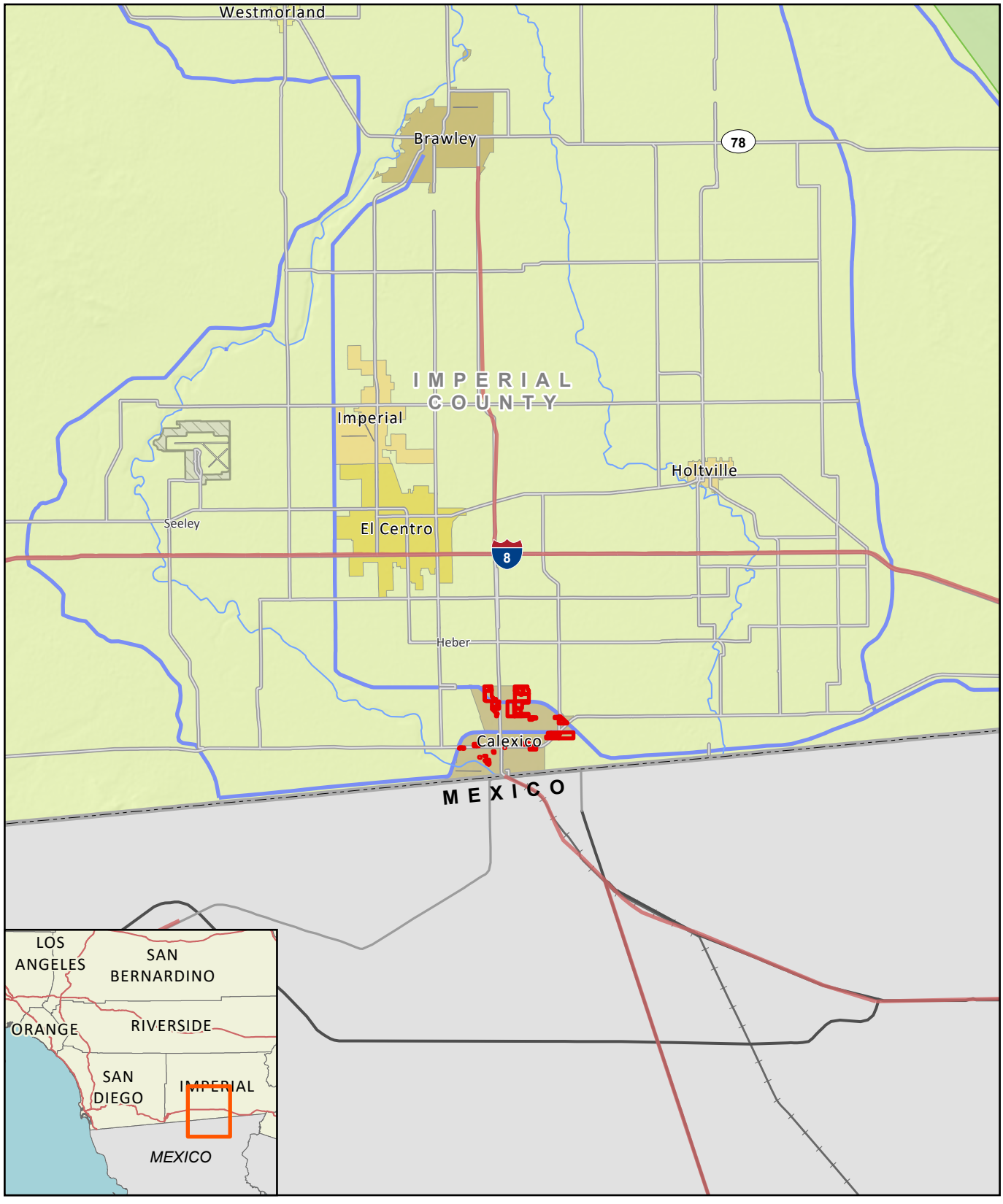
This programmatic air quality report analyzes potentially significant impacts related to air quality that could result from implementation of the project. This report summarizes the existing air quality conditions and regulatory framework, calculation methodology and results, and recommended mitigation measures. The City is implementing its 6th Cycle 2021–2029 Housing Element, a state-mandated update designed to accommodate a Regional Housing Needs Allocation (RHNA) through strategic rezoning, upzoning, and General Plan amendments. This programmatic air quality report provides the necessary environmental analysis to support future development of the project's "By-Right Development Sites", primarily vacant or underutilized parcels that meet specific state criteria for streamlined approval; and "Discretionary Development Sites", requiring further amendments to the General Plan and Zoning Code to enable residential development.

This report is being prepared to support the California Environmental Quality Act (CEQA) document for this project, which is a program-level environmental impact report. The impact analysis provided in this report is a program-level analysis, consistent with Section 15168 of the CEQA Guidelines. It follows guidance provided by the Imperial County Air Pollution Control District (ICAPCD; 2017).

2.1 Project Location

The project is located within the city of Calexico, California, and lies approximately 4.50 miles south of Interstate 8 and 0.45 miles north of the United States (U.S.)/Mexico international border in southern Imperial County, California (Figure 1).

The project identifies 54 parcels throughout the City, including 49 By-Right Development Sites and 5 Discretionary Development Sites, and is generally bounded by development, agricultural land, and canals to the north, east, and west, and the New River and the U.S./Mexico border to the south (Figure 2). The By-Right Sites and Discretionary Development Sites consist of vacant, underdeveloped, and developed parcels throughout the city.



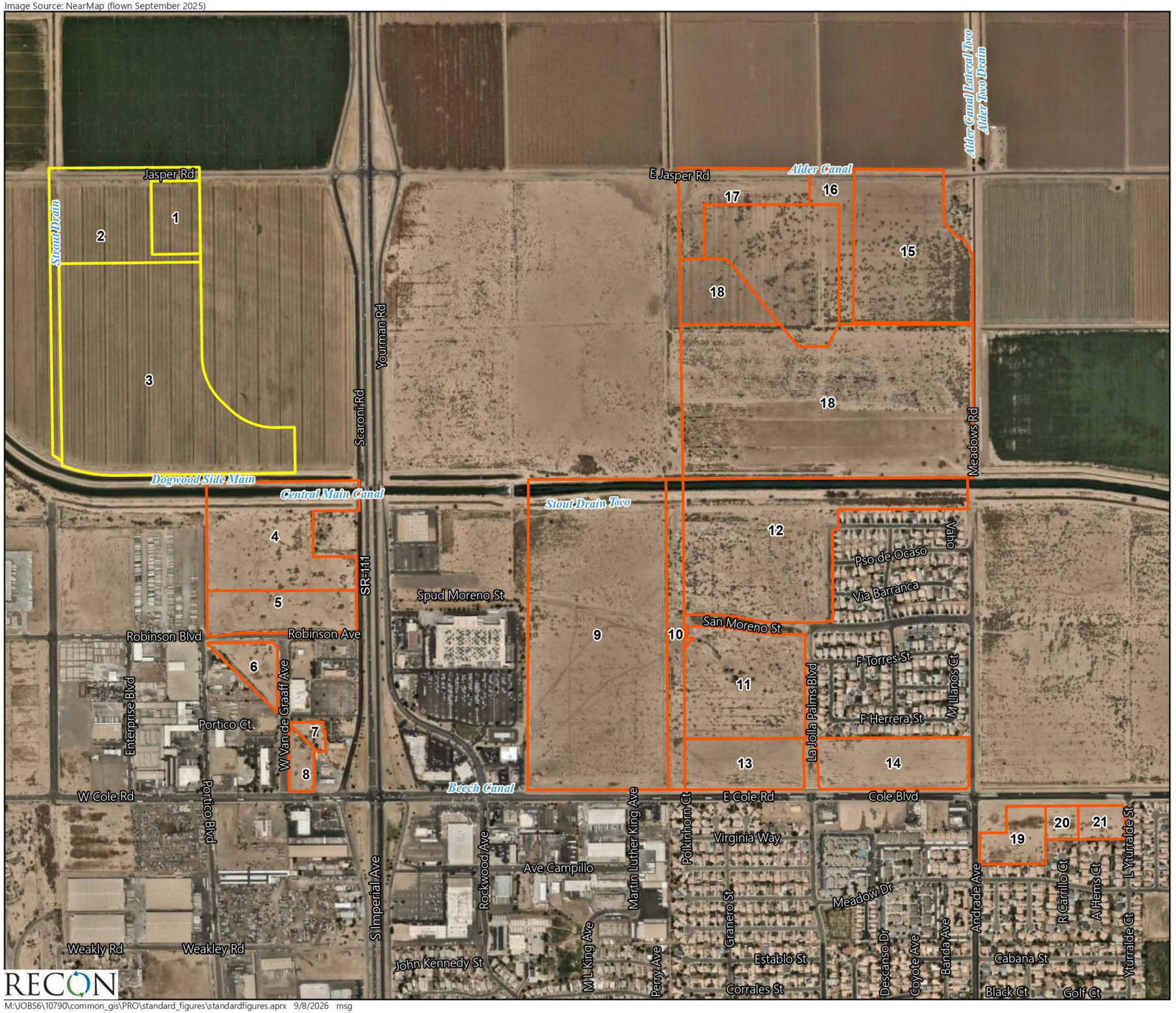
Project Sites

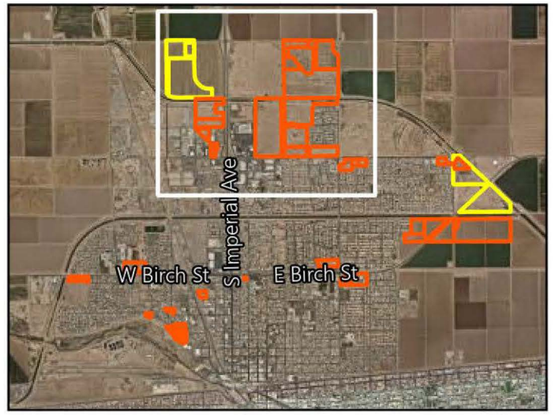
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FIGURE 1
Regional Location

Image Source: NearMap (flown September 2025)





By-Right Development Sites

Discretionary Development Sites

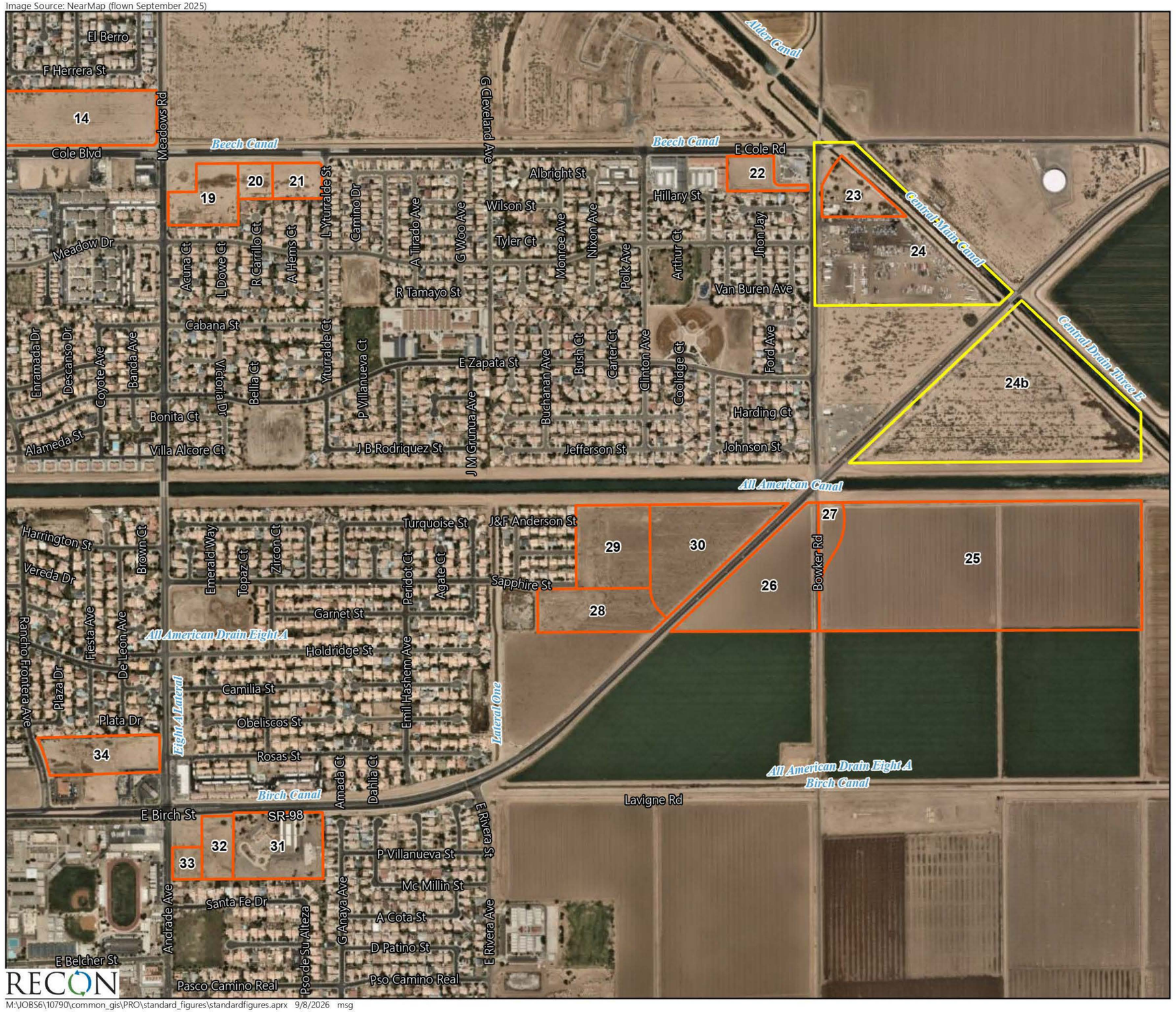
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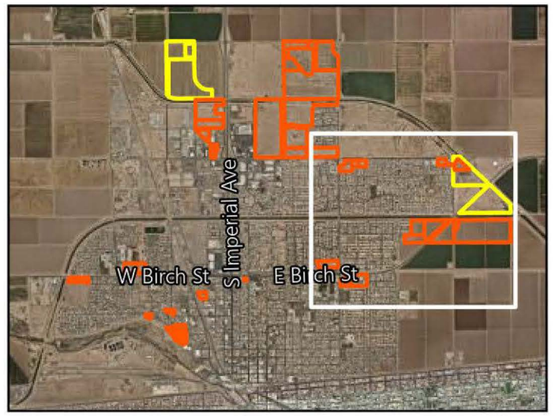
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FIGURE 2-1
Project Location on Aerial Photograph

Image Source: NearMap (flown September 2025)





By-Right Development Sites

Discretionary Development Sites

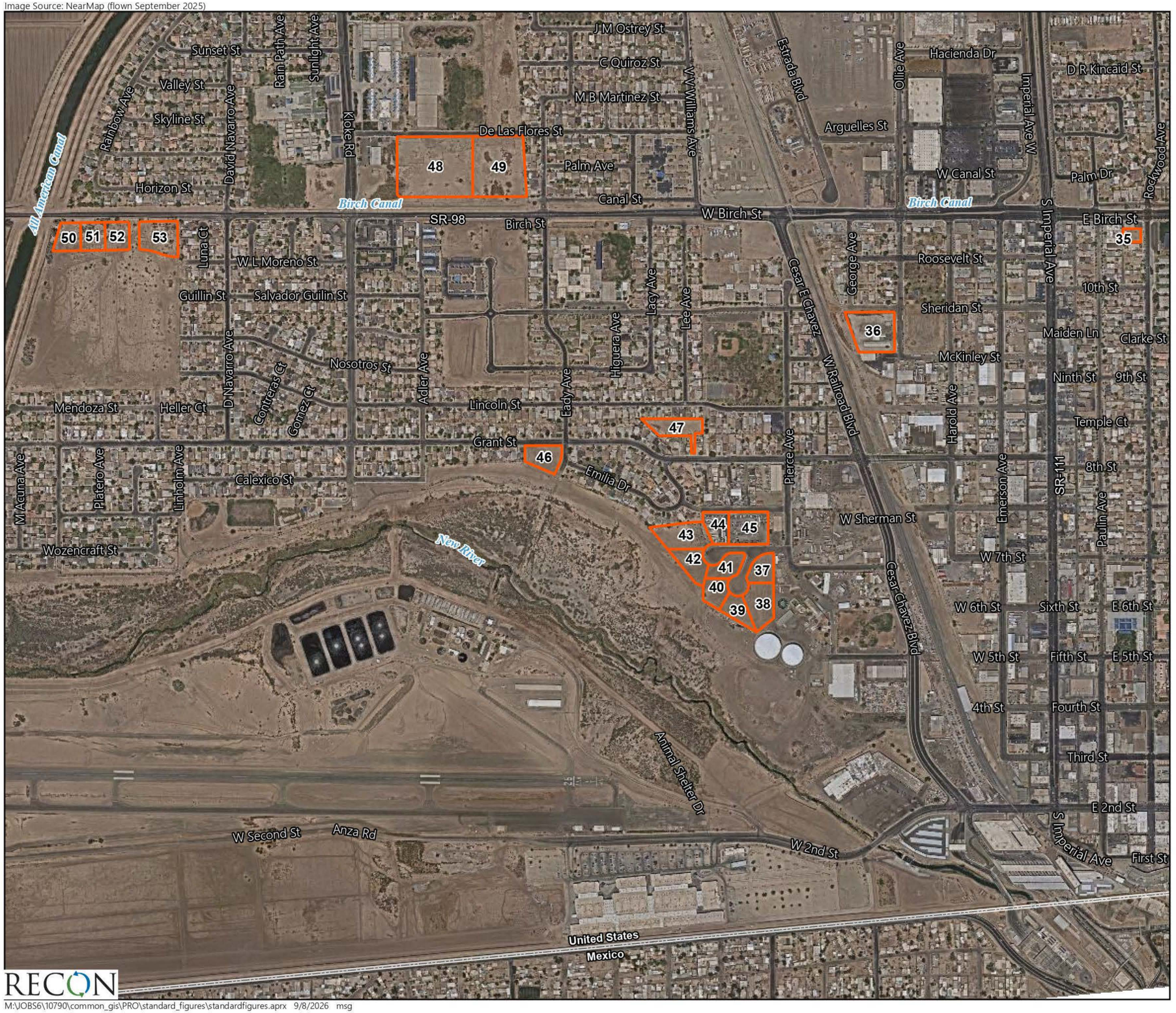
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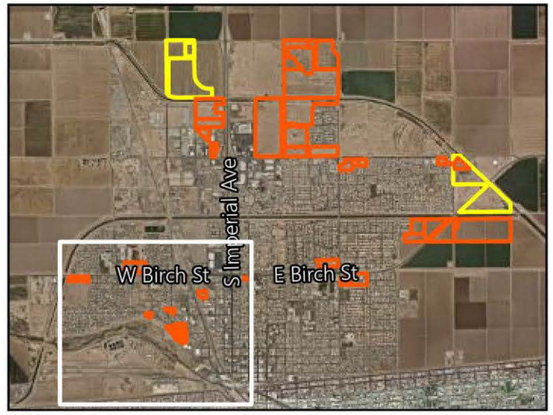
RECON

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FIGURE 2-2
Project Location on Aerial Photograph

Image Source: NearMap (flown September 2025)





By-Right Development Sites

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FIGURE 2-3
Project Location on Aerial Photograph

2.2 Project Background and Description

This section introduces the objectives of the project and summarizes specific information describing the project. This includes a description of the project characteristics, including the City's housing site inventory, rezone sites, and associated discretionary actions. These aspects of the project provide the basis for the impact analysis provided in Section 7.0. This project description is intended to provide the level of detail necessary to evaluate potential environmental effects of the Housing Element implementation at a programmatic level.

2.2.1 Project Background

The Housing Element is one of the state-mandated elements of the General Plan. It identifies the City's housing conditions and needs, and establishes the goals, objectives, and policies that comprise the City's housing strategy to accommodate projected housing needs. State law requires that housing elements be updated every eight years (California Government Code Sections 65580 to 65589.8). Calexico's Housing Element was last adopted in January 2014 for the 5th Cycle of the 2014–2021 planning period. In accordance with state law, the City has prepared the 6th Cycle 2021–2029 Housing Element to address the housing needs of all types of households and income levels for current and future Calexico residents.

The California Department of Housing and Community Development is required to prepare an RHNA for each Council of Governments in the state that identifies projected housing units needed for all economic segments based on Department of Finance population estimates. The Southern California Association of Governments (SCAG) is responsible for preparing the RHNA for all jurisdictions within the SCAG region, in which Calexico is a member agency. The Housing Element includes goals, policies, and implementation programs identified to help the City meet its 6th Cycle RHNA.

2.2.2 Project Description

Consistent with CEQA Guidelines Section 15168, this air quality report provides a programmatic analysis of the environmental impacts associated with implementation of the project components: (1) the City's 6th Cycle 2021–2029 Housing Element; (2) associated General Plan Amendments, including the corresponding consistency updates to the City Land Use Element; (3) Zoning Ordinance Amendments to implement by-right housing per the Housing Element; and (4) rezoning the Bowker Site, Assessor's Parcel Number 059-180-029, from Residential Condominium to Industrial as later discussed in this section.

The 6th Cycle Housing Element Sites Inventory identifies suitable sites throughout the City that can accommodate the required housing capacity set forth by the City's RHNA. The Housing Element identifies 53 sites throughout the City with the capacity to accommodate the RHNA, as shown in Figure 2. These 53 sites in the inventory will have changes made to zoning or applied General Plan land use designation as a result of the project. There are 35 rezone sites, inclusive of the Bowker site (see below), with four of those considered upzones. The housing sites are categorized into By-Right Development Sites and Discretionary Development Sites. These terms are defined in Section 2.2.2.2, Eligible By-Right Development Sites, and Section 2.2.2.3, Discretionary Development Sites, below.

This analysis assumes full implementation of the Housing Element rezoning program and associated development by 2050.

2.2.2.1 Bowker Rezone Site

Site 24b is a Discretionary Development Site proposed to rezone from Residential Condominium to Industrial (Assessor's Parcel Number 059-180-029). The site is bounded to the northwest by State Route 98, the All-American Canal (AAC) to the south, and the AAC Central Drain Three E to the northeast. While the site was previously zoned for housing, upon further evaluation, the City has determined this site is a poor location for residential and better suited for industrial for the following reasons: the site is physically isolated by State Route 98 and the AAC, thus disconnecting the site from public services, including parks and schools, and; the site's boundaries would create emergency access and vehicle miles traveled concerns. Furthermore, the City plans to foster industrial development east of the site to leverage the international commercial port of entry with Mexico located approximately six miles due east of the site, and to limit truck traffic through residential areas of the City by limiting new industrial development on the west side of the City. As such, the site is better suited for industrial or commercial development. Because the Housing Element identifies a surplus of housing sites to meet the City's RHNA, this rezone is considered appropriate given the geographical context of the site. This site is referred to in this document as the Bowker Site.

2.2.2.1 Eligible By-Right Development Sites

By-Right Development Sites refer to sites that are subject to ministerial processing and not subject to discretionary review by the City, and no review is required under CEQA per Cal. Gov. Code, § 65583.2(i). Ministerial processing involves little or no personal judgment by the City as to the wisdom or manner of carrying out the project. The City merely ensures that the proposed development meets all objective standards without using special discretion or judgment. By-Right Development Sites do not require a public hearing.

As shown in Figures 2-1 through 2-3, the 49 Eligible By-Right Development Sites include sites: 4 through 23 and 25 through 53. The Housing Element establishes the following criteria as pathways for By-Right Development Sites:

1. **5th Housing Cycle sites:** Sites identified in the City's 6th Cycle Housing Element that were also included in the City's 5th Cycle Housing Element sites inventory to accommodate a portion of the RHNA. This criterion goes above and beyond what is legally required for by-right processing of prior cycle housing sites.

2. **Qualified residential sites:** Sites zoned for Residential Condominium (RC) or Residential Apartment (RA), less than ten (10) gross net buildable acres, with existing adequate access to infrastructure, public right-of-way, and public services.

Additionally, per Housing Element Program 2E, the City will permit residential uses by-right for housing development in which at least 20 percent of the units are affordable to lower-income households for sites that:

- Are non-vacant and identified in the prior planning period; or
- Vacant sites included in two or more consecutive planning periods.

2.2.2.2 Discretionary Development Sites

Discretionary Development Sites refer to sites that are subject to discretionary processing where the City has the discretion to approve, modify, or deny a project based on personal judgment. Projects subject to discretionary processing may be subject to CEQA, and the discretionary review process for multi-family projects and subdivisions may require a public hearing.

As shown in Figures 2-1 through 2-3, the 5 Discretionary Development Sites include sites: 1, 2, 3, and 24 (24a and 24b). The Housing Element establishes Discretionary Development Sites as greater than ten (10) net buildable acres, for which zoning amendments are proposed to allow residential or mixed-use development at densities sufficient to meet RHNA requirements. These sites may currently be designated for commercial, mixed-use, or other non-residential uses, or have limited or no access to infrastructure and right-of-way.

3.0 Environmental Setting

3.1 State GHG Inventory

The California Air Resources Board (CARB) performs statewide GHG inventories. The inventory is divided into nine broad sectors of economic activity: agriculture, commercial, electricity generation, forestry, high GWP emitters, industrial, recycling and waste, residential, and transportation. Emissions are quantified in million metric tons of CO_2 equivalent (MMT CO_2E). Table 2 shows the estimated statewide GHG emissions for the years 1990, 2005, 2012, 2018, and 2023. Although annual GHG inventory data is available for years 2000 through 2023, the years 1990, 2005, 2012, 2018, and 2023 are highlighted in Table 2 because 1990 is the baseline year for established reduction targets, 2005, 2012, and 2018 correspond to the same years for which inventory data for the region is available, and 2023 is the most recent data available.

Table 2 California GHG Emissions by Sector					
Sector	1990[1] Emissions in MMT CO_2E (% total)[2]	2005[3] Emissions in MMT CO_2E (% total)[2]	2012[3] Emissions in MMT CO_2E (% total)[2]	2018[3] Emissions in MMT CO_2E (% total)[2]	2023[3] Emissions in MMT CO_2E (% total)[2]
Electricity Generation	110.5 (25.7%)	108.1 (22.6%)	99.1 (22.8%)	65.1 (15.8%)	57.3 (15.9%)
Transportation	150.6 (35.0%)	187.6 (39.2%)	161.8 (37.2%)	169.6 (41.3%)	137.2 (38.1%)
Industrial	105.3 (24.4%)	102.3 (21.4%)	91.0 (20.9%)	93.7 (22.8%)	78.4 (21.8%)
Commercial	14.4 (3.4%)	16.1 (3.4%)	19.6 (4.5%)	22.3 (5.4%)	23.5 (6.6%)
Residential	29.7 (6.9%)	30.3 (7.0%)	27.9 (6.4%)	28.1 (6.8%)	34.7 (9.6%)
Agriculture & Forestry	18.9 (4.4%)	33.7 (7.0%)	35.2 (8.1%)	32.2 (7.8%)	29.2 (8.1%)
Not Specified	1.3 (0.3%)	--	--	--	--
Total[4]	**430.7**	**478.1**	**434.6**	**411.0**	**360.3**

SOURCE: CARB 2007 and 2025.
[1]1990 data was obtained from the CARB 2007 source and are based on Intergovernmental Panel on Climate Change (IPCC) fourth assessment report GWPs.
[2]Percentages may not total 100 due to rounding.
[3]2005, 2012, 2018, and 2023 data were retrieved from the CARB 2025 source and are based on IPCC fourth assessment report GWPs.
[4]Totals may vary due to independent rounding.

As shown in Table 2, statewide GHG source emissions totaled approximately 431 MMT CO_2E in 1990, 478.1 MMT CO_2E in 2005, 434.6 MMT CO_2E in 2012, 411.0 MMT CO_2E in 2018, and 360.3 MMT CO_2E in 2023. Many factors affect year-to-year changes in GHG emissions, including economic activity, demographic influences, environmental conditions such as drought, and the impact of regulatory efforts to control GHG emissions. As shown in Table 2, transportation-related emissions consistently contribute to the most GHG emissions.

3.2 Regional GHG Inventory

The County Regional Climate Action Plan (Regional CAP) was adopted in June 2021 (Imperial County 2021). The Regional CAP inventoried existing emissions within the County and each of its incorporated cities. The results of the countywide emissions inventories are summarized in Table 3, and the GHG inventory for the City is summarized in Table 4. As shown in Table 3, agricultural-related GHG emissions contributed the most countywide, and as shown in Table 4, energy- and transportation-related GHG emissions contributed the most within the City.

Table 3 Imperial Valley Regional GHG Emissions Inventory							
	2005		2012		2018		
Emissions Sector	MT CO_2E[1]	% Total	MT CO_2E[1]	% Total	MT CO_2E[1]	% Total	% Change from 2005
Transportation	656,655	16.3%	650,729	17.3%	748,111	19.7%	+13.9%
Energy	1,006,987	25.1%	757,037	20.2%	484,863	12.8%	-51.9%
Water	28,114	0.7%	30,158	0.8%	34,291	0.9%	+22.0%
Solid Waste	218,847	5.4%	132,773	3.5%	148,337	3.9%	-32.2%
Agriculture	2,081,481	51.8%	2,155,325	57.4%	2,354,168	61.9%	+13.1%
Propane	13,698	0.3%	14,856	0.4%	19,112	0.5%	+39.5%
Calexico POE[2]	12,649	0.3%	12,649	0.3%	12,649	0.3%	0.0%
Total[3]	**4,018,430**	**100%**	**3,753,527**	**100%**	**3,801,531**	**100%**	**-5.4%**

SOURCE: Imperial County 2021.
NOTE: Totals may vary due to independent rounding.
[1]MT CO_2E = metric tons of carbon dioxide equivalent.
[2]Data for emissions at the ports of entry (POEs) was only available for 2015. For purposes of this inventory, emissions estimates from 2015 were assumed constant for each inventory year. Emissions from POEs are not apportioned to individual jurisdictions.
[3]Electricity consumption associated with potable water treatment and delivery is not included in this total, as data for this activity was not available for unincorporated County.

Table 4 City of Imperial GHG Emissions Inventory							
	2005		2012		2018		
Emissions Sector	MT CO_2E	% Total	MT CO_2E	% Total	MT CO_2E	% Total	% Change from 2005
Transportation	97,757	33.3%	81,409	36.2%	96,471	43.9%	-1.3%
Energy	163,209	55.7%	122,163	54.3%	88,774	40.4%	-45.6%
Water	5,651	1.9%	4,839	2.2%	6,750	3.1%	+19.4%
Solid Waste	24,474	8.3%	14,388	6.4%	25,479	11.6%	+4.1%
Agriculture	2,020	0.7%	2,092	0.9%	2,284	1.0%	+13.1%
Total[1]	**293,192**	**100%**	**224,891**	**100%**	**219,758**	**100%**	**-25.0%**

SOURCE: Imperial County 2021.
NOTE: Totals may vary due to independent rounding.
[1]MT CO_2E = metric tons of carbon dioxide equivalent.

4.0 Regulatory Background

In response to rising concern associated with increasing GHG emissions and global climate change impacts, several plans and regulations have been adopted at the international, national, and state levels with the aim of reducing GHG emissions. The following is a discussion of the federal, state, and local plans and regulations most applicable to the proposed project.

4.1 Federal

4.1.1 U.S. Environmental Protection Agency

In 2009, the U.S. EPA issued its science-based finding that the buildup of heat-trapping GHGs in the atmosphere endangers public health and welfare. The "Endangerment Finding" reflects the overwhelming scientific evidence on the causes and impacts of climate change. It was made after a thorough rulemaking process considering thousands of public comments and was upheld by the federal courts.

The U.S. EPA has many federal level programs and projects to reduce GHG emissions. The U.S. EPA provides regulatory actions and initiatives to reduce GHGs associated with high global warming chemicals; transportation/mobile sources; and stationary sources such as oil and gas industries and power plants, and landfills. The Greenhouse Gas Reporting Program collects GHG data from large emission sources across a range of industry sectors, as well as suppliers of products that would emit GHGs if released or combusted. Under the Clean Air Act (CAA; 40 CFR Part 98), facilities that meet reporting thresholds must report GHG emissions to the program annually.

In *Massachusetts et al. v. Environmental Protection Agency et al.,* 549 U.S. 497 (2007), the Supreme Court of the United States ruled that CO_2 is an air pollutant as defined under the CAA and that the U.S. EPA has the authority to regulate GHG emissions. In 2010, the U.S. EPA started to address GHG emissions from stationary sources through its New Source Review permitting program, including operating permits for "major sources" issued under Title V of the CAA.

On February 12, 2026, the U.S. EPA repealed the Endangerment Finding along with all GHG emission standards for light-duty, medium-duty, and heavy-duty vehicles and engines pursuant to CAA Section 202(a).

4.1.2 Corporate Average Fuel Economy Standards

The federal Corporate Average Fuel Economy standards determine the fuel efficiency of certain vehicle classes in the U.S. The National Highway Traffic Safety Administration sets Corporate Average Fuel Economy standards for passenger cars and for light trucks (collectively, light-duty vehicles) and separately sets fuel consumption standards for medium- and heavy-duty trucks and engines. With improved gas mileage, fewer gallons of transportation fuel would be combusted to travel the same distance, thereby reducing nationwide GHG emissions associated with vehicle travel. The most recent standards require an industry-wide fleet average of approximately 50.4 miles per gallon for passenger cars and light trucks in model year 2031. The final Corporate Average Fuel Economy standards increase at a rate of 2 percent per year for passenger cars in model years 2027 to 2031 and 2 percent per year for light trucks in model years 2029 to 2031.

4.1.3 Public Laws

There have been recent congressional actions that affect California emission standards. They include the following:

4.1.3.1 Public Law No. 119-15

On June 12, 2025, Public Law 119-15, enacting House Joint Resolution 87, was signed into law. The law used the Congressional Review Act to nullify the U.S. EPA's rule that had granted California a waiver to enforce stricter emissions standards for heavy-duty vehicles under the Clean Air Act. The disapproved rule included programs such as the Advanced Clean Trucks regulation and zero-emission requirements for airport shuttles. Passed under the Congressional Review Act, the law prevents U.S. EPA from implementing or reissuing the same or similar rules without new congressional authorization. This effectively blocks California, and other states that follow its standards, from enforcing these specific vehicle emission and warranty regulations.

4.1.3.2 Public Law No. 119-16

Similarly on June 12, 2025, Public Law No. 119-16, enacting House Joint Resolution 88, became law. The law also relied on the Congressional Review Act to void the U.S. EPA's December 2024 waiver under the CAA that allowed California to implement and enforce the Advanced Clean Cars (ACC) II regulation. ACC II included a zero-emission vehicle mandate targeting 100 percent new light-duty zero-emission vehicle sales by 2035. Public Law No. 119-16 marks the first ever occurrence that waivers under the CAA have been revoked under the Congressional Review Act. The implications of this law on the State's capability to enforce its independent fuel economy standards are uncertain at this time, as the California Attorney General is pursuing legal action challenging Public Law No. 119-16. Whether this action will be successful is unknown, as is the possibility that a federal judge will issue a stay to halt the implementation of the ACC II regulation during the legal process.

4.2 State

The State of California has adopted a number of plans and regulations aimed at identifying statewide and regional GHG emissions caps, GHG emissions reduction targets, and actions and timelines to achieve the target GHG reductions.

4.2.1 Executive Orders and Statewide GHG Emission Targets

4.2.1.1 Executive Order S-3-05

Executive Order (EO) S-3-05 established the following GHG emission reduction targets for the State of California:

- by 2010, reduce GHG emissions to 2000 levels;
- by 2020, reduce GHG emissions to 1990 levels; and
- by 2050, reduce GHG emissions to 80 percent below 1990 levels.

This EO also directs the secretary of the California Environmental Protection Agency to oversee the efforts made to reach these targets, and to prepare biannual reports on the progress made toward meeting the targets and on the impacts to California related to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. With regard to impacts, the

report shall also prepare and document mitigation and adaptation plans to combat the impacts. The first Climate Action Team Assessment Report was produced in March 2006, and has since been updated every two years.

4.2.1.2 Executive Order B-30-15

EO B-30-15, issued on April 29, 2015, establishes an interim GHG emission reduction goal for the state of California by 2030 of 40 percent below 1990 levels. This EO also directed all state agencies with jurisdiction over GHG emitting sources to implement measures designed to achieve the new interim 2030 goal, as well as the pre-existing, long-term 2050 goal identified in EO S-3-05. Additionally, this EO directed CARB to update its Climate Change Scoping Plan to address the 2030 goal.

4.2.1.3 Assembly Bill 1279

Assembly Bill (AB) 1279, approved in September 2022, requires the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter, and to ensure that by 2045, statewide anthropogenic GHG emissions are reduced to at least 85 percent below 1990 levels. The bill would require the state board to work with relevant state agencies to ensure that updates to the scoping plan identify and recommend measures to achieve these policy goals and to identify and implement a variety of policies and strategies that enable carbon dioxide removal solutions and carbon capture, utilization, and storage technologies.

4.2.2 California Global Warming Solutions Act

In response to EO S-3-05, the California Legislature passed AB 32, the California Global Warming Solutions Act of 2006, and thereby enacted Sections 38500–38599 of the California Health and Safety Code. The heart of AB 32 is its requirement that CARB establish an emissions cap and adopt rules and regulations that would reduce GHG emissions to 1990 levels by 2020. AB 32 also required CARB to adopt a plan by January 1, 2009, indicating how emission reductions would be achieved from significant GHG sources via regulations, market mechanisms, and other actions.

In 2008, CARB estimated that annual statewide GHG emissions were 427 MMT CO_2E in 1990 and would reach 596 MMT CO_2E by 2020 under a business as usual (BAU) condition (CARB 2008). To achieve the mandate of AB 32, CARB determined that a 169 MMT CO_2E (or approximate 28.5 percent) reduction in BAU emissions was needed by 2020. In 2010, CARB prepared an updated 2020 forecast to account for the recession and slower forecasted growth. CARB determined that the economic downturn reduced the 2020 BAU by 55 MMT CO_2E; as a result, achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7 (not 28.5) percent from the 2020 BAU. California has achieved its 2020 goal.

Approved in September 2016, Senate Bill (SB) 32 updates the California Global Warming Solutions Act of 2006 and enacts EO B-30-15. Under SB 32, the state would reduce its GHG emissions to 40 percent below 1990 levels by 2030. This is equivalent to an emissions level of approximately 260 MMT CO_2E for 2030. In implementing the 40 percent reduction goal, CARB is required to prioritize emissions reductions to consider the social costs of the emissions of GHGs; where "social

costs" is defined as "an estimate of the economic damages, including, but not limited to, changes in net agricultural productivity; impacts to public health; climate adaptation impacts, such as property damages from increased flood risk; and changes in energy system costs, per metric ton of GHG emission per year."

4.2.3 Climate Change Scoping Plan

As directed by the California Global Warming Solutions Act of 2006, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change* (Scoping Plan), which identifies the main strategies California will implement to achieve the GHG reductions necessary to reduce forecasted BAU emissions in 2020 to the state's historic 1990 emissions level (CARB 2008). In November 2017, CARB released the *2017 Climate Change Scoping Plan Update, the Strategy for Achieving California's 2030 Greenhouse Gas Target* (2017 Scoping Plan; CARB 2017). The 2017 Scoping Plan identifies state strategies for achieving the state's 2030 GHG emissions reduction target codified by SB 32. Measures under the 2017 Scoping Plan Scenario build on existing programs such as the Low Carbon Fuel Standard, Advanced Clean Cars Program, Renewables Portfolio Standard (RPS), Sustainable Communities Strategy (SCS), Short-Lived Climate Pollutant Reduction Strategy, and the Cap-and-Trade Program. Additionally, the 2017 Scoping Plan proposes new policies to address GHG emissions from natural and working lands. The *2022 Scoping Plan Update for Achieving Carbon Neutrality* (2022 Scoping Plan; CARB 2022) was adopted in December 2022. The 2022 Scoping Plan assesses the progress towards the 2030 GHG emissions reduction target identified in the 2017 Scoping Plan and lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. The 2022 Scoping Plan identifies strategies related to clean technology, energy development, natural and working lands, and others, and is designed to meet the state's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

4.2.4 Regional Emissions Targets – Senate Bill 375

SB 375, the 2008 Sustainable Communities and Climate Protection Act, was signed into law in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Scoping Plan. The purpose of SB 375 is to align regional transportation planning efforts, regional GHG reduction targets, and fair-share housing allocations under state housing law. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a SCS or Alternative Planning Strategy to address GHG reduction targets from cars and light-duty trucks in the context of that MPO's Regional Transportation Plan. SCAG is the region's MPO. In 2018, CARB set targets for the SCAG region of an 8 percent reduction in GHG emissions per capita from automobiles and light-duty trucks compared to 2005 levels by 2020 and a 19 percent reduction by 2035. These targets are periodically reviewed and updated.

4.2.5 Renewables Portfolio Standard

The RPS promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. Originally adopted in 2002 with a goal

to achieve a 20 percent renewable energy mix by 2020 (referred to as the "Initial RPS"), the goal has been accelerated and increased by EOs S-14-08 and S-21-09 to a goal of 33 percent by 2020. In April 2011, SB 2 (1X) codified California's 33 percent RPS goal. SB 350 (2015) increased California's renewable energy mix goal to 50 percent by year 2030. SB 100 (2018) further increased the standard set by SB 350 establishing the RPS goal of 44 percent by the end of 2024, 52 percent by the end of 2027, and 60 percent by 2030. SB 1020 (2022) again revised the policy establishing the RPS goal of 90 percent by the end of 2035, 95 percent by the end of 2040, and 100 percent by the end of 2045. SB 1020 also broadened the applicability of electricity sources eligible under RPS to include "zero-carbon resources," which allows for large hydroelectric sources to be considered toward RPS procurement targets.

4.2.6 California Code of Regulations, Title 24 – California Building Code

The California Code of Regulations, Title 24, is referred to as the California Building Code, or CBC. It consists of a compilation of several distinct standards and codes related to building construction, including plumbing, electrical, interior acoustics, energy efficiency, handicap accessibility, and so on. Of particular relevance to GHG reductions are the CBC's energy efficiency and green building standards, as outlined below.

4.2.6.1 Title 24, Part 6 – Energy Efficiency Standards

The California Code of Regulations, Title 24, Part 6 is the California Energy Efficiency Standards for Residential and Nonresidential Buildings (also known as the California Energy Code). This code, originally enacted in 1978, establishes energy-efficiency standards for residential and nonresidential buildings in order to reduce California's energy consumption. The Energy Code is updated periodically to incorporate and consider new energy-efficient technologies and methodologies as they become available, and incentives in the form of rebates and tax breaks are provided on a sliding scale for buildings achieving energy efficiency above the minimum standards.

The current 2025 Title 24 Building Energy Efficiency Standards went into effect on January 1, 2026. The 2025 Energy Code builds on previous versions and expands the use of heat pumps in newly constructed residential buildings, encourages electric readiness, and strengthens ventilation standards. New construction and major renovations must demonstrate their compliance with the current Energy Code through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC). The compliance reports must demonstrate a building's energy performance through use of CEC-approved energy performance software that shows iterative increases in energy efficiency given the selection of various heating, ventilation, and air conditioning; sealing; glazing; insulation; and other components related to the building envelope.

4.2.6.2 Title 24, Part 11 – California Green Building Standards

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11 first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC). The current 2025 CALGreen standards became effective January 1, 2026. CALGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of nonresidential and residential structures. Local jurisdictions must enforce the minimum mandatory Green Building Standards and may adopt additional amendments for stricter requirements. The mandatory measures are related to planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. CALGreen also includes two tiers of residential and nonresidential voluntary measures that encourage local jurisdictions to raise the sustainability goals: Tier 1 adds additional requirements beyond the mandatory measures, and Tier 2 further increases the requirements.

Similar to the reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen mandatory requirements must be demonstrated through completion of compliance forms and worksheets.

4.3 Local

4.3.1 Regional Climate Action Plan

The Regional CAP was prepared to address the impacts of climate change and reduce GHG emissions in the Imperial Valley region, which includes the County and its seven incorporated cities. The Regional CAP is consistent with statewide legislation and regulatory mandates, and establishes local strategies, measures, and actions aimed at reducing GHG emissions. Reduction targets for the County were established in alignment with SB 32 and EO S-3-05, based on the 2005 GHG inventory and sector-specific targets in the 2017 Scoping Plan. For the County, they include reducing emissions to 24 percent below 2005 levels by 2030 and to 34 percent below 2005 levels by 2050. To meet these targets, the County would need to reduce communitywide emissions to 2,022,285 MT CO_2E by 2030 and 1,771,509 MT CO_2E by 2050 (Imperial County 2021). For the City, they include reducing emissions to 39 percent below 2005 levels by 2030 and to 64 percent below 2005 levels by 2050. To meet these targets, the City would need to reduce communitywide emissions to 67,900 MT CO_2E by 2030 and 40,527 MT CO_2E by 2050.

4.3.2 Southern California Association of Governments

In April 2024, SCAG adopted Connect SoCal 2024, the Regional Transportation Plan/SCS. The horizon year for Connect SoCal 2024 is 2050. The Connect SoCal plan identifies land use strategies that focus on new housing and job growth in areas with a variety of destinations and mobility options that would support and complement the proposed transportation network. The overarching strategy in Connect SoCal is to provide for a plan that allows the southern California region to grow in more compact communities in transit priority areas and priority growth areas; provide neighborhoods with efficient and plentiful public transit; establish abundant and safe opportunities to walk, bike, and pursue other forms of active transportation; and preserve more of the region's remaining natural

lands and farmlands (SCAG 2024). The Connect SoCal plan contains transportation projects to help more efficiently distribute population, housing, and employment growth, as well as projected development that promotes active transport and reduces GHG emissions.

5.0 Significance Criteria

Based on the CEQA Guidelines Appendix G, impacts related to GHG emissions would be significant if the project would:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs.

CEQA Guidelines Section 15064.4 states that "the determination of the significance of greenhouse gas emissions (GHG) calls for careful judgment by the lead agency, consistent with the provisions in Section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of greenhouse gas emissions resulting from a project." Section 15064.4(b) further states that a lead agency should consider the following non-exclusive factors when assessing the significance of GHG emissions:

1. The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;

2. Whether the project emissions exceed a threshold of significance that the lead agency applies to the project; and

3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

As stated in the CEQA Guidelines, these questions are "intended to encourage thoughtful assessment of impacts and do not necessarily represent thresholds of significance" (Title 14, Division 6, Chapter 3 Guidelines for Implementation of the CEQA, Appendix G, Environmental Checklist Form). The CEQA Guidelines encourage lead agencies to adopt regionally specific thresholds of significance. When adopting these thresholds, the amended Guidelines allow lead agencies to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence.

The project site is in the Salton Sea Air Basin. The ICAPCD is responsible for regulating air quality within the Imperial County portion of the Salton Sea Air Basin. No GHG emission significance threshold has been adopted by the County or the ICAPCD for land development projects. CEQA Guidelines Section 15064(h)(1) states that "the lead agency shall consider whether the cumulative impact is significant and whether the effects of the project are cumulatively considerable." A cumulative impact may be significant when the project's incremental effect, though individually

limited, is cumulatively considerable. Therefore, for the purposes of this analysis, the significance of impacts was evaluated using criteria (1) and (3) above. The GHG emissions associated with future development implemented under the project were evaluated with respect to their effect on the State's efforts to meet the long-term GHG reduction goals. The project was evaluated for consistency with applicable GHG reduction plans including the 2022 Scoping Plan, the Regional Transportation Plan /SCS, and the Regional CAP. For this program-level analysis, GHG emissions were calculated for buildout of the project and compared to GHG emissions associated with the existing conditions and with buildout of the adopted land use and zoning designations.

GHG emissions associated with future individual housing sites were also evaluated in comparison to a project-level screening threshold. The County is a member of SCAG, which is composed of several different counties, including Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. Air districts responsible for managing air quality within the SCAG boundaries include the South Coast Air Quality Management District (SCAQMD), the Mojave Desert Air Pollution Control District, Ventura County Air Pollution Control District, and the Antelope Valley Air Quality Management District. In the absence of a threshold of significance for GHG emissions in the County, future development can be evaluated based on recommendations provided by the SCAQMD.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the South Coast Air Basin. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA GHG Significance Thresholds for Stationary Sources, Rules, and Plans, which could be applied by lead agencies. The working group met again in 2010 to review the guidance. The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach (SCAQMD 2008, 2010):

- Tier 1 – The project is exempt from the California Environmental Quality Act (CEQA).
- Tier 2 – The project is consistent with an applicable regional GHG emissions reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 – Project GHG emissions represent an incremental increase below or mitigated to less than Significance Screening Levels, where
    - Residential/Commercial Screening Level
        - Option 1: 3,000 MT CO_2E screening level for all residential/commercial land uses
        - Option 2: Screening level thresholds for land use type acceptable if used consistently by a lead agency:
            - Residential: 3,500 MT CO_2E
            - Commercial: 1,400 MT CO_2E
            - Mixed-Use: 3,000 MT CO_2E
    - 10,000 MT CO_2E is the Permitted Industrial Screening Level

- Tier 4 – The project achieves performance standards, where performance standards may include:
  - Option 1: Percent emission reduction target. SCAQMD has no recommendation regarding this approach at this time.
  - Option 2: The project would implement substantial early implementation of measures identified in the CARB's Scoping Plan. This option has been folded into Option 3.
  - Option 3: SCAQMD Efficiency Targets.
    - 2020 Targets: 4.8 MT CO_2E per service population for project-level analyses or 6.6 MT CO_2E per service population for plan level analyses where service population includes residential and employment populations provided by a project.
    - 2035 Targets: 3.0 MT CO_2E per service population for project-level analyses or 4.1 MT CO_2E per service population for plan level analyses.

- Tier 5 – Offsets along or in combination with the above target Significance Screening Level. Offsets must be provided for a 30-year project life, unless the project life is limited by permit, lease, or other legally binding condition.

This analysis references the SCAQMD's recommended/preferred option threshold for all land use types of 3,000 MT CO_2 per year (SCAQMD 2008). The 3,000 MT CO_2E per year threshold is based on a 90 percent emission capture rate methodology. Prior to its use by the SCAQMD, the 90 percent emissions capture approach was one of the options suggested by the California Air Pollution Control Officers Association (CAPCOA) in their CEQA & Climate Change white paper (CAPCOA 2008). A 90 percent emission capture rate means that unmitigated GHG emissions from the top 90 percent of all GHG-producing projects within a geographic area would be subject to a detailed analysis of potential environmental impacts from GHG emissions, while the bottom 10 percent of all GHG-producing projects would be excluded from detailed analysis. A GHG significance threshold based on a 90 percent emission capture rate is appropriate to address the long-term adverse impacts associated with global climate change because medium and large projects will be required to implement measures to reduce GHG emissions, while small projects, which are generally infill development projects that are not the focus of the State's GHG reduction targets, are allowed to proceed. Further, a 90 percent emission capture rate sets the emission threshold low enough to capture a substantial proportion of future development projects and demonstrate that cumulative emissions reductions are being achieved while setting the emission threshold high enough to exclude small projects that will, in aggregate, contribute approximately one percent of projected statewide GHG emissions in the Year 2050. In the absence of adopted GHG significance thresholds, the threshold of 3,000 MT CO_2E is an appropriate CEQA significance threshold for the assessment of GHG emissions for the purposes of future development.

6.0 GHG Emission Calculations

GHG emissions were calculated using the CalEEMod Version 2022.1.44 (CAPCOA 2022). The CalEEMod program is a tool used to estimate air emissions resulting from land development projects based on California-specific emission factors. CalEEMod can be used to calculate emissions from mobile (on-road vehicles), energy (electricity and natural gas), area (landscape maintenance equipment), water and wastewater, solid waste sources, stationary sources, and refrigerants. GHG emissions are estimated in terms of total MT CO_2E.

The analysis methodology and input data are described in the following sections. Where project-specific data was not available, model inputs were based on information provided in the CalEEMod User's Guide (CAPCOA 2022).

Inputs to CalEEMod include such items as the air basin containing the project, land uses, trip generation rates, trip lengths, vehicle fleet mix (percentage of autos, medium trucks, etc.), trip destination (i.e., percent of trips from home to work), duration of construction phases, construction equipment usage, grading areas, season, and ambient temperature, as well as other parameters.

Approval of the project would not specifically permit the construction of an individual project, and no specific development details are available at this program level of analysis. For the purposes of this program-level analysis, emissions were calculated for the following:

- Baseline (year 2019) on-the-ground development
- Buildout (year 2050) of the existing land use and zoning designations
- Buildout (year 2050) of the proposed HEU land use and zoning designations

A majority of the housing sites are vacant and are not a current source of GHG emissions. Sites 1 through 3 and 25 through 26 consist of agricultural lands, and Site 7 consists of an abandoned building. These sites are not a significant source of GHG emissions. Existing on-the-ground development includes a single-family residential use on Site 23, the former U.S. Customs and Border Protection Calexico Station on Site 31, industrial uses on Site 36, and industrial truck and automobile storage on Sites 24a, 44, and 45. GHG emissions associated with the existing development on these sites were calculated.

Table 5 summarizes the modeled parameters for buildout of the existing land use and zoning designations and buildout of the HEU for all 53 housing sites (including the Bowker Site). For modeling purposes, the sites zoned as Low Density Residential were modeled as single-family units, and all other residential zoning designations were modeled as multi-family units. The commercial and industrial zoned sites were modeled using a maximum lot coverage of 60 percent as specified in the City's Zoning Code.

Table 5 Future Year 2050 Modeled Land Uses and Trips				
Use	Adopted Land Use and Zoning		Proposed HEU Land Use and Zoning	
	Amount	Trips	Amount	Trips
Residential	5,856 units	40,495	8,032 units	56,327
Low Density Residential	*1,771 units*	*16,108*	*1,694 units*	15,397
All Other Residential Designations	*4,085 units*	*24,387*	*6,338 units*	*40,930*
Non-Residential	98 acres*	31,958	37 acres	3,330
Total Trips		72,452		59,657
SOURCE: RICK 2026. *Total non-residential acres are based on only those sites that currently do not allow any residential uses, and were used for modeling purposes only.				

6.1 Construction Emissions

Construction activities emit GHGs primarily through combustion of fuels (mostly diesel) in the engines of off-road construction equipment and through combustion of diesel and gasoline in on-road construction vehicles and the commute vehicles of the construction workers. Smaller amounts of GHGs are also emitted through the energy use embodied in water use for fugitive dust control. Every phase of the construction process, including demolition, grading, paving, and building, emits GHGs in volumes directly related to the quantity and type of construction equipment used when building the project. GHG emissions associated with each phase of construction are calculated by multiplying the total fuel consumed by the construction equipment and worker trips by applicable emission factors. Based on guidance from the SCAQMD, annual construction emissions should be added to operational GHG emissions to account for their contribution to GHG emissions over the lifetime of a project (SCAQMD 2009).

GHG emissions generated by future development within the City would vary depending upon the number of projects occurring simultaneously and the size of each individual project. The exact number and timing of all development projects that could occur under project buildout are unknown. At a program level, it would be speculative to estimate the schedule and construction requirements of each individual site-specific project that could occur as a result of the project. Based on the GHG emissions inventory provided in the Regional CAP, in 2018, off-road equipment accounted for 100,283 MT CO_2E of the total transportation emissions countywide. This is 2.6 percent of the total GHG emissions inventory. Thus, for the purposes of this analysis, construction emissions were calculated as 2.6 percent of the total operational emissions.

6.2 Mobile Emissions

CalEEMod calculates mobile source emissions using emission factors derived from CARB's motor vehicle emission inventory program, EMFAC2021 (CARB 2021). For the existing on-the-ground land uses, mobile-source emissions were calculated using a trip rate of 9.09 trips per unit for the single-family use, 90 trips per acre for the government and industrial use, and 30 trips per acre for the truck and automobile storage uses. The total number of trips generated under buildout of the existing and proposed land use and zoning designations are summarized in Table 5. As shown, a total of 72,452 trips would be generated under the adopted land use and zoning designations and

59,657 trips would be generated under the project. The estimated decrease in trip generation with the HEU is primarily attributed to the Rezone Sites where the rezoning proposes a change in land use from commercial to residential, as commercial uses are typically more intensive and generate a higher number of trips within a site than residential uses. The CalEEMod default trip length of 8.63 miles was used to calculate total daily vehicle miles traveled. Emission factors for buildout year 2050 were modeled. Residents would access the site via 100 percent paved roads.

6.3 Energy Use Emissions

GHGs are emitted through activities in buildings utilizing electricity and natural gas as energy sources. GHGs are also emitted during the generation of electricity from fossil fuels off-site in power plants. These emissions are considered indirect but are calculated in association with a building's overall operation. Electric power generation accounts for the second largest sector contributing to both inventoried and projected statewide GHG emissions. Combustion of fossil fuel emits criteria pollutants and GHGs directly into the atmosphere. When this occurs in a building, it is considered a direct emissions source associated with the building. CalEEMod estimates emissions from the direct combustion of natural gas for space and water heating.

CalEEMod estimates GHG emissions from energy use by multiplying average rates of residential and nonresidential energy consumption by the quantities of residential units and nonresidential square footage entered in the land use module to obtain total projected energy use. This value is then multiplied by electricity and natural gas GHG emission factors applicable to the project location and utility provider.

Within Title 24 of the California Code of Regulations (Building Standards Code) is Part 6, the Building Energy Efficiency Standards (Energy Code). The Energy Code contains energy conservation standards applicable to particular end-use categories for all new or altered residential and nonresidential buildings throughout California. Energy consumption values are based on the CEC's 2018–2030 Uncalibrated Commercial Sector Forecast and the 2019 Residential Appliance Saturation Survey. GHG emissions were calculated using the default CalEEMod Version 2022.1 emission factors.

6.4 Area Source Emissions

Area sources include criteria pollutant and GHG emissions that would occur from the use of landscaping equipment. The use of landscape equipment emits criteria pollutant and GHGs associated with the equipment's fuel combustion. Default statewide emission rates from landscaping equipment were developed using the CARB Small Off-Road Engines Model v1.1. Area sources also include consumer products and architectural coatings. However, only criteria pollutant emissions are associated with these sources, and not GHG emissions. Area source emissions were calculated using default CalEEMod emission factors. Area sources also include fireplaces. Default values for fireplaces were modeled.

6.5 Water and Wastewater Emissions

The amount of water used and wastewater generated by a project has indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, distribute, and treat the water and wastewater. In addition to the indirect GHG emissions associated with energy use, wastewater treatment can directly emit both CH_4 and N_2O.

CalEEMod Version 2022.1 calculates outdoor water use based the Department of Water Resources Model Water Efficient Landscape Ordinance, and calculates nonresidential indoor water used based on the Pacific Institute's *Waste Not, Want Not: The Potential for Urban Water Conservation in California* (2003). Wastewater treatment is based on the region-specific distribution of wastewater treatment methods. CalEEMod default water and wastewater values were modeled.

6.6 Solid Waste Emissions

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. To calculate the GHG emissions generated by disposing of solid waste for the project, the total volume of solid waste was calculated using waste disposal rates identified by California Department of Resources Recycling and Recovery. The methods for quantifying GHG emissions from solid waste are based on the Intergovernmental Panel on Climate Change method using the degradable organic content of waste. GHG emissions associated with waste disposal were calculated using these CalEEMod default parameters.

6.7 Refrigerant Emissions

Small amounts of GHG emissions are generated by refrigerants used in air conditioning and refrigeration equipment. CalEEMod quantifies refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime, and then derives average annual emissions from the lifetime estimate. Emissions due to refrigerants were calculated using CalEEMod default values, which are based on industry data from the U.S. EPA. GHG emissions associated with refrigerants were calculated using CalEEMod defaults.

6.8 Total GHG Emissions

Table 6 provides a summary of the operational emissions generated by the adopted land use and zoning designations and the project. Calculations for the baseline (2019) existing on-the-ground land uses are provided in Attachment 1. Calculations for buildout (2050) of the existing land use and zoning designations are provided in Attachment 2. Calculations for buildout (2050) of the proposed HEU land use and zoning designations are provided in Attachment 3.

Table 6 Comparison of Total GHG Emissions (MT CO_2E per year)				
Source	Existing On-The Ground Land Uses (2019)	Adopted Land Use and Zoning Designations (2050)	Proposed HEU Land Use and Zoning Designations (2050)	Buildout Difference
Mobile	1,657	72,505	59,700	-12,804
Energy	239	16,709	18,078	1,369
Area	<1	233	283	50
Water/Wastewater	15	1,164	1,311	147
Solid Waste	10	2,431	2,443	11
Refrigerants	<1	25	53	28
Total Operational Emissions	1,922	93,067	81,867	-11,199
Construction (2.6% of Operational Emissions)	--	2,420	2,129	-291
TOTAL	**1,922**	**95,487**	**83,996**	**-11,491**
SOURCE: Attachments 1 through 3. NOTE: Totals may vary due to independent rounding.				

7.0 Impact Analysis

7.1 GHG Emissions

As discussed in Section 5.0, the analysis of the project's GHG emissions is based on the extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting. As shown in Table 6, buildout of both the existing and the proposed land use and zoning designations would result in an increase in GHG emissions when compared to the existing on-the-ground conditions. This is because all the housing sites are currently undeveloped or underdeveloped. However, when considering the total buildout of the housing sites, the project would result in a reduction in GHG emissions when compared to the adopted land use and zoning designations. This is due to the decrease in trip generation, which is primarily attributed to the Rezone Sites where the rezoning proposes a change in land use from commercial to residential, as commercial uses are typically more intensive and generate a higher number of trips within a site than residential uses. However, as GHG emissions would increase compared to the existing baseline condition, GHG emissions would be considered significant.

The project does not propose the construction of new housing or other development; rather it provides capacity for future development consistent with the RHNA. This analysis also considers future development of the individual housing sites in comparison to a screening level threshold of 3,000 MT CO_2E per year as recommended by the SCAQMD. As a part of the Air Quality Analysis prepared for the project (RECON 2026), emissions were calculated for the following:

- Multi-family development at Site 3, which represents the greatest number of units and trips of all the 53 housing sites;

- Single-family development at Site 18, which represents the greatest number of units and trips of all the By-Right Development Sites;

Table 7 summarizes the total GHG emissions associated with these sites, the GHG emissions per housing unit, and the number of housing units that would result in emissions less than 3,000 MT CO_2E per year.

Table 7
Residential GHG Emissions

	Multi-Family Residential (Site 3)	Single Family Residential (Site 18)
Total GHG Emissions (MT CO_2E per year)	10,159	5,659
Housing Units	1,200	380
GHG Emissions per Unit (MT CO_2E per year)	8.47	14.89
Maximum Number of Units That Results in Less Than 3,000 MT CO_2E per Year	354	201

SOURCE: RECON 2026.
NOTE: Totals may vary due to independent rounding.

As shown in Table 7, any individual development that proposes more than 201 single-family units or more than 354 multi-family units would have the potential to exceed 3,000 MT CO_2E per year. These GHG emission calculations are representative only, as no specific development is proposed at this time and project-level details are unknown. Based on this screening criteria, there are four By-Right Development Sites (Sites 9, 12, 18, and 25) and three Discretionary Development Sites (Sites 2, 3, and 24a) that could result in GHG emissions that exceed 3,000 MT CO_2E per year. Additionally, industrial development at the Bowker Site could result in GHG emissions that exceed 3,000 MT CO_2E per year.

GHG impacts associated with the Discretionary Development Sites and By-Right Development Sites that propose more than 201 single-family units or more than 354 multi-family units, or propose any other development that exceeds 3,000 MT CO_2E per year, would be potentially significant. Project-specific GHG emission impacts would be addressed at the time that development is proposed. For By-Right Development Sites, applicable requirements consistent with the protections established by mitigation measures AQ-1 through AQ-3 would be incorporated into and implemented through the City's ministerial review process for by-right housing development, as established pursuant to Program 2E of the HEU. If necessary, GHG reduction measures would be implemented. The level to which GHG emissions would be reduced in unknown at this time; thus, GHG impacts would be potentially significant.

The following mitigation measure is recommended for future Discretionary Development Sites and By-Right Development Sites:

GHG-1: For Discretionary Development, applications for future development, wherein the City of Calexico (City) or their designee has determined a potential for greenhouse gas (GHG) impacts, the City shall evaluate the project to identify the potential for GHG emissions to exceed the South Coast Air Quality Management District (SCAQMD) thresholds detailed below. If a project may exceed the thresholds, the City shall require a technical

assessment evaluating potential project GHG impacts to the City for review and approval. The significance of project-level GHG impacts shall be evaluated using one of the following criteria:

1. In the absence of a City plan to reduce GHG emissions, the evaluation shall be prepared in conformance with SCAQMD methodology for assessing GHG impacts, which consists of the following tiered approach:

    a. Tier 1 – The project is exempt from the California Environmental Quality Act.

    b. Tier 2 – The project is consistent with an applicable regional GHG emissions reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.

    c. Tier 3 – Project GHG emissions represent an incremental increase below or mitigated to less than a 3,000 metric tons of carbon dioxide equivalent screening level.

    d. Tier 4 – The project achieves performance standards, where performance standards may include a percent emission reduction target or an efficiency target per service population.

    e. Tier 5 – Offsets along or in combination with the above the target Significance Screening Level. Offsets must be provided for a 30-year project life, unless the project life is limited by permit, lease, or other legally binding condition.

If GHG emissions are determined to have the potential to exceed the SCAQMD's recommended thresholds, the City shall require that applicants for new development projects incorporate features to reduce GHG emissions. These identified measures shall be incorporated into all appropriate documents submitted to the City and shall be verified by the City. Measures can include, but are not limited to, the following:

- Affordable Housing. Provide below-market-rate housing.

- Electric Vehicle Parking. Implement electric vehicle charging infrastructure beyond requirements set forth in the 2025 California Green Building Standards Code mandatory measures, such as Tier 2 voluntary measures set forth in the 2025 California Green Building Standards Code (or future more stringent) standards.

- Transportation Demand Management. Implementation of transportation demand management measures.

- Unbundling Parking. Require residential developers to separate the cost to rent or purchase a parking space from the cost of the unit.

- Transit Subsidies. Require implementation of a transit subsidy program that covers a portion of the cost of transit passes on a per-unit basis to residential tenants for a period of five years after issuance of the first occupancy permit. The Owner/Permittee

shall provide an annual report to the City Engineer in each of the first five years demonstrating how the offer was publicized to residents and documenting the results of the program each year, including the number of participants and driveway traffic counts.

- **Commute Trip Reduction Program.** Develop and implement a commute trip reduction program that requires each homeowner and tenant to be provided with a one-page flyer every year that provides information regarding available transit, designated bicycle routes, local bicycle groups and programs, local walking routes and programs, and rideshare programs.
- **Active Transportation Network.** Expand and facilitate completion of planned networks of active transportation infrastructure for projects that are required to provide public improvements related to that infrastructure.
- **Bicycle Micro-mobility Fleet.** Provide bicycles to the first buyer of each unit.
- **All Electric Development.** Require all-electric development with no sources of natural gas.
- **Energy Efficiency.** Demonstrate building energy efficiency beyond applicable code requirements.
- **Energy Star Appliances.** Provide Energy Star-rated appliances (e.g., clothes washers, dishwashers, refrigerators, and ceiling fans).
- **Alternative Water Heating.** Incorporate non-gas water heaters (e.g., electric or solar water heating).
- **Water-Efficient Landscaping.** Provide low-water use/drought tolerant plant species with low water use irrigation (e.g., spray head or drip), where required.
- **Outdoor Electrical Outlets to Allow for Electric Landscape Equipment.** Provide exterior electrical outlets necessary for sufficient powering of electric lawnmowers and other landscaping equipment.

By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.

Although buildout of the HEU would result in a decrease in GHG emissions when compared to buildout of the adopted land use and zoning designations, implementation of the HEU would still facilitate new development that would generate GHG emissions above existing baseline conditions. Specifically, future individual development could generate GHG emissions that exceed project-level thresholds. Project-specific GHG emission impacts would be evaluated and addressed consistent

with mitigation measure GHG-1. However, because the design and operational characteristics of future development projects are not currently known, the level to which project-level mitigation would reduce GHG emissions cannot be determined at this time. Therefore, despite the overall reduction in emissions compared to the adopted land use plan, program-level GHG impacts associated with emission levels would remain significant and unavoidable after mitigation.

7.2 GHG Reduction Plans

State GHG emissions reduction policy was established by EOs S-3-05 and B-30-15 and was subsequently codified by AB 32 and SB 32. EO S-3-05 established GHG emission reduction targets of year 2000 GHG emission levels by 2010, year 1990 GHG emission levels by 2020, and 80 percent below year 1990 levels by 2050. EO B-30-15 established an interim GHG emission reduction target of 40 percent below year 1990 levels by 2030. AB 32 launched the CARB Climate Change Scoping Plan that outlined the reduction measures needed to reach the 2020 target, which has been achieved. As required by SB 32, CARB's 2017 Climate Change Scoping Plan outlines reduction measures needed to achieve the interim 2030 target. AB 1279, the California Climate Crisis Act, codified the carbon neutrality target as 85 percent below 1990 levels by 2045. The 2022 Scoping Plan was adopted in December 2022. The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. The project was evaluated for consistency with the 2022 Scoping Plan, the Regional CAP, and Connect SoCal 2024.

7.2.1 2022 Scoping Plan

AB 1279, the California Climate Crisis Act, established statewide targets of (1) net zero GHG emissions as soon as possible, but no later than 2045, and to achieve and maintain net negative GHG emissions thereafter; and (2) to ensure that by 2045, anthropogenic GHG emissions are reduced 85 percent below 1990 levels by 2045. The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. Appendix D of the 2022 Scoping Plan includes local actions that jurisdictions may take to reduce GHG emissions in line with AB 1279 reduction targets. The following are key project attributes for residential and mixed-use projects that can be used to qualitatively determine consistency with the 2022 Scoping Plan. A summary of the 2022 Scoping Plan Priority Strategies and the project's consistency with those strategies is provided in Table 8. As demonstrated, the project would be consistent or partially consistent with some, but not all, of the 2022 Scoping Plan key prioritization strategies. As no specific development is proposed at this time, consistency with all 2022 Scoping Plan measures is unknown.

Table 8 Project Consistency with 2022 Scoping Plan Key Prioritization Strategies		
Priority Area	Key Project Attribute	Project Consistency
Transportation Electrification	Provides electric vehicle charging infrastructure that, at a minimum, meets the most ambitious voluntary standard in CALGreen the time of project approval.	Inconsistent. Future development would be required to comply with the mandatory electric vehicle parking requirements of CALGreen. However, as discussed in Section 4.2.6.2, CALGreen includes two tiers of voluntary measures that encourage local jurisdictions to raise sustainability goals: Tier 1 and Tier 2. This measure recommends that projects meet the most ambitious voluntary standard in CALGreen at the time of approval. As these are voluntary standards that go beyond mandatory requirements, implementation cannot be guaranteed at this level of analysis.
Vehicle Miles Traveled Reduction	Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer).	Consistent. The HEU would promote land use patterns and housing programs that would facilitate housing opportunities within areas supported by adequate infrastructure, utilities, access, and public services.
	Does not result in the loss or conversion of natural and working lands.	Partially Consistent. Some of the housing sites are currently used as agricultural uses; however, all housing sites are largely undeveloped and underutilized.
	• Consists of transit-supportive densities (minimum of 20 residential dwelling units per acre); or • Is in proximity to existing transit stops (within a half mile); or • Satisfies more detailed and stringent criteria specified in the region's SCS.	Partially Consistent. The HEU would increase residential densities consistent with this measure. However, not all sites are located in proximity to existing transit stops.

Table 8 Project Consistency with 2022 Scoping Plan Key Prioritization Strategies		
Priority Area	Key Project Attribute	Project Consistency
	Reduces parking requirements by: • Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or • Providing residential parking supply at a ratio of less than one parking space per dwelling unit; or • For multi-family residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.	Consistency Unknown. No specific development is proposed at this time. Parking requirements for future development are unknown.
	At least 20 percent of units included are affordable to lower-income residents.	Consistent. For the 2021–2029 planning period, the City is allocated a total of 4,868 units, including 1,279 units affordable to very low-income households and below, 655 units affordable to low-income, 614 units affordable to moderate-income, and 2,320 units affordable to above moderate (market-rate) income households.
	Results in no net loss of existing affordable units.	Consistent. The project would not result in the loss of existing affordable units. The housing sites currently consist of only one single family residential unit.
Building Decarbonization	Uses all-electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking.	Inconsistent. No specific development is proposed at this time. Natural gas within the City is provided by Southern California Gas. As of July 1, 2024, the California Public Utilities Commission eliminated subsidies for new construction projects that use natural gas or propane. Additionally, Title 24 incentivizes all-electric development consistent with statewide GHG reduction goals. However, the construction of all-electric development with no reliance on natural gas cannot be guaranteed at this level of analysis.
SOURCE: CARB 2022.		

7.2.2 Regional Climate Action Plan

Table 9 summarizes the project consistency with the Regional CAP GHG reduction measures. As demonstrated, the project would be consistent or partially consistent with all applicable measures.

Table 9
Regional CAP GHG Reduction Measures

Number	Measure Description	Consistency
Transportation Measures		
T-1.1[1]	Create a ridesharing program for agricultural workers modeled after the Green Raiterios program in the San Joaquin Valley.	Not Applicable. The project does not involve agricultural workers.
T-1.2	Plan and implement a system of bicycle lanes and multi-use trails that link the cities, unincorporated communities, schools, commercial/retail, employment centers, health care service facilities, public transportation, and other points of interest.	Consistent. The Circulation Element of the City's General Plan includes objectives and policies related to pedestrian and bicycle facilities. Policy 6 requires that all urban standard streets have improved sidewalks on both sides of the road and that rural streets that lead to schools or bus stops have improved sidewalks on one side of the road. Policy 7 requires implementation of the Bicycle Master Plan. The internal street design of all future housing sites would include sidewalks and roads that would connect to the adjacent circulation and pedestrian facilities as required by the City.
T-1.4	Adopt Complete Street Ordinances to ensure streets and roads are designed and operated as a balanced, multimodal transportation network that enables safe access for all users.	Consistent. The City's General Plan Circulation Element includes a goal that the circulation system should promote the safe, efficient movement of people, goods, and vehicles. Future internal street designs of the housing sites would be constructed in accordance with City standards and would include sidewalks and roads that would connect to the adjacent circulation and pedestrian facilities.
T-1.5	Adopt zoning changes that encourage higher density mixed use development in incorporated cities.	Consistent. The project would directly implement this measure by encouraging higher density residential uses on underutilized sites throughout the City.
T-2.1[2]	Require projects with loading docks to provide electric outlets to power truck refrigeration units rather than allow trucks to idle while unloading.	Consistent. The housing sites would not include loading docks. The Bowker Site would allow for the development of a future industrial use; however, it is a Discretionary Development Site that would undergo further environmental review at the time that development is proposed.

Table 9 Regional CAP GHG Reduction Measures		
Number	Measure Description	Consistency
T-2.2	Synchronize traffic signals to reduce idling.	Not Applicable. This measure is the responsibility of the City and is outside the purview of the project.
T-2.4	Work with the air district to establish an incentive program to trade in fossil fuel-powered landscaping equipment with electric versions.	Not Applicable. This measure is the responsibility of the City and is outside the purview of the project.
T-3.1	Transition to a more fuel-efficient municipal vehicle fleet.	Not Applicable. This measure is the responsibility of the City and is outside the purview of the project.
T-3.2	Install public electric vehicle charging stations.	Not Applicable. This measure is the responsibility of the City and is outside the purview of the project. However, future development on the housing sites would provide electric vehicle charging infrastructure in accordance with the 2025 CalGreen.
T-3.3	Require electric vehicle charging stations at new non-residential developments.	Consistent. The Bowker Site would allow for the development of a future industrial use; however, it is a Discretionary Development Site that would undergo further environmental review at the time that development is proposed.
T-3.4	Explore local "cash for clunkers" or similar incentive programs that provide access to new or used zero emission on-road vehicles.	Not Applicable. This measure is the responsibility of the City and is outside the purview of the project.
Energy Measures		
E-1.1	Require new residential developments to install alternatively powered water heaters.	Consistent. Future residential development would be constructed in accordance with the mandatory requirements of 2025 Title 24 and 2025 CALGreen, at a minimum. These codes, which went into effect January 1, 2026, include requirements for heat pump water heaters that use clean electricity to heat water.

Table 9 Regional CAP GHG Reduction Measures		
Number	Measure Description	Consistency
E-1.3	Reduce or eliminate natural gas and propane consumption in new and existing residential buildings.	Partially Consistent. No specific development is proposed at this time. Natural gas within the City is provided by Southern California Gas. As of July 1, 2024, the California Public Utilities Commission eliminated subsidies for new construction projects that use natural gas or propane. Additionally, Title 24 incentivizes all-electric development consistent with statewide GHG reduction goals. The construction of all-electric development with no reliance on natural gas cannot be guaranteed at this level of analysis. Thus, it is unknown if natural gas would be eliminated; however, it would be reduced.
E-1.5	Require major renovations to incorporate energy efficiency measures.	Not Applicable. The project does not involve renovations of existing buildings.
E-2.3	Require large parking lots for new commercial development projects to include solar canopies to produce on-site renewable energy and provide shading for energy efficiency benefits.	Not Applicable. The project does not include commercial development.
E-2.4	Supply municipal facilities with on-site renewable electricity.	Not Applicable. The project does not include municipal facilities.
E-2.5	Adopt a reach code to require new commercial developments to achieve zero net energy.	Not Applicable. The project does not include commercial development nor would it interfere with the City adopting a zero net energy code.
E-2.6	Establish or join program to increase grid-supply renewable and zero-carbon electricity.	Consistent. The project would be served by the Imperial Irrigation District, which has achieved renewable energy goals consistent with RPS (see Section 4.2.5).
Waste Measures		
WS-1.1	Provide recycling and composting receptacles and use of biodegradable or recycled-material products at municipal facilities and events, where feasible.	Consistent. Although the project does not include municipal facilities or events, the project would be consistent with City recycling and composting goals. Allied Waste (Republic Services) is currently under contract with the City to collect garbage, recycling, and yard waste, and would provide service to future development. Future development would also be required to comply with the requirements of Municipal Code Chapter 8.36 – Solid Waste Disposal.

Table 9 Regional CAP GHG Reduction Measures		
Number	Measure Description	Consistency
WS-1.2	Promote alternative uses of agricultural and organic waste by promoting the construction of composting and anaerobic digestion facilities.	Consistent. State law requires that all residents recycle organic materials through a mandatory organic recycling program. The project would not interfere with the construction of composting or anaerobic digestion facilities. Future development would also be required to comply with the requirements of Municipal Code Chapter 8.36 – Solid Waste Disposal.
WS-1.3	Create waste diversion ordinances for construction projects.	Consistent. Municipal Code Chapter 8.38 is the Mandatory Construction and Demolition Debris Recycling Program. All construction waste associated with the future development would be recycled in accordance with City requirements.
Agriculture Measures		
AG-1.1	Work with utilities and/or air districts to provide incentives such as CARB's FARMER program to convert stationary diesel- or gas-powered irrigation pumps to electric pumps that are connected to the grid or use off-grid alternative/renewable energy sources, such as solar.	Not Appliable. The project does not include irrigation pumps.
AG-1.2	Work with utilities, dairies, ranches, and others to expedite permitting and promote energy generation, flaring, and methane capture systems at manure management facilities at cattle ranches and dairy farms.	Not Applicable. The project does not include cattle ranches or dairy farms.
AG-1.3	Provide incentives for replacing gas- or diesel-powered agricultural equipment with electric or alternatively-fueled equivalents.	Not Applicable. The project does not include agricultural equipment.
AG-1.5	Work with farmers to either reduce or replace the use of synthetic nitrogen-based fertilizers with compost alternatives.	Not Applicable. The project does not include the use of synthetic nitrogen-based fertilizers.
AG-2.2	Target stream restoration programs and riparian restoration strategies for carbon sequestration, natural heat relief, water quality improvements, and/or wildlife habitat mitigation.	Not Applicable. The project does not include streams or riparian areas. Future development would include tree planting consistent with City requirements that would provide carbon sequestration and heat relief.
AG-2.4	Develop and enforce landscape tree requirement for new developments.	Consistent. Future development would include tree planting consistent with City requirements.

SOURCE: Imperial County 2021.
[1]Measure applicable to County of Imperial only.
[2]Measure applicable to City of Calexico only.

7.2.3 Connect SoCal 2024

Table 10 summarizes the project consistency with the Connect SoCal GHG reduction strategies. As demonstrated in Table 10, the project would be generally consistent with all Connect SoCal strategies.

Table 10
Project Consistency with Connect SoCal Strategies

Goal	Policies/Strategies	Project Consistency
Mobility: Build and maintain an integrated multimodal transportation network		
• Support investments that are well maintained and operated, coordinated, resilient, and result in improved safety, improved air quality, and minimized GHG emissions. • Ensure that reliable, accessible, affordable, and appealing travel options are readily available, while striving to enhance equity in the offerings in high-need communities. • Support planning for people of all ages, abilities, and backgrounds.	• System Preservation and Resilience – Maintain the operational efficiency of the transportation system. • Complete Streets – Support the safety, comfort, and mobility for all road users. • Transit and Multimodal Integration – Support more seamless connections across modes, especially via first/last mile connection; those occurring between transit/rail and biking, walking, or rolling; and ensuring platforms exist to facilitate trip planning and payments. • Transportation Systems Management – Maximize the functional capacity and efficiency of the existing transportation system. • Transportation Demand Management – Reduce the demand for roadway travel, particularly during peak times or on congested routes.	Consistent. The HEU would not conflict with these policies and strategies. The HEU encourages development of residential uses in strategic proximity to employment, recreational facilities, schools, neighborhood commercial areas, and transportation routes. The City's General Plan Circulation Element includes a goal that the circulation system should promote the safe, efficient movement of people, goods and vehicles. Future internal street designs of the housing sites would be constructed in accordance with City standards and would include sidewalks and roads that would connect to the adjacent circulation and pedestrian facilities. The project would not conflict with SCAG's efforts to achieve these goals.

Table 10 Project Consistency with Connect SoCal Strategies		
Goal	Policies/Strategies	Project Consistency
Communities: Develop, connect and sustain livable and thriving communities		
• Create human-centered communities in urban, suburban, and rural settings to increase mobility options and reduce travel distances. • Produce and preserve diverse housing types in an effort to improve affordability, accessibility, and opportunities for all households.	• Priority Development Areas – Locate new households and jobs where people have opportunities for alternative modes of transportation or to take short trips. • Housing the Region – Provide sufficient housing opportunities throughout the region. • 15-Minute Communities – Provide to all basic, day-to-day needs, services, and amenities within a 15-minute walk, bike, or roll from one's home . • Equitable Engagement and Decision-Making – Strive for more equitable engagement and decision-making.	Consistent. The HEU would directly implement the goal of producing diverse housing types in an effort to improve affordability, accessibility, and opportunities for all households. For the 2021–2029 planning period, the City is allocated a total of 4,868 units, including 1,279 units affordable to very low-income households and below, 655 units affordable to low-income, 614 units affordable to moderate-income, and 2,320 units affordable to above moderate (market-rate) income households. The HEU promotes land use patterns and housing programs that support affirmatively furthering fair housing, including increased access to housing opportunities and resources for all segments of the community, including persons with special needs. It would promote land use patterns and housing programs that would facilitate housing opportunities within areas supported by adequate infrastructure, utilities, access, and public services.

Table 10 Project Consistency with Connect SoCal Strategies		
Goal	Policies/Strategies	Project Consistency
Environment: Create a healthy region for the people of today and tomorrow		
• Develop communities that are resilient and can mitigate, adapt to, and respond to chronic and acute stresses and disruptions, such as climate change. • Integrate the region's development pattern and transportation network to improve air quality, reduce GHG emissions, and enable more sustainable use of energy and water. • Conserve the region's resources.	• Sustainable Development – Support quality of life and economic growth for the region's present and future populations by ensuring that essential resources, such as water, energy, and food supply, are responsibly managed. • Air Quality – Achieve emission reductions by providing a comprehensive and coordinated regional solution with integrated land use and transportation planning. • Clean Transportation – Transition to cleaner vehicles, both in transit fleets and for trucks and passenger vehicles, to support cleaner air quality. • Natural and Agricultural Land Preservation – Preserve natural and agricultural lands. • Climate Resilience – Provide regional coordination and solutions finding related to climate change's adverse impacts on the natural, social, economic, and built environment, including transportation systems.	Consistent. Through the provision of affordable housing, the HEU would support a healthy and balanced community. The City has established a housing loan program to support housing rehabilitation for low-income homeowners. The program is designed to improve the housing of low- and moderate-income persons in a manner that addresses health and safety concerns, conserves the existing housing stock, and contributes to neighborhood revitalization and preservation. The HEU would promote land use patterns and housing programs that would facilitate housing opportunities within areas supported by adequate infrastructure, utilities, access, and public services. Future development would comply with Title 24 requirements and CALGreen to reduce energy consumption by implementing energy-efficient building designs, pre-wiring residences with electric vehicle charging ports, and implementing solar-ready rooftops.

Table 10 Project Consistency with Connect SoCal Strategies		
Goal	Policies/Strategies	Project Consistency
Economy: Support a sustainable, efficient and productive regional economic environment that provides opportunities for all people in the region		
• Improve access to jobs and educational resources. • Advance a resilient and efficient goods movement system that supports the economic vitality of the region, attainment of clean air, and quality of life for our communities.	• Goods Movement – Support the efficient movement of goods, which depends directly on the physical transportation infrastructure. • Broadband – Support digital infrastructure, which includes middle-mile physical infrastructure to connect to global networks and last-mile connections by local carriers. • Universal Basic Mobility – Provide qualified residents with subsidies for transit and other mobility services. • Workforce Development – Educate and train individuals to meet the needs of current and future businesses and industry in order to maintain a sustainable and competitive economic environment. • Tourism – Support the travel of not just those visiting from outside the region but also from within the region to reach the region's many destinations and attractions.	Consistent. The HEU would provide additional housing to the region that would improve access to local jobs and educational resources. It would promote land use patterns and housing programs that would facilitate housing opportunities within areas supported by adequate infrastructure, utilities, access, and public services. The HEU does not contain policies specifically related to goods movement; however, the City is an important gateway for international goods movement through the U.S./Mexico international border crossing at the City's southern boundary.
SOURCE: SCAG 2024.		

As shown in Tables 8 through 10 above, the project would be consistent or partially consistent with some but not all of the 2022 Scoping Plan key prioritization strategies, Regional CAP GHG reduction measures, and Connect SoCal strategies. However, because the HEU is a program-level planning document and does not propose specific development at this time, consistency with all applicable GHG reduction measures and implementation strategies cannot be determined. Although buildout of the HEU would result in a decrease in GHG emissions when compared to buildout of the adopted land use and zoning designations, implementation of the HEU would facilitate new development that would generate GHG emissions greater than the baseline condition. In addition, future individual development could generate GHG emissions that exceed project-level thresholds. Thus, impacts associated with conflicts with applicable plans, policies, and regulation adopted for the purpose of reducing the emission of GHGs would be significant. Although future development would be required to evaluate and reduce project-specific GHG emissions consistent with mitigation measure

GHG-1, because the design and operational characteristics of future development projects are unknown, the extent to which project-level mitigation would reduce GHG emissions cannot be determined at this time. Therefore, program-level GHG impacts would remain significant and unavoidable after mitigation.

8.0 Mitigation Measures

Impacts associated with GHG emissions and consistency with GHG reduction plans would be potentially significant. The following mitigation measure is recommended for future Discretionary Development Sites and By-Right Development Sites:

GHG-1: For Discretionary Development, applications for future development, wherein the City of Calexico (City) or their designee has determined a potential for greenhouse gas (GHG) impacts, the City shall evaluate the project to identify the potential for GHG emissions to exceed the South Coast Air Quality Management District (SCAQMD) thresholds detailed below. If a project may exceed the thresholds, the City shall require a technical assessment evaluating potential project GHG impacts to the City for review and approval. The significance of project-level GHG impacts shall be evaluated using one of the following criteria:

2. In the absence of a City plan to reduce GHG emissions, the evaluation shall be prepared in conformance with SCAQMD methodology for assessing GHG impacts, which consists of the following tiered approach:

    a. Tier 1 – The project is exempt from the California Environmental Quality Act.

    b. Tier 2 – The project is consistent with an applicable regional GHG emissions reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.

    c. Tier 3 – Project GHG emissions represent an incremental increase below or mitigated to less than a 3,000 metric tons of carbon dioxide equivalent screening level.

    d. Tier 4 – The project achieves performance standards, where performance standards may include a percent emission reduction target or an efficiency target per service population.

    e. Tier 5 – Offsets along or in combination with the above the target Significance Screening Level. Offsets must be provided for a 30-year project life, unless the project life is limited by permit, lease, or other legally binding condition.

If GHG emissions are determined to have the potential to exceed the SCAQMD's recommended thresholds, the City shall require that applicants for new development projects incorporate features to reduce GHG emissions. These identified measures shall

be incorporated into all appropriate documents submitted to the City and shall be verified by the City. Measures can include, but are not limited to, the following:

- **Affordable Housing.** Provide below-market-rate housing.
- **Electric Vehicle Parking.** Implement electric vehicle charging infrastructure beyond requirements set forth in the 2025 California Green Building Standards Code mandatory measures, such as Tier 2 voluntary measures set forth in the 2025 California Green Building Standards Code (or future more stringent) standards.
- **Transportation Demand Management.** Implementation of transportation demand management measures.
- **Unbundling Parking.** Require residential developers to separate the cost to rent or purchase a parking space from the cost of the unit.
- **Transit Subsidies.** Require implementation of a transit subsidy program that covers a portion of the cost of transit passes on a per-unit basis to residential tenants for a period of five years after issuance of the first occupancy permit. The Owner/Permittee shall provide an annual report to the City Engineer in each of the first five years demonstrating how the offer was publicized to residents and documenting the results of the program each year, including the number of participants and driveway traffic counts.
- **Commute Trip Reduction Program.** Develop and implement a commute trip reduction program that requires each homeowner and tenant to be provided with a one-page flyer every year that provides information regarding available transit, designated bicycle routes, local bicycle groups and programs, local walking routes and programs, and rideshare programs.
- **Active Transportation Network.** Expand and facilitate completion of planned networks of active transportation infrastructure for projects that are required to provide public improvements related to that infrastructure.
- **Bicycle Micro-mobility Fleet.** Provide bicycles to the first buyer of each unit.
- **All Electric Development.** Require all-electric development with no sources of natural gas.
- **Energy Efficiency.** Demonstrate building energy efficiency beyond applicable code requirements.
- **Energy Star Appliances.** Provide Energy Star-rated appliances (e.g., clothes washers, dishwashers, refrigerators, and ceiling fans).
- **Alternative Water Heating.** Incorporate non-gas water heaters (e.g., electric or solar water heating).

- **Water-Efficient Landscaping.** Provide low-water use/drought tolerant plant species with low water use irrigation (e.g., spray head or drip), where required.

- **Outdoor Electrical Outlets to Allow for Electric Landscape Equipment.** Provide exterior electrical outlets necessary for sufficient powering of electric lawnmowers and other landscaping equipment.

By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development.

For Discretionary Development Sites, implementation of mitigation measure GHG-1 would occur during subsequent environmental CEQA review prior to approval. For By-Right Development Sites, applicable requirements consistent with the protections established by mitigation measure GHG-1 would be incorporated into and implemented through the City's ministerial review process for by-right housing development, as established pursuant to Program 2E of the HEU. For both Discretionary Development Sites and By-Right Development Sites, the level to which GHG emissions would be reduced in unknown at this time. Therefore, impacts would remain significant and unavoidable after mitigation.

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ATTACHMENTS

ATTACHMENT 1

CalEEMod Output – Baseline (Year 2019) Existing On-The-Ground Land Uses

Calexico HEU - Existing On-The-Ground Uses Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Calexico HEU - Existing On-The-Ground Uses
Operational Year	2019
Lead Agency	City of Calexico
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	3.40000
Precipitation (days)	4.80000
Location	Calexico, CA, USA
County	Imperial
City	Calexico
Air District	Imperial County APCD
Air Basin	Salton Sea
TAZ	5612
EDFZ	19
Electric Utility	Imperial Irrigation District
Gas Utility	Southern California Gas
App Version	2022.1.1.45

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	1.000000	Dwelling Unit	4.42000	1,950.00	11,713.0	—	4.00000	—
Government Office Building	17.2890	1000sqft	8.97000	17,289.0	0.00000	—	—	—
General Light Industry	10.00000	1000sqft	2.23000	10,000.00	0.00000	—	—	—
Unrefrigerated Warehouse-No Rail	2.50000	1000sqft	26.8100	2,500.00	0.00000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.3. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.8196	14.1035	9.30242	87.2198	0.10520	0.13511	7.20295	7.33806	0.12755	1.82534	1.95290	29.5147	12,067.2	12,096.7	3.76500	0.61837	50.8674	12,426.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Unmit.	10.7401	10.0450	10.3632	61.8801	0.09213	0.13302	7.20295	7.33597	0.12604	1.82534	1.95138	29.5147	10,748.3	10,777.8	3.83050	0.64853	3.90897	11,070.7
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	12.0162	11.3294	9.98201	68.6524	0.09739	0.13333	7.17999	7.31332	0.12607	1.81960	1.94567	29.5147	11,273.8	11,303.4	3.77500	0.63162	23.4729	11,609.4
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.19296	2.06762	1.82172	12.5291	0.01777	0.02433	1.31035	1.33468	0.02301	0.33208	0.35509	4.88649	1,866.51	1,871.40	0.62499	0.10457	3.88621	1,922.07
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137.000	137.000	550.000	150.000	—	—	150.000	—	—	550.000	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137.000	137.000	550.000	150.000	—	—	150.000	—	—	550.000	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.4. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Mobile	13.7637	13.0750	9.12317	85.7432	0.10411	0.11990	7.20295	7.32285	0.11294	1.82534	1.93828	—	10,572.7	10,572.7	0.67311	0.57692	48.2083	10,809.7
Area	1.03843	1.01975	0.02043	1.34693	0.00013	0.00309	—	0.00309	0.00250	—	0.00250	0.00000	16.2521	16.2521	0.00043	0.00007	—	16.2830
Energy	0.01753	0.00877	0.15882	0.12968	0.00096	0.01211	—	0.01211	0.01211	—	0.01211	—	1,439.31	1,439.31	0.10712	0.01130	—	1,445.35
Water	—	—	—	—	—	—	—	—	—	—	—	12.2066	38.9278	51.1344	1.25446	0.03008	—	91.4596
Waste	—	—	—	—	—	—	—	—	—	—	—	17.3081	0.00000	17.3081	1.72988	0.00000	—	60.5551
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.65906	2.65906
Total	14.8196	14.1035	9.30242	87.2198	0.10520	0.13511	7.20295	7.33806	0.12755	1.82534	1.95290	29.5147	12,067.2	12,096.7	3.76500	0.61837	50.8674	12,426.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	9.92221	9.23628	10.1959	61.7468	0.09112	0.12022	7.20295	7.32317	0.11324	1.82534	1.93858	—	9,259.28	9,259.28	0.73883	0.60713	1.24991	9,459.93
Area	0.80041	0.79992	0.00849	0.00361	0.00005	0.00069	—	0.00069	0.00069	—	0.00069	0.00000	10.7728	10.7728	0.00020	0.00002	—	10.7839
Energy	0.01753	0.00877	0.15882	0.12968	0.00096	0.01211	—	0.01211	0.01211	—	0.01211	—	1,439.31	1,439.31	0.10712	0.01130	—	1,445.35
Water	—	—	—	—	—	—	—	—	—	—	—	12.2066	38.9278	51.1344	1.25446	0.03008	—	91.4596
Waste	—	—	—	—	—	—	—	—	—	—	—	17.3081	0.00000	17.3081	1.72988	0.00000	—	60.5551
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.65906	2.65906
Total	10.7401	10.0450	10.3632	61.8801	0.09213	0.13302	7.20295	7.33597	0.12604	1.82534	1.95138	29.5147	10,748.3	10,777.8	3.83050	0.64853	3.90897	11,070.7
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	11.0819	10.4128	9.81721	67.8603	0.09639	0.12002	7.17999	7.30001	0.11305	1.81960	1.93266	—	9,792.77	9,792.77	0.68343	0.59021	20.8139	10,006.6
Area	0.91681	0.90784	0.00599	0.66250	0.00004	0.00120	—	0.00120	0.00090	—	0.00090	0.00000	2.82906	2.82906	0.00012	0.00002	—	2.83892
Energy	0.01753	0.00877	0.15882	0.12968	0.00096	0.01211	—	0.01211	0.01211	—	0.01211	—	1,439.31	1,439.31	0.10712	0.01130	—	1,445.35
Water	—	—	—	—	—	—	—	—	—	—	—	12.2066	38.9278	51.1344	1.25446	0.03008	—	91.4596

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Waste	—	—	—	—	—	—	—	—	—	—	—	17.3081	0.00000	17.3081	1.72988	0.00000	—	60.5551
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.65906	2.65906
Total	12.0162	11.3294	9.98201	68.6524	0.09739	0.13333	7.17999	7.31332	0.12607	1.81960	1.94567	29.5147	11,273.8	11,303.4	3.77500	0.63162	23.4729	11,609.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.02244	1.90034	1.79164	12.3845	0.01759	0.02190	1.31035	1.33225	0.02063	0.33208	0.35271	—	1,621.31	1,621.31	0.11315	0.09772	3.44597	1,656.70
Area	0.16732	0.16568	0.00109	0.12091	0.00001	0.00022	—	0.00022	0.00017	—	0.00017	0.00000	0.46838	0.46838	0.00002	< 0.000005	—	0.47002
Energy	0.00320	0.00160	0.02898	0.02367	0.00017	0.00221	—	0.00221	0.00221	—	0.00221	—	238.294	238.294	0.01774	0.00187	—	239.295
Water	—	—	—	—	—	—	—	—	—	—	—	2.02094	6.44494	8.46588	0.20769	0.00498	—	15.1422
Waste	—	—	—	—	—	—	—	—	—	—	—	2.86555	0.00000	2.86555	0.28640	0.00000	—	10.0256
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.44024	0.44024
Total	2.19296	2.06762	1.82172	12.5291	0.01777	0.02433	1.31035	1.33468	0.02301	0.33208	0.35509	4.88649	1,866.51	1,871.40	0.62499	0.10457	3.88621	1,922.07

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06806	0.06491	0.04160	0.38908	0.00046	0.00053	0.03159	0.03212	0.00050	0.00800	0.00851	—	46.6329	46.6329	0.00321	0.00265	0.21140	47.7147
Government Office Building	6.10048	5.79513	4.04523	38.0195	0.04617	0.05317	3.19436	3.24753	0.05008	0.80950	0.85958	—	4,688.66	4,688.66	0.29839	0.25580	21.3794	4,793.73
General Light Industry	1.51676	1.44084	1.00577	9.45279	0.01148	0.01322	0.79421	0.80743	0.01245	0.20127	0.21372	—	1,165.74	1,165.74	0.07419	0.06360	5.31556	1,191.86
Unrefrigerated Warehouse-No Rail	6.07839	5.77414	4.03058	37.8818	0.04600	0.05298	3.18279	3.23577	0.04990	0.80657	0.85647	—	4,671.68	4,671.68	0.29731	0.25487	21.3020	4,776.37
Total	13.7637	13.0750	9.12317	85.7432	0.10411	0.11990	7.20295	7.32285	0.11294	1.82534	1.93828	—	10,572.7	10,572.7	0.67311	0.57692	48.2083	10,809.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.04878	0.04561	0.04631	0.28567	0.00040	0.00054	0.03159	0.03212	0.00050	0.00800	0.00851	—	40.8767	40.8767	0.00356	0.00278	0.00548	41.7995
Government Office Building	4.39795	4.09382	4.52096	27.3768	0.04041	0.05331	3.19436	3.24767	0.05022	0.80950	0.85972	—	4,106.18	4,106.18	0.32751	0.26920	0.55431	4,195.14
General Light Industry	1.09346	1.01785	1.12405	6.80669	0.01005	0.01325	0.79421	0.80747	0.01249	0.20127	0.21375	—	1,020.92	1,020.92	0.08143	0.06693	0.13782	1,043.04

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Unrefrigerated Warehouse-No Rail	4.38202	4.07900	4.50459	27.2776	0.04026	0.05312	3.18279	3.23591	0.05003	0.80657	0.85660	—	4,091.31	4,091.31	0.32633	0.26822	0.55230	4,179.95
Total	9.92221	9.23628	10.1959	61.7468	0.09112	0.12022	7.20295	7.32317	0.11324	1.82534	1.93858	—	9,259.28	9,259.28	0.73883	0.60713	1.24991	9,459.93
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00974	0.00919	0.00795	0.05535	0.00008	0.00010	0.00562	0.00571	0.00009	0.00142	0.00151	—	6.99260	6.99260	0.00053	0.00044	0.01477	7.15088
Government Office Building	0.89652	0.84238	0.79451	5.49181	0.00780	0.00971	0.58117	0.59088	0.00915	0.14728	0.15643	—	719.068	719.068	0.05016	0.04333	1.52837	734.763
General Light Industry	0.22290	0.20944	0.19754	1.36543	0.00194	0.00242	0.14450	0.14691	0.00228	0.03662	0.03889	—	178.782	178.782	0.01247	0.01077	0.38000	182.684
Unrefrigerated Warehouse-No Rail	0.89328	0.83933	0.79164	5.47192	0.00777	0.00968	0.57907	0.58874	0.00912	0.14675	0.15587	—	716.463	716.463	0.04998	0.04317	1.52283	732.102
Total	2.02244	1.90034	1.79164	12.3845	0.01759	0.02190	1.31035	1.33225	0.02063	0.33208	0.35271	—	1,621.31	1,621.31	0.11315	0.09772	3.44597	1,656.70

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	11.6816	11.6816	0.00084	0.00010	—	11.7332
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	822.457	822.457	0.05945	0.00721	—	826.090
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	379.924	379.924	0.02746	0.00333	—	381.603
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	35.0676	35.0676	0.00253	0.00031	—	35.2225
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,249.13	1,249.13	0.09029	0.01094	—	1,254.65
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	11.6816	11.6816	0.00084	0.00010	—	11.7332
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	822.457	822.457	0.05945	0.00721	—	826.090
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	379.924	379.924	0.02746	0.00333	—	381.603

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	35.0676	35.0676	0.00253	0.00031	—	35.2225
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,249.13	1,249.13	0.09029	0.01094	—	1,254.65
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1.93401	1.93401	0.00014	0.00002	—	1.94256
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	136.167	136.167	0.00984	0.00119	—	136.769
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	62.9008	62.9008	0.00455	0.00055	—	63.1787
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	5.80583	5.80583	0.00042	0.00005	—	5.83148
Total	—	—	—	—	—	—	—	—	—	—	—	—	206.808	206.808	0.01495	0.00181	—	207.721

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00105	0.00053	0.00898	0.00382	0.00006	0.00073	—	0.00073	0.00073	—	0.00073	—	11.3978	11.3978	0.00101	0.00002	—	11.4295
Government Office Building	0.00547	0.00274	0.04977	0.04180	0.00030	0.00378	—	0.00378	0.00378	—	0.00378	—	59.3783	59.3783	0.00525	0.00011	—	59.5430
General Light Industry	0.00960	0.00480	0.08725	0.07329	0.00052	0.00663	—	0.00663	0.00663	—	0.00663	—	104.108	104.108	0.00921	0.00020	—	104.397
Unrefrigerated Warehouse-No Rail	0.00141	0.00070	0.01282	0.01077	0.00008	0.00097	—	0.00097	0.00097	—	0.00097	—	15.2922	15.2922	0.00135	0.00003	—	15.3346
Total	0.01753	0.00877	0.15882	0.12968	0.00096	0.01211	—	0.01211	0.01211	—	0.01211	—	190.177	190.177	0.01683	0.00036	—	190.704
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00105	0.00053	0.00898	0.00382	0.00006	0.00073	—	0.00073	0.00073	—	0.00073	—	11.3978	11.3978	0.00101	0.00002	—	11.4295
Government Office Building	0.00547	0.00274	0.04977	0.04180	0.00030	0.00378	—	0.00378	0.00378	—	0.00378	—	59.3783	59.3783	0.00525	0.00011	—	59.5430
General Light Industry	0.00960	0.00480	0.08725	0.07329	0.00052	0.00663	—	0.00663	0.00663	—	0.00663	—	104.108	104.108	0.00921	0.00020	—	104.397

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Unrefrigerated Warehouse-No Rail	0.00141	0.00070	0.01282	0.01077	0.00008	0.00097	—	0.00097	0.00097	—	0.00097	—	15.2922	15.2922	0.00135	0.00003	—	15.3346
Total	0.01753	0.00877	0.15882	0.12968	0.00096	0.01211	—	0.01211	0.01211	—	0.01211	—	190.177	190.177	0.01683	0.00036	—	190.704
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00019	0.00010	0.00164	0.00070	0.00001	0.00013	—	0.00013	0.00013	—	0.00013	—	1.88704	1.88704	0.00017	< 0.000005	—	1.89228
Government Office Building	0.00100	0.00050	0.00908	0.00763	0.00005	0.00069	—	0.00069	0.00069	—	0.00069	—	9.83075	9.83075	0.00087	0.00002	—	9.85802
General Light Industry	0.00175	0.00088	0.01592	0.01338	0.00010	0.00121	—	0.00121	0.00121	—	0.00121	—	17.2363	17.2363	0.00153	0.00003	—	17.2841
Unrefrigerated Warehouse-No Rail	0.00026	0.00013	0.00234	0.00196	0.00001	0.00018	—	0.00018	0.00018	—	0.00018	—	2.53180	2.53180	0.00022	< 0.000005	—	2.53882
Total	0.00320	0.00160	0.02898	0.02367	0.00017	0.00221	—	0.00221	0.00221	—	0.00221	—	31.4859	31.4859	0.00279	0.00006	—	31.5733

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00099	0.00050	0.00849	0.00361	0.00005	0.00069	—	0.00069	0.00069	—	0.00069	0.00000	10.7728	10.7728	0.00020	0.00002	—	10.7839
Consumer Products	0.67921	0.67921	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.12020	0.12020	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.23801	0.21984	0.01195	1.34332	0.00008	0.00241	—	0.00241	0.00182	—	0.00182	—	5.47935	5.47935	0.00023	0.00005	—	5.49909
Total	1.03843	1.01975	0.02043	1.34693	0.00013	0.00309	—	0.00309	0.00250	—	0.00250	0.00000	16.2521	16.2521	0.00043	0.00007	—	16.2830
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00099	0.00050	0.00849	0.00361	0.00005	0.00069	—	0.00069	0.00069	—	0.00069	0.00000	10.7728	10.7728	0.00020	0.00002	—	10.7839
Consumer Products	0.67921	0.67921	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.12020	0.12020	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.80041	0.79992	0.00849	0.00361	0.00005	0.00069	—	0.00069	0.00069	—	0.00069	0.00000	10.7728	10.7728	0.00020	0.00002	—	10.7839
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.000005	< 0.000005	0.00002	0.00001	< 0.000005	< 0.000005	—	< 0.000005	< 0.000005	—	< 0.000005	0.00000	0.02101	0.02101	< 0.000005	< 0.000005	—	0.02103

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Consumer Products	0.12396	0.12396	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.02194	0.02194	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02142	0.01979	0.00108	0.12090	0.00001	0.00022	—	0.00022	0.00016	—	0.00016	—	0.44737	0.44737	0.00002	< 0.000005	—	0.44898
Total	0.16732	0.16568	0.00109	0.12091	0.00001	0.00022	—	0.00022	0.00017	—	0.00017	0.00000	0.46838	0.46838	0.00002	< 0.000005	—	0.47002

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.08590	1.44528	1.53119	0.00891	0.00022	—	1.82015
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	6.58156	20.3531	26.9346	0.67633	0.01621	—	48.6744

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	4.43129	13.7035	18.1348	0.45537	0.01092	—	32.7720
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	1.10782	3.42588	4.53371	0.11384	0.00273	—	8.19300
Total	—	—	—	—	—	—	—	—	—	—	—	12.2066	38.9278	51.1344	1.25446	0.03008	—	91.4596
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.08590	1.44528	1.53119	0.00891	0.00022	—	1.82015
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	6.58156	20.3531	26.9346	0.67633	0.01621	—	48.6744
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	4.43129	13.7035	18.1348	0.45537	0.01092	—	32.7720
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	1.10782	3.42588	4.53371	0.11384	0.00273	—	8.19300
Total	—	—	—	—	—	—	—	—	—	—	—	12.2066	38.9278	51.1344	1.25446	0.03008	—	91.4596
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.01422	0.23928	0.25351	0.00148	0.00004	—	0.30135
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	1.08965	3.36969	4.45934	0.11197	0.00268	—	8.05861
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.73365	2.26878	3.00243	0.07539	0.00181	—	5.42578
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.18341	0.56719	0.75061	0.01885	0.00045	—	1.35644
Total	—	—	—	—	—	—	—	—	—	—	—	2.02094	6.44494	8.46588	0.20769	0.00498	—	15.1422

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.69326	0.00000	0.69326	0.06929	0.00000	—	2.42549

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	8.66547	0.00000	8.66547	0.86608	0.00000	—	30.3175
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	6.68284	0.00000	6.68284	0.66793	0.00000	—	23.3810
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	1.26651	0.00000	1.26651	0.12658	0.00000	—	4.43107
Total	—	—	—	—	—	—	—	—	—	—	—	17.3081	0.00000	17.3081	1.72988	0.00000	—	60.5551
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.69326	0.00000	0.69326	0.06929	0.00000	—	2.42549
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	8.66547	0.00000	8.66547	0.86608	0.00000	—	30.3175
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	6.68284	0.00000	6.68284	0.66793	0.00000	—	23.3810
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	1.26651	0.00000	1.26651	0.12658	0.00000	—	4.43107
Total	—	—	—	—	—	—	—	—	—	—	—	17.3081	0.00000	17.3081	1.72988	0.00000	—	60.5551

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.11478	0.00000	0.11478	0.01147	0.00000	—	0.40157
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	1.43467	0.00000	1.43467	0.14339	0.00000	—	5.01942
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	1.10642	0.00000	1.10642	0.11058	0.00000	—	3.87099
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.20968	0.00000	0.20968	0.02096	0.00000	—	0.73361
Total	—	—	—	—	—	—	—	—	—	—	—	2.86555	0.00000	2.86555	0.28640	0.00000	—	10.0256

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01397	0.01397
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04205	0.04205
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.60304	2.60304
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.65906	2.65906
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01397	0.01397
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04205	0.04205
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.60304	2.60304
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.65906	2.65906
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00231	0.00231

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Government Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00696	0.00696
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.43096	0.43096
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.44024	0.44024

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	9.09000	9.19000	8.23000	3,278.22	44.3007	44.7880	40.1094	15,976.6
Government Office Building	807.223	807.223	807.223	294,637	4,529.52	4,529.52	4,529.52	1,653,276
General Light Industry	200.700	200.700	200.700	73,255.5	1,126.18	1,126.18	1,126.18	411,054
Unrefrigerated Warehouse-No Rail	804.300	804.300	804.300	293,570	4,513.12	4,513.12	4,513.12	1,647,289

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Single Family Housing	Wood Fireplaces	0	0
Single Family Housing	Gas Fireplaces	1	1
Single Family Housing	Propane Fireplaces	0	0
Single Family Housing	Electric Fireplaces	0	0
Single Family Housing	No Fireplaces	0	0
Single Family Housing	Conventional Wood Stoves	0	0

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Single Family Housing	Catalytic Wood Stoves	0	0
Single Family Housing	Non-Catalytic Wood Stoves	0	0
Single Family Housing	Pellet Wood Stoves	0	0
Government Office Building	Wood Fireplaces	0	0
Government Office Building	Gas Fireplaces	0	0
Government Office Building	Propane Fireplaces	0	0
Government Office Building	Electric Fireplaces	0	0
Government Office Building	No Fireplaces	0	0
Government Office Building	Conventional Wood Stoves	0	0
Government Office Building	Catalytic Wood Stoves	0	0
Government Office Building	Non-Catalytic Wood Stoves	0	0
Government Office Building	Pellet Wood Stoves	0	0
General Light Industry	Wood Fireplaces	0	0
General Light Industry	Gas Fireplaces	0	0
General Light Industry	Propane Fireplaces	0	0
General Light Industry	Electric Fireplaces	0	0
General Light Industry	No Fireplaces	0	0
General Light Industry	Conventional Wood Stoves	0	0
General Light Industry	Catalytic Wood Stoves	0	0
General Light Industry	Non-Catalytic Wood Stoves	0	0
General Light Industry	Pellet Wood Stoves	0	0

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Unrefrigerated Warehouse-No Rail	Wood Fireplaces	0	0
Unrefrigerated Warehouse-No Rail	Gas Fireplaces	0	0
Unrefrigerated Warehouse-No Rail	Propane Fireplaces	0	0
Unrefrigerated Warehouse-No Rail	Electric Fireplaces	0	0
Unrefrigerated Warehouse-No Rail	No Fireplaces	0	0
Unrefrigerated Warehouse-No Rail	Conventional Wood Stoves	0	0
Unrefrigerated Warehouse-No Rail	Catalytic Wood Stoves	0	0
Unrefrigerated Warehouse-No Rail	Non-Catalytic Wood Stoves	0	0
Unrefrigerated Warehouse-No Rail	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
3,948.75	1,316.25	44,683.5	14,894.5	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	180.000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	9,339.24	456.543	0.0330	0.0040	35,564.3
Government Office Building	657,543	456.543	0.0330	0.0040	185,276
General Light Industry	303,744	456.543	0.0330	0.0040	324,846
Unrefrigerated Warehouse-No Rail	28,036.0	456.543	0.0330	0.0040	47,715.7

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	44,829.3	293,045
Government Office Building	3,434,627	0.00000
General Light Industry	2,312,500	0.00000
Unrefrigerated Warehouse-No Rail	578,125	0.00000

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	1.28635	0.00000

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Government Office Building	16.0788	0.00000
General Light Industry	12.4000	0.00000
Unrefrigerated Warehouse-No Rail	2.35000	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000
Government Office Building	Household refrigerators and/or freezers	R-134a	1,430.00	0.01679	0.60000	0.00000	1.000000
Government Office Building	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088.00	0.30000	4.00000	4.00000	18.0000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.4100	annual days of extreme heat
Extreme Precipitation	0.30000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	70.2800
AQ-PM	71.1637
AQ-DPM	96.6024
Drinking Water	52.7414
Lead Risk Housing	72.5772
Pesticides	0.00000
Toxic Releases	49.0873
Traffic	95.0125
Effect Indicators	—
CleanUp Sites	50.3173

Indicator	Result for Project Census Tract
Groundwater	72.4888
Haz Waste Facilities/Generators	50.1390
Impaired Water Bodies	99.5170
Solid Waste	0.00000
Sensitive Population	—
Asthma	69.3420
Cardio-vascular	90.9521
Low Birth Weights	29.6638
Socioeconomic Factor Indicators	—
Education	92.5209
Housing	92.9404
Linguistic	99.6211
Poverty	88.7312
Unemployment	99.8829

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	0.744257667
Employed	5.530604389

Indicator	Result for Project Census Tract
Median HI	0.333632747
Education	—
Bachelor's or higher	34.49249326
High school enrollment	100
Preschool enrollment	26.78044399
Transportation	—
Auto Access	4.978827153
Active commuting	64.80174516
Social	—
2-parent households	12.53689208
Voting	9.534197357
Neighborhood	—
Alcohol availability	37.35403567
Park access	81.35506224
Retail density	86.68035416
Supermarket access	72.93725138
Tree canopy	9.508533299
Housing	—
Homeownership	18.58077762
Housing habitability	25.1764404
Low-inc homeowner severe housing cost burden	64.49377647

Indicator	Result for Project Census Tract
Low-inc renter severe housing cost burden	12.38290774
Uncrowded housing	27.15257282
Health Outcomes	—
Insured adults	9.008084178
Arthritis	0.0
Asthma ER Admissions	41.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	85.8
Cognitively Disabled	22.1
Physically Disabled	3.2
Heart Attack ER Admissions	6.4
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	73.3
Physical Health Not Good	0.0

Indicator	Result for Project Census Tract
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	6.8
Elderly	27.3
English Speaking	0.3
Foreign-born	88.7
Outdoor Workers	10.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	18.3
Traffic Density	87.1
Traffic Access	23.0
Other Indices	—
Hardship	98.9
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	96.0000
Healthy Places Index Score for Project Location (b)	3.00000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	El Centro Corridor

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Site 23 - 1 single family unit, 4.42 acres Site 24a - Industrial truck and auto storage, 24.24 acres, ~2,500 sf Site 31 - Former U.S. Customs and Border Protection - Calexico Station, 8.97 acres, 17,289 sf Site 36 - Industrial, 2.23 acres, ~10,000 sf Site 44 - Industrial truck and auto storage, 0.95 acres, no structures Site 45 - Industrial truck and auto storage, 1.62 acres, no structures
Operations: Vehicle Data	Single family - 9.09 weekday trips per unit, weekend trips adjusted proportionately Government - 90 trips per acre (46.69 trips per ksf) Light Industrial - 90 trips per acre (20.07 trips per ksf) Industrial Storage - 30 trips per acre (321.72 trips per ksf)
Operations: Road Dust	All roads paved

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	0.32468	4.42000
Lot Area	acre	0.39690	8.97000
Landscape Area	sq. ft	—	0.00000
Lot Area	acre	0.22957	2.23000
Landscape Area	sq. ft	—	0.00000
Lot Area	acre	0.05739	26.8100
Landscape Area	sq. ft	—	0.00000

8.5. Operations

8.5.1. Mobile Sources

8.5.1.1. Vehicle Data

Land Use	Model Parameter	Units	Default Value	New Value
Single Family Housing	Weekday Trip Rate	size/day	9.44000	9.09000
Single Family Housing	Saturday Trip Rate	size/day	9.54000	9.19000
Single Family Housing	Sunday Trip Rate	size/day	8.55000	8.23000
Government Office Building	Weekday Trip Rate	size/day	22.5900	46.6900
Government Office Building	Saturday Trip Rate	size/day	0.00000	46.6900
Government Office Building	Sunday Trip Rate	size/day	0.00000	46.6900
General Light Industry	Weekday Trip Rate	size/day	4.96000	20.0700
General Light Industry	Saturday Trip Rate	size/day	1.99000	20.0700
General Light Industry	Sunday Trip Rate	size/day	5.00000	20.0700
Unrefrigerated Warehouse-No Rail	Weekday Trip Rate	size/day	1.74000	321.720
Unrefrigerated Warehouse-No Rail	Saturday Trip Rate	size/day	1.74000	321.720
Unrefrigerated Warehouse-No Rail	Sunday Trip Rate	size/day	1.74000	321.720

8.5.1.4. Road Dust

Model Parameter	Units	Default Value	New Value
% Paved	%	50.0000	100.0000

ATTACHMENT 2

CalEEMod Output – Buildout (Year 2050) of the Existing Land Use and Zoning Designations

Calexico HEU - Adopted GP and Zoning Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Calexico HEU - Adopted GP and Zoning
Operational Year	2050
Lead Agency	City of Calexico
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	3.40000
Precipitation (days)	4.80000
Location	Calexico, CA, USA
County	Imperial
City	Calexico
Air District	Imperial County APCD
Air Basin	Salton Sea
TAZ	5612
EDFZ	19
Electric Utility	Imperial Irrigation District
Gas Utility	Southern California Gas
App Version	2022.1.1.45

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	1,771.00	Dwelling Unit	348.820	3,453,450	20,743,470	—	6,305.00	—
Apartments Mid Rise	4,085.00	Dwelling Unit	210.980	3,921,600	1,838,058	—	14,543.0	—
Industrial Park	325.393	1000sqft	37.0000	325,393	108,464	—	—	—
Strip Mall	2,225.48	1000sqft	85.1500	2,225,480	741,827	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.3. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	475.823	457.797	252.801	2,008.01	5.08434	9.65271	441.832	451.484	9.43190	111.975	121.407	5,160.82	629,753	634,914	541.446	24.9479	211.268	656,096
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	403.930	389.159	266.016	1,094.33	4.54523	9.31053	441.832	451.142	9.17372	111.975	121.149	5,160.82	576,011	581,172	541.984	25.5253	152.935	602,481

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	428.714	415.271	212.456	1,441.07	4.45447	5.50803	440.471	445.979	5.32981	111.635	116.965	5,160.82	535,809	540,970	540.366	25.0754	177.241	562,129
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	78.2403	75.7869	38.7733	262.996	0.81294	1.00522	80.3859	81.3911	0.97269	20.3734	21.3461	854.433	88,709.3	89,563.7	89.4638	4.15152	29.3442	93,066.8
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137.000	137.000	550.000	150.000	—	—	150.000	—	—	550.000	—	—	—	—	—	—	—
Unmit.	—	Yes	Yes	Yes	No	—	—	Yes	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137.000	137.000	550.000	150.000	—	—	150.000	—	—	550.000	—	—	—	—	—	—	—
Unmit.	—	Yes	Yes	Yes	No	—	—	Yes	—	—	No	—	—	—	—	—	—	—

2.4. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	168.384	158.386	164.951	1,525.42	4.53000	2.55184	441.832	444.384	2.41517	111.975	114.390	—	462,117	462,117	10.0332	21.4130	59.8859	468,809

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Area	303.477	297.430	53.7005	466.002	0.33826	4.36385	—	4.36385	4.27971	—	4.27971	0.00000	64,429.9	64,429.9	1.24415	0.13007	—	64,499.7
Energy	3.96147	1.98073	34.1495	16.5830	0.21608	2.73701	—	2.73701	2.73701	—	2.73701	—	100,332	100,332	11.4818	1.01170	—	100,921
Water	—	—	—	—	—	—	—	—	—	—	—	963.128	2,873.98	3,837.11	99.1425	2.39309	—	7,028.81
Waste	—	—	—	—	—	—	—	—	—	—	—	4,197.69	0.00000	4,197.69	419.544	0.00000	—	14,686.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	151.382	151.382
Total	475.823	457.797	252.801	2,008.01	5.08434	9.65271	441.832	451.484	9.43190	111.975	121.407	5,160.82	629,753	634,914	541.446	24.9479	211.268	656,096
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	146.724	136.841	182.167	1,056.59	4.01192	2.55523	441.832	444.387	2.41841	111.975	114.394	—	409,719	409,719	10.6274	22.0017	1.55303	416,543
Area	253.245	250.337	49.6999	21.1489	0.31723	4.01829	—	4.01829	4.01829	—	4.01829	0.00000	63,085.4	63,085.4	1.18788	0.11879	—	63,150.5
Energy	3.96147	1.98073	34.1495	16.5830	0.21608	2.73701	—	2.73701	2.73701	—	2.73701	—	100,332	100,332	11.4818	1.01170	—	100,921
Water	—	—	—	—	—	—	—	—	—	—	—	963.128	2,873.98	3,837.11	99.1425	2.39309	—	7,028.81
Waste	—	—	—	—	—	—	—	—	—	—	—	4,197.69	0.00000	4,197.69	419.544	0.00000	—	14,686.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	151.382	151.382
Total	403.930	389.159	266.016	1,094.33	4.54523	9.31053	441.832	451.142	9.17372	111.975	121.149	5,160.82	576,011	581,172	541.984	25.5253	152.935	602,481
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	152.483	142.603	175.748	1,204.86	4.22428	2.55326	440.471	443.024	2.41653	111.635	114.051	—	431,197	431,197	10.1561	21.6637	25.8584	437,932
Area	272.269	270.687	2.55839	219.629	0.01411	0.21775	—	0.21775	0.17626	—	0.17626	0.00000	1,406.24	1,406.24	0.04174	0.00696	—	1,409.36
Energy	3.96147	1.98073	34.1495	16.5830	0.21608	2.73701	—	2.73701	2.73701	—	2.73701	—	100,332	100,332	11.4818	1.01170	—	100,921
Water	—	—	—	—	—	—	—	—	—	—	—	963.128	2,873.98	3,837.11	99.1425	2.39309	—	7,028.81
Waste	—	—	—	—	—	—	—	—	—	—	—	4,197.69	0.00000	4,197.69	419.544	0.00000	—	14,686.3

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	151.382	151.382
Total	428.714	415.271	212.456	1,441.07	4.45447	5.50803	440.471	445.979	5.32981	111.635	116.965	5,160.82	535,809	540,970	540.366	25.0754	177.241	562,129
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	27.8281	26.0250	32.0741	219.887	0.77093	0.46597	80.3859	80.8519	0.44102	20.3734	20.8144	—	71,389.5	71,389.5	1.68146	3.58667	4.28116	72,504.7
Area	49.6892	49.4004	0.46691	40.0823	0.00257	0.03974	—	0.03974	0.03217	—	0.03217	0.00000	232.819	232.819	0.00691	0.00115	—	233.335
Energy	0.72297	0.36148	6.23229	3.02640	0.03943	0.49951	—	0.49951	0.49951	—	0.49951	—	16,611.1	16,611.1	1.90095	0.16750	—	16,708.6
Water	—	—	—	—	—	—	—	—	—	—	—	159.457	475.820	635.277	16.4142	0.39620	—	1,163.70
Waste	—	—	—	—	—	—	—	—	—	—	—	694.976	0.00000	694.976	69.4603	0.00000	—	2,431.48
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0630	25.0630
Total	78.2403	75.7869	38.7733	262.996	0.81294	1.00522	80.3859	81.3911	0.97269	20.3734	21.3461	854.433	88,709.3	89,563.7	89.4638	4.15152	29.3442	93,066.8

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	11,170.5	11,170.5	1.49538	0.18126	—	11,261.9
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	15,612.9	15,612.9	2.09009	0.25334	—	15,740.7
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	8,358.02	8,358.02	1.11888	0.13562	—	8,426.40
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	22,220.7	22,220.7	2.97467	0.36057	—	22,402.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	57,362.1	57,362.1	7.67902	0.93079	—	57,831.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	11,170.5	11,170.5	1.49538	0.18126	—	11,261.9
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	15,612.9	15,612.9	2.09009	0.25334	—	15,740.7
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	8,358.02	8,358.02	1.11888	0.13562	—	8,426.40
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	22,220.7	22,220.7	2.97467	0.36057	—	22,402.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	57,362.1	57,362.1	7.67902	0.93079	—	57,831.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,849.40	1,849.40	0.24758	0.03001	—	1,864.53
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	2,584.90	2,584.90	0.34604	0.04194	—	2,606.05
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	1,383.77	1,383.77	0.18524	0.02245	—	1,395.09
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	3,678.89	3,678.89	0.49249	0.05970	—	3,708.99
Total	—	—	—	—	—	—	—	—	—	—	—	—	9,496.95	9,496.95	1.27135	0.15410	—	9,574.66

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.86094	0.93047	15.9026	6.76706	0.10151	1.28574	—	1.28574	1.28574	—	1.28574	—	20,185.6	20,185.6	1.78641	0.03801	—	20,241.6
Apartments Mid Rise	1.55611	0.77805	13.2976	5.65857	0.08488	1.07513	—	1.07513	1.07513	—	1.07513	—	16,879.0	16,879.0	1.49379	0.03178	—	16,925.9
Industrial Park	0.10303	0.05151	0.93662	0.78676	0.00562	0.07118	—	0.07118	0.07118	—	0.07118	—	1,117.55	1,117.55	0.09890	0.00210	—	1,120.65
Strip Mall	0.44139	0.22070	4.01266	3.37063	0.02408	0.30496	—	0.30496	0.30496	—	0.30496	—	4,787.77	4,787.77	0.42372	0.00902	—	4,801.05

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Total	3.96147	1.98073	34.1495	16.5830	0.21608	2.73701	—	2.73701	2.73701	—	2.73701	—	42,969.9	42,969.9	3.80282	0.08091	—	43,089.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.86094	0.93047	15.9026	6.76706	0.10151	1.28574	—	1.28574	1.28574	—	1.28574	—	20,185.6	20,185.6	1.78641	0.03801	—	20,241.6
Apartments Mid Rise	1.55611	0.77805	13.2976	5.65857	0.08488	1.07513	—	1.07513	1.07513	—	1.07513	—	16,879.0	16,879.0	1.49379	0.03178	—	16,925.9
Industrial Park	0.10303	0.05151	0.93662	0.78676	0.00562	0.07118	—	0.07118	0.07118	—	0.07118	—	1,117.55	1,117.55	0.09890	0.00210	—	1,120.65
Strip Mall	0.44139	0.22070	4.01266	3.37063	0.02408	0.30496	—	0.30496	0.30496	—	0.30496	—	4,787.77	4,787.77	0.42372	0.00902	—	4,801.05
Total	3.96147	1.98073	34.1495	16.5830	0.21608	2.73701	—	2.73701	2.73701	—	2.73701	—	42,969.9	42,969.9	3.80282	0.08091	—	43,089.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.33962	0.16981	2.90222	1.23499	0.01852	0.23465	—	0.23465	0.23465	—	0.23465	—	3,341.95	3,341.95	0.29576	0.00629	—	3,351.22
Apartments Mid Rise	0.28399	0.14199	2.42682	1.03269	0.01549	0.19621	—	0.19621	0.19621	—	0.19621	—	2,794.52	2,794.52	0.24731	0.00526	—	2,802.27
Industrial Park	0.01880	0.00940	0.17093	0.14358	0.00103	0.01299	—	0.01299	0.01299	—	0.01299	—	185.023	185.023	0.01637	0.00035	—	185.536
Strip Mall	0.08055	0.04028	0.73231	0.61514	0.00439	0.05566	—	0.05566	0.05566	—	0.05566	—	792.670	792.670	0.07015	0.00149	—	794.869
Total	0.72297	0.36148	6.23229	3.02640	0.03943	0.49951	—	0.49951	0.49951	—	0.49951	—	7,114.16	7,114.16	0.62960	0.01340	—	7,133.90

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	5.81595	2.90797	49.6999	21.1489	0.31723	4.01829	—	4.01829	4.01829	—	4.01829	0.00000	63,085.4	63,085.4	1.18788	0.11879	—	63,150.5
Consumer Products	212.415	212.415	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	35.0142	35.0142	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	50.2320	47.0933	4.00057	444.853	0.02103	0.34556	—	0.34556	0.26142	—	0.26142	—	1,344.50	1,344.50	0.05627	0.01129	—	1,349.27
Total	303.477	297.430	53.7005	466.002	0.33826	4.36385	—	4.36385	4.27971	—	4.27971	0.00000	64,429.9	64,429.9	1.24415	0.13007	—	64,499.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	5.81595	2.90797	49.6999	21.1489	0.31723	4.01829	—	4.01829	4.01829	—	4.01829	0.00000	63,085.4	63,085.4	1.18788	0.11879	—	63,150.5
Consumer Products	212.415	212.415	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	35.0142	35.0142	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	253.245	250.337	49.6999	21.1489	0.31723	4.01829	—	4.01829	4.01829	—	4.01829	0.00000	63,085.4	63,085.4	1.18788	0.11879	—	63,150.5

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01250	0.00625	0.10685	0.04547	0.00068	0.00864	—	0.00864	0.00864	—	0.00864	0.00000	123.045	123.045	0.00232	0.00023	—	123.172
Consumer Products	38.7657	38.7657	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	6.39009	6.39009	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	4.52088	4.23839	0.36005	40.0368	0.00189	0.03110	—	0.03110	0.02353	—	0.02353	—	109.774	109.774	0.00459	0.00092	—	110.163
Total	49.6892	49.4004	0.46691	40.0823	0.00257	0.03974	—	0.03974	0.03217	—	0.03217	0.00000	232.819	232.819	0.00691	0.00115	—	233.335

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	152.135	1,382.04	1,534.17	15.7847	0.39307	—	2,045.92
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	350.916	685.896	1,036.81	36.0742	0.86606	—	2,196.75

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	144.191	245.590	389.781	14.8180	0.35528	—	866.105
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	315.886	560.458	876.343	32.4655	0.77868	—	1,920.03
Total	—	—	—	—	—	—	—	—	—	—	—	963.128	2,873.98	3,837.11	99.1425	2.39309	—	7,028.81
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	152.135	1,382.04	1,534.17	15.7847	0.39307	—	2,045.92
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	350.916	685.896	1,036.81	36.0742	0.86606	—	2,196.75
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	144.191	245.590	389.781	14.8180	0.35528	—	866.105
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	315.886	560.458	876.343	32.4655	0.77868	—	1,920.03
Total	—	—	—	—	—	—	—	—	—	—	—	963.128	2,873.98	3,837.11	99.1425	2.39309	—	7,028.81
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	25.1877	228.812	253.999	2.61334	0.06508	—	338.726
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	58.0981	113.558	171.656	5.97250	0.14339	—	363.698
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	23.8725	40.6603	64.5328	2.45330	0.05882	—	143.393

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	52.2985	92.7902	145.089	5.37503	0.12892	—	317.882
Total	—	—	—	—	—	—	—	—	—	—	—	159.457	475.820	635.277	16.4142	0.39620	—	1,163.70

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1,092.75	0.00000	1,092.75	109.217	0.00000	—	3,823.18
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	1,628.11	0.00000	1,628.11	162.724	0.00000	—	5,696.22
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	217.455	0.00000	217.455	21.7338	0.00000	—	760.801
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1,259.37	0.00000	1,259.37	125.869	0.00000	—	4,406.10
Total	—	—	—	—	—	—	—	—	—	—	—	4,197.69	0.00000	4,197.69	419.544	0.00000	—	14,686.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1,092.75	0.00000	1,092.75	109.217	0.00000	—	3,823.18
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	1,628.11	0.00000	1,628.11	162.724	0.00000	—	5,696.22
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	217.455	0.00000	217.455	21.7338	0.00000	—	760.801
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1,259.37	0.00000	1,259.37	125.869	0.00000	—	4,406.10
Total	—	—	—	—	—	—	—	—	—	—	—	4,197.69	0.00000	4,197.69	419.544	0.00000	—	14,686.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	180.918	0.00000	180.918	18.0821	0.00000	—	632.971
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	269.553	0.00000	269.553	26.9408	0.00000	—	943.074
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	36.0022	0.00000	36.0022	3.59829	0.00000	—	125.959
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	208.503	0.00000	208.503	20.8391	0.00000	—	729.480
Total	—	—	—	—	—	—	—	—	—	—	—	694.976	0.00000	694.976	69.4603	0.00000	—	2,431.48

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.7336	24.7336
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0865	28.0865
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	84.7012	84.7012
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.8608	13.8608
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	151.382	151.382
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.7336	24.7336
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0865	28.0865
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	84.7012	84.7012
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.8608	13.8608
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	151.382	151.382

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.09493	4.09493
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.65004	4.65004
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.0233	14.0233
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.29481	2.29481
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0630	25.0630

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	72,452.0	72,452.0	72,452.0	26,444,980	624,971	624,971	624,971	228,114,415

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Single Family Housing	Wood Fireplaces	0	0
Single Family Housing	Gas Fireplaces	974	974
Single Family Housing	Propane Fireplaces	0	0
Single Family Housing	Electric Fireplaces	0	0

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Single Family Housing	No Fireplaces	797	797
Single Family Housing	Conventional Wood Stoves	0	0
Single Family Housing	Catalytic Wood Stoves	0	0
Single Family Housing	Non-Catalytic Wood Stoves	0	0
Single Family Housing	Pellet Wood Stoves	0	0
Apartments Mid Rise	Wood Fireplaces	0	0
Apartments Mid Rise	Gas Fireplaces	2,247	2,247
Apartments Mid Rise	Propane Fireplaces	0	0
Apartments Mid Rise	Electric Fireplaces	0	0
Apartments Mid Rise	No Fireplaces	1,838	1,838
Apartments Mid Rise	Conventional Wood Stoves	0	0
Apartments Mid Rise	Catalytic Wood Stoves	0	0
Apartments Mid Rise	Non-Catalytic Wood Stoves	0	0
Apartments Mid Rise	Pellet Wood Stoves	0	0
Industrial Park	Wood Fireplaces	0	0
Industrial Park	Gas Fireplaces	0	0
Industrial Park	Propane Fireplaces	0	0
Industrial Park	Electric Fireplaces	0	0
Industrial Park	No Fireplaces	0	0
Industrial Park	Conventional Wood Stoves	0	0
Industrial Park	Catalytic Wood Stoves	0	0

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Industrial Park	Non-Catalytic Wood Stoves	0	0
Industrial Park	Pellet Wood Stoves	0	0
Strip Mall	Wood Fireplaces	0	0
Strip Mall	Gas Fireplaces	0	0
Strip Mall	Propane Fireplaces	0	0
Strip Mall	Electric Fireplaces	0	0
Strip Mall	No Fireplaces	0	0
Strip Mall	Conventional Wood Stoves	0	0
Strip Mall	Catalytic Wood Stoves	0	0
Strip Mall	Non-Catalytic Wood Stoves	0	0
Strip Mall	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
14,934,476	4,978,159	3,826,310	1,275,437	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	180.000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	16,539,801	246.509	0.0330	0.0040	62,984,400
Apartments Mid Rise	23,117,664	246.509	0.0330	0.0040	52,667,139
Industrial Park	12,375,497	246.509	0.0330	0.0040	3,487,047
Strip Mall	32,901,630	246.509	0.0330	0.0040	14,939,129

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	79,392,690	518,975,781
Apartments Mid Rise	183,127,691	45,985,922
Industrial Park	75,247,131	2,220,246
Strip Mall	164,846,915	15,185,117

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	2,027.60	0.00000
Apartments Mid Rise	3,020.96	0.00000
Industrial Park	403.487	0.00000
Strip Mall	2,336.75	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000
Industrial Park	Other commercial A/C and heat pumps	R-410A	2,088.00	0.30000	4.00000	4.00000	18.0000
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.03750	1.000000	0.00000	1.000000
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922.00	0.00040	7.50000	7.50000	20.0000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.4100	annual days of extreme heat
Extreme Precipitation	0.30000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—

Indicator	Result for Project Census Tract
AQ-Ozone	70.2800
AQ-PM	71.1637
AQ-DPM	96.6024
Drinking Water	52.7414
Lead Risk Housing	72.5772
Pesticides	0.00000
Toxic Releases	49.0873
Traffic	95.0125
Effect Indicators	—
CleanUp Sites	50.3173
Groundwater	72.4888
Haz Waste Facilities/Generators	50.1390
Impaired Water Bodies	99.5170
Solid Waste	0.00000
Sensitive Population	—
Asthma	69.3420
Cardio-vascular	90.9521
Low Birth Weights	29.6638
Socioeconomic Factor Indicators	—
Education	92.5209
Housing	92.9404

Indicator	Result for Project Census Tract
Linguistic	99.6211
Poverty	88.7312
Unemployment	99.8829

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	0.744257667
Employed	5.530604389
Median HI	0.333632747
Education	—
Bachelor's or higher	34.49249326
High school enrollment	100
Preschool enrollment	26.78044399
Transportation	—
Auto Access	4.978827153
Active commuting	64.80174516
Social	—
2-parent households	12.53689208
Voting	9.534197357

Indicator	Result for Project Census Tract
Neighborhood	—
Alcohol availability	37.35403567
Park access	81.35506224
Retail density	86.68035416
Supermarket access	72.93725138
Tree canopy	9.508533299
Housing	—
Homeownership	18.58077762
Housing habitability	25.1764404
Low-inc homeowner severe housing cost burden	64.49377647
Low-inc renter severe housing cost burden	12.38290774
Uncrowded housing	27.15257282
Health Outcomes	—
Insured adults	9.008084178
Arthritis	0.0
Asthma ER Admissions	41.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0

Indicator	Result for Project Census Tract
Diagnosed Diabetes	0.0
Life Expectancy at Birth	85.8
Cognitively Disabled	22.1
Physically Disabled	3.2
Heart Attack ER Admissions	6.4
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	73.3
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	6.8
Elderly	27.3
English Speaking	0.3

Indicator	Result for Project Census Tract
Foreign-born	88.7
Outdoor Workers	10.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	18.3
Traffic Density	87.1
Traffic Access	23.0
Other Indices	—
Hardship	98.9
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	96.0000
Healthy Places Index Score for Project Location (b)	3.00000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	El Centro Corridor

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	1,771 low density residential units, 348.82 acres 4,085 medium to high density residential units, 210.98 acres 12.45 acres industrial sites, modeled using 60% lot coverage per Zoning Code 85.15 acres commercial sites, modeled using 60% lot coverage per Zoning Code
Operations: Road Dust	All roads paved

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	575.000	348.820
Lot Area	acre	107.500	210.980
Landscape Area	sq. ft	—	1,838,058
Lot Area	acre	7.47000	37.0000

Model Parameter	Units	Default Value	New Value
Landscape Area	sq. ft	—	108,464
Lot Area	acre	51.0900	85.1500
Landscape Area	sq. ft	—	741,827

8.5. Operations

8.5.1. Mobile Sources

8.5.1.4. Road Dust

Model Parameter	Units	Default Value	New Value
% Paved	%	50.0000	100.0000

ATTACHMENT 3

CalEEMod Output – Buildout (Year 2050) of the Proposed HEU Land Use and Zoning Designations

Calexico HEU - Proposed Rezone Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Calexico HEU - Proposed Rezone
Operational Year	2050
Lead Agency	City of Calexico
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	3.40000
Precipitation (days)	4.80000
Location	Calexico, CA, USA
County	Imperial
City	Calexico
Air District	Imperial County APCD
Air Basin	Salton Sea
TAZ	5612
EDFZ	19
Electric Utility	Imperial Irrigation District
Gas Utility	Southern California Gas
App Version	2022.1.1.45

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	1,694.00	Dwelling Unit	338.730	3,303,300	19,841,580	—	6,031.00	—
Apartments Mid Rise	6,338.00	Dwelling Unit	281.670	6,084,480	2,453,909	—	22,563.0	—
Industrial Park	967.032	1000sqft	37.0000	967,032	322,344	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.3. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	457.887	440.622	247.175	1,802.67	4.43287	11.0005	363.804	374.805	10.8203	92.2003	103.021	5,335.98	580,085	585,421	558.893	21.6426	368.268	606,211
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	390.764	376.388	256.790	916.598	3.98401	10.7249	363.804	374.529	10.6122	92.2003	102.813	5,335.98	535,550	540,886	559.325	22.1158	320.237	561,779

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	411.929	400.119	186.390	1,256.61	3.73987	5.41405	362.683	368.098	5.26810	91.9202	97.1883	5,335.98	468,412	473,748	557.355	21.6821	340.250	494,484
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	75.1771	73.0218	34.0161	229.332	0.68253	0.98806	66.1897	67.1778	0.96143	16.7754	17.7369	883.433	77,551.0	78,434.5	92.2765	3.58972	56.3322	81,867.4
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137.000	137.000	550.000	150.000	—	—	150.000	—	—	550.000	—	—	—	—	—	—	—
Unmit.	—	Yes	Yes	Yes	No	—	—	Yes	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137.000	137.000	550.000	150.000	—	—	150.000	—	—	550.000	—	—	—	—	—	—	—
Unmit.	—	Yes	Yes	Yes	No	—	—	Yes	—	—	No	—	—	—	—	—	—	—

2.4. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	138.648	130.415	135.820	1,256.03	3.73000	2.10119	363.804	365.905	1.98865	92.2003	94.1890	—	380,507	380,507	8.26133	17.6315	49.3100	386,017

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Area	314.739	307.956	72.7282	529.051	0.45739	5.78981	—	5.78981	5.72214	—	5.72214	0.00000	87,918.3	87,918.3	1.68746	0.17452	—	88,012.4
Energy	4.50057	2.25028	38.6264	17.5905	0.24549	3.10948	—	3.10948	3.10948	—	3.10948	—	108,565	108,565	12.3187	1.06142	—	109,190
Water	—	—	—	—	—	—	—	—	—	—	—	1,118.50	3,094.36	4,212.86	115.103	2.77519	—	7,917.45
Waste	—	—	—	—	—	—	—	—	—	—	—	4,217.49	0.00000	4,217.49	421.523	0.00000	—	14,755.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	318.958	318.958
Total	457.887	440.622	247.175	1,802.67	4.43287	11.0005	363.804	374.805	10.8203	92.2003	103.021	5,335.98	580,085	585,421	558.893	21.6426	368.268	606,211
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	120.812	112.675	149.996	870.000	3.30341	2.10397	363.804	365.908	1.99132	92.2003	94.1917	—	337,363	337,363	8.75064	18.1162	1.27876	342,982
Area	265.452	261.463	68.1676	29.0075	0.43511	5.51142	—	5.51142	5.51142	—	5.51142	0.00000	86,527.0	86,527.0	1.62928	0.16293	—	86,616.2
Energy	4.50057	2.25028	38.6264	17.5905	0.24549	3.10948	—	3.10948	3.10948	—	3.10948	—	108,565	108,565	12.3187	1.06142	—	109,190
Water	—	—	—	—	—	—	—	—	—	—	—	1,118.50	3,094.36	4,212.86	115.103	2.77519	—	7,917.45
Waste	—	—	—	—	—	—	—	—	—	—	—	4,217.49	0.00000	4,217.49	421.523	0.00000	—	14,755.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	318.958	318.958
Total	390.764	376.388	256.790	916.598	3.98401	10.7249	363.804	374.529	10.6122	92.2003	102.813	5,335.98	535,550	540,886	559.325	22.1158	320.237	561,779
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	125.554	117.419	144.711	992.084	3.47827	2.10236	362.683	364.786	1.98977	91.9202	93.9099	—	355,047	355,047	8.36256	17.8379	21.2918	360,593
Area	281.874	280.450	3.05212	246.938	0.01611	0.20222	—	0.20222	0.16884	—	0.16884	0.00000	1,705.48	1,705.48	0.04789	0.00764	—	1,708.95
Energy	4.50057	2.25028	38.6264	17.5905	0.24549	3.10948	—	3.10948	3.10948	—	3.10948	—	108,565	108,565	12.3187	1.06142	—	109,190
Water	—	—	—	—	—	—	—	—	—	—	—	1,118.50	3,094.36	4,212.86	115.103	2.77519	—	7,917.45
Waste	—	—	—	—	—	—	—	—	—	—	—	4,217.49	0.00000	4,217.49	421.523	0.00000	—	14,755.6

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	318.958	318.958
Total	411.929	400.119	186.390	1,256.61	3.73987	5.41405	362.683	368.098	5.26810	91.9202	97.1883	5,335.98	468,412	473,748	557.355	21.6821	340.250	494,484
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	22.9137	21.4290	26.4098	181.055	0.63479	0.38368	66.1897	66.5734	0.36313	16.7754	17.1386	—	58,782.1	58,782.1	1.38452	2.95326	3.52510	59,700.3
Area	51.4421	51.1821	0.55701	45.0662	0.00294	0.03690	—	0.03690	0.03081	—	0.03081	0.00000	282.362	282.362	0.00793	0.00126	—	282.937
Energy	0.82135	0.41068	7.04932	3.21026	0.04480	0.56748	—	0.56748	0.56748	—	0.56748	—	17,974.2	17,974.2	2.03950	0.17573	—	18,077.6
Water	—	—	—	—	—	—	—	—	—	—	—	185.180	512.307	697.487	19.0567	0.45946	—	1,310.82
Waste	—	—	—	—	—	—	—	—	—	—	—	698.253	0.00000	698.253	69.7879	0.00000	—	2,442.95
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	52.8071	52.8071
Total	75.1771	73.0218	34.0161	229.332	0.68253	0.98806	66.1897	67.1778	0.96143	16.7754	17.7369	883.433	77,551.0	78,434.5	92.2765	3.58972	56.3322	81,867.4

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	10,684.8	10,684.8	1.43036	0.17338	—	10,772.2
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	24,223.9	24,223.9	3.24284	0.39307	—	24,422.1
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	24,839.1	24,839.1	3.32519	0.40305	—	25,042.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	59,747.8	59,747.8	7.99839	0.96950	—	60,236.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	10,684.8	10,684.8	1.43036	0.17338	—	10,772.2
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	24,223.9	24,223.9	3.24284	0.39307	—	24,422.1
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	24,839.1	24,839.1	3.32519	0.40305	—	25,042.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	59,747.8	59,747.8	7.99839	0.96950	—	60,236.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,768.99	1,768.99	0.23681	0.02870	—	1,783.46

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	4,010.55	4,010.55	0.53689	0.06508	—	4,043.36
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	4,112.40	4,112.40	0.55052	0.06673	—	4,146.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	9,891.93	9,891.93	1.32422	0.16051	—	9,972.87

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.78003	0.89002	15.2112	6.47284	0.09709	1.22984	—	1.22984	1.22984	—	1.22984	—	19,307.9	19,307.9	1.70874	0.03636	—	19,361.5
Apartments Mid Rise	2.41435	1.20717	20.6317	8.77944	0.13169	1.66809	—	1.66809	1.66809	—	1.66809	—	26,188.3	26,188.3	2.31766	0.04931	—	26,261.0
Industrial Park	0.30619	0.15309	2.78354	2.33817	0.01670	0.21155	—	0.21155	0.21155	—	0.21155	—	3,321.23	3,321.23	0.29393	0.00625	—	3,330.44
Total	4.50057	2.25028	38.6264	17.5905	0.24549	3.10948	—	3.10948	3.10948	—	3.10948	—	48,817.5	48,817.5	4.32033	0.09192	—	48,952.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.78003	0.89002	15.2112	6.47284	0.09709	1.22984	—	1.22984	1.22984	—	1.22984	—	19,307.9	19,307.9	1.70874	0.03636	—	19,361.5

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Apartments Mid Rise	2.41435	1.20717	20.6317	8.77944	0.13169	1.66809	—	1.66809	1.66809	—	1.66809	—	26,188.3	26,188.3	2.31766	0.04931	—	26,261.0
Industrial Park	0.30619	0.15309	2.78354	2.33817	0.01670	0.21155	—	0.21155	0.21155	—	0.21155	—	3,321.23	3,321.23	0.29393	0.00625	—	3,330.44
Total	4.50057	2.25028	38.6264	17.5905	0.24549	3.10948	—	3.10948	3.10948	—	3.10948	—	48,817.5	48,817.5	4.32033	0.09192	—	48,952.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.32486	0.16243	2.77604	1.18129	0.01772	0.22445	—	0.22445	0.22445	—	0.22445	—	3,196.65	3,196.65	0.28290	0.00602	—	3,205.52
Apartments Mid Rise	0.44062	0.22031	3.76528	1.60225	0.02403	0.30443	—	0.30443	0.30443	—	0.30443	—	4,335.78	4,335.78	0.38371	0.00816	—	4,347.80
Industrial Park	0.05588	0.02794	0.50800	0.42672	0.00305	0.03861	—	0.03861	0.03861	—	0.03861	—	549.867	549.867	0.04866	0.00104	—	551.392
Total	0.82135	0.41068	7.04932	3.21026	0.04480	0.56748	—	0.56748	0.56748	—	0.56748	—	8,082.30	8,082.30	0.71528	0.01522	—	8,104.71

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	7.97706	3.98853	68.1676	29.0075	0.43511	5.51142	—	5.51142	5.51142	—	5.51142	0.00000	86,527.0	86,527.0	1.62928	0.16293	—	86,616.2

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Consumer Products	221.593	221.593	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	35.8815	35.8815	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	49.2871	46.4933	4.56058	500.043	0.02227	0.27839	—	0.27839	0.21071	—	0.21071	—	1,391.30	1,391.30	0.05818	0.01159	—	1,396.21
Total	314.739	307.956	72.7282	529.051	0.45739	5.78981	—	5.78981	5.72214	—	5.72214	0.00000	87,918.3	87,918.3	1.68746	0.17452	—	88,012.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	7.97706	3.98853	68.1676	29.0075	0.43511	5.51142	—	5.51142	5.51142	—	5.51142	0.00000	86,527.0	86,527.0	1.62928	0.16293	—	86,616.2
Consumer Products	221.593	221.593	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	35.8815	35.8815	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	265.452	261.463	68.1676	29.0075	0.43511	5.51142	—	5.51142	5.51142	—	5.51142	0.00000	86,527.0	86,527.0	1.62928	0.16293	—	86,616.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01715	0.00858	0.14656	0.06237	0.00094	0.01185	—	0.01185	0.01185	—	0.01185	0.00000	168.766	168.766	0.00318	0.00032	—	168.941
Consumer Products	40.4407	40.4407	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	6.54838	6.54838	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Landscape Equipment	4.43584	4.18440	0.41045	45.0039	0.00200	0.02505	—	0.02505	0.01896	—	0.01896	—	113.595	113.595	0.00475	0.00095	—	113.996
Total	51.4421	51.1821	0.55701	45.0662	0.00294	0.03690	—	0.03690	0.03081	—	0.03081	0.00000	282.362	282.362	0.00793	0.00126	—	282.937

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	145.521	1,321.95	1,467.47	15.0984	0.37598	—	1,956.97
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	544.456	1,042.55	1,587.01	55.9673	1.34337	—	3,386.51
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	428.520	729.867	1,158.39	44.0376	1.05584	—	2,573.97
Total	—	—	—	—	—	—	—	—	—	—	—	1,118.50	3,094.36	4,212.86	115.103	2.77519	—	7,917.45
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	145.521	1,321.95	1,467.47	15.0984	0.37598	—	1,956.97

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	544.456	1,042.55	1,587.01	55.9673	1.34337	—	3,386.51
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	428.520	729.867	1,158.39	44.0376	1.05584	—	2,573.97
Total	—	—	—	—	—	—	—	—	—	—	—	1,118.50	3,094.36	4,212.86	115.103	2.77519	—	7,917.45
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	24.0926	218.863	242.956	2.49972	0.06225	—	323.999
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	90.1410	172.606	262.747	9.26603	0.22241	—	560.676
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	70.9464	120.838	191.784	7.29092	0.17481	—	426.150
Total	—	—	—	—	—	—	—	—	—	—	—	185.180	512.307	697.487	19.0567	0.45946	—	1,310.82

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1,045.27	0.00000	1,045.27	104.471	0.00000	—	3,657.03
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	2,525.97	0.00000	2,525.97	252.461	0.00000	—	8,837.50
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	646.252	0.00000	646.252	64.5906	0.00000	—	2,261.02
Total	—	—	—	—	—	—	—	—	—	—	—	4,217.49	0.00000	4,217.49	421.523	0.00000	—	14,755.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1,045.27	0.00000	1,045.27	104.471	0.00000	—	3,657.03
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	2,525.97	0.00000	2,525.97	252.461	0.00000	—	8,837.50
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	646.252	0.00000	646.252	64.5906	0.00000	—	2,261.02
Total	—	—	—	—	—	—	—	—	—	—	—	4,217.49	0.00000	4,217.49	421.523	0.00000	—	14,755.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	173.056	0.00000	173.056	17.2963	0.00000	—	605.463
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	418.203	0.00000	418.203	41.7979	0.00000	—	1,463.15

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	106.994	0.00000	106.994	10.6937	0.00000	—	374.337
Total	—	—	—	—	—	—	—	—	—	—	—	698.253	0.00000	698.253	69.7879	0.00000	—	2,442.95

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.6582	23.6582
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	43.5771	43.5771
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	251.723	251.723
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	318.958	318.958
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.6582	23.6582

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	43.5771	43.5771
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	251.723	251.723
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	318.958	318.958
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.91689	3.91689
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.21468	7.21468
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	41.6756	41.6756
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	52.8071	52.8071

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	59,657.0	59,657.0	59,657.0	21,774,805	514,601	514,601	514,601	187,829,365

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Single Family Housing	Wood Fireplaces	0	0
Single Family Housing	Gas Fireplaces	932	932

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Single Family Housing	Propane Fireplaces	0	0
Single Family Housing	Electric Fireplaces	0	0
Single Family Housing	No Fireplaces	762	762
Single Family Housing	Conventional Wood Stoves	0	0
Single Family Housing	Catalytic Wood Stoves	0	0
Single Family Housing	Non-Catalytic Wood Stoves	0	0
Single Family Housing	Pellet Wood Stoves	0	0
Apartments Mid Rise	Wood Fireplaces	0	0
Apartments Mid Rise	Gas Fireplaces	3,486	3,486
Apartments Mid Rise	Propane Fireplaces	0	0
Apartments Mid Rise	Electric Fireplaces	0	0
Apartments Mid Rise	No Fireplaces	2,852	2,852
Apartments Mid Rise	Conventional Wood Stoves	0	0
Apartments Mid Rise	Catalytic Wood Stoves	0	0
Apartments Mid Rise	Non-Catalytic Wood Stoves	0	0
Apartments Mid Rise	Pellet Wood Stoves	0	0
Industrial Park	Wood Fireplaces	0	0
Industrial Park	Gas Fireplaces	0	0
Industrial Park	Propane Fireplaces	0	0
Industrial Park	Electric Fireplaces	0	0
Industrial Park	No Fireplaces	0	0

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Industrial Park	Conventional Wood Stoves	0	0
Industrial Park	Catalytic Wood Stoves	0	0
Industrial Park	Non-Catalytic Wood Stoves	0	0
Industrial Park	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
19,010,255	6,336,752	1,450,548	483,516	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	180.000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	15,820,679	246.509	0.0330	0.0040	60,245,948
Apartments Mid Rise	35,867,749	246.509	0.0330	0.0040	81,714,645

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Industrial Park	36,778,608	246.509	0.0330	0.0040	10,363,118

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	75,940,834	496,411,617
Apartments Mid Rise	284,128,103	61,393,747
Industrial Park	223,626,150	6,598,346

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	1,939.49	0.00000
Apartments Mid Rise	4,686.93	0.00000
Industrial Park	1,199.12	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000
Industrial Park	Other commercial A/C and heat pumps	R-410A	2,088.00	0.30000	4.00000	4.00000	18.0000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.4100	annual days of extreme heat

Climate Hazard	Result for Project Location	Unit
Extreme Precipitation	0.30000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	70.2800
AQ-PM	71.1637
AQ-DPM	96.6024
Drinking Water	52.7414
Lead Risk Housing	72.5772
Pesticides	0.00000
Toxic Releases	49.0873
Traffic	95.0125
Effect Indicators	—
CleanUp Sites	50.3173
Groundwater	72.4888
Haz Waste Facilities/Generators	50.1390
Impaired Water Bodies	99.5170
Solid Waste	0.00000
Sensitive Population	—
Asthma	69.3420
Cardio-vascular	90.9521
Low Birth Weights	29.6638
Socioeconomic Factor Indicators	—

Indicator	Result for Project Census Tract
Education	92.5209
Housing	92.9404
Linguistic	99.6211
Poverty	88.7312
Unemployment	99.8829

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	0.744257667
Employed	5.530604389
Median HI	0.333632747
Education	—
Bachelor's or higher	34.49249326
High school enrollment	100
Preschool enrollment	26.78044399
Transportation	—
Auto Access	4.978827153
Active commuting	64.80174516
Social	—

Indicator	Result for Project Census Tract
2-parent households	12.53689208
Voting	9.534197357
Neighborhood	—
Alcohol availability	37.35403567
Park access	81.35506224
Retail density	86.68035416
Supermarket access	72.93725138
Tree canopy	9.508533299
Housing	—
Homeownership	18.58077762
Housing habitability	25.1764404
Low-inc homeowner severe housing cost burden	64.49377647
Low-inc renter severe housing cost burden	12.38290774
Uncrowded housing	27.15257282
Health Outcomes	—
Insured adults	9.008084178
Arthritis	0.0
Asthma ER Admissions	41.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0

Indicator	Result for Project Census Tract
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	85.8
Cognitively Disabled	22.1
Physically Disabled	3.2
Heart Attack ER Admissions	6.4
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	73.3
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	6.8

Indicator	Result for Project Census Tract
Elderly	27.3
English Speaking	0.3
Foreign-born	88.7
Outdoor Workers	10.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	18.3
Traffic Density	87.1
Traffic Access	23.0
Other Indices	—
Hardship	98.9
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	96.0000
Healthy Places Index Score for Project Location (b)	3.00000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	El Centro Corridor

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	1,694 low density residential units, 338.73 acres 6,338 medium to high density residential units, 281.67 acres 37 acre industrial site (Bowker Site), modeled using 60% lot coverage per Zoning Code
Operations: Road Dust	All roads paved

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	550.000	338.730
Lot Area	acre	166.789	281.670

Model Parameter	Units	Default Value	New Value
Landscape Area	sq. ft	—	2,453,909
Lot Area	acre	22.2000	37.0000
Landscape Area	sq. ft	—	322,344

8.5. Operations

8.5.1. Mobile Sources

8.5.1.4. Road Dust

Model Parameter	Units	Default Value	New Value
% Paved	%	50.0000	100.0000

Appendix H

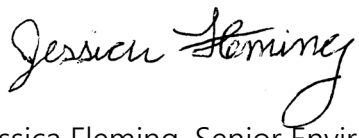
Noise Technical Report

Noise Analysis for the City of Calexico Housing Element Update Calexico, California

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RECON Number 10790
September 9, 2026



Jessica Fleming, Senior Environmental Specialist
Noise, Air Quality, and Greenhouse Gas

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2: Intersection Turning Volumes
3: FHWA RD-77-108 – Vehicle Traffic Noise
4: CREATE Railroad Noise Calculations

Acronyms and Abbreviations

AAC	All-American Canal
ALUC	Airport Land Use Commission
ALUCP	airport land use compatibility plan
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
City	City of Calexico
CNEL	community noise equivalent level
CREATE	Chicago Rail Efficiency and Transportation Efficiency
dB	decibel
dB(A)	A-weighted decibel
DOT	Department of Transportation
FHWA	Federal Highway Administration
FICON	Federal Interagency Committee on Noise
FTA	Federal Transit Administration
HEU	Housing Element Update
Hz	hertz
HVAC	heating, ventilation, and air conditioning
in/sec	inches per second
L_{dn}	day-night noise level
L_{eq}	one-hour equivalent noise level
L_{pw}	sound power level
mph	miles per hour
PPV	peak particle velocity
project	Calexico Housing Element Update
REMEL	Reference Energy Mean Emission Level
RHNA	Regional Housing Needs Allocation
SCAG	Southern California Association of Governments
SR-98	State Route 98
SR-111	State Route 111
U.S.	United States
VdB	vibration decibel

1.0 Introduction

This report analyzes potential noise impacts associated with buildout of the future development that could occur under the proposed City of Calexico (City) Housing Element Update (HEU, project). Specifically, this analysis addresses potential noise impacts related to compliance with applicable noise ordinance standards, generation of groundborne noise and vibration, temporary and permanent increases in ambient noise levels, and airport noise. Impacts are assessed in accordance with standards established in the City's General Plan Noise Element and the City's Municipal Code.

1.1 Fundamentals of Noise

Sound levels are described in units called the decibel (dB). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3 dB decrease.

Additionally, in technical terms, sound levels are described as either a "sound power level" or a "sound pressure level," which while commonly confused, are two distinct characteristics of sound. Both share the same unit of measure, the dB. However, sound power, expressed as L_{pw}, is the energy converted into sound by the source. The L_{pw} is used to estimate how far a noise will travel and to predict the sound levels at various distances from the source. As sound energy travels through the air, it creates a sound wave that exerts pressure on receivers such as an eardrum or microphone and is the sound pressure level. Noise measurement instruments only measure sound pressure, and noise level limits used in standards are generally sound pressure levels.

The human ear is not equally sensitive to all frequencies within the sound spectrum. To accommodate this phenomenon, the A-scale, which approximates the frequency response of the average young ear when listening to most ordinary everyday sounds, was devised. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Therefore, the "A-weighted" noise scale is used for measurements and standards involving the human perception of noise. Noise levels using A-weighted measurements are designated with the notation dB(A).

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors has been developed. The noise descriptors used for this study are the one-hour equivalent noise level (L_{eq}), the community noise equivalent level (CNEL), and the sound exposure level. The CNEL is a 24-hour equivalent sound level. The CNEL calculation applies an additional 5 dB(A) penalty to noise occurring during evening hours, between 7:00 p.m. and 10:00 p.m., and an additional 10 dB(A) penalty is added to noise occurring during the night, between 10:00 p.m. and 7:00 a.m. These increases for certain times are intended to account for the added sensitivity of humans to noise during the evening and night. Similar to the CNEL, the day-night noise level (L_{dn}) adds a 10 dB(A) penalty to nighttime noise but does not add a penalty to evening noise. By definition, L_{dn} is always less than or equal to CNEL, and

the two descriptors usually agree within one decibel. In the context of noise sources discussed in this analysis, L_{dn} and CNEL can be considered synonymous and functionally interchangeable. The sound exposure level is a noise level over a stated period of time or event and normalized to one second. Sound from a small, localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The sound level decreases or drops off at a rate of 6 dB(A) for each doubling of the distance.

Traffic noise is not a single, stationary point source of sound. The movement of vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point when viewed over some time interval. The drop-off rate for a line source is 3 dB(A) for each doubling of distance.

The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site (such as parking lots or smooth bodies of water) receives no additional ground attenuation, and the changes in noise levels with distance (drop-off rate) are simply the geometric spreading of the source. A soft site (such as soft dirt, grass, or scattered bushes and trees) receives an additional ground attenuation value of 1.5 dB(A) per doubling of distance. Thus, a point source over a soft site would attenuate at 7.5 dB(A) per doubling of distance.

Human perception of noise has no simple correlation with acoustical energy. A change in noise levels is generally perceived as follows: 3 dB(A) barely perceptible, 5 dB(A) readily perceptible, and 10 dB(A) perceived as a doubling or halving of noise (California Department of Transportation [Caltrans] 2013).

1.2 Fundamentals of Vibration

Vibration consists of energy waves transmitted through solid material. Groundborne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may be composed of a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in hertz (Hz). The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz (Federal Transit Administration [FTA] 2018).

Vibration energy spreads out as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. Instantaneous groundborne vibration is measured by its peak particle velocity. The peak particle velocity is normally described in inches per second. Excessive groundborne vibration has the potential to result in structural damage.

Continued vibration of building components can also take the form of an audible, low-frequency, rumbling noise, which is referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz), or when foundations or utilities, such as sewer and water pipes, connect the structure and the vibration source.

2.0 Project Description

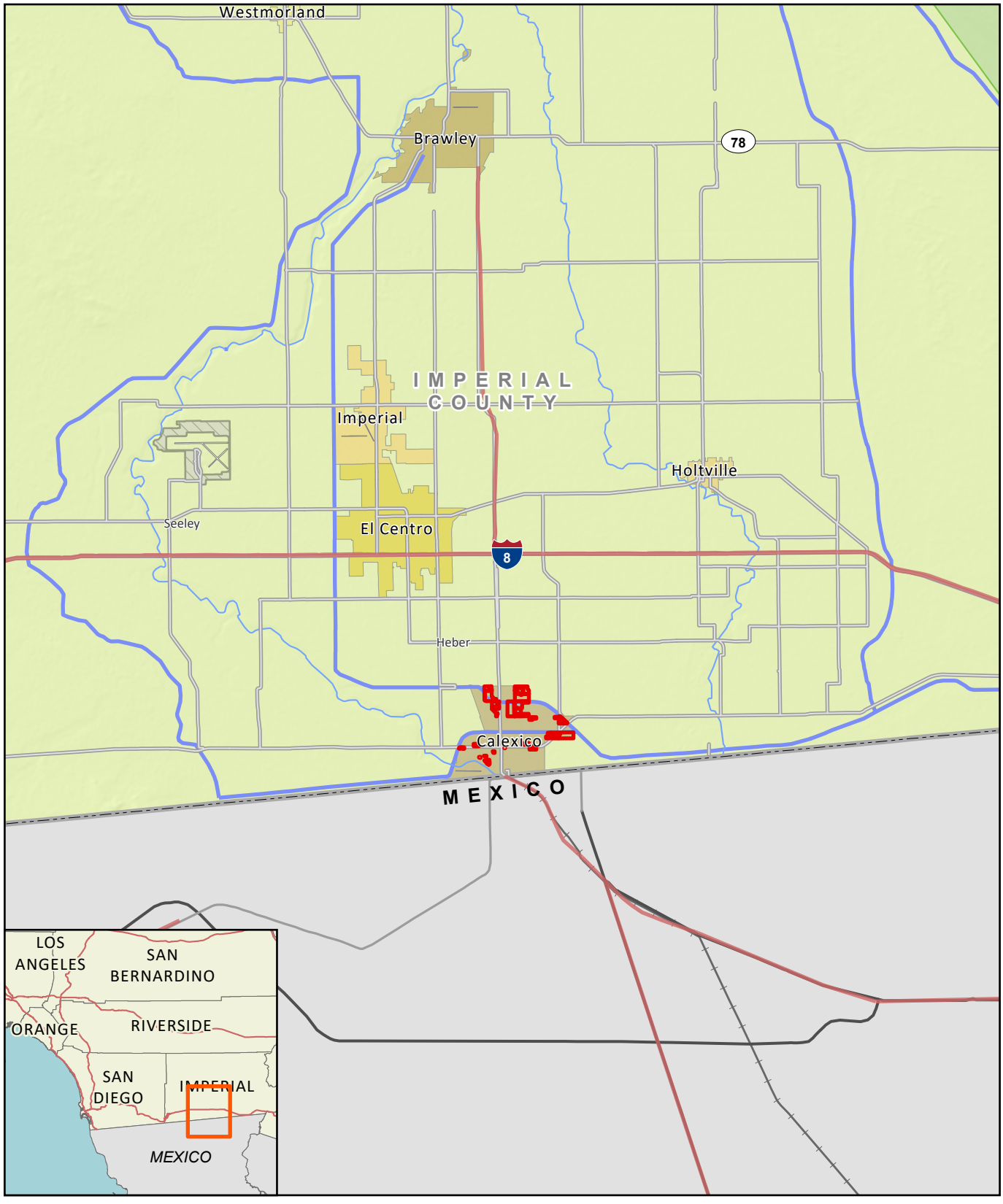
This programmatic noise report analyzes potentially significant impacts related to noise that could result from implementation of the City HEU. This report summarizes the existing noise conditions and regulatory framework, calculation methodology and results, and recommended mitigation measures. The City is implementing its 6th Cycle 2021–2029 Housing Element, a state-mandated update designed to accommodate a Regional Housing Needs Allocation (RHNA) through strategic rezoning, upzoning, and General Plan amendments. This programmatic noise report provides the necessary environmental analysis to support future development of the project's "By-Right Development Sites", primarily vacant or underutilized parcels that meet specific state criteria for streamlined approval; and "Discretionary Development Sites", requiring further amendments to the General Plan and Zoning Code to enable residential development.

This report is being prepared to support the California Environmental Quality Act (CEQA) document for this project, which is a program-level environmental impact report. The impact analysis provided in this report is a program-level analysis, consistent with Section 15168 of the CEQA Guidelines. It follows standards established in the City's General Plan Noise Element and the City's Municipal Code.

2.1 Project Location

The project is located within the city of Calexico, California, and lies approximately 4.50 miles south of Interstate 8 and 0.45 miles north of the United States (U.S.)/Mexico international border in southern Imperial County, California (Figure 1).

The project identifies 54 parcels throughout the City, including 49 By-Right Development Sites and 5 Discretionary Development Sites, and is generally bounded by development, agricultural land, and canals to the north, east, and west, and the New River and the U.S./Mexico border to the south (Figure 2). The By-Right Development Sites and Discretionary Development Sites consist of vacant, underdeveloped, and developed parcels throughout the City.



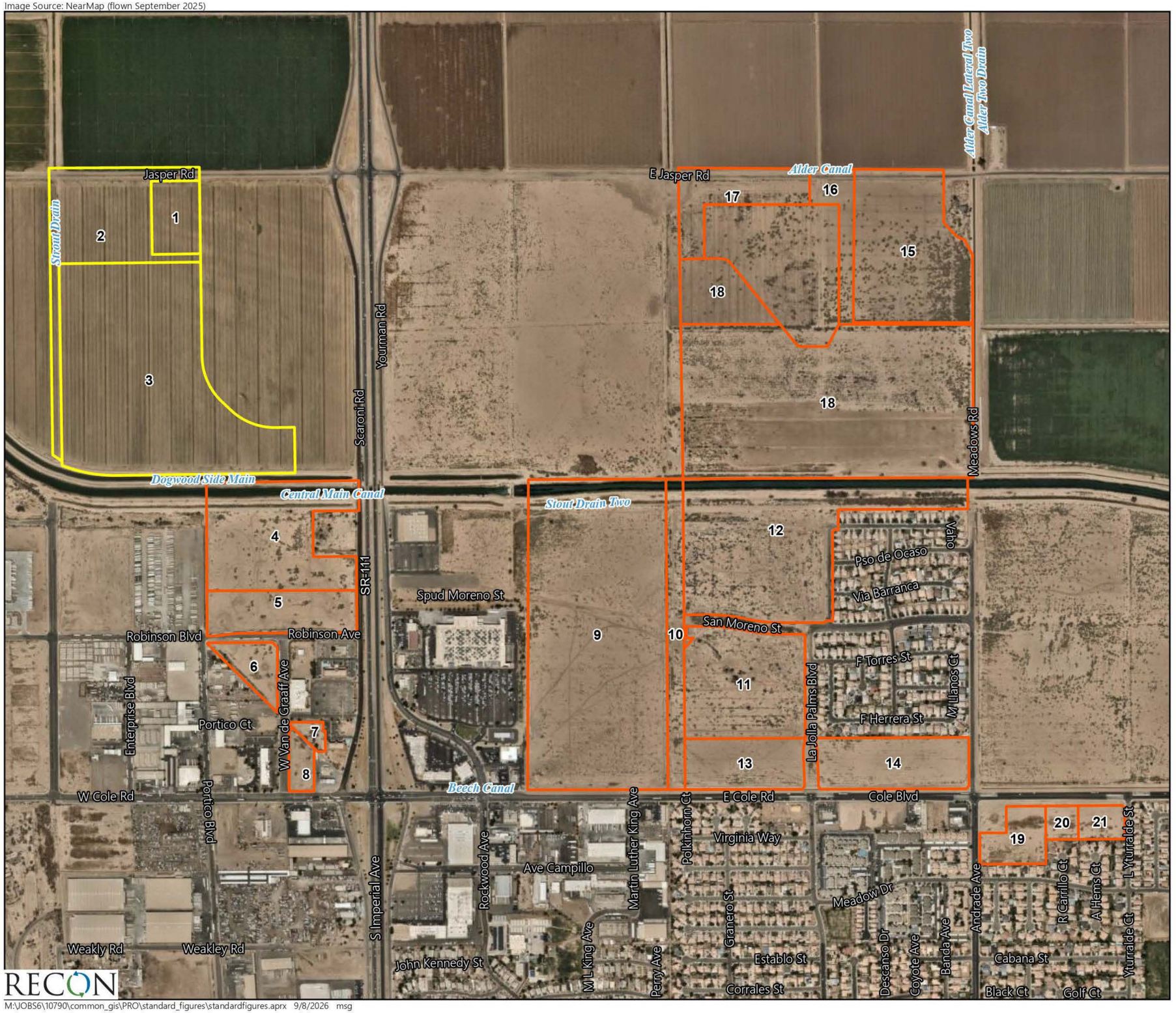
Project Sites

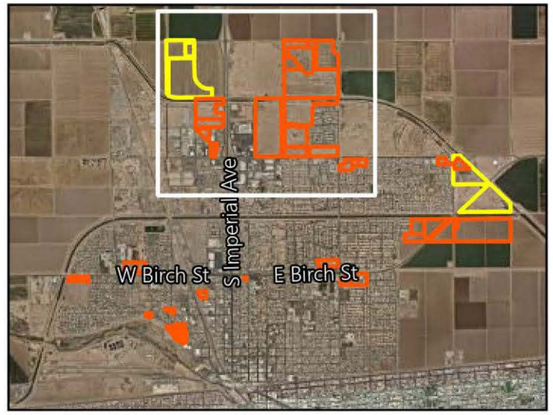
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FIGURE 1
Regional Location

Image Source: NearMap (flown September 2025)





By-Right Development Sites

Discretionary Development Sites

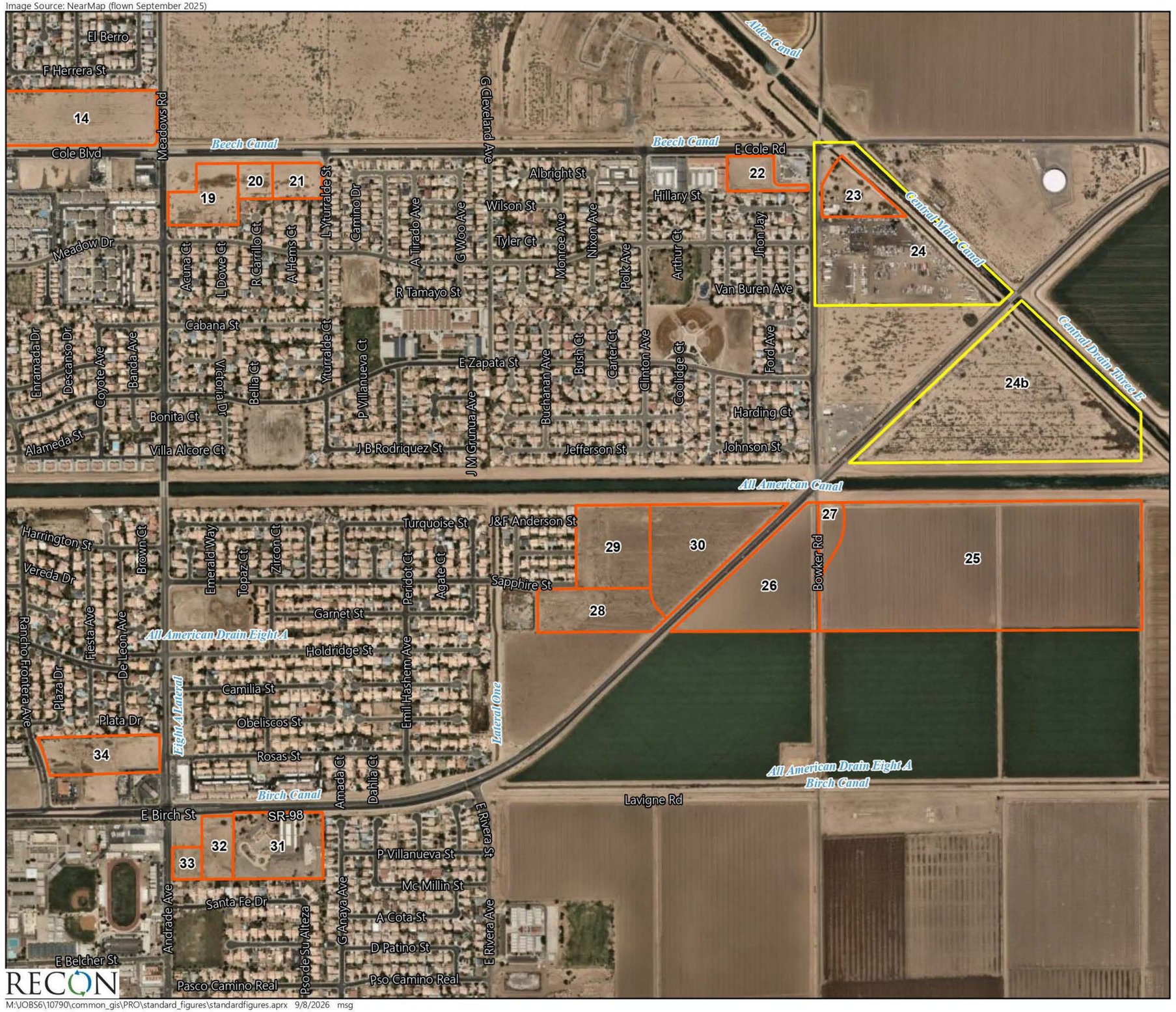
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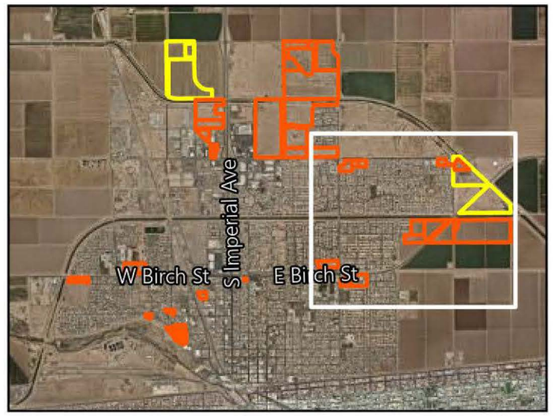
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FIGURE 2-1
Project Location on Aerial Photograph

Image Source: NearMap (flown September 2025)





By-Right Development Sites

Discretionary Development Sites

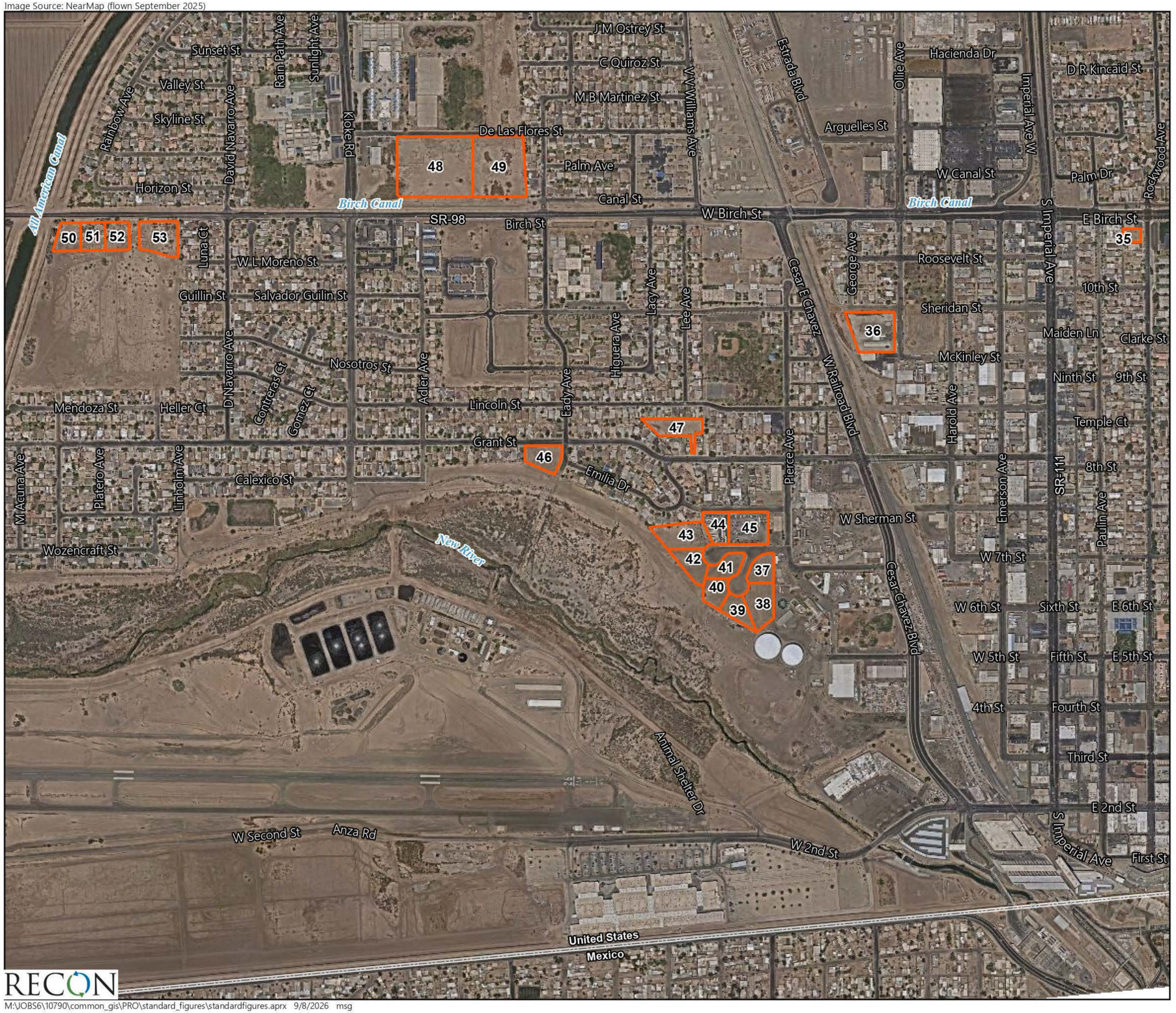
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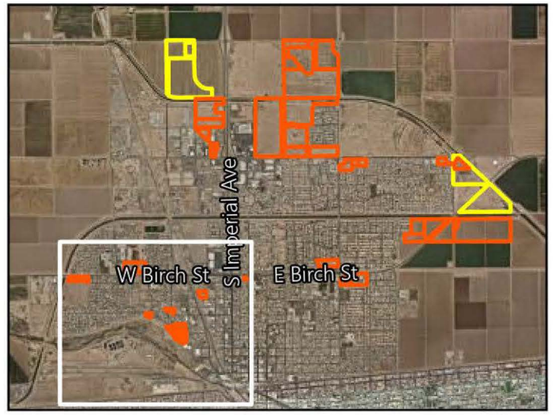
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FIGURE 2-2
Project Location on Aerial Photograph

Image Source: NearMap (flown September 2025)





By-Right Development Sites

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FIGURE 2-3
Project Location on Aerial Photograph

2.2 Project Background and Description

This section introduces the objectives of the project and summarizes specific information describing the project. This includes a description of the project characteristics, including the City's housing site inventory, rezone sites, and associated discretionary actions. These aspects of the project provide the basis for the impact analysis provided in Section 7.0. This project description is intended to provide the level of detail necessary to evaluate potential environmental effects of the Housing Element implementation at a programmatic level.

2.2.1 Project Background

The Housing Element is one of the state-mandated elements of the General Plan. It identifies the City's housing conditions and needs, and establishes the goals, objectives, and policies that comprise the City's housing strategy to accommodate projected housing needs. State law requires that housing elements be updated every eight years (California Government Code Sections 65580 to 65589.8). Calexico's Housing Element was last adopted in January 2014 for the 5th Cycle of the 2014–2021 planning period. In accordance with state law, the City has prepared the 6th Cycle 2021–2029 Housing Element to address the housing needs of all types of households and income levels for current and future Calexico residents.

The California Department of Housing and Community Development is required to prepare an RHNA for each Council of Governments in the state that identifies projected housing units needed for all economic segments based on Department of Finance population estimates. The Southern California Association of Governments (SCAG) is responsible for preparing the RHNA for all jurisdictions within the SCAG region, in which Calexico is a member agency. The Housing Element includes goals, policies, and implementation programs identified to help the City meet its 6th Cycle RHNA.

2.2.2 Project Description

Consistent with CEQA Guidelines Section 15168, this air quality report provides a programmatic analysis of the environmental impacts associated with implementation of the project components: (1) the City's 6th Cycle 2021–2029 Housing Element; (2) associated General Plan Amendments, including the corresponding consistency updates to the City Land Use Element; (3) Zoning Ordinance Amendments to implement by-right housing per the Housing Element; and (4) rezoning the Bowker Site, Assessor's Parcel Number 059-180-029, from Residential Condominium to Industrial, as later discussed in this section.

The 6th Cycle Housing Element Sites Inventory identifies suitable sites throughout the City that can accommodate the required housing capacity set forth by the City's RHNA. The Housing Element identifies 53 sites throughout the City with the capacity to accommodate the RHNA, as shown in Figure 2. These 53 sites in the inventory will have changes made to zoning or applied General Plan land use designation as a result of the project. There are 35 rezone sites, inclusive of the Bowker site (see below), with four of those considered upzones. The housing sites are categorized into By-Right Development Sites and Discretionary Development Sites. These terms are defined in Section 2.2.2.2, Eligible By-Right Development Sites, and Section 2.2.2.3, Discretionary Development Sites, below.

This analysis assumes full implementation of the Housing Element rezoning program and associated development by 2050.

2.2.2.1 Bowker Rezone Site

Site 24b is a Discretionary Development Site proposed to rezone from Residential Condominium to Industrial (Assessor's Parcel Number 059-180-029). The site is bounded to the northwest by State Route 98 (SR-98), the All-American Canal (AAC) to the south, and the AAC Central Drain Three E to the northeast. While the site was previously zoned for housing, upon further evaluation, the City has determined this site is a poor location for residential and better suited for industrial for the following reasons: the site is physically isolated by SR-98 and the AAC, thus disconnecting the site from public services, including parks and schools, and; the site's boundaries would create emergency access and vehicle miles traveled concerns. Furthermore, the City plans to foster industrial development east of the site to leverage the international commercial port of entry with Mexico located approximately six miles due east of the site, and to limit truck traffic through residential areas of the City by limiting new industrial development on the west side of the City. As such, the site is better suited for industrial or commercial development. Because the Housing Element identifies a surplus of housing sites to meet the City's RHNA, this rezone is considered appropriate given the geographical context of the site. This site is referred to in this document as the Bowker Site.

2.2.2.1 Eligible By-Right Development Sites

By-Right Development Sites refer to sites that are subject to ministerial processing and not subject to discretionary review by the City, and no review is required under CEQA per Cal. Gov. Code, § 65583.2(i). Ministerial processing involves little or no personal judgment by the City as to the wisdom or manner of carrying out the project. The City merely ensures that the proposed development meets all objective standards without using special discretion or judgment. By-Right Development Sites do not require a public hearing.

As shown in Figures 2-1 through 2-3, the 49 Eligible By-Right Development Sites include sites: 4 through 23 and 25 through 53. The Housing Element establishes the following criteria as pathways for By-Right Development Sites:

1. **5th Housing Cycle sites:** Sites identified in the City's 6th Cycle Housing Element that were also included in the City's 5th Cycle Housing Element sites inventory to accommodate a portion of the RHNA. This criteria goes above and beyond what is legally required for by-right processing of prior cycle housing sites.

2. **Qualified residential sites:** Sites zoned for Residential Condominium (RC) or Residential Apartment (RA), less than ten (10) gross net buildable acres, with existing adequate access to infrastructure, public right-of-way, and public services.

Additionally, per Housing Element Program 2E, the City will permit residential uses by-right for housing development in which at least 20 percent of the units are affordable to lower-income households for sites that:

- Are non-vacant and identified in the prior planning period; or
- Vacant sites included in two or more consecutive planning periods.

2.2.2.2 Discretionary Development Sites

Discretionary Development Sites refer to sites that are subject to discretionary processing where the City has the discretion to approve, modify, or deny a project based on personal judgment. Projects subject to discretionary processing may be subject to CEQA, and the discretionary review process for multi-family projects and subdivisions may require a public hearing.

As shown in Figures 2-1 through 2-3, the 5 Discretionary Development Sites include sites 1, 2, 3, and 24 (24a and 24b). The Housing Element establishes Discretionary Development Sites as greater than ten (10) net buildable acres, for which zoning amendments are proposed to allow residential or mixed-use development at densities sufficient to meet RHNA requirements. These sites may currently be designated for commercial, mixed-use, or other non-residential uses, or have limited or no access to infrastructure and right-of-way.

3.0 Applicable Standards

3.1 Federal

3.1.1 Construction

The FTA Transit Noise and Vibration Impact Assessment Manual (FTA 2018) recommends a daytime construction noise level threshold of 80 dB(A) $L_{eq(8)}$ when detailed construction noise assessments are performed to evaluate potential impacts to community residences surrounding a project. Although this guidance is not a regulation, it can serve as a quantified standard in absence of such limits at the state and local jurisdiction levels.

3.1.2 Vibration

The FTA provides criteria for acceptable levels of groundborne vibration for various types of buildings. Structures amplify groundborne vibration; wood-frame buildings, such as typical residential structures, are more affected by ground vibration than heavier buildings. The level at which groundborne vibration is strong enough to cause architectural damage has not been determined conclusively, but the standards recommended by the FTA are shown in Table 1.

Table 1 Construction Vibration Damage Criteria		
Building/Structural Category	PPV (in/sec)	Approximate VdB
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90
SOURCE: FTA 2018. PPV = peak particle velocity in/sec = inch per second VdB = vibration decibel		

The FTA also provides guidance for assessing vibration impacts from railroad operations. The criteria for determining the significance of impacts are presented in Table 2.

Table 2 Guidelines for Determining the Significance of Groundborne Vibration and Noise Impacts						
	Groundborne Vibration Impact Levels (VdB re 1 micro-inch per second)			Groundborne Noise Impact Levels (dB re 20 micro Pascals)		
Land Use Category	Frequent Events	Occasional Events	Infrequent Events	Frequent Events	Occasional Events	Infrequent Events
Category 1: Buildings where low ambient vibration is essential for interior operations (research & manufacturing facilities with special vibration constraints)	65 VdB	65 VdB	65 VdB	N/A	N/A	N/A
Category 2: Residences and buildings where people normally sleep (hotels, hospitals, residences, & other sleeping facilities)	72 VdB	75 VdB	80 VdB	35 dB(A)	38 dB(A)	43 dB(A)
Category 3: Institutional land uses with primarily daytime use (schools, churches, libraries, other institutions, & quiet offices)	75 VdB	78 VdB	83 VdB	40 dB(A)	43 dB(A)	48 dB(A)
SOURCE: FTA 2018. VdB = vibration decibel; re = relative; N/A = not applicable "Frequent Events" is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category. "Occasional Events" is defined as 30 to 70 vibration events per day. Most commuter trunk links fall into this category "Infrequent Events" is defined as fewer than 30 vibration events per day. This category includes most commuter rail systems.						

For Category 1 uses such as vibration sensitive equipment, the screening distance from the right-of-way is 600 feet. For Category 2 land uses such as residences and buildings where people would normally sleep, the screening distance is 200 feet. The screening distance for Category 3 land uses such as institutional land uses with primarily daytime uses is 120 feet.

3.2 State

3.2.1 California Code of Regulations

For residential uses, interior noise levels for habitable rooms are regulated also by Title 24 of the California Code of Regulations, California Noise Insulation Standards. Title 24, Chapter 12, Section 1206.4 of the 2025 California Building Code requires that interior noise levels attributable to exterior sources not exceed 45 CNEL in any habitable room within a residential structure. A habitable room is a room used for living, sleeping, eating, or cooking. Bathrooms, closets, hallways, utility spaces, and similar areas are not considered habitable rooms for this regulation.

For non-residential structures, Title 24, Chapter 12, Section 1207.5 refers to 2025 California Green Building Standards, Chapter 5 – Nonresidential Mandatory Measures, Division 5.5 – Environmental Quality, Section 5.507 – Environmental Comfort, Subsection 5.507.4 – Acoustical Control. Pursuant to these standards, all non-residential building construction shall employ building assemblies and components that achieve a composite sound transmission class rating of at least 50 or shall otherwise demonstrate that exterior noise shall not result in an interior noise environment where noise levels exceed 50 dB(A) L_{eq} in occupied areas during any hour of operation.

3.2.2 Imperial County Airport Land Use Commission

The Calexico International Airport is located in the southwest portion of the City. The Imperial County Airport Land Use Commission (ALUC) prepares the airport land use compatibility plan (ALUCP) for the six public-use airports in Imperial County, including the Calexico International Airport and Naval Air Facility El Centro. The ALUCP sets compatibility criteria applicable to local agencies in their preparation or amendment of land use plans and ordinances. The Imperial County ALUCP was adopted on February 18, 2026, and provides noise level contours and noise compatibility criteria for various land uses (Imperial County ALUC 2026). The noise compatibility criteria are shown in Table 3.

Table 3
Imperial County ALUCP Noise Compatibility Criteria Matrix

Land Use Category	Exterior Noise Exposure (CNEL)			
	60-64	65-69	70-74	75+
RESIDENTIAL				
Single units – detached	C[1]	N	N	N
Single units – semi-detached	C[1]	N	N	N
Single units – attached row	C[1]	N	N	N
Two units	C[1]	N	N	N
Multi-family, three or more units (rental and ownership)	C[1]	N	N	N
Group quarters (including retirement homes, assisted living, nursing homes, college dormitories, military barracks, correctional residential facilities, extended stay hotels*)	C[1]	N	N	N
Mobile home park or courts	C[1]	N	N	N
PUBLIC/INSTITUTIONAL FACILITIES				
Education facilities (including daycare centers (> 14 children), children schools (K-12 grade), adult schools, colleges, universities)	C[1]	N	N	N

Table 3 Imperial County ALUCP Noise Compatibility Criteria Matrix				
	Exterior Noise Exposure (CNEL)			
Land Use Category	60-64	65-69	70-74	75+
Religious facilities, libraries, museums, galleries, clubs, lodges	C[1]	N	N	N
Hospitals, nursing homes, and other health care services	Y	N	N	N
Governmental services (administrative, police, fire stations**)	Y	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N
Cemeteries, cemetery chapels; mortuaries	Y	Y	Y	N
RECREATIONAL				
Outdoor sport events, stadiums, playgrounds, campgrounds, and recreational vehicle parks	Y	N	N	N
Nature exhibits, wildlife reserves, and zoos	Y	N	N	N
Indoor recreation, amusements, athletic clubs, gyms and spectator events, movie theaters, parks, outdoor recreation: tennis, golf courses, riding trails, etc.	Y	Y	N	N
COMMERCIAL				
Wholesale trade	Y	Y	Y	N
Retail trade (eating and drinking establishments, personal services, and dance studios)	Y	Y	Y	N
Finance, insurance, and real estate services	Y	Y	Y	N
Business services	Y	Y	Y	N
Repair services	Y	Y	Y	N
Professional services	Y	Y	Y	N
Hotels, motels, transient lodgings, and bed and breakfasts	Y	Y	N	N
INDUSTRIAL				
Manufacturing	Y	Y	Y	Y
Printing, publishing, and allied industries	Y	Y	Y	Y
Chemicals and allied products manufacturing	Y	Y	Y	Y
Miscellaneous manufacturing	Y	Y	Y	Y
Highway and street right-of-way and other transportation, communication, and utilities	Y	Y	Y	Y
Automobile parking car dealerships, car washes, indoor/outdoor storage facilities, gas stations, truck stops, and transportation terminals	Y	Y	Y	Y
Processing of food, wood, and paper products; printing and publishing; warehouses, wholesale and storage activities	Y	Y	Y	Y
Refining, manufacturing and storage of chemicals, petroleum and related products, manufacturing and assembly of electronic components, etc.	Y	Y	Y	Y
Salvage yards, solid waste facilities, natural resource extraction and processing, agricultural, mills and gins	Y	Y	Y	Y
AGRICULTURE				
Agriculture (except livestock)	C[1]	C[1]	C[2]	N
Livestock farming and animal breeding, animal shelters, and kennels	C[1]	C[1]	C[2]	N
Agricultural-related activities	Y	C[1]	C[2]	N
Forestry activities and related services	Y	C[1]	C[2]	N
Fishing activities and related services	Y	C[1]	C[2]	N

Table 3 Imperial County ALUCP Noise Compatibility Criteria Matrix				
	Exterior Noise Exposure (CNEL)			
Land Use Category	60-64	65-69	70-74	75+
SOURCE: Imperial County ALUC 2026. NOTES: CNEL – Community Noise Equivalent Level, in A-weighted decibels. Y (Yes) – Land use and related structures compatible without restrictions. C (Conditionally compatible) – Land use and related structures are permitted, provided that sound insulation is provided to reduce interior noise levels from exterior sources to 45 CNEL or lower. N (No) – Land use and related structures are not compatible. [1]Residential buildings must be sound insulated to achieve an indoor noise level of 45 CNEL or less from exterior sources (See Policy 3.2.5). [2]Accessory dwelling units are not compatible. Land uses not specifically listed shall be evaluated, as determined by the ALUC, using the criteria for similar uses. *Lodging intended for stays by an individual person of no more than 25 days consecutively and no more than 90 days total per year; facilities for longer stays are in the extended-stay hotel category **Airport Rescue and Fire Fighting (ARFF) facilities are exempt from this requirement per FAA regulations.				

3.3 Local

3.3.1 City of Calexico General Plan

The City's General Plan was adopted in February 2007 (City of Calexico 2007). The Noise Element of the General Plan contains goals, objectives, and policies that set standards for evaluating community noise in the City. These standards established in Section 7.8 of the Noise Element are summarized below.

7.8.1 Goal – Maintain the quiet rural residential nature of the community through the use of sensitive land use practices and appropriate noise mitigation measures.

7.8.1.1 Acceptable Noise Levels

Objective 1 – The City should establish adverse noise levels for various noise-sensitive uses.

Policy 1

a. 65 dBA CNEL is established as the acceptable outdoor noise exposure level for all private residential areas such as backyards.

b. Indoor noise levels shall not exceed 45 dBA CNEL for single- and multiple-family dwellings, dormitories, hospitals, nursing homes, apartments, and hotel and motel rooms.

c. 70 dBA CNEL is established as the acceptable outdoor noise exposure level for schools (public and private), libraries, churches, hospitals, nursing homes, parks, and recreation areas.

d. 70 dBA CNEL is established as the acceptable outdoor noise exposure level for office buildings, business, commercial, professional, and mixed-use developments.

e. 75 dBA CNEL is established as the acceptable outdoor noise exposure level for golf courses, riding stables, water recreation, cemeteries, industrial, manufacturing, utilities, and agriculture.

7.8.1.2 Land Use Compatibility

Objective 2 – Land use distribution should account for the noise characteristics of basic uses.

Policy 2

a. The location and distribution of land uses throughout the City should take into account the compatibility of the different uses and their respective noise levels.

b. The review of development applications shall consider the impact of the use on the noise environment of existing or planned contiguous uses.

c. Where necessary because of incompatibilities, noise attenuation measures shall be required by the City to achieve the acceptable noise exposure levels.

7.8.1.3 Circulation Compatibility

Objective 3 – Noise levels generated by arterial and larger classification roadways should be considered when planning improvements to the circulation system.

Policy 3

a. The potential for increasing the general noise level shall be considered when planning improvements to the City' s circulation system.

b. In the event that it is determined that increased noise levels will result from an improvement to the circulation system, mitigation measures shall be required which reduce the noise levels to those determined acceptable.

c. Traffic speeds shall be regularly monitored to determine the feasibility of lowering the speeds and thus lower the traffic noise generated.

d. The City should examine areas where truck traffic should be restricted in residential areas to reduce adverse noise and vibration levels (See Circulation Element).

7.8.1.4 Requirement for Project Specific Noise Studies

Objective 4 – Noise studies shall be required for certain projects which have the potential to increase ambient noise levels or the potential to expose sensitive receptors to unacceptable noise levels.

Policy 4

a. A noise study shall be required for all projects which will be in violation of Policy 1. Tables N-E and N-F will be used as screening tables to determine the estimated outdoor noise levels and if the project is in violation of Policy 1.

b. A noise study shall be required for all projects within 700 feet of railroad tracks (350 feet, if there are intervening buildings). In addition, a vibrational analysis should also be required of residential projects within 200 feet of railroad tracks and any projects within 120 feet of railroad tracks.

c. A noise study shall be required for all projects proposing to locate commercial or industrial land uses adjacent to residential land uses (or vice versa) in order to determine the noise impacts to residents.

7.8.1.5 Noise Attenuation Measures

Objective 5 – Noise attenuation measures shall be required to reduce noise levels to an acceptable level.

Policy 5

a. Where feasible, setbacks should be used to mitigate adverse noise conditions, to ensure an acceptable noise exposure level.

b. Parcels affected by adverse noise levels should be properly site planned to reduce noise through the following measures:

   - Uses that are compatible with higher noise levels should be located adjacent to noise generators to block noise from noise sensitive uses.

   - Clustering of commercial, office, or multi- family uses can reduce interior open space (e.g., courtyard) noise levels.

c. Noise barriers and berms shall be required where other noise attenuation measures fail to reduce the adverse levels, or will significantly increase the costs of continuation of land improvements.

d. Architectural design in adverse noise areas should shield noise-sensitive uses through:

   - Proper entrance and window location;

   - Proper patio and balcony location; building projections and heights; and

   - Internal arrangement of rooms; and location of air conditioning equipment.

e. Construction techniques should consider the following methods of noise reduction:

- Acoustical wall design;
- Use of dense building materials;
- Use of acoustical windows (double glazed, double paned, thick and non-operable windows); and
- Use of noise- tight doors, ceilings, and floors.

7.8.1.6 Noise Ordinances

Objective 6 – The City' s community noise Ordinance shall be consistent with the Policies in the Noise Element.

Policy 6

The City shall update the community noise ordinance to reflect and implement the Policies in the Noise Element.

3.3.2 City of Calexico Noise Ordinance

Chapter 8.46 of the City's Municipal Code is referred to as the Noise Ordinance. It is intended to prohibit unwanted and unnecessary sounds of all types within the community. Section 8.46.030 establishes limits for fixed and non-stationary sources. It states that "it is unlawful for any person to operate or cause to be operated any single or combination of fixed source or non-stationary source type of equipment or machinery except construction equipment used in connection with construction operations, that individually or collectively constitute an identifiable sound source in such a manner as to cause the sound level at any point on the property line of any property to exceed by five decibels or more, the noise level limits set forth in Section 8.46.031, plus allowances for time duration in Section 8.46.032."

Table 4 summarizes the noise level limits provided in Section 8.46.031. If the actual measured ambient noise level is higher than the limits summarized in Table 4, then the ambient noise level limit shall apply. If the measurement location is on a boundary between two different zones, the noise level limit applicable to the lower noise zone plus 5 dB shall apply.

Table 4 Calexico Property Line Noise Limits		
Zone	Time	One-Hour Average Sound Level [dB(A) L_{eq}]
Residential – Low Density	7:00 a.m. to 10:00 p.m.	50
	10:00 p.m. to 7:00 a.m.	40
Residential – High Density	7:00 a.m. to 10:00 p.m.	60
	10:00 p.m. to 7:00 a.m.	50
Commercial	7:00 a.m. to 10:00 p.m.	60
	10:00 p.m. to 7:00 a.m.	50
Industrial	7:00 a.m. to 10:00 p.m.	70
	10:00 p.m. to 7:00 a.m.	55
SOURCE: City of Calexico Municipal Code Section 8.46.0.31.		

Table 5 summarizes the time duration allowances set forth in Section 8.46.032 that shall apply to the noise level limits in Table 4 during the daytime hours.

Table 5 Calexico Property Line Noise Limits Time Duration Correction	
Duration of Sound	dB(A) Allowance
Up to 30 minutes per hour	+3
Up to 15 minutes per hour	+6
Up to 10 minutes per hour	+8
Up to 5 minutes per hour	+11
Up to 2 minutes per hour	+15
Up to 1 minute per hour	+18
Up to 30 seconds per hour	+21
Up to 15 seconds per hour	+24
SOURCE: City of Calexico Municipal Code Section 8.46.0.31.	

Section 8.46.042 of the Noise Ordinance addresses noise associated with construction activities.

8.46.042 - Construction.

A. It is unlawful for any person within the city to operate construction tools or equipment in the performance of any outside construction or repair work on buildings and/or structures, between the hours of five p.m. of each day and eight a.m. of the next day if the noise or other sound produced by such work is of such intensity or quality that it disturbs the peace and quiet of any other person of normal sensitivity.

B. No person doing or causing work prohibited by this section, after being informed orally or in writing that such work has caused noise or sounds which disturb any other person's peace and quiet, shall fail, refuse or neglect to take whatever steps or use whatever means are necessary to assure that such dues not again disturb such other person's peace and quiet.

C. Exceptions.

1. Emergency repairs of existing installations or equipment or appliances;

2. Construction work complying with the term of a written early work permit which may be issued by the building official upon a showing of sufficient need due to hot or inclement weather or the use of an unusually long process material, or other circumstances of unusual and compelling nature.

4.0 Existing Conditions

The City is subjected to variable levels of noise in terms of intensity and duration. The major sources of noise include traffic, particularly on SR-98/Birch Street and State Route 111 (SR-111)/Imperial Avenue, freight trains aircraft from Calexico International Airport, agricultural noise, commercial/industrial noise, and community activities. For the purpose of this discussion, noise levels refer to the combination of the ambient (background) noise and local noise sources.

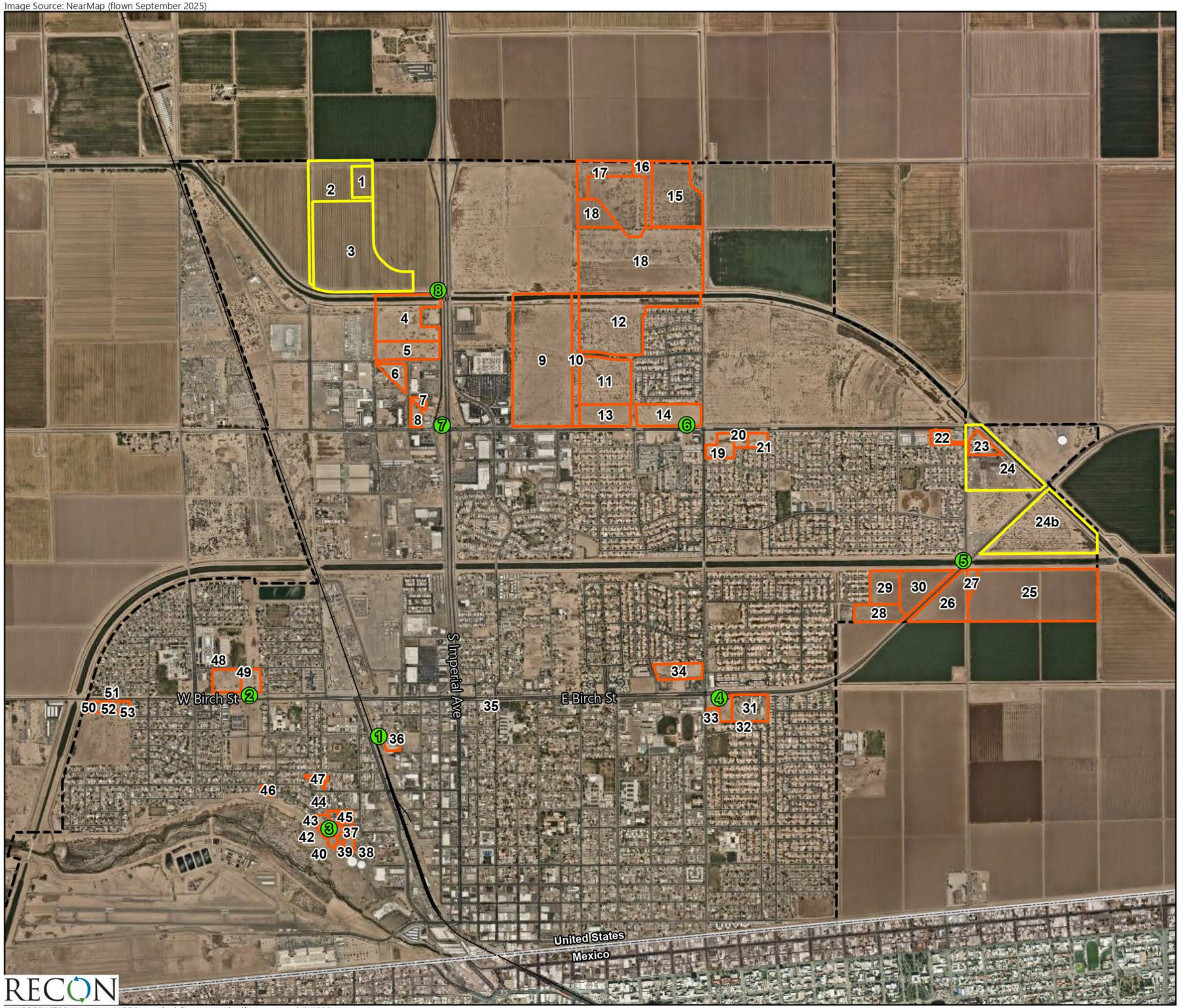
4.1 Measured Noise Levels

Existing noise levels within the City were measured on May 6, 2026, using one Larson-Davis Model LxT, Type 1 Integrating Sound Level Meter, serial number 3897. The following parameters were used:

Filter:	A-weighted
Response:	Slow
Interval Period	1 minute
Time History Period:	5 seconds

The meter was calibrated before measurements. The meter was set five feet above the ground level for each measurement. The weather was warm and sunny with a slight breeze during the measurement period. Measurement locations are shown in Figure 3. A summary of the measurements is provided in Table 6. Noise measurement data is provided in Attachment 1. Based on these measurements, daytime noise levels in the project area range from approximately 44 to 68 dB(A) L_{eq}.

Image Source: NearMap (flown September 2025)



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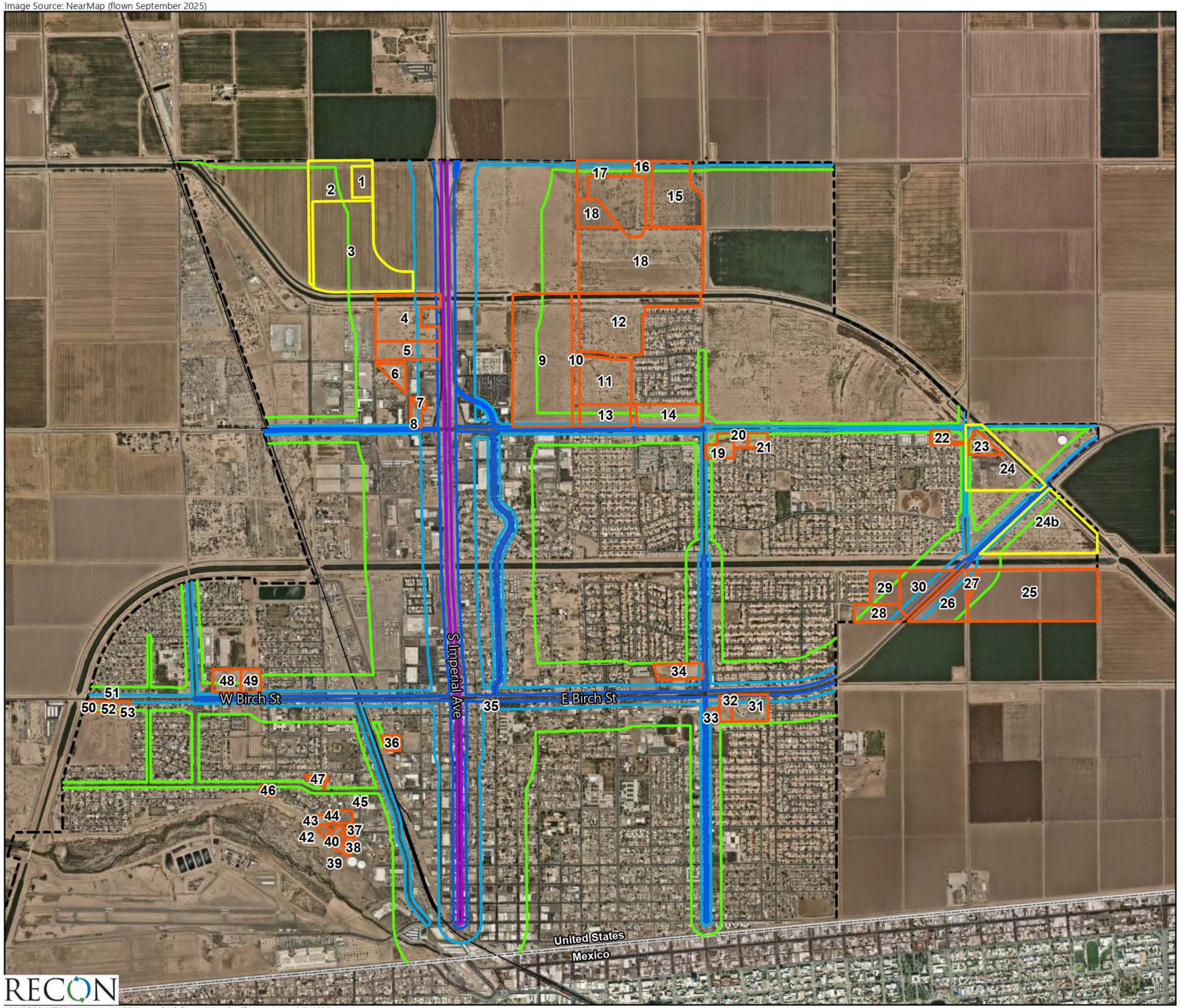
FIGURE 3
Noise Measurement Locations

Table 6 Ambient Noise Measurements				
I.D.	Location	Time	Noise Level [dB(A) L_{eq}]	Main Noise Sources
1	Near housing site 36, adjacent to Sheridan Street, 100 feet from railroad tracks	6:19 a.m. – 7:19 a.m.	66.5	Train, train whistle, crossing bells
2	Near housing sites 48 and 49, 50 feet from SR-98/Birch Street	8:34 a.m. – 8:49 a.m.	63.2	Vehicle traffic on SR-98/Birch Street
3	Near housing sites 37 through 45, west end of Sherman Court, near Calexico International Airport	9:09 a.m. – 9:39 a.m.	44.3	Landscaping and construction equipment at water plant (no aircraft take-offs or landings observed)
4	Near housing sites 31 through 34, 50 feet from SR-98/Birch Street	10:16 a.m. – 10:31 a.m.	61.6	Vehicle traffic on SR-98/Birch Street
5	Near housing sites 25 through 30, 50 feet from SR-98/Birch Street	11:09 a.m. – 11:24 a.m.	64.1	Vehicle traffic on SR-98/Birch Street
6	Near housing sites 13 through 21, 50 feet from Cole Boulevard	11:52 a.m. – 12:07 p.m.	59.8	Vehicle traffic on Cole Boulevard
7	Near housing sites 7 and 8, 50 feet from SR-111/Imperial Avenue and Cole Boulevard	1:00 p.m. – 1:15 p.m.	68.0	Vehicle traffic on SR-111/Imperial Avenue and Cole Boulevard
8	Near housing sites 1 through 5, 100 feet from SR-111/Imperial Avenue	1:37 p.m. – 1:52 p.m.	61.3	Vehicle traffic on SR-111/Imperial Avenue
dB(A) L_{eq} = A-weighted decibels one-hour equivalent noise level				

4.2 Vehicle Traffic Noise

Major roads generating the greatest noise levels in the City are SR-98/Birch Street and SR-111/Imperial Avenue. SR-111/Imperial Avenue also carries significant traffic at the U.S./Mexico international border crossing at the City's southern boundary. Additionally, numerous other roads within the City are also major sources of noise. Generally, higher noise levels result from higher traffic volumes and higher traffic speeds. The mix of vehicles using the roadway also affects noise levels. For example, a truck route would have higher noise levels compared to another street where truck traffic was prohibited. Figures 4-1 and 4-2 show the existing vehicle traffic noise contours for the City. The noise contour distances represent the predicted noise level for each roadway without the attenuating effects of noise barriers, structures, topography, or dense vegetation. As intervening structures, topography, and dense vegetation would affect noise exposure at a particular location, the noise contours should not be considered site-specific but are rather guides to determine when detailed acoustic analysis should be undertaken.

Image Source: NearMap (flown September 2025)



Calexico City Boundary
By-Right Development Sites
Discretionary Development Sites

Vehicle Traffic Noise Contours

60 CNEL
65 CNEL
70 CNEL
75 CNEL

0 Feet 2000

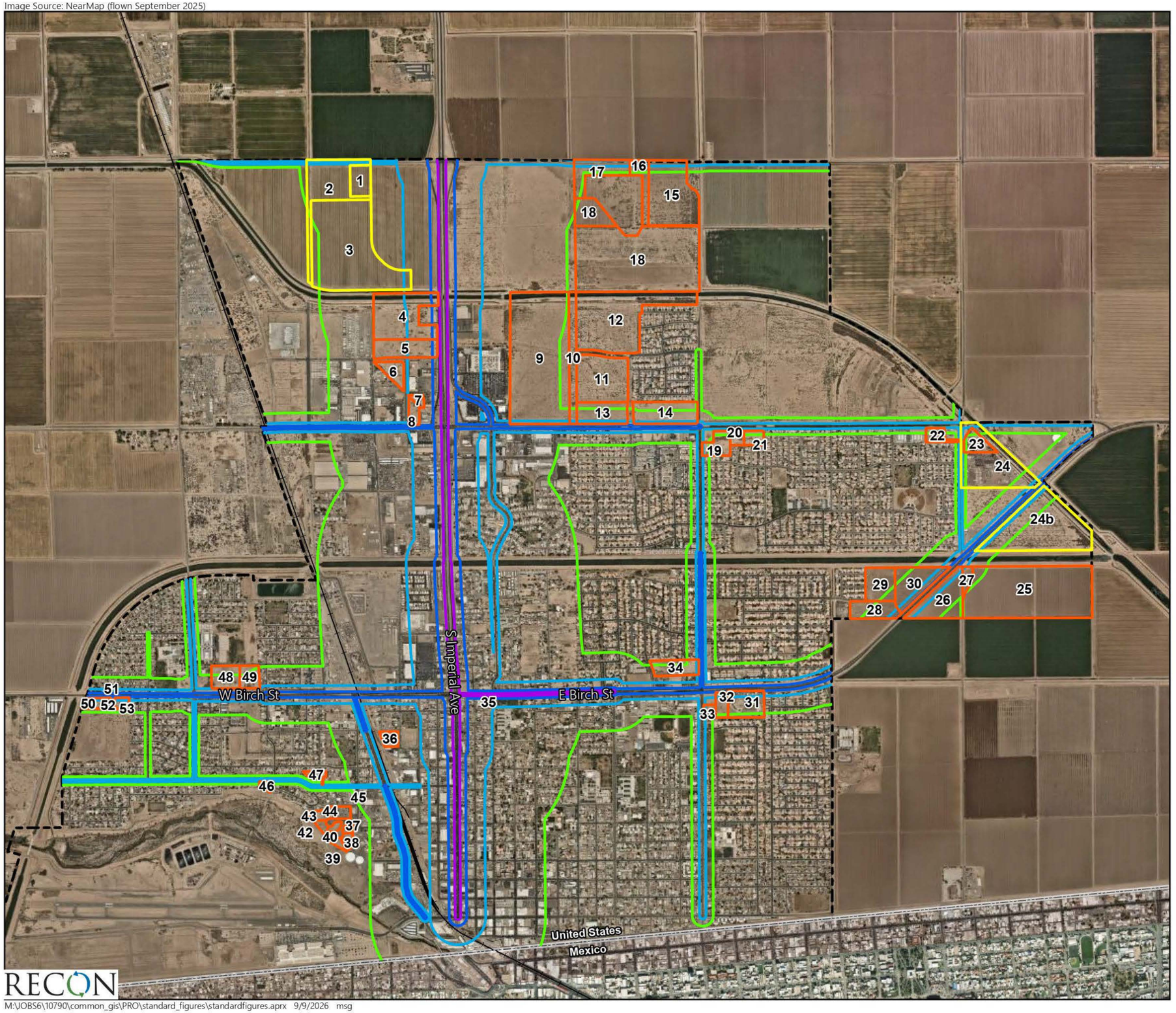
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FIGURE 4-1

Existing Vehicle Traffic Noise Contours – Calculated Using AM Peak Hour Traffic Data

Image Source: NearMap (flown September 2025)



Calexico City Boundary
By-Right Development Sites
Discretionary Development Sites

Vehicle Traffic Noise Contours

60 CNEL
65 CNEL
70 CNEL
75 CNEL

0 Feet 2000

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FIGURE 4-2

Existing Vehicle Traffic Noise Contours – Calculated Using PM Peak Hour Traffic Data

4.3 Railroad Noise

The Southern Pacific Railroad Company operates freight trains on the railroad tracks that travel north-south in the western portion of the City from the U.S./Mexico international border, parallel to Cesar Chavez Boulevard and the western City boundary. The railroad is significant in its contribution to the nuisance noise level. It is also an important part of the industrial, commercial and agricultural economic base of the community. Based on U.S. Department of Transportation (DOT) Federal Railroad Administration crossing inventories for at-grade crossings within the City, typically one freight train travels at 10 miles per hour (mph) through the City each day. The train typically operates in the morning hours around 6 a.m. Railroad noise contours based on this train activity are shown in Figure 5.

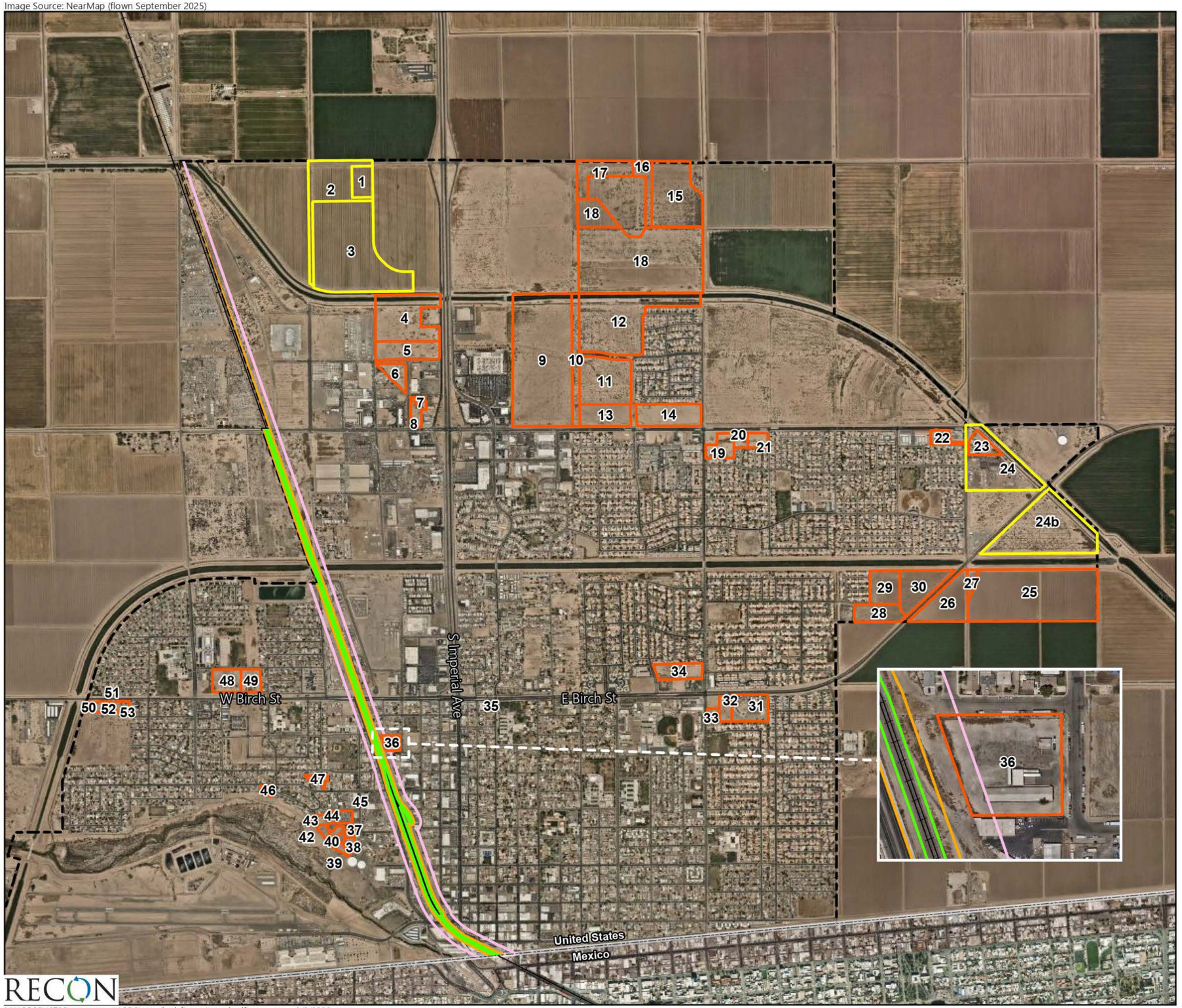
4.4 Aircraft Noise

The Calexico International Airport is located in the western portion of the City on Anza Road, adjacent to the U.S./Mexico international border. The airport encompasses approximately 284 acres and consists of a single runway. The airport is used mostly for general aviation and to facilitate border crossing. Aircraft noise generally affects areas within the airport vicinity during takeoffs and landings, and areas located around the flight tracks. Airport noise contours, which are based on year 2044 flight projections, are shown in Figure 6.

4.5 Other Sources of Noise

Other sources of noise within the City include equipment and activities associated with agricultural, industrial, and commercial land uses. Agricultural uses include the use of heavy equipment used for planting, harvesting, and other farming needs. Stationary noise sources are the noise sources in the community such as industrial and mechanical equipment, which are often referred to as "fixed sources." Industrial noise generated by processing and operation is usually of long duration at relatively low frequencies. Industrial uses, including manufacturing, warehousing, and distribution-related uses, are another source of noise that can have a varying degree of impact on adjacent uses. Mechanical equipment, generators, and vehicles associated with these uses all contribute to noise levels at industrial sites. Construction sources generate high noise levels for temporary, but sometimes extended, periods of time from operation of heavy equipment. Other land uses such as commercial development may result in generally nuisance noise exposure from high amounts of activity, maintenance activities, and mechanical noise.

Image Source: NearMap (flown September 2025)



Calexico City Boundary

By-Right Development Sites

Discretionary Development Sites

Railroad Noise Contours

50 CNEL

55 CNEL

60 CNEL

0 Feet 2000

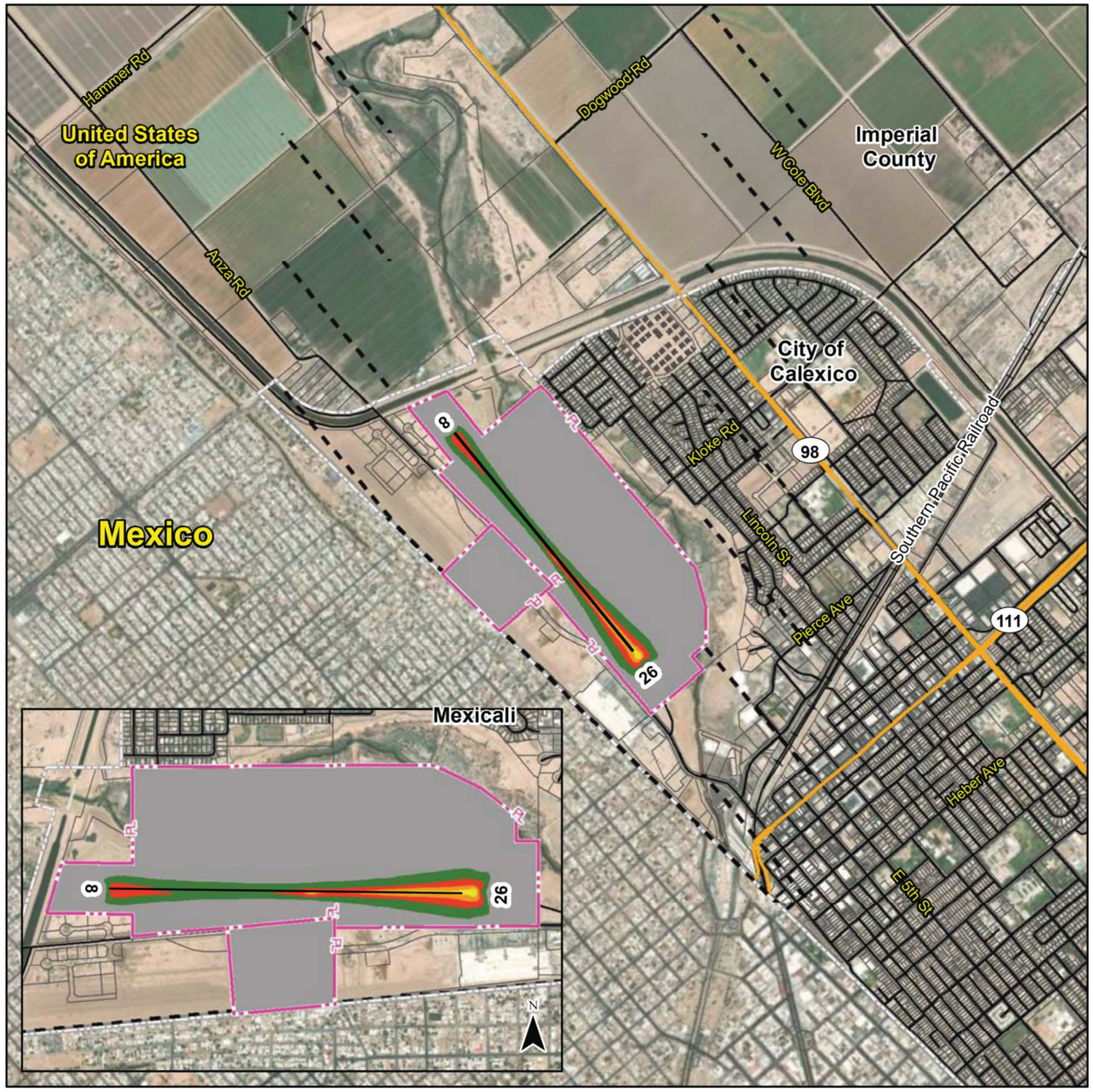
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FIGURE 5

Railroad Noise Contours

Map Source: Imperial County ALUCP



- Existing and Ultimate Runway[1]
- Airport Property Boundary[2]
- Mexico-United States Border
- Municipal Boundaries
- Highway
- Railroad
- Streets
- Parcels

2044 Noise Contour

- 60 CNEL
- 65 CNEL
- 70 CNEL
- 75 CNEL

CNEL: Community Noise Equivalent Level

[1]ADIP
[2]Airport Layout Plan (2015)

Sources: Imperial County Parcels, Imperial County Streets, Airport Layout Plan (2023), ESRI Basemap Imagery (2023).

0 2,500 5,000
FFFT

FIGURE 6
Calexico International Airport Noise Contours

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5.0 Significance Determination Thresholds

Thresholds used to evaluate noise impacts are based on applicable criteria in the CEQA Guidelines (California Code of Regulations Sections 15000-15387), Appendix G. A significant impact would occur if the project would:

1) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

2) Generate excessive groundborne vibration or groundborne noise levels; or

3) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

6.0 Analysis Methodology

The project does not propose the construction of new housing or other development; rather it provides capacity for future development consistent with the RHNA. Thus, while the project does not propose specific development, this analysis assesses the noise impacts from future development at the housing sites and Bowker Site. A dual analysis is provided to address the following: (1) a programmatic approach to future development within those Discretionary Development Sites that would be developed under the City's discretionary permit process and therefore subject to subsequent environmental review; and (2) a parcel-specific approach to future development within By-Right Development Sites that would be, or have the potential to be, developed ministerially under the HEU.

Future development would generate noise from a variety of sources including transportation (i.e., vehicle traffic), stationary noise, construction noise, and vibration. Methods used to assess noise from each of these sources are discussed below.

6.1 Vehicle Traffic Noise

The estimated roadway noise impacts from vehicular traffic were calculated using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model – FHWA RD-77-108. The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California, the national REMELs are substituted with the California Vehicle Noise Emission Levels. Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic or peak hour volumes, the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or

"soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total average daily traffic which flows each hour throughout a 24-hour period.

The analysis of the increase in vehicle traffic noise levels includes the following traffic scenarios:

- Baseline (year 2019)
- Buildout (year 2050) of the existing land use and zoning designations (included in report attachments and provided for informational purposes only)
- Buildout (year 2050) of the proposed HEU land use and zoning designations

Total trip generation and peak hour intersection turning volumes were obtained from the Transportation Study prepared for the project (RICK 2026). Under buildout of the adopted land use and zoning designations, the 53 housing sites and the Bowker Site would generate 72,452 daily trips, and under buildout of the proposed HEU land use and zoning designations, the 53 housing sites and the Bowker Site would generate 59,657 daily trips. The estimated decrease in trip generation with the proposed HEU is primarily attributed to the Rezone Sites where the rezoning proposes a change in land use from commercial to residential, as commercial uses are typically more intensive and generate a higher number of trips within a site than residential uses.

The AM and PM peak hour intersection turning volumes provided in the Transportation Analysis were used to calculate AM and PM peak hour roadway segment volumes. These peak hour volumes were used in the FHWA RD-77-108 program to calculate daily CNEL values. Based on Caltrans traffic counts for SR-98 and SR-111, peak hour volumes are approximately 9 percent of the total daily traffic volumes (Caltrans 2024a). Speeds for each roadway segment were obtained from the project traffic engineer. Based on Caltrans truck counts, a vehicle classification mix of 92.2 percent automobiles, 3.3 percent medium trucks, and 4.5 percent heavy trucks was modeled for SR-98, and a vehicle classification mix of 94.4 percent automobiles, 3.3 percent medium trucks, and 2.3 percent heavy trucks was modeled for SR-111 (Caltrans 2024b). A standard vehicle classification mix of 95 percent automobiles, 3 percent medium trucks, and 2 percent heavy trucks was modeled for all other roadways. Peak hour intersection turning volumes are provided in Attachment 2. FHWA RD-77-108 noise calculations are provided in Attachment 3.

Noise contours were used to assess the project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 75, 70, 65, and 60 CNEL noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the City.

6.2 Railroad Noise

As discussed, the Southern Pacific Railroad Company operates freight trains on the railroad tracks that travel north-south in the western portion of the City. Noise associated with railroad operations was modeled using the FTA-recommended Chicago Rail Efficiency and Transportation Efficiency (CREATE) railroad noise model (Harris Miller & Hanson, Inc. 2006). Based on U.S. DOT Federal Railroad Administration crossing inventories for at-grade crossings within the City, typically one freight train travels at 10 mph through the City each day. The train typically operates in the morning hours around 6 a.m. As a conservative analysis, this train was modeled during the nighttime hours. Noise contour distances were calculated assuming flat-site conditions and no intervening buildings that would provide noise attenuation. CREATE railroad noise calculations are provided in Attachment 4.

6.3 Stationary Noise

Stationary sources of noise include activities associated with a given land use. Various land uses contain on-site stationary noise sources, including rooftop heating, ventilation, and air conditioning (HVAC) equipment; mechanical equipment; emergency electrical generators; parking lot activities; loading dock operations; and recreation activities. Stationary noise is considered a "point source" and attenuates over distance at a rate of 6 dB(A) for each doubling of distance. The exact location and nature of future stationary noise sources is not known at this time and therefore cannot be calculated in this analysis. Impacts were assessed in this analysis by identifying potential types of stationary sources and locations of mixed-use land use interfaces and identifying applicable regulations and mitigation framework for addressing impacts.

6.4 Construction Noise

Construction noise has the potential to result in temporary ambient noise increases due to construction activities. Construction noise is usually generated by activities such as diesel-powered construction equipment used for site preparation and grading; removal of existing structures and pavement; loading, unloading, and placing materials and paving. Diesel engine-driven trucks also bring materials to the site and remove the spoils from excavation. Construction equipment with a diesel engine typically generates maximum noise levels from 70 to 95 dB(A) L_{eq} at a distance of 50 feet (FHWA 2006 and 2008; FTA 2018).

Table 7 summarizes typical construction equipment noise levels and duty cycles.

Table 7 Typical Construction Equipment Noise Levels			
Equipment	Maximum Noise Level at 50 Feet [dB(A) L_{eq}]	Typical Duty Cycle	Average Hourly Noise Level at 50 Feet [dB(A) L_{eq}]
Auger Drill Rig	85	20%	77
Backhoe	80	40%	76
Blasting	94	1%	74
Chain Saw	85	20%	78
Clam Shovel	93	20%	86
Compactor (ground)	80	20%	73
Compressor (air)	80	40%	76
Concrete Mixer Truck	85	40%	81
Concrete Pump	82	20%	75
Concrete Saw	90	20%	83
Crane (mobile or stationary)	85	20%	73
Dozer	85	40%	81
Dump Truck	84	40%	80
Excavator	85	40%	81
Front End Loader	80	40%	76
Generator (25 kilovolt amps or less)	70	50%	67
Generator (more than 25 kilovolt amps)	82	50%	79
Grader	85	40%	81
Hydra Break Ram	90	10%	80
Impact Pile Driver (diesel or drop)	95	20%	88
Insitu Soil Sampling Rig	84	20%	77
Jackhammer	85	20%	78
Mounted Impact Hammer (hoe ram)	90	20%	83
Paver	85	50%	82
Pneumatic Tools	85	50%	82
Pumps	77	50%	74
Rock Drill	85	20%	78
Roller	74	40%	70
Scraper	85	40%	81
Tractor	84	40%	80
Vacuum Excavator (vac-truck)	85	40%	81
Vibratory Concrete Mixer	80	20%	73
Vibratory Pile Driver	95	20%	88
dB(A) L_{eq} = A-weighted decibels average noise level SOURCE: FHWA 2006 and 2008; FTA 2018.			

During construction, equipment moves to different locations and goes through varying load cycles, and there are breaks for the operators and for non-equipment tasks, such as measurement. Average construction noise levels were calculated for the simultaneous operation of three common pieces of construction equipment: backhoe, excavator, and loader. The usage factors were applied to the maximum noise level at 50 feet for each piece of equipment, and then noise levels were added logarithmically. Hourly average noise levels would be approximately 83 dB(A) L_{eq} at 50 feet from the center of construction activity when assessing three pieces of common construction equipment

working simultaneously. Noise levels would vary depending on the nature of the construction, including the duration of specific activities, nature of the equipment involved, location of the particular receiver, and nature of intervening barriers.

6.5 Vibration

Potential sources of groundborne vibration include construction activities, railroad activities, and stationary sources. Table 8 lists vibration levels for construction equipment.

Table 8
Vibration Levels for Construction Equipment

Equipment	Approximate PPV Vibration Level at 25 feet (inch/second)
Pile Driver, Impact (Upper Range)	1.518
Pile Drive, Impact (Typical)	0.644
Pile Driver, Sonic (Upper Range)	0.734
Pile Drive, Sonic (Typical)	0.170
Vibratory Roller	0.210
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozer	0.003
SOURCE: FTA 2018. PPV = peak particle velocity	

Vibration propagation is calculated based on the following equation (Caltrans 2020; FTA 2018):

$$PPV_{equip} = PPV_{ref} \times {}^{25}/_{D}{}^{n}$$

where,

$$PPV_{equip} = Equipment\ vibration\ level\ adjusted\ for\ distance$$

$$PPV_{ref} = Reference\ vibration\ level\ at\ 25\ feet$$

$$D = Distance\ from\ equipment\ to\ receiver$$

$$n = Attenuation\ coefficient\ based\ on\ soil\ type$$

Vibration impacts due to construction equipment were evaluated using these source vibration levels and the FTA criteria shown in Table 1. Vibration impacts due to railroad operations were evaluated using the FTA criteria shown in Table 2 and the FTA screening distances for each land use category. Vibration impacts due to stationary sources were addressed qualitatively.

7.0 Future Acoustical Environment and Impacts

7.1 Vehicle Traffic Noise

7.1.1 Increase in Ambient Noise

The project would contribute traffic to area roadways that would result in an increase in ambient noise. Under CEQA, consideration must be given to the magnitude of the increase, the existing baseline ambient noise levels, and the location of noise-sensitive land uses to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes that there is no single noise increase that renders the noise impact significant. This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called ambient environment.

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal Interagency Committee on Noise (FICON) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the CNEL and L_{eq}.

The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increases in baseline ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when baseline (without project) noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dB(A) or readily perceptible, 3 dB(A) or barely perceptible, and 1.5 dB(A) depending on the underlying without-project noise levels for noise sensitive land uses. These levels of increases and their perceived acceptance are consistent with guidance provided by both the FHWA and Caltrans.

Based on this guidance, long-term traffic noise that affects sensitive land uses would be considered substantial and constitute a significant noise impact if the project would:

- Increase noise levels by 5 dB or more where the no project noise level is less than 60 CNEL;
- Increase noise levels by 3 dB or more where the no project noise level is 60 CNEL to 65 CNEL; or
- Increase noise levels by 1.5 dB or more where the no project noise level is greater than 65 CNEL.

The noise analysis is based on the baseline year 2019 condition and the future year 2050 condition under the HEU. As discussed in Section 6.1, CNEL values were calculated using both the AM and PM peak hour intersection turning volumes provided in the Transportation Study (RICK 2026). Noise levels and the associated project-related increases that were calculated using AM peak hour data are summarized in Table 9. Noise levels and the associated project-related increases that were calculated using PM peak hour data are summarized in Table 10. FHWA RD-108-77 calculations are provided in Attachment 3.

Table 9
Traffic Noise Increases Along Study Roadway Segments – Calculated Using AM Peak Hour Volumes (CNEL)

ID	Roadway	Segment	Baseline (Year 2019)	HEU Buildout (Year 2050)	Increase Over Baseline	Significance Threshold
1	Jasper Road	West of SR-111/Imperial Avenue	61.9	62.4	0.5	3.0
2	Jasper Road	East of SR-111/Imperial Avenue	64.4	64.8	0.4	3.0
3	Cole Boulevard	West of SR-111/Imperial Avenue	67.2	70.1	**2.9**	1.5
4	Cole Boulevard	East of SR-111/Imperial Avenue	68.7	68.8	0.1	1.5
5	Cole Boulevard	West of Yourman Road	70.6	68.4	-2.2	1.5
6	Cole Boulevard	East of Yourman Road	68.1	68.3	0.2	1.5
7	Cole Boulevard	West of Meadows Road	67.5	67.7	0.2	1.5
8	Cole Boulevard	East of Meadows Road	64.0	64.1	0.1	3.0
9	Cole Boulevard	West of Grover Cleveland Avenue	63.4	63.7	0.3	3.0
10	Cole Boulevard	East of Grover Cleveland Avenue	62.7	63.0	0.3	3.0
11	Cole Boulevard	West of Bowker Road	62.4	63.4	1.0	3.0
12	Cole Boulevard	East of Bowker Road	63.0	63.9	0.9	3.0
13	SR-98/Birch Street	West of David Navarro Avenue	68.0	69.2	1.2	1.5
14	SR-98/Birch Street	East of David Navarro Avenue	68.0	69.2	1.2	1.5
15	SR-98/Birch Street	West of Kloke Road	67.8	69.0	1.2	1.5
16	SR-98/Birch Street	East of Kloke Road	69.3	70.5	1.2	1.5
17	SR-98/Birch Street	West of Cesar Chavez Boulevard	71.1	72.1	1.0	1.5
18	SR-98/Birch Street	East of Cesar Chavez Boulevard	71.1	72.0	0.9	1.5
19	SR-98/Birch Street	West of SR-111/Imperial Avenue	71.3	72.1	0.8	1.5
20	SR-98/Birch Street	East of SR-111/Imperial Avenue	72.5	73.4	0.9	1.5
21	SR-98/Birch Street	West of Meadows Road/Andrade Avenue	72.1	72.6	0.5	1.5
22	SR-98/Birch Street	East of Meadows Road/Andrade Avenue	71.9	72.3	0.4	1.5
23	SR-98/Birch Street	West of Bowker Road	72.2	72.9	0.7	1.5
24	SR-98/Birch Street	East of Bowker Road	68.9	69.6	0.7	1.5
25	Grant Street	West of Cesar Chavez Boulevard	60.6	61.0	0.4	3.0
26	Grant Street	East of Cesar Chavez Boulevard	61.4	61.9	0.5	3.0
27	Grant Street	West of SR-111/Imperial Avenue	59.3	60.1	0.8	5.0
28	8th Street	East of SR-111/Imperial Avenue	56.1	56.8	0.7	5.0
29	SR-111/Imperial Avenue	North of Jasper Road	76.6	77.0	0.4	1.5
30	SR-111/Imperial Avenue	South of Jasper Road	76.0	76.5	0.5	1.5
31	SR-111/Imperial Avenue	North of Cole Boulevard	75.7	77.7	**2.0**	1.5
32	SR-111/Imperial Avenue	South of Cole Boulevard	75.4	75.6	0.2	1.5
33	SR-111/Imperial Avenue	North of SR-98/Birch Street	75.3	76.1	0.8	1.5
34	SR-111/Imperial Avenue	South of SR-98/Birch Street	75.0	75.8	0.8	1.5
35	SR-111/Imperial Avenue	North of Grant Street	74.2	74.9	0.7	1.5
36	SR-111/Imperial Avenue	South of Grant Street	74.4	75.1	0.7	1.5
37	Yourman Road	North of Cole Boulevard	67.1	67.2	0.1	1.5

Table 9
Traffic Noise Increases Along Study Roadway Segments – Calculated Using AM Peak Hour Volumes (CNEL)

ID	Roadway	Segment	Baseline (Year 2019)	HEU Buildout (Year 2050)	Increase Over Baseline	Significance Threshold
38	Yourman Road	South of Cole Boulevard	68.7	64.4	-4.3	1.5
39	Meadows Road	North of Cole Boulevard	61.8	62.0	0.2	3.0
40	Meadows Road	South of Cole Boulevard	65.0	65.1	0.1	3.0
41	Meadows Road	North of SR-98/Birch Street	68.6	69.1	0.5	1.5
42	Andrade Avenue	South of SR-98/Birch Street	67.8	68.3	0.5	1.5
43	Grover Cleveland Avenue	South of Cole Boulevard	56.3	56.6	0.3	5.0
44	Bowker Road	North of Cole Boulevard	65.8	66.7	0.9	1.5
45	Bowker Road	South of Cole Boulevard	62.4	63.4	1.0	3.0
46	Bowker Road	North of SR-98/Birch Street	65.3	66.0	0.7	1.5
47	Bowker Road	South of SR-98/Birch Street	56.4	57.1	0.7	5.0
48	David Navarro Avenue	North of SR-98/Birch Street	58.5	59.6	1.1	5.0
49	David Navarro Avenue	South of SR-98/Birch Street	58.9	60.0	1.1	5.0
50	Kloke Road	North of SR-98/Birch Street	65.1	66.3	1.2	1.5
51	Kloke Road	South of SR-98/Birch Street	61.5	62.7	1.2	3.0
52	Cesar Chavez Boulevard	South of SR-98/Birch Street	65.4	66.3	0.9	1.5
53	Cesar Chavez Boulevard	North of Grant Street	65.8	66.5	0.7	1.5
54	Cesar Chavez Boulevard	South of Grant Street	65.5	66.3	0.8	1.5

SOURCE: Attachment 3.
Bold = Exceeds threshold

Table 10
Traffic Noise Increases Along Study Roadway Segments – Calculated Using PM Peak Hour Volumes (CNEL)

ID	Roadway	Segment	Baseline (Year 2019)	HEU Buildout (Year 2050)	Increase Over Baseline	Significance Threshold
1	Jasper Road	West of SR-111/Imperial Avenue	62.1	62.5	0.4	3.0
2	Jasper Road	East of SR-111/Imperial Avenue	65.1	65.6	0.5	1.5
3	Cole Boulevard	West of SR-111/Imperial Avenue	67.5	67.7	0.2	1.5
4	Cole Boulevard	East of SR-111/Imperial Avenue	69.9	70.1	0.2	1.5
5	Cole Boulevard	West of Yourman Road	69.2	69.4	0.2	1.5
6	Cole Boulevard	East of Yourman Road	68.5	68.7	0.2	1.5
7	Cole Boulevard	West of Meadows Road	68.0	68.2	0.2	1.5
8	Cole Boulevard	East of Meadows Road	65.2	65.4	0.2	1.5
9	Cole Boulevard	West of Grover Cleveland Avenue	65.0	65.3	0.3	3.0
10	Cole Boulevard	East of Grover Cleveland Avenue	64.6	65.0	0.4	3.0
11	Cole Boulevard	West of Bowker Road	63.9	64.9	1.0	3.0
12	Cole Boulevard	East of Bowker Road	65.7	66.6	0.9	1.5
13	SR-98/Birch Street	West of David Navarro Avenue	68.6	69.8	1.2	1.5
14	SR-98/Birch Street	East of David Navarro Avenue	68.4	69.6	1.2	1.5
15	SR-98/Birch Street	West of Kloke Road	68.2	69.4	1.2	1.5
16	SR-98/Birch Street	East of Kloke Road	69.2	70.4	1.2	1.5
17	SR-98/Birch Street	West of Cesar Chavez Boulevard	71.0	71.9	0.9	1.5
18	SR-98/Birch Street	East of Cesar Chavez Boulevard	71.1	72.0	0.9	1.5
19	SR-98/Birch Street	West of SR-111/Imperial Avenue	71.5	72.4	0.9	1.5

Table 10
Traffic Noise Increases Along Study Roadway Segments – Calculated Using PM Peak Hour Volumes (CNEL)

ID	Roadway	Segment	Baseline (Year 2019)	HEU Buildout (Year 2050)	Increase Over Baseline	Significance Threshold
20	SR-98/Birch Street	East of SR-111/Imperial Avenue	72.4	73.2	0.8	1.5
21	SR-98/Birch Street	West of Meadows Road/Andrade Avenue	70.9	71.4	0.5	1.5
22	SR-98/Birch Street	East of Meadows Road/Andrade Avenue	70.6	71.0	0.4	1.5
23	SR-98/Birch Street	West of Bowker Road	70.6	71.3	0.7	1.5
24	SR-98/Birch Street	East of Bowker Road	69.3	70.0	0.7	1.5
25	Grant Street	West of Cesar Chavez Boulevard	61.3	62.3	1.0	3.0
26	Grant Street	East of Cesar Chavez Boulevard	61.7	62.5	0.8	3.0
27	Grant Street	West of SR-111/Imperial Avenue	58.6	59.4	0.8	5.0
28	8th Street	East of SR-111/Imperial Avenue	56.4	57.2	0.8	5.0
29	SR-111/Imperial Avenue	North of Jasper Road	77.2	77.7	0.5	1.5
30	SR-111/Imperial Avenue	South of Jasper Road	76.7	77.1	0.4	1.5
31	SR-111/Imperial Avenue	North of Cole Boulevard	76.6	76.8	0.2	1.5
32	SR-111/Imperial Avenue	South of Cole Boulevard	76.2	76.4	0.2	1.5
33	SR-111/Imperial Avenue	North of SR-98/Birch Street	76.5	77.3	0.8	1.5
34	SR-111/Imperial Avenue	South of SR-98/Birch Street	75.9	76.7	0.8	1.5
35	SR-111/Imperial Avenue	North of Grant Street	75.0	75.7	0.7	1.5
36	SR-111/Imperial Avenue	South of Grant Street	74.9	75.7	0.8	1.5
37	Yourman Road	North of Cole Boulevard	68.9	69.1	0.2	1.5
38	Yourman Road	South of Cole Boulevard	65.8	65.9	0.1	1.5
39	Meadows Road	North of Cole Boulevard	60.2	60.4	0.2	3.0
40	Meadows Road	South of Cole Boulevard	65.5	65.7	0.2	1.5
41	Meadows Road	North of SR-98/Birch Street	67.2	67.6	0.4	1.5
42	Andrade Avenue	South of SR-98/Birch Street	65.9	66.3	0.4	1.5
43	Grover Cleveland Avenue	South of Cole Boulevard	54.7	55.0	0.3	5.0
44	Bowker Road	North of Cole Boulevard	64.9	65.9	1.0	3.0
45	Bowker Road	South of Cole Boulevard	62.1	63.1	1.0	3.0
46	Bowker Road	North of SR-98/Birch Street	62.2	62.9	0.7	3.0
47	Bowker Road	South of SR-98/Birch Street	56.7	57.4	0.7	5.0
48	David Navarro Avenue	North of SR-98/Birch Street	56.1	57.2	1.1	5.0
49	David Navarro Avenue	South of SR-98/Birch Street	59.1	60.3	1.2	5.0
50	Kloke Road	North of SR-98/Birch Street	62.9	64.1	1.2	3.0
51	Kloke Road	South of SR-98/Birch Street	61.4	62.6	1.2	3.0
52	Cesar Chavez Boulevard	South of SR-98/Birch Street	66.5	67.5	1.0	1.5
53	Cesar Chavez Boulevard	North of Grant Street	65.7	66.6	0.9	1.5
54	Cesar Chavez Boulevard	South of Grant Street	66.4	67.2	0.8	1.5

SOURCE: Attachment 3.
Bold = Exceeds threshold

As shown, when using AM peak hour volumes, the noise level increase would exceed the screening level thresholds adjacent to the following two roadway segments:

- Cole Boulevard west of SR-111/Imperial Avenue
- SR-111/Imperial Avenue north of Cole Boulevard

Note that these same significant noise level increases were not calculated when using the PM peak hour volumes. This is because the proposed residential uses on vacant sites near this intersection add much more traffic to this intersection in the AM peak hour than they do during the PM peak hour.

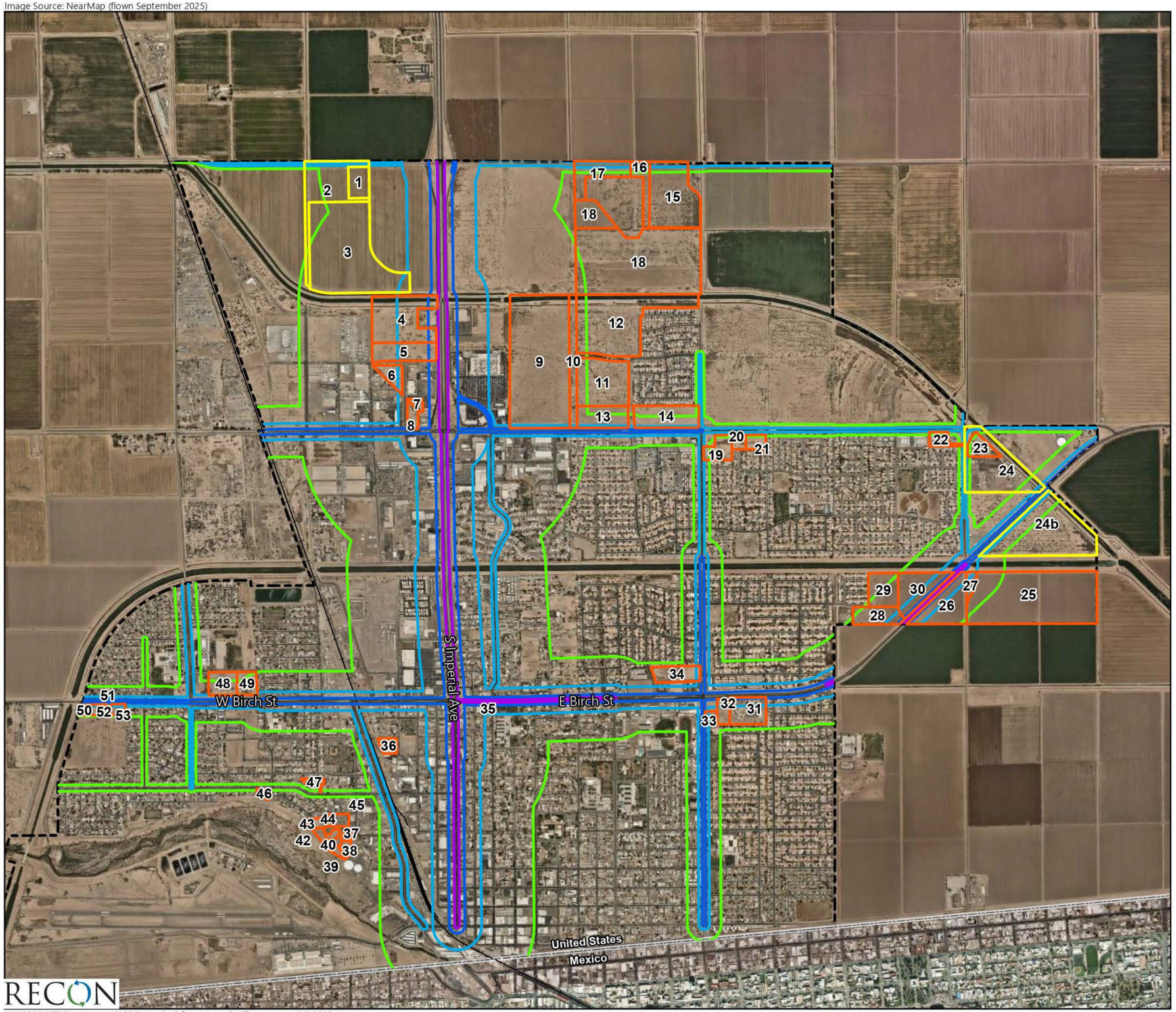
A noise-sensitive land use would need to be exposed to the noise level increase in order to result in a significant impact. There are no existing noise-sensitive land uses located adjacent to Cole Boulevard west of SR-111/Imperial Avenue or adjacent to SR-111/Imperial Avenue north of Cole Boulevard. Therefore, impacts associated with the increase in ambient noise levels would be less than significant. Compatibility impacts associated with the housing sites located adjacent to these roadway segments are discussed in the following section.

7.1.2 Land Use Compatibility

The Noise Element of the City's General Plan establishes acceptable noise exposure levels for various land uses. As discussed in Section 3.3.1, Policy 1 of the Noise Element establishes exterior and interior noise level compatibility standards of 65 and 45 CNEL, respectively.

Future year 2050 vehicle traffic noise contours under buildout of the HEU as calculated using AM peak hour traffic data are provided in Figure 7-1. Future year 2050 vehicle traffic noise contours under buildout of the HEU as calculated using PM peak hour traffic data are provided in Figure 7-2. Noise compatibility impacts are summarized in Table 11. FHWA RD-77-108 noise contour distance calculations are provided in Attachment 3.

Image Source: NearMap (flown September 2025)



Calexico City Boundary

By-Right Development Sites

Discretionary Development Sites

Vehicle Traffic Noise Contours

60 CNEL

65 CNEL

70 CNEL

75 CNEL

0 Feet 2000

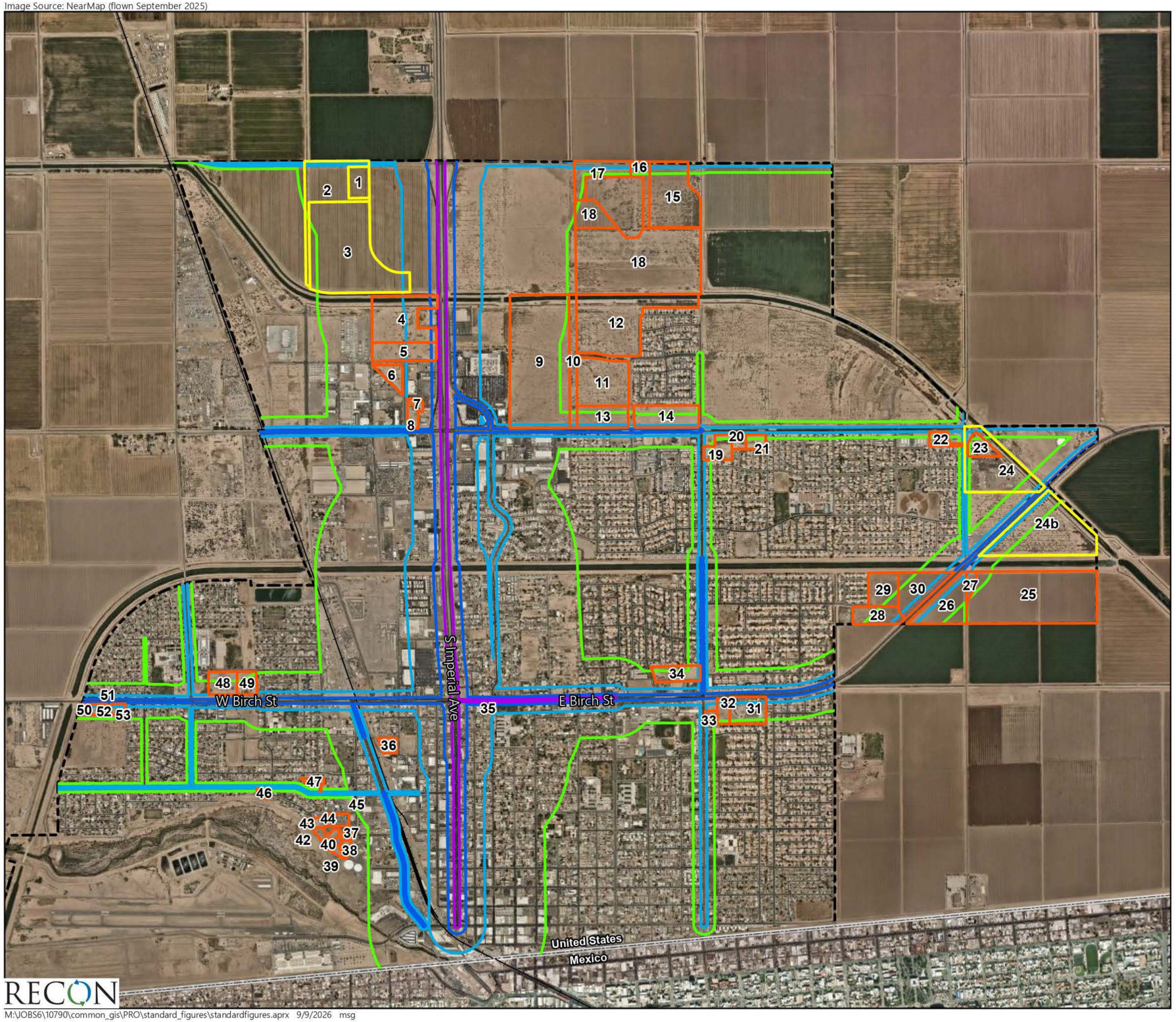
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FIGURE 7-1

Future Year 2050 Vehicle Traffic Noise Contours – Calculated Using AM Peak Hour Traffic Data

Image Source: NearMap (flown September 2025)



Calexico City Boundary

By-Right Development Sites

Discretionary Development Sites

Vehicle Traffic Noise Contours

60 CNEL

65 CNEL

70 CNEL

75 CNEL

0 Feet 2000

FIGURE 7-2

Future Year 2050 Vehicle Traffic Noise Contours – Calculated Using PM Peak Hour Traffic Data

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Table 11 Noise Compatibility Impacts			
Housing Site	Compatibility Standard (CNEL)	Exceeds Standard?	Distance from road where standard is exceeded
1	65	No	--
2	65	No	--
3	65	Yes	811 feet from SR-111
4	65	Yes	931 feet from SR-111
5	65	Yes	931 feet from SR-111
6	65	Yes	931 feet from SR-111
7	65	Yes	931 feet from SR-111 (entire site)
8	65	Yes	931 feet from SR-111 and 162 feet from Cole Boulevard (entire site)
9	65	Yes	104 feet from Cole Boulevard
10	65	Yes	104 feet from Cole Boulevard
11	65	No	--
12	65	No	--
13	65	Yes	104 feet from Cole Boulevard
14	65	Yes	104 feet from Cole Boulevard
15	65	No	--
16	65	No	--
17	65	No	--
18	65	No	--
19	65	Yes	59 feet from Meadows Road
20	65	No	--
21	65	No	--
22	65	No	--
23	65	No	--
24a	65	Yes	158 feet from SR-98
24b	75	No	--
25	65	No	--
26	65	Yes	308 feet from SR-98
27	65	Yes	308 feet from SR-98
28	65	Yes	308 feet from SR-98
29	65	No	--
30	65	Yes	308 feet from SR-98
31	65	Yes	269 feet from SR-98
32	65	Yes	269 feet from SR-98
33	65	Yes	107 feet from Andrade Avenue
34	65	Yes	129 feet from Meadows Road
35	65	Yes	740 feet from SR-111 and 346 feet from SR-98 (entire site)
36	65	No	--
37	65	No	--
38	65	No	--
39	65	No	--

Table 11 Noise Compatibility Impacts			
Housing Site	Compatibility Standard (CNEL)	Exceeds Standard?	Distance from road where standard is exceeded
40	65	No	--
41	65	No	--
42	65	No	--
43	65	No	--
44	65	No	--
45	65	No	--
46	65	No	--
47	65	No	--
48	65	No	--
49	65	No	--
50	65	Yes	151 feet from SR-98
51	65	Yes	151 feet from SR-98
52	65	Yes	151 feet from SR-98
53	65	Yes	151 feet from SR-98
SOURCE: Attachment 3.			

As shown in Table 11, noise levels are projected to exceed the compatibility standard of 65 CNEL at the following Discretionary Development Sites: 3 and 24a. Additionally, noise levels are projected to exceed 65 CNEL at the following By-Right Development Sites: 4 through 10, 13, 14, 19, 26, 27, 28, 30 through 35, and 50 through 53.

The interior noise level standard for residential uses is 45 CNEL. Interior noise levels can be reduced through standard construction techniques. When windows are closed, standard construction techniques provide various exterior-to-interior noise level reductions depending on the type of structure and window. Standard light-frame construction would reduce exterior to interior noise levels by at least 20 dB (FHWA 2011). Thus, interior noise levels are expected to exceed the 45 CNEL requirement for the same Discretionary Development Sites and By-Right Development Sites identified above.

Existing regulatory framework exists within the City's General Plan that would address noise compatibility for both Discretionary Development Sites and By-Right Development Sites. Section 7.8.1.4 of the Noise Element includes requirements for project-specific noise studies. Objective 4 states that "Noise studies shall be required for certain projects which have the potential to increase ambient noise levels or the potential to expose sensitive receptors to unacceptable noise levels". Through implementation of this existing regulatory framework, for the housing sites located where noise levels have the potential to exceed 65 CNEL, site-specific noise studies would demonstrate how noise levels would be reduced to acceptable levels. Thus, noise compatibility impacts for both Discretionary Development Sites and By-Right Development Sites would be less than significant.

7.2 Railroad Noise

Railroad noise contours are shown in Figure 5, and calculations are provided in Attachment 4. housing site 36 is located the closest to the railroad tracks. Railroad noise levels were calculated to be 56 CNEL at 50 feet from the railroad tracks. As shown in Figure 5, based on the existing railroad crossing inventory, railroad noise levels are not projected to exceed 55 CNEL. Additionally, Noise Element Section 7.8.1.4 Objective 4, Policy 4(b) states that "A noise study shall be required for all projects within 700 feet of railroad tracks (350 feet, if there are intervening buildings). In addition, a vibrational analysis should also be required of residential projects within 200 feet of railroad tracks and any projects within 120 feet of railroad tracks." Housing site 36, a By-Right Development Site, is the only site located within 700 feet of the railroad tracks. Through implementation of this existing regulatory framework, a site-specific noise study for housing site 36 would demonstrate how noise levels due to railroad activity would be reduced to acceptable levels. Thus, noise compatibility impacts related to railroad noise would be less than significant.

7.3 Stationary Noise

A significant impact would occur if implementation of the project resulted in the exposure of people to noise levels that violate the regulations contained in City's Noise Ordinance. Stationary sources of noise include activities associated with a given land use. For example, noise sources from residential land uses would include vehicles arriving and departing, landscaping activities, and HVAC equipment, and noise sources from commercial land uses would include fast food restaurants, parking lots, truck loading/unloading activities, and HVAC equipment. Noise generated by residential or commercial uses is generally short-lived, intermittent, and insubstantial. Potential noise conflicts could occur in mixed-use areas where residential uses are located in close proximity to commercial or industrial uses.

Future development of the housing sites would include residential land uses that are not anticipated to be a significant source of stationary noise. For housing sites that are located in close proximity to existing commercial and industrial land uses, enforcement of the City's Municipal Code would ensure that noise generated at existing commercial and industrial properties would not exceed the noise level limits summarized in Table 4. Additionally, Noise Element Section 7.8.1.4 Objective 4, Policy 4(c) states that "A noise study shall be required for all projects proposing to locate commercial or industrial land uses adjacent to residential land uses (or vice versa) in order to determine the noise impacts to residents." Through implementation of this existing regulatory framework, a site-specific noise study for housing sites located adjacent to existing commercial or industrial land uses would demonstrate how noise levels due to these sources would be reduced to acceptable levels. Thus, noise impacts related to commercial and industrial noise sources would be less than significant.

The Bowker Site (Site 24b) would allow for the construction of a new industrial land use. Potential noise sources associated with this use could include trucks, loading docks, and mechanical equipment, among others. However, the Bowker Site is a Discretionary Development Site and any future development would undergo independent environmental review under CEQA. At that time, stationary noise sources would be evaluated and, if necessary, measures will be identified to reduce

potential noise levels to the limits established in the City's Municipal Code. To ensure this condition is met, the following mitigation measure for the Bowker Site is recommended:

NOS-1: **Bowker Site Industrial Noise Sources.** Prior to the issuance of building permits for the Bowker Site, a site-specific noise analysis shall be prepared that evaluates noise levels generated by on-site equipment and activities. The noise study shall include noise reduction measures necessary to reduce noise levels to the applicable limits established in Section 8.46.031 of the City's Municipal Code.

With implementation of mitigation measure NOS-1, noise impacts associated with the Bowker Site would be reduced to less than significant.

7.4 Construction Noise

Future development implemented under the project could result in a temporary ambient noise increase due to construction activities. Construction noise typically occurs intermittently and varies depending upon the nature or phase of construction (e.g., demolition; land clearing, grading, and excavation; erection). Construction noise would be short term and would include noise from activities such as site preparation, truck hauling of material, pouring of concrete, and the use of power tools. Noise would also be generated by construction equipment use, including earthmovers, material handlers, and portable generators, and could reach high noise levels for brief periods. Significant noise impacts may occur from operation of heavy earthmoving equipment and truck haul that would occur with construction of individual development projects. Implementation of the project anticipates an increase in development intensity.

As discussed in Section 3.3.2, the City's Noise Ordinance Section 8.46.042 regulates noise associated with construction equipment and activities through time of day restrictions (e.g., days of the week and hours of operation). Future development at the housing sites would be subject to this standard.

As discussed in Section 5.4, hourly average noise levels would be approximately 83 dB(A) L_{eq} at 50 feet from the center of construction activity when assessing three pieces of common construction equipment working simultaneously. The City has not established a numerical noise level limit for construction activities. This noise level would attenuate to the FTA daytime construction noise level threshold of 80 dB(A) $L_{eq(8)}$ at approximately 70 feet. Noise levels would vary depending on the nature of the construction activities, including the duration of specific activities, the equipment involved, the location of the sensitive receivers, and the presence of intervening barriers. As this 80 dB(A) $L_{eq(8)}$ threshold is based on an 8-hour average and construction equipment would move throughout a project site during an 8-hour period, the acoustic center of construction activities can be assumed to be the center of the project site. The center of each of the 53 housing sites and the Bowker Site is located more than 70 feet from the property boundaries. Therefore, it is not anticipated that noise levels would exceed 80 dB(A) $L_{eq(8)}$ at any of the property boundaries when evaluating construction noise over an 8-hour period.

Although residences adjacent to the housing sites would be exposed to construction noise levels that could be heard above ambient conditions, the exposure would be temporary. Both Discretionary Development Sites and By-Right Development Sites would be required to adhere to the time of day

restrictions and notification requirements of the City's Noise Ordinance Section 8.46.042. With adherence to the requirements of the City's Municipal Code, construction noise impacts would be less than significant.

7.5 Groundborne Vibration

7.5.1 Construction Vibration

Construction activities may include demolition of existing structures, site preparation work, excavation of parking and subfloors, foundation work, and building construction. The operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The degree and amplitude of groundborne vibration would vary, depending on the soil type, ground profile, distance to the receptor building, and the construction characteristics of the receptor building. The results from vibration can range from no perceptible effects at the lowest vibration levels to low rumbling sounds and perceptible vibration at moderate levels, and to damage to the structure and/or infrastructure at the highest levels. Vibration perception would occur at structures, as people do not perceive vibrations without vibrating structures.

Human reaction to vibration is dependent on the environment the receiver is in as well as individual sensitivity. For example, vibration outdoors is rarely noticeable and generally not considered annoying. Typically, humans must be inside a structure for vibrations to become noticeable and/or annoying. Based on several federal studies, the threshold of perception is 0.035 inches per second (in/sec) peak particle velocity (PPV), with 0.24 in/sec PPV being distinctly perceptible (Caltrans 2020). As shown in Table 1, the FTA criteria for architectural damage are 0.12 in/sec PPV for fragile or historical resources, 0.2 in/sec PPV for non-engineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry.

Generally, vibration levels at nearby off-site receptors would be the highest during the excavation, shoring, and foundation phases in the first months of construction. The building phase typically involves the use of smaller equipment, which produces similar vibration levels to small bulldozers. During the early construction phases, the primary concern regarding construction vibration relates to building damage. Activities that can result in damage include demolition and site preparation near sensitive structures. Table 8 identifies the potential vibration levels of construction equipment that would be used for future construction activities. Development of housing projects of four or less stories is not expected to require pile driving, blasting, or other construction activities with high levels of transient vibration. Thus, the equipment with the greatest potential to generate goundborne vibration is a large bulldozer. As shown, a large bulldozer generates a vibration level of 0.089 in/sec PPV at 25 feet. A large bulldozer would generate a vibration level of 0.3 in/sec PPV at 8 feet, 0.2 in/sec PPV at 12 feet, and 0.12 in/sec PPV at less than 20 feet. Therefore, groundborne vibration impacts associated with construction activities would potentially significant, and mitigation would be required for both Discretionary Development Sites and By-Right Development Sites.

NOS-2: Construction Vibration. For Discretionary Development, prior to issuance of a building permit for a project requiring heavy construction equipment such as large bulldozers within 20 feet of fragile buildings, 12 feet of non-engineered timber and masonry buildings (e.g., most residential buildings), or 8 feet of engineered concrete and masonry buildings, the project applicant shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer. The vibration levels shall not exceed Federal Transit Administration architectural damage thresholds (e.g., 0.12 inches per second [in/sec] peak particle velocity [PPV] for fragile or historical resources, 0.2 in/sec PPV for non-engineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). If necessary, construction vibration monitoring shall be conducted to ensure vibration thresholds are not exceeded.

By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development

With implementation of mitigation measure NOS-2, groundborne vibration impacts associated with the Discretionary Development Sites and By-Right Development Sites within close proximity to structures would be reduced to less than significant.

7.5.2 Railroad Vibration

As discussed, the Southern Pacific Railroad Company operates freight trains on the railroad tracks that travel north-south in the western portion of the City. Based on U.S. DOT Federal Railroad Administration crossing inventories for at-grade crossings within the City, typically one freight train travels at 10 mph through the City each day. These are considered infrequent events (less than 30 per day). As shown in Table 2, a significant vibration impact may occur if residential land uses are exposed to vibration levels of 80 vibration decibels.

Figure 8 shows the generalized ground surface vibration curves that are based on measurements of groundborne vibration at representative North American transit systems (FTA 2018). These curves can be used to represent vibration characteristics for standard transportation systems. Using these curves, residential land uses would be exposed to significant vibration levels within approximately 80 feet of the railroad tracks. There are no housing sites located within 80 feet of the railroad tracks. Housing site 36 is located 140 feet from the railroad tracks. Thus, groundborne vibration from freight trains would be less than significant.

Source: FTA Report No. 0123, 2018

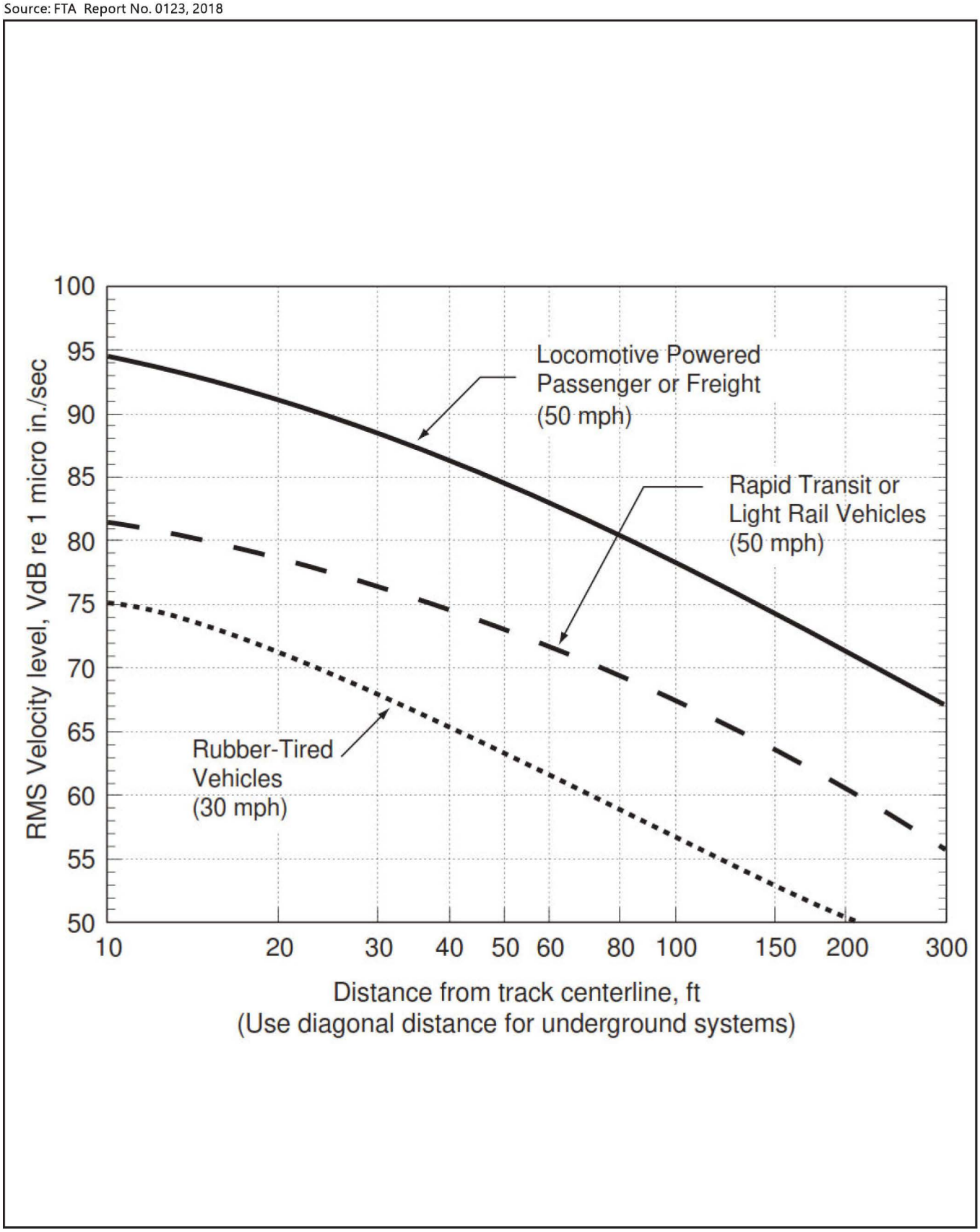


FIGURE 8
Generalized Ground Surface Vibration Curve

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7.6 Airport Noise

As discussed in Section 3.2.2, the Calexico International Airport is located in the southwest portion of the City. Airport noise contours were obtained from the Imperial County ALUCP and are shown in Figure 6. As shown, the 60 CNEL noise contours do not extend beyond the airport property boundaries. Therefore, adjacent land uses would not be exposed to airport noise that exceeds 60 CNEL. Impacts associated with airport noise would be less than significant.

8.0 Mitigation Measures

Impacts related to the increase in ambient noise levels, noise compatibility, construction noise, and airport noise would be less than significant and no mitigation is required. Additionally, impacts related to stationary operational noise from the housing sites would be less than significant. However, impacts related to potential industrial noise generated at the Bowker Site and groundborne vibration generated during construction would be significant and require mitigation.

The following mitigation measures shall be applied to the Bowker Site:

NOS-1: **Bowker Site Industrial Noise Sources.** Prior to the issuance of building permits for the Bowker Site, a site-specific noise analysis shall be prepared that evaluates noise levels generated by on-site equipment and activities. The noise study shall include noise reduction measures necessary to reduce noise levels to the applicable limits established in Section 8.46.031 of the City's Municipal Code.

Implementation of mitigation measure NOS-1 would occur during subsequent environmental CEQA review of the Bowker Site prior to approval. With implementation of mitigation measure NOS-1, noise impacts associated with the Bowker Site would be reduced to less than significant.

The following mitigation measures would be required for both Discretionary Development Sites and By-Right Development Sites:

NOS-2: **Construction Vibration.** For Discretionary Development, prior to issuance of a building permit for a project requiring heavy construction equipment such as large bulldozers within 20 feet of fragile buildings, 12 feet of non-engineered timber and masonry buildings (e.g., most residential buildings), or 8 feet of engineered concrete and masonry buildings, the project applicant shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer. The vibration levels shall not exceed Federal Transit Administration architectural damage thresholds (e.g., 0.12 inches per second [in/sec] peak particle velocity [PPV] for fragile or historical resources, 0.2 in/sec PPV for non-engineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). If necessary, construction vibration monitoring shall be conducted to ensure vibration thresholds are not exceeded.

By-Right Development Sites shall comply with applicable regulatory requirements addressing the same resource protections identified above, as established through the City's Zoning Ordinance. Consistent with Housing Element Program 2E, the Zoning Ordinance will be amended to establish a ministerial review process and applicable requirements for by-right development

For Discretionary Development Sites, implementation of mitigation measure NOS-2 would occur during subsequent environmental CEQA review prior to approval. For By-Right Development Sites, implementation of mitigation measure NOS-2 would occur during the City's amended ministerial review process for by-right housing sites, as required by Program 2E in the HEU. With implementation of mitigation measure NOS-2, groundborne vibration impacts associated with the Discretionary Development Sites and By-Right Development Sites within close proximity to structures would be reduced to less than significant.

9.0 References Cited

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RICK
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ATTACHMENTS

ATTACHMENT 1

Noise Measurement Data

Summary

File Name on Meter	LxT_Data.003.s
File Name on PC	LxT_0003897-20260506 051931-LxT_Data.003.ldbin
Serial Number	0003897
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	Measurement 1
Job Description	Calexico HEU
Note	Internal meter time 1 hour behind actual time

Measurement

Description	
Start	2026-05-06 05:19:31
Stop	2026-05-06 06:19:33
Duration	01:00:02.1
Run Time	01:00:02.1
Pause	00:00:00.0
Pre-Calibration	2026-05-06 05:17:16
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
Overload	144.2 dB

	A	C	Z
Under Range Peak	**100.4**	97.4	102.4 dB
Under Range Limit	**49.4**	47.4	55.4 dB
Noise Floor	36.3	36.9	44.5 dB

Results

LAeq	66.5	
LAE	102.1	
EA	1.804 mPa²h	
EA8	14.420 mPa²h	
EA40	72.101 mPa²h	
LApeak (max)	2026-05-06 05:49:55	103.0 dB
LASmax	2026-05-06 05:51:49	89.8 dB
LASmin	2026-05-06 06:15:15	43.3 dB
SEA	-99.9 dB	
LAS > 60.0 dB (Exceedance Counts / Duration)	26	653.3 s
LAS > 70.0 dB (Exceedance Counts / Duration)	10	145.2 s
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
LCeq	80.4 dB	
LAeq	66.5 dB	
LCeq - LAeq	13.9 dB	
LAleq	68.8 dB	
LAeq	66.5 dB	
LAleq - LAeq	2.3 dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
Leq	66.5		80.4			
LS(max)	89.8	2026/05/06 5:51:49				
LS(min)	43.3	2026/05/06 6:15:15				
LPeak(max)	103.0	2026/05/06 5:49:55				

Overload Count	0
Overload Duration	0.0 s

Dose Settings

Dose Name	OSHA-1	OSHA-2
Exchange Rate	5	5 dB
Threshold	90	80 dB
Criterion Level	90	90 dB
Criterion Duration	8	8 h

Results

Dose	-99.94	0.06 %
Projected Dose	-99.94	0.44 %
TWA (Projected)	-99.9	50.9 dB
TWA (t)	-99.9	35.9 dB
Lep (t)	57.5	57.5 dB

Statistics

LA5.00	66.9 dB
LA10.00	62.9 dB
LA33.30	54.5 dB
LA50.00	52.4 dB
LA66.60	50.5 dB
LA90.00	47.3 dB

Summary

File Name on Meter	LxT_Data.004.s
File Name on PC	LxT_0003897-20260506 073358-LxT_Data.004.ldbin
Serial Number	0003897
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	Measurement 2
Job Description	Calexico HEU
Note	Internal meter time 1 hour behind actual time

Measurement

Description		
Start	2026-05-06 07:33:58	
Stop	2026-05-06 07:49:10	
Duration	00:15:12.0	
Run Time	00:15:02.7	
Pause	00:00:09.3	
Pre-Calibration	2026-05-06 07:25:37	
Post-Calibration	None	
Calibration Deviation	---	

Overall Settings

RMS Weight	A Weighting	
Peak Weight	A Weighting	
Detector	Slow	
Preamplifier	PRMLxT1	
Microphone Correction	Off	
Integration Method	Linear	
Overload	144.2 dB	

	A	C	Z
Under Range Peak	**100.4**	97.4	102.4 dB
Under Range Limit	**49.4**	47.4	55.4 dB
Noise Floor	36.3	36.9	44.6 dB

Results

LAeq	63.2	
LAE	92.8	
EA	211.168 µPa²h	
EA8	6.737 mPa²h	
EA40	33.686 mPa²h	
LApeak (max)	2026-05-06 07:45:50	94.3 dB
LASmax	2026-05-06 07:45:51	77.9 dB
LASmin	2026-05-06 07:36:04	44.4 dB
SEA	-99.9 dB	
LAS > 60.0 dB (Exceedance Counts / Duration)	27	513.0 s
LAS > 70.0 dB (Exceedance Counts / Duration)	3	23.2 s
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
LCeq	68.9 dB	
LAeq	63.2 dB	
LCeq - LAeq	5.7 dB	
LAleq	64.4 dB	
LAeq	63.2 dB	
LAleq - LAeq	1.1 dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
Leq	63.2		68.9			
LS(max)	77.9	2026/05/06 7:45:51				
LS(min)	44.4	2026/05/06 7:36:04				
LPeak(max)	94.3	2026/05/06 7:45:50				

Overload Count	0	
Overload Duration	0.0 s	

Dose Settings

Dose Name	OSHA-1	OSHA-2
Exchange Rate	5	5 dB
Threshold	90	80 dB
Criterion Level	90	90 dB
Criterion Duration	8	8 h

Results

Dose	-99.94	-99.94	%
Projected Dose	-99.94	-99.94	%
TWA (Projected)	-99.9	-99.9	dB
TWA (t)	-99.9	-99.9	dB
Lep (t)	48.2	48.2	dB

Statistics

LA5.00	67.9 dB
LA10.00	66.9 dB
LA33.30	63.2 dB
LA50.00	60.3 dB
LA66.60	56.5 dB
LA90.00	50.4 dB

Summary

File Name on Meter	LxT_Data.005.s
File Name on PC	LxT_0003897-20260506 080916-LxT_Data.005.ldbin
Serial Number	0003897
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	Measurement 3
Job Description	Calexico HEU
Note	Internal meter time 1 hour behind actual time

Measurement

Description	
Start	2026-05-06 08:09:16
Stop	2026-05-06 08:39:30
Duration	00:30:14.5
Run Time	00:30:02.8
Pause	00:00:11.7
Pre-Calibration	2026-05-06 07:25:32
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
Overload	144.2 dB

	A	C	Z
Under Range Peak	**100.4**	97.4	102.4 dB
Under Range Limit	**49.4**	47.4	55.4 dB
Noise Floor	36.3	36.9	44.6 dB

Results

LAeq	44.3	
LAE	76.8	
EA	5.343	µPa²h
EA8	85.355	µPa²h
EA40	426.775	µPa²h
LApeak (max)	2026-05-06 08:16:01	71.8 dB
LASmax	2026-05-06 08:11:58	56.9 dB
LASmin	2026-05-06 08:17:54	36.9 dB
SEA	-99.9	dB
LAS > 60.0 dB (Exceedance Counts / Duration)	0	0.0 s
LAS > 70.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
LCeq	61.2	dB
LAeq	44.3	dB
LCeq - LAeq	17.0	dB
LAleq	45.6	dB
LAeq	44.3	dB
LAleq - LAeq	1.3	dB

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
Leq	44.3		61.2			
LS(max)	56.9	2026/05/06 8:11:58				
LS(min)	36.9	2026/05/06 8:17:54				
LPeak(max)	71.8	2026/05/06 8:16:01				

Overload Count	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2
Exchange Rate	5	5 dB
Threshold	90	80 dB
Criterion Level	90	90 dB
Criterion Duration	8	8 h

Results

Dose	-99.94	-99.94	%
Projected Dose	-99.94	-99.94	%
TWA (Projected)	-99.9	-99.9	dB
TWA (t)	-99.9	-99.9	dB
Lep (t)	32.2	32.2	dB

Statistics

LA5.00	47.9	dB
LA10.00	46.1	dB
LA33.30	43.9	dB
LA50.00	43.1	dB
LA66.60	42.1	dB
LA90.00	38.4	dB

Summary

File Name on Meter	LxT_Data.006.s
File Name on PC	LxT_0003897-20260506 091622-LxT_Data.006.ldbin
Serial Number	0003897
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	Measurement 4
Job Description	Calexico HEU
Note	Internal meter time 1 hour behind actual time

Measurement

Description	
Start	2026-05-06 09:16:22
Stop	2026-05-06 09:31:36
Duration	00:15:13.7
Run Time	00:15:05.4
Pause	00:00:08.3
Pre-Calibration	2026-05-06 07:25:32
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
Overload	144.2 dB

	A	C	Z
Under Range Peak	**100.4**	97.4	102.4 dB
Under Range Limit	**49.4**	47.4	55.4 dB
Noise Floor	36.3	36.9	44.6 dB

Results

LAeq	61.6	
LAE	91.2	
EA	146.912 µPa²h	
EA8	4.673 mPa²h	
EA40	23.366 mPa²h	
LApeak (max)	2026-05-06 09:22:35	90.5 dB
LASmax	2026-05-06 09:30:50	77.3 dB
LASmin	2026-05-06 09:23:01	46.3 dB
SEA	-99.9 dB	
LAS > 60.0 dB (Exceedance Counts / Duration)	26	314.5 s
LAS > 70.0 dB (Exceedance Counts / Duration)	7	30.3 s
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
LCeq	70.5 dB	
LAeq	61.6 dB	
LCeq - LAeq	8.9 dB	
LAleq	62.6 dB	
LAeq	61.6 dB	
LAleq - LAeq	1.0 dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
Leq	61.6		70.5			
LS(max)	77.3	2026/05/06 9:30:50				
LS(min)	46.3	2026/05/06 9:23:01				
LPeak(max)	90.5	2026/05/06 9:22:35				

Overload Count	0
Overload Duration	0.0 s

Dose Settings

Dose Name	OSHA-1	OSHA-2
Exchange Rate	5	5 dB
Threshold	90	80 dB
Criterion Level	90	90 dB
Criterion Duration	8	8 h

Results

Dose	-99.94	-99.94 %
Projected Dose	-99.94	-99.94 %
TWA (Projected)	-99.9	-99.9 dB
TWA (t)	-99.9	-99.9 dB
Lep (t)	46.6	46.6 dB

Statistics

LA5.00	68.3 dB
LA10.00	65.6 dB
LA33.30	59.0 dB
LA50.00	56.0 dB
LA66.60	52.6 dB
LA90.00	48.5 dB

Summary

File Name on Meter	LxT_Data.007.s
File Name on PC	LxT_0003897-20260506 100926-LxT_Data.007.ldbin
Serial Number	0003897
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	Measurement 5
Job Description	Calexico HEU
Note	Internal meter time 1 hour behind actual time

Measurement

Description		
Start	2026-05-06 10:09:26	
Stop	2026-05-06 10:24:33	
Duration	00:15:07.6	
Run Time	00:15:01.8	
Pause	00:00:05.8	
Pre-Calibration	2026-05-06 07:25:32	
Post-Calibration	None	
Calibration Deviation	---	

Overall Settings

RMS Weight	A Weighting			
Peak Weight	A Weighting			
Detector	Slow			
Preamplifier	PRMLxT1			
Microphone Correction	Off			
Integration Method	Linear			
Overload	144.2 dB			
	A	**C**	**Z**	
Under Range Peak	**100.4**	97.4	102.4	dB
Under Range Limit	**49.4**	47.4	55.4	dB
Noise Floor	36.3	36.9	44.6	dB

Results

LAeq	64.1		
LAE	93.7		
EA	257.820	µPa²h	
EA8	8.234	mPa²h	
EA40	41.169	mPa²h	
LApeak (max)	2026-05-06 10:15:54	90.0	dB
LASmax	2026-05-06 10:15:55	76.8	dB
LASmin	2026-05-06 10:12:25	48.0	dB
SEA	-99.9	dB	
LAS > 60.0 dB (Exceedance Counts / Duration)	31	417.0	s
LAS > 70.0 dB (Exceedance Counts / Duration)	18	78.2	s
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0	s
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0	s
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0	s
LCeq	69.6	dB	
LAeq	64.1	dB	
LCeq - LAeq	5.5	dB	
LAleq	65.6	dB	
LAeq	64.1	dB	
LAleq - LAeq	1.5	dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
Leq	64.1		69.6			
LS(max)	76.8	2026/05/06 10:15:55				
LS(min)	48.0	2026/05/06 10:12:25				
LPeak(max)	90.0	2026/05/06 10:15:54				

Overload Count	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results

Dose	-99.94	-99.94	%
Projected Dose	-99.94	-99.94	%
TWA (Projected)	-99.9	-99.9	dB
TWA (t)	-99.9	-99.9	dB
Lep (t)	49.1	49.1	dB

Statistics

LA5.00	70.4	dB
LA10.00	68.4	dB
LA33.30	61.9	dB
LA50.00	58.0	dB
LA66.60	54.3	dB
LA90.00	49.7	dB

Summary

File Name on Meter	LxT_Data.008.s
File Name on PC	LxT_0003897-20260506 105235-LxT_Data.008.ldbin
Serial Number	0003897
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	Measurement 6
Job Description	Calexico HEU
Note	Internal meter time 1 hour behind actual time

Measurement

Description	
Start	2026-05-06 10:52:35
Stop	2026-05-06 11:07:42
Duration	00:15:07.7
Run Time	00:15:01.5
Pause	00:00:06.2
Pre-Calibration	2026-05-06 07:25:32
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
Overload	144.2 dB

	A	C	Z
Under Range Peak	**100.4**	97.4	102.4 dB
Under Range Limit	**49.4**	47.4	55.4 dB
Noise Floor	36.3	36.9	44.6 dB

Results

LAeq	59.8		
LAE	89.4		
EA	96.554	µPa²h	
EA8	3.085	mPa²h	
EA40	15.423	mPa²h	
LApeak (max)	2026-05-06 11:03:05	86.8	dB
LASmax	2026-05-06 10:54:03	74.3	dB
LASmin	2026-05-06 11:03:25	42.5	dB
SEA	-99.9	dB	
LAS > 60.0 dB (Exceedance Counts / Duration)	32	351.6	s
LAS > 70.0 dB (Exceedance Counts / Duration)	4	10.7	s
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0	s
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0	s
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0	s
LCeq	70.6	dB	
LAeq	59.8	dB	
LCeq - LAeq	10.8	dB	
LAleq	61.5	dB	
LAeq	59.8	dB	
LAleq - LAeq	1.6	dB	

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	59.8		70.6			
LS(max)	74.3	2026/05/06 10:54:03				
LS(min)	42.5	2026/05/06 11:03:25				
LPeak(max)	86.8	2026/05/06 11:03:05				

Overload Count	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2
Exchange Rate	5	5 dB
Threshold	90	80 dB
Criterion Level	90	90 dB
Criterion Duration	8	8 h

Results

Dose	-99.94	-99.94	%
Projected Dose	-99.94	-99.94	%
TWA (Projected)	-99.9	-99.9	dB
TWA (t)	-99.9	-99.9	dB
Lep (t)	44.8	44.8	dB

Statistics

LA5.00	64.7	dB
LA10.00	63.3	dB
LA33.30	59.5	dB
LA50.00	57.5	dB
LA66.60	54.2	dB
LA90.00	47.7	dB

Summary

File Name on Meter	LxT_Data.009.s
File Name on PC	LxT_0003897-20260506 120026-LxT_Data.009.ldbin
Serial Number	0003897
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	Measurement 7
Job Description	Calexico HEU
Note	Internal meter time 1 hour behind actual time

Measurement

Description	
Start	2026-05-06 12:00:26
Stop	2026-05-06 12:15:42
Duration	00:15:15.8
Run Time	00:15:09.8
Pause	00:00:06.0
Pre-Calibration	2026-05-06 07:25:32
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
Overload	144.2 dB

	A	C	Z
Under Range Peak	**100.4**	97.4	102.4 dB
Under Range Limit	**49.4**	47.4	55.4 dB
Noise Floor	36.3	36.9	44.6 dB

Results

LAeq	68.0	
LAE	97.6	
EA	643.662 µPa²h	
EA8	20.375 mPa²h	
EA40	101.877 mPa²h	
LApeak (max)	2026-05-06 12:12:56	99.4 dB
LASmax	2026-05-06 12:12:57	82.7 dB
LASmin	2026-05-06 12:05:37	54.4 dB
SEA	-99.9 dB	
LAS > 60.0 dB (Exceedance Counts / Duration)	4	879.1 s
LAS > 70.0 dB (Exceedance Counts / Duration)	17	178.8 s
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
LCeq	79.4 dB	
LAeq	68.0 dB	
LCeq - LAeq	11.3 dB	
LAleq	69.4 dB	
LAeq	68.0 dB	
LAleq - LAeq	1.3 dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
Leq	68.0		79.4			
LS(max)	82.7	2026/05/06 12:12:57				
LS(min)	54.4	2026/05/06 12:05:37				
LPeak(max)	99.4	2026/05/06 12:12:56				

Overload Count	0
Overload Duration	0.0 s

Dose Settings

Dose Name	OSHA-1	OSHA-2
Exchange Rate	5	5 dB
Threshold	90	80 dB
Criterion Level	90	90 dB
Criterion Duration	8	8 h

Results

Dose	-99.94	0.00 %
Projected Dose	-99.94	0.09 %
TWA (Projected)	-99.9	39.8 dB
TWA (t)	-99.9	14.8 dB
Lep (t)	53.0	53.0 dB

Statistics

LA5.00	72.6 dB
LA10.00	70.9 dB
LA33.30	67.3 dB
LA50.00	65.8 dB
LA66.60	64.3 dB
LA90.00	60.8 dB

Summary

File Name on Meter	LxT_Data.010.s
File Name on PC	LxT_0003897-20260506 123638-LxT_Data.010.ldbin
Serial Number	0003897
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	Measurement 8
Job Description	Calexico HEU
Note	Internal meter time 1 hour behind actual time

Measurement

Description		
Start	2026-05-06 12:36:38	
Stop	2026-05-06 12:51:47	
Duration	00:15:09.1	
Run Time	00:15:03.6	
Pause	00:00:05.5	
Pre-Calibration	2026-05-06 07:25:32	
Post-Calibration	None	
Calibration Deviation	---	

Overall Settings

RMS Weight	A Weighting			
Peak Weight	A Weighting			
Detector	Slow			
Preamplifier	PRMLxT1			
Microphone Correction	Off			
Integration Method	Linear			
Overload	144.2 dB			
	A	**C**	**Z**	
Under Range Peak	**100.4**	97.4	102.4	dB
Under Range Limit	**49.4**	47.4	55.4	dB
Noise Floor	36.3	36.9	44.6	dB

Results

LAeq	61.3		
LAE	90.8		
EA	134.626	µPa²h	
EA8	4.291	mPa²h	
EA40	21.454	mPa²h	
LApeak (max)	2026-05-06 12:45:13	90.5	dB
LASmax	2026-05-06 12:45:13	76.6	dB
LASmin	2026-05-06 12:40:29	41.0	dB
SEA	-99.9	dB	
LAS > 60.0 dB (Exceedance Counts / Duration)	28	488.6	s
LAS > 70.0 dB (Exceedance Counts / Duration)	1	4.2	s
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0	s
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0	s
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0	s
LCeq	70.7	dB	
LAeq	61.3	dB	
LCeq - LAeq	9.4	dB	
LAleq	62.7	dB	
LAeq	61.3	dB	
LAleq - LAeq	1.5	dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
Leq	61.3		70.7			
LS(max)	76.6	2026/05/06 12:45:13				
LS(min)	41.0	2026/05/06 12:40:29				
LPeak(max)	90.5	2026/05/06 12:45:13				

Overload Count	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results

Dose	-99.94	-99.94	%
Projected Dose	-99.94	-99.94	%
TWA (Projected)	-99.9	-99.9	dB
TWA (t)	-99.9	-99.9	dB
Lep (t)	46.2	46.2	dB

Statistics

LA5.00	65.9	dB
LA10.00	64.5	dB
LA33.30	61.4	dB
LA50.00	59.2	dB
LA66.60	57.0	dB
LA90.00	50.0	dB

ATTACHMENT 2

Intersection Turning Volumes

Year Existing
Location Calexico HEU

Intersection 1
Jasper Road and SR-111/Imperial Avenue

	AM	PM
SBR	34	27
SBT	875	1309
SBL	72	201
WBR	252	199
WBT	47	54
WBL	4	3
EBL	22	22
EBT	48	54
EBR	60	68
NBL	37	31
NBT	1023	915
NBR	13	6

	AM	PM
Southbound Approach	981	1,537
Southbound Departure	939	1,380
Westbound Approach	303	256
Westbound Departure	118	112
Eastbound Approach	130	144
Eastbound Departure	133	261
Northbound Approach	1,073	952
Northbound Departure	1,297	1,136

Total AM Volume	2,487
Total PM Volume	2,889

Intersection 2
Cole Boulevard and SR-111/Imperial Avenue

	AM	PM
SBR	99	125
SBT	642	801
SBL	200	446
WBR	246	237
WBT	328	288
WBL	159	264
EBL	107	93
EBT	410	530
EBR	84	87
NBL	70	56
NBT	597	613
NBR	198	270

	AM	PM
Southbound Approach	941	1372
Southbound Departure	885	1152
Westbound Approach	733	789
Westbound Departure	497	469
Eastbound Approach	601	710
Eastbound Departure	808	1246
Northbound Approach	865	939
Northbound Departure	950	943

Total AM Volume	3,140
Total PM Volume	3,810

Intersection 3
Cole Boulevard and Yourman Road

	AM	PM
SBR	139	278
SBT	94	289
SBL	110	243
WBR	325	251
WBT	479	355
WBL	45	52
EBL	231	371
EBT	341	527
EBR	57	73
NBL	1137	132
NBT	164	190
NBR	51	55

	AM	PM
Southbound Approach	343	810
Southbound Departure	196	414
Westbound Approach	849	658
Westbound Departure	1755	765
Eastbound Approach	629	971
Eastbound Departure	502	825
Northbound Approach	1352	377
Northbound Departure	720	812

Total AM Volume	3,173
Total PM Volume	2,816

Intersection 4
Cole Boulevard and Meadows Road

	AM	PM
SBR	130	64
SBT	73	30
SBL	17	8
WBR	6	20
WBT	293	292
WBL	10	23
EBL	58	56
EBT	175	316
EBR	145	367
NBL	378	239
NBT	32	42
NBR	20	41

	AM	PM
Southbound Approach	220	102
Southbound Departure	228	420
Westbound Approach	309	335
Westbound Departure	801	595
Eastbound Approach	378	739
Eastbound Departure	212	365
Northbound Approach	430	322
Northbound Departure	96	118

Total AM Volume	1,337
Total PM Volume	1,498

Intersection 5
Cole Boulevard and G. Cleveland Avenue

	AM	PM
SBR	0	0
SBT	0	0
SBL	0	0
WBR	0	0
WBT	176	289
WBL	4	15
EBL	0	0
EBT	174	292
EBR	39	47
NBL	66	27
NBT	0	0
NBR	33	10

	AM	PM
Southbound Approach	0	0
Southbound Departure	43	62
Westbound Approach	180	304
Westbound Departure	242	316
Eastbound Approach	213	339
Eastbound Departure	207	302
Northbound Approach	99	37
Northbound Departure	0	0

Total AM Volume	492
Total PM Volume	680

ID	Street/Segment	AM	PM
	Jasper Road		
1	West of intersection	248	256
2	East of intersection	436	517
	SR-111/Imperial Avenue		
29	North of intersection	2,278	2,673
30	South of intersection	2,012	2,332
	Cole Boulevard		
3	West of intersection	1,098	1,179
4	East of intersection	1,541	2,035
	SR-111/Imperial Avenue		
31	North of intersection	1,891	2,315
32	South of intersection	1,750	2,091
	Cole Boulevard		
5	West of intersection	2,384	1,736
6	East of intersection	1,351	1,483
	Yourman Road		
37	North of intersection	1,063	1,622
38	South of intersection	1,548	791
	Cole Boulevard		
7	West of intersection	1,179	1,334
8	East of intersection	521	700
	Meadows Road		
39	North of intersection	316	220
40	South of intersection	658	742
	Cole Boulevard		
9	West of intersection	455	655
10	East of intersection	387	606
	G. Cleveland Avenue		
	North of intersection	0	0
43	South of intersection	142	99

Year Existing
Location Calexico HEU

Intersection	6	
Cole Boulevard	and	Bowker Road

	AM	PM
SBR	18	55
SBT	71	224
SBL	8	7
WBR	6	9
WBT	92	188
WBL	8	14
EBL	119	24
EBT	112	220
EBR	14	13
NBL	11	14
NBT	243	62
NBR	17	15

	AM	PM
Southbound Approach	97	286
Southbound Departure	93	251
Westbound Approach	106	211
Westbound Departure	121	257
Eastbound Approach	245	257
Eastbound Departure	137	242
Northbound Approach	271	91
Northbound Departure	368	95

Total AM Volume	719
Total PM Volume	845

	Cole Boulevard		
11	West of intersection	366	514
12	East of intersection	243	453
	Bowker Road		
44	North of intersection	465	381
45	South of intersection	364	342

Intersection	7	
SR-98/Birch Street	and	David Navarro Avenue

	AM	PM
SBR	31	8
SBT	27	16
SBL	60	36
WBR	46	32
WBT	298	228
WBL	38	54
EBL	9	24
EBT	286	435
EBR	28	112
NBL	86	44
NBT	61	19
NBR	15	27

	AM	PM
Southbound Approach	118	60
Southbound Departure	93	182
Westbound Approach	382	314
Westbound Departure	415	280
Eastbound Approach	323	571
Eastbound Departure	361	498
Northbound Approach	162	90
Northbound Departure	116	75

Total AM Volume	985
Total PM Volume	1,035

	SR-98/Birch Street		
13	West of intersection	738	851
14	East of intersection	743	812
	David Navarro Avenue		
48	North of intersection	234	135
49	South of intersection	255	272

Intersection	8	
SR-98/Birch Street	and	Kloke Road

	AM	PM
SBR	61	27
SBT	108	104
SBL	157	97
WBR	166	70
WBT	267	240
WBL	55	78
EBL	15	17
EBT	291	404
EBR	29	48
NBL	48	39
NBT	163	97
NBR	71	90

	AM	PM
Southbound Approach	326	228
Southbound Departure	192	230
Westbound Approach	488	388
Westbound Departure	376	306
Eastbound Approach	335	469
Eastbound Departure	519	591
Northbound Approach	282	226
Northbound Departure	344	184

Total AM Volume	1,431
Total PM Volume	1,311

	SR-98/Birch Street		
15	West of intersection	711	775
16	East of intersection	1,007	979
	Kloke Road		
50	North of intersection	670	412
51	South of intersection	474	456

Intersection	9	
SR-98/Birch Street	and	Cesar Chavez Boulevard

	AM	PM
SBR	0	0
SBT	0	0
SBL	0	0
WBR	0	0
WBT	553	473
WBL	175	283
EBL	0	0
EBT	605	533
EBR	152	308
NBL	214	144
NBT	0	0
NBR	178	207

	AM	PM
Southbound Approach	0	0
Southbound Departure	327	591
Westbound Approach	728	756
Westbound Departure	767	617
Eastbound Approach	757	841
Eastbound Departure	783	740
Northbound Approach	392	351
Northbound Departure	0	0

Total AM Volume	1,877
Total PM Volume	1,948

	SR-98/Birch Street		
17	West of intersection	1,524	1,458
18	East of intersection	1,511	1,496
	Cesar Chavez Boulevard		
	North of intersection	0	0
52	South of intersection	719	942

Intersection	10	
SR-98/Birch Street	and	SR-111/Imperial Avenue

	AM	PM
SBR	129	219
SBT	505	741
SBL	214	281
WBR	235	190
WBT	508	418
WBL	186	158
EBL	129	186
EBT	470	485
EBR	164	155
NBL	179	199
NBT	488	615
NBR	73	87

	AM	PM
Southbound Approach	848	1241
Southbound Departure	855	1054
Westbound Approach	929	766
Westbound Departure	816	836
Eastbound Approach	763	826
Eastbound Departure	757	853
Northbound Approach	740	901
Northbound Departure	852	991

Total AM Volume	3,280
Total PM Volume	3,734

	SR-98/Birch Street		
19	West of intersection	1,579	1,662
20	East of intersection	1,686	1,619
	SR-111/Imperial Avenue		
33	North of intersection	1,700	2,232
34	South of intersection	1,595	1,955

Year Existing
Location Calexico HEU

Intersection	11								
SR-98/Birch Street	and	Meadows Road/Andrade Avenue							
	AM	PM		AM	PM				
SBR	346	225	Southbound Approach	861	554	21	West of intersection	1,538	1,158
SBT	414	265	Southbound Departure	681	452	22	East of intersection	969	720
SBL	101	64	Westbound Approach	515	380				
WBR	102	94	Westbound Departure	856	557				
WBT	321	238	Eastbound Approach	682	601	41	North of intersection	1,521	1,095
WBL	92	48	Eastbound Departure	454	340	42	South of intersection	1,274	807
EBL	235	223	Northbound Approach	593	355				
EBT	272	239	Northbound Departure	660	541				
EBR	175	139							
NBL	189	94	Total AM Volume	2,651					
NBT	323	224	Total PM Volume	1,890					
NBR	81	37							

Intersection	12								
SR-98/Birch Street	and	Bowker Road							
	AM	PM		AM	PM				
SBR	309	154	Southbound Approach	344	216	23	West of intersection	1,060	729
SBT	26	44	Southbound Departure	54	70	24	East of intersection	495	540
SBL	9	18	Westbound Approach	252	269				
WBR	17	13	Westbound Departure	516	384				
WBT	207	230	Eastbound Approach	544	345	46	North of intersection	709	350
WBL	28	26	Eastbound Departure	243	271	47	South of intersection	92	99
EBL	332	109	Northbound Approach	38	29				
EBT	212	236	Northbound Departure	365	134				
EBR	0	0							
NBL	0	0	Total AM Volume	1,178					
NBT	16	12	Total PM Volume	859					
NBR	22	17							

Intersection	13								
Grant Street	and	Cesar Chavez Boulevard							
	AM	PM		AM	PM				
SBR	20	28	Southbound Approach	349	583	25	West of intersection	380	446
SBT	274	523	Southbound Departure	332	712	26	East of intersection	455	493
SBL	55	32	Westbound Approach	202	282				
WBR	53	41	Westbound Departure	159	199				
WBT	118	147	Eastbound Approach	221	247	53	North of intersection	789	779
WBL	31	94	Eastbound Departure	253	211	54	South of intersection	744	918
EBL	20	31	Northbound Approach	412	206				
EBT	174	121	Northbound Departure	440	196				
EBR	27	95							
NBL	21	24	Total AM Volume	1,184					
NBT	367	124	Total PM Volume	1,318					
NBR	24	58							

Intersection	14								
Grant Street/8th Street	and	SR-111/Imperial Avenue							
	AM	PM		AM	PM				
SBR	28	74	Southbound Approach	674	729	27	West of intersection	285	243
SBT	640	596	Southbound Departure	713	612	28	East of intersection	134	145
SBL	6	59	Westbound Approach	66	71				
WBR	14	31	Westbound Departure	130	229				
WBT	45	32	Eastbound Approach	155	14	35	North of intersection	1,327	1,578
WBL	7	8	Eastbound Departure	68	74	36	South of intersection	1,382	1,562
EBL	46	1	Northbound Approach	669	950				
EBT	43	5	Northbound Departure	653	849				
EBR	66	8							
NBL	57	123	Total AM Volume	1,564					
NBT	593	817	Total PM Volume	1,764					
NBR	19	10							

Max AM	3,280
Max PM	3,810

Year: Year 2050 with Existing General Plan Land Uses
Location: Calexico HEU

Intersection 1
Jasper Road and SR-111/Imperial Avenue

	AM	PM
SBR	38	30
SBT	974	1458
SBL	80	224
WBR	281	222
WBT	52	60
WBL	4	3
EBL	24	24
EBT	53	60
EBR	67	76
NBL	41	35
NBT	1139	1019
NBR	14	7

	AM	PM
Southbound Approach	1,092	1,712
Southbound Departure	1,045	1,537
Westbound Approach	337	285
Westbound Departure	131	125
Eastbound Approach	144	160
Eastbound Departure	147	291
Northbound Approach	1,194	1,061
Northbound Departure	1,444	1,265

Total AM Volume	2,767
Total PM Volume	3,218

Intersection 2
Cole Boulevard and SR-111/Imperial Avenue

	AM	PM
SBR	110	139
SBT	715	892
SBL	223	497
WBR	274	264
WBT	365	321
WBL	177	294
EBL	119	104
EBT	457	590
EBR	94	97
NBL	78	62
NBT	665	683
NBR	220	301

	AM	PM
Southbound Approach	1048	1528
Southbound Departure	986	1283
Westbound Approach	816	879
Westbound Departure	553	522
Eastbound Approach	670	791
Eastbound Departure	900	1388
Northbound Approach	963	1046
Northbound Departure	1058	1051

Total AM Volume	3,497
Total PM Volume	4,244

Intersection 3
Cole Boulevard and Yourman Road

	AM	PM
SBR	155	310
SBT	105	322
SBL	122	271
WBR	362	279
WBT	533	395
WBL	50	58
EBL	257	413
EBT	380	587
EBR	63	81
NBL	153	147
NBT	183	212
NBR	57	61

	AM	PM
Southbound Approach	382	903
Southbound Departure	218	461
Westbound Approach	945	732
Westbound Departure	841	852
Eastbound Approach	700	1081
Eastbound Departure	559	919
Northbound Approach	393	420
Northbound Departure	802	904

Total AM Volume	2,420
Total PM Volume	3,136

Intersection 4
Cole Boulevard and Meadows Road

	AM	PM
SBR	145	71
SBT	81	33
SBL	19	9
WBR	7	22
WBT	326	325
WBL	11	26
EBL	65	62
EBT	195	352
EBR	161	409
NBL	421	266
NBT	36	47
NBR	22	46

	AM	PM
Southbound Approach	245	113
Southbound Departure	253	468
Westbound Approach	344	373
Westbound Departure	892	662
Eastbound Approach	421	823
Eastbound Departure	236	407
Northbound Approach	479	359
Northbound Departure	108	131

Total AM Volume	1,489
Total PM Volume	1,668

Intersection 5
Cole Boulevard and G. Cleveland Avenue

	AM	PM
SBR	0	0
SBT	0	0
SBL	0	0
WBR	0	0
WBT	203	334
WBL	5	17
EBL	0	0
EBT	201	338
EBR	45	54
NBL	76	31
NBT	0	0
NBR	38	12

	AM	PM
Southbound Approach	0	0
Southbound Departure	50	71
Westbound Approach	208	351
Westbound Departure	279	365
Eastbound Approach	246	392
Eastbound Departure	239	350
Northbound Approach	114	43
Northbound Departure	0	0

Total AM Volume	568
Total PM Volume	786

ID	Street/Segment	AM	PM
	Jasper Road		
1	West of intersection	275	285
2	East of intersection	484	576
	SR-111/Imperial Avenue		
29	North of intersection	2,536	2,977
30	South of intersection	2,239	2,598
	Cole Boulevard		
3	West of intersection	1,223	1,313
4	East of intersection	1,716	2,267
	SR-111/Imperial Avenue		
31	North of intersection	2,106	2,579
32	South of intersection	1,949	2,329
	Cole Boulevard		
5	West of intersection	1,541	1,933
6	East of intersection	1,504	1,651
	Yourman Road		
37	North of intersection	1,184	1,807
38	South of intersection	611	881
	Cole Boulevard		
7	West of intersection	1,313	1,485
8	East of intersection	580	780
	Meadows Road		
39	North of intersection	353	244
40	South of intersection	732	827
	Cole Boulevard		
9	West of intersection	525	757
10	East of intersection	447	701
	G. Cleveland Avenue		
	North of intersection	0	0
43	South of intersection	164	114

Year: Year 2050 with Existing General Plan Land Uses
Location: Calexico HEU

Intersection 6: Cole Boulevard and Bowker Road

	AM	PM
SBR	24	73
SBT	95	299
SBL	11	9
WBR	8	12
WBT	123	251
WBL	11	19
EBL	159	32
EBT	150	294
EBR	19	17
NBL	15	19
NBT	324	83
NBR	23	20

	AM	PM
Southbound Approach	130	381
Southbound Departure	125	335
Westbound Approach	142	282
Westbound Departure	162	343
Eastbound Approach	328	343
Eastbound Departure	184	323
Northbound Approach	362	122
Northbound Departure	491	127

Total AM Volume	962
Total PM Volume	1,128

	Cole Boulevard		
11	West of intersection	490	686
12	East of intersection	326	605
	Bowker Road		
44	North of intersection	621	508
45	South of intersection	487	457

Intersection 7: SR-98/Birch Street and David Navarro Avenue

	AM	PM
SBR	38	10
SBT	33	20
SBL	74	44
WBR	56	39
WBT	365	280
WBL	47	66
EBL	11	29
EBT	351	533
EBR	34	137
NBL	105	54
NBT	75	23
NBR	18	33

	AM	PM
Southbound Approach	145	74
Southbound Departure	114	223
Westbound Approach	468	385
Westbound Departure	508	344
Eastbound Approach	396	699
Eastbound Departure	443	610
Northbound Approach	198	110
Northbound Departure	142	91

Total AM Volume	1,207
Total PM Volume	1,268

	SR-98/Birch Street		
13	West of intersection	904	1,043
14	East of intersection	911	995
	David Navarro Avenue		
48	North of intersection	287	165
49	South of intersection	312	333

Intersection 8: SR-98/Birch Street and Kloke Road

	AM	PM
SBR	76	33
SBT	134	129
SBL	194	120
WBR	206	87
WBT	331	297
WBL	68	97
EBL	19	21
EBT	360	500
EBR	36	59
NBL	59	48
NBT	202	120
NBR	88	111

	AM	PM
Southbound Approach	404	282
Southbound Departure	238	285
Westbound Approach	605	481
Westbound Departure	466	378
Eastbound Approach	415	580
Eastbound Departure	642	731
Northbound Approach	349	279
Northbound Departure	427	228

Total AM Volume	1,773
Total PM Volume	1,622

	SR-98/Birch Street		
15	West of intersection	881	958
16	East of intersection	1,247	1,212
	Kloke Road		
50	North of intersection	831	510
51	South of intersection	587	564

Intersection 9: SR-98/Birch Street and Cesar Chavez Boulevard

	AM	PM
SBR	0	0
SBT	0	0
SBL	0	0
WBR	0	0
WBT	643	550
WBL	204	329
EBL	0	0
EBT	704	620
EBR	177	358
NBL	249	167
NBT	0	0
NBR	207	241

	AM	PM
Southbound Approach	0	0
Southbound Departure	381	687
Westbound Approach	847	879
Westbound Departure	892	717
Eastbound Approach	881	978
Eastbound Departure	911	861
Northbound Approach	456	408
Northbound Departure	0	0

Total AM Volume	2,184
Total PM Volume	2,265

	SR-98/Birch Street		
17	West of intersection	1,773	1,695
18	East of intersection	1,758	1,740
	Cesar Chavez Boulevard		
	North of intersection	0	0
52	South of intersection	837	1,095

Intersection 10: SR-98/Birch Street and SR-111/Imperial Avenue

	AM	PM
SBR	147	249
SBT	575	844
SBL	244	320
WBR	268	216
WBT	578	476
WBL	212	180
EBL	147	212
EBT	535	552
EBR	187	176
NBL	204	227
NBT	556	700
NBR	83	99

	AM	PM
Southbound Approach	966	1413
Southbound Departure	974	1200
Westbound Approach	1058	872
Westbound Departure	929	952
Eastbound Approach	869	940
Eastbound Departure	862	971
Northbound Approach	843	1026
Northbound Departure	971	1128

Total AM Volume	3,736
Total PM Volume	4,251

	SR-98/Birch Street		
19	West of intersection	1,798	1,892
20	East of intersection	1,920	1,843
	SR-111/Imperial Avenue		
33	North of intersection	1,937	2,541
34	South of intersection	1,817	2,226

Year: Year 2050 with Existing General Plan Land Uses
Location: Calexico HEU

Intersection	11							
SR-98/Birch Street	and	Meadows Road/Andrade Avenue						
	AM	PM			AM	PM		
SBR	384	250		Southbound Approach	956	615	21	West of intersection
SBT	460	294		Southbound Departure	756	501	22	East of intersection
SBL	112	71		Westbound Approach	571	421		
WBR	113	104		Westbound Departure	950	618		
WBT	356	264		Eastbound Approach	757	667	41	North of intersection
WBL	102	53		Eastbound Departure	504	377	42	South of intersection
EBL	261	248		Northbound Approach	659	394		
EBT	302	265		Northbound Departure	733	601		
EBR	194	154						
NBL	210	104		Total AM Volume	2,943			
NBT	359	249		Total PM Volume	2,097			
NBR	90	41						

SR-98/Birch Street		
West of intersection	1,707	1,285
East of intersection	1,075	798
Meadows Road/Andrade Avenue		
North of intersection	1,689	1,216
South of intersection	1,415	895

Intersection	12							
SR-98/Birch Street	and	Bowker Road						
	AM	PM			AM	PM		
SBR	361	180		Southbound Approach	402	252	23	West of intersection
SBT	30	51		Southbound Departure	63	81	24	East of intersection
SBL	11	21		Westbound Approach	295	314		
WBR	20	15		Westbound Departure	603	449		
WBT	242	269		Eastbound Approach	636	403	46	North of intersection
WBL	33	30		Eastbound Departure	285	317	47	South of intersection
EBL	388	127		Northbound Approach	45	34		
EBT	248	276		Northbound Departure	427	156		
EBR	0	0						
NBL	0	0		Total AM Volume	1,378			
NBT	19	14		Total PM Volume	1,003			
NBR	26	20						

SR-98/Birch Street		
West of intersection	1,239	852
East of intersection	580	631
Bowker Road		
North of intersection	829	408
South of intersection	108	115

Intersection	13							
Grant Street	and	Cesar Chavez Boulevard						
	AM	PM			AM	PM		
SBR	22	65		Southbound Approach	388	683	25	West of intersection
SBT	305	582		Southbound Departure	370	793	26	East of intersection
SBL	61	36		Westbound Approach	225	315		
WBR	59	46		Westbound Departure	176	256		
WBT	131	164		Eastbound Approach	216	276	53	North of intersection
WBL	35	105		Eastbound Departure	252	236	54	South of intersection
EBL	22	35		Northbound Approach	459	230		
EBT	164	135		Northbound Departure	490	219		
EBR	30	106						
NBL	23	27		Total AM Volume	1,288			
NBT	409	138		Total PM Volume	1,504			
NBR	27	65						

Grant Street		
West of intersection	392	532
East of intersection	477	551
Cesar Chavez Boulevard		
North of intersection	878	902
South of intersection	829	1,023

Intersection	14							
Grant Street/8th Street	and	SR-111/Imperial Avenue						
	AM	PM			AM	PM		
SBR	31	82		Southbound Approach	751	812	27	West of intersection
SBT	713	664		Southbound Departure	794	682	28	East of intersection
SBL	7	66		Westbound Approach	74	80		
WBR	16	35		Westbound Departure	144	255		
WBT	50	36		Eastbound Approach	172	16	35	North of intersection
WBL	8	9		Eastbound Departure	76	83	36	South of intersection
EBL	51	1		Northbound Approach	723	1058		
EBT	48	6		Northbound Departure	706	946		
EBR	73	9						
NBL	63	137		Total AM Volume	1,720			
NBT	639	910		Total PM Volume	1,966			
NBR	21	11						

Grant Street/8th Street		
West of intersection	316	271
East of intersection	150	163
SR-111/Imperial Avenue		
North of intersection	1,457	1,758
South of intersection	1,517	1,740

Max AM	3,736
Max PM	4,251

Year: Year 2050 with Proposed Rezone Land Uses
Location: Calexico HEU

Intersection 1
Jasper Road and SR-111/Imperial Avenue

	AM	PM
SBR	38	30
SBT	974	1458
SBL	80	224
WBR	281	222
WBT	52	60
WBL	4	3
EBL	24	24
EBT	53	60
EBR	67	76
NBL	41	35
NBT	1139	1019
NBR	14	7

	AM	PM
Southbound Approach	1,092	1,712
Southbound Departure	1,045	1,537
Westbound Approach	337	285
Westbound Departure	131	125
Eastbound Approach	144	160
Eastbound Departure	147	291
Northbound Approach	1,194	1,061
Northbound Departure	1,444	1,265

Total AM Volume	2,767
Total PM Volume	3,218

Intersection 2
Cole Boulevard and SR-111/Imperial Avenue

	AM	PM
SBR	103	130
SBT	668	833
SBL	208	464
WBR	256	247
WBT	341	300
WBL	165	275
EBL	1111	97
EBT	427	551
EBR	88	91
NBL	73	58
NBT	621	638
NBR	205	281

	AM	PM
Southbound Approach	979	1427
Southbound Departure	921	1199
Westbound Approach	762	822
Westbound Departure	517	488
Eastbound Approach	1626	739
Eastbound Departure	840	1296
Northbound Approach	899	977
Northbound Departure	1988	982

Total AM Volume	4,266
Total PM Volume	3,965

Intersection 3
Cole Boulevard and Yourman Road

	AM	PM
SBR	145	290
SBT	98	301
SBL	114	253
WBR	338	261
WBT	498	369
WBL	47	54
EBL	240	386
EBT	355	548
EBR	59	76
NBL	143	137
NBT	171	198
NBR	53	57

	AM	PM
Southbound Approach	357	844
Southbound Departure	204	431
Westbound Approach	883	684
Westbound Departure	786	796
Eastbound Approach	654	1010
Eastbound Departure	522	858
Northbound Approach	367	392
Northbound Departure	749	845

Total AM Volume	2,261
Total PM Volume	2,930

Intersection 4
Cole Boulevard and Meadows Road

	AM	PM
SBR	135	66
SBT	76	31
SBL	18	8
WBR	7	21
WBT	305	304
WBL	10	24
EBL	61	58
EBT	182	329
EBR	150	382
NBL	393	248
NBT	34	44
NBR	21	43

	AM	PM
Southbound Approach	229	105
Southbound Departure	236	437
Westbound Approach	322	349
Westbound Departure	833	618
Eastbound Approach	393	769
Eastbound Departure	221	380
Northbound Approach	448	335
Northbound Departure	102	123

Total AM Volume	1,392
Total PM Volume	1,558

Intersection 5
Cole Boulevard and G. Cleveland Avenue

	AM	PM
SBR	0	0
SBT	0	0
SBL	0	0
WBR	0	0
WBT	190	312
WBL	5	16
EBL	0	0
EBT	188	316
EBR	42	50
NBL	71	29
NBT	0	0
NBR	35	11

	AM	PM
Southbound Approach	0	0
Southbound Departure	47	66
Westbound Approach	195	328
Westbound Departure	261	341
Eastbound Approach	230	366
Eastbound Departure	223	327
Northbound Approach	106	40
Northbound Departure	0	0

Total AM Volume	531
Total PM Volume	734

ID	Street/Segment	AM	PM
	Jasper Road		
1	West of intersection	275	285
2	East of intersection	484	576
	SR-111/Imperial Avenue		
29	North of intersection	2,536	2,977
30	South of intersection	2,239	2,598
	Cole Boulevard		
3	West of intersection	2,143	1,227
4	East of intersection	1,602	2,118
	SR-111/Imperial Avenue		
31	North of intersection	2,967	2,409
32	South of intersection	1,820	2,176
	Cole Boulevard		
5	West of intersection	1,440	1,806
6	East of intersection	1,405	1,542
	Yourman Road		
37	North of intersection	1,106	1,689
38	South of intersection	571	823
	Cole Boulevard		
7	West of intersection	1,226	1,387
8	East of intersection	543	729
	Meadows Road		
39	North of intersection	331	228
40	South of intersection	684	772
	Cole Boulevard		
9	West of intersection	491	707
10	East of intersection	418	655
	G. Cleveland Avenue		
	North of intersection	0	0
43	South of intersection	153	106

Year: Year 2050 with Proposed Rezone Land Uses
Location: Calexico HEU

Intersection	6				
Cole Boulevard	and	Bowker Road			
	AM	PM		AM	PM
SBR	22	68	Southbound Approach	121	355
SBT	89	279	Southbound Departure	117	313
SBL	10	8	Westbound Approach	132	263
WBR	7	11	Westbound Departure	151	320
WBT	115	234	Eastbound Approach	307	321
WBL	10	18	Eastbound Departure	171	302
EBL	149	30	Northbound Approach	338	115
EBT	140	275	Northbound Departure	459	119
EBR	18	16			
NBL	14	18	Total AM Volume	898	
NBT	303	78	Total PM Volume	1,054	
NBR	21	19			

	Cole Boulevard		
11	West of intersection	458	641
12	East of intersection	303	565
	Bowker Road		
44	North of intersection	580	474
45	South of intersection	455	428

Intersection	7				
SR-98/Birch Street	and	David Navarro Avenue			
	AM	PM		AM	PM
SBR	40	11	Southbound Approach	154	79
SBT	35	21	Southbound Departure	121	237
SBL	79	47	Westbound Approach	499	410
WBR	60	42	Westbound Departure	541	367
WBT	389	298	Eastbound Approach	422	745
WBL	50	70	Eastbound Departure	472	650
EBL	12	31	Northbound Approach	211	117
EBT	374	568	Northbound Departure	152	97
EBR	36	146			
NBL	112	58	Total AM Volume	1,286	
NBT	80	24	Total PM Volume	1,351	
NBR	19	35			

	SR-98/Birch Street		
13	West of intersection	963	1,112
14	East of intersection	971	1,060
	David Navarro Avenue		
48	North of intersection	306	176
49	South of intersection	332	354

Intersection	8				
SR-98/Birch Street	and	Kloke Road			
	AM	PM		AM	PM
SBR	81	35	Southbound Approach	431	300
SBT	143	137	Southbound Departure	253	303
SBL	207	128	Westbound Approach	644	512
WBR	219	93	Westbound Departure	497	402
WBT	353	316	Eastbound Approach	441	618
WBL	72	103	Eastbound Departure	684	779
EBL	20	22	Northbound Approach	372	297
EBT	383	533	Northbound Departure	454	243
EBR	38	63			
NBL	63	51	Total AM Volume	1,888	
NBT	215	128	Total PM Volume	1,727	
NBR	94	118			

	SR-98/Birch Street		
15	West of intersection	938	1,020
16	East of intersection	1,328	1,291
	Kloke Road		
50	North of intersection	885	543
51	South of intersection	625	600

Intersection	9				
SR-98/Birch Street	and	Cesar Chavez Boulevard			
	AM	PM		AM	PM
SBR	0	0	Southbound Approach	0	0
SBT	0	0	Southbound Departure	406	731
SBL	0	0	Westbound Approach	902	936
WBR	0	0	Westbound Departure	950	764
WBT	685	586	Eastbound Approach	939	1041
WBL	217	350	Eastbound Departure	970	917
EBL	0	0	Northbound Approach	485	435
EBT	750	660	Northbound Departure	0	0
EBR	189	381			
NBL	265	178	Total AM Volume	2,326	
NBT	0	0	Total PM Volume	2,412	
NBR	220	257			

	SR-98/Birch Street		
17	West of intersection	1,889	1,805
18	East of intersection	1,872	1,853
	Cesar Chavez Boulevard		
	North of intersection	0	0
52	South of intersection	891	1,166

Intersection	10				
SR-98/Birch Street	and	SR-111/Imperial Avenue			
	AM	PM		AM	PM
SBR	157	265	Southbound Approach	1029	1505
SBT	612	899	Southbound Departure	1037	1278
SBL	260	341	Westbound Approach	1127	929
WBR	285	230	Westbound Departure	990	1014
WBT	616	507	Eastbound Approach	926	1001
WBL	226	192	Eastbound Departure	918	1034
EBL	157	226	Northbound Approach	897	1093
EBT	570	588	Northbound Departure	1034	1202
EBR	199	187			
NBL	217	242	Total AM Volume	3,979	
NBT	592	746	Total PM Volume	4,528	
NBR	88	105			

	SR-98/Birch Street		
19	West of intersection	1,916	2,015
20	East of intersection	2,045	1,963
	SR-111/Imperial Avenue		
33	North of intersection	2,063	2,707
34	South of intersection	1,934	2,371

Year: Year 2050 with Proposed Rezone Land Uses
Location: Calexico HEU

Intersection 11								
SR-98/Birch Street and Meadows Road/Andrade Avenue								
	AM	PM			AM	PM		
SBR	384	250	Southbound Approach		956	615	21	West of intersection
SBT	460	294	Southbound Departure		756	501	22	East of intersection
SBL	112	71	Westbound Approach		571	421		
WBR	113	104	Westbound Departure		950	618		
WBT	356	264	Eastbound Approach		757	667	41	North of intersection
WBL	102	53	Eastbound Departure		504	377	42	South of intersection
EBL	261	248	Northbound Approach		659	394		
EBT	302	265	Northbound Departure		733	601		
EBR	194	154						
NBL	210	104	Total AM Volume		2,943			
NBT	359	249	Total PM Volume		2,097			
NBR	90	41						

SR-98/Birch Street			
West of intersection	1,707	1,285	
East of intersection	1,075	798	
Meadows Road/Andrade Avenue			
North of intersection	1,689	1,216	
South of intersection	1,415	895	

Intersection 12								
SR-98/Birch Street and Bowker Road								
	AM	PM			AM	PM		
SBR	361	180	Southbound Approach		402	252	23	West of intersection
SBT	30	51	Southbound Departure		63	81	24	East of intersection
SBL	11	21	Westbound Approach		295	314		
WBR	20	15	Westbound Departure		603	449		
WBT	242	269	Eastbound Approach		636	403	46	North of intersection
WBL	33	30	Eastbound Departure		285	317	47	South of intersection
EBL	388	127	Northbound Approach		45	34		
EBT	248	276	Northbound Departure		427	156		
EBR	0	0						
NBL	0	0	Total AM Volume		1,378			
NBT	19	14	Total PM Volume		1,003			
NBR	26	20						

SR-98/Birch Street			
West of intersection	1,239	852	
East of intersection	580	631	
Bowker Road			
North of intersection	829	408	
South of intersection	108	115	

Intersection 13								
Grant Street and Cesar Chavez Boulevard								
	AM	PM			AM	PM		
SBR	23	69	Southbound Approach		413	727	25	West of intersection
SBT	325	620	Southbound Departure		394	845	26	East of intersection
SBL	65	38	Westbound Approach		240	336		
WBR	63	49	Westbound Departure		187	273		
WBT	140	175	Eastbound Approach		230	294	53	North of intersection
WBL	37	112	Eastbound Departure		269	251	54	South of intersection
EBL	23	37	Northbound Approach		489	245		
EBT	175	144	Northbound Departure		522	233		
EBR	32	113						
NBL	24	29	Total AM Volume		1,372			
NBT	436	147	Total PM Volume		1,602			
NBR	29	69						

Grant Street			
West of intersection	417	567	
East of intersection	509	587	
Cesar Chavez Boulevard			
North of intersection	935	960	
South of intersection	883	1,090	

Intersection 14								
Grant Street/8th Street and SR-111/Imperial Avenue								
	AM	PM			AM	PM		
SBR	33	87	Southbound Approach		799	864	27	West of intersection
SBT	759	707	Southbound Departure		846	727	28	East of intersection
SBL	7	70	Westbound Approach		79	85		
WBR	17	37	Westbound Departure		153	271		
WBT	53	38	Eastbound Approach		183	17	35	North of intersection
WBL	9	10	Eastbound Departure		80	88	36	South of intersection
EBL	54	1	Northbound Approach		770	1127		
EBT	51	6	Northbound Departure		752	1007		
EBR	78	10						
NBL	67	146	Total AM Volume		1,831			
NBT	681	969	Total PM Volume		2,093			
NBR	22	12						

Grant Street/8th Street			
West of intersection	336	288	
East of intersection	159	173	
SR-111/Imperial Avenue			
North of intersection	1,551	1,871	
South of intersection	1,616	1,854	

Max AM	4,266
Max PM	4,528

ATTACHMENT 3

FHWA RD-77-108 – Vehicle Traffic Noise

FHWA RD-77-108

Traffic Noise Prediction Model

Data Input Sheet

Project Name : Calexico Housing Element Update
Project Number : 10790
Modeled Condition : Existing - AM Peak Hour

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 9.00
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway	Segment	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	Jasper Road	West of SR-111/Imperial Avenue	248	40	50	95.00	3.00	2.00	77.00	10.00	13.00	
2	Jasper Road	East of SR-111/Imperial Avenue	436	40	50	95.00	3.00	2.00	77.00	10.00	13.00	
3	Cole Boulevard	West of SR-111/Imperial Avenue	1,098	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
4	Cole Boulevard	East of SR-111/Imperial Avenue	1,541	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
5	Cole Boulevard	West of Yourman Road	2,384	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
6	Cole Boulevard	East of Yourman Road	1,351	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
7	Cole Boulevard	West of Meadows Road	1,179	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
8	Cole Boulevard	East of Meadows Road	521	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
9	Cole Boulevard	West of Grover Cleveland Avenue	455	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
10	Cole Boulevard	East of Grover Cleveland Avenue	387	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
11	Cole Boulevard	West of Bowker Road	366	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
12	Cole Boulevard	East of Bowker Road	243	45	50	95.00	3.00	2.00	77.00	10.00	13.00	
13	SR-98/Birch Street	West of David Navarro Avenue	738	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
14	SR-98/Birch Street	East of David Navarro Avenue	743	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
15	SR-98/Birch Street	West of Kloke Road	711	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
16	SR-98/Birch Street	East of Kloke Road	1,007	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
17	SR-98/Birch Street	West of Cesar Chavez Boulevard	1,524	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
18	SR-98/Birch Street	East of Cesar Chavez Boulevard	1,511	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
19	SR-98/Birch Street	West of SR-111/Imperial Avenue	1,579	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
20	SR-98/Birch Street	East of SR-111/Imperial Avenue	1,686	45	50	92.20	3.30	4.50	77.00	10.00	13.00	
21	SR-98/Birch Street	West of Meadows Road/Andrade Avenue	1,538	45	50	92.20	3.30	4.50	77.00	10.00	13.00	
22	SR-98/Birch Street	East of Meadows Road/Andrade Avenue	969	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
23	SR-98/Birch Street	West of Bowker Road	1,060	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
24	SR-98/Birch Street	East of Bowker Road	495	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
25	Grant Street	West of Cesar Chavez Boulevard	380	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
26	Grant Street	East of Cesar Chavez Boulevard	455	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
27	Grant Street	West of SR-111/Imperial Avenue	285	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
28	8th Street	East of SR-111/Imperial Avenue	134	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
29	SR-111/Imperial Avenue	North of Jasper Road	2,278	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
30	SR-111/Imperial Avenue	South of Jasper Road	2,012	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
31	SR-111/Imperial Avenue	North of Cole Boulevard	1,891	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
32	SR-111/Imperial Avenue	South of Cole Boulevard	1,750	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
33	SR-111/Imperial Avenue	North of SR-98/Birch Street	1,700	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
34	SR-111/Imperial Avenue	South of SR-98/Birch Street	1,595	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
35	SR-111/Imperial Avenue	North of Grant Street	1,327	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
36	SR-111/Imperial Avenue	South of Grant Street	1,382	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
37	Yourman Road	North of Cole Boulevard	1,063	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
38	Yourman Road	South of Cole Boulevard	1,548	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
39	Meadows Road	North of Cole Boulevard	316	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
40	Meadows Road	South of Cole Boulevard	658	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
41	Meadows Road	North of SR-98/Birch Street	1,521	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
42	Andrade Avenue	South of SR-98/Birch Street	1,274	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
43	Grover Cleveland Avenue	South of Cole Boulevard	142	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
44	Bowker Road	North of Cole Boulevard	465	45	50	95.00	3.00	2.00	77.00	10.00	13.00	
45	Bowker Road	South of Cole Boulevard	364	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
46	Bowker Road	North of SR-98/Birch Street	709	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
47	Bowker Road	South of SR-98/Birch Street	92	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
48	David Navarro Avenue	North of SR-98/Birch Street	234	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
49	David Navarro Avenue	South of SR-98/Birch Street	255	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
50	Kloke Road	North of SR-98/Birch Street	670	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
51	Kloke Road	South of SR-98/Birch Street	474	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
52	Cesar Chavez Boulevard	South of SR-98/Birch Street	719	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
53	Cesar Chavez Boulevard	North of Grant Street	789	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
54	Cesar Chavez Boulevard	South of Grant Street	744	35	50	95.00	3.00	2.00	77.00	10.00	13.00	

FHWA RD-77-108

Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : Calexico Housing Element Update
Project Number : 10790
Modeled Condition : Existing - AM Peak Hour
Assessment Metric: Hard

Segment	Roadway	Segment	Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
			Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	Jasper Road	West of SR-111/Imperial Avenue	59.5	53.4	56.5	61.9	2	8	24	77	245	774
2	Jasper Road	East of SR-111/Imperial Avenue	62.0	55.9	59.0	64.4	4	14	44	138	435	1,377
3	Cole Boulevard	West of SR-111/Imperial Avenue	64.3	59.0	62.4	67.2	8	26	83	262	830	2,624
4	Cole Boulevard	East of SR-111/Imperial Avenue	65.8	60.5	63.9	68.7	12	37	117	371	1,172	3,707
5	Cole Boulevard	West of Yourman Road	67.7	62.4	65.8	70.6	18	57	182	574	1,815	5,741
6	Cole Boulevard	East of Yourman Road	65.2	59.9	63.3	68.1	10	32	102	323	1,021	3,228
7	Cole Boulevard	West of Meadows Road	64.6	59.3	62.7	67.5	9	28	89	281	889	2,812
8	Cole Boulevard	East of Meadows Road	61.1	55.8	59.2	64.0	4	13	40	126	397	1,256
9	Cole Boulevard	West of Grover Cleveland Avenue	60.5	55.2	58.6	63.4	3	11	35	109	346	1,094
10	Cole Boulevard	East of Grover Cleveland Avenue	59.8	54.5	57.9	62.7	3	9	29	93	294	931
11	Cole Boulevard	West of Bowker Road	59.5	54.2	57.7	62.4	3	9	27	87	275	869
12	Cole Boulevard	East of Bowker Road	60.9	54.2	56.9	63.0	3	10	32	100	315	998
13	SR-98/Birch Street	West of David Navarro Avenue	64.1	58.6	64.8	68.0	10	32	100	315	998	3,155
14	SR-98/Birch Street	East of David Navarro Avenue	64.2	58.6	64.8	68.0	10	32	100	315	998	3,155
15	SR-98/Birch Street	West of Kloke Road	64.0	58.4	64.6	67.8	10	30	95	301	953	3,013
16	SR-98/Birch Street	East of Kloke Road	65.5	59.9	66.1	69.3	13	43	135	426	1,346	4,256
17	SR-98/Birch Street	West of Cesar Chavez Boulevard	67.3	61.7	67.9	71.1	20	64	204	644	2,037	6,441
18	SR-98/Birch Street	East of Cesar Chavez Boulevard	67.2	61.7	67.9	71.1	20	64	204	644	2,037	6,441
19	SR-98/Birch Street	West of SR-111/Imperial Avenue	67.4	61.9	68.1	71.3	21	67	213	674	2,133	6,745
20	SR-98/Birch Street	East of SR-111/Imperial Avenue	69.2	63.0	68.8	72.5	28	89	281	889	2,812	8,891
21	SR-98/Birch Street	West of Meadows Road/Andrade Avenue	68.8	62.6	68.4	72.1	26	81	256	811	2,564	8,109
22	SR-98/Birch Street	East of Meadows Road/Andrade Avenue	69.3	61.9	67.2	71.9	24	77	245	774	2,449	7,744
23	SR-98/Birch Street	West of Bowker Road	69.7	62.3	67.6	72.2	26	83	262	830	2,624	8,298
24	SR-98/Birch Street	East of Bowker Road	66.4	59.0	64.3	68.9	12	39	123	388	1,227	3,881
25	Grant Street	West of Cesar Chavez Boulevard	55.5	52.1	58.0	60.6	2	6	18	57	182	574
26	Grant Street	East of Cesar Chavez Boulevard	56.3	52.9	58.8	61.4	2	7	22	69	218	690
27	Grant Street	West of SR-111/Imperial Avenue	54.2	50.9	56.7	59.3	1	4	13	43	135	426
28	8th Street	East of SR-111/Imperial Avenue	51.0	47.6	53.5	56.1	1	2	6	20	64	204
29	SR-111/Imperial Avenue	North of Jasper Road	75.2	66.8	68.7	76.6	72	229	723	2,285	7,227	22,854
30	SR-111/Imperial Avenue	South of Jasper Road	74.7	66.2	68.1	76.0	63	199	629	1,991	6,295	19,905
31	SR-111/Imperial Avenue	North of Cole Boulevard	74.4	66.0	67.9	75.7	59	186	587	1,858	5,874	18,577
32	SR-111/Imperial Avenue	South of Cole Boulevard	74.1	65.6	67.5	75.4	55	173	548	1,734	5,482	17,337
33	SR-111/Imperial Avenue	North of SR-98/Birch Street	73.9	65.5	67.4	75.3	54	169	536	1,694	5,358	16,942
34	SR-111/Imperial Avenue	South of SR-98/Birch Street	73.7	65.2	67.1	75.0	50	158	500	1,581	5,000	15,811
35	SR-111/Imperial Avenue	North of Grant Street	72.9	64.4	66.3	74.2	42	132	416	1,315	4,159	13,151
36	SR-111/Imperial Avenue	South of Grant Street	73.0	64.6	66.5	74.4	44	138	435	1,377	4,355	13,771
37	Yourman Road	North of Cole Boulevard	64.2	58.9	62.3	67.1	8	26	81	256	811	2,564
38	Yourman Road	South of Cole Boulevard	65.8	60.5	63.9	68.7	12	37	117	371	1,172	3,707
39	Meadows Road	North of Cole Boulevard	58.9	53.6	57.0	61.8	2	8	24	76	239	757
40	Meadows Road	South of Cole Boulevard	62.1	56.8	60.2	65.0	5	16	50	158	500	1,581
41	Meadows Road	North of SR-98/Birch Street	65.7	60.4	63.8	68.6	11	36	115	362	1,145	3,622
42	Andrade Avenue	South of SR-98/Birch Street	65.0	59.6	63.1	67.8	10	30	95	301	953	3,013
43	Grover Cleveland Avenue	South of Cole Boulevard	51.2	47.8	53.7	56.3	1	2	7	21	67	213
44	Bowker Road	North of Cole Boulevard	63.7	57.0	59.7	65.8	6	19	60	190	601	1,901
45	Bowker Road	South of Cole Boulevard	59.5	54.2	57.6	62.4	3	9	27	87	275	869
46	Bowker Road	North of SR-98/Birch Street	62.4	57.1	60.5	65.3	5	17	54	169	536	1,694
47	Bowker Road	South of SR-98/Birch Street	53.5	48.2	51.7	56.4	1	2	7	22	69	218
48	David Navarro Avenue	North of SR-98/Birch Street	53.4	50.0	55.9	58.5	1	4	11	35	112	354
49	David Navarro Avenue	South of SR-98/Birch Street	53.8	50.4	56.2	58.9	1	4	12	39	123	388
50	Kloke Road	North of SR-98/Birch Street	62.2	56.9	60.3	65.1	5	16	51	162	512	1,618
51	Kloke Road	South of SR-98/Birch Street	56.5	53.1	58.9	61.5	2	7	22	71	223	706
52	Cesar Chavez Boulevard	South of SR-98/Birch Street	62.5	57.2	60.6	65.4	5	17	55	173	548	1,734
53	Cesar Chavez Boulevard	North of Grant Street	62.9	57.6	61.0	65.8	6	19	60	190	601	1,901
54	Cesar Chavez Boulevard	South of Grant Street	62.6	57.3	60.7	65.5	6	18	56	177	561	1,774

FHWA RD-77-108

Traffic Noise Prediction Model

Data Input Sheet

Project Name : Calexico Housing Element Update
Project Number : 10790
Modeled Condition : Existing - PM Peak Hour

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 9.00
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway	Segment	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	Jasper Road	West of SR-111/Imperial Avenue	256	40	50	95.00	3.00	2.00	77.00	10.00	13.00	
2	Jasper Road	East of SR-111/Imperial Avenue	517	40	50	95.00	3.00	2.00	77.00	10.00	13.00	
3	Cole Boulevard	West of SR-111/Imperial Avenue	1,179	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
4	Cole Boulevard	East of SR-111/Imperial Avenue	2,035	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
5	Cole Boulevard	West of Yourman Road	1,736	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
6	Cole Boulevard	East of Yourman Road	1,483	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
7	Cole Boulevard	West of Meadows Road	1,334	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
8	Cole Boulevard	East of Meadows Road	700	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
9	Cole Boulevard	West of Grover Cleveland Avenue	655	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
10	Cole Boulevard	East of Grover Cleveland Avenue	606	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
11	Cole Boulevard	West of Bowker Road	514	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
12	Cole Boulevard	East of Bowker Road	453	45	50	95.00	3.00	2.00	77.00	10.00	13.00	
13	SR-98/Birch Street	West of David Navarro Avenue	851	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
14	SR-98/Birch Street	East of David Navarro Avenue	812	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
15	SR-98/Birch Street	West of Kloke Road	775	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
16	SR-98/Birch Street	East of Kloke Road	979	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
17	SR-98/Birch Street	West of Cesar Chavez Boulevard	1,458	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
18	SR-98/Birch Street	East of Cesar Chavez Boulevard	1,496	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
19	SR-98/Birch Street	West of SR-111/Imperial Avenue	1,662	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
20	SR-98/Birch Street	East of SR-111/Imperial Avenue	1,619	45	50	92.20	3.30	4.50	77.00	10.00	13.00	
21	SR-98/Birch Street	West of Meadows Road/Andrade Avenue	1,158	45	50	92.20	3.30	4.50	77.00	10.00	13.00	
22	SR-98/Birch Street	East of Meadows Road/Andrade Avenue	720	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
23	SR-98/Birch Street	West of Bowker Road	729	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
24	SR-98/Birch Street	East of Bowker Road	540	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
25	Grant Street	West of Cesar Chavez Boulevard	446	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
26	Grant Street	East of Cesar Chavez Boulevard	493	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
27	Grant Street	West of SR-111/Imperial Avenue	243	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
28	8th Street	East of SR-111/Imperial Avenue	145	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
29	SR-111/Imperial Avenue	North of Jasper Road	2,673	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
30	SR-111/Imperial Avenue	South of Jasper Road	2,332	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
31	SR-111/Imperial Avenue	North of Cole Boulevard	2,315	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
32	SR-111/Imperial Avenue	South of Cole Boulevard	2,091	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
33	SR-111/Imperial Avenue	North of SR-98/Birch Street	2,232	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
34	SR-111/Imperial Avenue	South of SR-98/Birch Street	1,955	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
35	SR-111/Imperial Avenue	North of Grant Street	1,578	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
36	SR-111/Imperial Avenue	South of Grant Street	1,562	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
37	Yourman Road	North of Cole Boulevard	1,622	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
38	Yourman Road	South of Cole Boulevard	791	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
39	Meadows Road	North of Cole Boulevard	220	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
40	Meadows Road	South of Cole Boulevard	742	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
41	Meadows Road	North of SR-98/Birch Street	1,095	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
42	Andrade Avenue	South of SR-98/Birch Street	807	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
43	Grover Cleveland Avenue	South of Cole Boulevard	99	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
44	Bowker Road	North of Cole Boulevard	381	45	50	95.00	3.00	2.00	77.00	10.00	13.00	
45	Bowker Road	South of Cole Boulevard	342	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
46	Bowker Road	North of SR-98/Birch Street	350	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
47	Bowker Road	South of SR-98/Birch Street	99	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
48	David Navarro Avenue	North of SR-98/Birch Street	135	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
49	David Navarro Avenue	South of SR-98/Birch Street	272	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
50	Kloke Road	North of SR-98/Birch Street	412	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
51	Kloke Road	South of SR-98/Birch Street	456	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
52	Cesar Chavez Boulevard	South of SR-98/Birch Street	942	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
53	Cesar Chavez Boulevard	North of Grant Street	779	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
54	Cesar Chavez Boulevard	South of Grant Street	918	35	50	95.00	3.00	2.00	77.00	10.00	13.00	

FHWA RD-77-108

Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : Calexico Housing Element Update
Project Number : 10790
Modeled Condition : Existing - PM Peak Hour
Assessment Metric: Hard

Segment	Roadway	Segment	Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
			Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	Jasper Road	West of SR-111/Imperial Avenue	59.7	53.6	56.6	62.1	3	8	26	81	256	811
2	Jasper Road	East of SR-111/Imperial Avenue	62.7	56.6	59.7	65.1	5	16	51	162	512	1,618
3	Cole Boulevard	West of SR-111/Imperial Avenue	64.6	59.3	62.7	67.5	9	28	89	281	889	2,812
4	Cole Boulevard	East of SR-111/Imperial Avenue	67.0	61.7	65.1	69.9	15	49	155	489	1,545	4,886
5	Cole Boulevard	West of Yourman Road	66.3	61.0	64.4	69.2	13	42	132	416	1,315	4,159
6	Cole Boulevard	East of Yourman Road	65.6	60.3	63.7	68.5	11	35	112	354	1,119	3,540
7	Cole Boulevard	West of Meadows Road	65.2	59.8	63.3	68.0	10	32	100	315	998	3,155
8	Cole Boulevard	East of Meadows Road	62.4	57.0	60.5	65.2	5	17	52	166	524	1,656
9	Cole Boulevard	West of Grover Cleveland Avenue	62.1	56.8	60.2	65.0	5	16	50	158	500	1,581
10	Cole Boulevard	East of Grover Cleveland Avenue	61.7	56.4	59.9	64.6	5	14	46	144	456	1,442
11	Cole Boulevard	West of Bowker Road	61.0	55.7	59.1	63.9	4	12	39	123	388	1,227
12	Cole Boulevard	East of Bowker Road	63.6	56.9	59.6	65.7	6	19	59	186	587	1,858
13	SR-98/Birch Street	West of David Navarro Avenue	64.7	59.2	65.4	68.6	11	36	115	362	1,145	3,622
14	SR-98/Birch Street	East of David Navarro Avenue	64.5	59.0	65.2	68.4	11	35	109	346	1,094	3,459
15	SR-98/Birch Street	West of Kloke Road	64.3	58.8	65.0	68.2	10	33	104	330	1,045	3,303
16	SR-98/Birch Street	East of Kloke Road	65.4	59.8	66.0	69.2	13	42	132	416	1,315	4,159
17	SR-98/Birch Street	West of Cesar Chavez Boulevard	67.1	61.5	67.7	71.0	20	63	199	629	1,991	6,295
18	SR-98/Birch Street	East of Cesar Chavez Boulevard	67.2	61.7	67.8	71.1	20	64	204	644	2,037	6,441
19	SR-98/Birch Street	West of SR-111/Imperial Avenue	67.7	62.1	68.3	71.5	22	71	223	706	2,233	7,063
20	SR-98/Birch Street	East of SR-111/Imperial Avenue	69.0	62.8	68.6	72.4	27	87	275	869	2,748	8,689
21	SR-98/Birch Street	West of Meadows Road/Andrade Avenue	67.6	61.3	67.2	70.9	19	62	195	615	1,945	6,151
22	SR-98/Birch Street	East of Meadows Road/Andrade Avenue	68.0	60.6	65.9	70.6	18	57	182	574	1,815	5,741
23	SR-98/Birch Street	West of Bowker Road	68.1	60.7	66.0	70.6	18	57	182	574	1,815	5,741
24	SR-98/Birch Street	East of Bowker Road	66.8	59.4	64.7	69.3	13	43	135	426	1,346	4,256
25	Grant Street	West of Cesar Chavez Boulevard	56.2	52.8	58.7	61.3	2	7	21	67	213	674
26	Grant Street	East of Cesar Chavez Boulevard	56.6	53.2	59.1	61.7	2	7	23	74	234	740
27	Grant Street	West of SR-111/Imperial Avenue	53.6	50.2	56.0	58.6	1	4	11	36	115	362
28	8th Street	East of SR-111/Imperial Avenue	51.3	47.9	53.8	56.4	1	2	7	22	69	218
29	SR-111/Imperial Avenue	North of Jasper Road	75.9	67.5	69.4	77.2	83	262	830	2,624	8,298	26,240
30	SR-111/Imperial Avenue	South of Jasper Road	75.3	66.9	68.8	76.7	74	234	740	2,339	7,396	23,387
31	SR-111/Imperial Avenue	North of Cole Boulevard	75.3	66.8	68.8	76.6	72	229	723	2,285	7,227	22,854
32	SR-111/Imperial Avenue	South of Cole Boulevard	74.8	66.4	68.3	76.2	66	208	659	2,084	6,591	20,843
33	SR-111/Imperial Avenue	North of SR-98/Birch Street	75.1	66.7	68.6	76.5	71	223	706	2,233	7,063	22,334
34	SR-111/Imperial Avenue	South of SR-98/Birch Street	74.5	66.1	68.0	75.9	62	195	615	1,945	6,151	19,452
35	SR-111/Imperial Avenue	North of Grant Street	73.6	65.2	67.1	75.0	50	158	500	1,581	5,000	15,811
36	SR-111/Imperial Avenue	South of Grant Street	73.6	65.1	67.0	74.9	49	155	489	1,545	4,886	15,451
37	Yourman Road	North of Cole Boulevard	66.0	60.7	64.1	68.9	12	39	123	388	1,227	3,881
38	Yourman Road	South of Cole Boulevard	62.9	57.6	61.0	65.8	6	19	60	190	601	1,901
39	Meadows Road	North of Cole Boulevard	57.3	52.0	55.5	60.2	2	5	17	52	166	524
40	Meadows Road	South of Cole Boulevard	62.6	57.3	60.7	65.5	6	18	56	177	561	1,774
41	Meadows Road	North of SR-98/Birch Street	64.3	59.0	62.4	67.2	8	26	83	262	830	2,624
42	Andrade Avenue	South of SR-98/Birch Street	63.0	57.7	61.1	65.9	6	19	62	195	615	1,945
43	Grover Cleveland Avenue	South of Cole Boulevard	49.7	46.3	52.1	54.7	0	1	5	15	47	148
44	Bowker Road	North of Cole Boulevard	62.9	56.1	58.8	64.9	5	15	49	155	489	1,545
45	Bowker Road	South of Cole Boulevard	59.2	53.9	57.4	62.1	3	8	26	81	256	811
46	Bowker Road	North of SR-98/Birch Street	59.3	54.0	57.5	62.2	3	8	26	83	262	830
47	Bowker Road	South of SR-98/Birch Street	53.9	48.5	52.0	56.7	1	2	7	23	74	234
48	David Navarro Avenue	North of SR-98/Birch Street	51.0	47.6	53.5	56.1	1	2	6	20	64	204
49	David Navarro Avenue	South of SR-98/Birch Street	54.0	50.7	56.5	59.1	1	4	13	41	129	406
50	Kloke Road	North of SR-98/Birch Street	60.1	54.7	58.2	62.9	3	10	31	97	308	975
51	Kloke Road	South of SR-98/Birch Street	56.3	52.9	58.8	61.4	2	7	22	69	218	690
52	Cesar Chavez Boulevard	South of SR-98/Birch Street	63.6	58.3	61.8	66.5	7	22	71	223	706	2,233
53	Cesar Chavez Boulevard	North of Grant Street	62.8	57.5	60.9	65.7	6	19	59	186	587	1,858
54	Cesar Chavez Boulevard	South of Grant Street	63.5	58.2	61.7	66.4	7	22	69	218	690	2,183

FHWA RD-77-108

Traffic Noise Prediction Model

Data Input Sheet

Project Name : Calexico Housing Element Update
Project Number : 10790
Modeled Condition : Year 2050 Adopted Land Use and Zoning Designations - AM Peak Hour

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 9.00
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway	Segment	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	Jasper Road	West of SR-111/Imperial Avenue	275	40	50	95.00	3.00	2.00	77.00	10.00	13.00	
2	Jasper Road	East of SR-111/Imperial Avenue	484	40	50	95.00	3.00	2.00	77.00	10.00	13.00	
3	Cole Boulevard	West of SR-111/Imperial Avenue	1,223	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
4	Cole Boulevard	East of SR-111/Imperial Avenue	1,716	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
5	Cole Boulevard	West of Yourman Road	1,541	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
6	Cole Boulevard	East of Yourman Road	1,504	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
7	Cole Boulevard	West of Meadows Road	1,313	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
8	Cole Boulevard	East of Meadows Road	580	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
9	Cole Boulevard	West of Grover Cleveland Avenue	525	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
10	Cole Boulevard	East of Grover Cleveland Avenue	447	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
11	Cole Boulevard	West of Bowker Road	490	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
12	Cole Boulevard	East of Bowker Road	326	45	50	95.00	3.00	2.00	77.00	10.00	13.00	
13	SR-98/Birch Street	West of David Navarro Avenue	904	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
14	SR-98/Birch Street	East of David Navarro Avenue	911	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
15	SR-98/Birch Street	West of Kloke Road	881	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
16	SR-98/Birch Street	East of Kloke Road	1,247	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
17	SR-98/Birch Street	West of Cesar Chavez Boulevard	1,773	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
18	SR-98/Birch Street	East of Cesar Chavez Boulevard	1,758	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
19	SR-98/Birch Street	West of SR-111/Imperial Avenue	1,798	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
20	SR-98/Birch Street	East of SR-111/Imperial Avenue	1,920	45	50	92.20	3.30	4.50	77.00	10.00	13.00	
21	SR-98/Birch Street	West of Meadows Road/Andrade Avenue	1,707	45	50	92.20	3.30	4.50	77.00	10.00	13.00	
22	SR-98/Birch Street	East of Meadows Road/Andrade Avenue	1,075	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
23	SR-98/Birch Street	West of Bowker Road	1,239	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
24	SR-98/Birch Street	East of Bowker Road	580	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
25	Grant Street	West of Cesar Chavez Boulevard	392	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
26	Grant Street	East of Cesar Chavez Boulevard	477	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
27	Grant Street	West of SR-111/Imperial Avenue	316	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
28	8th Street	East of SR-111/Imperial Avenue	150	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
29	SR-111/Imperial Avenue	North of Jasper Road	2,536	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
30	SR-111/Imperial Avenue	South of Jasper Road	2,239	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
31	SR-111/Imperial Avenue	North of Cole Boulevard	2,106	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
32	SR-111/Imperial Avenue	South of Cole Boulevard	1,949	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
33	SR-111/Imperial Avenue	North of SR-98/Birch Street	1,937	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
34	SR-111/Imperial Avenue	South of SR-98/Birch Street	1,817	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
35	SR-111/Imperial Avenue	North of Grant Street	1,457	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
36	SR-111/Imperial Avenue	South of Grant Street	1,517	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
37	Yourman Road	North of Cole Boulevard	1,184	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
38	Yourman Road	South of Cole Boulevard	611	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
39	Meadows Road	North of Cole Boulevard	353	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
40	Meadows Road	South of Cole Boulevard	732	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
41	Meadows Road	North of SR-98/Birch Street	1,689	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
42	Andrade Avenue	South of SR-98/Birch Street	1,415	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
43	Grover Cleveland Avenue	South of Cole Boulevard	164	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
44	Bowker Road	North of Cole Boulevard	621	45	50	95.00	3.00	2.00	77.00	10.00	13.00	
45	Bowker Road	South of Cole Boulevard	487	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
46	Bowker Road	North of SR-98/Birch Street	829	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
47	Bowker Road	South of SR-98/Birch Street	108	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
48	David Navarro Avenue	North of SR-98/Birch Street	287	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
49	David Navarro Avenue	South of SR-98/Birch Street	312	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
50	Kloke Road	North of SR-98/Birch Street	831	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
51	Kloke Road	South of SR-98/Birch Street	587	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
52	Cesar Chavez Boulevard	South of SR-98/Birch Street	837	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
53	Cesar Chavez Boulevard	North of Grant Street	878	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
54	Cesar Chavez Boulevard	South of Grant Street	829	35	50	95.00	3.00	2.00	77.00	10.00	13.00	

FHWA RD-77-108

Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : Calexico Housing Element Update
Project Number : 10790
Modeled Condition : Year 2050 Adopted Land Use and Zoning Designations - AM Peak Hour
Assessment Metric: Hard

			Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
Segment	Roadway	Segment	Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	Jasper Road	West of SR-111/Imperial Avenue	60.0	53.9	57.0	62.4	3	9	27	87	275	869
2	Jasper Road	East of SR-111/Imperial Avenue	62.4	56.3	59.4	64.8	5	15	48	151	477	1,510
3	Cole Boulevard	West of SR-111/Imperial Avenue	64.8	59.5	62.9	67.7	9	29	93	294	931	2,944
4	Cole Boulevard	East of SR-111/Imperial Avenue	66.3	60.9	64.4	69.1	13	41	129	406	1,285	4,064
5	Cole Boulevard	West of Yourman Road	65.8	60.5	63.9	68.7	12	37	117	371	1,172	3,707
6	Cole Boulevard	East of Yourman Road	65.7	60.4	63.8	68.6	11	36	115	362	1,145	3,622
7	Cole Boulevard	West of Meadows Road	65.1	59.8	63.2	68.0	10	32	100	315	998	3,155
8	Cole Boulevard	East of Meadows Road	61.5	56.2	59.7	64.4	4	14	44	138	435	1,377
9	Cole Boulevard	West of Grover Cleveland Avenue	61.1	55.8	59.2	64.0	4	13	40	126	397	1,256
10	Cole Boulevard	East of Grover Cleveland Avenue	60.4	55.1	58.5	63.3	3	11	34	107	338	1,069
11	Cole Boulevard	West of Bowker Road	60.8	55.5	58.9	63.7	4	12	37	117	371	1,172
12	Cole Boulevard	East of Bowker Road	62.2	55.4	58.2	64.2	4	13	42	132	416	1,315
13	SR-98/Birch Street	West of David Navarro Avenue	65.0	59.5	65.6	68.9	12	39	123	388	1,227	3,881
14	SR-98/Birch Street	East of David Navarro Avenue	65.0	59.5	65.7	68.9	12	39	123	388	1,227	3,881
15	SR-98/Birch Street	West of Kloke Road	64.9	59.4	65.5	68.8	12	38	120	379	1,199	3,793
16	SR-98/Birch Street	East of Kloke Road	66.4	60.9	67.0	70.3	17	54	169	536	1,694	5,358
17	SR-98/Birch Street	West of Cesar Chavez Boulevard	67.9	62.4	68.6	71.8	24	76	239	757	2,393	7,568
18	SR-98/Birch Street	East of Cesar Chavez Boulevard	67.9	62.4	68.5	71.8	24	76	239	757	2,393	7,568
19	SR-98/Birch Street	West of SR-111/Imperial Avenue	68.0	62.5	68.6	71.9	24	77	245	774	2,449	7,744
20	SR-98/Birch Street	East of SR-111/Imperial Avenue	69.8	63.5	69.4	73.1	32	102	323	1,021	3,228	10,209
21	SR-98/Birch Street	West of Meadows Road/Andrade Avenue	69.2	63.0	68.9	72.6	29	91	288	910	2,877	9,099
22	SR-98/Birch Street	East of Meadows Road/Andrade Avenue	69.7	62.4	67.7	72.3	27	85	269	849	2,685	8,491
23	SR-98/Birch Street	West of Bowker Road	70.4	63.0	68.3	72.9	31	97	308	975	3,083	9,749
24	SR-98/Birch Street	East of Bowker Road	67.1	59.7	65.0	69.6	14	46	144	456	1,442	4,560
25	Grant Street	West of Cesar Chavez Boulevard	55.6	52.2	58.1	60.7	2	6	19	59	186	587
26	Grant Street	East of Cesar Chavez Boulevard	56.5	53.1	59.0	61.6	2	7	23	72	229	723
27	Grant Street	West of SR-111/Imperial Avenue	54.7	51.3	57.2	59.8	2	5	15	48	151	477
28	8th Street	East of SR-111/Imperial Avenue	51.5	48.1	53.9	56.6	1	2	7	23	72	229
29	SR-111/Imperial Avenue	North of Jasper Road	75.7	67.2	69.1	77.0	79	251	792	2,506	7,924	25,059
30	SR-111/Imperial Avenue	South of Jasper Road	75.1	66.7	68.6	76.5	71	223	706	2,233	7,063	22,334
31	SR-111/Imperial Avenue	North of Cole Boulevard	74.9	66.4	68.3	76.2	66	208	659	2,084	6,591	20,843
32	SR-111/Imperial Avenue	South of Cole Boulevard	74.5	66.1	68.0	75.9	62	195	615	1,945	6,151	19,452
33	SR-111/Imperial Avenue	North of SR-98/Birch Street	74.5	66.1	68.0	75.9	62	195	615	1,945	6,151	19,452
34	SR-111/Imperial Avenue	South of SR-98/Birch Street	74.2	65.8	67.7	75.6	57	182	574	1,815	5,741	18,154
35	SR-111/Imperial Avenue	North of Grant Street	73.3	64.8	66.7	74.6	46	144	456	1,442	4,560	14,420
36	SR-111/Imperial Avenue	South of Grant Street	73.4	65.0	66.9	74.8	48	151	477	1,510	4,775	15,100
37	Yourman Road	North of Cole Boulevard	64.6	59.3	62.8	67.5	9	28	89	281	889	2,812
38	Yourman Road	South of Cole Boulevard	61.8	56.5	59.9	64.7	5	15	47	148	467	1,476
39	Meadows Road	North of Cole Boulevard	59.4	54.1	57.5	62.3	3	8	27	85	269	849
40	Meadows Road	South of Cole Boulevard	62.6	57.2	60.7	65.4	5	17	55	173	548	1,734
41	Meadows Road	North of SR-98/Birch Street	66.2	60.9	64.3	69.1	13	41	129	406	1,285	4,064
42	Andrade Avenue	South of SR-98/Birch Street	65.4	60.1	63.5	68.3	11	34	107	338	1,069	3,380
43	Grover Cleveland Avenue	South of Cole Boulevard	51.8	48.5	54.3	56.9	1	2	8	24	77	245
44	Bowker Road	North of Cole Boulevard	65.0	58.2	61.0	67.0	8	25	79	251	792	2,506
45	Bowker Road	South of Cole Boulevard	60.8	55.5	58.9	63.7	4	12	37	117	371	1,172
46	Bowker Road	North of SR-98/Birch Street	63.1	57.8	61.2	66.0	6	20	63	199	629	1,991
47	Bowker Road	South of SR-98/Birch Street	54.2	48.9	52.4	57.1	1	3	8	26	81	256
48	David Navarro Avenue	North of SR-98/Birch Street	54.3	50.9	56.8	59.4	1	4	14	44	138	435
49	David Navarro Avenue	South of SR-98/Birch Street	54.6	51.3	57.1	59.7	1	5	15	47	148	467
50	Kloke Road	North of SR-98/Birch Street	63.1	57.8	61.2	66.0	6	20	63	199	629	1,991
51	Kloke Road	South of SR-98/Birch Street	57.4	54.0	59.9	62.5	3	9	28	89	281	889
52	Cesar Chavez Boulevard	South of SR-98/Birch Street	63.1	57.8	61.3	66.0	6	20	63	199	629	1,991
53	Cesar Chavez Boulevard	North of Grant Street	63.3	58.0	61.5	66.2	7	21	66	208	659	2,084
54	Cesar Chavez Boulevard	South of Grant Street	63.1	57.8	61.2	66.0	6	20	63	199	629	1,991

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Traffic Noise Prediction Model

Data Input Sheet

Project Name : Calexico Housing Element Update
Project Number : 10790
Modeled Condition : Year 2050 Adopted Land Use and Zoning Designations - PM Peak Hour

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 9.00
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway	Segment	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	Jasper Road	West of SR-111/Imperial Avenue	285	40	50	95.00	3.00	2.00	77.00	10.00	13.00	
2	Jasper Road	East of SR-111/Imperial Avenue	576	40	50	95.00	3.00	2.00	77.00	10.00	13.00	
3	Cole Boulevard	West of SR-111/Imperial Avenue	1,313	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
4	Cole Boulevard	East of SR-111/Imperial Avenue	2,267	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
5	Cole Boulevard	West of Yourman Road	1,933	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
6	Cole Boulevard	East of Yourman Road	1,651	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
7	Cole Boulevard	West of Meadows Road	1,485	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
8	Cole Boulevard	East of Meadows Road	780	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
9	Cole Boulevard	West of Grover Cleveland Avenue	757	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
10	Cole Boulevard	East of Grover Cleveland Avenue	701	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
11	Cole Boulevard	West of Bowker Road	686	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
12	Cole Boulevard	East of Bowker Road	605	45	50	95.00	3.00	2.00	77.00	10.00	13.00	
13	SR-98/Birch Street	West of David Navarro Avenue	1,043	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
14	SR-98/Birch Street	East of David Navarro Avenue	995	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
15	SR-98/Birch Street	West of Kloke Road	958	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
16	SR-98/Birch Street	East of Kloke Road	1,212	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
17	SR-98/Birch Street	West of Cesar Chavez Boulevard	1,695	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
18	SR-98/Birch Street	East of Cesar Chavez Boulevard	1,740	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
19	SR-98/Birch Street	West of SR-111/Imperial Avenue	1,892	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
20	SR-98/Birch Street	East of SR-111/Imperial Avenue	1,843	45	50	92.20	3.30	4.50	77.00	10.00	13.00	
21	SR-98/Birch Street	West of Meadows Road/Andrade Avenue	1,285	45	50	92.20	3.30	4.50	77.00	10.00	13.00	
22	SR-98/Birch Street	East of Meadows Road/Andrade Avenue	798	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
23	SR-98/Birch Street	West of Bowker Road	852	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
24	SR-98/Birch Street	East of Bowker Road	631	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
25	Grant Street	West of Cesar Chavez Boulevard	532	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
26	Grant Street	East of Cesar Chavez Boulevard	551	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
27	Grant Street	West of SR-111/Imperial Avenue	271	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
28	8th Street	East of SR-111/Imperial Avenue	163	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
29	SR-111/Imperial Avenue	North of Jasper Road	2,977	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
30	SR-111/Imperial Avenue	South of Jasper Road	2,598	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
31	SR-111/Imperial Avenue	North of Cole Boulevard	2,579	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
32	SR-111/Imperial Avenue	South of Cole Boulevard	2,329	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
33	SR-111/Imperial Avenue	North of SR-98/Birch Street	2,541	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
34	SR-111/Imperial Avenue	South of SR-98/Birch Street	2,226	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
35	SR-111/Imperial Avenue	North of Grant Street	1,758	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
36	SR-111/Imperial Avenue	South of Grant Street	1,740	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
37	Yourman Road	North of Cole Boulevard	1,807	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
38	Yourman Road	South of Cole Boulevard	881	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
39	Meadows Road	North of Cole Boulevard	244	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
40	Meadows Road	South of Cole Boulevard	827	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
41	Meadows Road	North of SR-98/Birch Street	1,216	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
42	Andrade Avenue	South of SR-98/Birch Street	895	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
43	Grover Cleveland Avenue	South of Cole Boulevard	114	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
44	Bowker Road	North of Cole Boulevard	508	45	50	95.00	3.00	2.00	77.00	10.00	13.00	
45	Bowker Road	South of Cole Boulevard	457	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
46	Bowker Road	North of SR-98/Birch Street	408	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
47	Bowker Road	South of SR-98/Birch Street	115	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
48	David Navarro Avenue	North of SR-98/Birch Street	165	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
49	David Navarro Avenue	South of SR-98/Birch Street	333	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
50	Kloke Road	North of SR-98/Birch Street	510	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
51	Kloke Road	South of SR-98/Birch Street	564	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
52	Cesar Chavez Boulevard	South of SR-98/Birch Street	1,095	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
53	Cesar Chavez Boulevard	North of Grant Street	902	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
54	Cesar Chavez Boulevard	South of Grant Street	1,023	35	50	95.00	3.00	2.00	77.00	10.00	13.00	

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Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : Calexico Housing Element Update
Project Number : 10790
Modeled Condition : Year 2050 Adopted Land Use and Zoning Designations - PM Peak Hour
Assessment Metric: Hard

			Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
Segment	Roadway	Segment	Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	Jasper Road	West of SR-111/Imperial Avenue	60.1	54.0	57.1	62.5	3	9	28	89	281	889
2	Jasper Road	East of SR-111/Imperial Avenue	63.2	57.1	60.2	65.6	6	18	57	182	574	1,815
3	Cole Boulevard	West of SR-111/Imperial Avenue	65.1	59.8	63.2	68.0	10	32	100	315	998	3,155
4	Cole Boulevard	East of SR-111/Imperial Avenue	67.5	62.1	65.6	70.3	17	54	169	536	1,694	5,358
5	Cole Boulevard	West of Yourman Road	66.8	61.5	64.9	69.7	15	47	148	467	1,476	4,666
6	Cole Boulevard	East of Yourman Road	66.1	60.8	64.2	69.0	13	40	126	397	1,256	3,972
7	Cole Boulevard	West of Meadows Road	65.6	60.3	63.7	68.5	11	35	112	354	1,119	3,540
8	Cole Boulevard	East of Meadows Road	62.8	57.5	60.9	65.7	6	19	59	186	587	1,858
9	Cole Boulevard	West of Grover Cleveland Avenue	62.7	57.4	60.8	65.6	6	18	57	182	574	1,815
10	Cole Boulevard	East of Grover Cleveland Avenue	62.4	57.0	60.5	65.2	5	17	52	166	524	1,656
11	Cole Boulevard	West of Bowker Road	62.3	57.0	60.4	65.2	5	17	52	166	524	1,656
12	Cole Boulevard	East of Bowker Road	64.9	58.1	60.8	66.9	8	24	77	245	774	2,449
13	SR-98/Birch Street	West of David Navarro Avenue	65.6	60.1	66.3	69.5	14	45	141	446	1,409	4,456
14	SR-98/Birch Street	East of David Navarro Avenue	65.4	59.9	66.1	69.3	13	43	135	426	1,346	4,256
15	SR-98/Birch Street	West of Kloke Road	65.3	59.7	65.9	69.1	13	41	129	406	1,285	4,064
16	SR-98/Birch Street	East of Kloke Road	66.3	60.7	66.9	70.2	17	52	166	524	1,656	5,236
17	SR-98/Birch Street	West of Cesar Chavez Boulevard	67.7	62.2	68.4	71.6	23	72	229	723	2,285	7,227
18	SR-98/Birch Street	East of Cesar Chavez Boulevard	67.9	62.3	68.5	71.7	23	74	234	740	2,339	7,396
19	SR-98/Birch Street	West of SR-111/Imperial Avenue	68.2	62.7	68.9	72.1	26	81	256	811	2,564	8,109
20	SR-98/Birch Street	East of SR-111/Imperial Avenue	69.6	63.4	69.2	72.9	31	97	308	975	3,083	9,749
21	SR-98/Birch Street	West of Meadows Road/Andrade Avenue	68.0	61.8	67.6	71.4	22	69	218	690	2,183	6,902
22	SR-98/Birch Street	East of Meadows Road/Andrade Avenue	68.5	61.1	66.4	71.0	20	63	199	629	1,991	6,295
23	SR-98/Birch Street	West of Bowker Road	68.7	61.4	66.7	71.3	21	67	213	674	2,133	6,745
24	SR-98/Birch Street	East of Bowker Road	67.4	60.1	65.4	70.0	16	50	158	500	1,581	5,000
25	Grant Street	West of Cesar Chavez Boulevard	57.0	53.6	59.4	62.0	3	8	25	79	251	792
26	Grant Street	East of Cesar Chavez Boulevard	57.1	53.7	59.6	62.2	3	8	26	83	262	830
27	Grant Street	West of SR-111/Imperial Avenue	54.0	50.6	56.5	59.1	1	4	13	41	129	406
28	8th Street	East of SR-111/Imperial Avenue	51.8	48.4	54.3	56.9	1	2	8	24	77	245
29	SR-111/Imperial Avenue	North of Jasper Road	76.4	67.9	69.8	77.7	93	294	931	2,944	9,310	29,442
30	SR-111/Imperial Avenue	South of Jasper Road	75.8	67.3	69.3	77.1	81	256	811	2,564	8,109	25,643
31	SR-111/Imperial Avenue	North of Cole Boulevard	75.7	67.3	69.2	77.1	81	256	811	2,564	8,109	25,643
32	SR-111/Imperial Avenue	South of Cole Boulevard	75.3	66.9	68.8	76.7	74	234	740	2,339	7,396	23,387
33	SR-111/Imperial Avenue	North of SR-98/Birch Street	75.7	67.2	69.2	77.0	79	251	792	2,506	7,924	25,059
34	SR-111/Imperial Avenue	South of SR-98/Birch Street	75.1	66.7	68.6	76.5	71	223	706	2,233	7,063	22,334
35	SR-111/Imperial Avenue	North of Grant Street	74.1	65.7	67.6	75.4	55	173	548	1,734	5,482	17,337
36	SR-111/Imperial Avenue	South of Grant Street	74.0	65.6	67.5	75.4	55	173	548	1,734	5,482	17,337
37	Yourman Road	North of Cole Boulevard	66.5	61.2	64.6	69.4	14	44	138	435	1,377	4,355
38	Yourman Road	South of Cole Boulevard	63.4	58.0	61.5	66.2	7	21	66	208	659	2,084
39	Meadows Road	North of Cole Boulevard	57.8	52.5	55.9	60.7	2	6	19	59	186	587
40	Meadows Road	South of Cole Boulevard	63.1	57.8	61.2	66.0	6	20	63	199	629	1,991
41	Meadows Road	North of SR-98/Birch Street	64.8	59.4	62.9	67.6	9	29	91	288	910	2,877
42	Andrade Avenue	South of SR-98/Birch Street	63.4	58.1	61.5	66.3	7	21	67	213	674	2,133
43	Grover Cleveland Avenue	South of Cole Boulevard	50.3	46.9	52.8	55.4	1	2	5	17	55	173
44	Bowker Road	North of Cole Boulevard	64.1	57.4	60.1	66.2	7	21	66	208	659	2,084
45	Bowker Road	South of Cole Boulevard	60.5	55.2	58.6	63.4	3	11	35	109	346	1,094
46	Bowker Road	North of SR-98/Birch Street	60.0	54.7	58.1	62.9	3	10	31	97	308	975
47	Bowker Road	South of SR-98/Birch Street	54.5	49.2	52.6	57.4	1	3	9	27	87	275
48	David Navarro Avenue	North of SR-98/Birch Street	51.9	48.5	54.4	57.0	1	3	8	25	79	251
49	David Navarro Avenue	South of SR-98/Birch Street	54.9	51.5	57.4	60.0	2	5	16	50	158	500
50	Kloke Road	North of SR-98/Birch Street	61.0	55.7	59.1	63.9	4	12	39	123	388	1,227
51	Kloke Road	South of SR-98/Birch Street	57.2	53.8	59.7	62.3	3	8	27	85	269	849
52	Cesar Chavez Boulevard	South of SR-98/Birch Street	64.3	59.0	62.4	67.2	8	26	83	262	830	2,624
53	Cesar Chavez Boulevard	North of Grant Street	63.5	58.1	61.6	66.3	7	21	67	213	674	2,133
54	Cesar Chavez Boulevard	South of Grant Street	64.0	58.7	62.1	66.9	8	24	77	245	774	2,449

FHWA RD-77-108

Traffic Noise Prediction Model

Data Input Sheet

Project Name : Calexico Housing Element Update
Project Number : 10790
Modeled Condition : Year 2050 HEU Land Use and Zoning Designations - AM Peak Hour

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 9.00
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway	Segment	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	Jasper Road	West of SR-111/Imperial Avenue	275	40	50	95.00	3.00	2.00	77.00	10.00	13.00	
2	Jasper Road	East of SR-111/Imperial Avenue	484	40	50	95.00	3.00	2.00	77.00	10.00	13.00	
3	Cole Boulevard	West of SR-111/Imperial Avenue	2,143	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
4	Cole Boulevard	East of SR-111/Imperial Avenue	1,602	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
5	Cole Boulevard	West of Yourman Road	1,440	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
6	Cole Boulevard	East of Yourman Road	1,405	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
7	Cole Boulevard	West of Meadows Road	1,226	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
8	Cole Boulevard	East of Meadows Road	543	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
9	Cole Boulevard	West of Grover Cleveland Avenue	491	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
10	Cole Boulevard	East of Grover Cleveland Avenue	418	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
11	Cole Boulevard	West of Bowker Road	458	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
12	Cole Boulevard	East of Bowker Road	303	45	50	95.00	3.00	2.00	77.00	10.00	13.00	
13	SR-98/Birch Street	West of David Navarro Avenue	963	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
14	SR-98/Birch Street	East of David Navarro Avenue	971	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
15	SR-98/Birch Street	West of Kloke Road	938	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
16	SR-98/Birch Street	East of Kloke Road	1,328	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
17	SR-98/Birch Street	West of Cesar Chavez Boulevard	1,889	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
18	SR-98/Birch Street	East of Cesar Chavez Boulevard	1,872	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
19	SR-98/Birch Street	West of SR-111/Imperial Avenue	1,916	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
20	SR-98/Birch Street	East of SR-111/Imperial Avenue	2,045	45	50	92.20	3.30	4.50	77.00	10.00	13.00	
21	SR-98/Birch Street	West of Meadows Road/Andrade Avenue	1,707	45	50	92.20	3.30	4.50	77.00	10.00	13.00	
22	SR-98/Birch Street	East of Meadows Road/Andrade Avenue	1,075	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
23	SR-98/Birch Street	West of Bowker Road	1,239	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
24	SR-98/Birch Street	East of Bowker Road	580	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
25	Grant Street	West of Cesar Chavez Boulevard	417	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
26	Grant Street	East of Cesar Chavez Boulevard	509	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
27	Grant Street	West of SR-111/Imperial Avenue	336	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
28	8th Street	East of SR-111/Imperial Avenue	159	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
29	SR-111/Imperial Avenue	North of Jasper Road	2,536	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
30	SR-111/Imperial Avenue	South of Jasper Road	2,239	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
31	SR-111/Imperial Avenue	North of Cole Boulevard	2,967	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
32	SR-111/Imperial Avenue	South of Cole Boulevard	1,820	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
33	SR-111/Imperial Avenue	North of SR-98/Birch Street	2,063	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
34	SR-111/Imperial Avenue	South of SR-98/Birch Street	1,934	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
35	SR-111/Imperial Avenue	North of Grant Street	1,551	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
36	SR-111/Imperial Avenue	South of Grant Street	1,616	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
37	Yourman Road	North of Cole Boulevard	1,106	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
38	Yourman Road	South of Cole Boulevard	571	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
39	Meadows Road	North of Cole Boulevard	331	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
40	Meadows Road	South of Cole Boulevard	684	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
41	Meadows Road	North of SR-98/Birch Street	1,689	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
42	Andrade Avenue	South of SR-98/Birch Street	1,415	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
43	Grover Cleveland Avenue	South of Cole Boulevard	153	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
44	Bowker Road	North of Cole Boulevard	580	45	50	95.00	3.00	2.00	77.00	10.00	13.00	
45	Bowker Road	South of Cole Boulevard	455	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
46	Bowker Road	North of SR-98/Birch Street	829	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
47	Bowker Road	South of SR-98/Birch Street	108	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
48	David Navarro Avenue	North of SR-98/Birch Street	306	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
49	David Navarro Avenue	South of SR-98/Birch Street	332	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
50	Kloke Road	North of SR-98/Birch Street	885	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
51	Kloke Road	South of SR-98/Birch Street	625	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
52	Cesar Chavez Boulevard	South of SR-98/Birch Street	891	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
53	Cesar Chavez Boulevard	North of Grant Street	935	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
54	Cesar Chavez Boulevard	South of Grant Street	883	35	50	95.00	3.00	2.00	77.00	10.00	13.00	

FHWA RD-77-108

Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : Calexico Housing Element Update
Project Number : 10790
Modeled Condition : Year 2050 HEU Land Use and Zoning Designations - AM Peak Hour
Assessment Metric: Hard

			Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
Segment	Roadway	Segment	Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	Jasper Road	West of SR-111/Imperial Avenue	60.0	53.9	57.0	62.4	3	9	27	87	275	869
2	Jasper Road	East of SR-111/Imperial Avenue	62.4	56.3	59.4	64.8	5	15	48	151	477	1,510
3	Cole Boulevard	West of SR-111/Imperial Avenue	67.2	61.9	65.3	70.1	16	51	162	512	1,618	5,116
4	Cole Boulevard	East of SR-111/Imperial Avenue	66.0	60.6	64.1	68.8	12	38	120	379	1,199	3,793
5	Cole Boulevard	West of Yourman Road	65.5	60.2	63.6	68.4	11	35	109	346	1,094	3,459
6	Cole Boulevard	East of Yourman Road	65.4	60.1	63.5	68.3	11	34	107	338	1,069	3,380
7	Cole Boulevard	West of Meadows Road	64.8	59.5	62.9	67.7	9	29	93	294	931	2,944
8	Cole Boulevard	East of Meadows Road	61.3	55.9	59.4	64.1	4	13	41	129	406	1,285
9	Cole Boulevard	West of Grover Cleveland Avenue	60.8	55.5	58.9	63.7	4	12	37	117	371	1,172
10	Cole Boulevard	East of Grover Cleveland Avenue	60.1	54.8	58.2	63.0	3	10	32	100	315	998
11	Cole Boulevard	West of Bowker Road	60.5	55.2	58.6	63.4	3	11	35	109	346	1,094
12	Cole Boulevard	East of Bowker Road	61.9	55.1	57.8	63.9	4	12	39	123	388	1,227
13	SR-98/Birch Street	West of David Navarro Avenue	65.3	59.7	65.9	69.2	13	42	132	416	1,315	4,159
14	SR-98/Birch Street	East of David Navarro Avenue	65.3	59.8	66.0	69.2	13	42	132	416	1,315	4,159
15	SR-98/Birch Street	West of Kloke Road	65.2	59.6	65.8	69.0	13	40	126	397	1,256	3,972
16	SR-98/Birch Street	East of Kloke Road	66.7	61.1	67.3	70.5	18	56	177	561	1,774	5,610
17	SR-98/Birch Street	West of Cesar Chavez Boulevard	68.2	62.7	68.8	72.1	26	81	256	811	2,564	8,109
18	SR-98/Birch Street	East of Cesar Chavez Boulevard	68.2	62.6	68.8	72.0	25	79	251	792	2,506	7,924
19	SR-98/Birch Street	West of SR-111/Imperial Avenue	68.3	62.7	68.9	72.1	26	81	256	811	2,564	8,109
20	SR-98/Birch Street	East of SR-111/Imperial Avenue	70.0	63.8	69.7	73.4	35	109	346	1,094	3,459	10,939
21	SR-98/Birch Street	West of Meadows Road/Andrade Avenue	69.2	63.0	68.9	72.6	29	91	288	910	2,877	9,099
22	SR-98/Birch Street	East of Meadows Road/Andrade Avenue	69.7	62.4	67.7	72.3	27	85	269	849	2,685	8,491
23	SR-98/Birch Street	West of Bowker Road	70.4	63.0	68.3	72.9	31	97	308	975	3,083	9,749
24	SR-98/Birch Street	East of Bowker Road	67.1	59.7	65.0	69.6	14	46	144	456	1,442	4,560
25	Grant Street	West of Cesar Chavez Boulevard	55.9	52.5	58.4	61.0	2	6	20	63	199	629
26	Grant Street	East of Cesar Chavez Boulevard	56.8	53.4	59.2	61.9	2	8	24	77	245	774
27	Grant Street	West of SR-111/Imperial Avenue	55.0	51.6	57.4	60.1	2	5	16	51	162	512
28	8th Street	East of SR-111/Imperial Avenue	51.7	48.3	54.2	56.8	1	2	8	24	76	239
29	SR-111/Imperial Avenue	North of Jasper Road	75.7	67.2	69.1	77.0	79	251	792	2,506	7,924	25,059
30	SR-111/Imperial Avenue	South of Jasper Road	75.1	66.7	68.6	76.5	71	223	706	2,233	7,063	22,334
31	SR-111/Imperial Avenue	North of Cole Boulevard	76.3	67.9	69.8	77.7	93	294	931	2,944	9,310	29,442
32	SR-111/Imperial Avenue	South of Cole Boulevard	74.2	65.8	67.7	75.6	57	182	574	1,815	5,741	18,154
33	SR-111/Imperial Avenue	North of SR-98/Birch Street	74.8	66.3	68.3	76.1	64	204	644	2,037	6,441	20,369
34	SR-111/Imperial Avenue	South of SR-98/Birch Street	74.5	66.1	68.0	75.8	60	190	601	1,901	6,011	19,009
35	SR-111/Imperial Avenue	North of Grant Street	73.5	65.1	67.0	74.9	49	155	489	1,545	4,886	15,451
36	SR-111/Imperial Avenue	South of Grant Street	73.7	65.3	67.2	75.1	51	162	512	1,618	5,116	16,180
37	Yourman Road	North of Cole Boulevard	64.3	59.0	62.5	67.2	8	26	83	262	830	2,624
38	Yourman Road	South of Cole Boulevard	61.5	56.2	59.6	64.4	4	14	44	138	435	1,377
39	Meadows Road	North of Cole Boulevard	59.1	53.8	57.2	62.0	3	8	25	79	251	792
40	Meadows Road	South of Cole Boulevard	62.3	56.9	60.4	65.1	5	16	51	162	512	1,618
41	Meadows Road	North of SR-98/Birch Street	66.2	60.9	64.3	69.1	13	41	129	406	1,285	4,064
42	Andrade Avenue	South of SR-98/Birch Street	65.4	60.1	63.5	68.3	11	34	107	338	1,069	3,380
43	Grover Cleveland Avenue	South of Cole Boulevard	51.5	48.2	54.0	56.6	1	2	7	23	72	229
44	Bowker Road	North of Cole Boulevard	64.7	57.9	60.7	66.7	7	23	74	234	740	2,339
45	Bowker Road	South of Cole Boulevard	60.5	55.2	58.6	63.4	3	11	35	109	346	1,094
46	Bowker Road	North of SR-98/Birch Street	63.1	57.8	61.2	66.0	6	20	63	199	629	1,991
47	Bowker Road	South of SR-98/Birch Street	54.2	48.9	52.4	57.1	1	3	8	26	81	256
48	David Navarro Avenue	North of SR-98/Birch Street	54.6	51.2	57.0	59.6	1	5	14	46	144	456
49	David Navarro Avenue	South of SR-98/Birch Street	54.9	51.5	57.4	60.0	2	5	16	50	158	500
50	Kloke Road	North of SR-98/Birch Street	63.4	58.1	61.5	66.3	7	21	67	213	674	2,133
51	Kloke Road	South of SR-98/Birch Street	57.7	54.3	60.1	62.7	3	9	29	93	294	931
52	Cesar Chavez Boulevard	South of SR-98/Birch Street	63.4	58.1	61.5	66.3	7	21	67	213	674	2,133
53	Cesar Chavez Boulevard	North of Grant Street	63.6	58.3	61.7	66.5	7	22	71	223	706	2,233
54	Cesar Chavez Boulevard	South of Grant Street	63.4	58.1	61.5	66.3	7	21	67	213	674	2,133

FHWA RD-77-108

Traffic Noise Prediction Model

Data Input Sheet

Project Name : Calexico Housing Element Update
Project Number : 10790
Modeled Condition : Year 2050 HEU Land Use and Zoning Designations - PM Peak Hour

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 9.00
Traffic Desc. (Peak or ADT) : Peak

Segment	Roadway	Segment	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	Jasper Road	West of SR-111/Imperial Avenue	285	40	50	95.00	3.00	2.00	77.00	10.00	13.00	
2	Jasper Road	East of SR-111/Imperial Avenue	576	40	50	95.00	3.00	2.00	77.00	10.00	13.00	
3	Cole Boulevard	West of SR-111/Imperial Avenue	1,227	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
4	Cole Boulevard	East of SR-111/Imperial Avenue	2,118	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
5	Cole Boulevard	West of Yourman Road	1,806	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
6	Cole Boulevard	East of Yourman Road	1,542	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
7	Cole Boulevard	West of Meadows Road	1,387	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
8	Cole Boulevard	East of Meadows Road	729	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
9	Cole Boulevard	West of Grover Cleveland Avenue	707	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
10	Cole Boulevard	East of Grover Cleveland Avenue	655	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
11	Cole Boulevard	West of Bowker Road	641	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
12	Cole Boulevard	East of Bowker Road	565	45	50	95.00	3.00	2.00	77.00	10.00	13.00	
13	SR-98/Birch Street	West of David Navarro Avenue	1,112	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
14	SR-98/Birch Street	East of David Navarro Avenue	1,060	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
15	SR-98/Birch Street	West of Kloke Road	1,020	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
16	SR-98/Birch Street	East of Kloke Road	1,291	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
17	SR-98/Birch Street	West of Cesar Chavez Boulevard	1,805	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
18	SR-98/Birch Street	East of Cesar Chavez Boulevard	1,853	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
19	SR-98/Birch Street	West of SR-111/Imperial Avenue	2,015	40	50	92.20	3.30	4.50	77.00	10.00	13.00	
20	SR-98/Birch Street	East of SR-111/Imperial Avenue	1,963	45	50	92.20	3.30	4.50	77.00	10.00	13.00	
21	SR-98/Birch Street	West of Meadows Road/Andrade Avenue	1,285	45	50	92.20	3.30	4.50	77.00	10.00	13.00	
22	SR-98/Birch Street	East of Meadows Road/Andrade Avenue	798	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
23	SR-98/Birch Street	West of Bowker Road	852	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
24	SR-98/Birch Street	East of Bowker Road	631	55	50	92.20	3.30	4.50	77.00	10.00	13.00	
25	Grant Street	West of Cesar Chavez Boulevard	567	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
26	Grant Street	East of Cesar Chavez Boulevard	587	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
27	Grant Street	West of SR-111/Imperial Avenue	288	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
28	8th Street	East of SR-111/Imperial Avenue	173	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
29	SR-111/Imperial Avenue	North of Jasper Road	2,977	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
30	SR-111/Imperial Avenue	South of Jasper Road	2,598	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
31	SR-111/Imperial Avenue	North of Cole Boulevard	2,409	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
32	SR-111/Imperial Avenue	South of Cole Boulevard	2,176	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
33	SR-111/Imperial Avenue	North of SR-98/Birch Street	2,707	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
34	SR-111/Imperial Avenue	South of SR-98/Birch Street	2,371	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
35	SR-111/Imperial Avenue	North of Grant Street	1,871	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
36	SR-111/Imperial Avenue	South of Grant Street	1,854	65	50	94.40	3.30	2.30	77.00	10.00	13.00	
37	Yourman Road	North of Cole Boulevard	1,689	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
38	Yourman Road	South of Cole Boulevard	823	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
39	Meadows Road	North of Cole Boulevard	228	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
40	Meadows Road	South of Cole Boulevard	772	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
41	Meadows Road	North of SR-98/Birch Street	1,216	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
42	Andrade Avenue	South of SR-98/Birch Street	895	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
43	Grover Cleveland Avenue	South of Cole Boulevard	106	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
44	Bowker Road	North of Cole Boulevard	474	45	50	95.00	3.00	2.00	77.00	10.00	13.00	
45	Bowker Road	South of Cole Boulevard	428	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
46	Bowker Road	North of SR-98/Birch Street	408	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
47	Bowker Road	South of SR-98/Birch Street	115	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
48	David Navarro Avenue	North of SR-98/Birch Street	176	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
49	David Navarro Avenue	South of SR-98/Birch Street	354	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
50	Kloke Road	North of SR-98/Birch Street	543	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
51	Kloke Road	South of SR-98/Birch Street	600	25	50	95.00	3.00	2.00	77.00	10.00	13.00	
52	Cesar Chavez Boulevard	South of SR-98/Birch Street	1,166	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
53	Cesar Chavez Boulevard	North of Grant Street	960	35	50	95.00	3.00	2.00	77.00	10.00	13.00	
54	Cesar Chavez Boulevard	South of Grant Street	1,090	35	50	95.00	3.00	2.00	77.00	10.00	13.00	

FHWA RD-77-108

Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : Calexico Housing Element Update
Project Number : 10790
Modeled Condition : Year 2050 HEU Land Use and Zoning Designations - PM Peak Hour
Assessment Metric: Hard

			Noise Levels, dBA Hard					Distance to Traffic Noise Level Contours, Feet				
Segment	Roadway	Segment	Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	Jasper Road	West of SR-111/Imperial Avenue	60.1	54.0	57.1	62.5	3	9	28	89	281	889
2	Jasper Road	East of SR-111/Imperial Avenue	63.2	57.1	60.2	65.6	6	18	57	182	574	1,815
3	Cole Boulevard	West of SR-111/Imperial Avenue	64.8	59.5	62.9	67.7	9	29	93	294	931	2,944
4	Cole Boulevard	East of SR-111/Imperial Avenue	67.2	61.9	65.3	70.1	16	51	162	512	1,618	5,116
5	Cole Boulevard	West of Yourman Road	66.5	61.2	64.6	69.4	14	44	138	435	1,377	4,355
6	Cole Boulevard	East of Yourman Road	65.8	60.5	63.9	68.7	12	37	117	371	1,172	3,707
7	Cole Boulevard	West of Meadows Road	65.3	60.0	63.4	68.2	10	33	104	330	1,045	3,303
8	Cole Boulevard	East of Meadows Road	62.5	57.2	60.7	65.4	5	17	55	173	548	1,734
9	Cole Boulevard	West of Grover Cleveland Avenue	62.4	57.1	60.5	65.3	5	17	54	169	536	1,694
10	Cole Boulevard	East of Grover Cleveland Avenue	62.1	56.8	60.2	65.0	5	16	50	158	500	1,581
11	Cole Boulevard	West of Bowker Road	62.0	56.7	60.1	64.9	5	15	49	155	489	1,545
12	Cole Boulevard	East of Bowker Road	64.6	57.8	60.6	66.6	7	23	72	229	723	2,285
13	SR-98/Birch Street	West of David Navarro Avenue	65.9	60.4	66.5	69.8	15	48	151	477	1,510	4,775
14	SR-98/Birch Street	East of David Navarro Avenue	65.7	60.2	66.3	69.6	14	46	144	456	1,442	4,560
15	SR-98/Birch Street	West of Kloke Road	65.5	60.0	66.2	69.4	14	44	138	435	1,377	4,355
16	SR-98/Birch Street	East of Kloke Road	66.6	61.0	67.2	70.4	17	55	173	548	1,734	5,482
17	SR-98/Birch Street	West of Cesar Chavez Boulevard	68.0	62.5	68.6	71.9	24	77	245	774	2,449	7,744
18	SR-98/Birch Street	East of Cesar Chavez Boulevard	68.1	62.6	68.8	72.0	25	79	251	792	2,506	7,924
19	SR-98/Birch Street	West of SR-111/Imperial Avenue	68.5	63.0	69.1	72.4	27	87	275	869	2,748	8,689
20	SR-98/Birch Street	East of SR-111/Imperial Avenue	69.8	63.6	69.5	73.2	33	104	330	1,045	3,303	10,446
21	SR-98/Birch Street	West of Meadows Road/Andrade Avenue	68.0	61.8	67.6	71.4	22	69	218	690	2,183	6,902
22	SR-98/Birch Street	East of Meadows Road/Andrade Avenue	68.5	61.1	66.4	71.0	20	63	199	629	1,991	6,295
23	SR-98/Birch Street	West of Bowker Road	68.7	61.4	66.7	71.3	21	67	213	674	2,133	6,745
24	SR-98/Birch Street	East of Bowker Road	67.4	60.1	65.4	70.0	16	50	158	500	1,581	5,000
25	Grant Street	West of Cesar Chavez Boulevard	57.2	53.8	59.7	62.3	3	8	27	85	269	849
26	Grant Street	East of Cesar Chavez Boulevard	57.4	54.0	59.9	62.5	3	9	28	89	281	889
27	Grant Street	West of SR-111/Imperial Avenue	54.3	50.9	56.8	59.4	1	4	14	44	138	435
28	8th Street	East of SR-111/Imperial Avenue	52.1	48.7	54.6	57.2	1	3	8	26	83	262
29	SR-111/Imperial Avenue	North of Jasper Road	76.4	67.9	69.8	77.7	93	294	931	2,944	9,310	29,442
30	SR-111/Imperial Avenue	South of Jasper Road	75.8	67.3	69.3	77.1	81	256	811	2,564	8,109	25,643
31	SR-111/Imperial Avenue	North of Cole Boulevard	75.4	67.0	68.9	76.8	76	239	757	2,393	7,568	23,932
32	SR-111/Imperial Avenue	South of Cole Boulevard	75.0	66.6	68.5	76.4	69	218	690	2,183	6,902	21,826
33	SR-111/Imperial Avenue	North of SR-98/Birch Street	75.9	67.5	69.4	77.3	85	269	849	2,685	8,491	26,852
34	SR-111/Imperial Avenue	South of SR-98/Birch Street	75.4	66.9	68.9	76.7	74	234	740	2,339	7,396	23,387
35	SR-111/Imperial Avenue	North of Grant Street	74.3	65.9	67.8	75.7	59	186	587	1,858	5,874	18,577
36	SR-111/Imperial Avenue	South of Grant Street	74.3	65.9	67.8	75.7	59	186	587	1,858	5,874	18,577
37	Yourman Road	North of Cole Boulevard	66.2	60.9	64.3	69.1	13	41	129	406	1,285	4,064
38	Yourman Road	South of Cole Boulevard	63.1	57.7	61.2	65.9	6	19	62	195	615	1,945
39	Meadows Road	North of Cole Boulevard	57.5	52.2	55.6	60.4	2	5	17	55	173	548
40	Meadows Road	South of Cole Boulevard	62.8	57.5	60.9	65.7	6	19	59	186	587	1,858
41	Meadows Road	North of SR-98/Birch Street	64.8	59.4	62.9	67.6	9	29	91	288	910	2,877
42	Andrade Avenue	South of SR-98/Birch Street	63.4	58.1	61.5	66.3	7	21	67	213	674	2,133
43	Grover Cleveland Avenue	South of Cole Boulevard	50.0	46.6	52.4	55.0	1	2	5	16	50	158
44	Bowker Road	North of Cole Boulevard	63.8	57.1	59.8	65.9	6	19	62	195	615	1,945
45	Bowker Road	South of Cole Boulevard	60.2	54.9	58.3	63.1	3	10	32	102	323	1,021
46	Bowker Road	North of SR-98/Birch Street	60.0	54.7	58.1	62.9	3	10	31	97	308	975
47	Bowker Road	South of SR-98/Birch Street	54.5	49.2	52.6	57.4	1	3	9	27	87	275
48	David Navarro Avenue	North of SR-98/Birch Street	52.2	48.8	54.6	57.2	1	3	8	26	83	262
49	David Navarro Avenue	South of SR-98/Birch Street	55.2	51.8	57.7	60.3	2	5	17	54	169	536
50	Kloke Road	North of SR-98/Birch Street	61.3	55.9	59.4	64.1	4	13	41	129	406	1,285
51	Kloke Road	South of SR-98/Birch Street	57.5	54.1	60.0	62.6	3	9	29	91	288	910
52	Cesar Chavez Boulevard	South of SR-98/Birch Street	64.6	59.3	62.7	67.5	9	28	89	281	889	2,812
53	Cesar Chavez Boulevard	North of Grant Street	63.7	58.4	61.8	66.6	7	23	72	229	723	2,285
54	Cesar Chavez Boulevard	South of Grant Street	64.3	59.0	62.4	67.2	8	26	83	262	830	2,624

ATTACHMENT 4

CREATE Railroad Noise Calculations

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: Calexico Housing Element Update

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	56	50	49
Source 1	55	50	49
Source 2	44	35	38
Source 3	0	0	0
Source 4	0	0	0
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS							
Parameter	**Source 1**		**Source 2**		**Source 3**		
Source Num.	Freight Locomotive	9	Freight Cars	10			
Distance (source to receiver)	distance (ft)	50	distance (ft)	50			
Daytime Hours	speed (mph)	10	speed (mph)	10			
(7 AM - 10 PM)	trains/hour	0.06667	trains/hour	0.06667			
	locos/train	2	length of cars (ft) / train	150			
Nighttime Hours	speed (mph)	10	speed (mph)	10			
(10 PM - 7 AM)	trains/hour	0.11111	trains/hour	0.11111			
	locos/train	1	length of cars (ft) / train	150			
Wheel Flats?		25.00%	% of cars w/ wheel flats	25.00%			
Jointed Track?	Y/N	N	Y/N	N			
Embedded Track?	Y/N	N	Y/N	N			
Aerial Structure?	Y/N	N	Y/N	N			
Barrier Present?	Y/N	N	Y/N	N			
Intervening Rows of of Buildings	number of rows	0	number of rows	0			

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Level at 50 Feet		Distance to Noise Contour:					
	CNEL:	75	70	65	60	55	50
56.0	Feet:	1	2	6	20	63	199

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY)	B. Reporting Agency	C. Reason for Update (Select only one)	D. DOT Crossing Inventory Number
08 / 26 / 2025	☒ Railroad ☐ Transit ☐ State ☐ Other	☒ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☐ Admin. Correction	760897G

Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
Union Pacific Railroad Company [UP]	CALIFORNIA	IMPERIAL

4. City / Municipality	5. Street/Road Name & Block Number	6. Highway Type & No.
☒ In ☐ Near CALEXICO	COLE ROAD (Street/Road Name) | * (Block Number)	LS

7. Do Other Railroads Operate a Separate Track at Crossing?	8. Do Other Railroads Operate Over Your Track at Crossing?
☐ Yes ☒ No If Yes, Specify RR	☐ Yes ☒ No If Yes, Specify RR

9. Railroad Division or Region	10. Railroad Subdivision or District	11. Branch or Line Name	12. RR Milepost
☐ None LOS ANGELES	☐ None CALEXICO SUB	☒ None	(prefix) | 0706.640 | (suffix)

13. Line Segment *	14. Nearest RR Timetable Station *	15. Parent RR (if applicable)	16. Crossing Owner (if applicable)
		☒ N/A	☐ N/A UP

17. Crossing Type	18. Crossing Purpose	19. Crossing Position	20. Public Access (if Private Crossing)	21. Type of Train	22. Average Passenger Train Count Per Day
☒ Public ☐ Private	☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.	☒ At Grade ☐ RR Under ☐ RR Over	☐ Yes ☐ No	☒ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other	☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use
☒ Open Space ☐ Farm ☐ Residential ☐ Commercial ☐ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?	25. Quiet Zone (FRA provided)
☐ Yes ☒ No If Yes, Provide Crossing Number	☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID	27. Latitude in decimal degrees	28. Longitude in decimal degrees	29. Lat/Long Source
☒ N/A	(WGS84 std: nn.nnnnnnn) 32.693979	(WGS84 std: -nnn.nnnnnnn) -115.511107	☒ Actual ☐ Estimated

30.A. Railroad Use *	31.A. State Use *
	CPUC 001BN-706.60
30.B. Railroad Use *	**31.B. State Use ***
30.C. Railroad Use *	**31.C. State Use ***
30.D. Railroad Use *	**31.D. State Use ***
32.A. Narrative (Railroad Use) *	**32.B. Narrative** (State Use) *

33. Emergency Notification Telephone No. (posted)	34. Railroad Contact (Telephone No.)	35. State Contact (Telephone No.)
800-848-8715	402-544-3721	415-703-3722

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains (6 AM to 6 PM)	1.B. Total Night Thru Trains (6 PM to 6 AM)	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day ☐ How many trains per week?
1	0	2	0	

2. Year of Train Count Data (YYYY)	3. Speed of Train at Crossing
2025	3.A. Maximum Timetable Speed (mph) 10 3.B. Typical Speed Range Over Crossing (mph) From 5 to 10

4. Type and Count of Tracks
Main 1 Siding 0 Yard 0 Transit 0 Industry 0

5. Train Detection (Main Track only)
☒ Constant Warning Time ☐ Motion Detection ☐AFO ☐ PTC ☐ DC ☐ Other ☐ None

6. Is Track Signaled?	7.A. Event Recorder	7.B. Remote Health Monitoring
☐ Yes ☒ No	☒ Yes ☐ No	☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
08/26/2025		760897G

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☒ Yes ☐ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☒ None
0	0	0	☐ W10-1 _____ ☐ W10-3 _____ ☐ W10-11 _____ ☐ W10-2 _____ ☐ W10-4 _____ ☐ W10-12 _____

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count_____)* ☒ No	☒ Stop Lines ☐ Dynamic Envelope ☒ RR Xing Symbols ☐ None	☒ All Approaches ☒ Median ☐ One Approach ☐ None	☐ Yes ☒ No	☒ Yes ☐ No

2.J. Other MUTCD Signs	2.K. Private Crossing Signs *(if private)*	2.L. LED Enhanced Signs *(List types)*
☐ Yes ☒ No Specify Type _____ Count _____ Specify Type _____ Count _____ Specify Type _____ Count _____	☐ Yes ☐ No	0

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 4	3.E. Total Count of Flashing Light Pairs
Roadway 4 Pedestrian 0	☒ 2 Quad ☐ Full *(Barrier)* Resistance ☐ 3 Quad ☐ 4 Quad ☒ Median Gates	Over Traffic Lane 0 ☐ Incandescent Not Over Traffic Lane 0 ☐ LED	☐ Incandescent ☒ LED ☒ Back Lights Included ☐ Side Lights Included	9

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☒ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☒ No	☐ Yes ☒ No	2

3.J. Non-Train Active Warning	3.K. Other Flashing Lights or Warning Devices
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☒ None	Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☐ Yes ☒ No	☒ Not Interconnected ☐ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☐ Advance	☐ Yes ☒ No Storage Distance * _____ Stop Line Distance * _____	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☐ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☐ One-way Traffic ☒ Two-way Traffic Number of Lanes 3 ☐ Divided Traffic	☒ Yes ☐ No	☐ Yes ☒ No	☐ Yes ☒ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * 90

☐ 1 Timber ☐ 2 Asphalt ☐ 3 Asphalt and Timber ☒ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☒ Yes ☐ No If Yes, Approximate Distance *(feet)* 46	☐ 0° – 29° ☐ 30° – 59° ☒ 60° - 90°	☒ Yes ☐ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☐ (02) Other Nat Hwy System (NHS) ☒ (03) Federal AID, Not NHS ☐ (08) Non-Federal Aid	☐ (0) Rural ☒ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☐ (2) Other Freeways and Expressways ☒ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☐ (7) Local	☐ Yes ☒ No	25 MPH ☐ Posted ☒ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 2016 AADT 10266	20 %	☐ Yes ☒ No Average Number per Day _____	☐ Yes ☐ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

Public reporting burden for this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for information collection is 2130-0017. Send comments regarding this burden estimate or any other aspect of this collection, including for reducing this burden to: Information Collection Officer, Federal Railroad Administration, 1200 New Jersey Ave. SE, MS-25 Washington, DC 20590.

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

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A. Revision Date *(MM/DD/YYYY)*: 08 / 26 / 2025

B. Reporting Agency: ☒ Railroad ☐ Transit ☐ State ☐ Other

C. Reason for Update *(Select only one)*: ☒ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☐ Admin. Correction

D. DOT Crossing Inventory Number: 760900M

Part I: Location and Classification Information

1. Primary Operating Railroad: Union Pacific Railroad Company [UP]

2. State: CALIFORNIA

3. County: IMPERIAL

4. City / Municipality: ☒ In ☐ Near CALEXICO

5. Street/Road Name & Block Number: SR 98 | _____ (Street/Road Name) | * (Block Number)

6. Highway Type & No.: sr 98

7. Do Other Railroads Operate a Separate Track at Crossing? ☐ Yes ☒ No
If Yes, Specify RR _____, _____, _____, _____

8. Do Other Railroads Operate Over Your Track at Crossing? ☐ Yes ☒ No
If Yes, Specify RR _____, _____, _____, _____

9. Railroad Division or Region: ☐ None LOS ANGELES

10. Railroad Subdivision or District: ☐ None Calexico SUB

11. Branch or Line Name: ☒ None

12. RR Milepost: _____ | 0707.710 | _____ (prefix) | (nnnn.nnn) | (suffix)

13. Line Segment *:

14. Nearest RR Timetable Station *:

15. Parent RR *(if applicable)*: ☒ N/A

16. Crossing Owner *(if applicable)*: ☐ N/A UP

17. Crossing Type: ☒ Public ☐ Private

18. Crossing Purpose: ☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.

19. Crossing Position: ☒ At Grade ☐ RR Under ☐ RR Over

20. Public Access *(if Private Crossing)*: ☐ Yes ☐ No

21. Type of Train: ☒ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other

22. Average Passenger Train Count Per Day: ☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use: ☐ Open Space ☐ Farm ☐ Residential ☒ Commercial ☐ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?: ☐ Yes ☒ No If Yes, Provide Crossing Number _____

25. Quiet Zone *(FRA provided)*: ☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established _____

26. HSR Corridor ID: ☒ N/A

27. Latitude in decimal degrees *(WGS84 std: nn.nnnnnnn)*: 32.6791320

28. Longitude in decimal degrees *(WGS84 std: -nnn.nnnnnnn)*: -115.5051110

29. Lat/Long Source: ☒ Actual ☐ Estimated

30.A. Railroad Use *:

31.A. State Use *: CPUC 001BN-707.80

30.B. Railroad Use *:

31.B. State Use *:

30.C. Railroad Use *:

31.C. State Use *:

30.D. Railroad Use *:

31.D. State Use *:

32.A. Narrative *(Railroad Use)* *:

32.B. Narrative *(State Use)* *:

33. Emergency Notification Telephone No. *(posted)*: 800-848-8715

34. Railroad Contact *(Telephone No.)*: 402-544-3721

35. State Contact *(Telephone No.)*: 415-703-3722

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains *(6 AM to 6 PM)*	1.B. Total Night Thru Trains *(6 PM to 6 AM)*	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day ☐ How many trains per week?
1	0	2	0	

2. Year of Train Count Data *(YYYY)*: 2025

3. Speed of Train at Crossing
3.A. Maximum Timetable Speed *(mph)*: 10
3.B. Typical Speed Range Over Crossing *(mph)* From 5 to 10

4. Type and Count of Tracks
Main 1 Siding 0 Yard 0 Transit 0 Industry 0

5. Train Detection *(Main Track only)*
☒ Constant Warning Time ☐ Motion Detection ☐AFO ☐ PTC ☐ DC ☐ Other ☐ None

6. Is Track Signaled? ☐ Yes ☒ No

7.A. Event Recorder ☐ Yes ☒ No

7.B. Remote Health Monitoring ☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
08/26/2025		760900M

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☒ Yes ☐ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☐ None
0	0	0	☒ W10-1 2 ☐ W10-3 ☐ W10-11 ☐ W10-2 ☐ W10-4 ☐ W10-12

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count_____)* ☒ No	☒ Stop Lines ☐ Dynamic Envelope ☒ RR Xing Symbols ☐ None	☐ All Approaches ☐ Median ☐ One Approach ☒ None	☐ Yes ☒ No	☒ Yes ☐ No

2.J. Other MUTCD Signs	2.K. Private Crossing Signs *(if private)*	2.L. LED Enhanced Signs *(List types)*
☐ Yes ☒ No Specify Type _____ Count _____ Specify Type _____ Count _____ Specify Type _____ Count _____	☐ Yes ☐ No	0

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 5	3.E. Total Count of Flashing Light Pairs
Roadway 4 Pedestrian 0	☒ 2 Quad ☐ Full *(Barrier)* Resistance ☐ 3 Quad ☐ 4 Quad ☒ Median Gates	Over Traffic Lane 1 ☐ Incandescent Not Over Traffic Lane 0 ☒ LED	☐ Incandescent ☒ LED ☒ Back Lights Included ☒ Side Lights Included	12

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☒ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☒ No	☐ Yes ☒ No	2

3.J. Non-Train Active Warning	3.K. Other Flashing Lights or Warning Devices
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☒ None	Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☒ Yes ☐ No	☐ Not Interconnected ☒ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☒ Advance	☐ Yes ☒ No Storage Distance * _____ Stop Line Distance * _____	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☐ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☐ One-way Traffic ☒ Two-way Traffic ☐ Divided Traffic Number of Lanes 6	☒ Yes ☐ No	☐ Yes ☒ No	☒ Yes ☐ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * _____

☐ 1 Timber ☒ 2 Asphalt ☐ 3 Asphalt and Timber ☐ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☒ Yes ☐ No If Yes, Approximate Distance *(feet)* 62	☐ 0° – 29° ☐ 30° – 59° ☒ 60° - 90°	☒ Yes ☐ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☒ (02) Other Nat Hwy System (NHS) ☐ (03) Federal AID, Not NHS ☐ (08) Non-Federal Aid	☐ (0) Rural ☒ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☐ (2) Other Freeways and Expressways ☒ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☐ (7) Local	☒ Yes ☐ No	40 MPH ☒ Posted ☐ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 2016 AADT 17404	10 %	☐ Yes ☒ No Average Number per Day _____	☐ Yes ☐ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

Public reporting burden for this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for information collection is 2130-0017. Send comments regarding this burden estimate or any other aspect of this collection, including for reducing this burden to: Information Collection Officer, Federal Railroad Administration, 1200 New Jersey Ave. SE, MS-25 Washington, DC 20590.

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY)	B. Reporting Agency	C. Reason for Update (Select only one)	D. DOT Crossing Inventory Number
08 / 26 / 2025	☒ Railroad ☐ Transit ☐ State ☐ Other	☒ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☐ Admin. Correction	760903H

Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
Union Pacific Railroad Company [UP]	CALIFORNIA	IMPERIAL

4. City / Municipality	5. Street/Road Name & Block Number	6. Highway Type & No.
☒ In ☐ Near CALEXICO	GRANT STREET (Street/Road Name) | * (Block Number)	LS

7. Do Other Railroads Operate a Separate Track at Crossing?	8. Do Other Railroads Operate Over Your Track at Crossing?
☐ Yes ☒ No If Yes, Specify RR	☐ Yes ☒ No If Yes, Specify RR

9. Railroad Division or Region	10. Railroad Subdivision or District	11. Branch or Line Name	12. RR Milepost
☐ None LOS ANGELES	☐ None CALEXICO SUB	☒ None	(prefix) | 0708.090 | (suffix) (nnnn.nnn)

13. Line Segment *	14. Nearest RR Timetable Station *	15. Parent RR (if applicable)	16. Crossing Owner (if applicable)
		☒ N/A	☐ N/A UP

17. Crossing Type	18. Crossing Purpose	19. Crossing Position	20. Public Access (if Private Crossing)	21. Type of Train	22. Average Passenger Train Count Per Day
☒ Public ☐ Private	☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.	☒ At Grade ☐ RR Under ☐ RR Over	☐ Yes ☐ No	☒ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other	☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use
☐ Open Space ☐ Farm ☐ Residential ☐ Commercial ☒ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?	25. Quiet Zone (FRA provided)
☐ Yes ☒ No If Yes, Provide Crossing Number	☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID	27. Latitude in decimal degrees	28. Longitude in decimal degrees	29. Lat/Long Source
☒ N/A	(WGS84 std: nn.nnnnnnn) 32.674019	(WGS84 std: -nnn.nnnnnnn) -115.503083	☒ Actual ☐ Estimated

30.A. Railroad Use *	31.A. State Use * CPUC 001BN-708.10
30.B. Railroad Use *	31.B. State Use *
30.C. Railroad Use *	31.C. State Use *
30.D. Railroad Use *	31.D. State Use *
32.A. Narrative (Railroad Use) *	32.B. Narrative (State Use) *

33. Emergency Notification Telephone No. (posted)	34. Railroad Contact (Telephone No.)	35. State Contact (Telephone No.)
800-848-8715	402-544-3721	415-703-3722

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains (6 AM to 6 PM)	1.B. Total Night Thru Trains (6 PM to 6 AM)	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day ☐ How many trains per week?
1	0	2	0	

2. Year of Train Count Data (YYYY)	3. Speed of Train at Crossing
2025	3.A. Maximum Timetable Speed (mph) 10 3.B. Typical Speed Range Over Crossing (mph) From 5 to 10

4. Type and Count of Tracks
Main 1 Siding 0 Yard 3 Transit 0 Industry 0

5. Train Detection (Main Track only)
☒ Constant Warning Time ☐ Motion Detection ☐AFO ☐ PTC ☐ DC ☐ Other ☐ None

6. Is Track Signaled?	7.A. Event Recorder	7.B. Remote Health Monitoring
☐ Yes ☒ No	☒ Yes ☐ No	☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
08/26/2025		760903H

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☒ Yes ☐ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☐ None
0	0	0	☒ W10-1 2 ☐ W10-3 ☐ W10-11 ☐ W10-2 ☐ W10-4 ☐ W10-12

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count_____)* ☒ No	☒ Stop Lines ☐ Dynamic Envelope ☒ RR Xing Symbols ☐ None	☒ All Approaches ☒ Median ☐ One Approach ☐ None	☐ Yes ☒ No	☒ Yes ☐ No

2.J. Other MUTCD Signs ☒ Yes ☐ No	2.K. Private Crossing Signs *(if private)*	2.L. LED Enhanced Signs *(List types)*
Specify Type R10-6 Count 2 Specify Type R8-8 Count 1 Specify Type R15-2P Count 5	☐ Yes ☐ No	0

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 4	3.E. Total Count of Flashing Light Pairs
Roadway 3 Pedestrian 0	☒ 2 Quad ☐ Full *(Barrier)* Resistance ☐ 3 Quad ☐ 4 Quad ☒ Median Gates	Over Traffic Lane 1 ☐ Incandescent Not Over Traffic Lane 0 ☒ LED	☐ Incandescent ☒ LED ☒ Back Lights Included ☒ Side Lights Included	10

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☒ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☒ No	☐ Yes ☒ No	2

3.J. Non-Train Active Warning	3.K. Other Flashing Lights or Warning Devices
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☒ None	Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☒ Yes ☐ No	☐ Not Interconnected ☒ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☒ Advance	☐ Yes ☒ No Storage Distance * _____ Stop Line Distance * _____	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☐ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☐ One-way Traffic ☒ Two-way Traffic ☐ Divided Traffic Number of Lanes 4	☒ Yes ☐ No	☐ Yes ☒ No	☒ Yes ☐ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * 80

☐ 1 Timber ☐ 2 Asphalt ☐ 3 Asphalt and Timber ☒ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☒ Yes ☐ No If Yes, Approximate Distance *(feet)* 33	☐ 0° – 29° ☐ 30° – 59° ☒ 60° - 90°	☒ Yes ☐ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☐ (02) Other Nat Hwy System (NHS) ☒ (03) Federal AID, Not NHS ☐ (08) Non-Federal Aid	☐ (0) Rural ☒ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☐ (2) Other Freeways and Expressways ☐ (3) Other Principal Arterial ☐ (6) Minor Collector ☒ (4) Minor Arterial ☐ (7) Local	☐ Yes ☒ No	25 MPH ☐ Posted ☒ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 2016 AADT 6979	20 %	☐ Yes ☒ No Average Number per Day _____	☐ Yes ☐ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

Public reporting burden for this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for information collection is 2130-0017. Send comments regarding this burden estimate or any other aspect of this collection, including for reducing this burden to: Information Collection Officer, Federal Railroad Administration, 1200 New Jersey Ave. SE, MS-25 Washington, DC 20590.

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY)	B. Reporting Agency	C. Reason for Update (Select only one)	D. DOT Crossing Inventory Number
08 / 26 / 2025	☒ Railroad ☐ Transit ☐ State ☐ Other	☒ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☐ Admin. Correction	760907K

Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
Union Pacific Railroad Company [UP]	CALIFORNIA	IMPERIAL

4. City / Municipality	5. Street/Road Name & Block Number	6. Highway Type & No.
☒ In ☐ Near CALEXICO	2ND STREET (Street/Road Name) | * (Block Number)	LS

7. Do Other Railroads Operate a Separate Track at Crossing?	8. Do Other Railroads Operate Over Your Track at Crossing?
☐ Yes ☒ No If Yes, Specify RR	☐ Yes ☒ No If Yes, Specify RR

9. Railroad Division or Region	10. Railroad Subdivision or District	11. Branch or Line Name	12. RR Milepost
☐ None LOS ANGELES	☐ None CALEXICO SUB	☒ None	(prefix) | 0708.634 (nnnn.nnn) | (suffix)

13. Line Segment *	14. Nearest RR Timetable Station *	15. Parent RR (if applicable)	16. Crossing Owner (if applicable)
		☒ N/A	☐ N/A UP

17. Crossing Type	18. Crossing Purpose	19. Crossing Position	20. Public Access (if Private Crossing)	21. Type of Train	22. Average Passenger Train Count Per Day
☒ Public ☐ Private	☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.	☒ At Grade ☐ RR Under ☐ RR Over	☐ Yes ☐ No	☒ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other	☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use
☐ Open Space ☐ Farm ☐ Residential ☒ Commercial ☐ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?	25. Quiet Zone (FRA provided)
☐ Yes ☒ No If Yes, Provide Crossing Number	☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID	27. Latitude in decimal degrees	28. Longitude in decimal degrees	29. Lat/Long Source
☒ N/A	(WGS84 std: nn.nnnnnnn) 32.666681	(WGS84 std: -nnn.nnnnnnn) -115.499658	☒ Actual ☐ Estimated

30.A. Railroad Use *	31.A. State Use * CPUC 001BN-708.70
30.B. Railroad Use *	31.B. State Use *
30.C. Railroad Use *	31.C. State Use *
30.D. Railroad Use *	31.D. State Use *
32.A. Narrative (Railroad Use) *	32.B. Narrative (State Use) *

33. Emergency Notification Telephone No. (posted)	34. Railroad Contact (Telephone No.)	35. State Contact (Telephone No.)
800-848-8715	402-544-3721	415-703-3722

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains (6 AM to 6 PM)	1.B. Total Night Thru Trains (6 PM to 6 AM)	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day ☐ How many trains per week?
1	1	2	0	

2. Year of Train Count Data (YYYY)	3. Speed of Train at Crossing
2025	3.A. Maximum Timetable Speed (mph) 10 3.B. Typical Speed Range Over Crossing (mph) From 5 to 10

4. Type and Count of Tracks
Main 1 Siding 0 Yard 0 Transit 0 Industry 0

5. Train Detection (Main Track only)
☒ Constant Warning Time ☐ Motion Detection ☐AFO ☐ PTC ☐ DC ☐ Other ☐ None

6. Is Track Signaled?	7.A. Event Recorder	7.B. Remote Health Monitoring
☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
08/26/2025		760907K

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☒ Yes ☐ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☐ None
0	0	0	☒ W10-1 2 ☐ W10-3 ☐ W10-11 ☐ W10-2 ☐ W10-4 ☐ W10-12

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count_____)* ☒ No	☒ Stop Lines ☐ Dynamic Envelope ☒ RR Xing Symbols ☐ None	☐ All Approaches ☐ Median ☐ One Approach ☒ None	☐ Yes ☒ No	☒ Yes ☐ No

2.J. Other MUTCD Signs ☒ Yes ☐ No	2.K. Private Crossing Signs *(if private)*	2.L. LED Enhanced Signs *(List types)*
Specify Type _____ Count _____ Specify Type _____ Count _____ Specify Type _____ Count _____	☐ Yes ☐ No	0

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 2	3.E. Total Count of Flashing Light Pairs
Roadway 2 Pedestrian 0	☒ 2 Quad ☐ Full *(Barrier)* Resistance ☐ 3 Quad ☐ 4 Quad ☐ Median Gates	Over Traffic Lane 2 ☐ Incandescent Not Over Traffic Lane 0 ☒ LED	☒ Incandescent ☐ LED ☒ Back Lights Included ☐ Side Lights Included	8

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☒ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☒ No	☐ Yes ☒ No	2

3.J. Non-Train Active Warning	3.K. Other Flashing Lights or Warning Devices
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☒ None	Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☒ Yes ☐ No	☐ Not Interconnected ☐ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☐ Advance	☐ Yes ☒ No Storage Distance * _____ Stop Line Distance * _____	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☐ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☐ One-way Traffic ☒ Two-way Traffic ☐ Divided Traffic Number of Lanes 5	☒ Yes ☐ No	☐ Yes ☒ No	☒ Yes ☐ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * 106

☐ 1 Timber ☐ 2 Asphalt ☐ 3 Asphalt and Timber ☒ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☒ Yes ☐ No If Yes, Approximate Distance *(feet)* 226	☐ 0° – 29° ☒ 30° – 59° ☐ 60° - 90°	☒ Yes ☐ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☐ (02) Other Nat Hwy System (NHS) ☒ (03) Federal AID, Not NHS ☐ (08) Non-Federal Aid	☐ (0) Rural ☒ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☐ (2) Other Freeways and Expressways ☒ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☐ (7) Local	☐ Yes ☒ No	25 MPH ☐ Posted ☒ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 2016 AADT 8056	15 %	☐ Yes ☒ No Average Number per Day _____	☐ Yes ☐ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

Public reporting burden for this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for information collection is 2130-0017. Send comments regarding this burden estimate or any other aspect of this collection, including for reducing this burden to: Information Collection Officer, Federal Railroad Administration, 1200 New Jersey Ave. SE, MS-25 Washington, DC 20590.

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY)	B. Reporting Agency	C. Reason for Update (Select only one)	D. DOT Crossing Inventory Number
08 / 26 / 2025	☒ Railroad ☐ Transit ☐ State ☐ Other	☒ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☐ Admin. Correction	760908S

Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
Union Pacific Railroad Company [UP]	CALIFORNIA	IMPERIAL

4. City / Municipality	5. Street/Road Name & Block Number	6. Highway Type & No.
☒ In ☐ Near CALEXICO	IMPERIAL AVENUE (Street/Road Name) | * (Block Number)	SR 111

7. Do Other Railroads Operate a Separate Track at Crossing? ☐ Yes ☒ No	8. Do Other Railroads Operate Over Your Track at Crossing? ☐ Yes ☒ No
If Yes, Specify RR	If Yes, Specify RR

9. Railroad Division or Region	10. Railroad Subdivision or District	11. Branch or Line Name	12. RR Milepost
☐ None LOS ANGELES	☐ None CALEXICO SUB	☒ None	(prefix) | 0708.718 | (suffix)

13. Line Segment *	14. Nearest RR Timetable Station *	15. Parent RR (if applicable)	16. Crossing Owner (if applicable)
		☒ N/A	☐ N/A UP

17. Crossing Type	18. Crossing Purpose	19. Crossing Position	20. Public Access (if Private Crossing)	21. Type of Train	22. Average Passenger Train Count Per Day
☒ Public ☐ Private	☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.	☒ At Grade ☐ RR Under ☐ RR Over	☐ Yes ☐ No	☒ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other	☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use
☐ Open Space ☐ Farm ☐ Residential ☒ Commercial ☐ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?	25. Quiet Zone (FRA provided)
☐ Yes ☒ No If Yes, Provide Crossing Number	☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID	27. Latitude in decimal degrees	28. Longitude in decimal degrees	29. Lat/Long Source
☒ N/A	(WGS84 std: nn.nnnnnnn) 32.665929	(WGS84 std: -nnn.nnnnnnn) -115.498676	☒ Actual ☐ Estimated

30.A. Railroad Use *	31.A. State Use * CPUC 001BN-708.73
30.B. Railroad Use *	31.B. State Use *
30.C. Railroad Use *	31.C. State Use *
30.D. Railroad Use *	31.D. State Use *
32.A. Narrative (Railroad Use) *	32.B. Narrative (State Use) *

33. Emergency Notification Telephone No. (posted)	34. Railroad Contact (Telephone No.)	35. State Contact (Telephone No.)
800-848-8715	402-544-3721	415-703-3722

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains (6 AM to 6 PM)	1.B. Total Night Thru Trains (6 PM to 6 AM)	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day ☒ How many trains per week? 1
0	0	0	0	

2. Year of Train Count Data (YYYY)	3. Speed of Train at Crossing
2025	3.A. Maximum Timetable Speed (mph) 10 3.B. Typical Speed Range Over Crossing (mph) From 5 to 10

4. Type and Count of Tracks
Main 1 Siding 0 Yard 0 Transit 0 Industry 0

5. Train Detection (Main Track only)
☒ Constant Warning Time ☐ Motion Detection ☐AFO ☐ PTC ☐ DC ☐ Other ☐ None

6. Is Track Signaled?	7.A. Event Recorder	7.B. Remote Health Monitoring
☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
08/26/2025		760908S

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☒ Yes ☐ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☐ None
0	0	0	☒ W10-1 1 ☐ W10-3 ☐ W10-11 ☐ W10-2 ☐ W10-4 ☐ W10-12

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count_____)* ☒ No	☒ Stop Lines ☐ Dynamic Envelope ☒ RR Xing Symbols ☐ None	☐ All Approaches ☒ Median ☒ One Approach ☐ None	☐ Yes ☒ No	☒ Yes ☐ No

2.J. Other MUTCD Signs ☐ Yes ☒ No	2.K. Private Crossing Signs *(if private)*	2.L. LED Enhanced Signs *(List types)*
Specify Type _____ Count _____ Specify Type _____ Count _____ Specify Type _____ Count _____	☐ Yes ☐ No	0

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 2	3.E. Total Count of Flashing Light Pairs
Roadway 1 Pedestrian 0	☒ 2 Quad ☐ Full *(Barrier)* Resistance ☐ 3 Quad ☐ 4 Quad ☐ Median Gates	Over Traffic Lane 0 ☐ Incandescent Not Over Traffic Lane 0 ☐ LED	☒ Incandescent ☐ LED ☐ Back Lights Included ☐ Side Lights Included	2

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☒ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☒ No	☐ Yes ☒ No	2

3.J. Non-Train Active Warning	3.K. Other Flashing Lights or Warning Devices
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☒ None	Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☒ Yes ☐ No	☐ Not Interconnected ☐ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☐ Advance	☐ Yes ☒ No Storage Distance * _____ Stop Line Distance * _____	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☐ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☒ One-way Traffic ☐ Two-way Traffic ☐ Divided Traffic Number of Lanes 2	☒ Yes ☐ No	☐ Yes ☒ No	☒ Yes ☐ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * 65

☐ 1 Timber ☒ 2 Asphalt ☐ 3 Asphalt and Timber ☐ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☒ Yes ☐ No If Yes, Approximate Distance *(feet)* 215	☐ 0° – 29° ☒ 30° – 59° ☐ 60° - 90°	☒ Yes ☐ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☐ (02) Other Nat Hwy System (NHS) ☒ (03) Federal AID, Not NHS ☐ (08) Non-Federal Aid	☐ (0) Rural ☒ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☐ (2) Other Freeways and Expressways ☒ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☐ (7) Local	☐ Yes ☒ No	25 MPH ☒ Posted ☐ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 2016 AADT 14893	08 %	☐ Yes ☒ No Average Number per Day _____	☐ Yes ☐ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

Public reporting burden for this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for information collection is 2130-0017. Send comments regarding this burden estimate or any other aspect of this collection, including for reducing this burden to: Information Collection Officer, Federal Railroad Administration, 1200 New Jersey Ave. SE, MS-25 Washington, DC 20590.

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY)	B. Reporting Agency	C. Reason for Update (Select only one)	D. DOT Crossing Inventory Number
08 / 26 / 2025	☒ Railroad ☐ Transit ☐ State ☐ Other	☒ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☐ Admin. Correction	760909Y

Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
Union Pacific Railroad Company [UP]	CALIFORNIA	IMPERIAL

4. City / Municipality	5. Street/Road Name & Block Number	6. Highway Type & No.
☒ In ☐ Near CALEXICO	PAULIN AVENUE (Street/Road Name) | * (Block Number)	ST 111

7. Do Other Railroads Operate a Separate Track at Crossing?	8. Do Other Railroads Operate Over Your Track at Crossing?
☐ Yes ☒ No If Yes, Specify RR	☐ Yes ☒ No If Yes, Specify RR

9. Railroad Division or Region	10. Railroad Subdivision or District	11. Branch or Line Name	12. RR Milepost
☐ None LOS ANGELES	☐ None CALEXICO SUB	☒ None	(prefix) | 0708.802 (nnnn.nnn) | (suffix)

13. Line Segment *	14. Nearest RR Timetable Station *	15. Parent RR (if applicable)	16. Crossing Owner (if applicable)
		☒ N/A	☐ N/A UP

17. Crossing Type	18. Crossing Purpose	19. Crossing Position	20. Public Access (if Private Crossing)	21. Type of Train	22. Average Passenger Train Count Per Day
☒ Public ☐ Private	☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.	☒ At Grade ☐ RR Under ☐ RR Over	☐ Yes ☐ No	☒ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other	☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use
☐ Open Space ☐ Farm ☐ Residential ☒ Commercial ☐ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?	25. Quiet Zone (FRA provided)
☐ Yes ☒ No If Yes, Provide Crossing Number	☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID	27. Latitude in decimal degrees	28. Longitude in decimal degrees	29. Lat/Long Source
☒ N/A	(WGS84 std: nn.nnnnnnn) 32.6653810	(WGS84 std: -nnn.nnnnnnn) -115.4975530	☒ Actual ☐ Estimated

30.A. Railroad Use *	31.A. State Use *
30.B. Railroad Use *	31.B. State Use *
30.C. Railroad Use *	31.C. State Use *
30.D. Railroad Use *	31.D. State Use *
32.A. Narrative (Railroad Use) *	32.B. Narrative (State Use) *

33. Emergency Notification Telephone No. (posted)	34. Railroad Contact (Telephone No.)	35. State Contact (Telephone No.)
800-848-8715	402-544-3721	213-576-7078

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains (6 AM to 6 PM)	1.B. Total Night Thru Trains (6 PM to 6 AM)	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day
0	0	0	0	☒ How many trains per week? 1

2. Year of Train Count Data (YYYY)	3. Speed of Train at Crossing
2025	3.A. Maximum Timetable Speed (mph) 10 3.B. Typical Speed Range Over Crossing (mph) From 5 to 10

4. Type and Count of Tracks
Main 1 Siding 0 Yard 0 Transit 0 Industry 0

5. Train Detection (Main Track only)
☒ Constant Warning Time ☐ Motion Detection ☐AFO ☐ PTC ☐ DC ☐ Other ☐ None

6. Is Track Signaled?	7.A. Event Recorder	7.B. Remote Health Monitoring
☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
08/26/2025		760909Y

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☒ Yes ☐ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☒ None
0	0		☐ W10-1 _____ ☐ W10-3 _____ ☐ W10-11 _____ ☐ W10-2 _____ ☐ W10-4 _____ ☐ W10-12 _____

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count* 0 *)* ☒ No	☐ Stop Lines ☐ Dynamic Envelope ☐ RR Xing Symbols ☒ None	☐ All Approaches ☐ Median ☐ One Approach ☒ None	☐ Yes ☒ No	☒ Yes ☐ No

2.J. Other MUTCD Signs	2.K. Private Crossing Signs *(if private)*	2.L. LED Enhanced Signs *(List types)*
☐ Yes ☒ No Specify Type _____ Count 0 Specify Type _____ Count 0 Specify Type _____ Count _____	☐ Yes ☐ No	

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 2	3.E. Total Count of Flashing Light Pairs
Roadway 2 Pedestrian _____	☒ 2 Quad ☐ 3 Quad ☐ 4 Quad ☐ Full *(Barrier)* Resistance ☐ Median Gates	Over Traffic Lane 0 ☐ Incandescent Not Over Traffic Lane 0 ☐ LED	☐ Incandescent ☒ LED ☒ Back Lights Included ☐ Side Lights Included	4

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☒ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☒ No	☐ Yes ☒ No	2

3.J. Non-Train Active Warning	3.K. Other Flashing Lights or Warning Devices
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☐ None	Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☐ Yes ☐ No	☐ Not Interconnected ☐ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☐ Advance	☐ Yes ☒ No Storage Distance * _____ Stop Line Distance * _____	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☐ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☒ One-way Traffic ☐ Two-way Traffic ☐ Divided Traffic Number of Lanes 2	☒ Yes ☐ No	☐ Yes ☒ No	☐ Yes ☒ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * 40
☐ 1 Timber ☐ 2 Asphalt ☐ 3 Asphalt and Timber ☒ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☒ Yes ☐ No If Yes, Approximate Distance *(feet)* 75	☐ 0° – 29° ☐ 30° – 59° ☒ 60° - 90°	☒ Yes ☐ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☒ (02) Other Nat Hwy System (NHS) ☐ (03) Federal AID, Not NHS ☐ (08) Non-Federal Aid	☐ (0) Rural ☒ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☒ (2) Other Freeways and Expressways ☐ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☐ (7) Local	☒ Yes ☐ No	_____ MPH ☐ Posted ☐ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 1988 AADT 22500	10 %	☐ Yes ☒ No Average Number per Day 0	☐ Yes ☐ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

Public reporting burden for this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for information collection is 2130-0017. Send comments regarding this burden estimate or any other aspect of this collection, including for reducing this burden to: Information Collection Officer, Federal Railroad Administration, 1200 New Jersey Ave. SE, MS-25 Washington, DC 20590.

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date *(MM/DD/YYYY)*: 08 / 26 / 2025

B. Reporting Agency: ☒ Railroad ☐ Transit ☐ State ☐ Other

C. Reason for Update *(Select only one)*: ☒ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☐ Admin. Correction

D. DOT Crossing Inventory Number: 760916J

Part I: Location and Classification Information

1. Primary Operating Railroad: Union Pacific Railroad Company [UP]

2. State: CALIFORNIA

3. County: IMPERIAL

4. City / Municipality: ☒ In ☐ Near CALEXICO

5. Street/Road Name & Block Number: PEDESTRIAN | *(Street/Road Name)* | *(Block Number)*

6. Highway Type & No.: NA

7. Do Other Railroads Operate a Separate Track at Crossing? ☐ Yes ☒ No
If Yes, Specify RR

8. Do Other Railroads Operate Over Your Track at Crossing? ☐ Yes ☒ No
If Yes, Specify RR

9. Railroad Division or Region: ☐ None LOS ANGELES

10. Railroad Subdivision or District: ☐ None CALEXICO SUB

11. Branch or Line Name: ☒ None

12. RR Milepost: | 0708.855 | *(prefix) | (nnnn.nnn) | (suffix)*

13. Line Segment *:

14. Nearest RR Timetable Station *:

15. Parent RR *(if applicable)*: ☒ N/A

16. Crossing Owner *(if applicable)*: ☐ N/A UP

17. Crossing Type: ☒ Public ☐ Private

18. Crossing Purpose: ☐ Highway ☒ Pathway, Ped. ☐ Station, Ped.

19. Crossing Position: ☒ At Grade ☐ RR Under ☐ RR Over

20. Public Access *(if Private Crossing)*: ☐ Yes ☐ No

21. Type of Train: ☒ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other

22. Average Passenger Train Count Per Day: ☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use: ☐ Open Space ☐ Farm ☐ Residential ☒ Commercial ☐ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?: ☐ Yes ☒ No If Yes, Provide Crossing Number

25. Quiet Zone *(FRA provided)*: ☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID: ☒ N/A

27. Latitude in decimal degrees *(WGS84 std: nn.nnnnnnn)*: 32.6649980

28. Longitude in decimal degrees *(WGS84 std: -nnn.nnnnnnn)*: -115.4966770

29. Lat/Long Source: ☒ Actual ☐ Estimated

30.A. Railroad Use *:

31.A. State Use *: 001BN-709.00

30.B. Railroad Use *:

31.B. State Use *:

30.C. Railroad Use *:

31.C. State Use *:

30.D. Railroad Use *:

31.D. State Use *:

32.A. Narrative *(Railroad Use)* *:

32.B. Narrative *(State Use)* *:

33. Emergency Notification Telephone No. *(posted)*: 800-848-8715

34. Railroad Contact *(Telephone No.)*: 402-544-3721

35. State Contact *(Telephone No.)*: 415-703-3722

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains *(6 AM to 6 PM)*	1.B. Total Night Thru Trains *(6 PM to 6 AM)*	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day ☒ How many trains per week? 1
0	0	0	0	

2. Year of Train Count Data *(YYYY)*: 2025

3. Speed of Train at Crossing
3.A. Maximum Timetable Speed *(mph)*: 10
3.B. Typical Speed Range Over Crossing *(mph)* From 5 to 10

4. Type and Count of Tracks
Main 1 Siding 0 Yard 0 Transit 0 Industry 0

5. Train Detection *(Main Track only)*
☐ Constant Warning Time ☐ Motion Detection ☐AFO ☐ PTC ☐ DC ☐ Other ☒ None

6. Is Track Signaled? ☐ Yes ☒ No

7.A. Event Recorder ☐ Yes ☒ No

7.B. Remote Health Monitoring ☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
08/26/2025		760916J

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☒ Yes ☐ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☒ None
2	2	0	☐ W10-1 0 ☐ W10-2 0 ☐ W10-3 0 ☐ W10-4 0 ☐ W10-11 0 ☐ W10-12 0

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count* 0 *)* ☒ No	☐ Stop Lines ☐ Dynamic Envelope ☐ RR Xing Symbols ☒ None	☐ All Approaches ☐ Median ☐ One Approach ☒ None	☐ Yes ☒ No	☒ Yes ☐ No

2.J. Other MUTCD Signs	2.K. Private Crossing Signs *(if private)*	2.L. LED Enhanced Signs *(List types)*
☐ Yes ☒ No Specify Type _____ Count 0 Specify Type _____ Count 0 Specify Type _____ Count _____	☐ Yes ☐ No	

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 0	3.E. Total Count of Flashing Light Pairs
Roadway 0 Pedestrian _____	☐ 2 Quad ☐ 3 Quad ☐ 4 Quad ☐ Full *(Barrier)* Resistance ☐ Median Gates	Over Traffic Lane 0 ☐ Incandescent Not Over Traffic Lane 0 ☐ LED	☐ Incandescent ☐ LED ☐ Back Lights Included ☐ Side Lights Included	0

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☒ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☒ No	☐ Yes ☒ No	0

3.J. Non-Train Active Warning	3.K. Other Flashing Lights or Warning Devices
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☐ None	Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☐ Yes ☐ No	☐ Not Interconnected ☐ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☐ Advance	☐ Yes ☒ No Storage Distance * _____ Stop Line Distance * _____	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☐ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☐ One-way Traffic ☐ Two-way Traffic ☐ Divided Traffic Number of Lanes _____	☒ Yes ☐ No	☐ Yes ☒ No	☐ Yes ☒ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * _____
☐ 1 Timber ☐ 2 Asphalt ☐ 3 Asphalt and Timber ☒ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☒ Yes ☐ No If Yes, Approximate Distance *(feet)* 75	☐ 0° – 29° ☒ 30° – 59° ☐ 60° - 90°	☒ Yes ☐ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☒ (02) Other Nat Hwy System (NHS) ☐ (03) Federal AID, Not NHS ☐ (08) Non-Federal Aid	☐ (0) Rural ☒ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☒ (2) Other Freeways and Expressways ☐ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☐ (7) Local	☐ Yes ☒ No	25 MPH ☐ Posted ☐ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 1988 AADT 22500	10 %	☐ Yes ☒ No Average Number per Day 0	☐ Yes ☐ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

Public reporting burden for this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for information collection is 2130-0017. Send comments regarding this burden estimate or any other aspect of this collection, including for reducing this burden to: Information Collection Officer, Federal Railroad Administration, 1200 New Jersey Ave. SE, MS-25 Washington, DC 20590.

Appendix I

Transportation Study

CALEXICO HOUSING ELEMENT UPDATE (HEU) TRANSPORTATION STUDY

City of Calexico, CA

RICK Job No. 20484
First Submittal: June 12, 2026

RICK

CALEXICO HOUSING ELEMENT UPDATE (HEU)

TRANSPORTATION STUDY

FIRST SUBMITTAL: JUNE 12, 2026

PREPARED FOR:

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (SCAG)
900 WILSHIRE BOULEVARD, SUITE 1700
LOS ANGELES, CA 90017

PREPARED BY:

RICK

JOB NUMBER 20484

RICK

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1.0 EXECUTIVE SUMMARY

The following Transportation Study has been prepared for the City of Calexico Housing Element Update (HEU) Program Environmental Impact Report (PEIR), in accordance with the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (State of California Office of Planning and Research, December 2018), the City of Calexico Traffic Study Requirements (Appendix K of the City's Design Procedures and Improvement Standards, January 1, 2013) and City of Calexico Draft 2015 General Plan Update Circulation Element (September 2015). This Transportation Study consists of the following components: 1) CEQA Vehicle Miles Traveled (VMT) Analysis; and 2) Non-CEQA Local Transportation Analysis (LTA) for General Plan consistency.

1.1 Project Description and Trip Generation

The City of Calexico Housing Element Update (HEU) proposes to rezone 53 parcels/sites throughout the City to increase residential density and the City's housing supply, referred to hereafter as the Rezone Sites.

The City's existing General Plan allows development of up to 5,116 dwelling units and approximately 133 acres of commercial retail, office, industrial and public facilities within the 53 Rezone Sites. The proposed HEU and rezoning would increase residential densities and allow development of up to 8,032 dwelling units within the same 53 Rezone Sites. Many of the 53 Rezone Sites are currently zoned for commercial and industrial uses that are proposed to be rezoned to medium density or high density residential uses. Other Rezone Sites are currently zoned for a low density residential use and are proposed to be rezoned to medium density or high density residential uses.

Trip generation rates published by the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (12th Edition, 2025) were applied to the current General Plan land uses and the proposed rezoned land uses on the 53 Rezone Sites to compare the traffic generation characteristics without and with the proposed rezoning.

The 53 Rezone Sites with the existing General Plan land uses are estimated to generate approximately 68,165 daily trips, including approximately 4,007 AM peak hour trips (1,607 inbound / 2,400 outbound) and approximately 6,290 PM peak hour trips (3,439 inbound / 2,851 outbound).

The 53 Rezone Sites with the proposed rezoning are estimated to generate approximately 56,327 daily trips, including approximately 3,999 AM peak hour trips (1,000 inbound / 2,999 outbound) and approximately 4,936 PM peak hour trips (3,046 inbound / 1,890 outbound).

The proposed rezoning of the 53 Rezone Sites is anticipated to result in a decrease of approximately 11,838 daily trips, including a decrease of approximately 8 AM peak hour trips (-607 inbound / +599 outbound) and a decrease of approximately 1,354 PM peak hour trips (-393 inbound / -961 outbound).

The estimated decrease in trip generation with the proposed rezoning is primarily attributed to the Rezone Sites where the rezoning proposes a change in land use from commercial to residential, as commercial uses are typically more intensive and generate a higher number of trips within a site than residential uses.

1.2 CEQA Vehicle Miles Traveled (VMT) Analysis Results

Based on the results of the VMT screening assessment, the VMT per Capita Resident for the 53 Rezone Sites meet the Map-Based Screening Criteria for Residential Projects except for the following 28 Rezone Sites:

- Rezone Sites 1 – 3 (TAZ 14068400)
- Rezone Sites 4 – 8 (TAZ 14068200)
- Rezone Sites 9 – 14 (TAZ 14077100)
- Rezone Sites 15 – 18 (TAZ 14084300)
- Rezone Site 25 (TAZ 14087100)
- Rezone Sites 26 – 27 (TAZ 14079300)
- Rezone Sites 28 – 30 (TAZ 14078200)
- Rezone Sites 50 – 53 (TAZ 14066100)

The VMT per Capita Resident for the above-listed 28 Rezone Sites exceeds the screening threshold of 10.2 (15% below regional average VMT per Capita Resident). Therefore, the above-listed 28 Rezone Sites are not screened out and a significant CEQA transportation impact is presumed for the above-listed 28 Rezone Sites.

The VMT analysis results show that the VMT per Capita Resident for 28 Rezone Sites range from approximately 91.7% to 208.3% of the Imperial County regional average VMT per Capita Resident for the Baseline Year 2019 and Horizon Year 2050 scenarios. Therefore, to achieve 15% below the regional average, VMT reduction measures that provide from 6.7% to 123.3% or more reductions in VMT per Capita Resident are required.

The higher residential densities of 18 of the 28 Rezone Sites, the assumed pedestrian infrastructure improvements, and expansion of the City's bikeway network associated with the development of the Rezone Sites can be considered VMT-reducing project features per the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (State of California Office of Planning and Research, December 2018).

The effectiveness of the VMT-reducing project features is calculated using the methodology provided in the California Air Pollution Control Officers Association (CAPCOA) *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (Final Draft, December 2021), hereafter referred to as the 2021 CAPCOA manual.

VMT reduction equations from the following measures in the 2021 CAPCOA manual were utilized to estimate the percent reduction in VMT with implementation of the proposed project feature measures:

- CAPCOA Measure T-1 (Increase Residential Density): This measure accounts for the VMT reduction achieved by a project that is designed with a higher density of dwelling units (du) compared to the average residential density in the U.S. The percent VMT reduction associated with CAPCOA Measure T-1 is capped at 30%.

- CAPCOA Measure T-18 (Provide Pedestrian Network Improvement): This measure is described as increasing the sidewalk coverage to improve pedestrian access, which includes improving existing degraded or substandard sidewalks. The percent VMT reduction associated with CAPCOA Measure T-18 is capped at 3.4%.

- CAPCOA Measure T-20 (Expand Bikeway Network): This measure is described as increasing the length of a city or community bikeway network (only Class I, II or IV bicycle lane facilities). The percent VMT reduction associated with CAPCOA Measure T-20 is capped at 0.5%.

The proposed higher residential densities, estimated pedestrian infrastructure improvements and estimated expansion of the City's bikeway network for the following 13 Rezone Sites are anticipated to result in total VMT reductions that meet or exceed the minimum VMT reduction to mitigate the impacts to levels below significance:

1. Rezone Site 5
2. Rezone Site 6
3. Rezone Site 7
4. Rezone Site 8
5. Rezone Site 13
6. Rezone Site 14
7. Rezone Site 26
8. Rezone Site 27
9. Rezone Site 28
10. Rezone Site 50
11. Rezone Site 51
12. Rezone Site 52
13. Rezone Site 53

The total VMT reductions for the following 15 Rezone Sites do not meet the minimum VMT reduction needed to mitigate the impacts to levels below significance:

1. Rezone Site 1
2. Rezone Site 2
3. Rezone Site 3
4. Rezone Site 4
5. Rezone Site 9
6. Rezone Site 10
7. Rezone Site 11
8. Rezone Site 12
9. Rezone Site 15
10. Rezone Site 16
11. Rezone Site 17
12. Rezone Site 18
13. Rezone Site 25
14. Rezone Site 29
15. Rezone Site 30

The above-listed 15 Rezone Sites have been mitigated to the greatest extent possible and cannot be mitigated below the levels of significance. Therefore, Statements of Overriding Considerations are required to address the significant and unmitigable CEQA impacts of these 15 Rezone Sites.

1.3 Existing Conditions Analysis Results

The results of the intersection level of service (LOS) analysis showed that under existing conditions, the following two (2) study intersections currently operate at a deficient LOS during the peak hours based on the overall delays for signalized and all-way stop controlled intersections and the worst movement delays for two-way stop-controlled intersections:

1) Birch Street (SR- 98) / David Navarro Avenue (Overall PM: LOS E)
2) SR- 98 / Bowker Road (Southbound Left/Right-Turn AM: LOS F)

1.4 Horizon Year 2050 Conditions Analysis Results

The intersection LOS analysis results under Horizon Year 2050 General Plan Buildout Conditions without the proposed rezoning showed that the following four (4) study intersections are anticipated to operate at a deficient LOS during the peak hours:

1) Cole Boulevard / Yourman Road-Rockwood Avenue (Overall PM: LOS D)
2) Cole Boulevard / Bowker Road (Overall PM: LOS F)
3) Birch Street (SR- 98) / David Navarro Avenue (Overall PM: LOS F)
4) SR- 98 / Bowker Road (Southbound Left/Right-Turn AM: LOS F)

The intersection LOS analysis results under Horizon Year 2050 General Plan Buildout Conditions with the proposed rezoning showed that the following three (3) study intersections are anticipated to operate at a deficient LOS during the peak hours:

1) Cole Boulevard / Bowker Road (Overall PM: LOS E)
2) Birch Street (SR- 98) / David Navarro Avenue (Overall AM: LOS E; Overall PM: LOS F)
3) SR- 98 / Bowker Road (Southbound Left/Right-Turn AM: LOS F)

Based on the results of the Horizon Year 2050 With Proposed Rezoning Conditions, improvements are required at the above-listed three (3) intersections.

1.5 Recommended Improvements

Based on the findings of the Horizon Year 2050 General Buildout With Proposed Rezoning intersection LOS analysis, the following improvements are recommended to provide acceptable LOS D or better operations in compliance with the City's General Plan Circulation Element:

<u>Cole Boulevard / Bowker Road</u>

- Install a traffic signal
- Provide permitted left-turn phasing on all intersection approaches

<u>Birch Street (SR-98) / David Navarro Avenue</u>

- Install a traffic signal
- Provide protected left-turn phasing on the eastbound and westbound Birch Street (SR-98) approaches
- Provide permitted left-turn phasing on the northbound and southbound David Navarro Avenue approaches

SR-98 / Bowker Road

- Install a traffic signal
- Construct a dedicated southbound right-turn lane
- Provide protected left-turn phasing on the eastbound and westbound SR-98 approaches
- Provide permitted left-turn phasing on the northbound and southbound Bowker Road approaches
- Provide a southbound right-turn overlap phase

The recommended traffic signals at the Birch Street (SR-98) / David Navarro Avenue and SR-98 / Bowker Road intersections will require coordination with Caltrans, and these intersections may require an Intersection Safety and Operational Assessment Process (ISOAP) to evaluate potential alternatives to traffic signals.

1.5.1 Intersection Analysis Results With Recommended Improvements

The findings of the Horizon Year 2050 With Proposed Rezoning intersection LOS analysis with the recommended improvements showed that the recommended improvements are anticipated to improve intersection operations to an acceptable LOS D or better during the peak hours.

1.5.2 Traffic Signal Warrant Analysis Results

A traffic signal warrant analysis was conducted in accordance with the *California Manual on Uniform Traffic Devices* (CA-MUTCD 2026, January 18, 2026) for the following three (3) unsignalized study intersections to determine if the recommended installation of traffic signals at these intersections is warranted under Horizon Year 2050 With Proposed Rezoning Conditions:

- Cole Boulevard / Bowker Road (all-way stop controlled)
- Birch Street (SR- 98) / David Navarro Avenue (all-way stop controlled)
- SR- 98 / Bowker Road (two-way stop controlled)

The signal warrant analysis was also conducted for the above-listed study intersections under Existing Conditions to determine if installation of a traffic signal is currently warranted at any of these intersections.

The findings of the traffic signal warrant analysis showed that the Four-Hour Vehicular Volume (Warrant 2) is satisfied at the SR- 98 / Bowker Road intersection under Existing Conditions, and under Horizon Year 2050 With Proposed Rezoning Conditions, the Four-Hour Vehicular Volume (Warrant 2) is satisfied at all three (3) study intersections.

In addition, the Peak Hour Warrant (Warrant 3) is satisfied at the SR- 98 / Bowker Road intersection under Existing Conditions, and under Horizon Year 2050 With Proposed Rezoning Conditions, the Peak Hour Warrant (Warrant 3) is satisfied at the Birch Street (SR- 98) / David Navarro Avenue and SR- 98 / Bowker Road intersections.

2.0 INTRODUCTION

The following Transportation Study has been prepared for the City of Calexico Housing Element Update (HEU) Program Environmental Impact Report (PEIR), in accordance with the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (State of California Office of Planning and Research, December 2018), the City of Calexico Traffic Study Requirements (Appendix K of the City's Design Procedures and Improvement Standards, January 1, 2013) and City of Calexico Draft 2015 General Plan Update Circulation Element (September 2015). This Transportation Study consists of the following components: 1) CEQA Vehicle Miles Traveled (VMT) Analysis; and 2) Non-CEQA Local Transportation Analysis (LTA) for General Plan consistency. **Exhibit 1** shows the project vicinity map.

2.1 Project Description

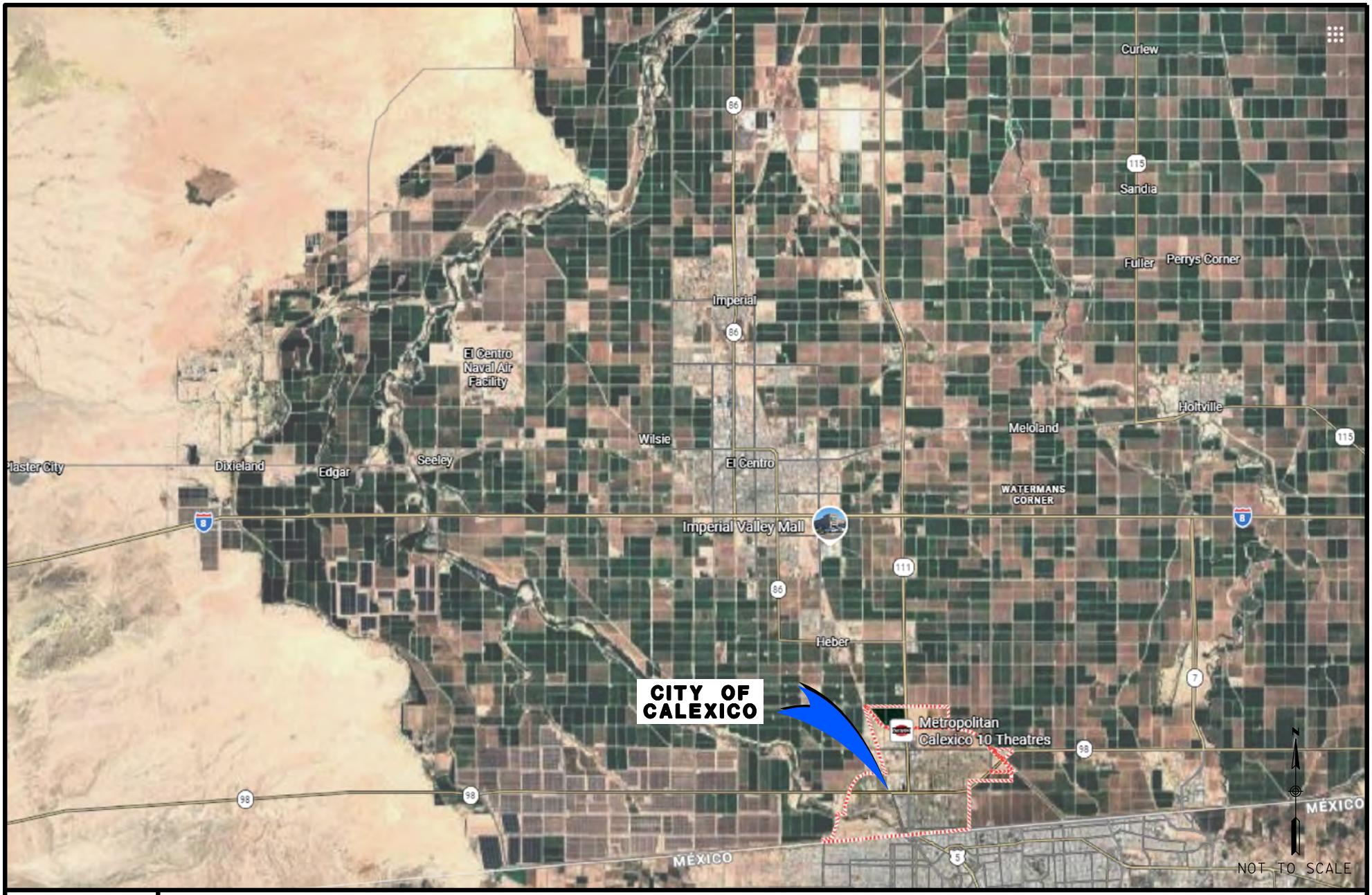
The City of Calexico Housing Element Update (HEU) proposes to rezone 53 parcels/sites throughout the City to increase residential density and the City's housing supply, referred to hereafter as the Rezone Sites. **Exhibit 2** illustrates the locations of the proposed 53 Rezone Sites within the City of Calexico.

The City's existing General Plan allows development of up to 5,116 dwelling units and approximately 133 acres of commercial retail, office, industrial and public facilities within the 53 Rezone Sites. The proposed HEU and rezoning would increase residential densities and allow development of up to 8,032 dwelling units within the same 53 Rezone Sites.

Many of the 53 Rezone Sites are currently zoned for commercial and industrial uses that are proposed to be rezoned to medium density or high density residential uses. Other Rezone Sites are currently zoned for a low density residential use and are proposed to be rezoned to medium density or high density residential uses. For the purposes of this study, below are the residential densities per acre for low density, low-medium density, medium density and high density residential uses:

- Low Density Residential: Up to 5 dwelling units per acre
- Low Medium-Density Residential: Up to 12 dwelling units per acre
- Medium Density Residential: Up to 20 dwelling units per acre
- High Density Residential: Up to 30 dwelling units per acre

Table 1 provides the existing General Plan land uses, residential densities and potential unit yields, and the proposed rezoning land uses, residential densities and potential unit yields for the 53 Rezone Sites.



RICK

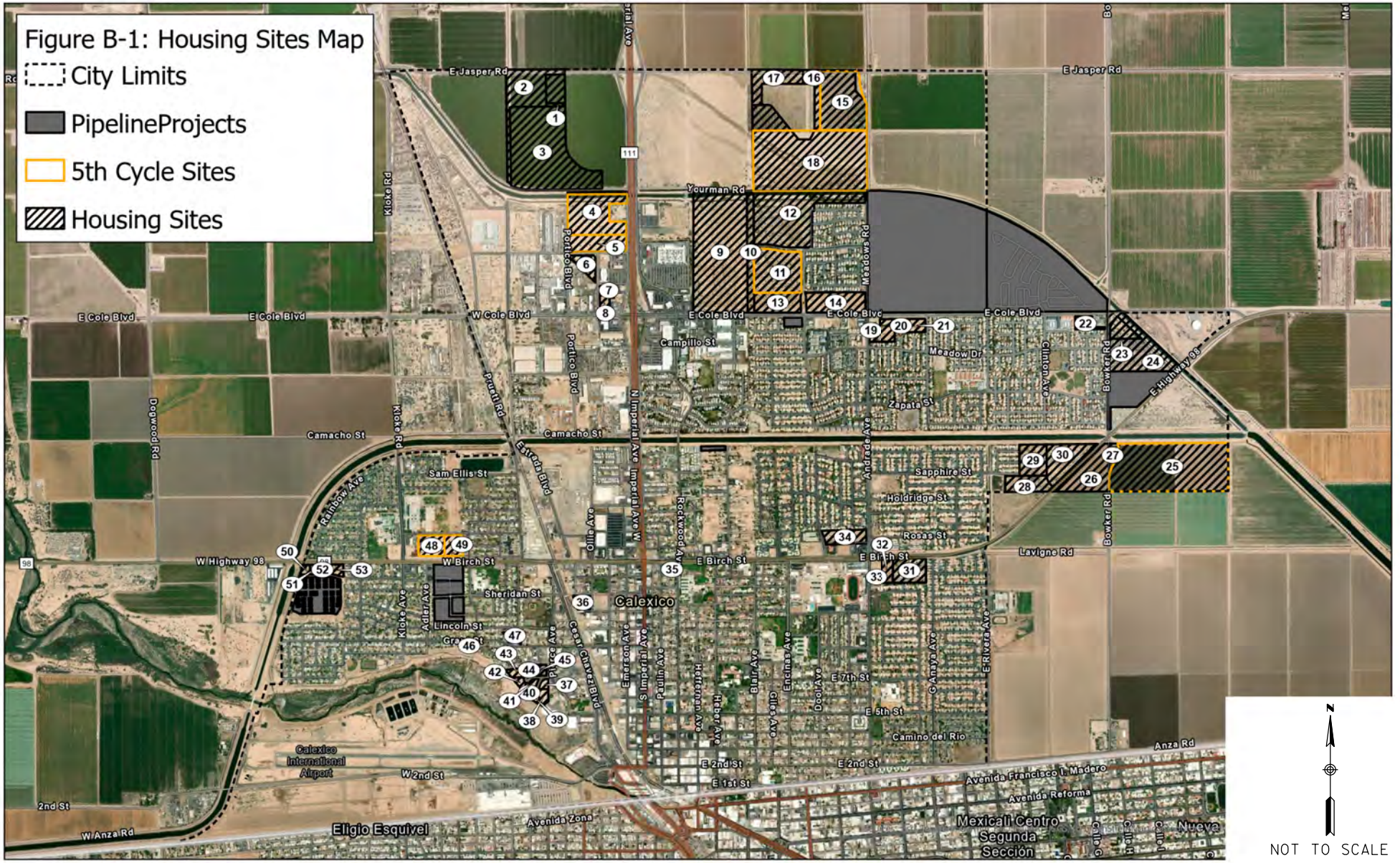
EXHIBIT 1

PROJECT VICINITY MAP

CALEXICO HEU TRANSPORTATION STUDY

C:\RICK\Projects\C20000\20484_City of Calexico Housing Element Update PEIR\7_Traffic\Exhibits\20484_Basefile.dgn
C:\RICK\Projects\C20000\20484_City of Calexico Housing Element Update PEIR\7_Traffic\Exhibits\PDFs\2026_0601\SD CorpStds 2005.dscript

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01-JUN-2026 13:24



SOURCES: CITY OF CALEXICO

RICK

EXHIBIT 2

PROPOSED CITY OF CALEXICO REZONE SITES

CALEXICO HEU TRANSPORTATION STUDY

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Table 1
Proposed City of Calexico HEU Rezone Sites

HEU Site ID	Existing General Plan Land Use	Proposed Land Use	Gross Acreage	Existing Zone Density (DU/Acre)	Existing General Plan Potential Unit Yield	Rezoned Density (DU/Acre)	Potential Unit Yield With Rezoning
1	High Density Residential	High Density Residential	6.00	30	**180**	No Change	**180**
2	Medium Density Residential	Medium Density Residential	21.36	20	**427**	No Change	**427**
3	Medium Density Residential	Medium Density Residential	60.00	20	**1,200**	No Change	**1,200**
4	Commercial Highway	Medium Density Residential	22.36	12	**268**	No Change	**268**
5	Commercial Highway	Medium Density Residential	13.03	12	**156**	20	**261**
6	Commercial Highway	High Density Residential	4.25	N/A	**0**	30	**128**
7	Commercial Highway	High Density Residential	1.16	N/A	**0**	30	**35**
8	Commercial Highway	High Density Residential	2.32	N/A	**0**	30	**70**
9	Low Density Residential	Low Density Residential	63.53	5	**318**	No Change	**318**
10	Low Density Residential	Low Density Residential	9.18	5	**46**	No Change	**46**
11	Low Density Residential	Low Density Residential	21.94	5	**110**	No Change	**110**
12	Low Density Residential	Low Density Residential	43.03	5	**215**	No Change	**215**
13	Commercial Neighborhood	High Density Residential	10.30	N/A	**0**	30	**309**
14	Commercial Neighborhood	Medium Density Residential	13.19	N/A	**0**	20	**264**
15	Low Density Residential	Low Density Residential	27.56	5	**138**	No Change	**138**
16	Low Density Residential	Low Density Residential	14.26	5	**71**	No Change	**71**
17	High Density Residential	High Density Residential	10.40	30	**312**	No Change	**312**
18	Low Density Residential	Low Density Residential	76.05	5	**380**	No Change	**380**
19	Neighborhood Commercial	High Density Residential	5.78	N/A	**0**	30	**173**
20	Neighborhood Commercial	High Density Residential	2.10	N/A	**0**	30	**63**
21	Neighborhood Commercial	High Density Residential	3.01	N/A	**0**	30	**90**

HEU Site ID	Existing General Plan Land Use	Proposed Land Use	Gross Acreage	Existing Zone Density (DU/Acre)	Existing General Plan Potential Unit Yield	Rezoned Density (DU/Acre)	Potential Unit Yield With Rezoning
22	Neighborhood Commercial	High Density Residential	2.80	N/A	**0**	30	**84**
23	Neighborhood Commercial	High Density Residential	4.42	N/A	**0**	30	**133**
24	Medium Density Residential	Medium Density Residential	24.24	20	**485**	No Change	**485**
25	Low Density Residential	Low Density Residential	60.96	5	**305**	No Change	**305**
26	Neighborhood Commercial	Low-Medium Density Residential	15.50	N/A	**0**	12	**186**
27	Medium Density Residential	High Density Residential	2.12	5	**11**	30	**64**
28	Low Density Residential	High Density Residential	7.79	5	**39**	30	**234**
29	Low Density Residential	Low Density Residential	9.33	5	**47**	No Change	**47**
30	Low Density Residential	Low Density Residential	12.89	5	**64**	No Change	**64**
31	Public Facilities	Medium Density Residential	8.97	N/A	**0**	20	**179**
32	Commercial Office	High Density Residential	2.94	N/A	**0**	30	**88**
33	Commercial Office	High Density Residential	1.50	N/A	**0**	30	**45**
34	Commercial Highway	High Density Residential	6.60	N/A	**0**	30	**198**
35	Commercial Highway	Medium Density Residential	0.31	N/A	**0**	20	**6**
36	Industrial	High Density Residential	2.23	N/A	**0**	30	**67**
37	Industrial	High Density Residential	0.85	N/A	**0**	30	**26**
38	Industrial	High Density Residential	1.46	N/A	**0**	30	**44**
39	Industrial	High Density Residential	0.84	N/A	**0**	30	**25**
40	Industrial	High Density Residential	0.84	N/A	**0**	30	**25**
41	Industrial	High Density Residential	0.89	N/A	**0**	30	**27**
42	Industrial	High Density Residential	1.09	N/A	**0**	30	**33**
43	Industrial	High Density Residential	1.68	N/A	**0**	30	**50**

HEU Site ID	Existing General Plan Land Use	Proposed Land Use	Gross Acreage	Existing Zone Density (DU/Acre)	Existing General Plan Potential Unit Yield	Rezoned Density (DU/Acre)	Potential Unit Yield With Rezoning
44	Industrial	High Density Residential	0.95	N/A	**0**	30	**29**
45	Industrial	High Density Residential	1.62	N/A	**0**	30	**49**
46	Low Density Residential	High Density Residential	1.06	30	**32**	No Change	**32**
47	Low Density Residential	Low-Medium Density Residential	1.24	5	**6**	12	**15**
48	High Density Residential	High Density Residential	6.03	30	**181**	No Change	**181**
49	High Density Residential	High Density Residential	4.16	30	**125**	No Change	**125**
50	High Density Residential	High Density Residential	0.88	N/A	**0**	30	**26**
51	High Density Residential	High Density Residential	0.90	N/A	**0**	30	**27**
52	High Density Residential	High Density Residential	0.89	N/A	**0**	30	**27**
53	High Density Residential	High Density Residential	1.61	N/A	**0**	30	**48**
				TOTAL DWELLING UNITS:	**5,116**		**8,032**

Source: City of Calexico Draft 2015 General Plan Update, September 2015
N/A = Not Applicable
DU = Dwelling Unit

3.0 CEQA VEHICLE MILES TRAVELED (VMT) ANALYSIS

3.1 Background

Senate Bill (SB) 743 was signed by Governor Brown in 2013 and required the Governor's Office of Planning and Research (OPR) to amend the CEQA Statute & Guidelines to provide an alternative to LOS for evaluating Transportation impacts. SB743 specified that the new criteria should promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks and a diversity of land uses. The bill also specified that delay-based level of service could no longer be considered an indicator of a significant impact on the environment. In response, Section 15064.3 was added to the CEQA Statute & Guidelines beginning January 1, 2019.

Section 15064.3: Determining the Significance of Transportation Impacts states that Vehicle Miles Traveled (VMT) is the most appropriate measure of transportation impacts and provides lead agencies with the discretion to choose the most appropriate methodology and thresholds for evaluating VMT. Section 15064.3(c) states that the provisions of the section shall apply statewide beginning on July 1, 2020.

3.2 VMT Screening Analysis

The *Technical Advisory on Evaluating Transportation Impacts in CEQA* (State of California Office of Planning and Research, December 2018) recommends the following VMT screening criteria for land development projects to determine if a project is presumed to have a less than significant transportation impact per CEQA:

- Screening Criteria for Small Projects (<110 daily trips)
- Map-Based Screening Criteria for Residential and Office Projects (15% below regional average)
- Presumption of Less Than Significant Impact Near Transit Stations
- Presumption of Less Than Significant Impact for Local-Serving Retail (<50,000 sq. ft.)
- Presumption of Less Than Significant Impact for Affordable Residential Development

Of the above-listed VMT screening criteria, the following two (2) screening criteria would apply to the proposed City of Calexico HEU Rezoning Sites:

- Screening Criteria for Small Projects (<110 daily trips)
- Map-Based Screening Criteria for Residential and Office Projects (15% below regional average)

The VMT per Capita Resident data for the 53 Rezone Sites was obtained from the Southern California Association of Governments (SCAG) HELPR 3.0 Housing, Environmental and Land Use Parcel Online Tool, which provides the Baseline Year 2019 VMT per Capita Resident data from the SCAG regional travel demand model.

The average VMT per Capita Resident for Imperial County was used as the regional average, which is 12.0 VMT per Capita Resident per the SCAG HELPR 3.0 Housing, Environmental and Land Use Parcel Online Tool Documentation (May 2025). Based on the regional average of 12.0 VMT per Capita Resident, the screening threshold of 15% below the regional average is 10.2 VMT per Capita Resident.

Table 2 provides the results of the VMT screening assessment for each of the 53 Rezone Sites. As shown, the VMT per Capita Resident for only one Rezone Site (Site 47) meets the Screening Criteria for Small Projects (<110 daily trips).

As also shown, the VMT per Capita Resident for the 53 Rezone Sites meets the Map-Based Screening Criteria for Residential Projects except for the following 28 Rezone Sites:

- Rezone Sites 1 – 3 (TAZ 14068400)
- Rezone Sites 4 – 8 (TAZ 14068200)
- Rezone Sites 9 – 14 (TAZ 14077100)
- Rezone Sites 15 – 18 (TAZ 14084300)
- Rezone Site 25 (TAZ 14087100)
- Rezone Sites 26 – 27 (TAZ 14079300)
- Rezone Sites 28 – 30 (TAZ 14078200)
- Rezone Sites 50 – 53 (TAZ 14066100)

The VMT per Capita Resident for the above-listed 28 Rezone Sites exceeds the screening threshold of 10.2 (15% below regional average VMT per Capita Resident). Therefore, the above-listed 28 Rezone Sites are not screened out and a significant CEQA transportation impact is presumed for the above-listed 28 Rezone Sites.

Table 2
VMT Screening Analysis of Calexico HEU Rezone Sites

ID	TAZ (Tier 2)	Trip-Based Screening		Map-Based VMT Screening			Presumed Significant Impact?
		Daily Vehicle Trips[1]	Meets Screening Criteria? (<110 ADT)	VMT/ Capita Resident[2]	Screening Threshold (15% Below Average VMT/ Resident)[3]	Meets Screening Criteria? (15% Below Average VMT/ Resident)[4]	
1	14068400	1,134	NO	25	10.2	NO	**YES**
2		2,524	NO				
3		6,876	NO				
4	14068200	1,753	NO	12	10.2	NO	**YES**
5		1,590	NO				
6		841	NO				
7		318	NO				
8		515	NO				
9	14077100	2,891	NO	12	10.2	NO	**YES**
10		418	NO				
11		1,000	NO				
12		1,954	NO				
13		1,860	NO				
14		1,607	NO				
15	14084300	1,254	NO	25	10.2	NO	**YES**
16		645	NO				
17		1,877	NO				
18		3,454	NO				
19	14077400	1,094	NO	10	10.2	YES	NO
20		475	NO				
21		627	NO				
22		593	NO				
23	14084500	869	NO	10	10.2	YES	NO
24		2,851	NO				
25	14087100	2,772	NO	11	10.2	NO	**YES**
26	14079300	1,218	NO	11	10.2	NO	**YES**
27		481	NO				

ID	TAZ (Tier 2)	Trip-Based Screening		Map-Based VMT Screening			Presumed Significant Impact?
		Daily Vehicle Trips[1]	Meets Screening Criteria? (<110 ADT)	VMT/ Capita Resident[2]	Screening Threshold (15% Below Average VMT/ Resident)[3]	Meets Screening Criteria? (15% Below Average VMT/ Resident)[4]	
28	14078200	1,438	NO	11	10.2	NO	**YES**
29		427	NO				
30		582	NO				
31	14079100	1,128	NO	10	10.2	YES	NO
32		616	NO				
33		374	NO				
34	14078100	1,235	NO	9	10.2	YES	NO
35	14073100	154	NO	7	10.2	YES	NO
36	14071100	498	NO	7	10.2	YES	NO
37	14069200	267	NO	10	10.2	YES	NO
38		368	NO				
39		261	NO				
40		261	NO				
41		272	NO				
42		306	NO				
43		402	NO				
44		284	NO				
45		396	NO				
46		301	NO				
47	14069100	101	YES	10	10.2	YES	NO
48	14067200	1,139	NO	10	10.2	YES	NO
49		824	NO				
50	14066100	267	NO	11	10.2	NO	**YES**
51		272	NO				
52		272	NO				
53		391	NO				

Footnotes:

[1] Trip generation rates from the Institute of Transportation Engineers (ITE) 12th Edition Trip Generation Manual were uses to calculate the daily vehicular trips of each Rezone Site.

[2] Source: SCAG HELPR 3.0 Housing, Environment, and Land Use Parcel Online Tool.

[3] Average VMT per capita resident is 12.0 in Imperial County per SCAG HELPR 3.0 Housing, Environment, and Land Use Parcel Online Tool.

[4] VMT screening threshold for residential projects is 15% below regional average per the OPR Technical Advisory guidance for VMT analysis.

3.3 VMT Analysis Methodology and Significance Thresholds

This VMT analysis was prepared in accordance with the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (State of California Office of Planning and Research, December 2018). The analysis was conducted using the VMT per Capita Resident data for the TAZs in which the 28 Rezone Sites included in this analysis are located, which was obtained from the SCAG regional travel demand model for the Baseline Year 2019 scenario. The Horizon Year 2050 VMT per Capita Resident for the 28 Rezone Sites is assumed to be the same as Baseline Year 2019. New model runs were not conducted for this VMT analysis, which is based on available data from SCAG.

The applicable significance threshold used in this VMT analysis is 15% Below Regional Average VMT per Capita Resident. The Imperial County average VMT per Capita Resident for Baseline Year 2019 is 12.0. The Horizon Year 2050 average VMT per Capita Resident for Imperial County is assumed to be the same as Horizon Year 2050. Based on the regional average of 12.0 VMT per Capita Resident, the significance threshold used in this analysis (15% below regional average) is 10.2 VMT per Capita Resident.

3.4 VMT Analysis Findings and Significance Determination

Based on the results of the VMT screening analysis, a CEQA VMT analysis and significance determination was conducted for the 28 Rezone Sites where a significant transportation impact was presumed. **Table 3** below summarizes the findings of the VMT analysis and significance determination per CEQA.

As shown in Table 3, the VMT per Capita Resident for the 28 Rezone Sites range from approximately 91.7% to 208.3% of the Imperial County regional average VMT per Capita Resident for the Baseline Year 2019 and Horizon Year 2050 scenarios.

Based on the CEQA significance threshold of 15% below regional average VMT per Capita Resident, significant transportation impacts were identified for the 28 Rezone Sites for both the Baseline Year 2019 and Horizon Year 2050 scenarios. Therefore, VMT reduction measures are required to reduce the VMT per Capita Resident of the 28 Rezone Sites to a level below significance.

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Table 3
VMT Analysis Findings and Significance Determination

Rezone Site #	TAZ #	Baseline Year 2019 VMT Analysis					Horizon Year 2050 VMT Analysis				
		Baseline Year 2019 Project TAZ VMT/ Capita Resident	Baseline Year 2019 Regional Average VMT/ Capita Resident	Project % of Regional Average	CEQA Significance Threshold (15% Below Regional Average)	Significant Impact?	Horizon Year 2050 Project TAZ VMT/ Capita Resident [1]	Horizon Year 2050 Regional Average VMT/ Capita Resident [1]	Project % of Regional Average	CEQA Significance Threshold (15% Below Regional Average)	Significant Impact?
1	14068400	25	12	208.3%	10.2	**Yes**	25	12	208.3%	10.2	**Yes**
2		25	12	208.3%	10.2	**Yes**	25	12	208.3%	10.2	**Yes**
3		25	12	208.3%	10.2	**Yes**	25	12	208.3%	10.2	**Yes**
4	14068200	12	12	100.0%	10.2	**Yes**	12	12	100.0%	10.2	**Yes**
5		12	12	100.0%	10.2	**Yes**	12	12	100.0%	10.2	**Yes**
6		12	12	100.0%	10.2	**Yes**	12	12	100.0%	10.2	**Yes**
7		12	12	100.0%	10.2	**Yes**	12	12	100.0%	10.2	**Yes**
8		12	12	100.0%	10.2	**Yes**	12	12	100.0%	10.2	**Yes**
9	14077100	12	12	100.0%	10.2	**Yes**	12	12	100.0%	10.2	**Yes**
10		12	12	100.0%	10.2	**Yes**	12	12	100.0%	10.2	**Yes**
11		12	12	100.0%	10.2	**Yes**	12	12	100.0%	10.2	**Yes**
12		12	12	100.0%	10.2	**Yes**	12	12	100.0%	10.2	**Yes**
13		12	12	100.0%	10.2	**Yes**	12	12	100.0%	10.2	**Yes**
14		12	12	100.0%	10.2	**Yes**	12	12	100.0%	10.2	**Yes**

Rezone Site #	TAZ #	Baseline Year 2019 VMT Analysis					Horizon Year 2050 VMT Analysis				
		Baseline Year 2019 Project TAZ VMT/ Capita Resident	Baseline Year 2019 Regional Average VMT/ Capita Resident	Project % of Regional Average	CEQA Significance Threshold (15% Below Regional Average)	Significant Impact?	Horizon Year 2050 Project TAZ VMT/ Capita Resident [1]	Horizon Year 2050 Regional Average VMT/ Capita Resident [1]	Project % of Regional Average	CEQA Significance Threshold (15% Below Regional Average)	Significant Impact?
15	14084300	25	12	208.3%	10.2	**Yes**	25	12	208.3%	10.2	**Yes**
16		25	12	208.3%	10.2	**Yes**	25	12	208.3%	10.2	**Yes**
17		25	12	208.3%	10.2	**Yes**	25	12	208.3%	10.2	**Yes**
18		25	12	208.3%	10.2	**Yes**	25	12	208.3%	10.2	**Yes**
25	14087100	11	12	91.7%	10.2	**Yes**	11	12	91.7%	10.2	**Yes**
26	14079300	11	12	91.7%	10.2	**Yes**	11	12	91.7%	10.2	**Yes**
27		11	12	91.7%	10.2	**Yes**	11	12	91.7%	10.2	**Yes**
28	14078200	11	12	91.7%	10.2	**Yes**	11	12	91.7%	10.2	**Yes**
29		11	12	91.7%	10.2	**Yes**	11	12	91.7%	10.2	**Yes**
30		11	12	91.7%	10.2	**Yes**	11	12	91.7%	10.2	**Yes**
50	14066100	11	12	91.7%	10.2	**Yes**	11	12	91.7%	10.2	**Yes**
51		11	12	91.7%	10.2	**Yes**	11	12	91.7%	10.2	**Yes**
52		11	12	91.7%	10.2	**Yes**	11	12	91.7%	10.2	**Yes**
53		11	12	91.7%	10.2	**Yes**	11	12	91.7%	10.2	**Yes**

Source: Southern California Association of Governments (SCAG)

[1] Horizon Year 2050 VMT per Capita Resident is assumed to be the same as Baseline Year 2019 based on available data provided by SCAG.

3.5 Proposed Project Feature VMT Reduction Measures

The findings of the VMT analysis showed that the VMT per Capita Resident for the 28 Rezone Sites range from approximately 91.7% to 208.3% of the Imperial County regional average VMT per Capita Resident. Therefore, to achieve 15% below the regional average, VMT reduction measures that provide from 6.7% to 123.3% or more reductions in VMT per Capita Resident are required.

The higher residential densities of 18 of the 28 Rezone Sites, the assumed pedestrian infrastructure improvements, and expansion of the City's bikeway network associated with the development of the Rezone Sites can be considered VMT-reducing project features per the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (State of California Office of Planning and Research, December 2018). These VMT-reducing project features are listed below:

Higher Residential Density Than Average U.S. Residential Density (9.1 Dwelling Units per Acre)

- Rezone Site 1: Proposed Density of 30 Dwelling Units per Acre
- Rezone Site 2: Proposed Density of 20 Dwelling Units per Acre
- Rezone Site 3: Proposed Density of 20 Dwelling Units per Acre
- Rezone Site 4: Proposed Density of 12 Dwelling Units per Acre
- Rezone Site 5: Proposed Density of 20 Dwelling Units per Acre
- Rezone Site 6: Proposed Density of 30 Dwelling Units per Acre
- Rezone Site 7: Proposed Density of 30 Dwelling Units per Acre
- Rezone Site 8: Proposed Density of 30 Dwelling Units per Acre
- Rezone Site 13: Proposed Density of 30 Dwelling Units per Acre
- Rezone Site 14: Proposed Density of 20 Dwelling Units per Acre
- Rezone Site 17: Proposed Density of 30 Dwelling Units per Acre
- Rezone Site 26: Proposed Density of 12 Dwelling Units per Acre
- Rezone Site 27: Proposed Density of 30 Dwelling Units per Acre
- Rezone Site 28: Proposed Density of 30 Dwelling Units per Acre
- Rezone Site 50: Proposed Density of 30 Dwelling Units per Acre
- Rezone Site 51: Proposed Density of 30 Dwelling Units per Acre
- Rezone Site 52: Proposed Density of 30 Dwelling Units per Acre
- Rezone Site 53: Proposed Density of 30 Dwelling Units per Acre

The following Rezone Sites have a proposed residential density of 5 dwelling unit per acre and therefore do not qualify for VMT reduction based on residential density:

- Rezone Site 9
- Rezone Site 10
- Rezone Site 11
- Rezone Site 12
- Rezone Site 15
- Rezone Site 16
- Rezone Site 18
- Rezone Site 25
- Rezone Site 29
- Rezone Site 30

Pedestrian Infrastructure Improvements

- Estimated Total Length of New Sidewalks for Rezone Sites 1-3: 1.51 miles
- Estimated Total Length of New Sidewalks for Rezone Sites 4-8: 0.97 mile
- Estimated Total Length of New Sidewalks for Rezone Sites 9-14: 5.90 miles
- Estimated Total Length of New Sidewalks for Rezone Sites 15-18: 1.94 miles
- Estimated Total Length of New Sidewalks for Rezone Site 25: 1.57 miles
- Estimated Total Length of New Sidewalks for Rezone Sites 26-30: 2.39 miles

The estimated sidewalk lengths for Rezone Sites 50-53 were considered to be nominal and therefore the estimated VMT reductions for pedestrian infrastructure improvements were not calculated for Rezone Sites 50-53.

The estimated new sidewalk lengths listed above primarily only account for new sidewalk along the boundaries of the Rezone Sites and primarily assume that new sidewalk would only be constructed along one side of the street along the development frontage. The actual total sidewalk lengths within the Rezone Sites are anticipated to be significantly longer than the lengths shown above, so the estimated expansion of the pedestrian network is conservative.

Expansion of Citywide Bikeway Network (Per Improvements Identified in Imperial County ATP)

- Westbound Cole Boulevard from Meadows Road to Yourman Road: 0.78 mile
- Eastbound Cole Boulevard from Clinton Avenue to Bowker Road: 0.24 mile
- SR-98 (both directions) along Rezone Sites 26 and 30 development frontage: 0.66 mile
- **Estimated Total Expansion of Citywide Bikeway Network: 1.69 miles**

The effectiveness of the above-listed VMT-reducing measures is calculated using the methodology provided in the California Air Pollution Control Officers Association (CAPCOA) *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (Final Draft, December 2021), hereafter referred to as the 2021 CAPCOA manual.

VMT reduction equations from the following measures in the 2021 CAPCOA manual were utilized to estimate the percent reduction in VMT with implementation of the proposed project feature measures:

- CAPCOA Measure T-1 (Increase Residential Density): This measure accounts for the VMT reduction achieved by a project that is designed with a higher density of dwelling units (du) compared to the average residential density in the U.S. The percent VMT reduction associated with CAPCOA Measure T-1 is capped at 30%.

- CAPCOA Measure T-18 (Provide Pedestrian Network Improvement): This measure is described as increasing the sidewalk coverage to improve pedestrian access, which includes improving existing degraded or substandard sidewalks. The percent VMT reduction associated with CAPCOA Measure T-18 is capped at 3.4%.

- CAPCOA Measure T-20 (Expand Bikeway Network): This measure is described as increasing the length of a city or community bikeway network (only Class I, II or IV bicycle lane facilities). The percent VMT reduction associated with CAPCOA Measure T-20 is capped at 0.5%.

VMT Reduction With Increasing Residential Density (CAPCOA Measure T-1)

The VMT reduction resulting from the proposed higher residential densities for 18 of the impacted 28 Rezone Sites versus the average residential density in the U.S. is calculated using the following equation: A = {(B – C) / C} x D, where A is the percent reduction in VMT, B is the residential density of the project development (du/acre), C is the average residential density in the U.S. (9.1 du/acre), and D is the elasticity of VMT with residential density (constant of -0.22 per 2021 CAPCOA manual).

The following calculations shows the reduction in VMT for the 18 Rezone Sites with residential densities higher than the U.S. average:

- Rezone Sites 1, 6-8, 13, 17, 27-28, 50-53: A = {(30 – 9.1) / 9.1} x -0.22. The proposed residential density of 30 dwelling units per acre for these Rezone Sites is estimated to result in a reduction in VMT of 50.5% based on the calculation. However, per the 2021 CAPCOA manual, the percent VMT reduction associated with increasing residential density is capped at 30%. Therefore, the proposed residential density of 30 dwelling units per acre for Rezone Site 1 is estimated to result in a reduction in VMT of **30.0%**.
- Rezone Site 2, 3, 5, 14: A = {(20 – 9.1) / 9.1} x -0.22. The proposed residential density of 20 dwelling units per acre for these Rezone Sites is estimated to result in a reduction in VMT of **26.4%**.
- Rezone Sites 4, 26: A = {(12 – 9.1) / 9.1} x -0.22. The proposed residential density of 12 dwelling units per acre for these Rezone Sites is estimated to result in a reduction in VMT of **7.0%**.

VMT Reduction With Pedestrian Network Improvements (CAPCOA Measure T-18)

The VMT reduction resulting from construction of additional sidewalks is calculated using the following equation: A = {(C/B) – 1} x D, where A is the percent reduction in VMT, B is the existing sidewalk length in study area, C is the total sidewalk length in study area with measure, and D is the elasticity of household VMT with respect to the ratio of sidewalks-to-streets {constant of -0.05 per 2021 CAPCOA manual).

The 2021 CAPCOA manual recommends a study area of 0.6 mile around the pedestrian network improvement. Study area radii of 0.6 mile were established for the following clustered Rezone Sites:

- Rezone Sites 1-3
- Rezone Sites 4-8
- Rezone Sites 9-14
- Rezone Sites 15-18
- Rezones Site 25
- Rezone Sites 26-30

The total existing sidewalk length within a 0.6-mile radius of Rezone Sites 1-3 was measured to be approximately 2.28 miles, which includes both sides of the existing streets within the study area radius. As previously shown, the additional new sidewalk length associated with development of Rezone Sites 1-3 was estimated to be approximately 1.51 miles, and the total combined existing plus Rezone Sites 1-3 sidewalk length was estimated to be approximately **3.78 miles**.

The total existing sidewalk length within a 0.6-mile radius of Rezone Sites 4-8 was measured to be approximately 8.04 miles, which includes both sides of the existing streets within the study area radius. As previously shown, the additional new sidewalk length associated with development of Rezone Sites 4-8 was estimated to be approximately 0.97 mile, and the total combined existing plus Rezone Sites 4-8 sidewalk length was estimated to be approximately **9.02 miles**.

The total existing sidewalk length within a 0.6-mile radius of Rezone Sites 9-14 was measured to be approximately 13.52 miles, which includes both sides of the existing streets within the study area radius. As previously shown, the additional new sidewalk length associated with development of Rezone Sites 9-14 was estimated to be approximately 5.90 miles, and the total combined existing plus Rezone Sites 4-8 sidewalk length was estimated to be approximately **19.41 miles**.

The total existing sidewalk length within a 0.6-mile radius of Rezone Sites 15-18 was measured to be approximately 3.16 miles, which includes both sides of the existing streets within the study area radius. As previously shown, the additional new sidewalk length associated with development of Rezone Sites 15-18 was estimated to be approximately 1.94 miles, and the total combined existing plus Rezone Sites 15-18 sidewalk length was estimated to be approximately **5.10 miles**.

The total existing sidewalk length within a 0.6-mile radius of Rezone Site 25 was measured to be approximately 3.48 miles, which includes both sides of the existing streets within the study area radius. As previously shown, the additional new sidewalk length associated with development of Rezone Site 25 was estimated to be approximately 1.57 miles, and the total combined existing plus Rezone Site 25 sidewalk length was estimated to be approximately **5.06 miles**.

The total existing sidewalk length within a 0.6-mile radius of Rezone Sites 26-30 was measured to be approximately 18.99 miles, which includes both sides of the existing streets within the study area radius. As previously shown, the additional new sidewalk length associated with development of Rezone Sites 26-30 was estimated to be approximately 2.39 miles, and the total combined existing plus Rezone Sites 26-30 sidewalk length was estimated to be approximately **21.38 miles**.

The following calculation shows the reduction in VMT for the Rezone Sites with the anticipated pedestrian infrastructure improvements:

- Rezone Sites 1-3: A = {(3.78 / 2.28) – 1} x -0.05. The construction of additional sidewalks associated with development of Rezone Sites 1-3 is estimated to result in a reduction in VMT of **3.3%**.
- Rezone Sites 4-8: A = {(9.02 / 8.04) – 1} x -0.05. The construction of additional sidewalks associated with development of Rezone Sites 4-8 is estimated to result in a reduction in VMT of **0.6%**.
- Rezone Sites 9-14: A = {(19.41 / 13.52) – 1} x -0.05. The construction of additional sidewalks associated with development of Rezone Sites 9-14 is estimated to result in a reduction in VMT of **2.2%**.
- Rezone Sites 15-18: A = {(5.10 / 3.16) – 1} x -0.05. The construction of additional sidewalks associated with development of Rezone Sites 15-18 is estimated to result in a reduction in VMT of **3.1%**.
- Rezone Site 25: A = {(5.06 / 3.48) – 1} x -0.05. The construction of additional sidewalks associated with development of Rezone Site 25 is estimated to result in a reduction in VMT of **2.3%**.
- Rezone Sites 26-30: A = {(21.38 / 18.99) – 1} x -0.05. The construction of additional sidewalks associated with development of Rezone Sites 26-30 is estimated to result in a reduction in VMT of **0.6%**.

VMT Reduction With Bikeway Network Improvements (CAPCOA Measure T-20)

The VMT reduction resulting from expanding the bikeway network within the Downtown Taft Specific Plan area is calculated using the following equation: A = -1 x {((C - B)/B) x D x F x H}/(E x G), where A is the percent reduction in VMT, B is the existing bikeway miles in plan/community, C is the future bikeway miles in plan/community with measure, D is the bike mode share in plan/community (estimated at 1% based on current Imperial County mode split per the *Imperial County Regional Long-Range Transportation Plan*), E is the vehicle mode share in plan/ community (estimated at 92.3% based on current Imperial County mode split per the *Imperial County Regional Long-Range Transportation Plan*), F is the average one-way bike trip length in plan/community (estimated at 2.0 miles based on averages across state per 2021 CAPCOA Table T-10.1), G is the average one-way vehicle trip length in plan/community (12 miles based on the Imperial County regional average VMT per capita resident), and H is the elasticity of bike commuters with respect to bikeway miles per 10,000 population (0.25 per 2021 CAPCOA manual).

The total existing bikeway network length in the City of Calexico is approximately 3.45 miles. It is estimated that development of the Rezone Sites would increase the total bikeway network length to 5.14 miles.

The following calculation shows the reduction in VMT: A = -1 x {((5.14 – 2.0)/2.0) x 1% x 2.0 x 0.25}/(92.3% x 12). The expansion of the bikeway network within the City of Calexico associated with development of the Rezone Sites is estimated to result in a reduction in VMT of **0.14%**.

Excerpts from the 2021 CAPCOA manual showing the descriptions and equations for each VMT reduction measure are contained in **Appendix A**. Appendix A also includes analysis worksheets for each VMT reduction measure.

The Transportation chapter of the 2021 CAPCOA manual provides a methodology for calculating the effectiveness of multiple VMT reduction measures using the following equation that diminishes the effectiveness of subsequent VMT reduction measures when proposed simultaneously:

- Overall % VMT Reduction = 1 – (1 – A) x (1 – B) x (1 – C) x (1 – D) …

Where A, B, C, D, etc. are the individual VMT reduction measure percentages.

Using the diminishing effectiveness equation shown above, the total percent VMT reductions with the proposed residential densities and estimated pedestrian infrastructure improvements for the 28 Rezone Sites are summarized in **Table 4**.

As shown in Table 4, the proposed higher residential densities, estimated pedestrian infrastructure improvements and estimated expansion of the City's bikeway network for the following 13 Rezone Sites are anticipated to result in total VMT reductions that meet or exceed the minimum VMT reduction to mitigate the impacts to levels below significance:

1. Rezone Site 5
2. Rezone Site 6
3. Rezone Site 7
4. Rezone Site 8
5. Rezone Site 13
6. Rezone Site 14
7. Rezone Site 26
8. Rezone Site 27
9. Rezone Site 28
10. Rezone Site 50
11. Rezone Site 51
12. Rezone Site 52
13. Rezone Site 53

Table 4
Total VMT Reduction With Proposed Project Features and Improvements

Rezone Site #	CAPCOA VMT Reduction Measure			Total Percent VMT Reduction	Minimum VMT Reduction to Mitigate Significant Impact	Impact Mitigated to Less Than Significant?
	Measure T-1: Increase Residential Density	Measure T-18: Provide Pedestrian Network Improvement	Measure T-20: Extend Bikeway Network			
	Calculated VMT Reduction (%)	Calculated VMT Reduction (%)	Calculated VMT Reduction %			
1	30.0%	3.3%	0.1%	**32.3%**	*123.3%*	NO
2	26.4%	3.3%	0.1%	**28.8%**	*123.3%*	NO
3	26.4%	3.3%	0.1%	**28.8%**	*123.3%*	NO
4	7.0%	0.6%	0.1%	**7.7%**	*15.0%*	NO
5	26.4%	0.6%	0.1%	**26.9%**	*15.0%*	**YES**
6	30.0%	0.6%	0.1%	**30.5%**	*15.0%*	**YES**
7	30.0%	0.6%	0.1%	**30.5%**	*15.0%*	**YES**
8	30.0%	0.6%	0.1%	**30.5%**	*15.0%*	**YES**
9	0.0%	2.2%	0.1%	**2.3%**	*15.0%*	NO
10	0.0%	2.2%	0.1%	**2.3%**	*15.0%*	NO
11	0.0%	2.2%	0.1%	**2.3%**	*15.0%*	NO
12	0.0%	2.2%	0.1%	**2.3%**	*15.0%*	NO
13	30.0%	2.2%	0.1%	**31.6%**	*15.0%*	**YES**
14	26.4%	2.2%	0.1%	**28.1%**	*15.0%*	**YES**
15	0.0%	3.1%	0.1%	**3.2%**	*123.3%*	NO
16	0.0%	3.1%	0.1%	**3.2%**	*123.3%*	NO
17	30.0%	3.1%	0.1%	**32.2%**	*123.3%*	NO
18	0.0%	3.1%	0.1%	**3.2%**	*123.3%*	NO
25	0.0%	2.3%	0.1%	**2.4%**	*6.7%*	NO
26	7.0%	0.6%	0.1%	**7.7%**	*6.7%*	**YES**
27	30.0%	0.6%	0.1%	**30.5%**	*6.7%*	**YES**
28	30.0%	0.6%	0.1%	**30.5%**	*6.7%*	**YES**
29	0.0%	0.6%	0.1%	**0.8%**	*6.7%*	NO
30	0.0%	0.6%	0.1%	**0.8%**	*6.7%*	NO
50	30.0%	0.0%	0.1%	**30.1%**	*6.7%*	**YES**
51	30.0%	0.0%	0.1%	**30.1%**	*6.7%*	**YES**
52	30.0%	0.0%	0.1%	**30.1%**	*6.7%*	**YES**
53	30.0%	0.0%	0.1%	**30.1%**	*6.7%*	**YES**

Source: CAPCOA Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (Final Draft, December 2021).

[1] Total percent VMT reductions were calculated using the CAPCOA diminishing effectiveness equation, and these values do NOT reflect the sum of the percent VMT reductions for the individual measures.

Table 4 also shows that the total VMT reductions for the following 15 Rezone Sites do not meet the minimum VMT reduction needed to mitigate the impacts to levels below significance:

16. Rezone Site 1
17. Rezone Site 2
18. Rezone Site 3
19. Rezone Site 4
20. Rezone Site 9
21. Rezone Site 10
22. Rezone Site 11
23. Rezone Site 12
24. Rezone Site 15
25. Rezone Site 16
26. Rezone Site 17
27. Rezone Site 18
28. Rezone Site 25
29. Rezone Site 29
30. Rezone Site 30

The above-listed 15 Rezone Sites have been mitigated to the greatest extent possible and cannot be mitigated below the levels of significance. Therefore, Statements of Overriding Considerations are required to address the significant and unmitigable CEQA impacts of these 15 Rezone Sites.

4.0 LOCAL TRANSPORTATION ANALYSIS APPROACH AND METHODOLOGY

This Transportation Study also includes a non-CEQA Local Transportation Analysis (LTA) for General Plan consistency to determine future intersection improvement needs in the City of Calexico with the proposed Housing Element Update (HEU) and rezoning of 53 parcels/sites in the City.

This section summarizes the analysis approach and methodology used to evaluate intersection level of service (LOS).

4.1 Study Area

The project study area, which includes most of the City of Calexico, consists of the following study intersections:

1. SR- 111 / Jasper Road
2. Imperial Avenue (SR- 111) / Cole Boulevard
3. Cole Boulevard / Yourman Road-Rockwood Avenue
4. Cole Boulevard / Meadows Road
5. Cole Boulevard / G. Cleveland Avenue
6. Cole Boulevard / Bowker Road
7. Birch Street (SR- 98) / David Navarro Avenue
8. Birch Street (SR- 98) / Kloke Road
9. Birch Street (SR- 98) / Cesar Chavez Boulevard
10. Birch Street (SR- 98) / Imperial Avenue (SR- 111)
11. Birch Street (SR- 98) / Andrade Avenue
12. SR- 98 / Bowker Road
13. Cesar Chavez Boulevard / Grant Street
14. Imperial Avenue (SR- 111) / Grant Street

Exhibit 3 illustrates the project study area.

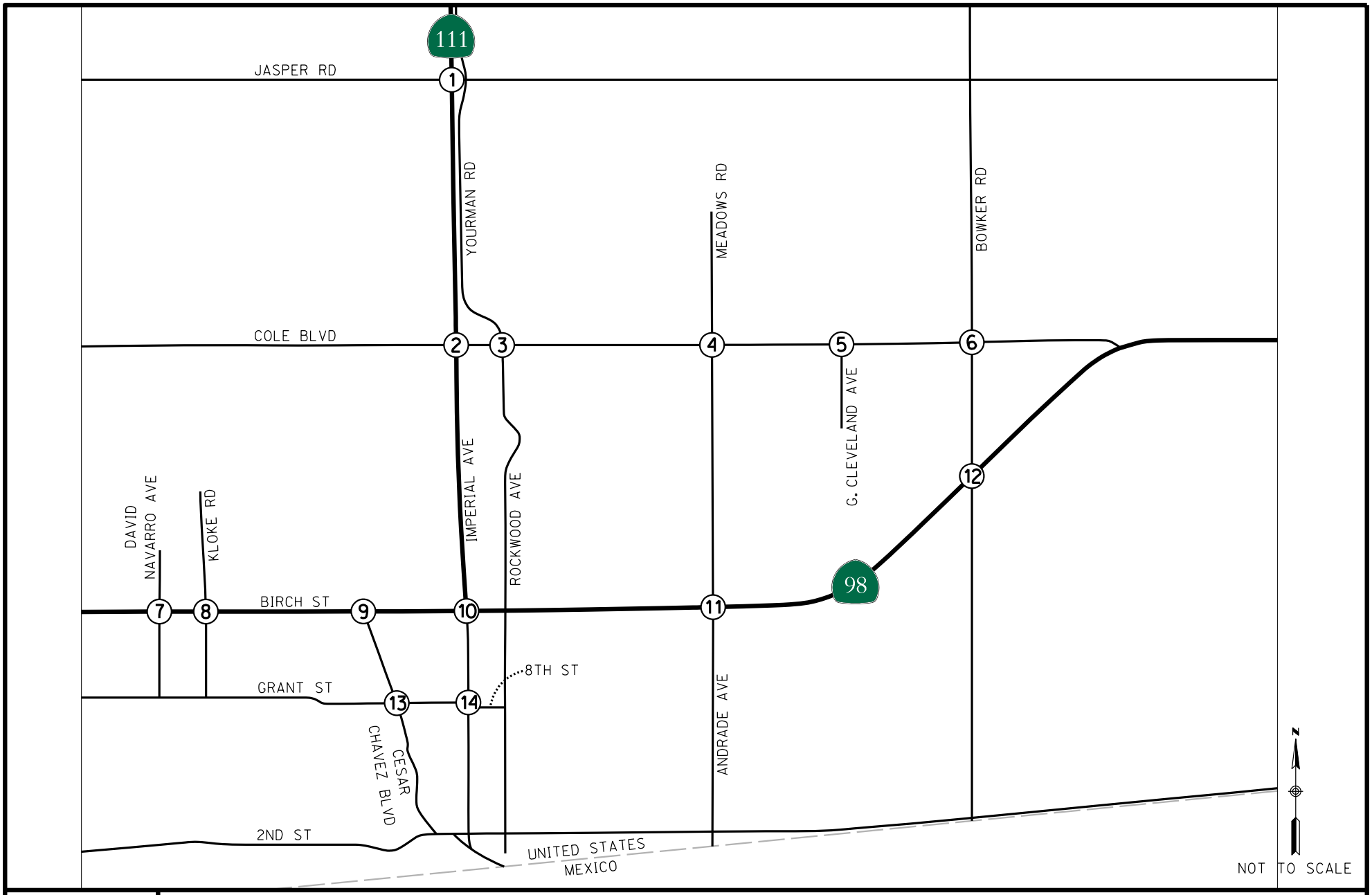
4.2 Intersection LOS Analysis Scenarios

The following scenarios are evaluated for the intersection LOS analysis in this study:

- Existing Conditions: This scenario reflects the current traffic conditions with the traffic volume data obtained in February 2025 and April 2026.

- Horizon Year 2050 With General Plan Buildout Conditions: The Horizon Year 2050 With General Plan Buildout scenario reflects the future traffic conditions with the traffic generated by the buildout of the General Plan without the Housing Element Update and proposed rezoning of the 53 Rezone Sites.

- Horizon Year 2050 With Proposed Rezoning Conditions: The Horizon Year 2050 With Proposed Rezoning scenario reflects the future traffic conditions with the traffic generated by the buildout of the General Plan with the Housing Element Update and proposed rezoning of the 53 Rezone Sites.



RICK

EXHIBIT 3

PROJECT STUDY AREA

LEGEND

⊗ =STUDY INTERSECTION

CALEXICO HEU TRANSPORTATION STUDY

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4.3 Intersection LOS Analysis Methodology

Intersection operations were determined at the study area intersections for the weekday AM and PM peak hours. The AM peak hour intersection analysis evaluates LOS during the hour with the highest vehicular traffic between 7:00 AM and 9:00 AM. The PM peak hour intersection analysis evaluates LOS during the hour with the highest vehicular traffic between 4:00 PM and 6:00 PM.

Intersection operations were analyzed with Synchro 12 software (Trafficware) utilizing the methodologies outlined in the *Highway Capacity Manual 7th Edition (HCM 7)*. Synchro reports delays, which correspond to a particular LOS, to describe the overall operation of an intersection.

LOS provides a quick overview of how well an intersection is performing. As indicated in the City of Calexico Traffic Study Requirements (Appendix K of the City's Design Procedures and Improvement Standards, January 1, 2013), the City has established LOS C as the acceptable level of service for intersections during peak hours, except for intersections along SR-111 and SR-98, where LOS D is acceptable during peak hours. The criteria for the LOS grade designations are provided in **Table 6**.

Table 6
LOS Criteria for Intersections

LOS	Control Delay (sec/veh)		Description
	Signalized Intersections	Unsignalized Intersections	
A	≤10	≤10	Operations with very low delay and most vehicles do not stop.
B	>10 and ≤20	>10 and ≤15	Operations with good progression but with some restricted movements.
C	>20 and ≤35	>15 and ≤25	Operations where a significant number of vehicles are stopping with some backup and light congestion.
D	>35 and ≤55	>25 and ≤35	Operations where congestion is noticeable, longer delays occur, and many vehicles stop. The proportion of vehicles not stopping declines.
E	>55 and ≤80	>35 and ≤50	Operations where there is significant delay, extensive queuing, and poor progression.
F	>80	>50	Operations that are unacceptable to most drivers, when the arrival rates exceed the capacity of the intersection.

Source: *Highway Capacity Manual 7th Edition (HCM 7)*.

5.0 EXISTING CONDITIONS

This section summarizes the existing conditions, traffic volumes and operations at the study area intersections.

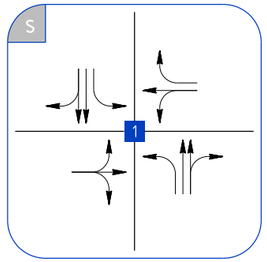
Exhibit 4 illustrates the existing lane configurations and traffic controls at the study intersections.

5.1 Existing Traffic Volumes

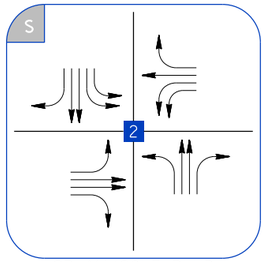
Existing turning movement volumes for 12 of the 14 study intersections were obtained from traffic counts conducted on Thursday, April 23, 2026 during the AM (7:00-9:00) and PM (4:00-6:00) peak periods. Existing turning movement counts that were conducted on February 6, 2025 during the AM (7:00-9:00) and PM (4:00-6:00) peak periods at the Birch Street (SR- 98) / Cesar Chavez Boulevard and Birch Street (SR- 98) / Imperial Avenue (SR- 111) intersections were also utilized for this intersection analysis. The study intersections where traffic counts were collected are listed below:

1. SR- 111 / Jasper Road
2. Imperial Avenue (SR- 111) / Cole Boulevard
3. Cole Boulevard / Yourman Road-Rockwood Avenue
4. Cole Boulevard / Meadows Road
5. Cole Boulevard / G. Cleveland Avenue
6. Cole Boulevard / Bowker Road
7. Birch Street (SR- 98) / David Navarro Avenue
8. Birch Street (SR- 98) / Kloke Road
9. Birch Street (SR- 98) / Cesar Chavez Boulevard
10. Birch Street (SR- 98) / Imperial Avenue (SR- 111)
11. Birch Street (SR- 98) / Andrade Avenue
12. SR- 98 / Bowker Road
13. Cesar Chavez Boulevard / Grant Street
14. Imperial Avenue (SR- 111) / Grant Street

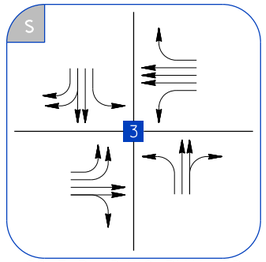
Exhibit 5 illustrates the existing study AM/PM peak hour intersection turning movement volumes. **Appendix B** contains the traffic count data sheets for the study intersections.



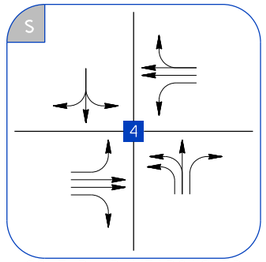
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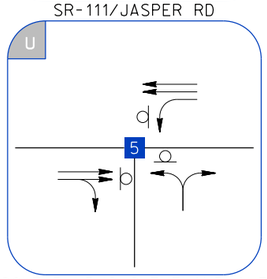
SR-111/COLE BLVD



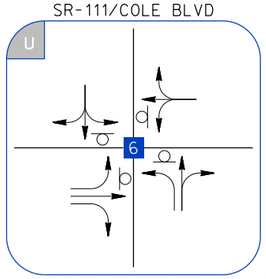
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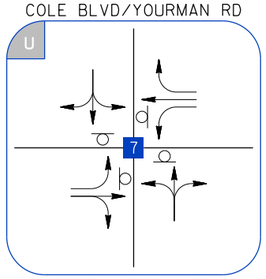
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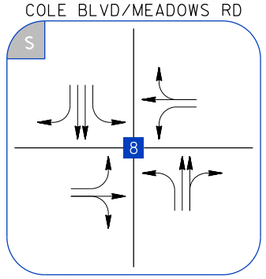
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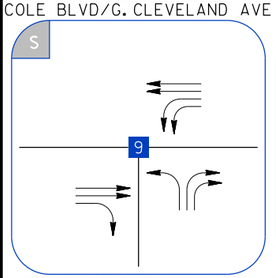
COLE BLVD/BOWKER RD



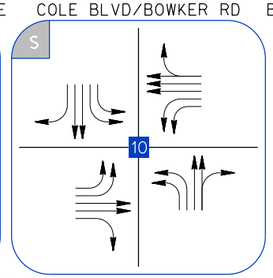
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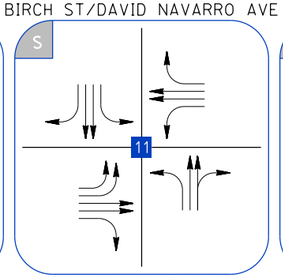
BIRCH ST/KLOKE RD



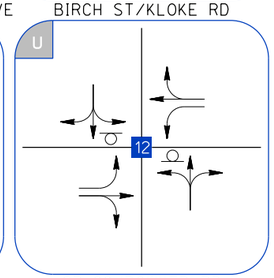
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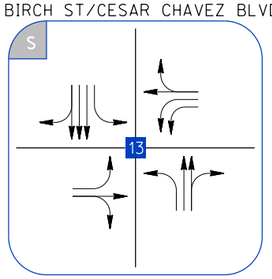
IMPERIAL AVE/BIRCH ST



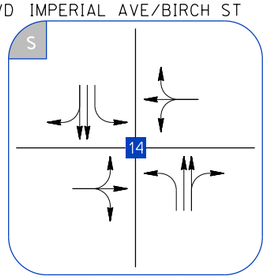
BIRCH ST/MEADOWS RD/
ANDRADE AVE



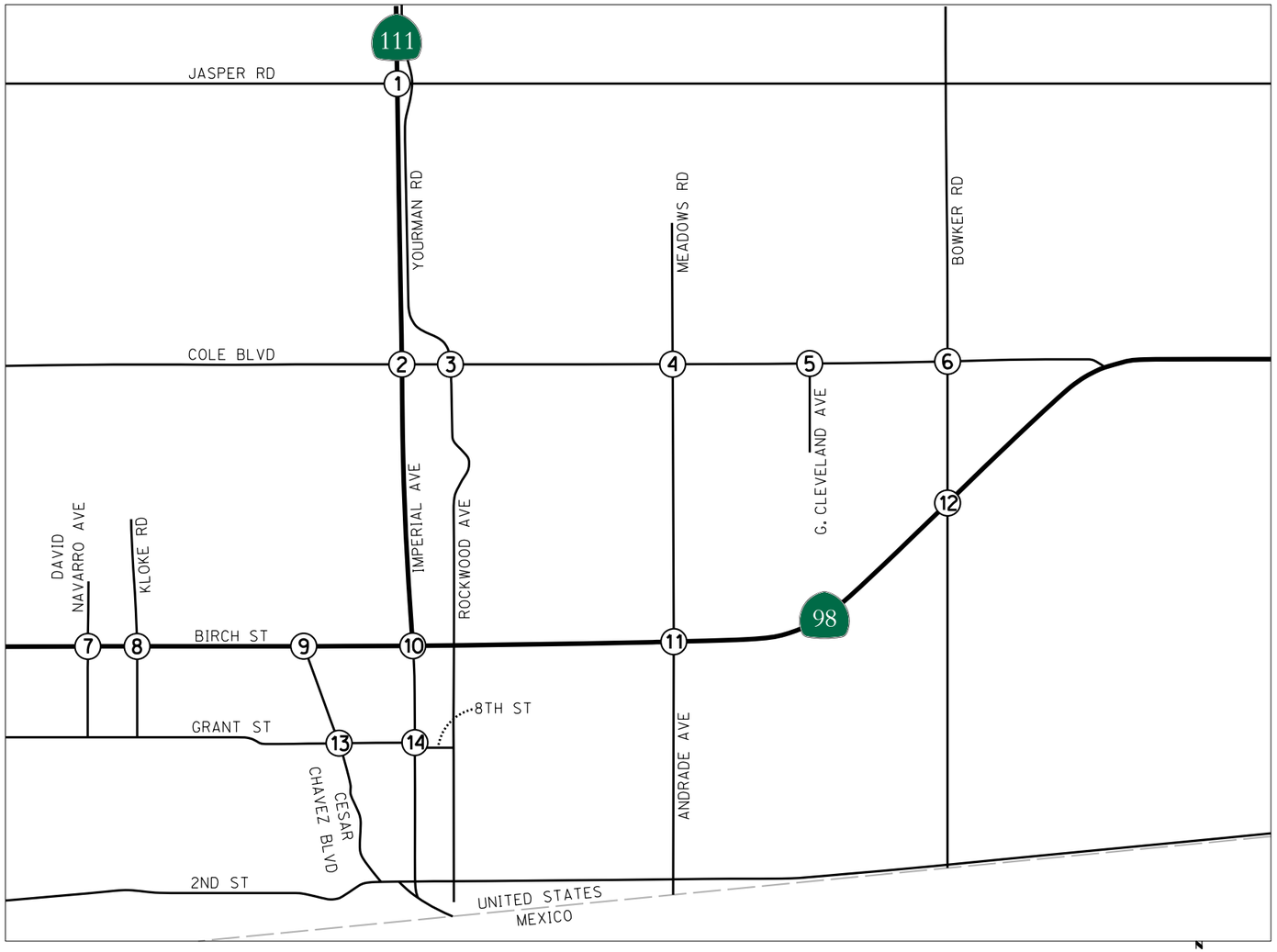
SR-98/BOWKER RD



GRANT ST/
CESAR CHAVEZ BLVD



IMPERIAL AVE/GRANT ST



NOT TO SCALE

EXHIBIT 4

EXISTING INTERSECTION LANE CONFIGURATION

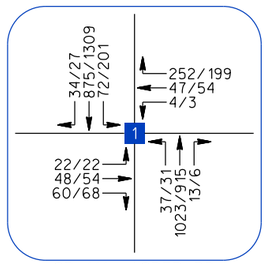
CALEXICO HEU TRANSPORTATION STUDY

LEGEND

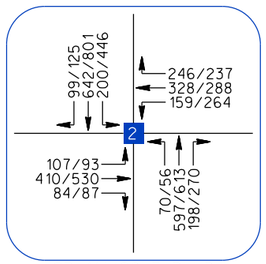
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- =EXISTING LANE CONFIGURATION
- =STOP SIGN
- =SIGNALIZED
- =UNSIGNALIZED

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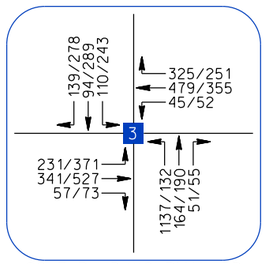
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03-JUN-2026 15:02



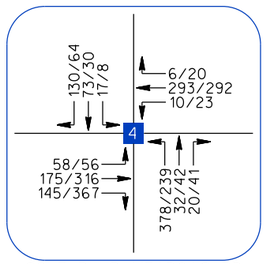
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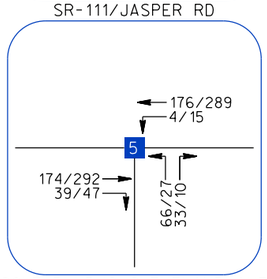
SR-111/COLE BLVD



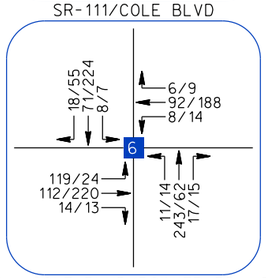
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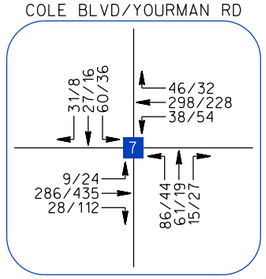
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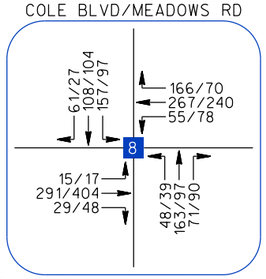
COLE BLVD/G. CLEVELAND AVE



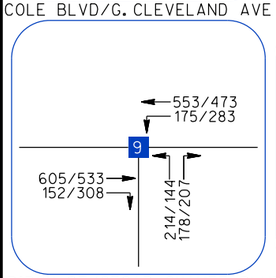
COLE BLVD/BOWKER RD



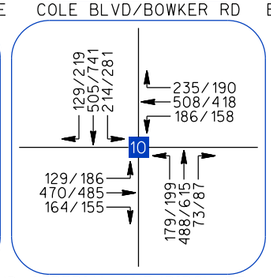
BIRCH ST/DAVID NAVARRO AVE



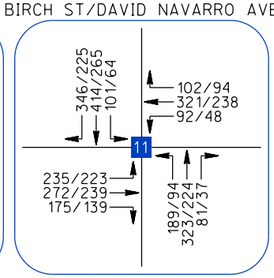
BIRCH ST/KLOKE RD



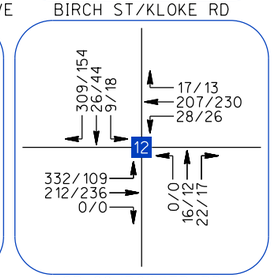
BIRCH ST/CESAR CHAVEZ BLVD



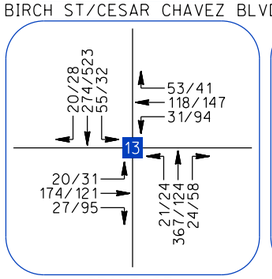
IMPERIAL AVE/BIRCH ST



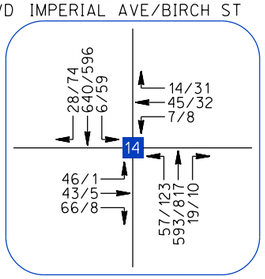
BIRCH ST/MEADOWS RD/
ANDRADE AVE



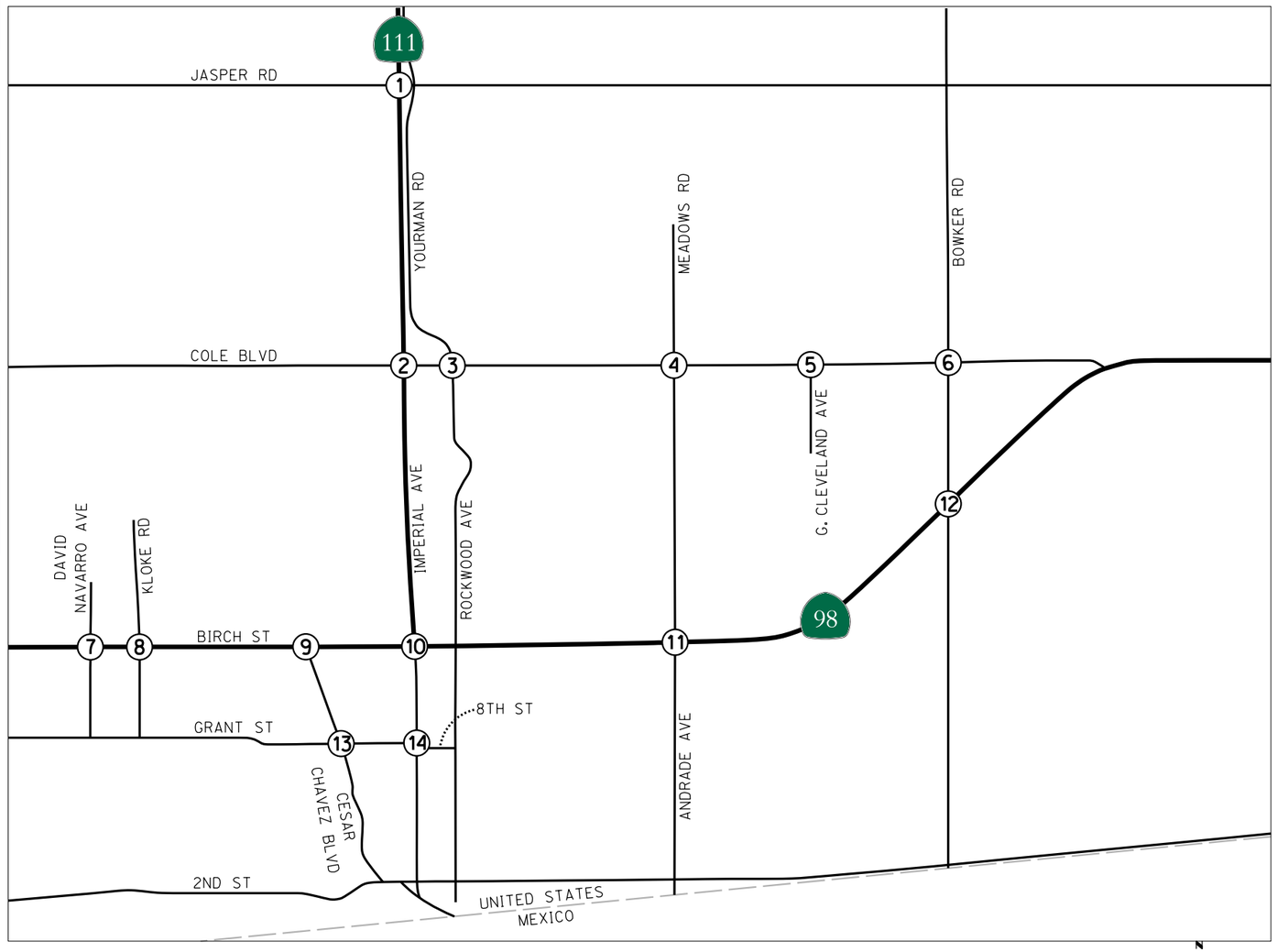
SR-98/BOWKER RD



GRANT ST/
CESAR CHAVEZ BLVD



IMPERIAL AVE/GRANT ST



NOT TO SCALE

EXHIBIT 5

EXISTING INTERSECTION TRAFFIC VOLUMES

CALEXICO HEU TRANSPORTATION STUDY

LEGEND: ⊗ =STUDY INTERSECTION

AM/PM=PEAK HOUR VOLUMES

C:\RICK\Projects\C20000\20484_City of Calexico Housing Element Update PEIR\7_Traffic\Exhibits\20484_Basefile.dgn
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5.2 Existing Conditions Intersection Analysis

Table 7 displays the LOS analysis results for the study intersections under Existing Conditions. **Appendix C** contains the Existing Conditions intersection LOS worksheets.

Table 7
Existing Conditions Intersection Operations

#	Intersection	Control	Dir.[1]	Existing (2025-2026)			
				AM Peak Hour		PM Peak Hour	
				Delay [2]	LOS [3]	Delay [2]	LOS [3]
1	SR- 111 / Jasper Rd	Signal	Overall	20.4	C	20.6	C
2	Imperial Ave (SR- 111) / Cole Blvd	Signal	Overall	37.1	D	44.4	D
3	Cole Blvd / Yourman Rd-Rockwood Ave	Signal	Overall	26.4	C	33.3	C
4	Cole Blvd / Meadows Rd	Signal	Overall	20.0	C	14.0	B
5	Cole Blvd / G. Cleveland Ave	(AWSC)	Overall	8.9	A	9.0	A
6	Cole Blvd / Bowker Rd	(AWSC)	Overall	13.5	B	18.1	C
7	Birch St (SR- 98) / David Navarro Ave	(AWSC)	Overall	16.4	C	**37.5**	**E**
8	Birch St (SR- 98) / Kloke Rd	Signal	Overall	28.8	C	23.2	C
9	Birch St (SR- 98) / Cesar Chavez Blvd	Signal	Overall	15.6	B	13.8	B
10	Birch St (SR- 98) / Imperial Ave (SR- 111)	Signal	Overall	42.4	D	46.3	D
11	Birch St (SR- 98) / Andrade Ave	Signal	Overall	34.9	C	21.8	C
12	SR- 98 / Bowker Rd	(TWSC)	SB-LR	**122.8**	**F**	18.9	C
13	Cesar Chavez Blvd / Grant St	Signal	Overall	20.6	C	19.9	B
14	Imperial Ave (SR- 111) / Grant St	Signal	Overall	26.7	C	24.9	C

Footnotes:
Results calculated utilizing the methodologies described in Chapters 19, 20, and 21 in the 7th edition of the HCM.
Deficient LOS indicated in **bold** and shaded in gray, which is LOS D or worse for City-controlled intersections, and is LOS E or worse for intersections along SR-111 and SR-98.
1) Worst movement direction (if applicable)
2) Delay is measured in seconds per vehicle. Delays are reported as the average control delay for the entire intersection at signalized and all-way stop controlled intersections, and the worst movement delay is reported for one/two-way-stop controlled intersections.
3) Level of Service
(AWSC)=All-Way Stop Controlled, (TWSC)=Two-Way Stop Controlled, (OWSC)=One-Way Stop Controlled
NB=Northbound, WB=Westbound, etc.
L=Left-turn movement, R= Right-turn movement, LT=Left-Through lane, LTR=Left-Through-Right lane, etc.

As shown in the table, the following two (2) study intersections currently operate at a deficient LOS during the peak hours based on the overall delays for signalized and all-way stop controlled intersections and the worst movement delays for two-way stop-controlled intersections:

1) Birch Street (SR- 98) / David Navarro Avenue (Overall PM: LOS E)
2) SR- 98 / Bowker Road (Southbound Left/Right-Turn AM: LOS F)

5.3 Existing Conditions Pedestrian and Bicycle Facilities Assessment

Below is an assessment of the existing pedestrian conditions in the vicinity of the proposed Rezone Sites:

- Jasper Road: Jasper Road is currently lacking sidewalks both west and east of SR-111 in the vicinity of Rezone Sites 1-3 and 15-18
- Cole Boulevard: Sidewalks are currently provided on both sides of Cole Boulevard west of SR-111 and east of SR-111 to Yourman Road-Rockwood Avenue. East of Yourman Road-Rockwood Avenue, sidewalks are currently provided along the south side of Cole Boulevard adjacent to existing development and Rezone Sites 19-21, but the north side of Cole Boulevard, including adjacent to Rezone Sites 9-14, is currently lacking sidewalk.
- Birch Street (SR-98): Birch Street (SR-98) is generally lacking sidewalks through the western side of the City west of Cesar Chavez Boulevard, including along Rezone Sites 48-53. Sidewalks are generally provided along one or both sides of Birch Street (SR-98) from Cesar Chavez Boulevard to East Rivera Street, including adjacent to Rezone Sites 31-33. East of Rivera Street and adjacent to Rezone Sites 26-30, SR-98 currently lacks sidewalks on both sides of the roadway.
- Bowker Road: Sidewalks are currently provided along the west side of Bowker Road from Cole Boulevard to SR-98, which is adjacent to existing development, but the east side of Bowker Road from Cole Boulevard to SR-98 and adjacent to Rezone Sites 23-24 is currently lacking sidewalk.

Class II bike lanes are currently provided in one or both directions of the following roadways in the vicinity of the proposed Rezone Sites in the City of Calexico:

- Eastbound Cole Boulevard from M. L. King Street to Clinton Avenue, adjacent to existing development and Rezone Sites 19-21
- Birch Street (SR-98) in both directions from V. V. Williams Avenue to Rockwood Avenue
- Cesar Chavez Boulevard in both directions from Birch Street (SR-98) to 2nd Street

5.4 Existing Conditions Transit Assessment

Imperial Valley Transit Routes 1N/1S currently provide bus transit service between Calexico and El Centro via Birch Street (SR-98), Kloke Road, Grant Street, Emerson Avenue, Paulin Avenue, 3rd Street, Mary Avenue, 5th Street, Encina Avenue, Rockwood Avenue, Cole Boulevard and SR-111. Routes 1N/1S run between 5:45 AM and 11:23 PM on weekdays (Monday – Friday) with frequencies ranging from 30-60 minutes throughout the day. Routes 1N/1S also run on Saturday between 5:55 AM and 8:30 PM with frequencies ranging from 1-2 hours throughout the day, and on Sunday between 7:00 AM and 5:10 PM with frequencies ranging from 2-3 hours throughout the day.

Imperial Valley Transit Routes 21N/21S currently provide bus transit service between Calexico and Imperial Valley College via Birch Street (SR-98), Kloke Road, Grant Street, Emerson Avenue, Paulin Avenue, 3rd Street, Mary Avenue, 5th Street, Encina Avenue, Rockwood Avenue, Cole Boulevard and SR-111. Route 21N runs between 6:15 AM and 9:45 AM on weekdays (Monday – Friday), and Route 21S runs between 12:30 PM and 7:50 PM on weekdays (Monday – Friday), with frequencies ranging from 15-45 minutes. Route 21N does not run on Saturday but Route 21S runs on Saturday with limited service from 6:50 PM to 7:50 PM. Routes 21N/21S do not run on Sunday.

Imperial Valley Transit Routes 31D/32D currently provide bus transit service between Brawley and Calexico via Imperial Avenue (SR-111) and Paulin Avenue. Routes 31D/32D run between 6:30 AM and 8:30 AM, and between 3:50 PM and 5:50 PM on weekdays (Monday – Friday) with frequencies ranging from 60-85 minutes. Routes 31D/32D also run on Saturday between 7:00 AM and 10:10 AM, and between 3:00 PM and 6:10 PM. Routes 31D/32D do not run on Sunday.

Imperial Valley Transit Route Express-Calexico currently provides bus transit service between Imperial Valley College and the Calexico East Port-of-Entry via Imperial Avenue (SR-111), 2nd Street, Encina Avenue, Birch Street (SR-98) and SR-7. Route Express-Calexico runs between 6:30 AM and 1:50 PM on weekdays (Monday – Friday) with a frequency of 60 minutes. Route Express-Calexico does not run on Saturday and Sunday.

6.0 PROJECT TRIP GENERATION

Trip generation rates published by the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (12th Edition, 2025) were applied to the current General Plan residential land uses and the proposed rezoned residential land uses on the 53 Rezone Sites to compare the traffic generation characteristics without and with the proposed rezoning. Many of the 53 Rezone Sites are currently zoned for commercial or industrial land uses, and the available land use intensities for these non-residential uses are only provided in acreage. Because ITE does not provide trip generation rates based on acreage for commercial or industrial land uses, the published trip rates contained in the San Diego Association of Governments (SANDAG) *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (April 2002) were used to calculate the current non-residential General Plan land uses based on acreage. **Appendix D** contains the 12th Edition ITE *Trip Generation Manual* trip rate sheets for the residential land uses, and the SANDAG trip generation rates for the non-residential General Plan land uses based on acreage.

Table 8 presents the trip generation comparison of the 53 Rezone Sites with the existing General Plan land uses and the proposed rezoned land uses.

As shown in Table 8, the 53 Rezone Sites with the existing General Plan land uses are estimated to generate approximately 68,165 daily trips, including approximately 4,007 AM peak hour trips (1,607 inbound / 2,400 outbound) and approximately 6,290 PM peak hour trips (3,439 inbound / 2,851 outbound).

Table 8 also shows that the 53 Rezone Sites with the proposed rezoning are estimated to generate approximately 56,327 daily trips, including approximately 3,999 AM peak hour trips (1,000 inbound / 2,999 outbound) and approximately 4,936 PM peak hour trips (3,046 inbound / 1,890 outbound).

As shown in Table 8, the proposed rezoning of the 53 Rezone Sites is anticipated to result in a decrease of approximately 11,838 daily trips, including a decrease of approximately 8 AM peak hour trips (-607 inbound / +599 outbound) and a decrease of approximately 1,354 PM peak hour trips (-393 inbound / -961 outbound).

The estimated decrease in trip generation with the proposed rezoning is primarily attributed to the Rezone Sites where the rezoning proposes a change in land use from commercial to residential, as commercial uses are typically more intensive and generate a higher number of trips within a site than residential uses.

Table 8
Calexico HEU Rezone Sites Trip Generation Comparison

HEU Site ID	Existing General Plan Land Use	Proposed Land Use	Gross Acreage	Existing General Plan Potential Unit Yield	Potential Unit Yield With Rezoning	Trip Generation With Existing General Plan Land Uses							Trip Generation With Proposed Rezoning							Net Change in Trip Generation						
						Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips			Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips			Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
							In	Out	Total	In	Out	Total		In	Out	Total	In	Out	Total		In	Out	Total	In	Out	Total
1	High Density Residential	High Density Residential	6.00	180	180	1,134	18	58	76	58	36	94	1,134	18	58	76	58	36	94	0	0	0	0	0	0	0
2	Medium Density Residential	Medium Density Residential	21.36	427	427	2,524	39	123	162	131	81	212	2,524	39	123	162	131	81	212	0	0	0	0	0	0	0
3	Medium Density Residential	Medium Density Residential	60.00	1,200	1,200	6,876	104	329	433	361	222	583	6,876	104	329	433	361	222	583	0	0	0	0	0	0	0
4	Commercial Highway	Medium Density Residential	22.36	268	268	1,753	36	107	143	83	62	145	1,753	36	107	143	83	62	145	0	0	0	0	0	0	0
5	Commercial Highway	Medium Density Residential	13.03	156	261	1,022	19	58	77	50	31	81	1,590	25	79	104	82	51	133	568	6	21	27	32	20	52
6	Commercial Highway	High Density Residential	4.25	0	128	1,700	31	20	51	77	76	153	841	14	44	58	43	26	69	-859	-17	24	7	-34	-50	-84
7	Commercial Highway	High Density Residential	1.16	0	35	464	8	6	14	21	21	42	318	6	19	25	15	9	24	-146	-2	13	11	-6	-12	-18
8	Commercial Highway	High Density Residential	2.32	0	70	928	17	11	28	42	42	84	515	9	28	37	25	16	41	-413	-8	17	9	-17	-26	-43
9	Low Density Residential	Low Density Residential	63.53	318	318	2,891	60	163	223	184	112	296	2,891	60	163	223	184	112	296	0	0	0	0	0	0	0
10	Low Density Residential	Low Density Residential	9.18	46	46	418	9	23	32	27	16	43	418	9	23	32	27	16	43	0	0	0	0	0	0	0
11	Low Density Residential	Low Density Residential	21.94	110	110	1,000	21	56	77	63	39	102	1,000	21	56	77	63	39	102	0	0	0	0	0	0	0
12	Low Density Residential	Low Density Residential	43.03	215	215	1,954	41	110	151	124	76	200	1,954	41	110	151	124	76	200	0	0	0	0	0	0	0
13	Commercial Neighborhood	High Density Residential	10.30	0	309	4,120	74	50	124	186	185	371	1,860	29	92	121	97	59	156	-2,260	-45	42	-3	-89	-126	-215
14	Commercial Neighborhood	Medium Density Residential	13.19	0	264	5,276	95	63	158	238	237	475	1,607	25	80	105	83	51	134	-3,669	-70	17	-53	-155	-186	-341
15	Low Density Residential	Low Density Residential	27.56	138	138	1,254	26	71	97	79	49	128	1,254	26	71	97	79	49	128	0	0	0	0	0	0	0
16	Low Density Residential	Low Density Residential	14.26	71	71	645	14	36	50	41	25	66	645	14	36	50	41	25	66	0	0	0	0	0	0	0
17	High Density Residential	High Density Residential	10.40	312	312	1,877	29	93	122	97	60	157	1,877	29	93	122	97	60	157	0	0	0	0	0	0	0
18	Low Density Residential	Low Density Residential	76.05	380	380	3,454	72	194	266	219	134	353	3,454	72	194	266	219	134	353	0	0	0	0	0	0	0

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HEU Site ID	Existing General Plan Land Use	Proposed Land Use	Gross Acreage	Existing General Plan Potential Unit Yield	Potential Unit Yield With Rezoning	Trip Generation With Existing General Plan Land Uses							Trip Generation With Proposed Rezoning							Net Change in Trip Generation						
						Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips			Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips			Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
							In	Out	Total	In	Out	Total		In	Out	Total	In	Out	Total		In	Out	Total	In	Out	Total
19	Neighborhood Commercial	High Density Residential	5.78	0	173	2,312	41	28	69	104	104	208	1,094	18	55	73	56	34	90	-1,218	-23	27	4	-48	-70	-118
20	Neighborhood Commercial	High Density Residential	2.10	0	63	840	15	10	25	38	38	76	475	8	27	35	24	14	38	-365	-7	17	10	-14	-24	-38
21	Neighborhood Commercial	High Density Residential	3.01	0	90	1,204	22	14	36	54	54	108	627	11	33	44	32	19	51	-577	-11	19	8	-22	-35	-57
22	Neighborhood Commercial	High Density Residential	2.80	0	84	1,120	20	14	34	51	50	101	593	10	32	42	30	18	48	-527	-10	18	8	-21	-32	-53
23	Neighborhood Commercial	High Density Residential	4.42	0	133	1,768	32	21	53	80	79	159	869	14	45	59	44	27	71	-899	-18	24	6	-36	-52	-88
24	Medium Density Residential	Medium Density Residential	24.24	485	485	2,851	44	139	183	149	91	240	2,851	44	139	183	149	91	240	0	0	0	0	0	0	0
25	Low Density Residential	Low Density Residential	60.96	305	305	2,772	58	156	214	176	108	284	2,772	58	156	214	176	108	284	0	0	0	0	0	0	0
26	Neighborhood Commercial	Low-Medium Density Residential	15.50	0	186	6,200	112	74	186	279	279	558	1,218	24	70	94	56	42	98	-4,982	-88	-4	-92	-223	-237	-460
27	Medium Density Residential	High Density Residential	2.12	11	64	100	2	6	8	6	4	10	481	8	27	35	24	14	38	381	6	21	27	18	10	28
28	Low Density Residential	High Density Residential	7.79	39	234	355	7	20	27	22	14	36	1,438	23	72	95	74	46	120	1,083	16	52	68	52	32	84
29	Low Density Residential	Low Density Residential	9.33	47	47	427	9	24	33	27	17	44	427	9	24	33	27	17	44	0	0	0	0	0	0	0
30	Low Density Residential	Low Density Residential	12.89	64	64	582	12	33	45	37	23	60	582	12	33	45	37	23	60	0	0	0	0	0	0	0
31	Public Facilities	Medium Density Residential	8.97	0	179	807	155	103	258	29	44	73	1,128	18	58	76	58	35	93	321	-137	-45	-182	29	-9	20
32	Commercial Office	High Density Residential	2.94	0	88	882	111	12	123	23	92	115	616	11	33	44	31	19	50	-266	-100	21	-79	8	-73	-65
33	Commercial Office	High Density Residential	1.50	0	45	450	57	6	63	12	47	59	374	7	22	29	18	11	29	-76	-50	16	-34	6	-36	-30
34	Commercial Highway	High Density Residential	6.60	0	198	2,640	47	32	79	119	119	238	1,235	20	62	82	63	39	102	-1,405	-27	30	3	-56	-80	-136
35	Commercial Highway	Medium Density Residential	0.31	0	6	124	2	2	4	6	5	11	154	4	11	15	6	4	10	30	2	9	11	0	-1	-1
36	Industrial	High Density Residential	2.23	0	67	201	20	2	22	5	19	24	498	9	27	36	25	15	40	297	-11	25	14	20	-4	16
37	Industrial	High Density Residential	0.85	0	26	77	7	1	8	2	7	9	267	5	17	22	12	8	20	190	-2	16	14	10	1	11

HEU Site ID	Existing General Plan Land Use	Proposed Land Use	Gross Acreage	Existing General Plan Potential Unit Yield	Potential Unit Yield With Rezoning	Trip Generation With Existing General Plan Land Uses							Trip Generation With Proposed Rezoning							Net Change in Trip Generation						
						Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips			Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips			Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
							In	Out	Total	In	Out	Total		In	Out	Total	In	Out	Total		In	Out	Total	In	Out	Total
38	Industrial	High Density Residential	1.46	0	44	131	13	1	14	3	13	16	368	7	21	28	17	11	28	237	-6	20	14	14	-2	12
39	Industrial	High Density Residential	0.84	0	25	76	7	1	8	2	7	9	261	5	17	22	12	7	19	185	-2	16	14	10	0	10
40	Industrial	High Density Residential	0.84	0	25	76	7	1	8	2	7	9	261	5	17	22	12	7	19	185	-2	16	14	10	0	10
41	Industrial	High Density Residential	0.89	0	27	80	8	1	9	2	8	10	272	5	17	22	12	8	20	192	-3	16	13	10	0	10
42	Industrial	High Density Residential	1.09	0	33	98	10	1	11	2	10	12	306	6	18	24	14	9	23	208	-4	17	13	12	-1	11
43	Industrial	High Density Residential	1.68	0	50	151	15	2	17	4	14	18	402	7	23	30	19	12	31	251	-8	21	13	15	-2	13
44	Industrial	High Density Residential	0.95	0	29	86	8	1	9	2	8	10	284	6	17	23	13	8	21	198	-2	16	14	11	0	11
45	Industrial	High Density Residential	1.62	0	49	146	14	2	16	4	14	18	396	7	23	30	19	12	31	250	-7	21	14	15	-2	13
46	Low Density Residential	High Density Residential	1.06	32	32	301	6	18	24	14	9	23	301	6	18	24	14	9	23	0	0	0	0	0	0	0
47	Low Density Residential	Low-Medium Density Residential	1.24	6	15	55	1	3	4	4	2	6	101	2	5	7	5	3	8	46	1	2	3	1	1	2
48	High Density Residential	High Density Residential	6.03	181	181	1,139	18	58	76	58	36	94	1,139	18	58	76	58	36	94	0	0	0	0	0	0	0
49	High Density Residential	High Density Residential	4.16	125	125	824	14	43	57	42	25	67	824	14	43	57	42	25	67	0	0	0	0	0	0	0
50	High Density Residential	High Density Residential	0.88	0	26	0	0	0	0	0	0	0	267	5	17	22	12	8	20	267	5	17	22	12	8	20
51	High Density Residential	High Density Residential	0.90	0	27	0	0	0	0	0	0	0	272	5	17	22	12	8	20	272	5	17	22	12	8	20
52	High Density Residential	High Density Residential	0.89	0	27	0	0	0	0	0	0	0	272	5	17	22	12	8	20	272	5	17	22	12	8	20
53	High Density Residential	High Density Residential	1.61	0	48	0	0	0	0	0	0	0	391	7	23	30	19	11	30	391	7	23	30	19	11	30
TOTAL TRIPS:						**68,165**	**1,607**	**2,400**	**4,007**	**3,439**	**2,851**	**6,290**	**56,327**	**1,000**	**2,999**	**3,999**	**3,046**	**1,890**	**4,936**	**-11,838**	**-607**	**599**	**-8**	**-393**	**-961**	**-1,354**

Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 12th Edition, 2025.

See Appendix D for the ITE trip generation rate sheets of the following land uses:

- ITE Land Use 210 (Residential Single-Family Detached)
- ITE Land Use 215 (Residential Single-Family Attached)
- ITE Land Use 220 (Residential Multi-Family)

7.0 HORIZON YEAR 2050 CONDITIONS

This section summarizes the development of the Horizon Year 2050 traffic volumes and operations of the study intersections with the buildout of the City of Calexico's General Plan land uses without and with the proposed rezoning of the 53 Rezone Sites. Although Horizon Year 2050 conditions reflects the buildout of the General Plan, the Horizon Year 2050 roadway and intersection conditions are conservatively assumed to be the same as existing conditions.

7.1 Horizon Year 2050 Traffic Volumes With General Plan Buildout

The Horizon Year 2050 With General Plan Buildout traffic volumes were developed from the forecast traffic growth in the current Southern California Association of Governments (SCAG) regional travel demand model within the City of Calexico. Growth factors were developed based on the forecast traffic growth from the SCAG Baseline Year 2019 scenario to the SCAG Future Year 2050 scenario. These growth factors were applied to Existing Years 2025 and 2026 traffic volume counts where applicable to reflect 24-25 years of growth from 2025/2026 to 2050.

The Horizon Year 2050 forecast daily traffic volumes were post-processed to develop the Horizon Year 2050 intersection turning movement volumes during the AM and PM peak hours. **Appendix E** contains the model volume plots and post-processing volume worksheets that were utilized to develop the Horizon Year 2050 traffic volumes.

Exhibit 6 illustrates the Horizon Year 2050 With General Plan Buildout study intersection traffic volumes.

7.2 Horizon Year 2050 Traffic Volumes With Proposed Rezoning

The Horizon Year 2050 With Proposed Rezoning traffic volumes were developed by estimating the change in trips within the SCAG model Travel Analysis Zones (TAZs) of which the 53 Rezone Sites are located, based on the change in trip generation of each Rezone Site with the proposed rezoning. Adjustment factors were developed based on the change in TAZ trips and were applied to the Horizon Year 2050 With General Plan Buildout traffic volumes based on the locations of the TAZs relative to the locations of the study intersections.

Horizon Year 2050 traffic volumes with the proposed rezoning generally decreased in the northern portion of the City of Calexico due to the multiple Rezone Sites where commercial land uses are proposed to be rezoned to residential uses. Horizon Year 2050 traffic volumes with the proposed rezoning generally increased in the southern and western portions of the City where the majority of Rezone Sites are proposed to be rezoned from lower to higher residential densities. The proposed rezoning of the 53 Rezone Sites is not anticipated to result in changes in the Horizon Year 2050 traffic volumes at the SR-111 / Jasper Road intersection, SR-98 / Andrade Avenue intersection and the SR-98 / Bowker Road intersection, where the residential densities of the Rezone Sites near these study intersections are either not proposed to change, or the proposed changes in land use result in a nominal to no change in TAZ trips near these intersections.

Exhibit 7 illustrates the Horizon Year 2050 With Proposed Rezoning study intersection traffic volumes.

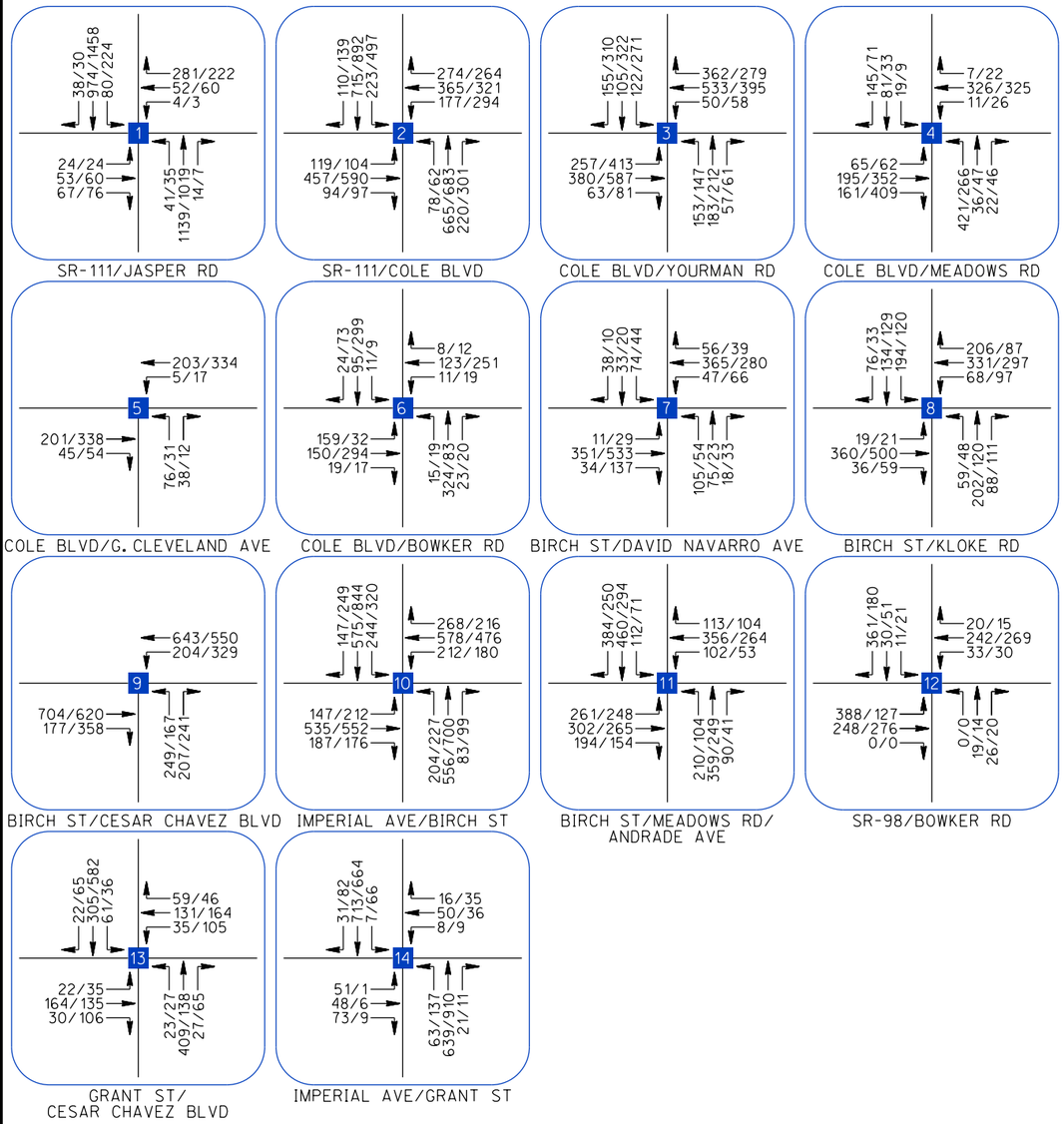


EXHIBIT 6

HORIZON YEAR 2050 WITH GENERAL PLAN LAND USES INTERSECTION TRAFFIC VOLUMES

CALEXICO HEU TRANSPORTATION STUDY

LEGEND: ⊗ =STUDY INTERSECTION

AM/PM=PEAK HOUR VOLUMES

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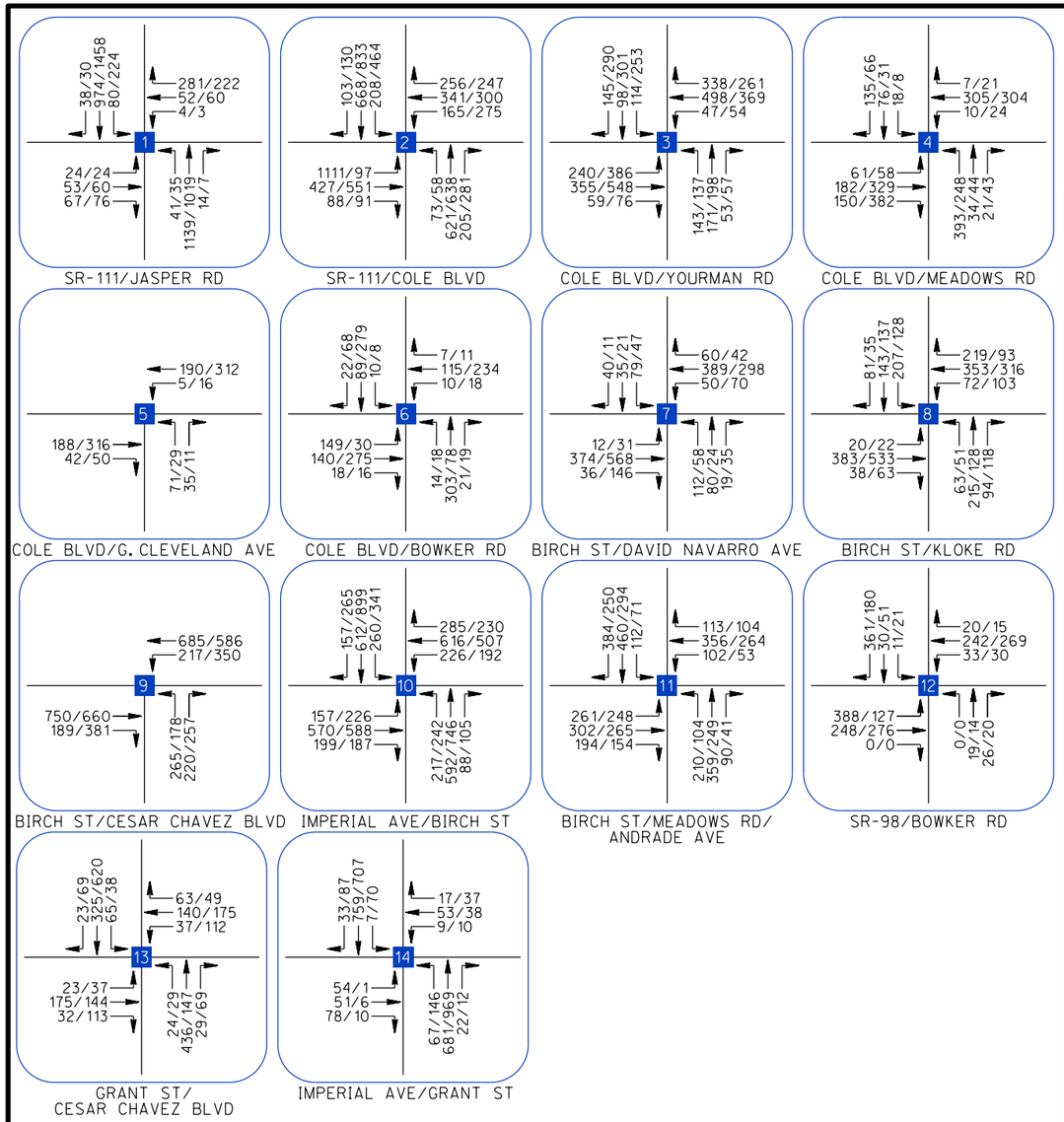


EXHIBIT 7

HORIZON YEAR 2050 WITH PROPOSED REZONING INTERSECTION TRAFFIC VOLUMES

CALEXICO HEU TRANSPORTATION STUDY

LEGEND: ⊗ =STUDY INTERSECTION

AM/PM=PEAK HOUR VOLUMES

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7.3 Horizon Year 2050 Conditions Intersection Operations

Table 9 displays the operational analysis results for the study intersections under Horizon Year 2050 General Plan Buildout Conditions without and with the proposed rezoning of the 53 Rezone Sites. **Appendix C** contains the Horizon Year 2050 Conditions Synchro 12 HCM-7 intersection analysis worksheets.

As shown in the table, the following four (4) intersections are anticipated to operate at a deficient LOS under Horizon Year 2050 General Plan Buildout Conditions without the proposed rezoning:

1) Cole Boulevard / Yourman Road-Rockwood Avenue (Overall PM: LOS D)
2) Cole Boulevard / Bowker Road (Overall PM: LOS F)
3) Birch Street (SR- 98) / David Navarro Avenue (Overall PM: LOS F)
4) SR- 98 / Bowker Road (Southbound Left/Right-Turn AM: LOS F)

Table 9 also shows that with the proposed rezoning of the 53 Rezone Sites under Horizon Year 2050 General Plan Buildout Conditions, the following three (3) intersections are anticipated to operate at a deficient LOS:

1) Cole Boulevard / Bowker Road (Overall PM: LOS E)
2) Birch Street (SR- 98) / David Navarro Avenue (Overall AM: LOS E; Overall PM: LOS F)
3) SR- 98 / Bowker Road (Southbound Left/Right-Turn AM: LOS F)

Based on the results of the Horizon Year 2050 With Proposed Rezoning Conditions, improvements are required at the above-listed three (3) intersections.

7.4 Horizon Year 2050 Conditions Pedestrian and Bicycle Facilities Assessment

It is anticipated that the City of Calexico's pedestrian network will be expanded as future development occurs, including along the roadways adjacent to the 53 Rezone Sites such as Jasper Road, Cole Boulevard, Birch Street (SR-98) and Bowker Road. The Imperial County Transportation Commission *Regional Active Transportation Plan* (February 2022) recommends 138 pedestrian improvements at intersections throughout the City of Calexico, including ADA curb ramps and high-visibility crosswalks.

The Imperial County Transportation Commission *Regional Active Transportation Plan* (February 2022) recommends 7.3 miles of Class I multi-use paths, 15.6 miles of Class II bike lanes, and 2.2 miles of Class III bike routes throughout the City of Calexico. The recommended bicycle facility improvements include the following in the vicinity of the 53 Rezone Sites:

- Cole Boulevard: 3.3 miles of Class II bike lanes
- Birch Street (SR-98): 4.6 miles of Class II bike lanes and 1.3 miles of Class I multi-use path
- Scaroni Avenue: 3.0 miles of Class II bike lanes
- Rockwood Avenue: 2.2 miles of Class II bike lanes
- Grant Street: 1.7 miles of Class II bike lanes

7.5 Horizon Year 2050 Conditions Transit Assessment

The Imperial County Transportation Commission *Regional Active Transportation Plan* (February 2022) does not include future transit improvement recommendations in the City of Calexico. Therefore, it is assumed that the Horizon Year 2050 transit network would be approximately the same as existing conditions.

Table 9
Horizon Year 2050 With General Plan Buildout Intersection Operations
Without and With Proposed Rezoning

#	Intersection	Control	Dir.[1]	Horizon Year 2050 With General Plan Buildout				Horizon Year 2050 With Proposed Rezoning			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Delay [2]	LOS [3]	Delay [2]	LOS [3]	Delay [2]	LOS [3]	Delay [2]	LOS [3]
1	SR- 111 / Jasper Rd	Signal	Overall	22.6	C	23.9	C	22.6	C	23.9	C
2	Imperial Ave (SR- 111) / Cole Blvd	Signal	Overall	40.9	D	52.2	D	38.5	D	46.8	D
3	Cole Blvd / Yourman Rd-Rockwood Ave	Signal	Overall	28.0	C	**37.3**	**D**	26.9	C	34.6	C
4	Cole Blvd / Meadows Rd	Signal	Overall	21.9	C	14.9	B	20.6	C	14.3	B
5	Cole Blvd / G. Cleveland Ave	(AWSC)	Overall	9.4	A	9.5	A	9.2	A	9.2	A
6	Cole Blvd / Bowker Rd	(AWSC)	Overall	24.7	C	**54.2**	**F**	20.0	C	**40.0**	**E**
7	Birch St (SR- 98) / David Navarro Ave	(AWSC)	Overall	29.1	D	**97.4**	**F**	**41.2**	**E**	**124.3**	**F**
8	Birch St (SR- 98) / Kloke Rd	Signal	Overall	38.5	D	26.8	C	44.5	D	28.9	C
9	Birch St (SR- 98) / Cesar Chavez Blvd	Signal	Overall	18.7	B	14.3	B	23.9	C	14.7	B
10	Birch St (SR- 98) / Imperial Ave (SR- 111)	Signal	Overall	44.4	D	49.4	D	45.9	D	52.0	D
11	Birch St (SR- 98) / Andrade Ave	Signal	Overall	44.1	D	22.9	C	44.1	D	22.9	C
12	SR- 98 / Bowker Rd	(TWSC)	SB-LR	**481.9**	**F**	28.3	D	**481.9**	**F**	28.3	D
13	Cesar Chavez Blvd / Grant St	Signal	Overall	21.8	C	21.8	C	23.1	C	23.1	C
14	Imperial Ave (SR- 111) / Grant St	Signal	Overall	30.2	C	27.2	C	32.3	C	29.1	C

Footnotes:
Results calculated utilizing the methodologies described in Chapters 19, 20, and 21 in the 7th edition of the HCM.
Deficient LOS indicated in **bold** and shaded in gray, which is LOS D or worse for City-controlled intersections, and is LOS E or worse for intersections along SR-111 and SR-98.
1) Worst movement direction (if applicable)
2) Delay is measured in seconds per vehicle. Delays are reported as the average control delay for the entire intersection at signalized and all-way stop controlled intersections, and the worst movement delay is reported for one/two-way-stop controlled intersections.
3) Level of Service
(AWSC)=All-Way Stop Controlled, (TWSC)=Two-Way Stop Controlled, (OWSC)=One-Way Stop Controlled
NB=Northbound, WB=Westbound, etc.
L=Left-turn movement, R= Right-turn movement, LT=Left-Through lane, LTR=Left-Through-Right lane, etc.

8.0 RECOMMENDED IMPROVEMENTS

Based on the findings of the Horizon Year 2050 General Buildout With Proposed Rezoning intersection LOS analysis, the following improvements are recommended to provide acceptable LOS D or better operations in compliance with the City's General Plan Circulation Element:

Cole Boulevard / Bowker Road*

- Install a traffic signal
- Provide permitted left-turn phasing on all intersection approaches

*Note: Bridges over canals are located on the north leg and east leg of the intersection, and providing dedicated left-turn lane or right-turn lanes on the southbound or westbound approaches of the intersection would require widening or replacing these bridges. The analysis results show that the intersection is anticipated to operate at an acceptable LOS A during the peak hours with the installation of a traffic signal based on the existing lane configuration. Therefore, dedicated turn lanes on the southbound and westbound approaches of the intersection are not recommended.

Birch Street (SR-98) / David Navarro Avenue

- Install a traffic signal
- Provide protected left-turn phasing on the eastbound and westbound Birch Street (SR-98) approaches
- Provide permitted left-turn phasing on the northbound and southbound David Navarro Avenue approaches

SR-98 / Bowker Road

- Install a traffic signal
- Construct a dedicated southbound right-turn lane
- Provide protected left-turn phasing on the eastbound and westbound SR-98 approaches
- Provide permitted left-turn phasing on the northbound and southbound Bowker Road approaches
- Provide a southbound right-turn overlap phase

The recommended traffic signals at the Birch Street (SR-98) / David Navarro Avenue and SR-98 / Bowker Road intersections will require coordination with Caltrans, and these intersections may require an Intersection Safety and Operational Assessment Process (ISOAP) to evaluate potential alternatives to traffic signals.

Exhibit 8 illustrates the Horizon Year 2050 With Proposed Rezoning recommended intersection improvements as described above within the study area.

8.1 Intersection LOS With Recommended Improvements

Table 10 displays the operational analysis results for the study intersections with the recommended improvements under Horizon Year 2050 With Proposed Rezoning Conditions. **Appendix C** contains the Horizon Year 2050 With Proposed Rezoning With Recommended Improvements intersection analysis worksheets.

As shown in the table, the recommended improvements are anticipated to improve intersection operations to an acceptable LOS D or better during the peak hours.

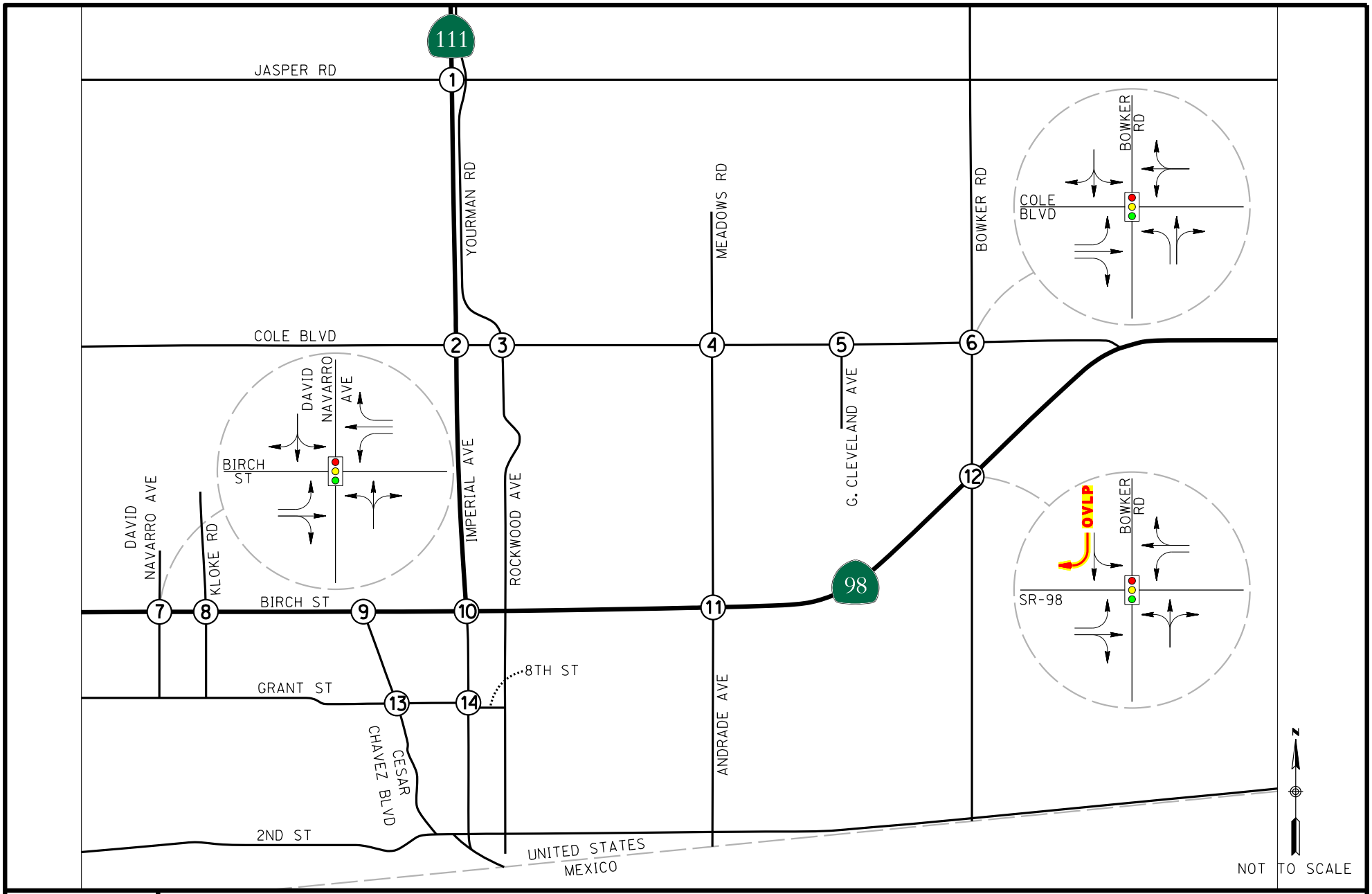


EXHIBIT 8

HORIZON YEAR 2050 WITH PROPOSED REZONING RECOMMENDED IMPORVEMENTS

CALEXICO HEU TRANSPORTATION STUDY

LEGEND

- =STUDY INTERSECTION
- =RECOMMENDED TRAFFIC SIGNAL
- OVLP =RIGHT-TURN OVERLAP
- =EXISTING LANE CONFIGURATION
- =RECOMMENDED LANE CONFIGURATION

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Table 10
Horizon Year 2050 With Proposed Rezoning
Intersection Operations With Recommended Improvements

#	Intersection	Year 2050 With Proposed Rezoning Without Improvements						Year 2050 With Proposed Rezoning With Improvements					
		Control	Dir.	AM Peak Hour		PM Peak Hour		Control	Dir.	AM Peak Hour		PM Peak Hour	
				Delay [1]	LOS [2]	Delay [1]	LOS [2]			Delay [1]	LOS [2]	Delay [1]	LOS [2]
6.	Cole Blvd / Bowker Rd	(AWSC)	Overall	20.0	C	**40.0**	**E**	Signal	Overall	8.0	A	9.1	A
7.	Birch St (SR- 98) / David Navarro Ave	(AWSC)	Overall	**41.2**	**E**	**124.3**	**F**	Signal	Overall	12.7	B	15.7	B
12.	SR- 98 / Bowker Rd	(TWSC)	SB-LR	**481.9**	**F**	28.3	D	Signal	Overall	25.2	C	14.4	B

Footnotes:
Results calculated utilizing the methodologies described in Chapters 19, 20, and 21 in the 7th edition of the HCM.
Deficient LOS indicated in **bold** and shaded in gray, which is LOS D or worse for City-controlled intersections, and is LOS E or worse for intersections along SR-111 and SR-98.
1) Worst movement direction (if applicable)
2) Delay is measured in seconds per vehicle. Delays are reported as the average control delay for the entire intersection at signalized and all-way stop controlled intersections, and the worst movement delay is reported for one/two-way-stop controlled intersections.
3) Level of Service
(AWSC)=All-Way Stop Controlled, (TWSC)=Two-Way Stop Controlled, (OWSC)=One-Way Stop Controlled
NB=Northbound, WB=Westbound, etc.
L=Left-turn movement, R= Right-turn movement, LT=Left-Through lane, LTR=Left-Through-Right lane, etc.

8.2 Traffic Signal Warrant Analysis

A traffic signal warrant analysis was conducted for the following three (3) unsignalized study intersections to determine if the recommended installation of traffic signals at these intersections is warranted under Horizon Year 2050 With Proposed Rezoning Conditions:

- Cole Boulevard / Bowker Road (all-way stop controlled)
- Birch Street (SR- 98) / David Navarro Avenue (all-way stop controlled)
- SR- 98 / Bowker Road (two-way stop controlled)

The signal warrant analysis was also conducted for the above-listed study intersections under Existing Conditions to determine if installation of a traffic signal is currently warranted at any of these intersections.

The signal warrant analysis was performed in accordance with the *California Manual on Uniform Traffic Devices* (CA-MUTCD 2026, January 18, 2026) published by the Federal Highway Administration (FHWA). The signal warrants, if satisfied, provide justification for the installation of a traffic signal, but would not require the installation of a signal. The following individual signal warrants from Chapter 4C (Traffic Control Signal Needs Studies) of the CA-MUTCD were performed in this study:

- Warrant 2: Four-Hour Vehicular Volume
- Warrant 3: Peak Hour (Part A and Part B)

The Four-Hour Vehicular Volume Warrant (Warrant 2) is satisfied when for any four hours of an average day, the plotted points representing vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in either CA-MUTCD Figure 4C-1 or Figure 4C-2 for the existing combination of approach lanes. Satisfaction of either Part A or Part B satisfies the Peak Hour Warrant.

The Existing Conditions and Horizon Year 2050 With Proposed Rezoning Conditions AM and PM peak hour intersection volumes were used to conduct the Peak Hour Warrant (Warrant 3), and the AM and PM peak hour volumes were duplicated over 2-hour periods to conduct the Four-Hour Vehicular Volume Warrant (Warrant 2).

The findings of the traffic signal warrant analysis are summarized in **Table 11**. **Appendix F** contains the signal warrant analysis worksheets.

As shown in the table, the Four-Hour Vehicular Volume (Warrant 2) is satisfied at the SR- 98 / Bowker Road intersection under Existing Conditions, and under Horizon Year 2050 With Proposed Rezoning Conditions, the Four-Hour Vehicular Volume (Warrant 2) is satisfied at all three (3) study intersections.

Table 11 also shows that the Peak Hour Warrant (Warrant 3) is satisfied at the SR- 98 / Bowker Road intersection under Existing Conditions, and under Horizon Year 2050 With Proposed Rezoning Conditions, the Peak Hour Warrant (Warrant 3) is satisfied at the Birch Street (SR- 98) / David Navarro Avenue and SR- 98 / Bowker Road intersections.

Table 11
Signal Warrant Analysis

Intersection	Warrant 2 (Four-Hour Vehicular Volume) Satisfied?	Warrant 3 (Peak Hour)	
		Part A Satisfied?	Part B Satisfied?
Existing Conditions			
Cole Blvd / Bowker Rd	NO	NO	NO
Birch St (SR- 98) / David Navarro Ave	NO	NO	NO
SR- 98 / Bowker Rd	**YES**	**YES**	**YES**
Horizon Year 2050 With Proposed Rezoning			
Cole Blvd / Bowker Rd	**YES**	NO	NO
Birch St (SR- 98) / David Navarro Ave	**YES**	**YES**	NO
SR- 98 / Bowker Rd	**YES**	**YES**	**YES**

Source - California Manual on Uniform Traffic Control Devices (CA-MUTCD 2026, January 18, 2026).
YES = warrant satisfied
NO = warrant not satisfied

9.0 REFERENCES

1. State of California Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018.

2. City of Calexico, Traffic Study Requirements for City of Calexico (Appendix K of the City's Design Procedures and Improvement Standards, January 1, 2013.

3. City of Calexico, Draft 2015 General Plan Update, September 2015.

4. Institute of Transportation Engineers, Trip Generation, 12th Edition, 2025.

5. San Diego Association of Governments (SANDAG), (Not So) Brief Guide of Vehicular Traffic Generation Rates in the San Diego Region, April 2002.

6. California Air Pollution Control Officers Association (CAPCOA), Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, December 2021.

7. Federal Highway Administration (FHWA), California Manual on Uniform Traffic Devices (CA-MUTCD 2026), January 18, 2026.

8. Trafficware LLC, Synchro, Version 12, 2023.

9. Transportation Research Board, Highway Capacity Manual 7th Edition, 2022.

10. Imperial County Transportation Commission, Regional Active Transportation Plan, February 2022.

APPENDIX A

CAPCOA VMT REDUCTION MEASURE METHDOLOGIES AND CALCULATION WORKSHEETS

T-1. Increase Residential Density



GHG Mitigation Potential



Up to 30.0% of GHG emissions from project VMT in the study area

Co-Benefits (icon key on pg. 34)



Climate Resilience

Increased density can put people closer to resources they may need to access during an extreme weather event. Increased density can also shorten commutes, decreasing the amount of time people are on the road and exposed to hazards such as extreme heat or flooding.

Health and Equity Considerations

Neighborhoods should include different types of housing to support a variety of household sizes, age ranges, and incomes.

Measure Description

This measure accounts for the VMT reduction achieved by a project that is designed with a higher density of dwelling units (du) compared to the average residential density in the U.S. Increased densities affect the distance people travel and provide greater options for the mode of travel they choose. Increasing residential density results in shorter and fewer trips by single-occupancy vehicles and thus a reduction in GHG emissions. This measure is best quantified when applied to larger developments and developments where the density is somewhat similar to the surrounding area due to the underlying research being founded in data from the neighborhood level.

Subsector

Land Use

Locational Context

Urban, suburban

Scale of Application

Project/Site

Implementation Requirements

This measure is most accurately quantified when applied to larger developments and/or developments where the density is somewhat similar to the surrounding neighborhood.

Cost Considerations

Depending on the location, increasing residential density may increase housing and development costs. However, the costs of providing public services, such as health care, education, policing, and transit, are generally lower in more dense areas where things are closer together. Infrastructure that provides drinking water and electricity also operates more efficiently when the service and transmission area is reduced. Local governments may provide approval streamlining benefits or financial incentives for infill and high-density residential projects.

Expanded Mitigation Options

When paired with Measure T-2, *Increase Job Density*, the cumulative densification from these measures can result in a highly walkable and bikeable area, yielding increased co-benefits in VMT reductions, improved public health, and social equity.

GHG Reduction Formula

$$A = \frac{B - C}{C} \times D$$

GHG Calculation Variables

ID	Variable	Value	Unit	Source
Output				
A	Percent reduction in GHG emissions from project VMT in study area	0–30.0	%	calculated
User Inputs				
B	Residential density of project development	[ ]	du/acre	user input
Constants, Assumptions, and Available Defaults				
C	Residential density of typical development	9.1	du/acre	Ewing et al. 2007
D	Elasticity of VMT with respect to residential density	-0.22	unitless	Stevens 2016

Further explanation of key variables:

- (C) – The residential density of typical development is based on the blended average density of residential development in the U.S. forecasted for 2025. This estimate includes apartments, condominiums, and townhouses, as well as detached single-family housing on both small and large lots. An acre in this context is defined as an acre of developed land, not including streets, school sites, parks, and other undevelopable land. If reductions are being calculated from a specific baseline derived from a travel demand forecasting model, the residential density of the relevant transportation analysis zone should be used instead of the value for a typical development.
- (D) – A meta-regression analysis of five studies that controlled for self-selection found that a 0.22 percent decrease in VMT occurs for every 1 percent increase in residential density (Stevens 2016).

GHG Calculation Caps or Maximums

Measure Maximum

(A_{max}) The percent reduction in GHG emissions (A) is capped at 30 percent. The purpose for the 30 percent cap is to limit the influence of any single built environmental factor (such as density). Projects that implement multiple land use strategies (e.g., density, design, diversity) will show more of a reduction than relying on improvements from a single built environment factor.

Subsector Maximum

($\sum A_{max_{T\text{-}1 \text{ through } T\text{-}4}} \leq 65\%$) This measure is in the Land Use subsector. This subcategory includes Measures T-1 through T-4. The VMT reduction from the combined implementation of all measures within this subsector is capped at 65 percent.

Example GHG Reduction Quantification

The user reduces VMT by increasing the residential density of the project study area. In this example, the project's residential density would be 15 du per acre (B), which would reduce GHG emissions from project VMT by 14.2 percent.

$$A = \frac{15 \frac{du}{ac} - 9.1 \frac{du}{ac}}{9.1 \frac{du}{ac}} \times -0.22 = -14.2\%$$

Quantified Co-Benefits

Improved Local Air Quality

The percent reduction in GHG emissions (A) would be the same as the percent reduction in NO_X, CO, NO_2, SO_2, and PM. Reductions in ROG emissions can be calculated by multiplying the percent reduction in GHG emissions (A) by an adjustment factor of 87 percent. See *Adjusting VMT Reductions to Emission Reductions* above for further discussion.

Energy and Fuel Savings

The percent reduction in vehicle fuel consumption would be the same as the percent reduction in GHG emissions (A).

VMT Reductions

The percent reduction in VMT would be the same as the percent reduction in GHG emissions (A).

Sources

- Ewing, R., K. Bartholomew, S. Winkelman, J. Walters, and D. Chen. 2007. *Growing Cooler: The Evidence on Urban Development and Climate Change*. October. Available: https://www.nrdc.org/sites/default/files/cit_07092401a.pdf. Accessed: January 2021.
- Stevens, M. 2016. Does Compact Development Make People Drive Less? *Journal of the American Planning Association* 83:1(7–18), DOI: 10.1080/01944363.2016.1240044. November. Available: https://www.researchgate.net/publication/309890412_Does_Compact_Development_Make_People_Drive_Less. Accessed: January 2021.

T-18. Provide Pedestrian Network Improvement



GHG Mitigation Potential



Up to 6.4% of GHG emissions from vehicle travel in the plan/community

Co-Benefits (icon key on pg. 34)



Climate Resilience

Improving pedestrian networks increases accessibility of outdoor spaces, which can provide health benefits and thus improve community resilience. This can also improve connectivity between residents and resources that may be needed in an extreme weather event.

Health and Equity Considerations

Ensure that the improvements also include accessibility features to allow for people of all abilities to use the network safely and conveniently. Ensure that sidewalks connect to nearby community assets, such as schools, retail, and healthcare.

Measure Description

This measure will increase the sidewalk coverage to improve pedestrian access. Providing sidewalks and an enhanced pedestrian network encourages people to walk instead of drive. This mode shift results in a reduction in VMT and GHG emissions.

Subsector

Neighborhood Design

Locational Context

Urban, suburban, rural

Scale of Application

Plan/Community

Implementation Requirements

The GHG reduction of this measure is based on the VMT reduction associated with expansion of sidewalk coverage expansion, which includes not only building of new sidewalks but also improving degraded or substandard sidewalk (e.g., damaged from street tree roots). However, pedestrian network enhancements with non-quantifiable GHG reductions are encouraged to be implemented, as discussed under *Expanded Mitigation Options*.

Cost Considerations

Depending on the improvement, capital and infrastructure costs may be high. However, improvements to the pedestrian network will increase pedestrian activity, which can increase businesses patronage and provide a local economic benefit. The local municipality may achieve cost savings through a reduction of cars on the road leading to lower infrastructure and roadway maintenance costs.

Expanded Mitigation Options

When improving sidewalks, a best practice is to ensure they are contiguous and link externally with existing and planned pedestrian facilities. Barriers to pedestrian access and interconnectivity, such as walls, landscaping buffers, slopes, and unprotected crossings should be minimized. Other best practice features could include high-visibility crosswalks, pedestrian hybrid beacons, and other pedestrian signals, mid-block crossing walks, pedestrian refuge islands, speed tables, bulb-outs (curb extensions), curb ramps, signage, pavement markings, pedestrian-only connections and districts, landscaping, and other improvements to pedestrian safety (see Measure T-35, *Provide Traffic Calming Measures*).

GHG Reduction Formula

$$A = \left(\frac{C}{B} - 1\right) \times D$$

GHG Calculation Variables

ID	Variable	Value	Unit	Source
Output				
A	Percent reduction in GHG emissions from household vehicle travel in plan/community	0–6.4	%	calculated
User Inputs				
B	Existing sidewalk length in study area	[ ]	miles	user input
C	Sidewalk length in study area with measure	[ ]	miles	user input
Constants, Assumptions, and Available Defaults				
D	Elasticity of household VMT with respect to the ratio of sidewalks-to-streets	-0.05	unitless	Frank et al. 2011

Further explanation of key variables:

- (B and C) – Sidewalk length should be measured on both sides of the street. For example, if one 0.5-mile-long street has full sidewalk coverage, the sidewalk length would be 1.0 mile. If there is only sidewalk on one side of the street, the sidewalk length would be 0.5 mile. The recommended study area is 0.6 mile around the pedestrian network improvement. This represents a 6- to 10-minute walking time.
- (D) – A study found that a 0.05 percent decrease in household vehicle travel occurs for every 1 percent increase in the sidewalk-to-street ratio (Frank et al. 2011; Handy et al. 2014).

GHG Calculation Caps or Maximums

Measure Maximum

(A_{max}) The percent reduction in GHG emissions (A) is capped at 3.4 percent, which is based on the following assumptions:

- 35.2 percent of vehicle trips are short trips (2 mile or less, average of 1.29 miles) and thus could easily shift to walking (FHWA 2019).
- 64.8 percent of vehicle trips are longer trips that are unlikely to shift to walking (2 miles or more, average of 10.93 miles) (FHWA 2019).
- So $A_{max} = \frac{35.2\% \times 1.29 \text{ miles}}{64.8\% \times 10.93 \text{ miles}} = 6.4\%$

Subsector Maximum

($\sum A_{max_{T\text{-}18 \text{ through } T\text{-}22\text{-}C}} \leq 10\%$) This measure is in the Neighborhood Design subsector. This subcategory includes Measures T-18 through T-22-C. The VMT reduction from the combined implementation of all measures within this subsector is capped at 10 percent.

Example GHG Reduction Quantification

The user reduces household VMT by improving the pedestrian network in the study area. In this example, the existing sidewalk length (B) is 9 miles, and the sidewalk length with the measure (C) would be 10 miles. With these conditions, the user would reduce GHG emissions from household VMT within the study area by 0.6 percent.

$$A = \left(\frac{10 \text{ miles}}{9 \text{ miles}} - 1\right) \times -0.05 = -0.6\%$$

Quantified Co-Benefits

Improved Local Air Quality

The percent reduction in GHG emissions (A) would be the same as the percent reduction in NO_X, CO, NO_2, SO_2, and PM. Reductions in ROG emissions can be calculated by multiplying the percent reduction in GHG emissions (A) by an adjustment factor of 87 percent. See *Adjusting VMT Reductions to Emission Reductions* above for further discussion.

Energy and Fuel Savings

The percent reduction in vehicle fuel consumption would be the same as the percent reduction in GHG emissions (A).

VMT Reductions

The percent reduction in household VMT would be the same as the percent reduction in GHG emissions (A).

Improved Public Health

Users are directed to the Integrated Transport and Health Impact Model (ITHIM) (CARB et al. 2020). The ITHIM can quantify the annual change in health outcomes associated with active transportation, including deaths, years of life lost, years of living with disability, and incidence of community and individual disease.

Sources

- California Air Resources Board (CARB), California Department of Public Health (CDPH), and Nicholas Linesch Legacy Fund. 2020. Integrated Transport and Health Impact Model. Available: https://skylab.cdph.ca.gov/HealthyMobilityOptionTool-ITHIM/#Home. Accessed: September 17, 2021.
- Federal Highway Administration (FHWA). 2019. *2017 National Household Travel Survey Popular Vehicle Trip Statistics.* Available: https://nhts.ornl.gov/vehicle-trips. Accessed: January 2021.

T-20. Expand Bikeway Network



GHG Mitigation Potential

0.5%

Up to 0.5% of GHG emissions from vehicle travel in the plan/community

Co-Benefits (icon key on pg. 34)

Climate Resilience

Expanding bikeway networks can incentivize more bicycle use and decrease vehicle use, which have health benefits and can thus improve community resilience. This can also improve connectivity between residents and resources that may be needed in an extreme weather event.

Health and Equity Considerations

Prioritize low-income and underserved areas and communities with lower rates of vehicle ownership or fewer transit options. Make sure that destinations visited by low-income or underserved communities are served by the network.

Measure Description

This measure will increase the length of a city or community bikeway network. A bicycle network is an interconnected system of bike lanes, bike paths, bike routes, and cycle tracks. Providing bicycle infrastructure with markings and signage on appropriately sized roads with vehicle traffic traveling at safe speeds helps to improve biking conditions (e.g., safety and convenience). In addition, expanded bikeway networks can increase access to and from transit hubs, thereby expanding the "catchment area" of the transit stop or station and increasing ridership. This encourages a mode shift from vehicles to bicycles, displacing VMT and thus reducing GHG emissions. When expanding a bicycle network, a best practice is to consider bike lane width standards from local agencies, state agencies, or the National Association of City Transportation Officials' *Urban Bikeway Design Guide*.

Subsector

Neighborhood Design

Locational Context

Urban, suburban

Scale of Application

Plan/Community

Implementation Requirements

The bikeway network must consist of either Class I, II, or IV infrastructure.

Cost Considerations

Capital and infrastructure costs for expanding the bikeway network may be high. Construction of these facilities may also increase vehicle traffic, leading to more congestion and temporarily longer trip times for motorist. However, the local municipality may achieve cost savings through a reduction of cars on the road leading to lower infrastructure and roadway maintenance costs.

Expanded Mitigation Options

As networks expand, ensure safe, secure, and weather-protected bicycle parking facilities at origins and destinations. Also, implement alongside T-22-A, T-22-B, and/or T-22-C to ensure that micromobility options can ride safely along bicycle lane facilities and not have to ride along pedestrian infrastructure, which is a risk to pedestrian safety.

GHG Reduction Formula

$$A = -1 \times \frac{\left(\frac{C - B}{B}\right) \times D \times F \times H}{E \times G}$$

GHG Calculation Variables

ID	Variable	Value	Unit	Source
Output				
A	Percent reduction in GHG emissions from employee commute vehicle travel in plan/community	0–0.5	%	calculated
User Inputs				
B	Existing bikeway miles in plan/community	[ ]	miles	user input
C	Bikeway miles in plan/community with measure	[ ]	miles	user input
Constants, Assumptions, and Available Defaults				
D	Bicycle mode share in plan/community	Table T-20.1	%	FHWA 2017
E	Vehicle mode share in plan/community	Table T-3.1	%	FHWA 2017
F	Average one-way bicycle trip length in plan/community	Table T-10.1	miles per trip	FHWA 2017
G	Average one-way vehicle trip length in plan/community	Table T-10.1	miles per trip	FHWA 2017
H	Elasticity of bike commuters with respect to bikeway miles per 10,000 population	0.25	unitless	Pucher & Buehler 2011

Further explanation of key variables:

- (B) – The existing bikeway miles in a plan/community should be calculated by measuring the distance of all Class I, II, III, and IV bikeways within the plan/community. This information can sometimes be found in a city's bicycle master plan, if a plan has been prepared and is up to date.
- (D, E, F, and G) – Ideally, the user will calculate bicycle and auto mode share and trip length for a plan/community at the city scale. Potential data sources include the California Household Travel Survey (preferred) or local survey efforts. If the user is not able to provide a project-specific value using one of these data sources, they have the option to input the mode shares and trip lengths for bicycles and vehicles for one of the six most populated CBSAs in California, as presented in Table T-3.1, T-10.2, and T-20.1 in Appendix C. Trip lengths are likely to be longer for areas not covered by the listed CBSAs, which represent the denser areas of the state. Similarly, it is likely for areas outside of the area covered by the listed CBSAs to have vehicle mode shares higher and bicycle mode shares lower than the values provided in the tables.
- (H) – A multivariate analysis of the impacts of bike lanes on cycling levels in the 100 largest U.S. cities found that a 0.25 percent increase in commute cycling occurs for every 1 percent increase in bike lane distance (Pucher & Buehler 2011).

GHG Calculation Caps or Maximums

Measure Maximum

(A_{max}) For projects that use CBSA data from Tables T-3.1, T-10.2, and T-20.1 in Appendix C, the maximum percent reduction in GHG emissions (A) is 0.5 percent. This is based on a project within the CBSA of San Jose-Sunnyvale-Santa Clara that has no existing bike lane infrastructure. This maximum scenario is presented in the below example quantification.

($\left(\frac{C-B}{B}\right)_{max}$) The maximum percent increase in bike lane miles in the plan/community is conservatively capped at 1000 percent. If there is no existing bike lane infrastructure in the plan/community, (B) should be set to (1/11×C), resulting in a percentage change of 1000 percent.

Subsector Maximum

($\sum A_{max_{T\text{-}18 \text{ through } T\text{-}22\text{-}C}} \leq 10\%$) This measure is in the Neighborhood Design subsector. This subcategory includes Measures T-18 through T-22-C. The VMT reduction from the combined implementation of all measures within this subsector is capped at 10 percent.

Example GHG Reduction Quantification

The user reduces employee commute VMT by increasing the length of a bicycle network within a plan/community, which displaces commute vehicle trips with bicycle trips. In this example, the existing bikeway length in the plan/community (B) is 0 miles and the length with the measure (C) is 11 miles. The project is within the San Jose-Sunnyvale-Santa Clara CBSA, yielding the following inputs from Tables T-3.1, T-10.2, and T-20.1 in Appendix C.

- Bicycle mode share (D) = 0.79 percent.
- Vehicle mode share (E) = 91.32 percent.
- Average one-way bicycle trip length (F) = 2.8 miles.
- Average one-way vehicle trip length (G) = 11.5 miles.

The user would displace GHG emissions from project study area employee commute VMT by 0.5 percent.

$$A = -1 \times \left(\frac{(1000\%) \times 0.79\% \times 2.8 \text{ miles} \times 0.25}{91.32\% \times 11.5 \text{ miles}} \right) = -0.5\%$$

Quantified Co-Benefits

Improved Local Air Quality

The percent reduction in GHG emissions (A) would be the same as the percent reduction in NO_X, CO, NO_2, SO_2, and PM. Reductions in ROG emissions can be calculated by multiplying the percent reduction in GHG emissions (A) by an

adjustment factor of 87 percent. See *Adjusting VMT Reductions to Emission Reductions* above for further discussion.

Energy and Fuel Savings

The percent reduction in vehicle fuel consumption would be the same as the percent reduction in GHG emissions (A).

VMT Reductions

The percent reduction in employee commute VMT would be the same as the percent reduction in GHG emissions (A).

Improved Public Health

Users are directed to the ITHIM (CARB et al. 2020). The ITHIM can quantify the annual change in health outcomes associated with active transportation, including deaths, years of life lost, years of living with disability, and incidence of community and individual disease.

Sources

- California Air Resources Board (CARB), California Department of Public Health (CDPH), and Nicholas Linesch Legacy Fund. 2020. Integrated Transport and Health Impact Model. Available: https://skylab.cdph.ca.gov/HealthyMobilityOptionTool-ITHIM/#Home. Accessed: September 17, 2021.
- Federal Highway Administration (FHWA). 2017. *National Household Travel Survey – 2017 Table Designer*. Travel Day PMT by TRPTRANS by HH_CBSA. Available: https://nhts.ornl.gov/. Accessed: January 2021.
- Pucher, J., and Buehler, R. 2011. *Analysis of Bicycling Trends and Policies in Large North American Cities: Lessons for New York*. March. Available: http://www.utrc2.org/sites/default/files/pubs/analysis-bike-final_0.pdf. Accessed: January 2021.

RICK

Proposed Project Feature VMT Reduction Measures

Measure T-1: Increase Residential Density

A= ((B-C) / C) * D

	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10
A = Percent VMT reduction										
B = Residential density of project development (du/acre)	30	20	20	12	20	30	30	30	5	5
C = Residential density of typical development (9.1 du/acre)	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
D = Elasticity of VMT with residential density (-0.22)	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22
VMT Reduction (A) =	**-50.5%**	**-26.4%**	**-26.4%**	**-7.0%**	**-26.4%**	**-50.5%**	**-50.5%**	**-50.5%**	**N/A**	**N/A**
VMT Reduction Cap (A) =	**-30%**					**-30%**	**-30%**	**-30%**		

	Site 11	Site 12	Site 13	Site 14	Site 15	Site 16	Site 17	Site 18	Site 25	Site 26
A = Percent VMT reduction										
B = Residential density of project development (du/acre)	5	5	30	20	5	5	30	5	5	12
C = Residential density of typical development (9.1 du/acre)	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
D = Elasticity of VMT with residential density (-0.22)	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22
VMT Reduction (A) =	**N/A**	**N/A**	**-50.5%**	**-26.4%**	**N/A**	**N/A**	**-50.5%**	**N/A**	**N/A**	**-7.0%**
VMT Reduction Cap (A) =			**-30%**				**-30%**			

	Site 27	Site 28	Site 29	Site 30	Site 50	Site 51	Site 52	Site 53
A = Percent VMT reduction								
B = Residential density of project development (du/acre)	30	30	5	5	30	30	30	30
C = Residential density of typical development (9.1 du/acre)	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
D = Elasticity of VMT with residential density (-0.22)	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22
VMT Reduction (A) =	**-50.5%**	**-50.5%**	**N/A**	**N/A**	**-50.5%**	**-50.5%**	**-50.5%**	**-50.5%**
VMT Reduction Cap (A) =	**-30%**	**-30%**			**-30%**	**-30%**	**-30%**	**-30%**

RICK

Proposed Project Feature VMT Reduction Measures: Rezone Sites 1-3, 15-18

Measure T-18: Extend Pedestrian Network

A=((C/B)-1)*D

A = Percent VMT reduction
B = Existing sidewalk length (miles)
C = Existing + Project sidewalk length (miles)
D = Elasticity of household VMT (-0.05)

West Side Study Area (0.6 Mile Radius) Existing Sidewalk Length (Sum of Both Sides)

Jasper Road west of SR-111 =	0 feet	0 miles
Towncenter Pkwy north of Robinson Ave =	1,280 feet	0.24 miles
Sunset Blvd from Canal to Robinson Ave =	2,215 feet	0.42 miles
Sunset Blvd south of Robinson Ave =	305 feet	0.06 miles
Robinson Ave west of Sunset Blvd	540 feet	0.10 miles
Robinson Ave from Sunset Blvd to Scaroni Ave =	4,835 feet	0.92 miles
Eucalyptus Blvd south of Robinson Ave =	710 feet	0.13 miles
Portico Blvd south of Robinson Ave =	840 feet	0.16 miles
W Van de Graff Ave south of Robinson Ave =	325 feet	0.06 miles
Scaroni Ave south of Robinson Ave =	120 feet	0.02 miles
Yourman Road south of Jasper Road =	850 feet	0.16 miles
West Side Study Area Existing Total =	**12,020 feet**	**2.28 miles**

West Side (Sites 1-3) Project Sidewalk Length (One Side Only for Project)

Jasper Road west of SR-111 (north boundary of Sites 1-3) =	1,123 feet	0.21 miles
New Road from Jasper to Canal (west boundary of Sites 1-3)=	2,430 feet	0.46 miles
New Road along canal (south boundary of Sites 1-3)=	1,900 feet	0.36 miles
New Road from Jasper to Canal (east boundary of Sites 1-3)=	2,500 feet	0.47 miles
West Side Project Total =	**7,953 feet**	**1.51 miles**
Existing Plus West Side Project Total =	**19,973 feet**	**3.78 miles**

West Side (Sites 1-3) VMT Reduction (A) = -3.3%

East Side Study Area (0.6 Mile Radius) Existing Sidewalk Length (Sum of Both Sides)

Jasper Road east of SR-111 =	0 feet	0 miles
Meadows Road south of Jasper Road =	0 feet	0 miles
Yourman Road (along Canal)	0 feet	0 miles
Existing Housing Tract Off Meadows, North of Cole Blvd =	16,695 feet	3.16 miles
East Side Study Area Existing Total =	**16,695 feet**	**3.16 miles**

East Side (Sites 15-18) Project Sidewalk Length (One Side Only for Project)

Jasper Road east of SR-111 (north boundary of Sites 15-18) =	2,475 feet	0.47 miles
New Road from Jasper Road to Canal (west boundary of Sites 15-18) =	2,570 feet	0.49 miles
New Road along canal east of SR-111 (south boundary of Sites 15-18) =	2,640 feet	0.50 miles
Meadows Road from Jasper to Canal (east boundary of Sites 15-18) =	2,564 feet	0.49 miles
East Side Project Total =	**10,249 feet**	**1.94 miles**
Existing Plus East Side Project Total =	**26,944 feet**	**5.10 miles**

East Side (Sites 15-18) VMT Reduction (A) = -3.1%

Proposed Project Feature VMT Reduction Measures: Rezone Sites 4-14

Measure T-18: Extend Pedestrian Network

A=((C/B)-1)*D

A = Percent VMT reduction
B = Existing sidewalk length (miles)
C = Existing + Project sidewalk length (miles)
D = Elasticity of household VMT (-0.05)

Sites 4-8 Study Area (0.6 Mile Radius) Existing Sidewalk Length (Sum of Both Sides)

Towncenter Pkwy north of Robinson Ave =	355 feet	0.07 miles
Sunset Blvd from Canal to Robinson Ave =	2,215 feet	0.42 miles
Sunset Blvd from Robinson Ave to Cole Blvd =	2,295 feet	0.43 miles
Robinson Ave from Towncenter Pkwy to Sunset Blvd	715 feet	0.14 miles
Robinson Ave from Sunset Blvd to Scaroni Ave =	4,835 feet	0.92 miles
Eucalyptus Blvd from Robinson Ave to Cole Blvd =	2,620 feet	0.50 miles
Portico Blvd from Robinson Ave to Cole Blvd =	2,620 feet	0.50 miles
Portico Blvd from Cole Blvd to Weakley St =	1,490 feet	0.28 miles
Portico Blvd south of Weakley St =	800 feet	0.15 miles
W Van de Graff Ave from Robinson Ave to Cole Blvd =	700 feet	0.13 miles
Scaroni Ave from Robinson Ave to Cole Blvd =	1,335 feet	0.25 miles
Scaroni Ave south of Cole Blvd =	425 feet	0.08 miles
Weakley St west of Portico Blvd =	1,675 feet	0.32 miles
Weakley St east of Portico Blvd =	1,200 feet	0.23 miles
Yourman Road from Canal to Cole Blvd =	3,690 feet	0.70 miles
Cole Blvd from Towncenter Pkwy to Sunset Blvd =	650 feet	0.12 miles
Cole Blvd from Sunset Blvd to Scaroni Ave =	4,240 feet	0.80 miles
Cole Blvd from Hwy 111 to Yourman Rd =	1,595 feet	0.30 miles
Cole Blvd from Yourman Rd to ML King St =	1,400 feet	0.27 miles
Imperial Ave E south of Cole Blvd =	1,370 feet	0.26 miles
Rockwood Ave from Cole Blvd to Ave Campillo =	1,055 feet	0.20 miles
Rockwood Ave south of Ave Campillo =	1,230 feet	0.23 miles
Ave Campillo from Imperial Ave E to Rockwood Ave =	1,410 feet	0.27 miles
Ave Campillo east of Rockwood Ave =	1,420 feet	0.27 miles
JFK St east of Imperial Ave E =	1,115 feet	0.21 miles
Sites 4-8 Study Area Existing Total =	**42,455 feet**	**8.04 miles**

Sites 4-8 Project Sidewalk Length (One Side Only for Project)

Canal from Portico to Scaroni (north boundary of Sites 4-5) =	1,330 feet	0.25 miles
Portico from Canal to Robinson (west boundary of Sites 4-5) =	1,025 feet	0.19 miles
Scaroni from Canal to Robinson (east boundary of Sites 4-5 =	1,025 feet	0.19 miles
W Van de Graff Ave from Robinson Ave to Cole Blvd =	1,465 feet	0.28 miles
North Boundary of Sites 7-8 =	300 feet	0.06 miles
Sites 4-8 Project Total =	**5,145 feet**	**0.97 miles**
Existing Plus Sites 4-8 Project Total =	**47,600 feet**	**9.02 miles**

Sites 4-8 VMT Reduction (A) = -0.6%

Sites 9-14 Study Area (0.6 Mile Radius) Existing Sidewalk Length (Sum of Both Sides)

Yourman Road from Canal to Cole Blvd =	3,690 feet	0.70 miles
Cole Blvd from Hwy 111 to Yourman Rd =	1,520 feet	0.29 miles
Cole Blvd from Yourman Rd to ML King St =	1,515 feet	0.29 miles
Cole Blvd from ML King St to Rancho Frontera =	1,460 feet	0.28 miles
Cole Blvd from Rancho Frontera to just east of Meadows =	2,165 feet	0.41 miles
Existing Housing Tract Off Meadows, North of Cole Blvd =	21,920 feet	4.15 miles
Imperial Ave E south of Cole Blvd =	200 feet	0.04 miles
Rockwood Ave from Cole Blvd to Ave Campillo =	865 feet	0.16 miles
Rockwood Ave south of Ave Campillo =	1,480 feet	0.28 miles
Ave Campillo west of Rockwood Ave =	805 feet	0.15 miles
Ave Campillo from Rockwood Ave to ML King St =	2,410 feet	0.46 miles
ML King St from Cole Blvd to Ave Campillo =	925 feet	0.18 miles
ML King St south of Ave Campillo =	2,680 feet	0.51 miles
All Other Streets in Study Area =	29,730 feet	5.63 miles
Sites 9-14 Study Area Existing Total =	**71,365 feet**	**13.52 miles**

Sites 9-14 Project Sidewalk Length (One or Both Sides for Projects)

Cole Blvd from Yourman Rd Meadows Rd =	3,885 feet	0.74 miles
Meadows Rd north of Cole Blvd =	130 feet	0.02 miles
La Jolla Palms Blvd north of Cole Blvd =	1,935 feet	0.37 miles
Del Norte St =	945 feet	0.18 miles
New Road btwn Sites 9-12 =	5,140 feet	0.97 miles
New Road on West Boundary of Site 9 =	5,060 feet	0.96 miles
New Road on North Boundary of Sites 13-14 =	5,200 feet	0.98 miles
Extension of SPUD Moreno St thru Sites 9-12 =	4,950 feet	0.94 miles
Along Canal (north boundary of Sites 9-12) =	3,900 feet	0.74 miles
Sites 9-14 Project Total =	**31,145 feet**	**5.90 miles**
Existing Plus Sites 9-14 Project Total =	**102,510 feet**	**19.41 miles**

Sites 9-14 VMT Reduction (A) = -2.2%

Proposed Project Feature VMT Reduction Measures: Rezone Sites 25-30

Measure T-18: Extend Pedestrian Network

A=((C/B)-1)*D

A = Percent VMT reduction
B = Existing sidewalk length (miles)
C = Existing + Project sidewalk length (miles)
D = Elasticity of household VMT (-0.05)

Site 25 Study Area (0.6 Mile Radius) Existing Sidewalk Length (Sum of Both Sides)

All study area streets =	18,395 feet	3.48 miles
Site 25 Study Area Existing Total =	**18,395 feet**	**3.48 miles**

Site 25 Project Sidewalk Length (One or Both Sides for Project)

East Side of Bowker Rd south of Hwy 98 =	1,150 feet	0.22 miles
New Road along North Boundary =	2,615 feet	0.50 miles
New Road along South Boundary =	2,590 feet	0.49 miles
New Road along East Boundary =	970 feet	0.18 miles
New Road thru center of Site 25 =	980 feet	0.19 miles
Site 25 Project Total =	**8,305 feet**	**1.57 miles**
Existing Plus Site 25 Project Total =	**26,700 feet**	**5.06 miles**

Site 25 VMT Reduction (A) = -2.3%

Sites 26-30 Study Area (0.6 Mile Radius) Existing Sidewalk Length (Sum of Both Sides)

All study area streets =	100,260 feet	18.99 miles
Sites 26-30 Study Area Existing Total =	**100,260 feet**	**18.99 miles**

Sites 26-30 Project Sidewalk Length (One or Both Sides for Project)

West Side of Bowker Rd south of Hwy 98 =	1,150 feet	0.22 miles
North Side of Hwy 98 =	1,670 feet	0.32 miles
South Side of Hwy 98 =	1,645 feet	0.31 miles
Extension of Sapphire St to Hwy 98 =	2,180 feet	0.41 miles
New Road along South Boundary =	2,230 feet	0.42 miles
New Road along West Boundary =	2,000 feet	0.38 miles
Along Canal (North Boundary) =	1,755 feet	0.33 miles
Sites 26-30 Project Total =	**12,630 feet**	**2.39 miles**
Existing Plus Sites 26-30 Project Total =	**112,890 feet**	**21.38 miles**

Sites 26-30 VMT Reduction (A) = -0.6%

Proposed Project Feature VMT Reduction Measures: All Rezone Sites

Measure T-20: Extend Bikeway Network

A=-1*((((C-B)/B)*D*F*H)/(E*G))

A = Percent VMT reduction
B = Existing bikeway length (3.45 miles)
C = Existing + Project bikeway length (5.14 miles)
D = Bike mode share in plan/community (1%)
E = Vehicle mode share in plan/community (92.3%)
F = Average one-way bike trip length in plan/community (2.0 miles)
G = Average one-way vehicle trip length in plan/community (12 miles)
H = Elasticity of bike commuters (0.25)

VMT Reduction (A) =	**-0.14%**

Existing Bikeway Length	
EB Cole Blvd =	1.28 miles
Birch St =	1.27 miles
Cesar Chavez Blvd =	0.89 miles
Total Existing Bikeway Length =	**3.45 miles**

Project Bikeway Length	
WB Cole Blvd from Meadows to Yourman Rd =	0.78 miles
EB Cole Blvd from Clinton to Bowker =	0.24 miles
SR-98 along Sites 25-30 Boundary =	0.66 miles
Total Project Bikeway Length =	**1.69 miles**
Total Existing + Project Bikeway Length =	**5.14 miles**

APPENDIX B

TRAFFIC VOLUME COUNTS

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Calexico
N/S: Imperial Highway (SR-111)
E/W: E Jasper Road
Weather: Clear

File Name : 01_CXO_SR111_Jas AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

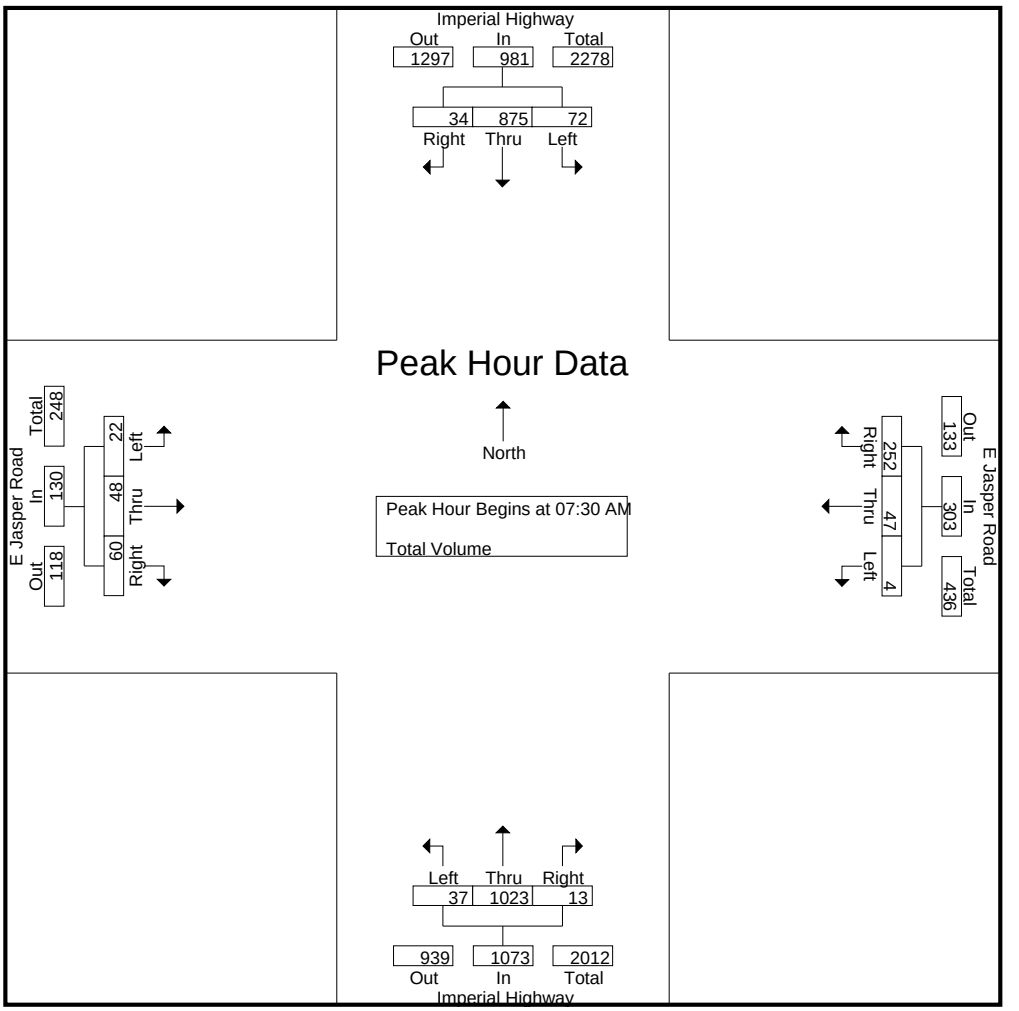
	Imperial Highway Southbound				E Jasper Road Westbound				Imperial Highway Northbound				E Jasper Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	10	107	7	124	1	5	62	68	10	192	0	202	4	6	6	16	410
07:15 AM	15	141	5	161	0	9	80	89	2	242	1	245	1	12	15	28	523
07:30 AM	13	204	9	226	1	9	81	91	6	334	7	347	5	12	14	31	695
07:45 AM	23	244	13	280	1	17	70	88	12	252	2	266	10	11	25	46	680
Total	61	696	34	791	3	40	293	336	30	1020	10	1060	20	41	60	121	2308
08:00 AM	18	204	6	228	1	11	58	70	14	216	0	230	3	6	9	18	546
08:15 AM	18	223	6	247	1	10	43	54	5	221	4	230	4	19	12	35	566
08:30 AM	21	181	8	210	0	3	40	43	5	221	1	227	4	13	21	38	518
08:45 AM	18	230	7	255	0	5	39	44	4	233	1	238	2	11	11	24	561
Total	75	838	27	940	2	29	180	211	28	891	6	925	13	49	53	115	2191
Grand Total	136	1534	61	1731	5	69	473	547	58	1911	16	1985	33	90	113	236	4499
Apprch %	7.9	88.6	3.5		0.9	12.6	86.5		2.9	96.3	0.8		14	38.1	47.9		
Total %	3	34.1	1.4	38.5	0.1	1.5	10.5	12.2	1.3	42.5	0.4	44.1	0.7	2	2.5	5.2	

	Imperial Highway Southbound				E Jasper Road Westbound				Imperial Highway Northbound				E Jasper Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	13	204	9	226	**1**	9	**81**	**91**	6	**334**	**7**	**347**	5	12	14	31	**695**
07:45 AM	**23**	**244**	**13**	**280**	1	**17**	70	88	12	252	2	266	**10**	11	**25**	**46**	680
08:00 AM	18	204	6	228	1	11	58	70	**14**	216	0	230	3	6	9	18	546
08:15 AM	18	223	6	247	1	10	43	54	5	221	4	230	4	**19**	12	35	566
Total Volume	72	875	34	981	4	47	252	303	37	1023	13	1073	22	48	60	130	2487
% App. Total	7.3	89.2	3.5		1.3	15.5	83.2		3.4	95.3	1.2		16.9	36.9	46.2		
PHF	.783	.897	.654	.876	1.00	.691	.778	.832	.661	.766	.464	.773	.550	.632	.600	.707	.895

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City of Calexico
N/S: Imperial Highway (SR-111)
E/W: E Jasper Road
Weather: Clear

File Name : 01_CXO_SR111_Jas AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:15 AM				07:15 AM				07:45 AM			
+0 mins.	13	204	9	226	0	9	80	89	2	242	1	245	**10**	11	**25**	**46**
+15 mins.	**23**	**244**	**13**	**280**	**1**	9	**81**	**91**	6	**334**	**7**	**347**	3	6	9	18
+30 mins.	18	204	6	228	1	**17**	70	88	12	252	2	266	4	**19**	12	35
+45 mins.	18	223	6	247	1	11	58	70	**14**	216	0	230	4	13	21	38
Total Volume	72	875	34	981	3	46	289	338	34	1044	10	1088	21	49	67	137
% App. Total	7.3	89.2	3.5		0.9	13.6	85.5		3.1	96	0.9		15.3	35.8	48.9	
PHF	.783	.897	.654	.876	.750	.676	.892	.929	.607	.781	.357	.784	.525	.645	.670	.745

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City of Calexico
N/S: Imperial Highway (SR-111)
E/W: E Jasper Road
Weather: Clear

File Name : 01_CXO_SR111_Jas PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

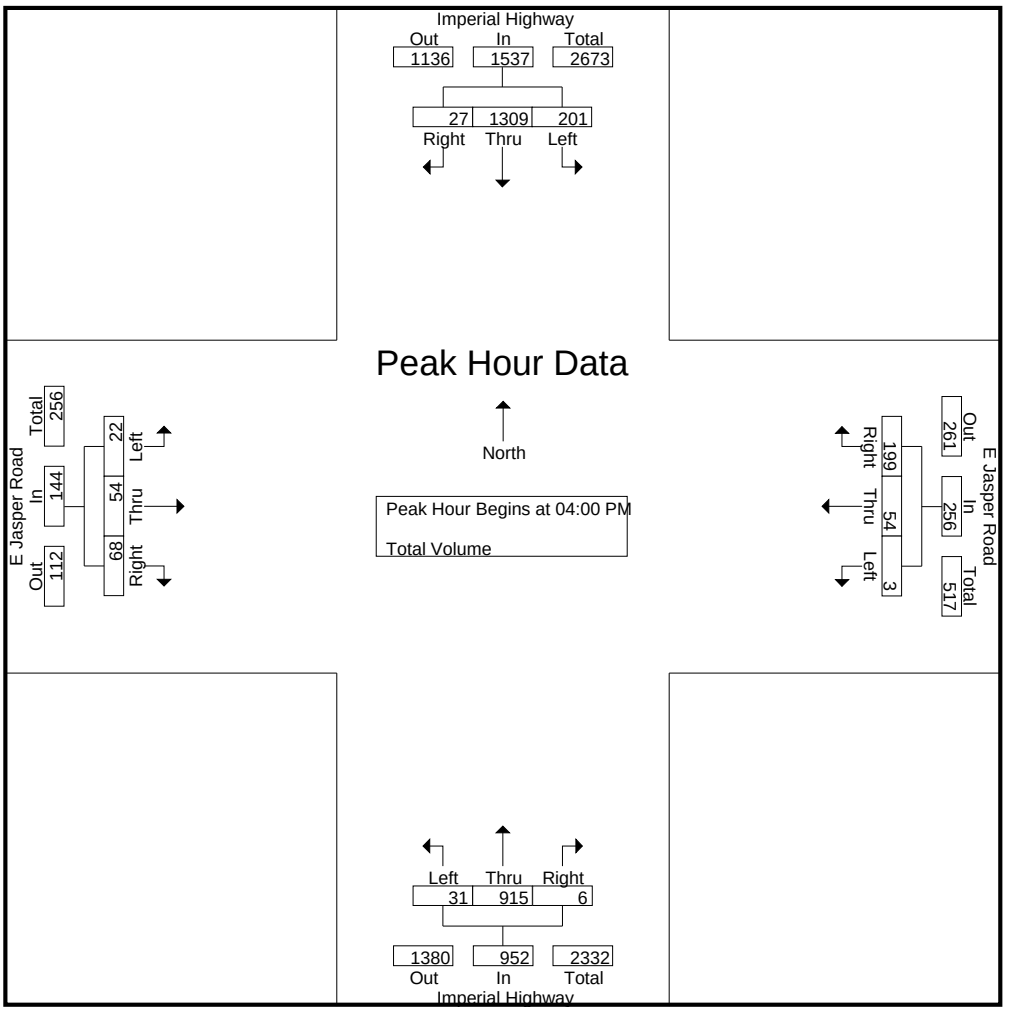
	Imperial Highway Southbound				E Jasper Road Westbound				Imperial Highway Northbound				E Jasper Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	60	336	7	403	0	13	61	74	9	231	1	241	5	18	21	44	762
04:15 PM	46	344	5	395	0	15	44	59	9	254	0	263	5	11	17	33	750
04:30 PM	39	315	9	363	1	13	52	66	7	221	3	231	5	13	15	33	693
04:45 PM	56	314	6	376	2	13	42	57	6	209	2	217	7	12	15	34	684
Total	201	1309	27	1537	3	54	199	256	31	915	6	952	22	54	68	144	2889
05:00 PM	53	285	7	345	2	3	61	66	7	207	1	215	5	13	19	37	663
05:15 PM	54	247	11	312	2	5	38	45	10	251	2	263	4	11	13	28	648
05:30 PM	29	302	7	338	1	5	50	56	3	224	1	228	8	15	24	47	669
05:45 PM	41	304	6	351	2	6	45	53	8	206	1	215	4	12	19	35	654
Total	177	1138	31	1346	7	19	194	220	28	888	5	921	21	51	75	147	2634
Grand Total	378	2447	58	2883	10	73	393	476	59	1803	11	1873	43	105	143	291	5523
Apprch %	13.1	84.9	2		2.1	15.3	82.6		3.2	96.3	0.6		14.8	36.1	49.1		
Total %	6.8	44.3	1.1	52.2	0.2	1.3	7.1	8.6	1.1	32.6	0.2	33.9	0.8	1.9	2.6	5.3	

	Imperial Highway Southbound				E Jasper Road Westbound				Imperial Highway Northbound				E Jasper Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**60**	336	7	**403**	0	13	**61**	**74**	**9**	231	1	241	5	**18**	**21**	**44**	**762**
04:15 PM	46	**344**	5	395	0	**15**	44	59	9	**254**	0	**263**	5	11	17	33	750
04:30 PM	39	315	**9**	363	1	13	52	66	7	221	**3**	231	5	13	15	33	693
04:45 PM	56	314	6	376	**2**	13	42	57	6	209	2	217	**7**	12	15	34	684
Total Volume	201	1309	27	1537	3	54	199	256	31	915	6	952	22	54	68	144	2889
% App. Total	13.1	85.2	1.8		1.2	21.1	77.7		3.3	96.1	0.6		15.3	37.5	47.2		
PHF	.838	.951	.750	.953	.375	.900	.816	.865	.861	.901	.500	.905	.786	.750	.810	.818	.948

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City of Calexico
N/S: Imperial Highway (SR-111)
E/W: E Jasper Road
Weather: Clear

File Name : 01_CXO_SR111_Jas PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				05:00 PM			
+0 mins.	**60**	336	7	**403**	0	13	**61**	**74**	**9**	231	1	241	5	13	19	37
+15 mins.	46	**344**	5	395	0	**15**	44	59	9	**254**	0	**263**	4	11	13	28
+30 mins.	39	315	**9**	363	1	13	52	66	7	221	**3**	231	**8**	**15**	**24**	**47**
+45 mins.	56	314	6	376	**2**	13	42	57	6	209	2	217	4	12	19	35
Total Volume	201	1309	27	1537	3	54	199	256	31	915	6	952	21	51	75	147
% App. Total	13.1	85.2	1.8		1.2	21.1	77.7		3.3	96.1	0.6		14.3	34.7	51	
PHF	.838	.951	.750	.953	.375	.900	.816	.865	.861	.901	.500	.905	.656	.850	.781	.782

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City of Calexico
N/S: Imperial Highway (SR-111)
E/W: Cole Boulevard
Weather: Clear

File Name : 02_CXO_SR111_Cole AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

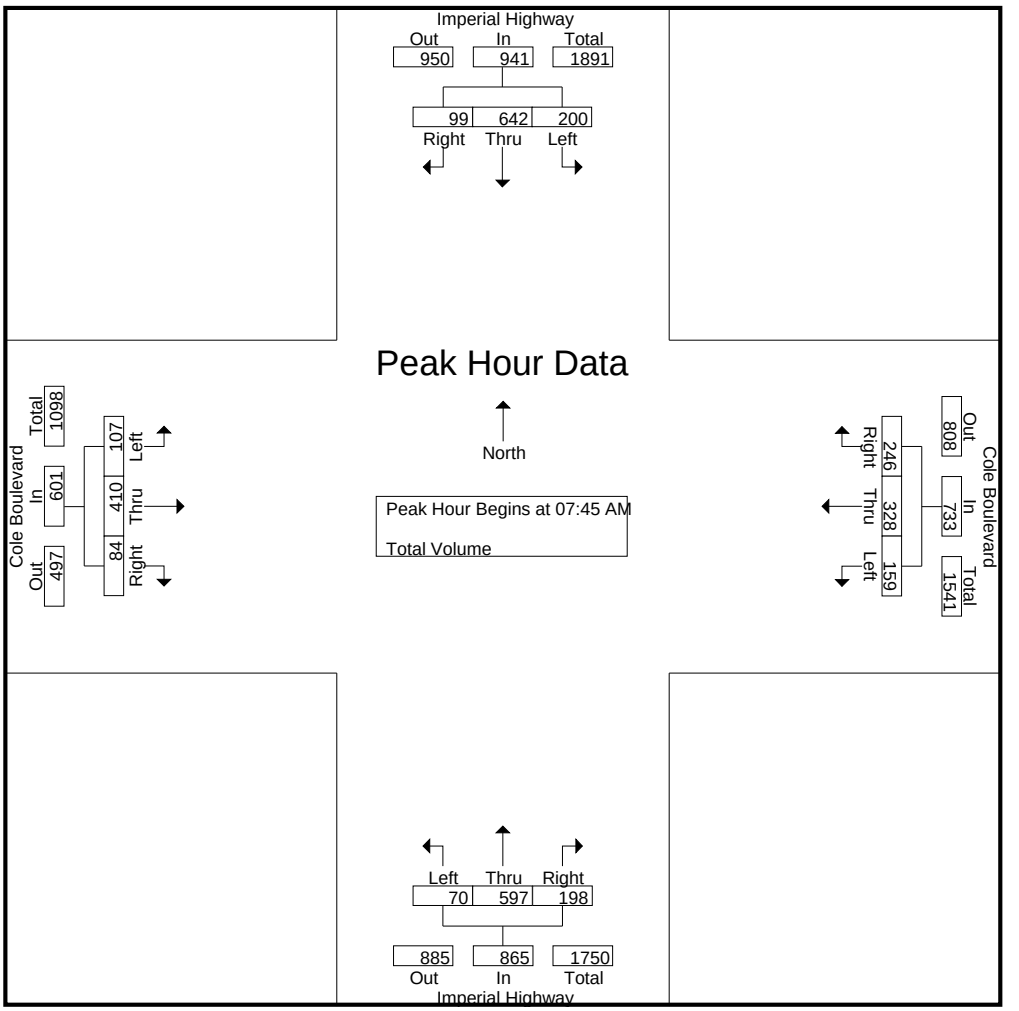
	Imperial Highway Southbound				Cole Boulevard Westbound				Imperial Highway Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	15	78	15	108	24	46	48	118	8	120	28	156	30	26	11	67	449
07:15 AM	33	111	19	163	16	48	48	112	14	191	32	237	30	24	10	64	576
07:30 AM	43	112	27	182	32	79	89	200	11	189	24	224	41	49	15	105	711
07:45 AM	65	187	27	279	35	104	71	210	17	159	38	214	30	102	23	155	858
Total	156	488	88	732	107	277	256	640	50	659	122	831	131	201	59	391	2594
08:00 AM	47	144	34	225	36	123	57	216	21	141	47	209	22	109	22	153	803
08:15 AM	40	135	20	195	46	59	58	163	19	139	56	214	31	136	19	186	758
08:30 AM	48	176	18	242	42	42	60	144	13	158	57	228	24	63	20	107	721
08:45 AM	42	161	22	225	42	62	53	157	10	156	48	214	13	74	19	106	702
Total	177	616	94	887	166	286	228	680	63	594	208	865	90	382	80	552	2984
Grand Total	333	1104	182	1619	273	563	484	1320	113	1253	330	1696	221	583	139	943	5578
Apprch %	20.6	68.2	11.2		20.7	42.7	36.7		6.7	73.9	19.5		23.4	61.8	14.7		
Total %	6	19.8	3.3	29	4.9	10.1	8.7	23.7	2	22.5	5.9	30.4	4	10.5	2.5	16.9	

	Imperial Highway Southbound				Cole Boulevard Westbound				Imperial Highway Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**65**	**187**	27	**279**	35	104	**71**	210	17	**159**	38	214	30	102	**23**	155	**858**
08:00 AM	47	144	**34**	225	36	**123**	57	**216**	**21**	141	47	209	22	109	22	153	803
08:15 AM	40	135	20	195	**46**	59	58	163	19	139	56	214	**31**	**136**	19	**186**	758
08:30 AM	48	176	18	242	42	42	60	144	13	158	**57**	**228**	24	63	20	107	721
Total Volume	200	642	99	941	159	328	246	733	70	597	198	865	107	410	84	601	3140
% App. Total	21.3	68.2	10.5		21.7	44.7	33.6		8.1	69	22.9		17.8	68.2	14		
PHF	.769	.858	.728	.843	.864	.667	.866	.848	.833	.939	.868	.948	.863	.754	.913	.808	.915

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City of Calexico
N/S: Imperial Highway (SR-111)
E/W: Cole Boulevard
Weather: Clear

File Name : 02_CXO_SR111_Cole AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:30 AM				07:15 AM				07:45 AM			
+0 mins.	**65**	**187**	27	**279**	32	79	**89**	200	14	**191**	32	**237**	30	102	**23**	155
+15 mins.	47	144	**34**	225	35	104	71	210	11	189	24	224	22	109	22	153
+30 mins.	40	135	20	195	36	**123**	57	**216**	17	159	38	214	**31**	**136**	19	**186**
+45 mins.	48	176	18	242	**46**	59	58	163	**21**	141	**47**	209	24	63	20	107
Total Volume	200	642	99	941	149	365	275	789	63	680	141	884	107	410	84	601
% App. Total	21.3	68.2	10.5		18.9	46.3	34.9		7.1	76.9	16		17.8	68.2	14	
PHF	.769	.858	.728	.843	.810	.742	.772	.913	.750	.890	.750	.932	.863	.754	.913	.808

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City of Calexico
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File Name : 02_CXO_SR111_Cole PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

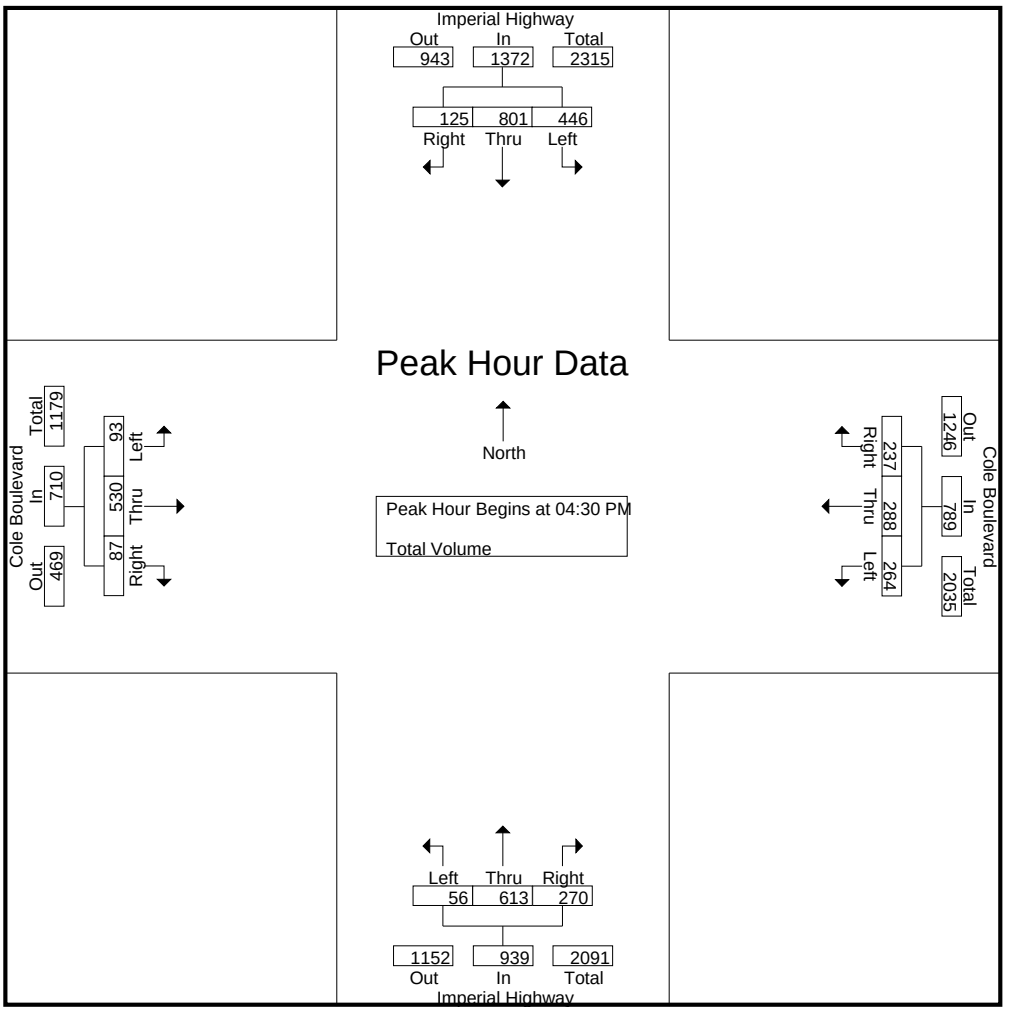
	Imperial Highway Southbound				Cole Boulevard Westbound				Imperial Highway Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	103	222	40	365	65	91	65	221	17	138	51	206	24	124	24	172	964
04:15 PM	92	179	40	311	67	66	58	191	17	160	56	233	22	112	20	154	889
04:30 PM	97	213	36	346	67	74	58	199	18	149	69	236	24	137	17	178	959
04:45 PM	103	215	24	342	76	61	60	197	12	157	70	239	21	127	23	171	949
Total	395	829	140	1364	275	292	241	808	64	604	246	914	91	500	84	675	3761
05:00 PM	107	163	27	297	55	71	51	177	14	134	63	211	27	141	23	191	876
05:15 PM	139	210	38	387	66	82	68	216	12	173	68	253	21	125	24	170	1026
05:30 PM	103	196	27	326	56	58	58	172	10	154	62	226	19	98	20	137	861
05:45 PM	106	193	34	333	51	52	49	152	12	135	62	209	15	105	24	144	838
Total	455	762	126	1343	228	263	226	717	48	596	255	899	82	469	91	642	3601
Grand Total	850	1591	266	2707	503	555	467	1525	112	1200	501	1813	173	969	175	1317	7362
Apprch %	31.4	58.8	9.8		33	36.4	30.6		6.2	66.2	27.6		13.1	73.6	13.3		
Total %	11.5	21.6	3.6	36.8	6.8	7.5	6.3	20.7	1.5	16.3	6.8	24.6	2.3	13.2	2.4	17.9	

	Imperial Highway Southbound				Cole Boulevard Westbound				Imperial Highway Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	97	213	36	346	67	74	58	199	**18**	149	69	236	24	137	17	178	959
04:45 PM	103	**215**	24	342	**76**	61	60	197	12	157	**70**	239	21	127	23	171	949
05:00 PM	107	163	27	297	55	71	51	177	14	134	63	211	**27**	**141**	23	**191**	876
05:15 PM	**139**	210	**38**	**387**	66	**82**	**68**	**216**	12	**173**	68	**253**	21	125	**24**	170	**1026**
Total Volume	446	801	125	1372	264	288	237	789	56	613	270	939	93	530	87	710	3810
% App. Total	32.5	58.4	9.1		33.5	36.5	30		6	65.3	28.8		13.1	74.6	12.3		
PHF	.802	.931	.822	.886	.868	.878	.871	.913	.778	.886	.964	.928	.861	.940	.906	.929	.928

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City of Calexico
N/S: Imperial Highway (SR-111)
E/W: Cole Boulevard
Weather: Clear

File Name : 02_CXO_SR111_Cole PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:00 PM				04:30 PM				04:30 PM			
+0 mins.	97	213	36	346	65	**91**	**65**	**221**	**18**	149	69	236	24	137	17	178
+15 mins.	103	**215**	24	342	67	66	58	191	12	157	**70**	239	21	127	23	171
+30 mins.	107	163	27	297	67	74	58	199	14	134	63	211	**27**	**141**	23	**191**
+45 mins.	**139**	210	**38**	**387**	**76**	61	60	197	12	**173**	68	**253**	21	125	**24**	170
Total Volume	446	801	125	1372	275	292	241	808	56	613	270	939	93	530	87	710
% App. Total	32.5	58.4	9.1		34	36.1	29.8		6	65.3	28.8		13.1	74.6	12.3	
PHF	.802	.931	.822	.886	.905	.802	.927	.914	.778	.886	.964	.928	.861	.940	.906	.929

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City of Calexico
N/S: Yourman Road/Rockwood Avenue
E/W: Cole Boulevard
Weather: Clear

File Name : 03_CXO_Rock_Cole AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

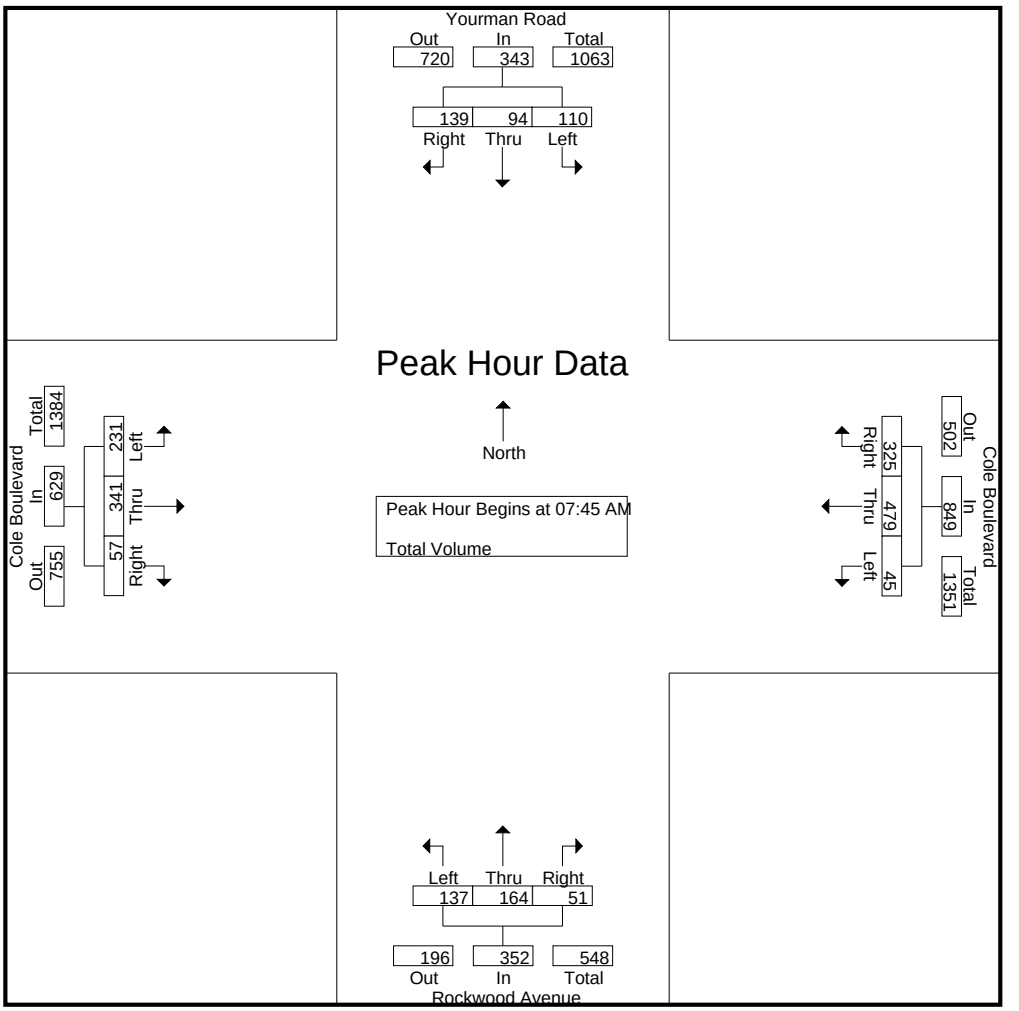
	Yourman Road Southbound				Cole Boulevard Westbound				Rockwood Avenue Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	24	22	27	73	8	62	82	152	18	27	8	53	28	33	6	67	345
07:15 AM	28	17	33	78	6	90	78	174	27	20	8	55	40	45	12	97	404
07:30 AM	24	16	26	66	8	108	96	212	34	41	5	80	35	68	13	116	474
07:45 AM	29	16	23	68	8	148	86	242	33	36	11	80	46	74	16	136	526
Total	105	71	109	285	30	408	342	780	112	124	32	268	149	220	47	416	1749
08:00 AM	30	26	38	94	9	134	98	241	33	37	9	79	56	91	14	161	575
08:15 AM	24	23	39	86	14	103	68	185	41	51	17	109	73	98	17	188	568
08:30 AM	27	29	39	95	14	94	73	181	30	40	14	84	56	78	10	144	504
08:45 AM	33	43	50	126	9	81	63	153	31	45	10	86	54	64	13	131	496
Total	114	121	166	401	46	412	302	760	135	173	50	358	239	331	54	624	2143
Grand Total	219	192	275	686	76	820	644	1540	247	297	82	626	388	551	101	1040	3892
Apprch %	31.9	28	40.1		4.9	53.2	41.8		39.5	47.4	13.1		37.3	53	9.7		
Total %	5.6	4.9	7.1	17.6	2	21.1	16.5	39.6	6.3	7.6	2.1	16.1	10	14.2	2.6	26.7	

	Yourman Road Southbound				Cole Boulevard Westbound				Rockwood Avenue Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	29	16	23	68	8	**148**	86	**242**	33	36	11	80	46	74	16	136	526
08:00 AM	**30**	26	38	94	9	134	**98**	241	33	37	9	79	56	91	14	161	**575**
08:15 AM	24	23	**39**	86	**14**	103	68	185	**41**	**51**	**17**	**109**	**73**	**98**	**17**	**188**	568
08:30 AM	27	**29**	39	**95**	14	94	73	181	30	40	14	84	56	78	10	144	504
Total Volume	110	94	139	343	45	479	325	849	137	164	51	352	231	341	57	629	2173
% App. Total	32.1	27.4	40.5		5.3	56.4	38.3		38.9	46.6	14.5		36.7	54.2	9.1		
PHF	.917	.810	.891	.903	.804	.809	.829	.877	.835	.804	.750	.807	.791	.870	.838	.836	.945

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City of Calexico
N/S: Yourman Road/Rockwood Avenue
E/W: Cole Boulevard
Weather: Clear

File Name : 03_CXO_Rock_Cole AM
Site Code : 12526338
Start Date : 4/23/2026



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				08:00 AM				07:45 AM			
+0 mins.	30	26	38	94	8	108	96	212	33	37	9	79	46	74	16	136
+15 mins.	24	23	39	86	8	**148**	86	**242**	**41**	**51**	**17**	**109**	56	91	14	161
+30 mins.	27	29	39	95	9	134	**98**	241	30	40	14	84	**73**	**98**	**17**	**188**
+45 mins.	**33**	**43**	**50**	**126**	**14**	103	68	185	31	45	10	86	56	78	10	144
Total Volume	114	121	166	401	39	493	348	880	135	173	50	358	231	341	57	629
% App. Total	28.4	30.2	41.4		4.4	56	39.5		37.7	48.3	14		36.7	54.2	9.1	
PHF	.864	.703	.830	.796	.696	.833	.888	.909	.823	.848	.735	.821	.791	.870	.838	.836

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City of Calexico
N/S: Yourman Road/Rockwood Avenue
E/W: Cole Boulevard
Weather: Clear

File Name : 03_CXO_Rock_Cole PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

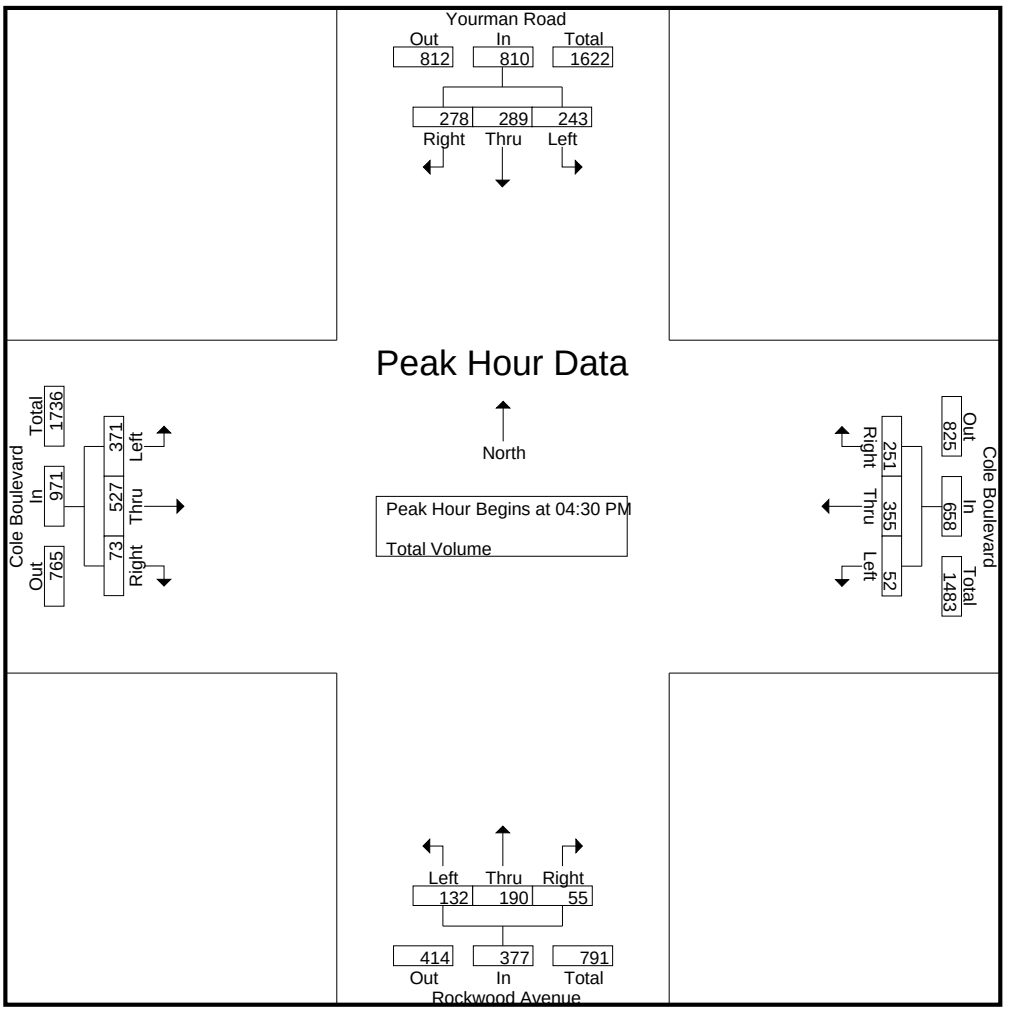
	Yourman Road Southbound				Cole Boulevard Westbound				Rockwood Avenue Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	67	84	54	205	15	100	47	162	39	75	14	128	58	108	13	179	674
04:15 PM	61	65	67	193	11	94	65	170	28	47	13	88	81	127	10	218	669
04:30 PM	65	70	77	212	19	93	75	187	27	49	15	91	89	128	17	234	724
04:45 PM	56	70	61	187	10	94	67	171	36	46	12	94	81	122	25	228	680
Total	249	289	259	797	55	381	254	690	130	217	54	401	309	485	65	859	2747
05:00 PM	62	78	66	206	15	80	48	143	35	57	13	105	103	152	9	264	718
05:15 PM	60	71	74	205	8	88	61	157	34	38	15	87	98	125	22	245	694
05:30 PM	54	49	57	160	11	75	42	128	37	41	13	91	76	128	12	216	595
05:45 PM	59	67	59	185	18	77	71	166	32	43	10	85	80	131	15	226	662
Total	235	265	256	756	52	320	222	594	138	179	51	368	357	536	58	951	2669
Grand Total	484	554	515	1553	107	701	476	1284	268	396	105	769	666	1021	123	1810	5416
Apprch %	31.2	35.7	33.2		8.3	54.6	37.1		34.9	51.5	13.7		36.8	56.4	6.8		
Total %	8.9	10.2	9.5	28.7	2	12.9	8.8	23.7	4.9	7.3	1.9	14.2	12.3	18.9	2.3	33.4	

	Yourman Road Southbound				Cole Boulevard Westbound				Rockwood Avenue Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**65**	70	**77**	**212**	**19**	93	**75**	**187**	27	49	**15**	91	89	128	17	234	**724**
04:45 PM	56	70	61	187	10	**94**	67	171	**36**	46	12	94	81	122	**25**	228	680
05:00 PM	62	**78**	66	206	15	80	48	143	35	**57**	13	**105**	**103**	**152**	9	**264**	718
05:15 PM	60	71	74	205	8	88	61	157	34	38	15	87	98	125	22	245	694
Total Volume	243	289	278	810	52	355	251	658	132	190	55	377	371	527	73	971	2816
% App. Total	30	35.7	34.3		7.9	54	38.1		35	50.4	14.6		38.2	54.3	7.5		
PHF	.935	.926	.903	.955	.684	.944	.837	.880	.917	.833	.917	.898	.900	.867	.730	.920	.972

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City of Calexico
N/S: Yourman Road/Rockwood Avenue
E/W: Cole Boulevard
Weather: Clear

File Name : 03_CXO_Rock_Cole PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:00 PM				04:00 PM				04:30 PM			
+0 mins.	**65**	70	**77**	**212**	15	**100**	47	162	**39**	**75**	14	**128**	89	128	17	234
+15 mins.	56	70	61	187	11	94	65	170	28	47	13	88	81	122	**25**	228
+30 mins.	62	**78**	66	206	**19**	93	**75**	**187**	27	49	**15**	91	**103**	**152**	9	**264**
+45 mins.	60	71	74	205	10	94	67	171	36	46	12	94	98	125	22	245
Total Volume	243	289	278	810	55	381	254	690	130	217	54	401	371	527	73	971
% App. Total	30	35.7	34.3		8	55.2	36.8		32.4	54.1	13.5		38.2	54.3	7.5	
PHF	.935	.926	.903	.955	.724	.953	.847	.922	.833	.723	.900	.783	.900	.867	.730	.920

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City of Calexico
N/S: Meadows Road/Andrade Avenue
E/W: Cole Boulevard
Weather: Clear

File Name : 04_CXO_Mea_Cole AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

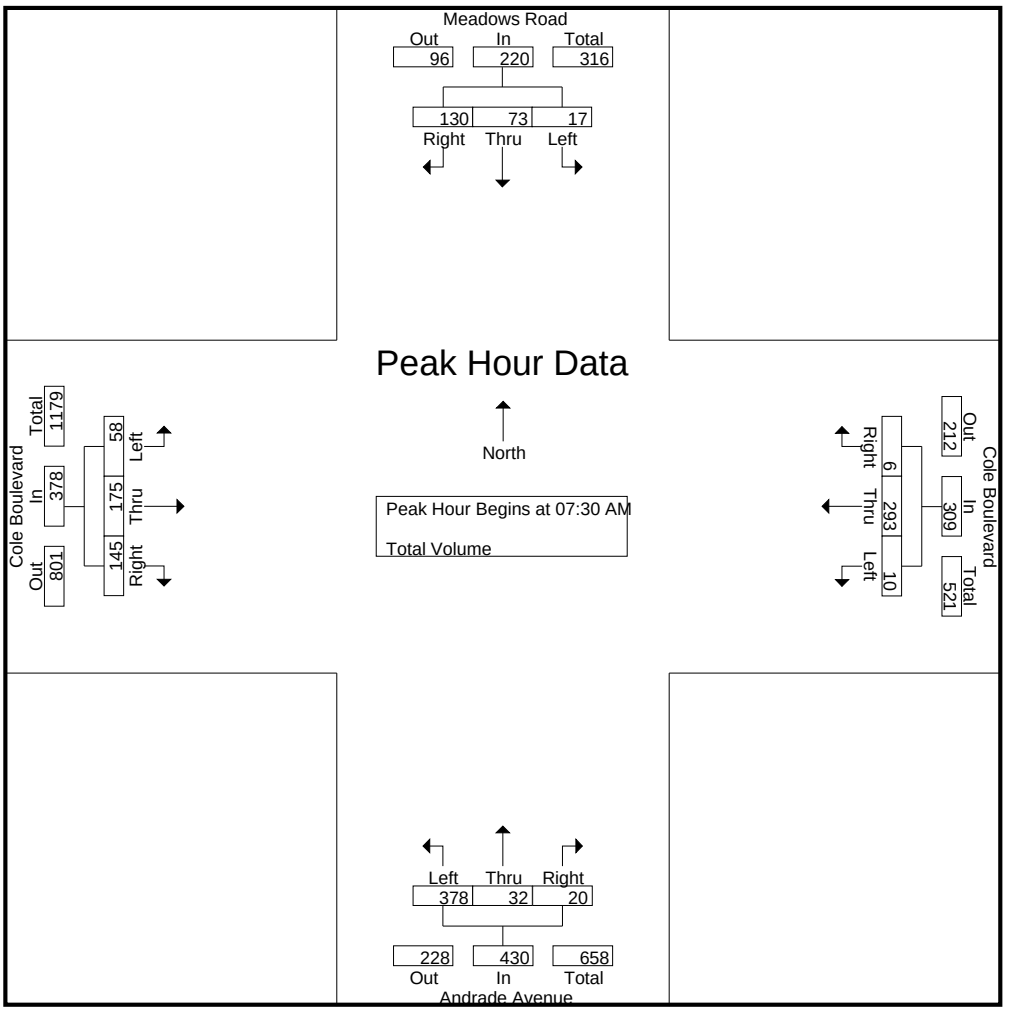
	Meadows Road Southbound				Cole Boulevard Westbound				Andrade Avenue Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	11	17	30	0	49	2	51	54	5	6	65	9	23	22	54	200
07:15 AM	3	9	27	39	2	43	1	46	84	4	2	90	4	28	31	63	238
07:30 AM	5	19	30	54	2	74	2	78	92	3	5	100	9	39	35	83	315
07:45 AM	8	33	58	99	3	91	1	95	107	7	6	120	16	46	45	107	421
Total	18	72	132	222	7	257	6	270	337	19	19	375	38	136	133	307	1174
08:00 AM	1	15	32	48	2	80	3	85	92	10	4	106	10	49	28	87	326
08:15 AM	3	6	10	19	3	48	0	51	87	12	5	104	23	41	37	101	275
08:30 AM	0	9	12	21	1	40	0	41	67	6	3	76	18	43	35	96	234
08:45 AM	4	5	13	22	6	63	1	70	57	4	5	66	5	40	31	76	234
Total	8	35	67	110	12	231	4	247	303	32	17	352	56	173	131	360	1069
Grand Total	26	107	199	332	19	488	10	517	640	51	36	727	94	309	264	667	2243
Apprch %	7.8	32.2	59.9		3.7	94.4	1.9		88	7	5		14.1	46.3	39.6		
Total %	1.2	4.8	8.9	14.8	0.8	21.8	0.4	23	28.5	2.3	1.6	32.4	4.2	13.8	11.8	29.7	

	Meadows Road Southbound				Cole Boulevard Westbound				Andrade Avenue Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	5	19	30	54	2	74	2	78	92	3	5	100	9	39	35	83	315
07:45 AM	**8**	**33**	**58**	**99**	**3**	**91**	1	**95**	**107**	7	**6**	**120**	16	46	**45**	**107**	**421**
08:00 AM	1	15	32	48	2	80	**3**	85	92	10	4	106	10	**49**	28	87	326
08:15 AM	3	6	10	19	3	48	0	51	87	**12**	5	104	**23**	41	37	101	275
Total Volume	17	73	130	220	10	293	6	309	378	32	20	430	58	175	145	378	1337
% App. Total	7.7	33.2	59.1		3.2	94.8	1.9		87.9	7.4	4.7		15.3	46.3	38.4		
PHF	.531	.553	.560	.556	.833	.805	.500	.813	.883	.667	.833	.896	.630	.893	.806	.883	.794

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City of Calexico
N/S: Meadows Road/Andrade Avenue
E/W: Cole Boulevard
Weather: Clear

File Name : 04_CXO_Mea_Cole AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:30 AM				07:30 AM				07:45 AM			
+0 mins.	3	9	27	39	2	74	2	78	92	3	5	100	16	46	**45**	**107**
+15 mins.	5	19	30	54	**3**	**91**	1	**95**	**107**	7	**6**	**120**	10	**49**	28	87
+30 mins.	**8**	**33**	**58**	**99**	2	80	**3**	85	92	10	4	106	**23**	41	37	101
+45 mins.	1	15	32	48	3	48	0	51	87	**12**	5	104	18	43	35	96
Total Volume	17	76	147	240	10	293	6	309	378	32	20	430	67	179	145	391
% App. Total	7.1	31.7	61.2		3.2	94.8	1.9		87.9	7.4	4.7		17.1	45.8	37.1	
PHF	.531	.576	.634	.606	.833	.805	.500	.813	.883	.667	.833	.896	.728	.913	.806	.914

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City of Calexico
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File Name : 04_CXO_Mea_Cole PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

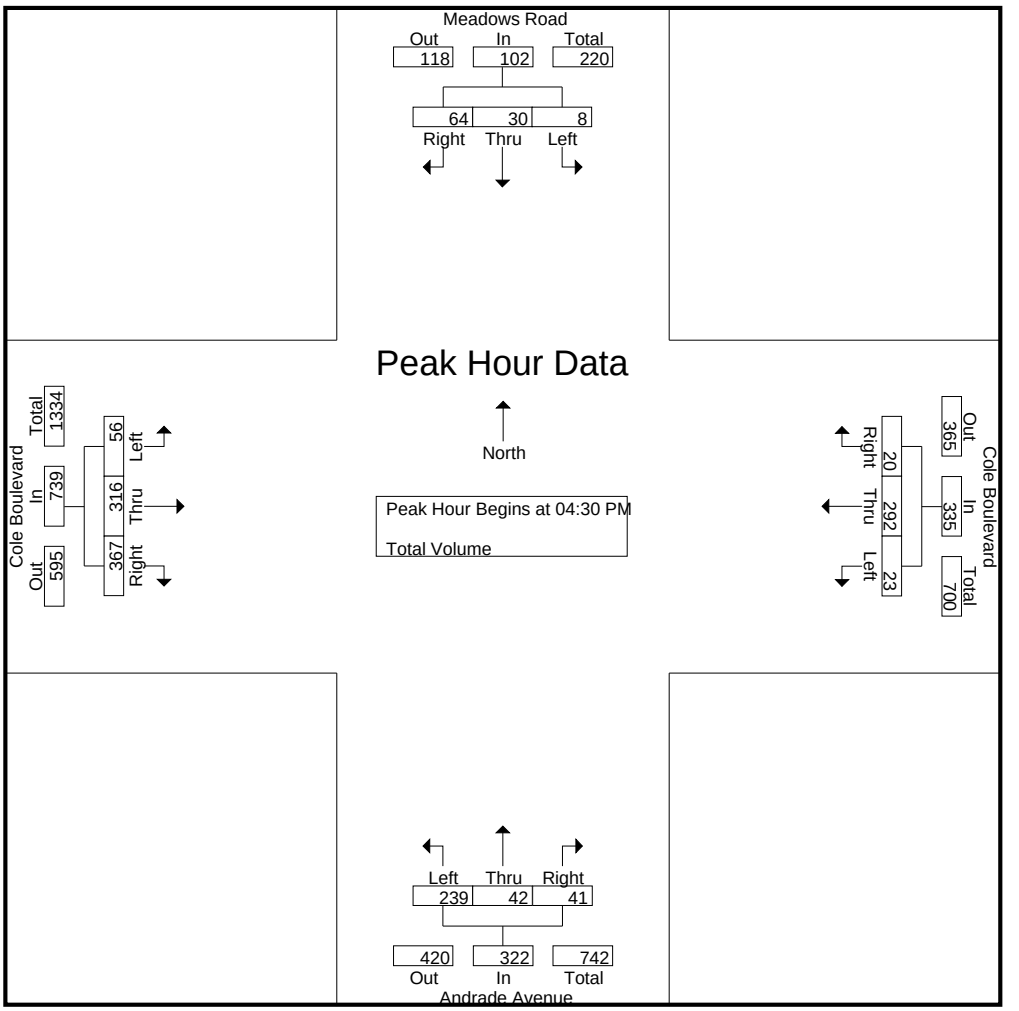
	Meadows Road Southbound				Cole Boulevard Westbound				Andrade Avenue Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	13	19	32	4	76	1	81	56	5	4	65	15	90	75	180	358
04:15 PM	5	10	10	25	7	61	4	72	64	8	3	75	18	74	78	170	342
04:30 PM	1	8	12	21	3	71	2	76	58	10	12	80	19	66	91	176	353
04:45 PM	2	10	20	32	5	70	4	79	75	9	5	89	19	87	71	177	377
Total	8	41	61	110	19	278	11	308	253	32	24	309	71	317	315	703	1430
05:00 PM	3	8	8	19	7	63	6	76	57	8	15	80	5	75	112	192	367
05:15 PM	2	4	24	30	8	88	8	104	49	15	9	73	13	88	93	194	401
05:30 PM	3	11	13	27	7	47	3	57	39	8	2	49	13	83	97	193	326
05:45 PM	2	12	10	24	3	71	5	79	56	10	4	70	16	78	71	165	338
Total	10	35	55	100	25	269	22	316	201	41	30	272	47	324	373	744	1432
Grand Total	18	76	116	210	44	547	33	624	454	73	54	581	118	641	688	1447	2862
Apprch %	8.6	36.2	55.2		7.1	87.7	5.3		78.1	12.6	9.3		8.2	44.3	47.5		
Total %	0.6	2.7	4.1	7.3	1.5	19.1	1.2	21.8	15.9	2.6	1.9	20.3	4.1	22.4	24	50.6	

	Meadows Road Southbound				Cole Boulevard Westbound				Andrade Avenue Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	1	8	12	21	3	71	2	76	58	10	12	80	**19**	66	91	176	353
04:45 PM	2	**10**	20	**32**	5	70	4	79	**75**	9	5	**89**	19	87	71	177	377
05:00 PM	**3**	8	8	19	7	63	6	76	57	8	**15**	80	5	75	**112**	192	367
05:15 PM	2	4	**24**	30	**8**	**88**	**8**	**104**	49	**15**	9	73	13	**88**	93	**194**	**401**
Total Volume	8	30	64	102	23	292	20	335	239	42	41	322	56	316	367	739	1498
% App. Total	7.8	29.4	62.7		6.9	87.2	6		74.2	13	12.7		7.6	42.8	49.7		
PHF	.667	.750	.667	.797	.719	.830	.625	.805	.797	.700	.683	.904	.737	.898	.819	.952	.934

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City of Calexico
N/S: Meadows Road/Andrade Avenue
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File Name : 04_CXO_Mea_Cole PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				04:15 PM				04:45 PM			
+0 mins.	0	**13**	19	**32**	3	71	2	76	64	8	3	75	**19**	87	71	177
+15 mins.	**5**	10	10	25	5	70	4	79	58	**10**	12	80	5	75	**112**	192
+30 mins.	1	8	12	21	7	63	6	76	**75**	9	5	**89**	13	**88**	93	**194**
+45 mins.	2	10	**20**	32	**8**	**88**	**8**	**104**	57	8	**15**	80	13	83	97	193
Total Volume	8	41	61	110	23	292	20	335	254	35	35	324	50	333	373	756
% App. Total	7.3	37.3	55.5		6.9	87.2	6		78.4	10.8	10.8		6.6	44	49.3	
PHF	.400	.788	.763	.859	.719	.830	.625	.805	.847	.875	.583	.910	.658	.946	.833	.974

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City of Calexico
N/S: G Cleveland Avenue
E/W: Cole Boulevard
Weather: Clear

File Name : 05_CXO_Clev_Cole AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

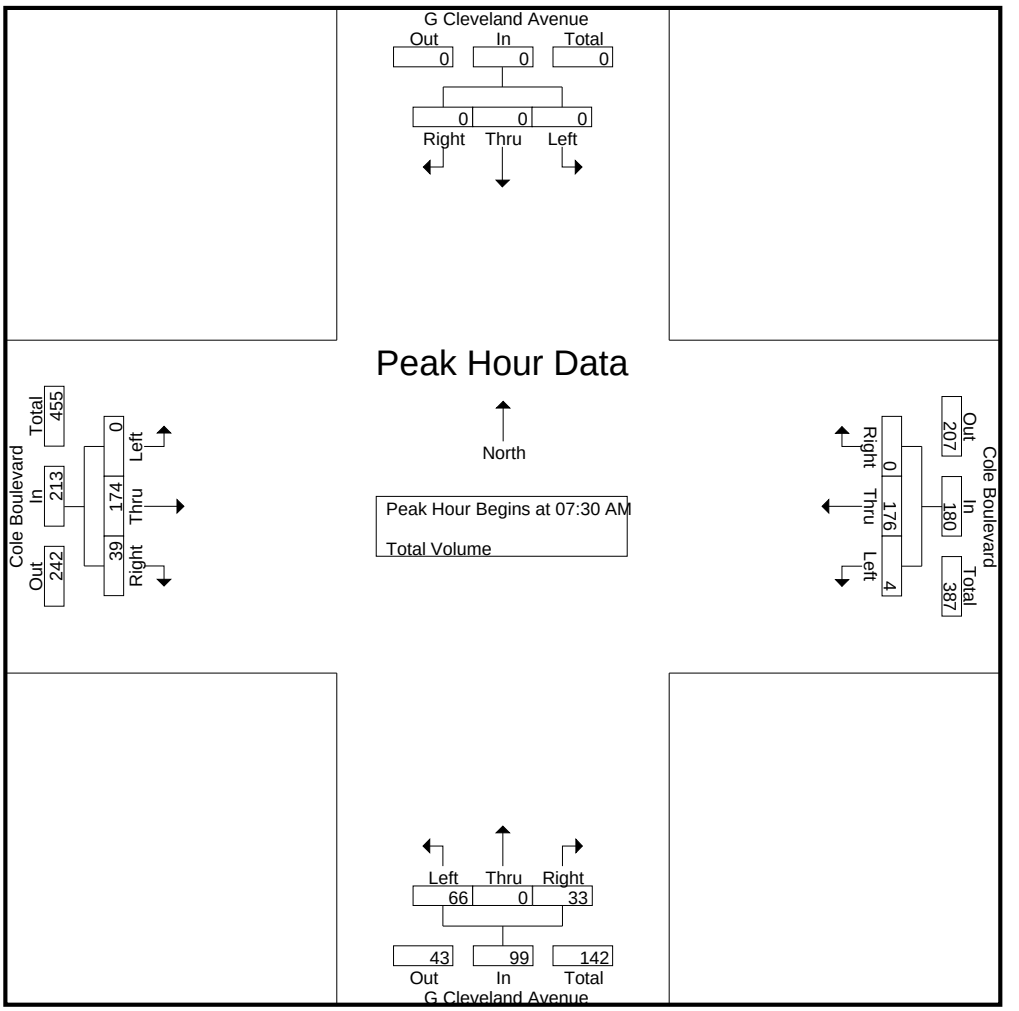
	G Cleveland Avenue Southbound				Cole Boulevard Westbound				G Cleveland Avenue Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	27	0	27	12	0	2	14	0	26	5	31	72
07:15 AM	0	0	0	0	1	31	0	32	7	0	9	16	0	32	7	39	87
07:30 AM	0	0	0	0	2	35	0	37	15	0	12	27	0	43	10	53	117
07:45 AM	0	0	0	0	1	61	0	62	24	0	15	39	0	48	13	61	162
Total	0	0	0	0	4	154	0	158	58	0	38	96	0	149	35	184	438
08:00 AM	0	0	0	0	0	45	0	45	19	0	3	22	0	36	12	48	115
08:15 AM	0	0	0	0	1	35	0	36	8	0	3	11	0	47	4	51	98
08:30 AM	0	0	0	0	1	35	0	36	7	0	2	9	0	33	7	40	85
08:45 AM	0	0	0	0	0	54	0	54	2	0	2	4	0	38	3	41	99
Total	0	0	0	0	2	169	0	171	36	0	10	46	0	154	26	180	397
Grand Total	0	0	0	0	6	323	0	329	94	0	48	142	0	303	61	364	835
Apprch %	0	0	0		1.8	98.2	0		66.2	0	33.8		0	83.2	16.8		
Total %	0	0	0	0	0.7	38.7	0	39.4	11.3	0	5.7	17	0	36.3	7.3	43.6	

	G Cleveland Avenue Southbound				Cole Boulevard Westbound				G Cleveland Avenue Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	**2**	35	0	37	15	0	12	27	0	43	10	53	117
07:45 AM	0	0	0	0	1	**61**	0	**62**	**24**	0	**15**	**39**	0	**48**	**13**	**61**	**162**
08:00 AM	0	0	0	0	0	45	0	45	19	0	3	22	0	36	12	48	115
08:15 AM	0	0	0	0	1	35	0	36	8	0	3	11	0	47	4	51	98
Total Volume	0	0	0	0	4	176	0	180	66	0	33	99	0	174	39	213	492
% App. Total	0	0	0		2.2	97.8	0		66.7	0	33.3		0	81.7	18.3		
PHF	.000	.000	.000	.000	.500	.721	.000	.726	.688	.000	.550	.635	.000	.906	.750	.873	.759

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City of Calexico
N/S: G Cleveland Avenue
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File Name : 05_CXO_Clev_Cole AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:30 AM				07:15 AM				07:30 AM			
+0 mins.	0	0	0	0	**2**	35	0	37	7	0	9	16	0	43	10	53
+15 mins.	0	0	0	0	1	**61**	0	**62**	15	0	12	27	0	**48**	**13**	**61**
+30 mins.	0	0	0	0	0	45	0	45	**24**	0	**15**	**39**	0	36	12	48
+45 mins.	0	0	0	0	1	35	0	36	19	0	3	22	0	47	4	51
Total Volume	0	0	0	0	4	176	0	180	65	0	39	104	0	174	39	213
% App. Total	0	0	0		2.2	97.8	0		62.5	0	37.5		0	81.7	18.3	
PHF	.000	.000	.000	.000	.500	.721	.000	.726	.677	.000	.650	.667	.000	.906	.750	.873

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City of Calexico
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E/W: Cole Boulevard
Weather: Clear

File Name : 05_CXO_Clev_Cole PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

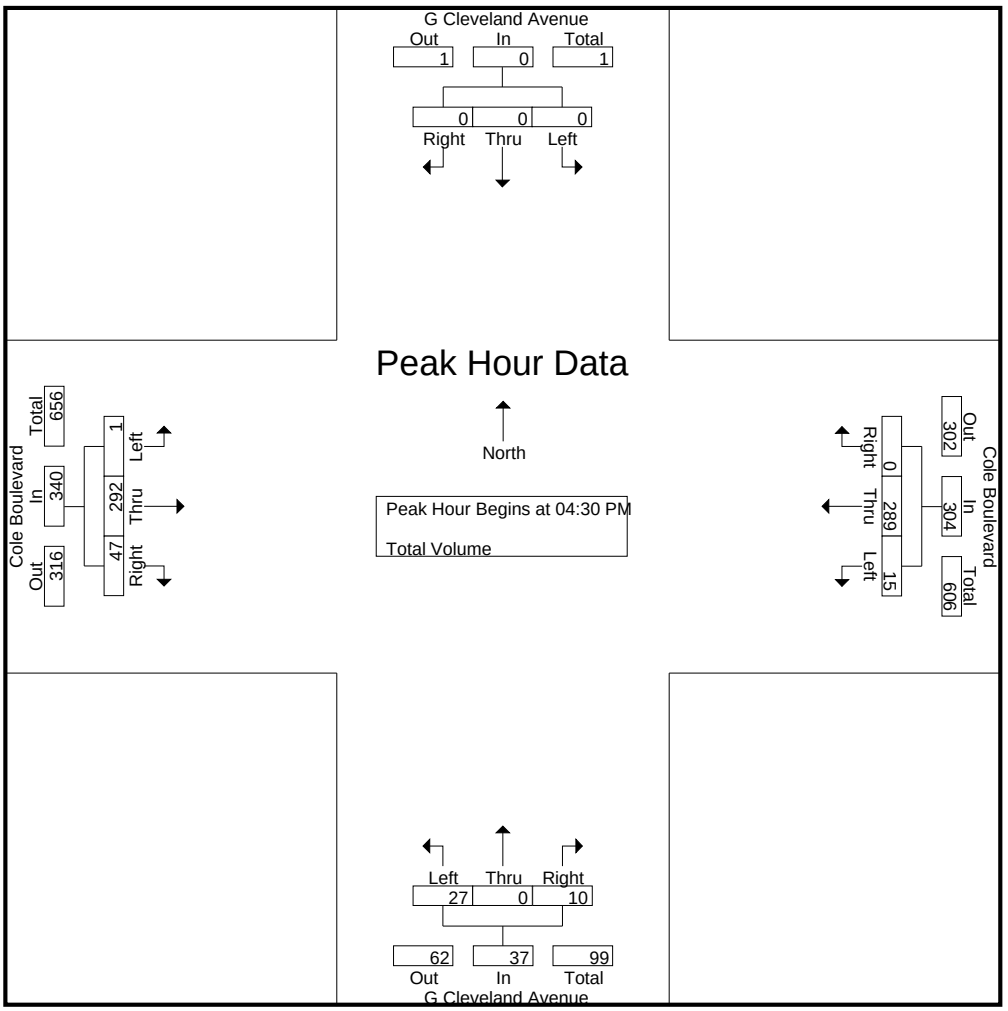
	G Cleveland Avenue Southbound				Cole Boulevard Westbound				G Cleveland Avenue Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	1	67	0	68	7	0	0	7	0	73	16	89	164
04:15 PM	0	0	0	0	3	64	0	67	4	0	3	7	0	68	11	79	153
04:30 PM	0	0	0	0	3	77	0	80	5	0	3	8	0	70	8	78	166
04:45 PM	0	0	0	0	1	64	0	65	4	0	1	5	0	73	15	88	158
Total	0	0	0	0	8	272	0	280	20	0	7	27	0	284	50	334	641
05:00 PM	0	0	0	0	5	61	0	66	7	0	1	8	0	77	14	91	165
05:15 PM	0	0	0	0	6	87	0	93	11	0	5	16	1	72	10	83	192
05:30 PM	0	0	0	0	7	45	0	52	9	0	1	10	0	84	7	91	153
05:45 PM	0	0	0	0	0	58	0	58	10	0	1	11	0	62	9	71	140
Total	0	0	0	0	18	251	0	269	37	0	8	45	1	295	40	336	650
Grand Total	0	0	0	0	26	523	0	549	57	0	15	72	1	579	90	670	1291
Apprch %	0	0	0		4.7	95.3	0		79.2	0	20.8		0.1	86.4	13.4		
Total %	0	0	0	0	2	40.5	0	42.5	4.4	0	1.2	5.6	0.1	44.8	7	51.9	

	G Cleveland Avenue Southbound				Cole Boulevard Westbound				G Cleveland Avenue Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	3	77	0	80	5	0	3	8	0	70	8	78	166
04:45 PM	0	0	0	0	1	64	0	65	4	0	1	5	0	73	**15**	88	158
05:00 PM	0	0	0	0	5	61	0	66	7	0	1	8	0	**77**	14	**91**	165
05:15 PM	0	0	0	0	**6**	**87**	0	**93**	**11**	0	**5**	**16**	**1**	72	10	83	**192**
Total Volume	0	0	0	0	15	289	0	304	27	0	10	37	1	292	47	340	681
% App. Total	0	0	0		4.9	95.1	0		73	0	27		0.3	85.9	13.8		
PHF	.000	.000	.000	.000	.625	.830	.000	.817	.614	.000	.500	.578	.250	.948	.783	.934	.887

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City of Calexico
N/S: G Cleveland Avenue
E/W: Cole Boulevard
Weather: Clear

File Name : 05_CXO_Clev_Cole PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				05:00 PM				04:45 PM			
+0 mins.	0	0	0	0	3	77	0	80	7	0	1	8	0	73	**15**	88
+15 mins.	0	0	0	0	1	64	0	65	**11**	0	**5**	**16**	0	77	14	**91**
+30 mins.	0	0	0	0	5	61	0	66	9	0	1	10	**1**	72	10	83
+45 mins.	0	0	0	0	**6**	**87**	0	**93**	10	0	1	11	0	**84**	7	91
Total Volume	0	0	0	0	15	289	0	304	37	0	8	45	1	306	46	353
% App. Total	0	0	0		4.9	95.1	0		82.2	0	17.8		0.3	86.7	13	
PHF	.000	.000	.000	.000	.625	.830	.000	.817	.841	.000	.400	.703	.250	.911	.767	.970

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City of Calexico
N/S: Bowker Road
E/W: Cole Boulevard
Weather: Clear

File Name : 06_CXO_Bow_Cole AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

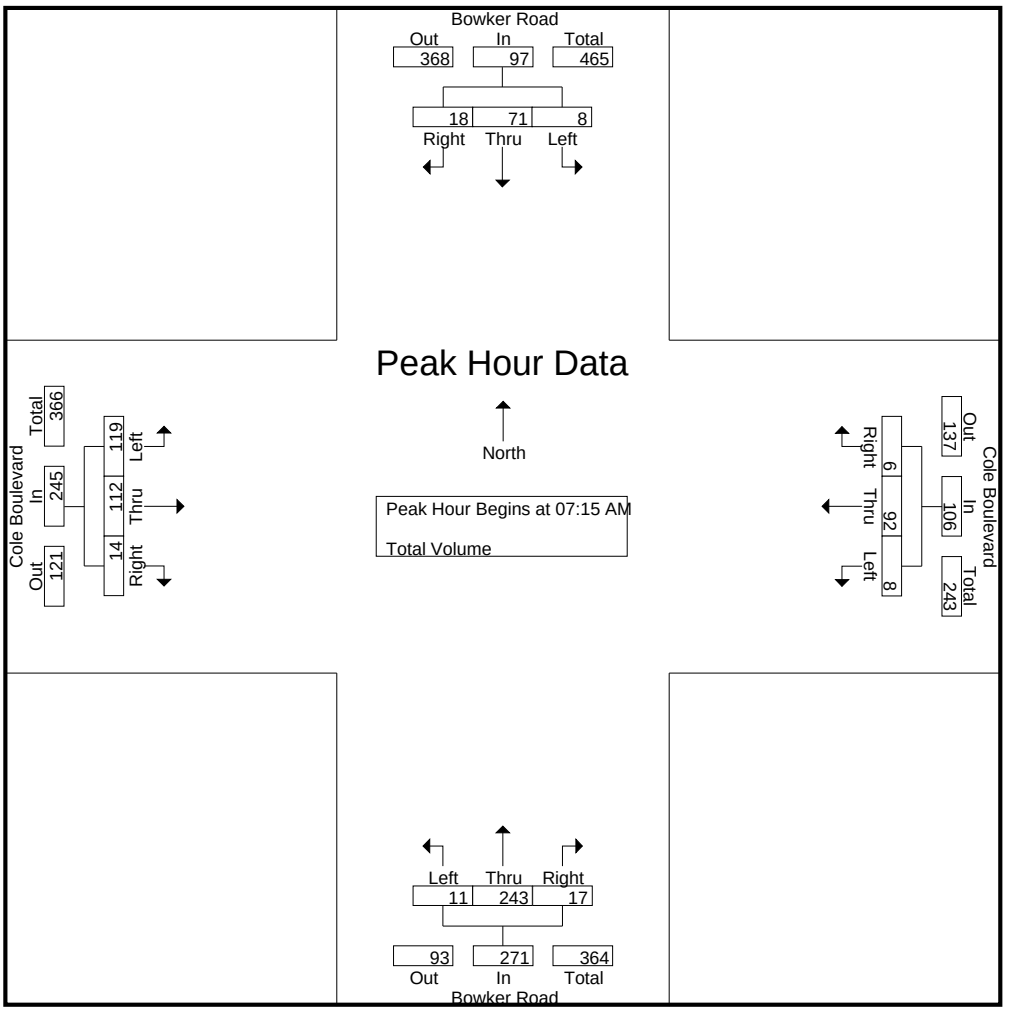
	Bowker Road Southbound				Cole Boulevard Westbound				Bowker Road Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	3	1	5	2	19	1	22	1	33	8	42	13	20	3	36	105
07:15 AM	1	9	5	15	2	15	0	17	1	56	3	60	29	19	2	50	142
07:30 AM	2	12	5	19	4	26	2	32	2	82	7	91	44	28	2	74	216
07:45 AM	1	31	4	36	1	22	0	23	4	68	5	77	37	43	6	86	222
Total	5	55	15	75	9	82	3	94	8	239	23	270	123	110	13	246	685
08:00 AM	4	19	4	27	1	29	4	34	4	37	2	43	9	22	4	35	139
08:15 AM	1	13	2	16	2	21	3	26	2	23	1	26	14	24	2	40	108
08:30 AM	0	12	3	15	5	17	1	23	1	26	3	30	10	25	5	40	108
08:45 AM	2	11	3	16	0	36	1	37	2	8	5	15	7	30	2	39	107
Total	7	55	12	74	8	103	9	120	9	94	11	114	40	101	13	154	462
Grand Total	12	110	27	149	17	185	12	214	17	333	34	384	163	211	26	400	1147
Apprch %	8.1	73.8	18.1		7.9	86.4	5.6		4.4	86.7	8.9		40.8	52.8	6.5		
Total %	1	9.6	2.4	13	1.5	16.1	1	18.7	1.5	29	3	33.5	14.2	18.4	2.3	34.9	

	Bowker Road Southbound				Cole Boulevard Westbound				Bowker Road Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	1	9	**5**	15	2	15	0	17	1	56	3	60	29	19	2	50	142
07:30 AM	2	12	5	19	**4**	26	2	32	2	**82**	**7**	**91**	**44**	28	2	74	216
07:45 AM	1	**31**	4	**36**	1	22	0	23	**4**	68	5	77	37	**43**	**6**	**86**	**222**
08:00 AM	**4**	19	4	27	1	**29**	**4**	**34**	4	37	2	43	9	22	4	35	139
Total Volume	8	71	18	97	8	92	6	106	11	243	17	271	119	112	14	245	719
% App. Total	8.2	73.2	18.6		7.5	86.8	5.7		4.1	89.7	6.3		48.6	45.7	5.7		
PHF	.500	.573	.900	.674	.500	.793	.375	.779	.688	.741	.607	.745	.676	.651	.583	.712	.810

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City of Calexico
N/S: Bowker Road
E/W: Cole Boulevard
Weather: Clear

File Name : 06_CXO_Bow_Cole AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				08:00 AM				07:15 AM				07:00 AM			
+0 mins.	2	12	**5**	19	1	29	**4**	34	1	56	3	60	13	20	3	36
+15 mins.	1	**31**	4	**36**	2	21	3	26	2	**82**	**7**	**91**	29	19	2	50
+30 mins.	**4**	19	4	27	**5**	17	1	23	**4**	68	5	77	**44**	28	2	74
+45 mins.	1	13	2	16	0	**36**	1	**37**	4	37	2	43	37	**43**	**6**	**86**
Total Volume	8	75	15	98	8	103	9	120	11	243	17	271	123	110	13	246
% App. Total	8.2	76.5	15.3		6.7	85.8	7.5		4.1	89.7	6.3		50	44.7	5.3	
PHF	.500	.605	.750	.681	.400	.715	.563	.811	.688	.741	.607	.745	.699	.640	.542	.715

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City of Calexico
N/S: Bowker Road
E/W: Cole Boulevard
Weather: Clear

File Name : 06_CXO_Bow_Cole PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

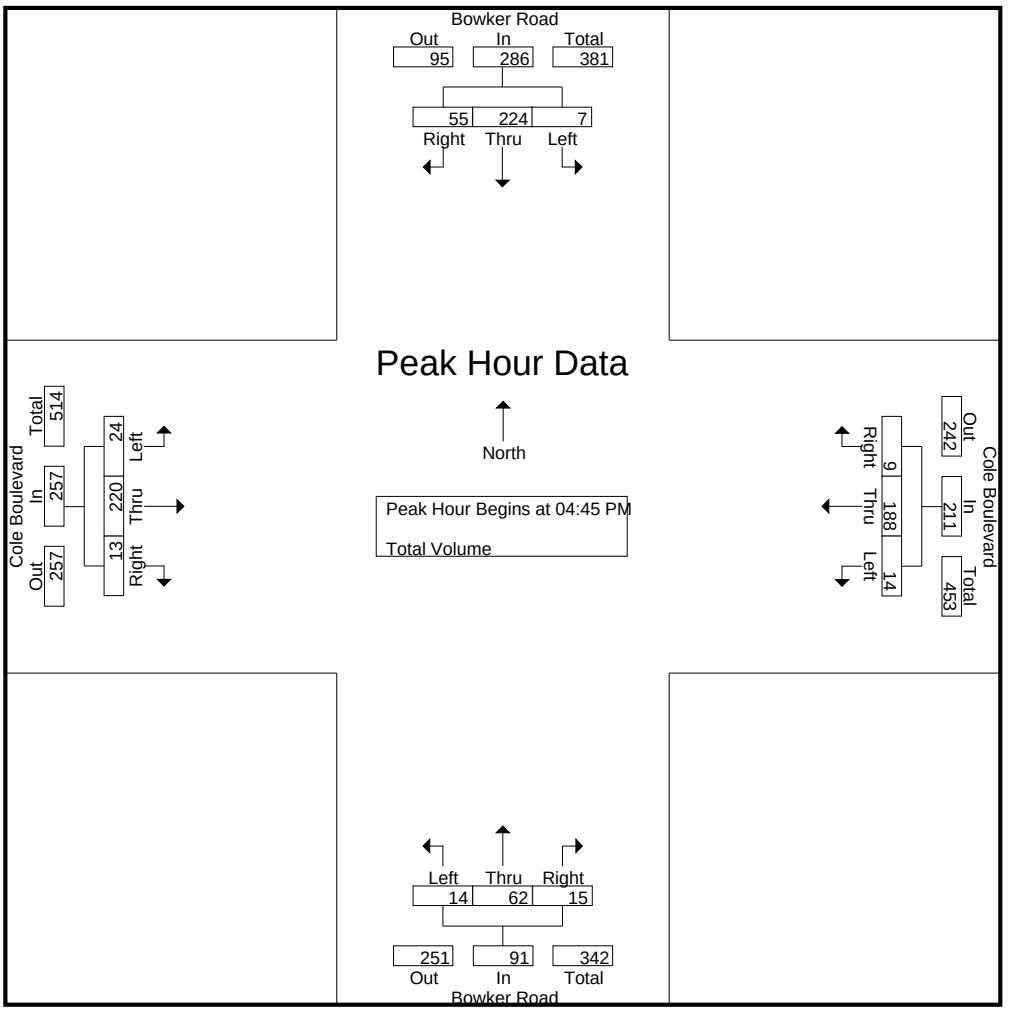
	Bowker Road Southbound				Cole Boulevard Westbound				Bowker Road Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	7	47	8	62	1	55	2	58	2	15	5	22	5	65	5	75	217
04:15 PM	5	40	13	58	6	39	0	45	4	10	6	20	3	65	2	70	193
04:30 PM	2	40	13	55	3	56	3	62	2	12	5	19	7	49	3	59	195
04:45 PM	1	55	10	66	4	45	3	52	5	12	0	17	2	48	4	54	189
Total	15	182	44	241	14	195	8	217	13	49	16	78	17	227	14	258	794
05:00 PM	2	31	13	46	0	51	3	54	4	9	5	18	5	58	0	63	181
05:15 PM	1	85	19	105	3	59	0	62	3	15	2	20	7	61	4	72	259
05:30 PM	3	53	13	69	7	33	3	43	2	26	8	36	10	53	5	68	216
05:45 PM	3	41	13	57	3	29	2	34	1	14	4	19	6	44	4	54	164
Total	9	210	58	277	13	172	8	193	10	64	19	93	28	216	13	257	820
Grand Total	24	392	102	518	27	367	16	410	23	113	35	171	45	443	27	515	1614
Apprch %	4.6	75.7	19.7		6.6	89.5	3.9		13.5	66.1	20.5		8.7	86	5.2		
Total %	1.5	24.3	6.3	32.1	1.7	22.7	1	25.4	1.4	7	2.2	10.6	2.8	27.4	1.7	31.9	

	Bowker Road Southbound				Cole Boulevard Westbound				Bowker Road Northbound				Cole Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	1	55	10	66	4	45	**3**	52	**5**	12	0	17	2	48	4	54	189
05:00 PM	2	31	13	46	0	51	3	54	4	9	5	18	5	58	0	63	181
05:15 PM	1	**85**	**19**	**105**	3	**59**	0	**62**	3	15	2	20	7	**61**	4	**72**	**259**
05:30 PM	**3**	53	13	69	**7**	33	3	43	2	**26**	**8**	**36**	**10**	53	**5**	68	216
Total Volume	7	224	55	286	14	188	9	211	14	62	15	91	24	220	13	257	845
% App. Total	2.4	78.3	19.2		6.6	89.1	4.3		15.4	68.1	16.5		9.3	85.6	5.1		
PHF	.583	.659	.724	.681	.500	.797	.750	.851	.700	.596	.469	.632	.600	.902	.650	.892	.816

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City of Calexico
N/S: Bowker Road
E/W: Cole Boulevard
Weather: Clear

File Name : 06_CXO_Bow_Cole PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:30 PM				05:00 PM				04:00 PM			
+0 mins.	1	55	10	66	3	56	**3**	**62**	**4**	9	5	18	5	**65**	**5**	**75**
+15 mins.	2	31	13	46	**4**	45	3	52	3	15	2	20	3	65	2	70
+30 mins.	1	**85**	**19**	**105**	0	51	3	54	2	**26**	**8**	**36**	**7**	49	3	59
+45 mins.	**3**	53	13	69	3	**59**	0	62	1	14	4	19	2	48	4	54
Total Volume	7	224	55	286	10	211	9	230	10	64	19	93	17	227	14	258
% App. Total	2.4	78.3	19.2		4.3	91.7	3.9		10.8	68.8	20.4		6.6	88	5.4	
PHF	.583	.659	.724	.681	.625	.894	.750	.927	.625	.615	.594	.646	.607	.873	.700	.860

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City of Calexico
N/S: David Navarro Avenue
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 07_CXO_Dav_Bir AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

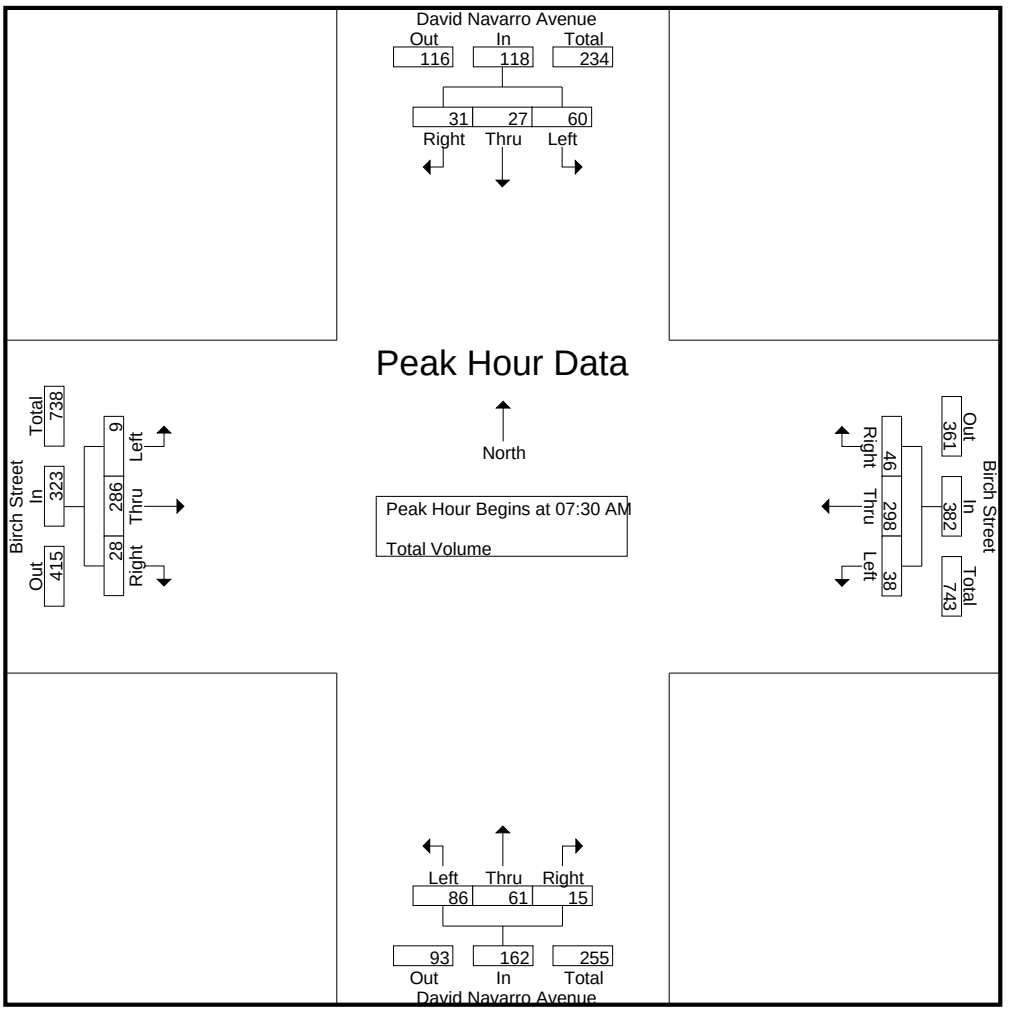
	David Navarro Avenue Southbound				Birch Street Westbound				David Navarro Avenue Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	6	1	2	9	5	64	1	70	19	5	3	27	2	30	6	38	144
07:15 AM	10	1	11	22	8	85	7	100	27	7	2	36	1	48	3	52	210
07:30 AM	5	3	9	17	6	93	4	103	26	8	3	37	0	75	4	79	236
07:45 AM	22	2	14	38	11	70	9	90	29	26	4	59	4	65	7	76	263
Total	43	7	36	86	30	312	21	363	101	46	12	159	7	218	20	245	853
08:00 AM	22	16	3	41	10	73	16	99	16	21	4	41	3	69	12	84	265
08:15 AM	11	6	5	22	11	62	17	90	15	6	4	25	2	77	5	84	221
08:30 AM	8	2	3	13	17	81	6	104	13	4	6	23	1	60	4	65	205
08:45 AM	8	4	6	18	10	79	2	91	9	4	2	15	4	54	6	64	188
Total	49	28	17	94	48	295	41	384	53	35	16	104	10	260	27	297	879
Grand Total	92	35	53	180	78	607	62	747	154	81	28	263	17	478	47	542	1732
Apprch %	51.1	19.4	29.4		10.4	81.3	8.3		58.6	30.8	10.6		3.1	88.2	8.7		
Total %	5.3	2	3.1	10.4	4.5	35	3.6	43.1	8.9	4.7	1.6	15.2	1	27.6	2.7	31.3	

	David Navarro Avenue Southbound				Birch Street Westbound				David Navarro Avenue Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	5	3	9	17	6	**93**	4	**103**	26	8	3	37	0	75	4	79	236
07:45 AM	**22**	2	**14**	38	**11**	70	9	90	**29**	**26**	**4**	**59**	**4**	65	7	76	263
08:00 AM	22	**16**	3	**41**	10	73	16	99	16	21	4	41	3	69	**12**	**84**	**265**
08:15 AM	11	6	5	22	11	62	**17**	90	15	6	4	25	2	**77**	5	84	221
Total Volume	60	27	31	118	38	298	46	382	86	61	15	162	9	286	28	323	985
% App. Total	50.8	22.9	26.3		9.9	78	12		53.1	37.7	9.3		2.8	88.5	8.7		
PHF	.682	.422	.554	.720	.864	.801	.676	.927	.741	.587	.938	.686	.563	.929	.583	.961	.929

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City of Calexico
N/S: David Navarro Avenue
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 07_CXO_Dav_Bir AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:30 AM			
+0 mins.	10	1	11	22	8	85	7	100	27	7	2	36	0	75	4	79
+15 mins.	5	3	9	17	6	**93**	4	**103**	26	8	3	37	**4**	65	7	76
+30 mins.	**22**	2	**14**	38	**11**	70	9	90	**29**	**26**	**4**	**59**	3	69	**12**	**84**
+45 mins.	22	**16**	3	**41**	10	73	**16**	99	16	21	4	41	2	**77**	5	84
Total Volume	59	22	37	118	35	321	36	392	98	62	13	173	9	286	28	323
% App. Total	50	18.6	31.4		8.9	81.9	9.2		56.6	35.8	7.5		2.8	88.5	8.7	
PHF	.670	.344	.661	.720	.795	.863	.563	.951	.845	.596	.813	.733	.563	.929	.583	.961

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City of Calexico
N/S: David Navarro Avenue
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 07_CXO_Dav_Bir PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

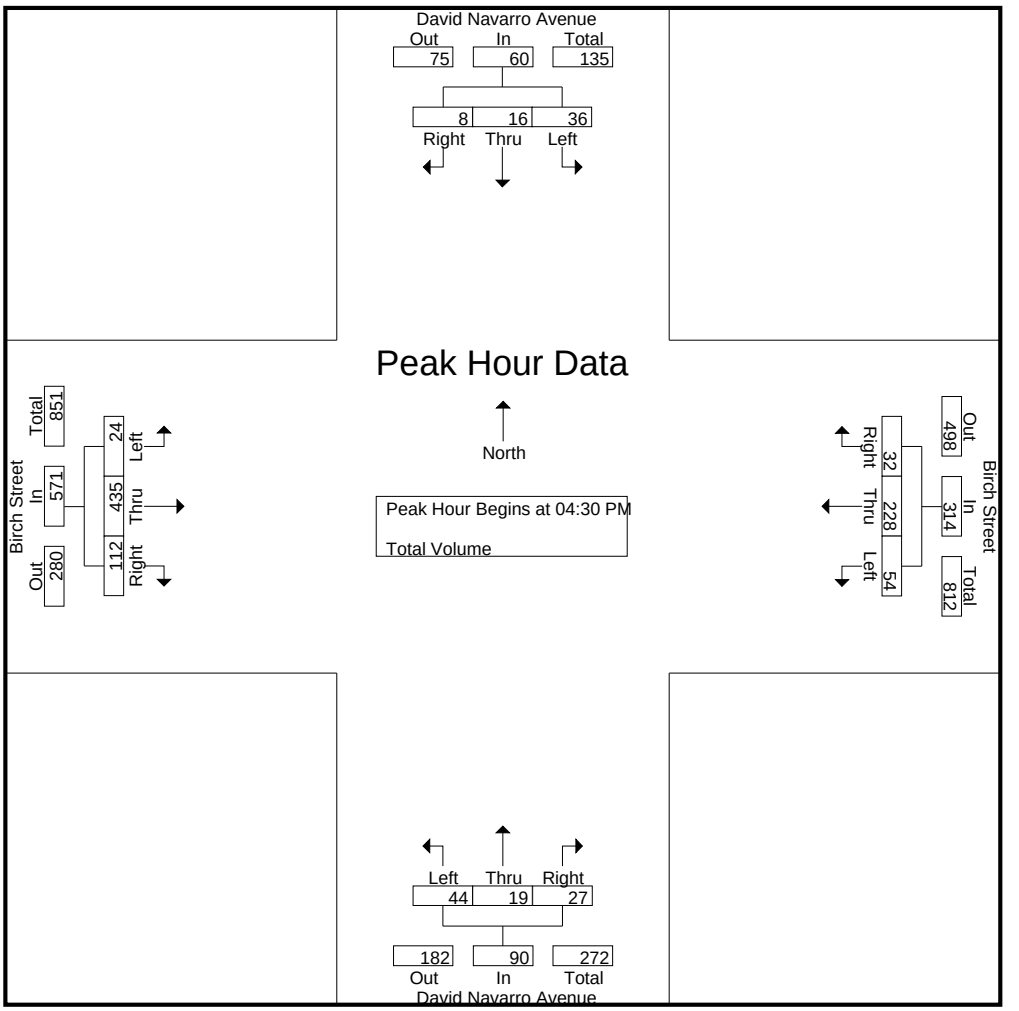
	David Navarro Avenue Southbound				Birch Street Westbound				David Navarro Avenue Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	5	6	3	14	18	59	12	89	15	1	3	19	5	99	18	122	244
04:15 PM	5	4	3	12	8	60	8	76	9	5	2	16	4	112	16	132	236
04:30 PM	6	3	0	9	10	53	7	70	12	5	2	19	7	105	19	131	229
04:45 PM	11	3	4	18	11	53	6	70	13	4	7	24	8	111	21	140	252
Total	27	16	10	53	47	225	33	305	49	15	14	78	24	427	74	525	961
05:00 PM	8	7	1	16	21	70	5	96	9	5	5	19	3	103	30	136	267
05:15 PM	11	3	3	17	12	52	14	78	10	5	13	28	6	116	42	164	287
05:30 PM	9	6	2	17	15	50	6	71	10	5	5	20	1	98	18	117	225
05:45 PM	9	7	1	17	9	32	10	51	12	7	5	24	4	105	19	128	220
Total	37	23	7	67	57	204	35	296	41	22	28	91	14	422	109	545	999
Grand Total	64	39	17	120	104	429	68	601	90	37	42	169	38	849	183	1070	1960
Apprch %	53.3	32.5	14.2		17.3	71.4	11.3		53.3	21.9	24.9		3.6	79.3	17.1		
Total %	3.3	2	0.9	6.1	5.3	21.9	3.5	30.7	4.6	1.9	2.1	8.6	1.9	43.3	9.3	54.6	

	David Navarro Avenue Southbound				Birch Street Westbound				David Navarro Avenue Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	6	3	0	9	10	53	7	70	12	**5**	2	19	7	105	19	131	229
04:45 PM	**11**	3	**4**	**18**	11	53	6	70	**13**	4	7	24	**8**	111	21	140	252
05:00 PM	8	**7**	1	16	**21**	**70**	5	**96**	9	5	5	19	3	103	30	136	267
05:15 PM	11	3	3	17	12	52	**14**	78	10	5	**13**	**28**	6	**116**	**42**	**164**	**287**
Total Volume	36	16	8	60	54	228	32	314	44	19	27	90	24	435	112	571	1035
% App. Total	60	26.7	13.3		17.2	72.6	10.2		48.9	21.1	30		4.2	76.2	19.6		
PHF	.818	.571	.500	.833	.643	.814	.571	.818	.846	.950	.519	.804	.750	.938	.667	.870	.902

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City of Calexico
N/S: David Navarro Avenue
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 07_CXO_Dav_Bir PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:30 PM			
+0 mins.	**11**	3	**4**	**18**	11	53	6	70	**13**	4	7	24	7	105	19	131
+15 mins.	8	**7**	1	16	**21**	**70**	5	**96**	9	**5**	5	19	**8**	111	21	140
+30 mins.	11	3	3	17	12	52	**14**	78	10	5	**13**	**28**	3	103	30	136
+45 mins.	9	6	2	17	15	50	6	71	10	5	5	20	6	**116**	**42**	**164**
Total Volume	39	19	10	68	59	225	31	315	42	19	30	91	24	435	112	571
% App. Total	57.4	27.9	14.7		18.7	71.4	9.8		46.2	20.9	33		4.2	76.2	19.6	
PHF	.886	.679	.625	.944	.702	.804	.554	.820	.808	.950	.577	.813	.750	.938	.667	.870

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City of Calexico
N/S: Kloke Road
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 08_CXO_Klo_Bir AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

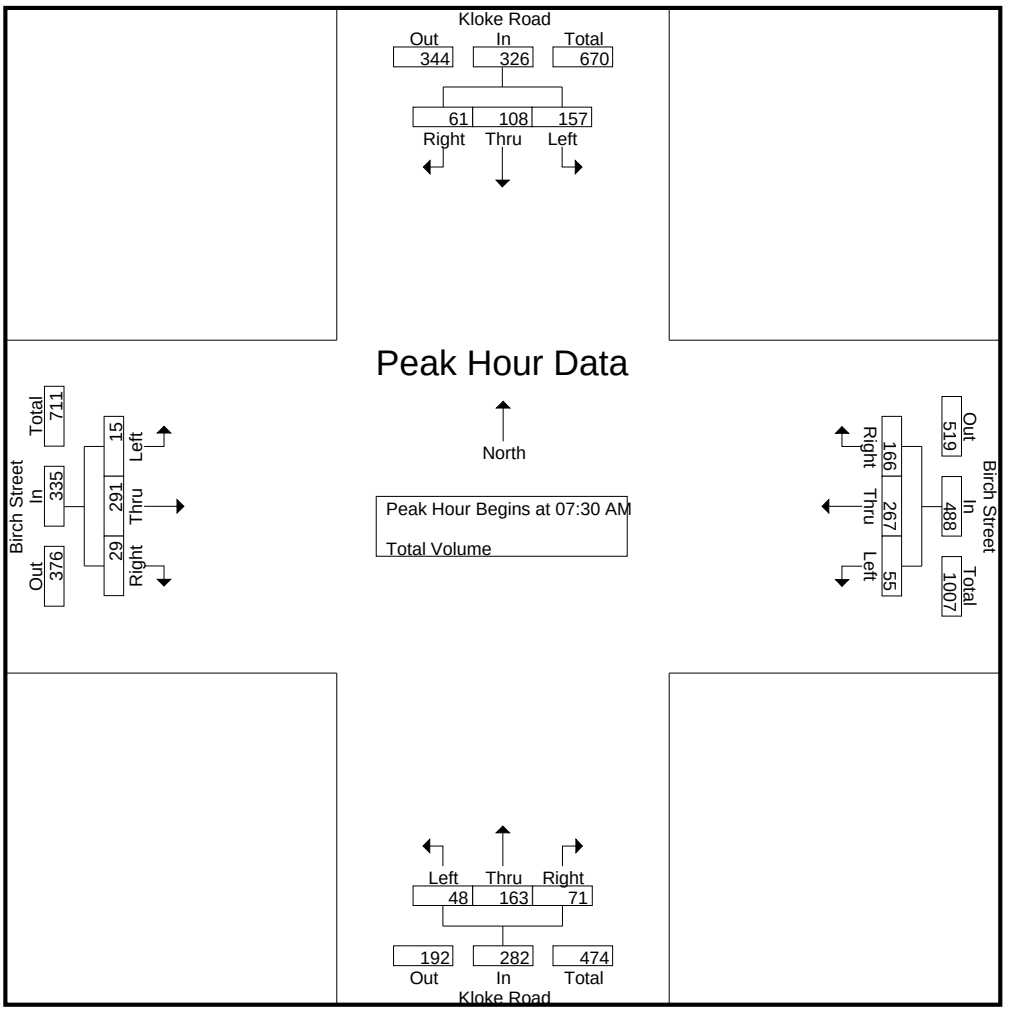
	Kloke Road Southbound				Birch Street Westbound				Kloke Road Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	11	11	3	25	7	59	10	76	3	12	16	31	1	32	2	35	167
07:15 AM	11	9	5	25	11	79	24	114	9	16	18	43	2	55	4	61	243
07:30 AM	26	8	9	43	8	74	24	106	11	26	14	51	3	56	12	71	271
07:45 AM	46	24	14	84	12	71	56	139	12	54	23	89	3	83	5	91	403
Total	94	52	31	177	38	283	114	435	35	108	71	214	9	226	23	258	1084
08:00 AM	54	54	31	139	14	52	48	114	13	63	24	100	5	81	6	92	445
08:15 AM	31	22	7	60	21	70	38	129	12	20	10	42	4	71	6	81	312
08:30 AM	14	11	4	29	15	80	21	116	13	17	13	43	3	72	4	79	267
08:45 AM	22	17	5	44	9	72	14	95	9	12	10	31	0	62	5	67	237
Total	121	104	47	272	59	274	121	454	47	112	57	216	12	286	21	319	1261
Grand Total	215	156	78	449	97	557	235	889	82	220	128	430	21	512	44	577	2345
Apprch %	47.9	34.7	17.4		10.9	62.7	26.4		19.1	51.2	29.8		3.6	88.7	7.6		
Total %	9.2	6.7	3.3	19.1	4.1	23.8	10	37.9	3.5	9.4	5.5	18.3	0.9	21.8	1.9	24.6	

	Kloke Road Southbound				Birch Street Westbound				Kloke Road Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	26	8	9	43	8	**74**	24	106	11	26	14	51	3	56	**12**	71	271
07:45 AM	46	24	14	84	12	71	**56**	**139**	12	54	23	89	3	**83**	5	91	403
08:00 AM	**54**	**54**	**31**	**139**	14	52	48	114	**13**	**63**	**24**	**100**	**5**	81	6	**92**	**445**
08:15 AM	31	22	7	60	**21**	70	38	129	12	20	10	42	4	71	6	81	312
Total Volume	157	108	61	326	55	267	166	488	48	163	71	282	15	291	29	335	1431
% App. Total	48.2	33.1	18.7		11.3	54.7	34		17	57.8	25.2		4.5	86.9	8.7		
PHF	.727	.500	.492	.586	.655	.902	.741	.878	.923	.647	.740	.705	.750	.877	.604	.910	.804

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City of Calexico
N/S: Kloke Road
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 08_CXO_Klo_Bir AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:45 AM				07:15 AM				07:45 AM			
+0 mins.	26	8	9	43	12	71	**56**	**139**	9	16	18	43	3	**83**	5	91
+15 mins.	46	24	14	84	14	52	48	114	11	26	14	51	**5**	81	**6**	**92**
+30 mins.	**54**	**54**	**31**	**139**	**21**	70	38	129	12	54	23	89	4	71	6	81
+45 mins.	31	22	7	60	15	**80**	21	116	**13**	**63**	**24**	**100**	3	72	4	79
Total Volume	157	108	61	326	62	273	163	498	45	159	79	283	15	307	21	343
% App. Total	48.2	33.1	18.7		12.4	54.8	32.7		15.9	56.2	27.9		4.4	89.5	6.1	
PHF	.727	.500	.492	.586	.738	.853	.728	.896	.865	.631	.823	.708	.750	.925	.875	.932

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City of Calexico
N/S: Kloke Road
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 08_CXO_Klo_Bir PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

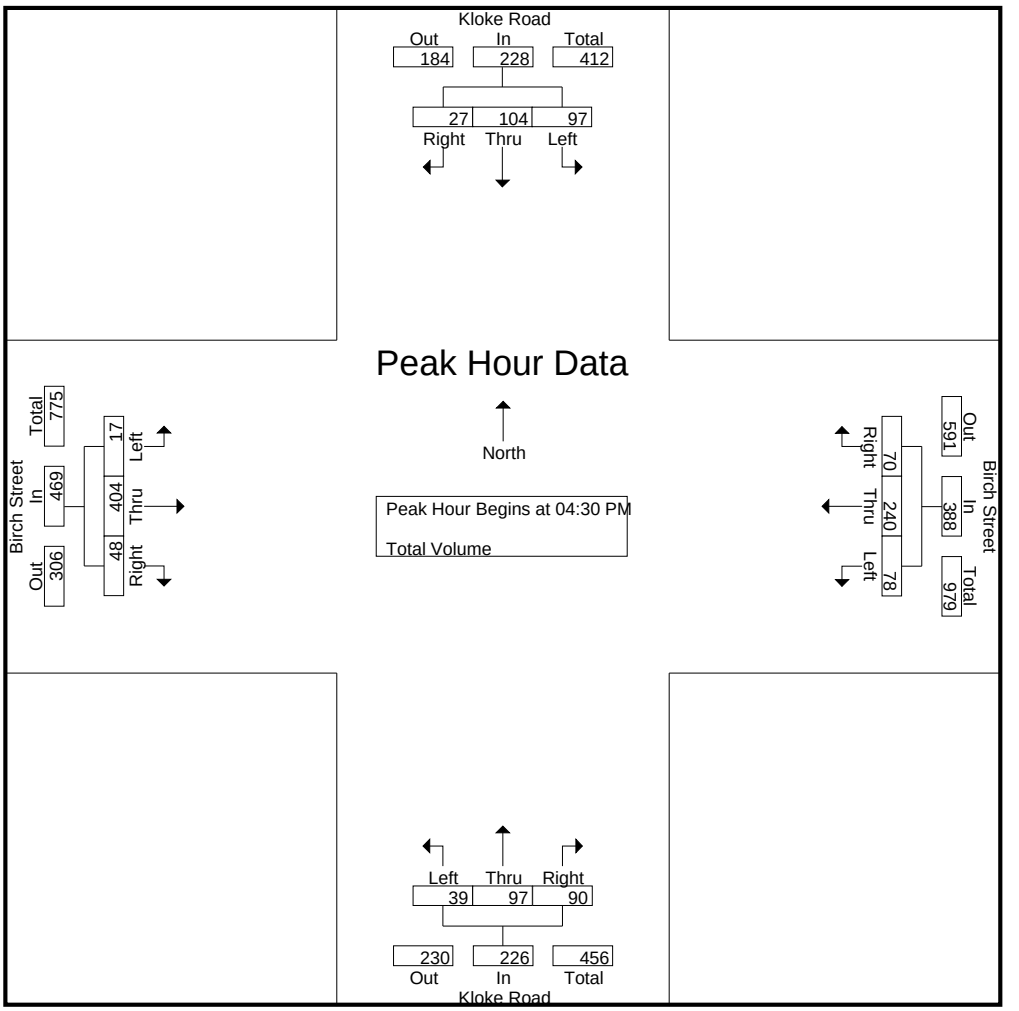
	Kloke Road Southbound				Birch Street Westbound				Kloke Road Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	27	29	7	63	17	72	22	111	7	19	18	44	3	94	7	104	322
04:15 PM	15	34	7	56	16	50	16	82	14	30	15	59	6	104	7	117	314
04:30 PM	34	30	2	66	14	60	15	89	8	17	20	45	5	93	10	108	308
04:45 PM	22	21	5	48	21	55	27	103	12	24	21	57	1	110	12	123	331
Total	98	114	21	233	68	237	80	385	41	90	74	205	15	401	36	452	1275
05:00 PM	25	30	12	67	28	67	14	109	8	26	25	59	6	95	10	111	346
05:15 PM	16	23	8	47	15	58	14	87	11	30	24	65	5	106	16	127	326
05:30 PM	19	20	9	48	9	47	20	76	10	17	15	42	6	91	10	107	273
05:45 PM	16	32	9	57	17	36	15	68	4	14	21	39	0	105	5	110	274
Total	76	105	38	219	69	208	63	340	33	87	85	205	17	397	41	455	1219
Grand Total	174	219	59	452	137	445	143	725	74	177	159	410	32	798	77	907	2494
Apprch %	38.5	48.5	13.1		18.9	61.4	19.7		18	43.2	38.8		3.5	88	8.5		
Total %	7	8.8	2.4	18.1	5.5	17.8	5.7	29.1	3	7.1	6.4	16.4	1.3	32	3.1	36.4	

	Kloke Road Southbound				Birch Street Westbound				Kloke Road Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**34**	**30**	2	66	14	60	15	89	8	17	20	45	5	93	10	108	308
04:45 PM	22	21	5	48	21	55	**27**	103	**12**	24	21	57	1	**110**	12	123	331
05:00 PM	25	30	**12**	**67**	**28**	**67**	14	**109**	8	26	**25**	59	**6**	95	10	111	**346**
05:15 PM	16	23	8	47	15	58	14	87	11	**30**	24	**65**	5	106	**16**	**127**	326
Total Volume	97	104	27	228	78	240	70	388	39	97	90	226	17	404	48	469	1311
% App. Total	42.5	45.6	11.8		20.1	61.9	18		17.3	42.9	39.8		3.6	86.1	10.2		
PHF	.713	.867	.563	.851	.696	.896	.648	.890	.813	.808	.900	.869	.708	.918	.750	.923	.947

Counts Unlimited, Inc.
PO Box 1178
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(951) 268-6268

City of Calexico
N/S: Kloke Road
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 08_CXO_Klo_Bir PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	15	**34**	7	56	14	60	15	89	8	17	20	45	5	93	10	108
+15 mins.	**34**	30	2	66	21	55	**27**	103	**12**	24	21	57	1	**110**	12	123
+30 mins.	22	21	5	48	**28**	**67**	14	**109**	8	26	**25**	59	**6**	95	10	111
+45 mins.	25	30	**12**	**67**	15	58	14	87	11	**30**	24	**65**	5	106	**16**	**127**
Total Volume	96	115	26	237	78	240	70	388	39	97	90	226	17	404	48	469
% App. Total	40.5	48.5	11		20.1	61.9	18		17.3	42.9	39.8		3.6	86.1	10.2	
PHF	.706	.846	.542	.884	.696	.896	.648	.890	.813	.808	.900	.869	.708	.918	.750	.923

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County of Imperial
N/S: Cesar Chavez Boulevard
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 29_CIM_CesarC_Birch AM
Site Code : 12525114
Start Date : 2/6/2025
Page No : 1

Groups Printed- Total Volume

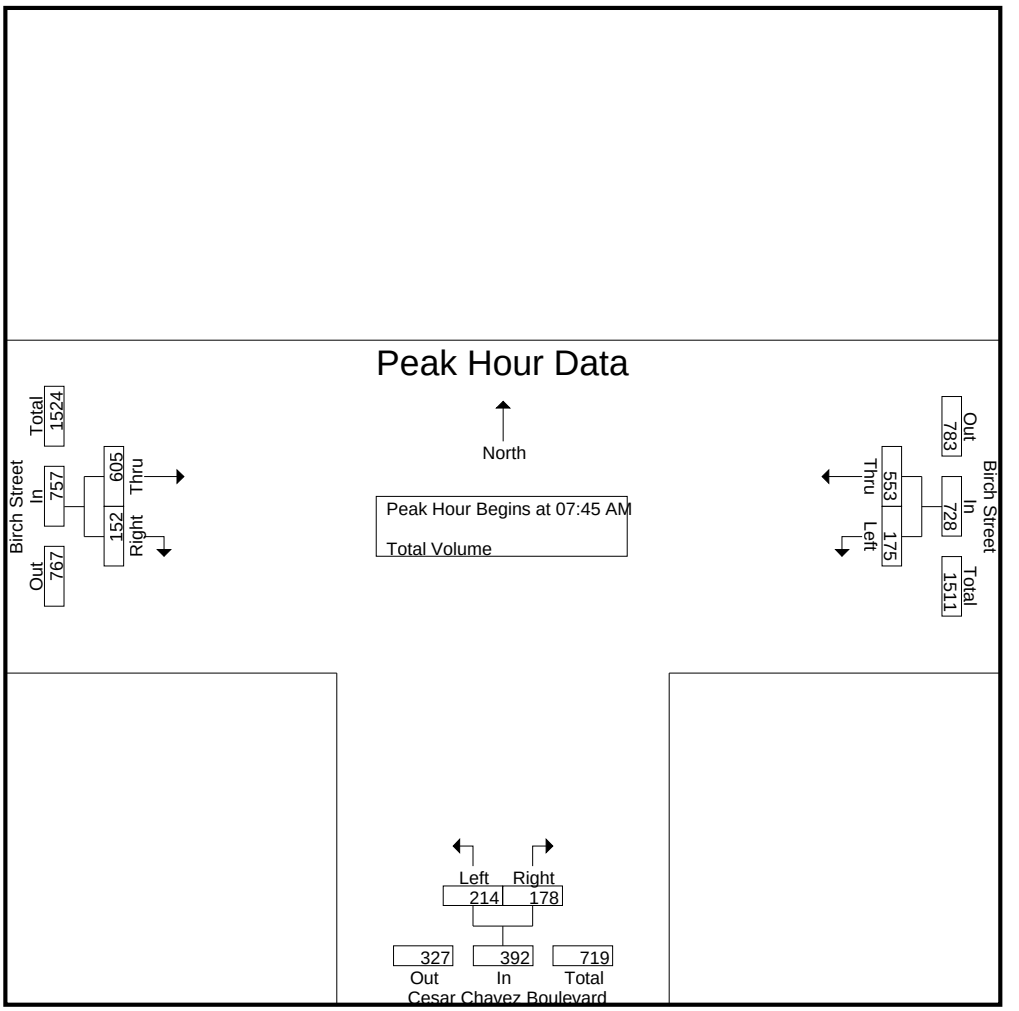
	Birch Street Westbound			Cesar Chavez Boulevard Northbound			Birch Street Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	22	56	78	52	29	81	50	19	69	228
07:15 AM	24	58	82	63	33	96	61	22	83	261
07:30 AM	35	95	130	63	40	103	102	42	144	377
07:45 AM	50	162	212	37	39	76	190	44	234	522
Total	131	371	502	215	141	356	403	127	530	1388
08:00 AM	39	140	179	71	41	112	197	38	235	526
08:15 AM	35	135	170	57	53	110	133	38	171	451
08:30 AM	51	116	167	49	45	94	85	32	117	378
08:45 AM	36	70	106	62	51	113	89	36	125	344
Total	161	461	622	239	190	429	504	144	648	1699
Grand Total	292	832	1124	454	331	785	907	271	1178	3087
Apprch %	26	74		57.8	42.2		77	23		
Total %	9.5	27	36.4	14.7	10.7	25.4	29.4	8.8	38.2	

	Birch Street Westbound			Cesar Chavez Boulevard Northbound			Birch Street Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	50	**162**	**212**	37	39	76	190	**44**	234	522
08:00 AM	39	140	179	**71**	41	**112**	**197**	38	**235**	**526**
08:15 AM	35	135	170	57	**53**	110	133	38	171	451
08:30 AM	**51**	116	167	49	45	94	85	32	117	378
Total Volume	175	553	728	214	178	392	605	152	757	1877
% App. Total	24	76		54.6	45.4		79.9	20.1		
PHF	.858	.853	.858	.754	.840	.875	.768	.864	.805	.892

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County of Imperial
N/S: Cesar Chavez Boulevard
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 29_CIM_CesarC_Birch AM
Site Code : 12525114
Start Date : 2/6/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			08:00 AM			07:30 AM		
+0 mins.	50	**162**	**212**	**71**	41	112	102	42	144
+15 mins.	39	140	179	57	**53**	110	190	**44**	234
+30 mins.	35	135	170	49	45	94	**197**	38	**235**
+45 mins.	**51**	116	167	62	51	**113**	133	38	171
Total Volume	175	553	728	239	190	429	622	162	784
% App. Total	24	76		55.7	44.3		79.3	20.7	
PHF	.858	.853	.858	.842	.896	.949	.789	.920	.834

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County of Imperial
N/S: Cesar Chavez Boulevard
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 29_CIM_CesarC_Birch PM
Site Code : 12525114
Start Date : 2/6/2025
Page No : 1

Groups Printed- Total Volume

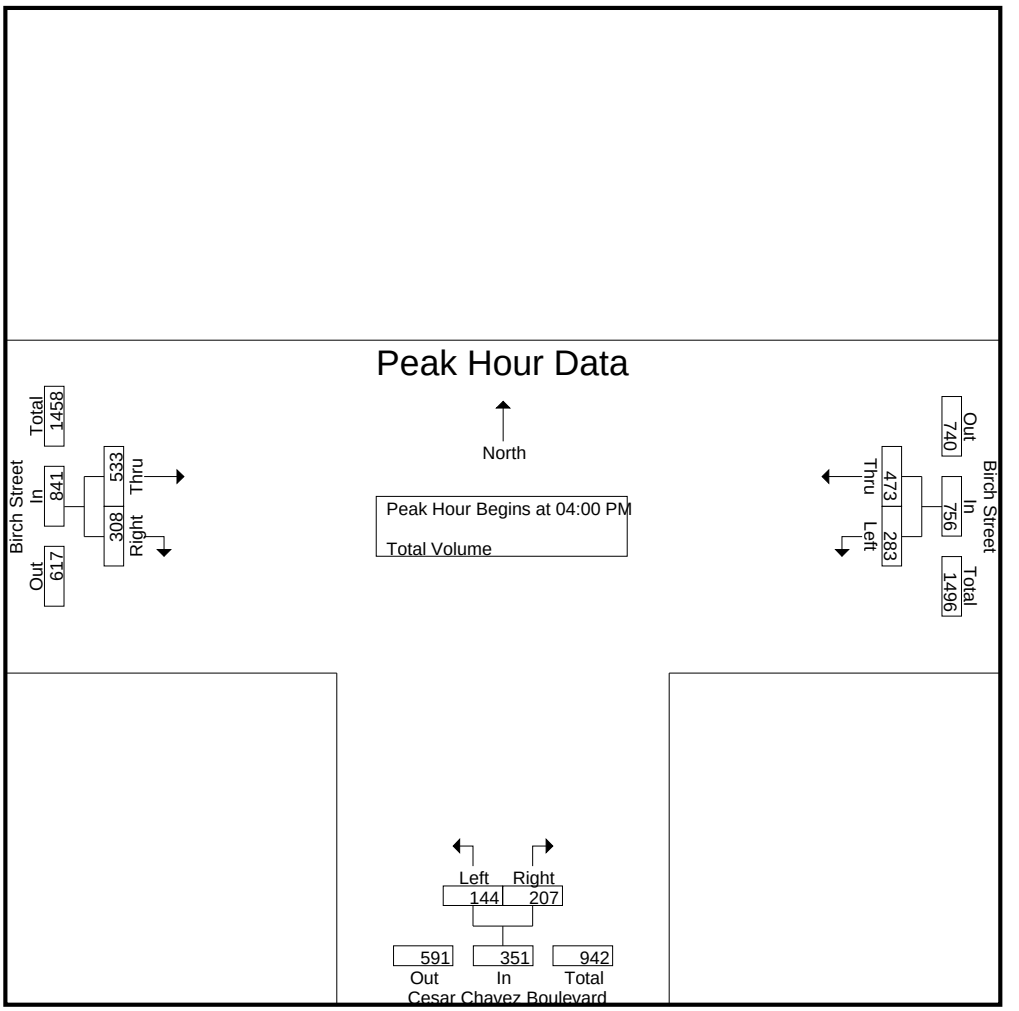
	Birch Street Westbound			Cesar Chavez Boulevard Northbound			Birch Street Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	73	126	199	48	46	94	146	76	222	515
04:15 PM	65	115	180	36	51	87	121	79	200	467
04:30 PM	68	114	182	20	59	79	143	84	227	488
04:45 PM	77	118	195	40	51	91	123	69	192	478
Total	283	473	756	144	207	351	533	308	841	1948
05:00 PM	73	99	172	45	51	96	106	63	169	437
05:15 PM	71	112	183	28	58	86	116	75	191	460
05:30 PM	81	109	190	41	61	102	126	86	212	504
05:45 PM	80	94	174	29	58	87	122	69	191	452
Total	305	414	719	143	228	371	470	293	763	1853
Grand Total	588	887	1475	287	435	722	1003	601	1604	3801
Apprch %	39.9	60.1		39.8	60.2		62.5	37.5		
Total %	15.5	23.3	38.8	7.6	11.4	19	26.4	15.8	42.2	

	Birch Street Westbound			Cesar Chavez Boulevard Northbound			Birch Street Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	73	**126**	**199**	**48**	46	**94**	**146**	76	222	**515**
04:15 PM	65	115	180	36	51	87	121	79	200	467
04:30 PM	68	114	182	20	**59**	79	143	**84**	**227**	488
04:45 PM	**77**	118	195	40	51	91	123	69	192	478
Total Volume	283	473	756	144	207	351	533	308	841	1948
% App. Total	37.4	62.6		41	59		63.4	36.6		
PHF	.919	.938	.950	.750	.877	.934	.913	.917	.926	.946

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County of Imperial
N/S: Cesar Chavez Boulevard
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 29_CIM_CesarC_Birch PM
Site Code : 12525114
Start Date : 2/6/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:45 PM			04:00 PM		
+0 mins.	73	**126**	**199**	40	51	91	**146**	76	222
+15 mins.	65	115	180	**45**	51	96	121	79	200
+30 mins.	68	114	182	28	58	86	143	**84**	**227**
+45 mins.	**77**	118	195	41	**61**	**102**	123	69	192
Total Volume	283	473	756	154	221	375	533	308	841
% App. Total	37.4	62.6		41.1	58.9		63.4	36.6	
PHF	.919	.938	.950	.856	.906	.919	.913	.917	.926

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County of Imperial
N/S: Imperial Boulevard
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 30_CIM_Imp_Birch AM
Site Code : 12525114
Start Date : 2/6/2025
Page No : 1

Groups Printed- Total Volume

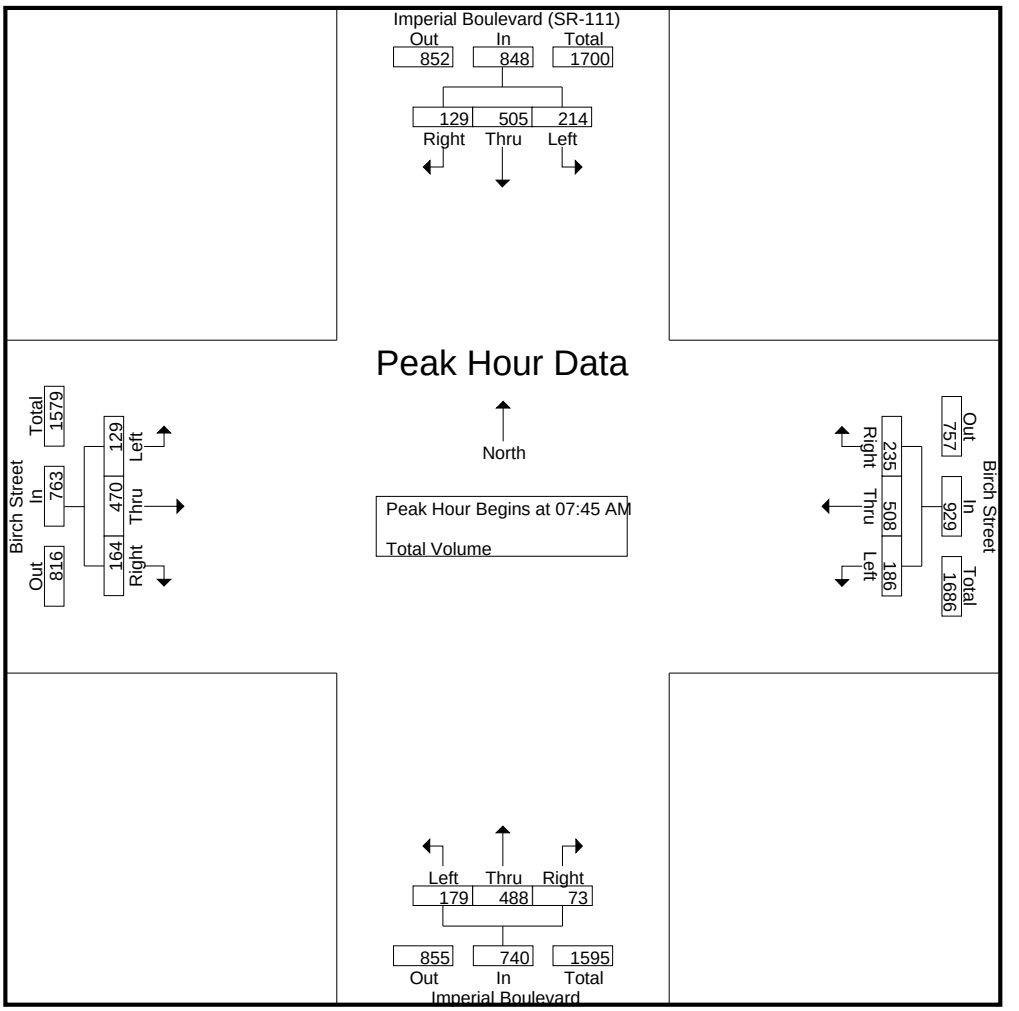
	Imperial Boulevard (SR-111) Southbound				Birch Street Westbound				Imperial Boulevard Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	26	47	20	93	12	63	54	129	13	117	17	147	24	41	9	74	443
07:15 AM	39	57	14	110	20	65	58	143	14	126	16	156	21	42	12	75	484
07:30 AM	58	84	20	162	12	95	99	206	27	106	20	153	29	86	18	133	654
07:45 AM	65	108	38	211	23	125	66	214	52	137	20	209	16	165	57	238	872
Total	188	296	92	576	67	348	277	692	106	486	73	665	90	334	96	520	2453
08:00 AM	64	151	25	240	61	149	58	268	48	117	12	177	35	133	64	232	917
08:15 AM	42	141	36	219	40	138	51	229	37	102	19	158	47	102	25	174	780
08:30 AM	43	105	30	178	62	96	60	218	42	132	22	196	31	70	18	119	711
08:45 AM	64	137	54	255	30	41	42	113	44	114	21	179	50	82	31	163	710
Total	213	534	145	892	193	424	211	828	171	465	74	710	163	387	138	688	3118
Grand Total	401	830	237	1468	260	772	488	1520	277	951	147	1375	253	721	234	1208	5571
Apprch %	27.3	56.5	16.1		17.1	50.8	32.1		20.1	69.2	10.7		20.9	59.7	19.4		
Total %	7.2	14.9	4.3	26.4	4.7	13.9	8.8	27.3	5	17.1	2.6	24.7	4.5	12.9	4.2	21.7	

	Imperial Boulevard (SR-111) Southbound				Birch Street Westbound				Imperial Boulevard Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**65**	108	**38**	211	23	125	**66**	214	**52**	**137**	20	**209**	16	**165**	57	**238**	872
08:00 AM	64	**151**	25	**240**	61	**149**	58	**268**	48	117	12	177	35	133	**64**	232	**917**
08:15 AM	42	141	36	219	40	138	51	229	37	102	19	158	**47**	102	25	174	780
08:30 AM	43	105	30	178	**62**	96	60	218	42	132	**22**	196	31	70	18	119	711
Total Volume	214	505	129	848	186	508	235	929	179	488	73	740	129	470	164	763	3280
% App. Total	25.2	59.6	15.2		20	54.7	25.3		24.2	65.9	9.9		16.9	61.6	21.5		
PHF	.823	.836	.849	.883	.750	.852	.890	.867	.861	.891	.830	.885	.686	.712	.641	.801	.894

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County of Imperial
N/S: Imperial Boulevard
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 30_CIM_Imp_Birch AM
Site Code : 12525114
Start Date : 2/6/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				07:45 AM				07:30 AM			
+0 mins.	**64**	**151**	25	240	23	125	**66**	214	**52**	**137**	20	**209**	29	86	18	133
+15 mins.	42	141	36	219	61	**149**	58	**268**	48	117	12	177	16	**165**	57	**238**
+30 mins.	43	105	30	178	40	138	51	229	37	102	19	158	35	133	**64**	232
+45 mins.	64	137	**54**	**255**	**62**	96	60	218	42	132	**22**	196	**47**	102	25	174
Total Volume	213	534	145	892	186	508	235	929	179	488	73	740	127	486	164	777
% App. Total	23.9	59.9	16.3		20	54.7	25.3		24.2	65.9	9.9		16.3	62.5	21.1	
PHF	.832	.884	.671	.875	.750	.852	.890	.867	.861	.891	.830	.885	.676	.736	.641	.816

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County of Imperial
N/S: Imperial Boulevard
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 30_CIM_Imp_Birch PM
Site Code : 12525114
Start Date : 2/6/2025
Page No : 1

Groups Printed- Total Volume

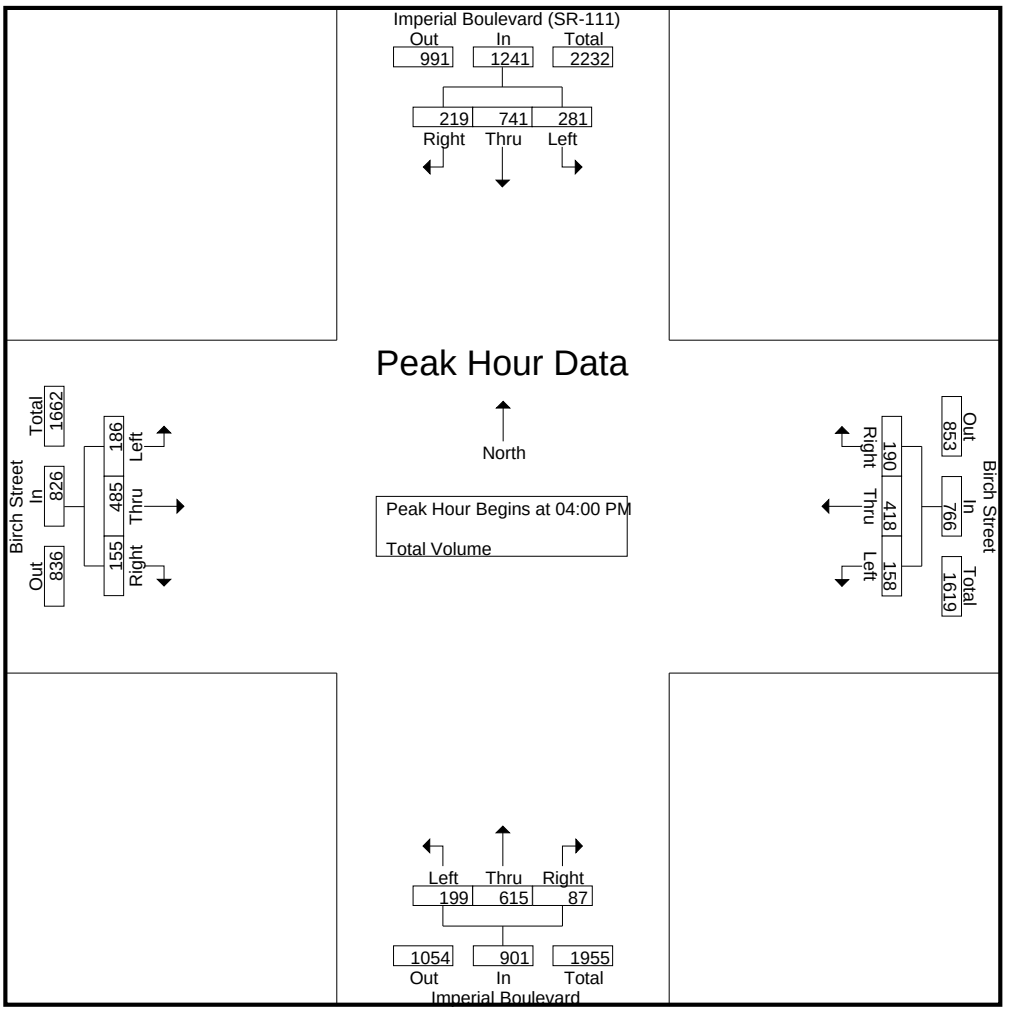
	Imperial Boulevard (SR-111) Southbound				Birch Street Westbound				Imperial Boulevard Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	88	195	59	342	44	96	46	186	60	163	20	243	53	136	47	236	1007
04:15 PM	62	185	64	311	51	119	50	220	39	171	27	237	44	111	31	186	954
04:30 PM	79	163	47	289	32	98	47	177	51	134	17	202	51	157	42	250	918
04:45 PM	52	198	49	299	31	105	47	183	49	147	23	219	38	81	35	154	855
Total	281	741	219	1241	158	418	190	766	199	615	87	901	186	485	155	826	3734
05:00 PM	64	162	43	269	26	89	64	179	47	142	19	208	54	163	23	240	896
05:15 PM	72	190	57	319	40	104	33	177	39	166	26	231	48	121	36	205	932
05:30 PM	63	143	51	257	59	92	48	199	44	148	22	214	51	128	31	210	880
05:45 PM	59	142	50	251	22	87	49	158	44	125	28	197	53	127	24	204	810
Total	258	637	201	1096	147	372	194	713	174	581	95	850	206	539	114	859	3518
Grand Total	539	1378	420	2337	305	790	384	1479	373	1196	182	1751	392	1024	269	1685	7252
Apprch %	23.1	59	18		20.6	53.4	26		21.3	68.3	10.4		23.3	60.8	16		
Total %	7.4	19	5.8	32.2	4.2	10.9	5.3	20.4	5.1	16.5	2.5	24.1	5.4	14.1	3.7	23.2	

	Imperial Boulevard (SR-111) Southbound				Birch Street Westbound				Imperial Boulevard Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**88**	195	59	**342**	44	96	46	186	**60**	163	20	**243**	**53**	136	**47**	236	**1007**
04:15 PM	62	185	**64**	311	**51**	**119**	**50**	**220**	39	**171**	**27**	237	44	111	31	186	954
04:30 PM	79	163	47	289	32	98	47	177	51	134	17	202	51	**157**	42	**250**	918
04:45 PM	52	**198**	49	299	31	105	47	183	49	147	23	219	38	81	35	154	855
Total Volume	281	741	219	1241	158	418	190	766	199	615	87	901	186	485	155	826	3734
% App. Total	22.6	59.7	17.6		20.6	54.6	24.8		22.1	68.3	9.7		22.5	58.7	18.8		
PHF	.798	.936	.855	.907	.775	.878	.950	.870	.829	.899	.806	.927	.877	.772	.824	.826	.927

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County of Imperial
N/S: Imperial Boulevard
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 30_CIM_Imp_Birch PM
Site Code : 12525114
Start Date : 2/6/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				05:00 PM			
+0 mins.	**88**	195	59	**342**	44	96	46	186	**60**	163	20	**243**	**54**	**163**	23	**240**
+15 mins.	62	185	**64**	311	**51**	**119**	**50**	**220**	39	**171**	**27**	237	48	121	**36**	205
+30 mins.	79	163	47	289	32	98	47	177	51	134	17	202	51	128	31	210
+45 mins.	52	**198**	49	299	31	105	47	183	49	147	23	219	53	127	24	204
Total Volume	281	741	219	1241	158	418	190	766	199	615	87	901	206	539	114	859
% App. Total	22.6	59.7	17.6		20.6	54.6	24.8		22.1	68.3	9.7		24	62.7	13.3	
PHF	.798	.936	.855	.907	.775	.878	.950	.870	.829	.899	.806	.927	.954	.827	.792	.895

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City of Calexico
N/S: Andrade Avenue
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 09_CXO_And_Bir AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

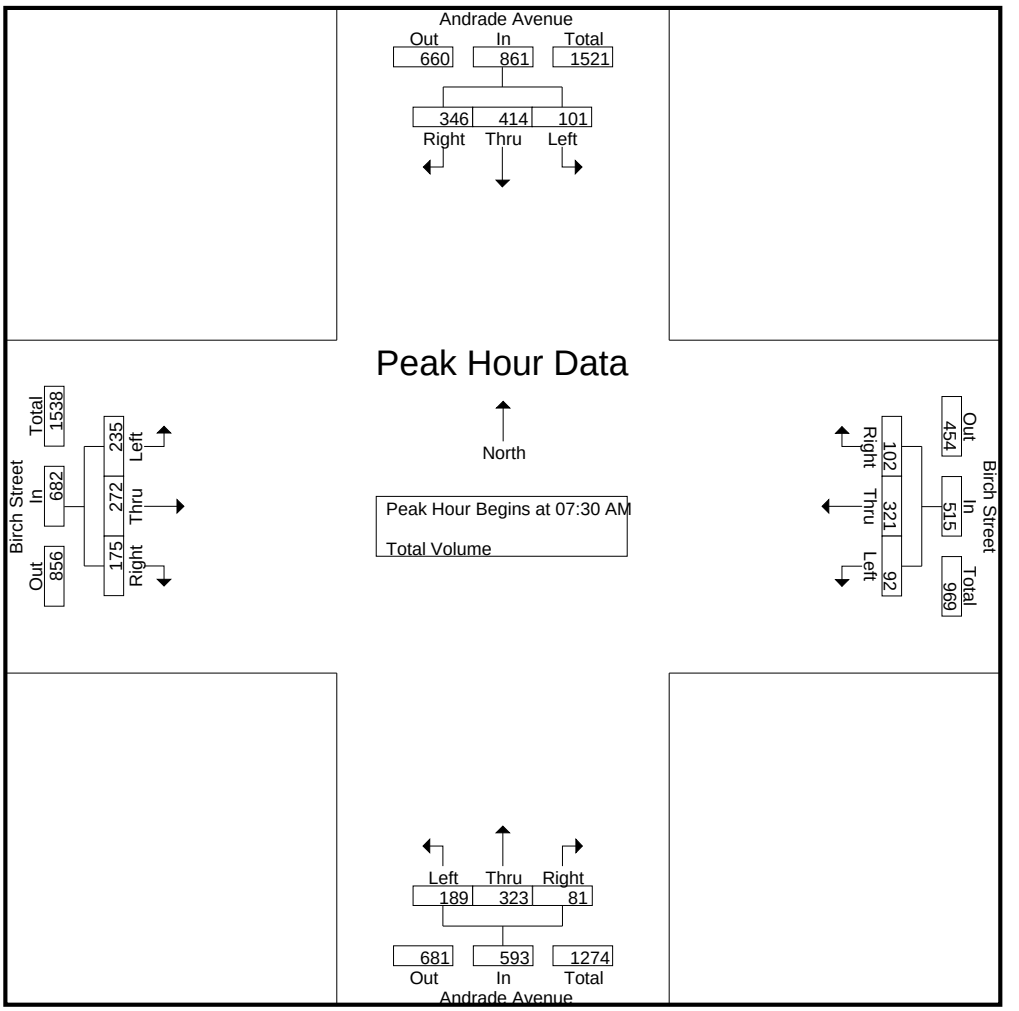
	Andrade Avenue Southbound				Birch Street Westbound				Andrade Avenue Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	11	25	44	80	1	49	4	54	35	23	6	64	26	36	12	74	272
07:15 AM	12	42	48	102	9	48	3	60	36	28	5	69	23	40	20	83	314
07:30 AM	27	72	88	187	7	74	10	91	36	47	18	101	41	58	22	121	500
07:45 AM	28	149	110	287	32	87	24	143	55	74	24	153	46	67	51	164	747
Total	78	288	290	656	49	258	41	348	162	172	53	387	136	201	105	442	1833
08:00 AM	31	126	90	247	42	113	44	199	59	97	22	178	76	90	52	218	842
08:15 AM	15	67	58	140	11	47	24	82	39	105	17	161	72	57	50	179	562
08:30 AM	19	49	47	115	6	38	9	53	35	43	3	81	24	39	28	91	340
08:45 AM	7	30	57	94	8	52	8	68	25	37	9	71	32	40	20	92	325
Total	72	272	252	596	67	250	85	402	158	282	51	491	204	226	150	580	2069
Grand Total	150	560	542	1252	116	508	126	750	320	454	104	878	340	427	255	1022	3902
Apprch %	12	44.7	43.3		15.5	67.7	16.8		36.4	51.7	11.8		33.3	41.8	25		
Total %	3.8	14.4	13.9	32.1	3	13	3.2	19.2	8.2	11.6	2.7	22.5	8.7	10.9	6.5	26.2	

	Andrade Avenue Southbound				Birch Street Westbound				Andrade Avenue Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	27	72	88	187	7	74	10	91	36	47	18	101	41	58	22	121	500
07:45 AM	28	**149**	**110**	**287**	32	87	24	143	55	74	**24**	153	46	67	51	164	747
08:00 AM	**31**	126	90	247	**42**	**113**	**44**	**199**	**59**	97	22	**178**	**76**	**90**	**52**	**218**	**842**
08:15 AM	15	67	58	140	11	47	24	82	39	**105**	17	161	72	57	50	179	562
Total Volume	101	414	346	861	92	321	102	515	189	323	81	593	235	272	175	682	2651
% App. Total	11.7	48.1	40.2		17.9	62.3	19.8		31.9	54.5	13.7		34.5	39.9	25.7		
PHF	.815	.695	.786	.750	.548	.710	.580	.647	.801	.769	.844	.833	.773	.756	.841	.782	.787

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City of Calexico
N/S: Andrade Avenue
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 09_CXO_And_Bir AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	27	72	88	187	7	74	10	91	36	47	18	101	41	58	22	121
+15 mins.	28	**149**	**110**	**287**	32	87	24	143	55	74	**24**	153	46	67	51	164
+30 mins.	**31**	126	90	247	**42**	**113**	**44**	**199**	**59**	97	22	**178**	**76**	**90**	**52**	**218**
+45 mins.	15	67	58	140	11	47	24	82	39	**105**	17	161	72	57	50	179
Total Volume	101	414	346	861	92	321	102	515	189	323	81	593	235	272	175	682
% App. Total	11.7	48.1	40.2		17.9	62.3	19.8		31.9	54.5	13.7		34.5	39.9	25.7	
PHF	.815	.695	.786	.750	.548	.710	.580	.647	.801	.769	.844	.833	.773	.756	.841	.782

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City of Calexico
N/S: Andrade Avenue
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 09_CXO_And_Bir PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

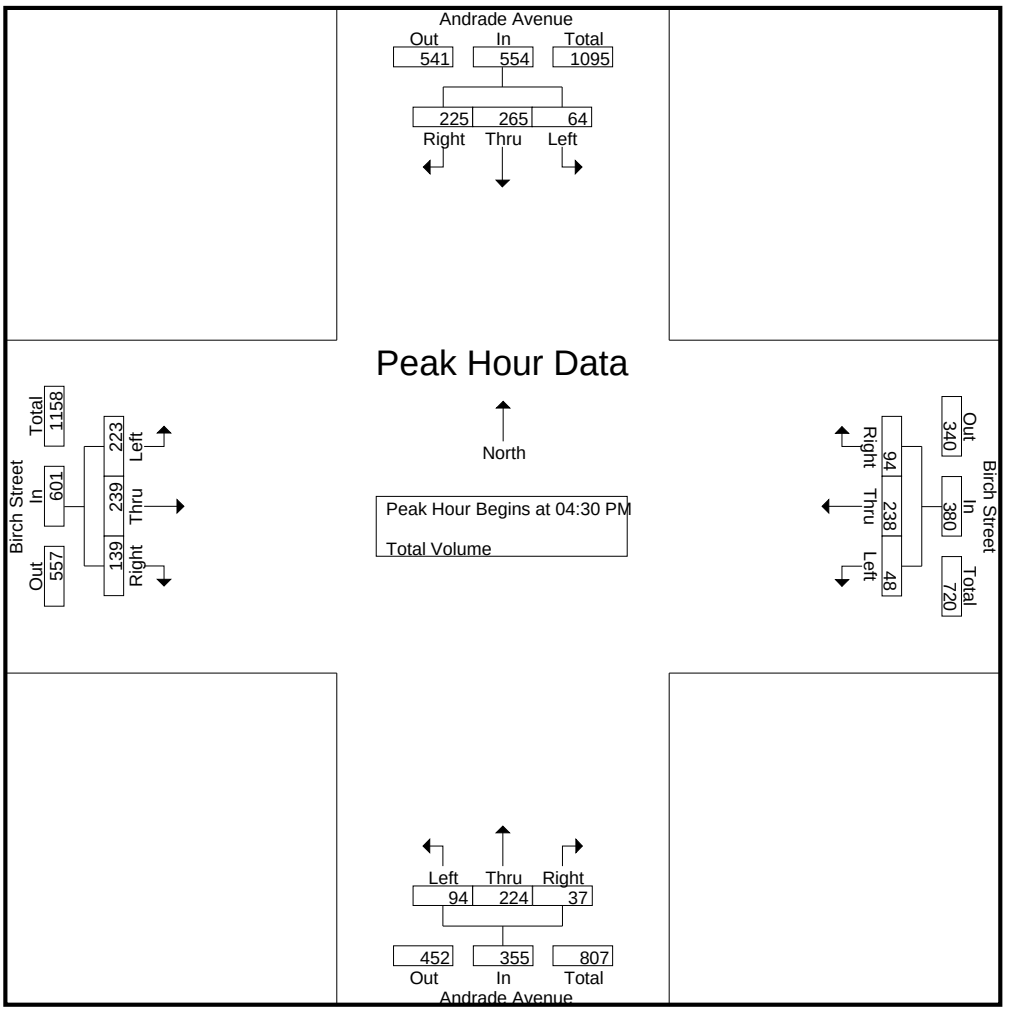
	Andrade Avenue Southbound				Birch Street Westbound				Andrade Avenue Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	15	65	54	134	7	65	10	82	22	42	14	78	46	63	25	134	428
04:15 PM	17	72	49	138	10	52	17	79	27	61	9	97	45	51	34	130	444
04:30 PM	15	65	57	137	9	59	24	92	26	48	13	87	53	53	32	138	454
04:45 PM	15	59	60	134	12	63	25	100	17	56	5	78	55	65	34	154	466
Total	62	261	220	543	38	239	76	353	92	207	41	340	199	232	125	556	1792
05:00 PM	12	69	60	141	12	60	30	102	31	69	11	111	60	60	37	157	511
05:15 PM	22	72	48	142	15	56	15	86	20	51	8	79	55	61	36	152	459
05:30 PM	12	72	43	127	16	62	16	94	33	60	11	104	40	47	41	128	453
05:45 PM	15	88	30	133	14	59	21	94	26	48	10	84	44	51	49	144	455
Total	61	301	181	543	57	237	82	376	110	228	40	378	199	219	163	581	1878
Grand Total	123	562	401	1086	95	476	158	729	202	435	81	718	398	451	288	1137	3670
Apprch %	11.3	51.7	36.9		13	65.3	21.7		28.1	60.6	11.3		35	39.7	25.3		
Total %	3.4	15.3	10.9	29.6	2.6	13	4.3	19.9	5.5	11.9	2.2	19.6	10.8	12.3	7.8	31	

	Andrade Avenue Southbound				Birch Street Westbound				Andrade Avenue Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	15	65	57	137	9	59	24	92	26	48	**13**	87	53	53	32	138	454
04:45 PM	15	59	**60**	134	12	**63**	25	100	17	56	5	78	55	**65**	34	154	466
05:00 PM	12	69	60	141	12	60	**30**	**102**	**31**	**69**	11	**111**	**60**	60	**37**	**157**	**511**
05:15 PM	**22**	**72**	48	**142**	**15**	56	15	86	20	51	8	79	55	61	36	152	459
Total Volume	64	265	225	554	48	238	94	380	94	224	37	355	223	239	139	601	1890
% App. Total	11.6	47.8	40.6		12.6	62.6	24.7		26.5	63.1	10.4		37.1	39.8	23.1		
PHF	.727	.920	.938	.975	.800	.944	.783	.931	.758	.812	.712	.800	.929	.919	.939	.957	.925

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City of Calexico
N/S: Andrade Avenue
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 09_CXO_And_Bir PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:45 PM				05:00 PM				04:30 PM			
+0 mins.	15	65	57	137	12	**63**	25	100	31	**69**	**11**	**111**	53	53	32	138
+15 mins.	15	59	**60**	134	12	60	**30**	**102**	20	51	8	79	55	**65**	34	154
+30 mins.	12	69	60	141	15	56	15	86	**33**	60	11	104	**60**	60	**37**	**157**
+45 mins.	**22**	**72**	48	**142**	**16**	62	16	94	26	48	10	84	55	61	36	152
Total Volume	64	265	225	554	55	241	86	382	110	228	40	378	223	239	139	601
% App. Total	11.6	47.8	40.6		14.4	63.1	22.5		29.1	60.3	10.6		37.1	39.8	23.1	
PHF	.727	.920	.938	.975	.859	.956	.717	.936	.833	.826	.909	.851	.929	.919	.939	.957

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City of Calexico
N/S: Bowker Road
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 10_CXO_Bow_Bir AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

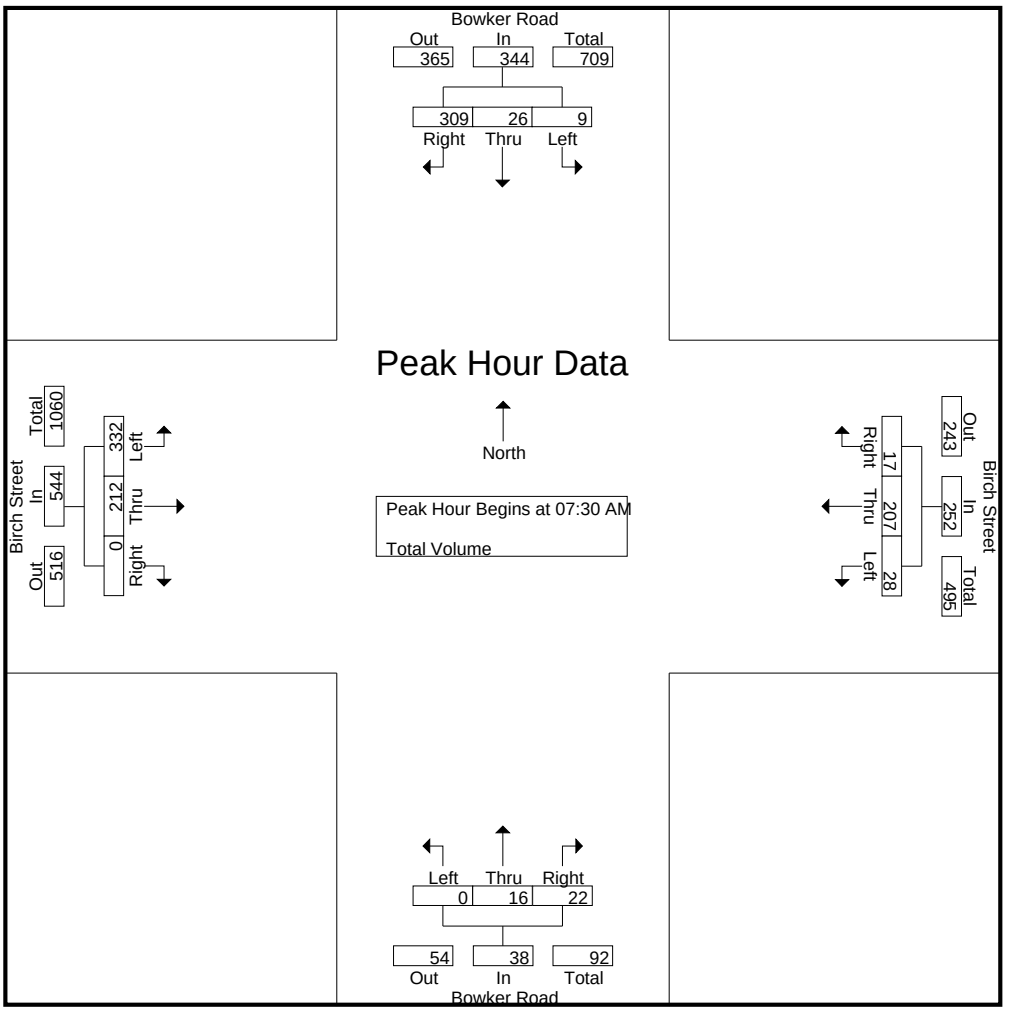
	Bowker Road Southbound				Birch Street Westbound				Bowker Road Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	4	2	7	13	8	34	1	43	0	3	8	11	31	33	0	64	131
07:15 AM	5	5	15	25	5	38	7	50	0	7	2	9	30	42	2	74	158
07:30 AM	4	7	45	56	5	60	6	71	0	5	8	13	65	45	0	110	250
07:45 AM	2	11	124	137	11	51	3	65	0	6	1	7	96	71	0	167	376
Total	15	25	191	231	29	183	17	229	0	21	19	40	222	191	2	415	915
08:00 AM	0	6	111	117	6	64	6	76	0	3	10	13	104	46	0	150	356
08:15 AM	3	2	29	34	6	32	2	40	0	2	3	5	67	50	0	117	196
08:30 AM	1	9	14	24	4	34	1	39	0	3	8	11	27	37	1	65	139
08:45 AM	5	1	13	19	6	50	1	57	0	2	1	3	9	47	0	56	135
Total	9	18	167	194	22	180	10	212	0	10	22	32	207	180	1	388	826
Grand Total	24	43	358	425	51	363	27	441	0	31	41	72	429	371	3	803	1741
Apprch %	5.6	10.1	84.2		11.6	82.3	6.1		0	43.1	56.9		53.4	46.2	0.4		
Total %	1.4	2.5	20.6	24.4	2.9	20.9	1.6	25.3	0	1.8	2.4	4.1	24.6	21.3	0.2	46.1	

	Bowker Road Southbound				Birch Street Westbound				Bowker Road Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**4**	7	45	56	5	60	**6**	71	0	5	8	**13**	65	45	0	110	250
07:45 AM	2	**11**	**124**	**137**	**11**	51	3	65	0	**6**	1	7	96	**71**	0	**167**	**376**
08:00 AM	0	6	111	117	6	**64**	6	**76**	0	3	**10**	13	**104**	46	0	150	356
08:15 AM	3	2	29	34	6	32	2	40	0	2	3	5	67	50	0	117	196
Total Volume	9	26	309	344	28	207	17	252	0	16	22	38	332	212	0	544	1178
% App. Total	2.6	7.6	89.8		11.1	82.1	6.7		0	42.1	57.9		61	39	0		
PHF	.563	.591	.623	.628	.636	.809	.708	.829	.000	.667	.550	.731	.798	.746	.000	.814	.783

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City of Calexico
N/S: Bowker Road
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 10_CXO_Bow_Bir AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:15 AM				07:15 AM				07:30 AM			
+0 mins.	**4**	7	45	56	5	38	**7**	50	0	**7**	2	9	65	45	0	110
+15 mins.	2	**11**	**124**	**137**	5	60	6	71	0	5	8	**13**	96	**71**	0	**167**
+30 mins.	0	6	111	117	**11**	51	3	65	0	6	1	7	**104**	46	0	150
+45 mins.	3	2	29	34	6	**64**	6	**76**	0	3	**10**	13	67	50	0	117
Total Volume	9	26	309	344	27	213	22	262	0	21	21	42	332	212	0	544
% App. Total	2.6	7.6	89.8		10.3	81.3	8.4		0	50	50		61	39	0	
PHF	.563	.591	.623	.628	.614	.832	.786	.862	.000	.750	.525	.808	.798	.746	.000	.814

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City of Calexico
N/S: Bowker Road
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 10_CXO_Bow_Bir PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

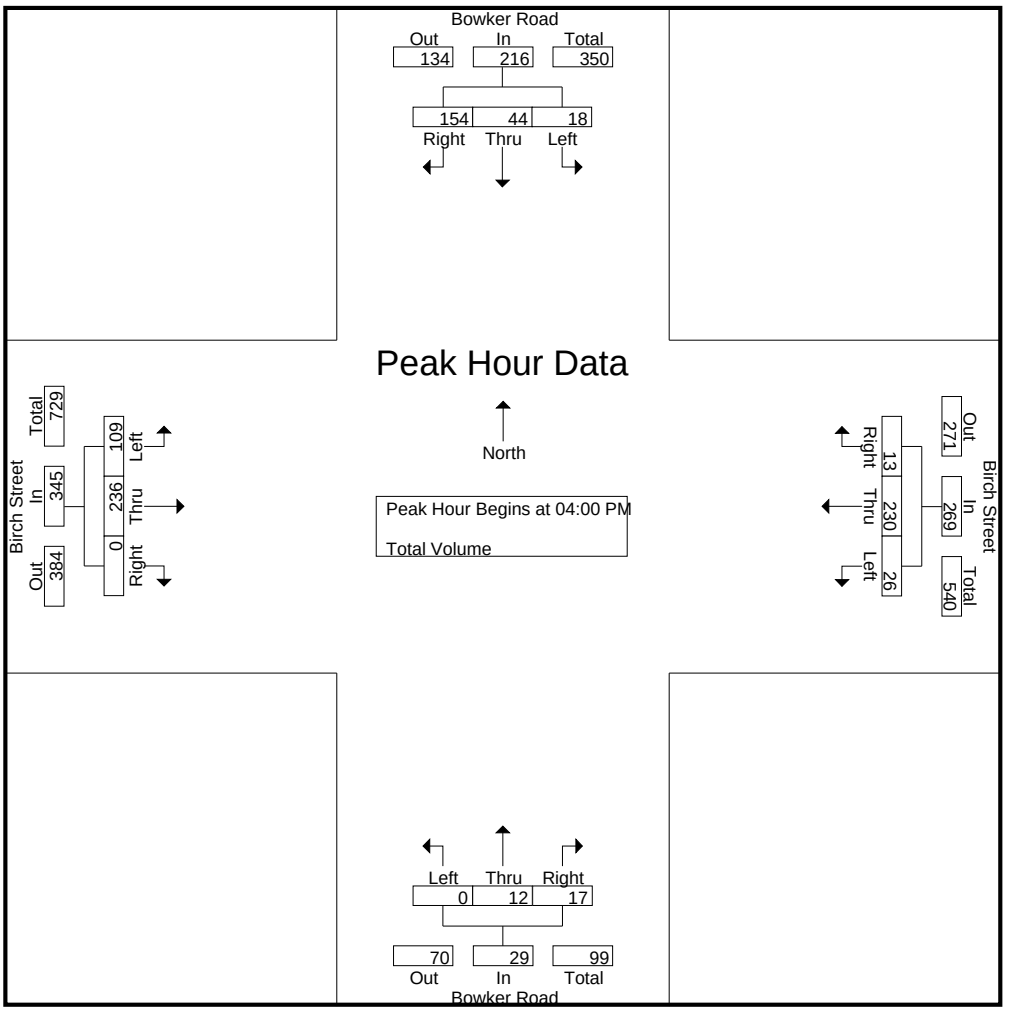
	Bowker Road Southbound				Birch Street Westbound				Bowker Road Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	7	9	43	59	8	60	4	72	0	4	8	12	27	70	0	97	240
04:15 PM	3	7	34	44	6	55	5	66	0	2	2	4	25	55	0	80	194
04:30 PM	3	12	41	56	7	61	2	70	0	0	5	5	29	55	0	84	215
04:45 PM	5	16	36	57	5	54	2	61	0	6	2	8	28	56	0	84	210
Total	18	44	154	216	26	230	13	269	0	12	17	29	109	236	0	345	859
05:00 PM	2	3	36	41	4	59	5	68	3	3	1	7	26	24	1	51	167
05:15 PM	5	6	47	58	7	48	12	67	2	2	3	7	33	64	1	98	230
05:30 PM	4	10	54	68	0	59	3	62	0	1	3	4	28	39	0	67	201
05:45 PM	0	8	35	43	4	59	1	64	0	3	7	10	29	49	1	79	196
Total	11	27	172	210	15	225	21	261	5	9	14	28	116	176	3	295	794
Grand Total	29	71	326	426	41	455	34	530	5	21	31	57	225	412	3	640	1653
Apprch %	6.8	16.7	76.5		7.7	85.8	6.4		8.8	36.8	54.4		35.2	64.4	0.5		
Total %	1.8	4.3	19.7	25.8	2.5	27.5	2.1	32.1	0.3	1.3	1.9	3.4	13.6	24.9	0.2	38.7	

	Bowker Road Southbound				Birch Street Westbound				Bowker Road Northbound				Birch Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**7**	9	**43**	**59**	**8**	60	4	**72**	0	4	**8**	**12**	27	**70**	0	**97**	**240**
04:15 PM	3	7	34	44	6	55	**5**	66	0	2	2	4	25	55	0	80	194
04:30 PM	3	12	41	56	7	**61**	2	70	0	0	5	5	**29**	55	0	84	215
04:45 PM	5	**16**	36	57	5	54	2	61	0	**6**	2	8	28	56	0	84	210
Total Volume	18	44	154	216	26	230	13	269	0	12	17	29	109	236	0	345	859
% App. Total	8.3	20.4	71.3		9.7	85.5	4.8		0	41.4	58.6		31.6	68.4	0		
PHF	.643	.688	.895	.915	.813	.943	.650	.934	.000	.500	.531	.604	.940	.843	.000	.889	.895

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City of Calexico
N/S: Bowker Road
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 10_CXO_Bow_Bir PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	**5**	**16**	36	57	**8**	60	4	**72**	0	4	**8**	**12**	27	**70**	0	**97**
+15 mins.	2	3	36	41	6	55	**5**	66	0	2	2	4	25	55	0	80
+30 mins.	5	6	47	58	7	**61**	2	70	0	0	5	5	**29**	55	0	84
+45 mins.	4	10	**54**	**68**	5	54	2	61	0	**6**	2	8	28	56	0	84
Total Volume	16	35	173	224	26	230	13	269	0	12	17	29	109	236	0	345
% App. Total	7.1	15.6	77.2		9.7	85.5	4.8		0	41.4	58.6		31.6	68.4	0	
PHF	.800	.547	.801	.824	.813	.943	.650	.934	.000	.500	.531	.604	.940	.843	.000	.889

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City of Calexico
N/S: Cesar Chavez Boulevard
E/W: Grant Street
Weather: Clear

File Name : 11_CXO_CC_Gra AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

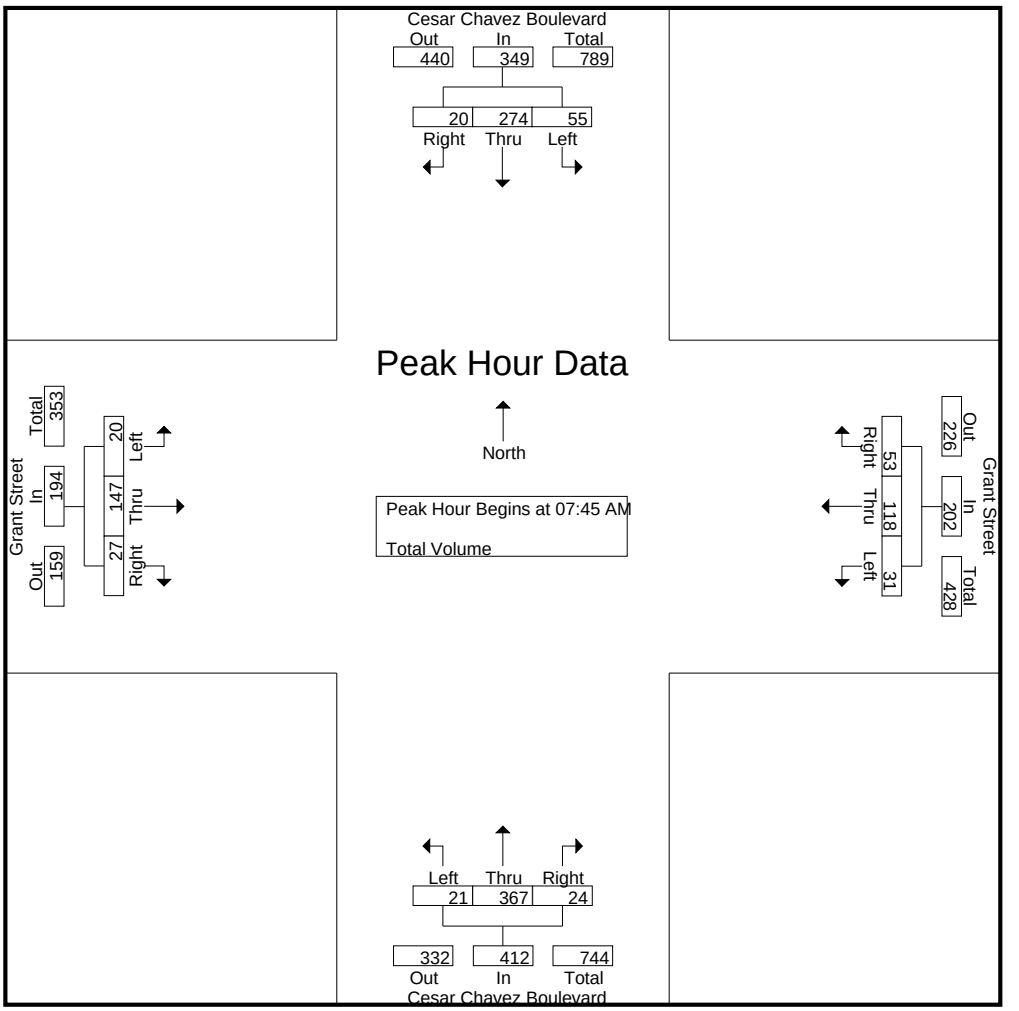
	Cesar Chavez Boulevard Southbound				Grant Street Westbound				Cesar Chavez Boulevard Northbound				Grant Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	39	1	42	2	6	3	11	8	61	3	72	5	8	1	14	139
07:15 AM	1	41	0	42	3	8	5	16	3	107	1	111	2	14	6	22	191
07:30 AM	5	56	6	67	4	13	16	33	3	76	1	80	3	31	8	42	222
07:45 AM	14	59	4	77	8	22	25	55	4	80	1	85	11	46	8	65	282
Total	22	195	11	228	17	49	49	115	18	324	6	348	21	99	23	143	834
08:00 AM	17	71	5	93	6	34	14	54	5	99	9	113	3	57	6	66	326
08:15 AM	15	67	6	88	12	46	11	69	4	93	5	102	2	26	7	35	294
08:30 AM	9	77	5	91	5	16	3	24	8	95	9	112	4	18	6	28	255
08:45 AM	3	72	4	79	6	7	8	21	8	75	7	90	3	21	13	37	227
Total	44	287	20	351	29	103	36	168	25	362	30	417	12	122	32	166	1102
Grand Total	66	482	31	579	46	152	85	283	43	686	36	765	33	221	55	309	1936
Apprch %	11.4	83.2	5.4		16.3	53.7	30		5.6	89.7	4.7		10.7	71.5	17.8		
Total %	3.4	24.9	1.6	29.9	2.4	7.9	4.4	14.6	2.2	35.4	1.9	39.5	1.7	11.4	2.8	16	

	Cesar Chavez Boulevard Southbound				Grant Street Westbound				Cesar Chavez Boulevard Northbound				Grant Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	14	59	4	77	8	22	**25**	55	4	80	1	85	**11**	46	**8**	65	282
08:00 AM	**17**	71	5	**93**	6	34	14	54	5	**99**	**9**	**113**	3	**57**	6	**66**	**326**
08:15 AM	15	67	**6**	88	**12**	**46**	11	**69**	4	93	5	102	2	26	7	35	294
08:30 AM	9	**77**	5	91	5	16	3	24	**8**	95	9	112	4	18	6	28	255
Total Volume	55	274	20	349	31	118	53	202	21	367	24	412	20	147	27	194	1157
% App. Total	15.8	78.5	5.7		15.3	58.4	26.2		5.1	89.1	5.8		10.3	75.8	13.9		
PHF	.809	.890	.833	.938	.646	.641	.530	.732	.656	.927	.667	.912	.455	.645	.844	.735	.887

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City of Calexico
N/S: Cesar Chavez Boulevard
E/W: Grant Street
Weather: Clear

File Name : 11_CXO_CC_Gra AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				08:00 AM				07:30 AM			
+0 mins.	**17**	71	5	**93**	4	13	16	33	5	**99**	**9**	**113**	3	31	**8**	42
+15 mins.	15	67	**6**	88	8	22	**25**	55	4	93	5	102	**11**	46	8	65
+30 mins.	9	**77**	5	91	6	34	14	54	**8**	95	9	112	3	**57**	6	**66**
+45 mins.	3	72	4	79	**12**	**46**	11	**69**	8	75	7	90	2	26	7	35
Total Volume	44	287	20	351	30	115	66	211	25	362	30	417	19	160	29	208
% App. Total	12.5	81.8	5.7		14.2	54.5	31.3		6	86.8	7.2		9.1	76.9	13.9	
PHF	.647	.932	.833	.944	.625	.625	.660	.764	.781	.914	.833	.923	.432	.702	.906	.788

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City of Calexico
N/S: Cesar Chavez Boulevard
E/W: Grant Street
Weather: Clear

File Name : 11_CXO_CC_Gra PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

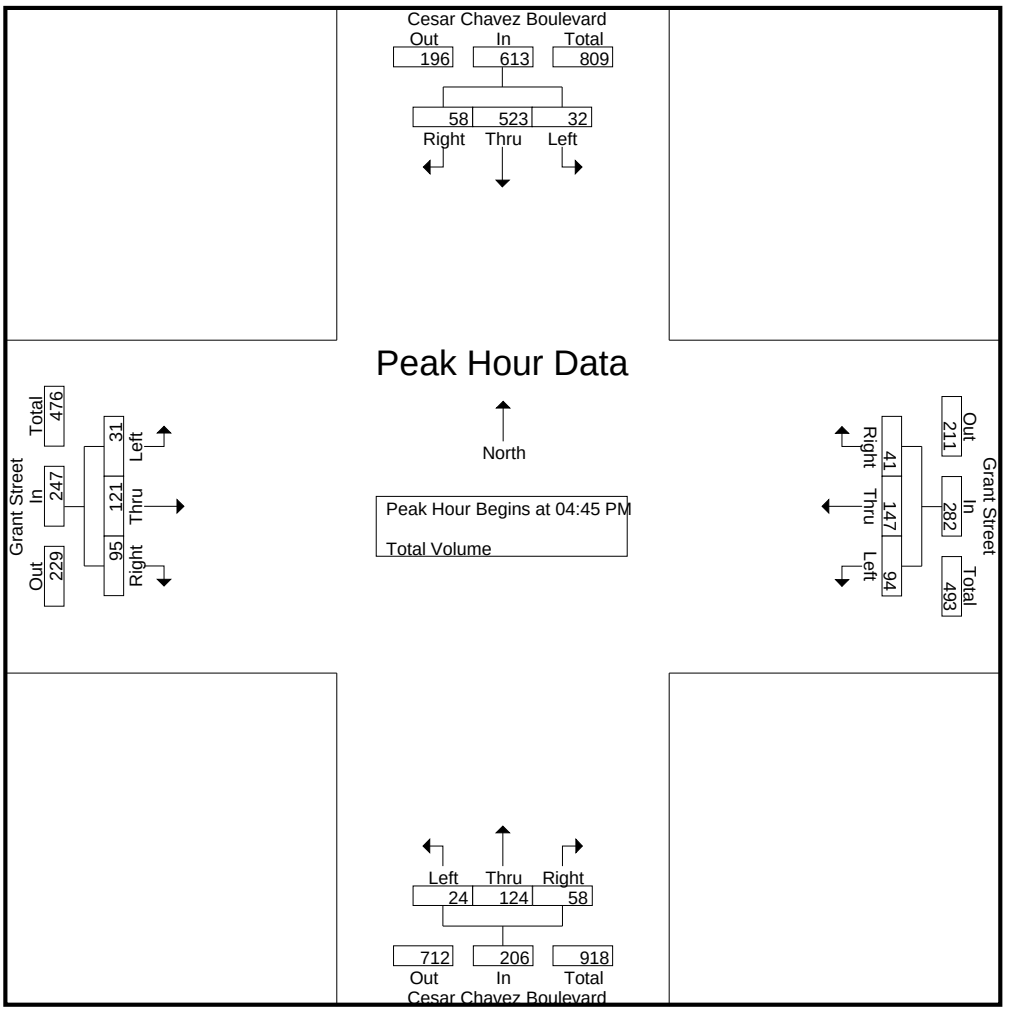
	Cesar Chavez Boulevard Southbound				Grant Street Westbound				Cesar Chavez Boulevard Northbound				Grant Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	8	109	8	125	40	42	10	92	11	35	9	55	7	32	16	55	327
04:15 PM	13	110	7	130	50	39	11	100	20	26	19	65	6	16	10	32	327
04:30 PM	5	127	11	143	34	24	6	64	5	16	14	35	7	25	13	45	287
04:45 PM	8	138	7	153	44	25	10	79	9	33	10	52	6	35	16	57	341
Total	34	484	33	551	168	130	37	335	45	110	52	207	26	108	55	189	1282
05:00 PM	10	143	4	157	27	41	8	76	8	25	16	49	5	30	21	56	338
05:15 PM	5	125	15	145	12	38	12	62	4	39	15	58	11	26	20	57	322
05:30 PM	9	117	32	158	11	43	11	65	3	27	17	47	9	30	38	77	347
05:45 PM	15	95	24	134	26	36	10	72	5	28	8	41	5	35	24	64	311
Total	39	480	75	594	76	158	41	275	20	119	56	195	30	121	103	254	1318
Grand Total	73	964	108	1145	244	288	78	610	65	229	108	402	56	229	158	443	2600
Apprch %	6.4	84.2	9.4		40	47.2	12.8		16.2	57	26.9		12.6	51.7	35.7		
Total %	2.8	37.1	4.2	44	9.4	11.1	3	23.5	2.5	8.8	4.2	15.5	2.2	8.8	6.1	17	

	Cesar Chavez Boulevard Southbound				Grant Street Westbound				Cesar Chavez Boulevard Northbound				Grant Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	8	138	7	153	**44**	25	10	**79**	**9**	33	10	52	6	**35**	16	57	341
05:00 PM	**10**	**143**	4	157	27	41	8	76	8	25	16	49	5	30	21	56	338
05:15 PM	5	125	15	145	12	38	**12**	62	4	**39**	15	**58**	**11**	26	20	57	322
05:30 PM	9	117	**32**	**158**	11	**43**	11	65	3	27	**17**	47	9	30	**38**	**77**	**347**
Total Volume	32	523	58	613	94	147	41	282	24	124	58	206	31	121	95	247	1348
% App. Total	5.2	85.3	9.5		33.3	52.1	14.5		11.7	60.2	28.2		12.6	49	38.5		
PHF	.800	.914	.453	.970	.534	.855	.854	.892	.667	.795	.853	.888	.705	.864	.625	.802	.971

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City of Calexico
N/S: Cesar Chavez Boulevard
E/W: Grant Street
Weather: Clear

File Name : 11_CXO_CC_Gra PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:00 PM				04:00 PM				05:00 PM			
+0 mins.	8	138	7	153	40	**42**	10	92	11	**35**	9	55	5	30	21	56
+15 mins.	**10**	**143**	4	157	**50**	39	**11**	**100**	**20**	26	**19**	**65**	**11**	26	20	57
+30 mins.	5	125	15	145	34	24	6	64	5	16	14	35	9	30	**38**	**77**
+45 mins.	9	117	**32**	**158**	44	25	10	79	9	33	10	52	5	**35**	24	64
Total Volume	32	523	58	613	168	130	37	335	45	110	52	207	30	121	103	254
% App. Total	5.2	85.3	9.5		50.1	38.8	11		21.7	53.1	25.1		11.8	47.6	40.6	
PHF	.800	.914	.453	.970	.840	.774	.841	.838	.563	.786	.684	.796	.682	.864	.678	.825

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City of Calexico
N/S: Imperial Highway (SR-111)
E/W: Grant Street/8th Street
Weather: Clear

File Name : 12_CXO_SR111_Gra AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

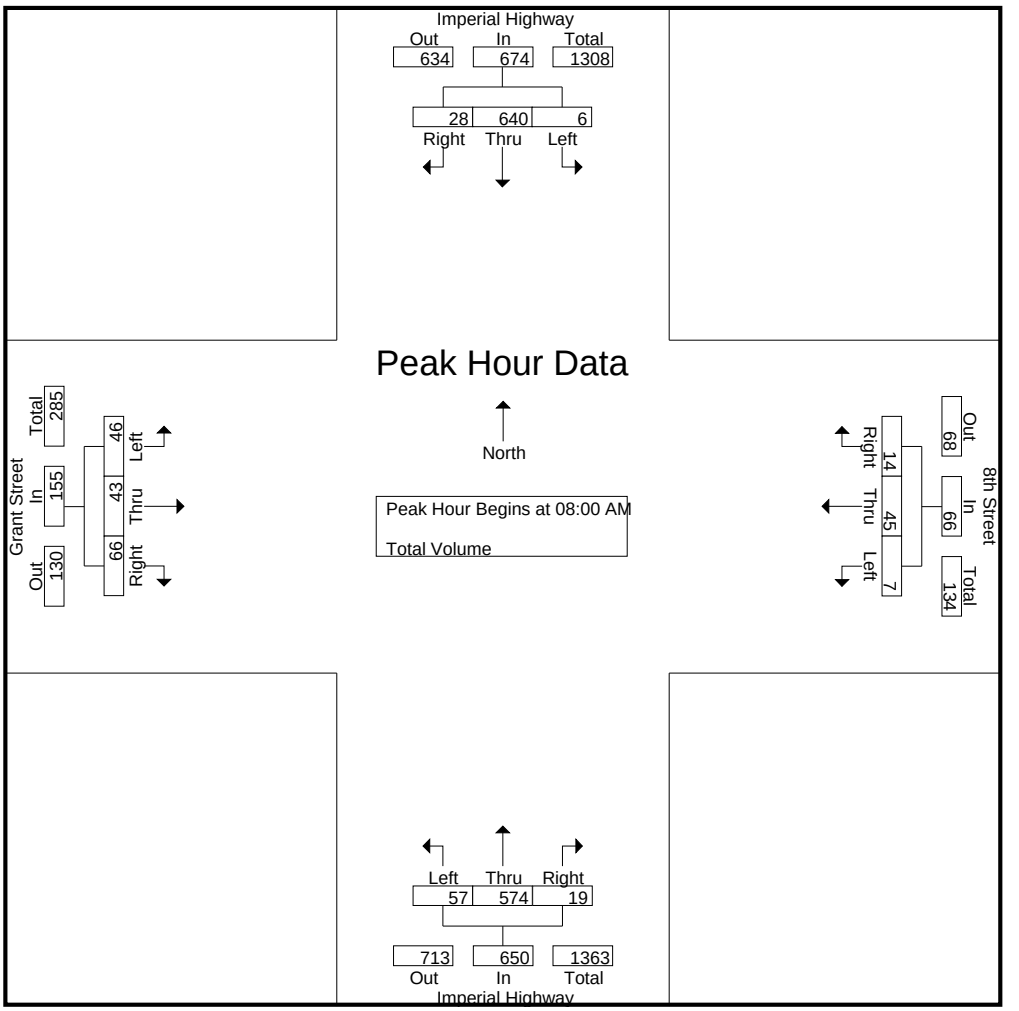
	Imperial Highway Southbound				8th Street Westbound				Imperial Highway Northbound				Grant Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	65	0	65	2	0	3	5	2	100	3	105	6	2	7	15	190
07:15 AM	0	66	5	71	1	3	3	7	7	121	4	132	8	5	9	22	232
07:30 AM	0	82	5	87	1	7	2	10	9	131	7	147	8	16	20	44	288
07:45 AM	1	129	7	137	0	12	2	14	13	139	5	157	11	24	27	62	370
Total	1	342	17	360	4	22	10	36	31	491	19	541	33	47	63	143	1080
08:00 AM	2	127	10	139	1	19	4	24	22	127	3	152	17	23	32	72	387
08:15 AM	2	172	4	178	0	15	3	18	21	143	6	170	12	9	10	31	397
08:30 AM	2	166	7	175	0	8	6	14	10	137	5	152	7	4	11	22	363
08:45 AM	0	175	7	182	6	3	1	10	4	167	5	176	10	7	13	30	398
Total	6	640	28	674	7	45	14	66	57	574	19	650	46	43	66	155	1545
Grand Total	7	982	45	1034	11	67	24	102	88	1065	38	1191	79	90	129	298	2625
Apprch %	0.7	95	4.4		10.8	65.7	23.5		7.4	89.4	3.2		26.5	30.2	43.3		
Total %	0.3	37.4	1.7	39.4	0.4	2.6	0.9	3.9	3.4	40.6	1.4	45.4	3	3.4	4.9	11.4	

	Imperial Highway Southbound				8th Street Westbound				Imperial Highway Northbound				Grant Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**2**	127	**10**	139	1	**19**	4	**24**	**22**	127	3	152	**17**	**23**	**32**	**72**	387
08:15 AM	2	172	4	178	0	15	3	18	21	143	**6**	170	12	9	10	31	397
08:30 AM	2	166	7	175	0	8	**6**	14	10	137	5	152	7	4	11	22	363
08:45 AM	0	**175**	7	**182**	**6**	3	1	10	4	**167**	5	**176**	10	7	13	30	**398**
Total Volume	6	640	28	674	7	45	14	66	57	574	19	650	46	43	66	155	1545
% App. Total	0.9	95	4.2		10.6	68.2	21.2		8.8	88.3	2.9		29.7	27.7	42.6		
PHF	.750	.914	.700	.926	.292	.592	.583	.688	.648	.859	.792	.923	.676	.467	.516	.538	.970

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City of Calexico
N/S: Imperial Highway (SR-111)
E/W: Grant Street/8th Street
Weather: Clear

File Name : 12_CXO_SR111_Gra AM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				08:00 AM				07:30 AM			
+0 mins.	**2**	127	**10**	139	0	12	2	14	**22**	127	3	152	8	16	20	44
+15 mins.	2	172	4	178	**1**	**19**	4	**24**	21	143	**6**	170	11	**24**	27	62
+30 mins.	2	166	7	175	0	15	3	18	10	137	5	152	**17**	23	**32**	**72**
+45 mins.	0	**175**	7	**182**	0	8	**6**	14	4	**167**	5	**176**	12	9	10	31
Total Volume	6	640	28	674	1	54	15	70	57	574	19	650	48	72	89	209
% App. Total	0.9	95	4.2		1.4	77.1	21.4		8.8	88.3	2.9		23	34.4	42.6	
PHF	.750	.914	.700	.926	.250	.711	.625	.729	.648	.859	.792	.923	.706	.750	.695	.726

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City of Calexico
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E/W: Grant Street/8th Street
Weather: Clear

File Name : 12_CXO_SR111_Gra PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 1

Groups Printed- Total Volume

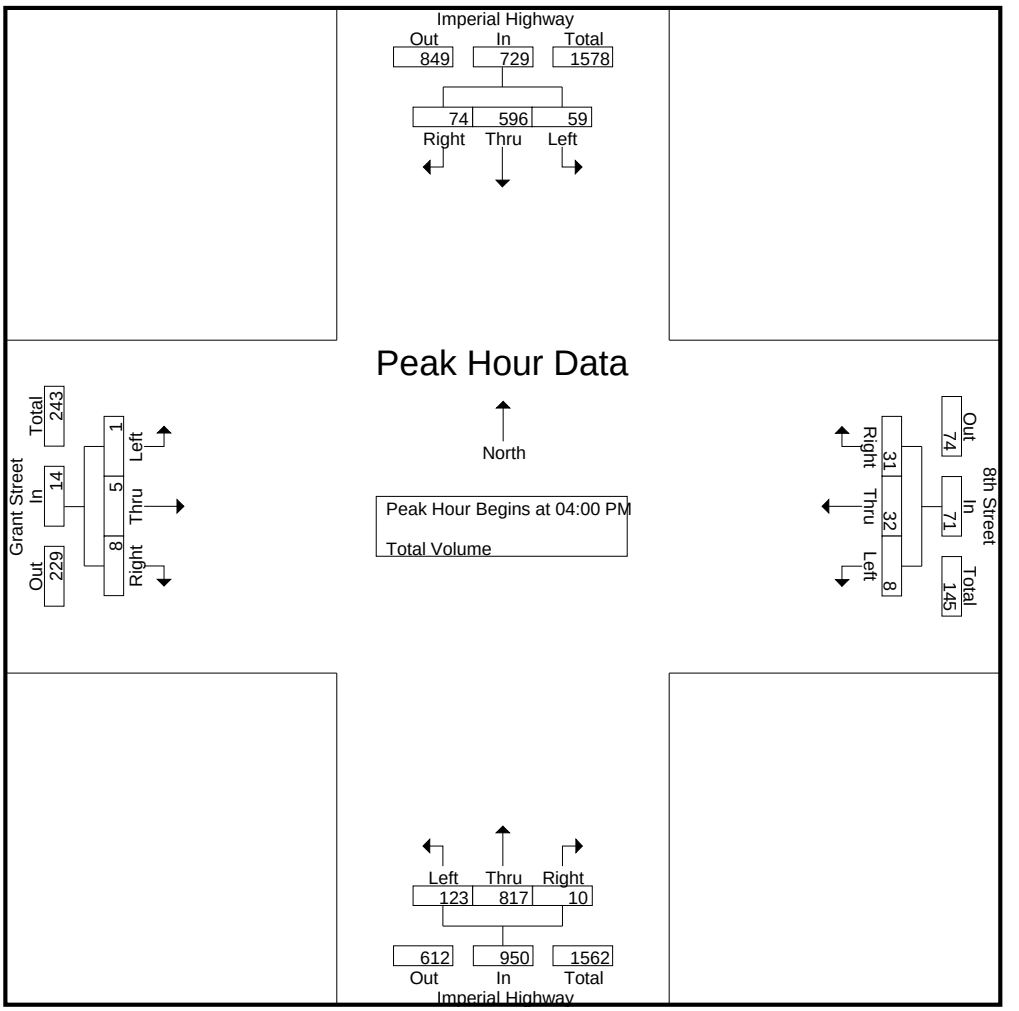
	Imperial Highway Southbound				8th Street Westbound				Imperial Highway Northbound				Grant Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	20	187	28	235	6	7	10	23	28	183	5	216	0	5	8	13	487
04:15 PM	16	121	18	155	0	10	9	19	38	217	0	255	1	0	0	1	430
04:30 PM	12	159	19	190	2	10	5	17	31	221	3	255	0	0	0	0	462
04:45 PM	11	129	9	149	0	5	7	12	26	196	2	224	0	0	0	0	385
Total	59	596	74	729	8	32	31	71	123	817	10	950	1	5	8	14	1764
05:00 PM	10	183	7	200	0	12	10	22	31	178	6	215	0	0	0	0	437
05:15 PM	11	138	17	166	2	10	6	18	27	188	2	217	0	0	0	0	401
05:30 PM	4	141	0	145	1	9	7	17	38	187	2	227	0	0	1	1	390
05:45 PM	3	150	2	155	0	2	6	8	18	190	2	210	0	0	0	0	373
Total	28	612	26	666	3	33	29	65	114	743	12	869	0	0	1	1	1601
Grand Total	87	1208	100	1395	11	65	60	136	237	1560	22	1819	1	5	9	15	3365
Apprch %	6.2	86.6	7.2		8.1	47.8	44.1		13	85.8	1.2		6.7	33.3	60		
Total %	2.6	35.9	3	41.5	0.3	1.9	1.8	4	7	46.4	0.7	54.1	0	0.1	0.3	0.4	

	Imperial Highway Southbound				8th Street Westbound				Imperial Highway Northbound				Grant Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**20**	**187**	**28**	**235**	**6**	7	**10**	**23**	28	183	**5**	216	0	**5**	**8**	**13**	**487**
04:15 PM	16	121	18	155	0	**10**	9	19	**38**	217	0	**255**	**1**	0	0	1	430
04:30 PM	12	159	19	190	2	10	5	17	31	**221**	3	255	0	0	0	0	462
04:45 PM	11	129	9	149	0	5	7	12	26	196	2	224	0	0	0	0	385
Total Volume	59	596	74	729	8	32	31	71	123	817	10	950	1	5	8	14	1764
% App. Total	8.1	81.8	10.2		11.3	45.1	43.7		12.9	86	1.1		7.1	35.7	57.1		
PHF	.738	.797	.661	.776	.333	.800	.775	.772	.809	.924	.500	.931	.250	.250	.250	.269	.906

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Calexico
N/S: Imperial Highway (SR-111)
E/W: Grant Street/8th Street
Weather: Clear

File Name : 12_CXO_SR111_Gra PM
Site Code : 12526338
Start Date : 4/23/2026
Page No : 2



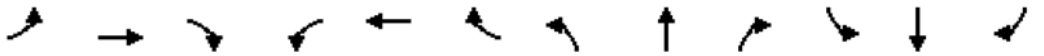
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	**20**	**187**	**28**	**235**	**6**	7	**10**	**23**	28	183	**5**	216	0	**5**	**8**	**13**
+15 mins.	16	121	18	155	0	**10**	9	19	**38**	217	0	**255**	**1**	0	0	1
+30 mins.	12	159	19	190	2	10	5	17	31	**221**	3	255	0	0	0	0
+45 mins.	11	129	9	149	0	5	7	12	26	196	2	224	0	0	0	0
Total Volume	59	596	74	729	8	32	31	71	123	817	10	950	1	5	8	14
% App. Total	8.1	81.8	10.2		11.3	45.1	43.7		12.9	86	1.1		7.1	35.7	57.1	
PHF	.738	.797	.661	.776	.333	.800	.775	.772	.809	.924	.500	.931	.250	.250	.250	.269

APPENDIX C

HCM INTERSECTION LOS WORKSHEETS

EXISTING CONDITIONS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	48	60	4	47	252	37	1023	13	72	875	34
Future Volume (veh/h)	22	48	60	4	47	252	37	1023	13	72	875	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	53	67	4	52	0	41	1137	14	80	972	38
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	103	110	62	257		141	1542	19	203	1617	63
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.00	0.08	0.43	0.43	0.11	0.46	0.46
Sat Flow, veh/h	167	725	776	43	1807	1585	1781	3595	44	1781	3486	136
Grp Volume(v), veh/h	144	0	0	56	0	0	41	562	589	80	495	515
Grp Sat Flow(s),veh/h/ln	1667	0	0	1850	0	1585	1781	1777	1862	1781	1777	1846
Q Serve(g_s), s	1.7	0.0	0.0	0.0	0.0	0.0	1.5	18.1	18.1	2.9	14.2	14.2
Cycle Q Clear(g_c), s	5.5	0.0	0.0	1.8	0.0	0.0	1.5	18.1	18.1	2.9	14.2	14.2
Prop In Lane	0.17		0.47	0.07		1.00	1.00		0.02	1.00		0.07
Lane Grp Cap(c), veh/h	299	0	0	320	0		141	762	799	203	824	856
V/C Ratio(X)	0.48	0.00	0.00	0.18	0.00		0.29	0.74	0.74	0.39	0.60	0.60
Avail Cap(c_a), veh/h	1277	0	0	1406	0		259	839	879	259	839	871
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	0.0	0.0	26.0	0.0	0.0	29.8	16.4	16.4	28.2	13.7	13.7
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.3	0.0	0.0	0.4	5.4	5.2	0.5	2.7	2.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	0.8	0.0	0.0	0.6	6.8	7.1	1.1	4.9	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.8	0.0	0.0	26.3	0.0	0.0	30.2	21.8	21.6	28.7	16.4	16.3
LnGrp LOS	C			C			C	C	C	C	B	B
Approach Vol, veh/h		144			56			1192			1090	
Approach Delay, s/veh		28.8			26.3			22.0			17.2	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.5	37.9		17.3	11.1	40.3		17.3				
Change Period (Y+Rc), s	5.7	8.4		7.5	5.7	8.4		7.5				
Max Green Setting (Gmax), s	10.0	32.4		51.0	10.0	32.4		51.0				
Max Q Clear Time (g_c+I1), s	4.9	20.1		7.5	3.5	16.2		3.8				
Green Ext Time (p_c), s	0.0	9.3		0.8	0.0	10.5		0.3				

Intersection Summary		
HCM 7th Control Delay, s/veh	20.4	
HCM 7th LOS	C	

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	410	84	159	328	246	70	597	198	200	642	99
Future Volume (veh/h)	107	410	84	159	328	246	70	597	198	200	642	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	446	91	173	357	267	76	649	215	217	698	108
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	957	427	337	509	431	175	995	444	340	995	444
Arrive On Green	0.09	0.27	0.27	0.10	0.27	0.27	0.10	0.28	0.28	0.10	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	116	446	91	173	357	267	76	649	215	217	698	108
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	6.4	10.7	4.5	4.8	17.5	15.0	4.1	16.4	11.5	6.1	17.9	5.4
Cycle Q Clear(g_c), s	6.4	10.7	4.5	4.8	17.5	15.0	4.1	16.4	11.5	6.1	17.9	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	957	427	337	509	431	175	995	444	340	995	444
V/C Ratio(X)	0.69	0.47	0.21	0.51	0.70	0.62	0.43	0.65	0.48	0.64	0.70	0.24
Avail Cap(c_a), veh/h	208	1604	715	340	809	686	212	1300	580	374	1262	563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	31.0	28.8	43.6	33.3	32.4	43.2	32.2	30.5	44.1	32.8	28.3
Incr Delay (d2), s/veh	6.8	1.3	0.9	1.3	6.2	5.2	0.6	2.6	3.0	3.1	3.4	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	4.6	1.8	2.1	8.6	6.2	1.7	6.8	4.6	2.6	7.5	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.4	32.3	29.7	44.9	39.5	37.6	43.8	34.9	33.4	47.2	36.1	29.3
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	D	C
Approach Vol, veh/h		653			797			940			1023	
Approach Delay, s/veh		35.4			40.0			35.3			37.8	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.7	36.9	15.6	33.5	15.7	36.9	15.3	33.8
Change Period (Y+Rc), s	5.7	8.4	5.7	6.1	5.7	8.4	5.7	6.1
Max Green Setting (Gmax), s	10.0	37.2	10.0	45.9	12.1	36.1	11.9	44.0
Max Q Clear Time (g_c+I1), s	8.1	18.4	6.8	12.7	6.1	19.9	8.4	19.5
Green Ext Time (p_c), s	0.2	9.8	0.1	8.7	0.0	8.6	0.1	8.2

Intersection Summary	
HCM 7th Control Delay, s/veh	37.1
HCM 7th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	231	341	57	45	479	325	137	164	51	110	94	139
Future Volume (veh/h)	231	341	57	45	479	325	137	164	51	110	94	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	243	359	60	47	504	342	144	173	54	116	99	146
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	436	1407	233	72	1918	733	225	509	154	155	280	875
Arrive On Green	0.13	0.46	0.46	0.04	0.38	0.38	0.13	0.19	0.19	0.09	0.15	0.15
Sat Flow, veh/h	3456	3051	505	1781	5106	1585	1781	2687	813	1781	1870	3170
Grp Volume(v), veh/h	243	208	211	47	504	342	144	113	114	116	99	146
Grp Sat Flow(s),veh/h/ln	1728	1777	1779	1781	1702	1585	1781	1777	1724	1781	1870	1585
Q Serve(g_s), s	5.2	5.7	5.8	2.1	5.4	11.7	6.1	4.3	4.6	5.0	3.8	2.8
Cycle Q Clear(g_c), s	5.2	5.7	5.8	2.1	5.4	11.7	6.1	4.3	4.6	5.0	3.8	2.8
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	436	819	821	72	1918	733	225	336	326	155	280	875
V/C Ratio(X)	0.56	0.25	0.26	0.65	0.26	0.47	0.64	0.33	0.35	0.75	0.35	0.17
Avail Cap(c_a), veh/h	436	819	821	337	2545	928	243	931	903	256	994	2084
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	13.0	13.1	37.5	17.1	14.6	32.9	27.8	27.9	35.3	30.2	21.8
Incr Delay (d2), s/veh	5.1	0.7	0.8	37.1	0.3	2.1	13.2	2.7	2.9	28.1	3.5	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	2.2	2.3	1.6	2.0	4.4	3.4	2.1	2.1	3.3	1.9	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.6	13.8	13.8	74.6	17.5	16.7	46.1	30.5	30.8	63.4	33.7	22.2
LnGrp LOS	D	B	B	E	B	B	D	C	C	E	C	C
Approach Vol, veh/h		662			893			371			361	
Approach Delay, s/veh		22.5			20.2			36.7			38.6	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	41.1	14.2	16.5	14.2	34.4	11.1	19.6
Change Period (Y+Rc), s	4.2	4.6	4.2	4.6	4.2	4.6	4.2	4.6
Max Green Setting (Gmax), s	15.6	34.5	10.8	42.1	10.0	39.5	11.4	41.5
Max Q Clear Time (g_c+I1), s	4.1	7.8	8.1	5.8	7.2	13.7	7.0	6.6
Green Ext Time (p_c), s	0.2	8.8	0.4	5.0	0.7	16.0	0.4	5.3

Intersection Summary	
HCM 7th Control Delay, s/veh	26.4
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	175	145	10	293	6	378	32	20	17	73	130
Future Volume (veh/h)	58	175	145	10	293	6	378	32	20	17	73	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	73	222	184	13	371	8	507	0	25	22	92	165
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	817	665	29	657	14	676	0	301	28	117	210
Arrive On Green	0.06	0.23	0.23	0.02	0.18	0.18	0.19	0.00	0.19	0.21	0.21	0.21
Sat Flow, veh/h	1781	3554	1585	1781	3557	77	3563	0	1585	133	555	996
Grp Volume(v), veh/h	73	222	184	13	185	194	507	0	25	279	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1857	1781	0	1585	1684	0	0
Q Serve(g_s), s	2.2	2.8	4.1	0.4	5.1	5.1	7.3	0.0	0.7	8.5	0.0	0.0
Cycle Q Clear(g_c), s	2.2	2.8	4.1	0.4	5.1	5.1	7.3	0.0	0.7	8.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.08		0.59
Lane Grp Cap(c), veh/h	110	817	665	29	328	343	676	0	301	355	0	0
V/C Ratio(X)	0.67	0.27	0.28	0.44	0.56	0.57	0.75	0.00	0.08	0.79	0.00	0.00
Avail Cap(c_a), veh/h	283	2424	1382	165	1094	1143	2436	0	1084	1152	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.8	17.1	10.3	26.4	20.1	20.1	20.7	0.0	18.0	20.2	0.0	0.0
Incr Delay (d2), s/veh	2.6	0.2	0.2	3.9	1.5	1.5	0.6	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.0	1.8	0.2	2.0	2.1	2.7	0.0	0.2	3.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.4	17.3	10.5	30.3	21.6	21.5	21.3	0.0	18.1	21.7	0.0	0.0
LnGrp LOS	C	B	B	C	C	C	C		B	C		
Approach Vol, veh/h		479			392			532			279	
Approach Delay, s/veh		16.2			21.8			21.2			21.7	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	17.7		16.0	7.9	15.3		14.9				
Change Period (Y+Rc), s	4.6	5.3		4.6	4.6	5.3		4.6				
Max Green Setting (Gmax), s	5.0	36.9		37.0	8.6	33.3		37.0				
Max Q Clear Time (g_c+I1), s	2.4	6.1		10.5	4.2	7.1		9.3				
Green Ext Time (p_c), s	0.0	2.0		1.1	0.0	2.2		1.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	20.0
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	174	39	4	176	66	33
Future Vol, veh/h	174	39	4	176	66	33
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	229	51	5	232	87	43
Number of Lanes	2	0	1	2	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	3
HCM Control Delay, s/veh	9.4	7.8	10
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	67%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	60%	0%	100%	100%
Vol Right, %	33%	0%	40%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	99	116	97	4	88	88
LT Vol	66	0	0	4	0	0
Through Vol	0	116	58	0	88	88
RT Vol	33	0	39	0	0	0
Lane Flow Rate	130	153	128	5	116	116
Geometry Grp	5	6	6	5	5	5
Degree of Util (X)	0.208	0.227	0.18	0.008	0.167	0.111
Departure Headway (Hd)	5.736	5.365	5.081	5.701	5.198	3.452
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	624	667	703	627	689	1033
Service Time	3.492	3.116	2.832	3.443	2.939	1.192
HCM Lane V/C Ratio	0.208	0.229	0.182	0.008	0.168	0.112
HCM Control Delay, s/veh	10	9.7	9	8.5	9	6.6
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.8	0.9	0.7	0	0.6	0.4

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	119	112	14	8	92	6	11	243	17	8	71	18
Future Vol, veh/h	119	112	14	8	92	6	11	243	17	8	71	18
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	147	138	17	10	114	7	14	300	21	10	88	22
Number of Lanes	1	1	1	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	3
HCM Control Delay, s/veh	11.4	12.1	16.6	11.6
HCM LOS	B	B	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	8%	8%
Vol Thru, %	0%	93%	0%	100%	0%	87%	73%
Vol Right, %	0%	7%	0%	0%	100%	6%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	260	119	112	14	106	97
LT Vol	11	0	119	0	0	8	8
Through Vol	0	243	0	112	0	92	71
RT Vol	0	17	0	0	14	6	18
Lane Flow Rate	14	321	147	138	17	131	120
Geometry Grp	6	6	5	5	5	6	6
Degree of Util (X)	0.026	0.561	0.275	0.24	0.027	0.252	0.227
Departure Headway (Hd)	6.847	6.296	6.75	6.242	5.532	6.943	6.813
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	521	571	530	572	644	514	525
Service Time	4.608	4.056	4.513	4.005	3.294	4.724	4.59
HCM Lane V/C Ratio	0.027	0.562	0.277	0.241	0.026	0.255	0.229
HCM Control Delay, s/veh	9.8	16.9	12.1	11	8.4	12.1	11.6
HCM Lane LOS	A	C	B	B	A	B	B
HCM 95th-tile Q	0.1	3.5	1.1	0.9	0.1	1	0.9

Intersection	
Intersection Delay, s/veh	16.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	286	28	38	298	46	86	61	15	60	27	31
Future Vol, veh/h	9	286	28	38	298	46	86	61	15	60	27	31
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	308	30	41	320	49	92	66	16	65	29	33
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	2
HCM Control Delay, s/veh	20.5	15.2	14	12.6
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	53%	100%	0%	100%	0%	0%	51%
Vol Thru, %	38%	0%	91%	0%	100%	0%	23%
Vol Right, %	9%	0%	9%	0%	0%	100%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	162	9	314	38	298	46	118
LT Vol	86	9	0	38	0	0	60
Through Vol	61	0	286	0	298	0	27
RT Vol	15	0	28	0	0	46	31
Lane Flow Rate	174	10	338	41	320	49	127
Geometry Grp	5	6	6	5	5	5	5
Degree of Util (X)	0.353	0.02	0.639	0.078	0.563	0.077	0.258
Departure Headway (Hd)	7.304	7.393	6.818	6.839	6.329	5.615	7.318
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	493	486	530	526	574	641	491
Service Time	5.044	5.109	4.535	4.549	4.039	3.325	5.061
HCM Lane V/C Ratio	0.353	0.021	0.638	0.078	0.557	0.076	0.259
HCM Control Delay, s/veh	14	10.3	20.8	10.1	16.9	8.8	12.6
HCM Lane LOS	B	B	C	B	C	A	B
HCM 95th-tile Q	1.6	0.1	4.5	0.3	3.5	0.2	1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	291	29	55	267	166	48	163	71	157	108	61
Future Volume (veh/h)	15	291	29	55	267	166	48	163	71	157	108	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	364	36	69	334	208	60	204	89	196	135	76
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	63	589	58	148	426	265	138	331	140	236	693	309
Arrive On Green	0.04	0.35	0.35	0.08	0.40	0.40	0.08	0.14	0.14	0.13	0.20	0.20
Sat Flow, veh/h	1781	1675	166	1781	1078	671	1781	2437	1026	1781	3554	1585
Grp Volume(v), veh/h	19	0	400	69	0	542	60	147	146	196	135	76
Grp Sat Flow(s),veh/h/ln	1781	0	1841	1781	0	1750	1781	1777	1686	1781	1777	1585
Q Serve(g_s), s	0.7	0.0	13.0	2.7	0.0	19.6	2.3	5.6	5.9	7.7	2.3	2.9
Cycle Q Clear(g_c), s	0.7	0.0	13.0	2.7	0.0	19.6	2.3	5.6	5.9	7.7	2.3	2.9
Prop In Lane	1.00		0.09	1.00		0.38	1.00		0.61	1.00		1.00
Lane Grp Cap(c), veh/h	63	0	647	148	0	692	138	242	229	236	693	309
V/C Ratio(X)	0.30	0.00	0.62	0.47	0.00	0.78	0.43	0.61	0.64	0.83	0.19	0.25
Avail Cap(c_a), veh/h	198	0	1052	198	0	993	198	888	842	247	1810	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	0.0	19.4	31.5	0.0	19.1	31.7	29.3	29.5	30.5	24.3	24.5
Incr Delay (d2), s/veh	3.8	0.0	2.8	0.8	0.0	5.9	0.8	2.5	2.9	18.6	0.1	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	5.4	1.1	0.0	8.0	1.0	2.5	2.5	4.4	0.9	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.7	0.0	22.2	32.4	0.0	25.0	32.5	31.8	32.4	49.1	24.4	24.9
LnGrp LOS	D		C	C		C	C	C	C	D	C	C
Approach Vol, veh/h		419			611			353			407	
Approach Delay, s/veh		22.9			25.8			32.2			36.4	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	30.7	10.3	20.4	7.5	33.9	14.5	16.1
Change Period (Y+Rc), s	4.7	5.4	4.7	6.3	5.0	5.4	5.0	* 6.3
Max Green Setting (Gmax), s	6.0	41.2	8.0	36.7	8.0	40.9	10.0	* 36
Max Q Clear Time (g_c+I1), s	4.7	15.0	4.3	4.9	2.7	21.6	9.7	7.9
Green Ext Time (p_c), s	0.0	5.4	0.0	1.1	0.0	6.9	0.0	1.9

Intersection Summary	
HCM 7th Control Delay, s/veh	28.8
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱	↰↰	↑↑		↰		↱↱		↑	
Traffic Volume (veh/h)	0	605	152	175	553	0	214	0	178	0	0	0
Future Volume (veh/h)	0	605	152	175	553	0	214	0	178	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0	1870	0	1870	0	1870	0
Adj Flow Rate, veh/h	0	680	171	197	621	0	240	0	200	0	0	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	2	2	2	2	0	2	0	2	0	2	0
Cap, veh/h	0	1042	726	838	2244	0	294	0	0	0	3	0
Arrive On Green	0.00	0.29	0.29	0.24	0.63	0.00	0.16	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3647	1585	3456	3647	0	1781	240		0	-56111	0
Grp Volume(v), veh/h	0	680	171	197	621	0	240	35.4		0	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1728	1777	0	1781	D		0	1870	0
Q Serve(g_s), s	0.0	9.9	3.9	2.7	4.6	0.0	7.7			0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.9	3.9	2.7	4.6	0.0	7.7			0.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			0.00		0.00
Lane Grp Cap(c), veh/h	0	1042	726	838	2244	0	294			0	3	0
V/C Ratio(X)	0.00	0.65	0.24	0.24	0.28	0.00	0.82			0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	2689	1461	872	3968	0	335			0	1195	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	18.4	9.8	18.1	4.9	0.0	24.0			0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.2	0.1	0.1	0.0	11.4			0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.6	4.4	1.0	1.1	0.0	3.8			0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	19.1	9.9	18.1	5.0	0.0	35.4			0.0	0.0	0.0
LnGrp LOS		B	A	B	A		D					
Approach Vol, veh/h		851			818						0	
Approach Delay, s/veh		17.2			8.1						0.0	
Approach LOS		B			A							

Timer - Assigned Phs	1	2		4			7	8				
Phs Duration (G+Y+Rc), s	15.5	0.0		44.0			20.1	23.8				
Change Period (Y+Rc), s	5.7	3.0		* 6.4			5.7	6.4				
Max Green Setting (Gmax), s	11.3	38.0		* 66			15.0	45.0				
Max Q Clear Time (g_c+I1), s	19.7	0.0		6.6			4.7	11.9				
Green Ext Time (p_c), s	0.1	0.0		4.5			0.2	5.5				

Intersection Summary	
HCM 7th Control Delay, s/veh	15.6
HCM 7th LOS	B

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	470	164	186	508	235	179	488	73	214	505	129
Future Volume (veh/h)	129	470	164	186	508	235	179	488	73	214	505	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	145	528	184	209	571	264	201	548	82	240	567	145
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	200	676	420	1122	1586	713	258	664	99	295	798	356
Arrive On Green	0.06	0.19	0.19	0.32	0.46	0.46	0.07	0.21	0.21	0.09	0.22	0.22
Sat Flow, veh/h	3456	3554	1585	3456	3445	1550	3456	3101	463	3456	3554	1585
Grp Volume(v), veh/h	145	528	184	209	564	271	201	313	317	240	567	145
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1591	1728	1777	1787	1728	1777	1585
Q Serve(g_s), s	5.0	17.0	4.3	5.2	12.9	13.3	6.9	20.2	20.3	8.2	17.7	9.4
Cycle Q Clear(g_c), s	5.0	17.0	4.3	5.2	12.9	13.3	6.9	20.2	20.3	8.2	17.7	9.4
Prop In Lane	1.00		1.00	1.00		0.97	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	200	676	420	1122	1567	732	258	380	382	295	798	356
V/C Ratio(X)	0.72	0.78	0.44	0.19	0.36	0.37	0.78	0.82	0.83	0.81	0.71	0.41
Avail Cap(c_a), veh/h	282	1179	644	1122	1567	732	354	563	566	320	1069	477
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.6	46.2	14.4	29.1	20.9	21.1	54.5	45.0	45.1	54.0	42.9	39.7
Incr Delay (d2), s/veh	2.4	8.7	3.3	0.0	0.6	1.4	4.5	5.8	6.1	12.6	1.4	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	8.1	2.3	2.1	5.1	5.1	3.1	9.4	9.5	3.9	7.5	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.0	54.9	17.7	29.2	21.6	22.5	59.0	50.8	51.1	66.6	44.4	40.5
LnGrp LOS	E	D	B	C	C	C	E	D	D	E	D	D
Approach Vol, veh/h		857			1044			831			952	
Approach Delay, s/veh		47.5			23.3			52.9			49.4	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	28.4	14.2	32.8	12.2	60.8	16.1	30.9
Change Period (Y+Rc), s	5.6	* 5.6	5.2	5.9	5.2	5.6	5.9	* 5.2
Max Green Setting (Gmax), s	9.0	* 40	12.3	36.1	9.8	39.9	11.1	* 38
Max Q Clear Time (g_c+I1), s	7.2	19.0	8.9	19.7	7.0	15.3	10.2	22.3
Green Ext Time (p_c), s	0.1	3.9	0.1	3.4	0.1	5.6	0.0	3.4

Intersection Summary	
HCM 7th Control Delay, s/veh	42.4
HCM 7th LOS	D

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	272	175	92	321	102	189	323	81	101	414	346
Future Volume (veh/h)	235	272	175	92	321	102	189	323	81	101	414	346
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	297	344	222	116	406	129	239	409	103	128	524	438
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	856	382	145	769	501	272	991	247	178	1062	641
Arrive On Green	0.11	0.24	0.24	0.08	0.22	0.22	0.15	0.35	0.35	0.10	0.30	0.30
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	2818	703	1781	3554	1585
Grp Volume(v), veh/h	297	344	222	116	406	129	239	256	256	128	524	438
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	1744	1781	1777	1585
Q Serve(g_s), s	8.2	7.9	12.0	6.2	9.8	5.9	12.8	10.6	10.8	6.8	11.8	22.1
Cycle Q Clear(g_c), s	8.2	7.9	12.0	6.2	9.8	5.9	12.8	10.6	10.8	6.8	11.8	22.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	365	856	382	145	769	501	272	625	613	178	1062	641
V/C Ratio(X)	0.81	0.40	0.58	0.80	0.53	0.26	0.88	0.41	0.42	0.72	0.49	0.68
Avail Cap(c_a), veh/h	416	1497	668	229	1500	827	317	845	830	266	1573	869
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	31.0	32.6	43.8	33.7	24.7	40.3	23.9	23.9	42.4	28.0	23.8
Incr Delay (d2), s/veh	9.2	1.4	6.3	4.3	2.6	1.2	19.4	0.4	0.5	2.1	0.4	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	3.4	5.2	2.8	4.2	2.3	6.9	4.4	4.4	3.0	4.9	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.7	32.4	38.9	48.2	36.2	26.0	59.6	24.3	24.4	44.5	28.4	25.1
LnGrp LOS	D	C	D	D	D	C	E	C	C	D	C	C
Approach Vol, veh/h		863			651			751			1090	
Approach Delay, s/veh		40.7			36.3			35.6			29.0	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	30.9	19.5	34.1	15.0	28.5	14.4	39.3
Change Period (Y+Rc), s	4.7	* 7.5	4.7	5.1	4.7	7.5	4.7	* 5.1
Max Green Setting (Gmax), s	12.5	* 41	17.3	43.0	11.7	41.0	14.5	* 46
Max Q Clear Time (g_c+I1), s	8.2	14.0	14.8	24.1	10.2	11.8	8.8	12.8
Green Ext Time (p_c), s	0.0	9.3	0.1	4.9	0.1	9.2	0.1	3.2

Intersection Summary	
HCM 7th Control Delay, s/veh	34.9
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

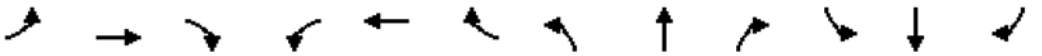
Intersection	
Int Delay, s/veh	39.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	332	212	0	28	207	17	0	16	22	9	26	309
Future Vol, veh/h	332	212	0	28	207	17	0	16	22	9	26	309
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	680	-	-	525	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	426	272	0	36	265	22	0	21	28	12	33	396

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	287	0	0	272	0	0	1477	1482	272	1481	1471	276
Stage 1	-	-	-	-	-	-	1123	1123	-	348	348	-
Stage 2	-	-	-	-	-	-	354	359	-	1133	1123	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1275	-	-	1292	-	-	104	125	767	103	127	762
Stage 1	-	-	-	-	-	-	250	281	-	668	634	-
Stage 2	-	-	-	-	-	-	663	627	-	246	281	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1275	-	-	1292	-	-	22	81	767	53	82	762
Mov Cap-2 Maneuver	-	-	-	-	-	-	22	81	-	53	82	-
Stage 1	-	-	-	-	-	-	166	187	-	649	616	-
Stage 2	-	-	-	-	-	-	293	610	-	141	187	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	5.63	0.87	34.94	122.8
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	168	1275	-	-	1292	-	-	386
HCM Lane V/C Ratio	0.29	0.334	-	-	0.028	-	-	1.143
HCM Ctrl Dly (s/v)	34.9	9.2	-	-	7.9	-	-	122.8
HCM Lane LOS	D	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	1.1	1.5	-	-	0.1	-	-	16.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	147	27	31	118	53	21	367	24	55	274	20
Future Volume (veh/h)	20	147	27	31	118	53	21	367	24	55	274	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	165	30	35	133	60	24	412	27	62	308	22
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	322	278	51	564	199	90	100	680	44	181	1199	84
Arrive On Green	0.18	0.18	0.18	0.16	0.16	0.16	0.06	0.20	0.20	0.10	0.25	0.25
Sat Flow, veh/h	1781	1540	280	3456	1221	551	1781	3386	221	1781	4870	343
Grp Volume(v), veh/h	22	0	195	35	0	193	24	216	223	62	214	116
Grp Sat Flow(s),veh/h/ln	1781	0	1820	1728	0	1771	1781	1777	1831	1781	1702	1809
Q Serve(g_s), s	0.5	0.0	5.2	0.5	0.0	5.4	0.7	5.9	5.9	1.7	2.7	2.7
Cycle Q Clear(g_c), s	0.5	0.0	5.2	0.5	0.0	5.4	0.7	5.9	5.9	1.7	2.7	2.7
Prop In Lane	1.00		0.15	1.00		0.31	1.00		0.12	1.00		0.19
Lane Grp Cap(c), veh/h	322	0	329	564	0	289	100	357	368	181	838	445
V/C Ratio(X)	0.07	0.00	0.59	0.06	0.00	0.67	0.24	0.60	0.61	0.34	0.26	0.26
Avail Cap(c_a), veh/h	986	0	1007	2043	0	1047	335	863	889	322	1628	865
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	0.0	20.0	18.8	0.0	20.9	24.0	19.3	19.3	22.2	16.1	16.1
Incr Delay (d2), s/veh	0.1	0.0	2.1	0.1	0.0	3.2	0.5	2.0	2.0	0.4	0.2	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.2	0.2	0.0	2.4	0.3	2.3	2.4	0.7	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.2	0.0	22.0	18.8	0.0	24.1	24.4	21.3	21.3	22.6	16.3	16.5
LnGrp LOS	B		C	B		C	C	C	C	C	B	B
Approach Vol, veh/h		217			228			463			392	
Approach Delay, s/veh		21.6			23.3			21.5			17.4	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	15.7		14.2	7.6	18.1		13.3				
Change Period (Y+Rc), s	4.6	5.0		4.6	4.6	5.0		4.6				
Max Green Setting (Gmax), s	9.6	25.8		29.4	10.0	25.4		31.4				
Max Q Clear Time (g_c+I1), s	3.7	7.9		7.2	2.7	4.7		7.4				
Green Ext Time (p_c), s	0.0	2.8		1.4	0.0	2.2		1.5				

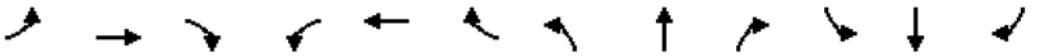
Intersection Summary												
HCM 7th Control Delay, s/veh			20.6									
HCM 7th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	43	66	7	45	14	57	574	19	6	640	28
Future Volume (veh/h)	46	43	66	7	45	14	57	574	19	6	640	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	44	68	7	46	14	59	592	20	6	660	29
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	57	88	15	98	30	186	1241	42	22	908	40
Arrive On Green	0.12	0.12	0.12	0.08	0.08	0.08	0.10	0.35	0.35	0.01	0.26	0.26
Sat Flow, veh/h	506	474	733	187	1231	375	1781	3507	118	1781	3468	152
Grp Volume(v), veh/h	159	0	0	67	0	0	59	300	312	6	338	351
Grp Sat Flow(s),veh/h/ln	1713	0	0	1794	0	0	1781	1777	1849	1781	1777	1843
Q Serve(g_s), s	6.9	0.0	0.0	2.7	0.0	0.0	2.3	10.0	10.0	0.3	13.3	13.3
Cycle Q Clear(g_c), s	6.9	0.0	0.0	2.7	0.0	0.0	2.3	10.0	10.0	0.3	13.3	13.3
Prop In Lane	0.30		0.43	0.10		0.21	1.00		0.06	1.00		0.08
Lane Grp Cap(c), veh/h	205	0	0	142	0	0	186	629	654	22	465	482
V/C Ratio(X)	0.78	0.00	0.00	0.47	0.00	0.00	0.32	0.48	0.48	0.27	0.73	0.73
Avail Cap(c_a), veh/h	673	0	0	704	0	0	189	629	654	186	551	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.6	0.0	0.0	33.6	0.0	0.0	31.7	19.2	19.2	37.4	25.7	25.7
Incr Delay (d2), s/veh	2.4	0.0	0.0	0.9	0.0	0.0	0.4	0.6	0.5	6.3	3.9	3.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	1.2	0.0	0.0	1.0	3.9	4.1	0.1	5.8	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.0	0.0	0.0	34.5	0.0	0.0	32.0	19.7	19.7	43.7	29.6	29.5
LnGrp LOS	D			C			C	B	B	D	C	C
Approach Vol, veh/h		159			67			671			695	
Approach Delay, s/veh		35.0			34.5			20.8			29.7	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	34.1		14.8	16.7	27.1		17.8				
Change Period (Y+Rc), s	8.7	7.1		8.7	8.7	7.1		8.7				
Max Green Setting (Gmax), s	8.0	23.8		30.0	8.1	23.7		30.0				
Max Q Clear Time (g_c+I1), s	2.3	12.0		4.7	4.3	15.3		8.9				
Green Ext Time (p_c), s	0.0	2.8		0.2	0.0	2.6		0.6				

Intersection Summary	
HCM 7th Control Delay, s/veh	26.7
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	54	68	3	54	199	31	915	6	201	1309	27
Future Volume (veh/h)	22	54	68	3	54	199	31	915	6	201	1309	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	57	72	3	57	0	33	963	6	212	1378	28
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	87	96	49	222		114	1732	11	251	1977	40
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.00	0.06	0.48	0.48	0.14	0.55	0.55
Sat Flow, veh/h	158	720	790	29	1829	1585	1781	3621	23	1781	3562	72
Grp Volume(v), veh/h	152	0	0	60	0	0	33	473	496	212	687	719
Grp Sat Flow(s),veh/h/ln	1667	0	0	1858	0	1585	1781	1777	1866	1781	1777	1857
Q Serve(g_s), s	3.6	0.0	0.0	0.0	0.0	0.0	1.5	15.7	15.7	9.7	23.3	23.4
Cycle Q Clear(g_c), s	7.3	0.0	0.0	2.4	0.0	0.0	1.5	15.7	15.7	9.7	23.3	23.4
Prop In Lane	0.15		0.47	0.05		1.00	1.00		0.01	1.00		0.04
Lane Grp Cap(c), veh/h	252	0	0	271	0		114	850	893	251	986	1031
V/C Ratio(X)	0.60	0.00	0.00	0.22	0.00		0.29	0.56	0.56	0.85	0.70	0.70
Avail Cap(c_a), veh/h	1056	0	0	1169	0		214	959	1008	375	1119	1170
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	0.0	0.0	33.2	0.0	0.0	37.1	15.4	15.4	34.9	13.4	13.4
Incr Delay (d2), s/veh	2.3	0.0	0.0	0.4	0.0	0.0	0.5	2.1	2.0	7.2	3.4	3.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.0	1.1	0.0	0.0	0.6	5.7	5.9	4.3	8.0	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.6	0.0	0.0	33.6	0.0	0.0	37.6	17.5	17.4	42.0	16.8	16.7
LnGrp LOS	D			C			D	B	B	D	B	B
Approach Vol, veh/h		152			60			1002			1618	
Approach Delay, s/veh		37.6			33.6			18.1			20.1	
Approach LOS		D			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.4	48.2		17.6	11.0	54.6		17.6				
Change Period (Y+Rc), s	5.7	8.4		7.5	5.7	8.4		7.5				
Max Green Setting (Gmax), s	17.5	44.9		51.0	10.0	52.4		51.0				
Max Q Clear Time (g_c+I1), s	11.7	17.7		9.3	3.5	25.4		4.4				
Green Ext Time (p_c), s	0.1	14.4		0.9	0.0	20.8		0.3				

Intersection Summary		
HCM 7th Control Delay, s/veh		20.6
HCM 7th LOS		C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	530	87	264	288	237	56	613	270	446	801	125
Future Volume (veh/h)	93	530	87	264	288	237	56	613	270	446	801	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	570	94	284	310	255	60	659	290	480	861	134
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	149	885	395	342	494	419	156	954	425	542	1201	536
Arrive On Green	0.08	0.25	0.25	0.10	0.26	0.26	0.09	0.27	0.27	0.16	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	100	570	94	284	310	255	60	659	290	480	861	134
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	6.2	16.4	5.4	9.2	16.7	16.1	3.6	19.0	18.7	15.5	24.2	7.0
Cycle Q Clear(g_c), s	6.2	16.4	5.4	9.2	16.7	16.1	3.6	19.0	18.7	15.5	24.2	7.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	149	885	395	342	494	419	156	954	425	542	1201	536
V/C Ratio(X)	0.67	0.64	0.24	0.83	0.63	0.61	0.39	0.69	0.68	0.89	0.72	0.25
Avail Cap(c_a), veh/h	178	1399	624	363	746	632	161	1166	520	593	1455	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	38.4	34.3	50.6	37.1	36.9	49.2	37.6	37.4	47.2	33.1	27.4
Incr Delay (d2), s/veh	7.3	2.8	1.1	14.4	4.7	5.1	0.6	3.4	7.0	14.1	3.1	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	7.4	2.2	4.6	8.2	6.7	1.6	8.2	8.0	7.4	10.2	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.2	41.2	35.4	64.9	41.8	42.0	49.8	40.9	44.4	61.3	36.1	28.3
LnGrp LOS	E	D	D	E	D	D	D	D	D	E	D	C
Approach Vol, veh/h		764			849			1009			1475	
Approach Delay, s/veh		42.7			49.6			42.5			43.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.6	39.1	17.0	34.6	15.7	47.0	15.3	36.3
Change Period (Y+Rc), s	5.7	8.4	5.7	6.1	5.7	8.4	5.7	6.1
Max Green Setting (Gmax), s	19.6	37.5	12.0	45.0	10.3	46.8	11.4	45.6
Max Q Clear Time (g_c+I1), s	17.5	21.0	11.2	18.4	5.6	26.2	8.2	18.7
Green Ext Time (p_c), s	0.4	9.6	0.1	10.1	0.0	12.3	0.1	7.6

Intersection Summary	
HCM 7th Control Delay, s/veh	44.4
HCM 7th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	371	527	73	52	355	251	132	190	55	243	289	278
Future Volume (veh/h)	371	527	73	52	355	251	132	190	55	243	289	278
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	382	543	75	54	366	259	136	196	57	251	436	195
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	497	1160	160	73	1364	694	198	610	173	304	1058	676
Arrive On Green	0.14	0.37	0.37	0.04	0.27	0.27	0.11	0.22	0.22	0.17	0.28	0.28
Sat Flow, veh/h	3456	3137	432	1781	5106	1585	1781	2734	774	1781	3741	1585
Grp Volume(v), veh/h	382	307	311	54	366	259	136	126	127	251	436	195
Grp Sat Flow(s),veh/h/ln	1728	1777	1793	1781	1702	1585	1781	1777	1731	1781	1870	1585
Q Serve(g_s), s	9.6	11.9	11.9	2.7	5.1	9.9	6.6	5.3	5.6	12.3	8.5	7.3
Cycle Q Clear(g_c), s	9.6	11.9	11.9	2.7	5.1	9.9	6.6	5.3	5.6	12.3	8.5	7.3
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.45	1.00		1.00
Lane Grp Cap(c), veh/h	497	657	663	73	1364	694	198	396	386	304	1058	676
V/C Ratio(X)	0.77	0.47	0.47	0.74	0.27	0.37	0.69	0.32	0.33	0.82	0.41	0.29
Avail Cap(c_a), veh/h	567	741	748	296	2141	935	271	808	787	371	1913	1038
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	21.6	21.7	42.7	26.1	17.0	38.6	29.3	29.4	36.1	26.2	16.9
Incr Delay (d2), s/veh	10.9	2.4	2.4	48.8	0.5	1.5	17.9	2.1	2.3	21.8	1.2	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	5.1	5.2	2.2	2.1	3.8	3.9	2.5	2.6	7.0	3.8	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.1	24.0	24.0	91.6	26.6	18.6	56.4	31.4	31.7	57.9	27.4	18.0
LnGrp LOS	D	C	C	F	C	B	E	C	C	E	C	B
Approach Vol, veh/h		1000			679			389			882	
Approach Delay, s/veh		33.2			28.7			40.2			34.0	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	38.0	14.2	30.1	17.2	28.7	19.6	24.7
Change Period (Y+Rc), s	4.2	4.6	4.2	4.6	4.2	4.6	4.2	4.6
Max Green Setting (Gmax), s	15.0	37.6	13.7	46.1	14.8	37.8	18.8	41.0
Max Q Clear Time (g_c+I1), s	4.7	13.9	8.6	10.5	11.6	11.9	14.3	7.6
Green Ext Time (p_c), s	0.3	12.2	0.6	15.0	1.4	12.2	1.2	5.9

Intersection Summary	
HCM 7th Control Delay, s/veh	33.3
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	316	367	23	292	20	239	42	41	8	30	64
Future Volume (veh/h)	56	316	367	23	292	20	239	42	41	8	30	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	340	395	25	314	22	289	0	44	9	32	69
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	1114	708	53	959	67	475	0	211	12	43	92
Arrive On Green	0.06	0.31	0.31	0.03	0.28	0.28	0.13	0.00	0.13	0.09	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	1781	3370	235	3563	0	1585	137	487	1050
Grp Volume(v), veh/h	60	340	395	25	165	171	289	0	44	110	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1828	1781	0	1585	1674	0	0
Q Serve(g_s), s	1.4	3.2	8.1	0.6	3.2	3.2	3.4	0.0	1.1	2.8	0.0	0.0
Cycle Q Clear(g_c), s	1.4	3.2	8.1	0.6	3.2	3.2	3.4	0.0	1.1	2.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.13	1.00		1.00	0.08		0.63
Lane Grp Cap(c), veh/h	105	1114	708	53	505	520	475	0	211	147	0	0
V/C Ratio(X)	0.57	0.31	0.56	0.47	0.33	0.33	0.61	0.00	0.21	0.75	0.00	0.00
Avail Cap(c_a), veh/h	341	2893	1502	252	1357	1396	3006	0	1337	1413	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.1	11.4	8.9	20.9	12.4	12.4	17.9	0.0	16.9	19.5	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.2	0.7	2.4	0.4	0.4	0.5	0.0	0.2	2.9	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.0	2.9	0.3	1.1	1.1	1.2	0.0	0.3	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.9	11.6	9.6	23.3	12.7	12.8	18.4	0.0	17.1	22.4	0.0	0.0
LnGrp LOS	C	B	A	C	B	B	B		B	C		
Approach Vol, veh/h		795			361			333			110	
Approach Delay, s/veh		11.4			13.5			18.2			22.4	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	19.1		8.4	7.2	17.8		10.4				
Change Period (Y+Rc), s	4.6	5.3		4.6	4.6	5.3		4.6				
Max Green Setting (Gmax), s	6.3	35.7		37.0	8.4	33.5		37.0				
Max Q Clear Time (g_c+I1), s	2.6	10.1		4.8	3.4	5.2		5.4				
Green Ext Time (p_c), s	0.0	3.7		0.4	0.0	1.9		0.6				

Intersection Summary	
HCM 7th Control Delay, s/veh	14.0
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	293	47	15	289	27	10
Future Vol, veh/h	293	47	15	289	27	10
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	329	53	17	325	30	11
Number of Lanes	2	0	1	2	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	3
HCM Control Delay, s/veh	9.9	7.9	9.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	73%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	68%	0%	100%	100%
Vol Right, %	27%	0%	32%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	195	145	15	145	145
LT Vol	27	0	0	15	0	0
Through Vol	0	195	98	0	145	145
RT Vol	10	0	47	0	0	0
Lane Flow Rate	42	219	163	17	162	162
Geometry Grp	5	6	6	5	5	5
Degree of Util (X)	0.071	0.318	0.226	0.026	0.226	0.147
Departure Headway (Hd)	6.177	5.224	4.996	5.509	5.007	3.265
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	579	689	718	651	718	1098
Service Time	3.926	2.957	2.729	3.231	2.729	0.987
HCM Lane V/C Ratio	0.073	0.318	0.227	0.026	0.226	0.148
HCM Control Delay, s/veh	9.4	10.4	9.2	8.4	9.2	6.6
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0.2	1.4	0.9	0.1	0.9	0.5

Intersection	
Intersection Delay, s/veh	18.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	220	13	14	188	9	14	62	15	7	224	55
Future Vol, veh/h	24	220	13	14	188	9	14	62	15	7	224	55
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	268	16	17	229	11	17	76	18	9	273	67
Number of Lanes	1	1	1	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	3
HCM Control Delay, s/veh	15.4	17.8	12.2	22.6
HCM LOS	C	C	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	7%	2%
Vol Thru, %	0%	81%	0%	100%	0%	89%	78%
Vol Right, %	0%	19%	0%	0%	100%	4%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	77	24	220	13	211	286
LT Vol	14	0	24	0	0	14	7
Through Vol	0	62	0	220	0	188	224
RT Vol	0	15	0	0	13	9	55
Lane Flow Rate	17	94	29	268	16	257	349
Geometry Grp	6	6	5	5	5	6	6
Degree of Util (X)	0.039	0.199	0.059	0.506	0.027	0.522	0.669
Departure Headway (Hd)	8.29	7.637	7.298	6.788	6.073	7.3	6.907
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	431	470	491	531	589	494	523
Service Time	6.051	5.398	5.045	4.534	3.819	5.051	4.652
HCM Lane V/C Ratio	0.039	0.2	0.059	0.505	0.027	0.52	0.667
HCM Control Delay, s/veh	11.4	12.3	10.5	16.3	9	17.8	22.6
HCM Lane LOS	B	B	B	C	A	C	C
HCM 95th-tile Q	0.1	0.7	0.2	2.8	0.1	3	4.9

Intersection	
Intersection Delay, s/veh	37.5
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	435	112	54	228	32	44	19	27	36	16	8
Future Vol, veh/h	24	435	112	54	228	32	44	19	27	36	16	8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	483	124	60	253	36	49	21	30	40	18	9
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	2
HCM Control Delay, s/veh	58.2	12	12	11.6
HCM LOS	F	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	49%	100%	0%	100%	0%	0%	60%
Vol Thru, %	21%	0%	80%	0%	100%	0%	27%
Vol Right, %	30%	0%	20%	0%	0%	100%	13%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	24	547	54	228	32	60
LT Vol	44	24	0	54	0	0	36
Through Vol	19	0	435	0	228	0	16
RT Vol	27	0	112	0	0	32	8
Lane Flow Rate	100	27	608	60	253	36	67
Geometry Grp	5	6	6	5	5	5	5
Degree of Util (X)	0.203	0.049	0.999	0.108	0.42	0.052	0.141
Departure Headway (Hd)	7.317	6.567	5.917	6.476	5.968	5.258	7.599
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	488	544	614	551	600	678	469
Service Time	5.099	4.321	3.67	4.236	3.728	3.016	5.384
HCM Lane V/C Ratio	0.205	0.05	0.99	0.109	0.422	0.053	0.143
HCM Control Delay, s/veh	12	9.7	60.3	10	13	8.3	11.6
HCM Lane LOS	B	A	F	A	B	A	B
HCM 95th-tile Q	0.8	0.2	15	0.4	2.1	0.2	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	404	48	78	240	70	39	97	90	97	104	27
Future Volume (veh/h)	17	404	48	78	240	70	39	97	90	97	104	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	425	51	82	253	74	41	102	95	102	109	28
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	583	70	168	572	167	114	222	188	183	585	261
Arrive On Green	0.03	0.36	0.36	0.09	0.41	0.41	0.06	0.12	0.12	0.10	0.16	0.16
Sat Flow, veh/h	1781	1638	197	1781	1390	407	1781	1825	1544	1781	3554	1585
Grp Volume(v), veh/h	18	0	476	82	0	327	41	99	98	102	109	28
Grp Sat Flow(s),veh/h/ln	1781	0	1835	1781	0	1797	1781	1777	1592	1781	1777	1585
Q Serve(g_s), s	0.6	0.0	14.8	2.9	0.0	8.6	1.4	3.4	3.8	3.6	1.7	1.0
Cycle Q Clear(g_c), s	0.6	0.0	14.8	2.9	0.0	8.6	1.4	3.4	3.8	3.6	1.7	1.0
Prop In Lane	1.00		0.11	1.00		0.23	1.00		0.97	1.00		1.00
Lane Grp Cap(c), veh/h	61	0	653	168	0	740	114	216	194	183	585	261
V/C Ratio(X)	0.30	0.00	0.73	0.49	0.00	0.44	0.36	0.46	0.51	0.56	0.19	0.11
Avail Cap(c_a), veh/h	217	0	1158	228	0	1137	217	981	879	244	1945	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.0	0.0	18.4	28.3	0.0	13.9	29.5	26.9	27.0	28.1	23.7	23.4
Incr Delay (d2), s/veh	3.8	0.0	4.5	0.8	0.0	1.2	0.7	1.5	2.0	1.0	0.2	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	6.2	1.2	0.0	3.2	0.6	1.5	1.5	1.5	0.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.8	0.0	22.9	29.1	0.0	15.1	30.2	28.4	29.1	29.1	23.8	23.5
LnGrp LOS	C		C	C		B	C	C	C	C	C	C
Approach Vol, veh/h		494			409			238			239	
Approach Delay, s/veh		23.4			17.9			29.0			26.0	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	28.8	8.9	17.1	7.2	32.5	11.8	14.3
Change Period (Y+Rc), s	4.7	5.4	4.7	6.3	5.0	5.4	5.0	* 6.3
Max Green Setting (Gmax), s	8.4	41.5	8.0	36.0	8.0	41.6	9.0	* 36
Max Q Clear Time (g_c+I1), s	4.9	16.8	3.4	3.7	2.6	10.6	5.6	5.8
Green Ext Time (p_c), s	0.0	6.6	0.0	0.7	0.0	4.6	0.0	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	23.2
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	533	308	283	473	0	144	0	207	0	0	0
Future Volume (veh/h)	0	533	308	283	473	0	144	0	207	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0	1870	0	1870	0	1870	0
Adj Flow Rate, veh/h	0	561	324	298	498	0	152	0	218	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0	2	0	2	0	2	0
Cap, veh/h	0	964	682	896	2239	0	283	0	0	0	3	0
Arrive On Green	0.00	0.27	0.27	0.26	0.63	0.00	0.16	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3647	1585	3456	3647	0	1781	152		0	-56111	0
Grp Volume(v), veh/h	0	561	324	298	498	0	152	22.8		0	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1728	1777	0	1781	C		0	1870	0
Q Serve(g_s), s	0.0	7.8	8.4	4.0	3.5	0.0	4.5			0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	7.8	8.4	4.0	3.5	0.0	4.5			0.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			0.00		0.00
Lane Grp Cap(c), veh/h	0	964	682	896	2239	0	283			0	3	0
V/C Ratio(X)	0.00	0.58	0.48	0.33	0.22	0.00	0.54			0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	2789	1496	904	4115	0	348			0	1239	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	18.1	11.7	17.2	4.6	0.0	22.2			0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.5	0.1	0.0	0.0	0.6			0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.8	0.1	1.4	0.8	0.0	1.7			0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	18.6	12.2	17.3	4.6	0.0	22.8			0.0	0.0	0.0
LnGrp LOS		B	B	B	A		C					
Approach Vol, veh/h		885			796						0	
Approach Delay, s/veh		16.3			9.4						0.0	
Approach LOS		B			A							

Timer - Assigned Phs	1	2		4			7	8				
Phs Duration (G+Y+Rc), s	14.8	0.0		42.5			20.6	22.0				
Change Period (Y+Rc), s	5.7	3.0		* 6.4			5.7	6.4				
Max Green Setting (Gmax), s	11.3	38.0		* 66			15.0	45.0				
Max Q Clear Time (g_c+I1), s	16.5	0.0		5.5			6.0	10.4				
Green Ext Time (p_c), s	0.1	0.0		3.5			0.4	5.2				

Intersection Summary	
HCM 7th Control Delay, s/veh	13.8
HCM 7th LOS	B

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	485	155	158	418	190	199	615	87	281	741	219
Future Volume (veh/h)	186	485	155	158	418	190	199	615	87	281	741	219
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	200	522	167	170	449	204	214	661	94	302	797	235
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	253	668	422	950	1369	595	271	777	110	355	970	433
Arrive On Green	0.07	0.19	0.19	0.27	0.39	0.39	0.08	0.25	0.25	0.10	0.27	0.27
Sat Flow, veh/h	3456	3554	1585	3456	3486	1515	3456	3124	444	3456	3554	1585
Grp Volume(v), veh/h	200	522	167	170	438	215	214	376	379	302	797	235
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1598	1728	1777	1790	1728	1777	1585
Q Serve(g_s), s	6.8	16.8	4.6	4.5	10.8	11.3	7.3	24.2	24.2	10.3	25.2	15.2
Cycle Q Clear(g_c), s	6.8	16.8	4.6	4.5	10.8	11.3	7.3	24.2	24.2	10.3	25.2	15.2
Prop In Lane	1.00		1.00	1.00		0.95	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	253	668	422	950	1337	627	271	442	445	355	970	433
V/C Ratio(X)	0.79	0.78	0.40	0.18	0.33	0.34	0.79	0.85	0.85	0.85	0.82	0.54
Avail Cap(c_a), veh/h	253	1173	648	950	1337	627	369	563	567	369	1105	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.87	0.87	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	46.4	13.9	33.2	25.4	25.6	54.3	43.0	43.0	52.9	40.9	37.2
Incr Delay (d2), s/veh	14.2	8.9	2.8	0.0	0.7	1.5	4.7	8.6	8.6	15.5	4.6	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	8.1	2.2	1.9	4.4	4.5	3.3	11.5	11.6	5.0	11.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	68.9	55.2	16.6	33.2	26.1	27.1	59.0	51.5	51.6	68.5	45.4	38.3
LnGrp LOS	E	E	B	C	C	C	E	D	D	E	D	D
Approach Vol, veh/h		889			823			969			1334	
Approach Delay, s/veh		51.1			27.8			53.2			49.4	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	28.1	14.6	38.7	14.0	52.7	18.2	35.0
Change Period (Y+Rc), s	5.6	* 5.6	5.2	5.9	5.2	5.6	5.9	* 5.2
Max Green Setting (Gmax), s	8.4	* 40	12.8	37.3	8.8	39.2	12.8	* 38
Max Q Clear Time (g_c+I1), s	6.5	18.8	9.3	27.2	8.8	13.3	12.3	26.2
Green Ext Time (p_c), s	0.1	3.8	0.1	4.0	0.0	4.3	0.0	3.6

Intersection Summary	
HCM 7th Control Delay, s/veh	46.3
HCM 7th LOS	D

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	239	139	48	238	94	94	224	37	64	265	225
Future Volume (veh/h)	223	239	139	48	238	94	94	224	37	64	265	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	257	149	52	256	101	101	241	40	69	285	242
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	442	879	392	136	697	489	214	630	103	200	705	517
Arrive On Green	0.13	0.25	0.25	0.08	0.20	0.20	0.12	0.21	0.21	0.11	0.20	0.20
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3057	500	1781	3554	1585
Grp Volume(v), veh/h	240	257	149	52	256	101	101	139	142	69	285	242
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	1780	1781	1777	1585
Q Serve(g_s), s	4.0	3.6	4.8	1.7	3.8	2.9	3.3	4.1	4.2	2.2	4.3	7.5
Cycle Q Clear(g_c), s	4.0	3.6	4.8	1.7	3.8	2.9	3.3	4.1	4.2	2.2	4.3	7.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	442	879	392	136	697	489	214	366	367	200	705	517
V/C Ratio(X)	0.54	0.29	0.38	0.38	0.37	0.21	0.47	0.38	0.39	0.34	0.40	0.47
Avail Cap(c_a), veh/h	545	2413	1076	269	2350	1227	260	1241	1244	289	2517	1325
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.2	18.8	19.2	27.0	21.4	15.7	25.3	21.0	21.1	25.2	21.5	16.5
Incr Delay (d2), s/veh	0.4	0.8	2.8	0.7	1.5	1.0	0.6	0.6	0.7	0.4	0.4	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.4	1.9	0.7	1.5	1.1	1.3	1.6	1.7	0.9	1.7	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.5	19.6	22.0	27.7	22.9	16.7	25.9	21.7	21.8	25.6	21.9	17.1
LnGrp LOS	C	B	C	C	C	B	C	C	C	C	C	B
Approach Vol, veh/h		646			409			382			596	
Approach Delay, s/veh		22.4			22.0			22.8			20.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	22.7	12.1	17.3	12.6	19.6	11.6	17.8
Change Period (Y+Rc), s	4.7	* 7.5	4.7	5.1	4.7	7.5	4.7	* 5.1
Max Green Setting (Gmax), s	9.3	* 42	9.0	43.6	9.7	40.7	10.0	* 43
Max Q Clear Time (g_c+I1), s	3.7	6.8	5.3	9.5	6.0	5.8	4.2	6.2
Green Ext Time (p_c), s	0.0	7.2	0.0	2.7	0.2	6.2	0.0	1.7

Intersection Summary	
HCM 7th Control Delay, s/veh	21.8
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

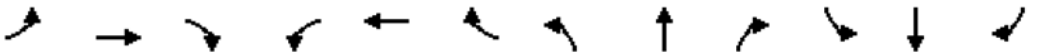
Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	109	236	0	26	230	13	0	12	17	18	44	154
Future Vol, veh/h	109	236	0	26	230	13	0	12	17	18	44	154
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	680	-	-	525	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	121	262	0	29	256	14	0	13	19	20	49	171

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	270	0	0	262	0	0	842	832	262	832	825	263
Stage 1	-	-	-	-	-	-	504	504	-	321	321	-
Stage 2	-	-	-	-	-	-	338	328	-	511	504	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1293	-	-	1302	-	-	284	305	776	289	308	776
Stage 1	-	-	-	-	-	-	550	541	-	691	652	-
Stage 2	-	-	-	-	-	-	677	647	-	545	541	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1293	-	-	1302	-	-	164	270	776	239	273	776
Mov Cap-2 Maneuver	-	-	-	-	-	-	164	270	-	239	273	-
Stage 1	-	-	-	-	-	-	498	490	-	676	637	-
Stage 2	-	-	-	-	-	-	476	633	-	469	490	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	2.55	0.76	13.89	18.86
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	437	1293	-	-	1302	-	-	496
HCM Lane V/C Ratio	0.074	0.094	-	-	0.022	-	-	0.484
HCM Ctrl Dly (s/v)	13.9	8.1	-	-	7.8	-	-	18.9
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.3	-	-	0.1	-	-	2.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	121	95	94	147	41	24	124	58	32	523	58
Future Volume (veh/h)	31	121	95	94	147	41	24	124	58	32	523	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	125	98	97	152	42	25	128	60	33	539	60
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	334	182	143	592	242	67	104	512	228	117	1033	114
Arrive On Green	0.19	0.19	0.19	0.17	0.17	0.17	0.06	0.21	0.21	0.07	0.22	0.22
Sat Flow, veh/h	1781	972	762	3456	1410	390	1781	2391	1065	1781	4669	513
Grp Volume(v), veh/h	32	0	223	97	0	194	25	93	95	33	391	208
Grp Sat Flow(s),veh/h/ln	1781	0	1733	1728	0	1800	1781	1777	1679	1781	1702	1778
Q Serve(g_s), s	0.8	0.0	6.2	1.2	0.0	5.2	0.7	2.3	2.4	0.9	5.3	5.4
Cycle Q Clear(g_c), s	0.8	0.0	6.2	1.2	0.0	5.2	0.7	2.3	2.4	0.9	5.3	5.4
Prop In Lane	1.00		0.44	1.00		0.22	1.00		0.63	1.00		0.29
Lane Grp Cap(c), veh/h	334	0	325	592	0	309	104	380	359	117	753	393
V/C Ratio(X)	0.10	0.00	0.69	0.16	0.00	0.63	0.24	0.25	0.26	0.28	0.52	0.53
Avail Cap(c_a), veh/h	1007	0	980	2086	0	1087	343	888	839	322	1663	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.5	0.0	19.7	18.4	0.0	20.0	23.4	17.0	17.0	23.1	17.8	17.9
Incr Delay (d2), s/veh	0.1	0.0	3.1	0.2	0.0	2.5	0.4	0.4	0.5	0.5	0.7	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.6	0.5	0.0	2.2	0.3	0.9	0.9	0.4	1.9	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.6	0.0	22.8	18.5	0.0	22.5	23.8	17.4	17.5	23.6	18.5	19.2
LnGrp LOS	B		C	B		C	C	B	B	C	B	B
Approach Vol, veh/h		255			291			213			632	
Approach Delay, s/veh		22.1			21.2			18.2			19.0	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	16.1		14.3	7.6	16.5		13.5				
Change Period (Y+Rc), s	4.6	5.0		4.6	4.6	5.0		4.6				
Max Green Setting (Gmax), s	9.4	26.0		29.4	10.0	25.4		31.4				
Max Q Clear Time (g_c+I1), s	2.9	4.4		8.2	2.7	7.4		7.2				
Green Ext Time (p_c), s	0.0	1.1		1.7	0.0	4.1		1.8				

Intersection Summary			
HCM 7th Control Delay, s/veh		19.9	
HCM 7th LOS		B	

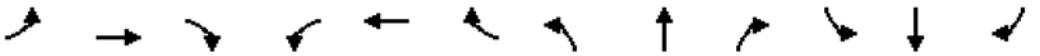


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	5	8	8	32	31	123	817	10	59	596	74
Future Volume (veh/h)	1	5	8	8	32	31	123	817	10	59	596	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	5	9	9	35	34	135	898	11	65	655	81
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	16	29	18	69	67	203	1172	14	146	935	116
Arrive On Green	0.03	0.03	0.03	0.09	0.09	0.09	0.11	0.33	0.33	0.08	0.29	0.29
Sat Flow, veh/h	112	561	1010	199	774	752	1781	3595	44	1781	3183	393
Grp Volume(v), veh/h	15	0	0	78	0	0	135	444	465	65	365	371
Grp Sat Flow(s),veh/h/ln	1683	0	0	1725	0	0	1781	1777	1862	1781	1777	1800
Q Serve(g_s), s	0.6	0.0	0.0	3.0	0.0	0.0	5.1	15.7	15.7	2.4	12.8	12.8
Cycle Q Clear(g_c), s	0.6	0.0	0.0	3.0	0.0	0.0	5.1	15.7	15.7	2.4	12.8	12.8
Prop In Lane	0.07		0.60	0.12		0.44	1.00		0.02	1.00		0.22
Lane Grp Cap(c), veh/h	49	0	0	154	0	0	203	579	607	146	522	529
V/C Ratio(X)	0.31	0.00	0.00	0.51	0.00	0.00	0.66	0.77	0.77	0.45	0.70	0.70
Avail Cap(c_a), veh/h	721	0	0	739	0	0	297	855	896	206	763	773
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	0.0	0.0	30.4	0.0	0.0	29.7	21.2	21.2	30.6	22.0	22.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	1.0	0.0	0.0	1.4	2.4	2.3	2.1	1.7	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	1.3	0.0	0.0	2.1	6.3	6.6	1.1	5.1	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.6	0.0	0.0	31.4	0.0	0.0	31.1	23.7	23.5	32.8	23.7	23.7
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h		15			78			1044			801	
Approach Delay, s/veh		34.6			31.4			24.6			24.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.4	29.9		14.9	16.7	27.7		10.7				
Change Period (Y+Rc), s	8.7	7.1		8.7	8.7	7.1		8.7				
Max Green Setting (Gmax), s	5.7	33.7		30.0	11.7	30.1		30.0				
Max Q Clear Time (g_c+I1), s	4.4	17.7		5.0	7.1	14.8		2.6				
Green Ext Time (p_c), s	0.0	5.1		0.3	0.1	4.0		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	24.9
HCM 7th LOS	C

HORIZON YEAR 2050 CONDITIONS WITH GENERAL PLAN BUILDOUT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	53	67	4	52	281	41	1139	14	80	974	38
Future Volume (veh/h)	24	53	67	4	52	281	41	1139	14	80	974	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	59	74	4	58	0	46	1266	16	89	1082	42
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	100	107	60	253		150	1575	20	208	1643	64
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.00	0.08	0.44	0.44	0.12	0.47	0.47
Sat Flow, veh/h	176	718	769	39	1812	1585	1781	3594	45	1781	3487	135
Grp Volume(v), veh/h	160	0	0	62	0	0	46	626	656	89	551	573
Grp Sat Flow(s),veh/h/ln	1663	0	0	1851	0	1585	1781	1777	1862	1781	1777	1846
Q Serve(g_s), s	2.9	0.0	0.0	0.0	0.0	0.0	1.7	21.6	21.6	3.3	16.8	16.8
Cycle Q Clear(g_c), s	6.4	0.0	0.0	2.1	0.0	0.0	1.7	21.6	21.6	3.3	16.8	16.8
Prop In Lane	0.17		0.46	0.06		1.00	1.00		0.02	1.00		0.07
Lane Grp Cap(c), veh/h	292	0	0	313	0		150	779	816	208	837	869
V/C Ratio(X)	0.55	0.00	0.00	0.20	0.00		0.31	0.80	0.80	0.43	0.66	0.66
Avail Cap(c_a), veh/h	1238	0	0	1367	0		252	814	853	252	837	869
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.9	0.0	0.0	27.1	0.0	0.0	30.5	17.2	17.2	29.0	14.3	14.4
Incr Delay (d2), s/veh	1.6	0.0	0.0	0.3	0.0	0.0	0.4	7.8	7.5	0.5	3.5	3.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	0.9	0.0	0.0	0.7	8.5	8.8	1.3	5.9	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.5	0.0	0.0	27.4	0.0	0.0	30.9	25.0	24.7	29.6	17.8	17.7
LnGrp LOS	C			C			C	C	C	C	B	B
Approach Vol, veh/h		160			62			1328			1213	
Approach Delay, s/veh		30.5			27.4			25.1			18.6	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.0	39.4		17.4	11.7	41.7		17.4				
Change Period (Y+Rc), s	5.7	8.4		7.5	5.7	8.4		7.5				
Max Green Setting (Gmax), s	10.0	32.4		51.0	10.0	32.4		51.0				
Max Q Clear Time (g_c+I1), s	5.3	23.6		8.4	3.7	18.8		4.1				
Green Ext Time (p_c), s	0.0	7.4		0.9	0.0	10.0		0.3				

Intersection Summary	
HCM 7th Control Delay, s/veh	22.6
HCM 7th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	457	94	177	365	274	78	665	220	223	715	110
Future Volume (veh/h)	119	457	94	177	365	274	78	665	220	223	715	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	497	102	192	397	298	85	723	239	242	777	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1017	454	313	538	456	162	1055	470	314	1055	470
Arrive On Green	0.09	0.29	0.29	0.09	0.29	0.29	0.09	0.30	0.30	0.09	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	129	497	102	192	397	298	85	723	239	242	777	120
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	7.8	12.8	5.4	5.9	21.1	18.1	5.0	19.8	13.7	7.5	21.6	6.3
Cycle Q Clear(g_c), s	7.8	12.8	5.4	5.9	21.1	18.1	5.0	19.8	13.7	7.5	21.6	6.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	1017	454	313	538	456	162	1055	470	314	1055	470
V/C Ratio(X)	0.81	0.49	0.22	0.61	0.74	0.65	0.52	0.69	0.51	0.77	0.74	0.26
Avail Cap(c_a), veh/h	183	1464	653	314	748	634	162	1244	555	324	1254	559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	32.6	30.0	48.2	35.4	34.4	47.7	34.1	32.0	48.9	34.8	29.4
Incr Delay (d2), s/veh	21.1	1.3	0.9	3.5	7.1	5.7	1.5	3.0	3.1	10.5	3.9	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	5.6	2.2	2.7	10.5	7.6	2.2	8.4	5.6	3.6	9.3	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	70.3	33.9	30.9	51.6	42.5	40.0	49.3	37.1	35.1	59.4	38.7	30.4
LnGrp LOS	E	C	C	D	D	D	D	D	D	E	D	C
Approach Vol, veh/h		728			887			1047			1139	
Approach Delay, s/veh		39.9			43.7			37.6			42.2	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.7	41.0	15.7	37.6	15.7	41.0	15.5	37.7
Change Period (Y+Rc), s	5.7	8.4	5.7	6.1	5.7	8.4	5.7	6.1
Max Green Setting (Gmax), s	10.0	38.5	10.0	45.3	10.0	38.8	11.3	44.0
Max Q Clear Time (g_c+I1), s	9.9	21.8	7.9	14.8	7.0	23.6	9.8	23.1
Green Ext Time (p_c), s	0.1	10.0	0.1	9.5	0.0	9.0	0.0	8.5

Intersection Summary	
HCM 7th Control Delay, s/veh	40.9
HCM 7th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	257	380	63	50	533	362	153	183	57	122	105	155
Future Volume (veh/h)	257	380	63	50	533	362	153	183	57	122	105	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	271	400	66	53	561	381	161	193	60	128	111	163
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	423	1416	232	76	1959	758	218	494	149	169	292	883
Arrive On Green	0.12	0.46	0.46	0.04	0.38	0.38	0.12	0.18	0.18	0.09	0.16	0.16
Sat Flow, veh/h	3456	3057	501	1781	5106	1585	1781	2689	812	1781	1870	3170
Grp Volume(v), veh/h	271	231	235	53	561	381	161	126	127	128	111	163
Grp Sat Flow(s),veh/h/ln	1728	1777	1780	1781	1702	1585	1781	1777	1724	1781	1870	1585
Q Serve(g_s), s	6.1	6.6	6.7	2.4	6.2	13.5	7.1	5.1	5.3	5.7	4.3	3.2
Cycle Q Clear(g_c), s	6.1	6.6	6.7	2.4	6.2	13.5	7.1	5.1	5.3	5.7	4.3	3.2
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	423	823	825	76	1959	758	218	326	317	169	292	883
V/C Ratio(X)	0.64	0.28	0.28	0.69	0.29	0.50	0.74	0.39	0.40	0.76	0.38	0.18
Avail Cap(c_a), veh/h	444	823	825	327	2382	890	257	909	882	262	962	2018
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.1	13.5	13.6	38.6	17.4	14.6	34.6	29.3	29.4	36.1	30.9	22.4
Incr Delay (d2), s/veh	7.3	0.9	0.9	41.3	0.4	2.4	19.9	3.4	3.8	26.8	3.7	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.6	2.7	1.9	2.4	5.1	4.3	2.5	2.5	3.7	2.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.4	14.4	14.4	79.9	17.8	17.0	54.5	32.7	33.2	62.9	34.7	22.9
LnGrp LOS	D	B	B	E	B	B	D	C	C	E	C	C
Approach Vol, veh/h		737			995			414			402	
Approach Delay, s/veh		24.3			20.8			41.3			38.9	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	42.4	14.2	17.3	14.2	35.9	11.9	19.6
Change Period (Y+Rc), s	4.2	4.6	4.2	4.6	4.2	4.6	4.2	4.6
Max Green Setting (Gmax), s	15.0	33.6	11.8	42.0	10.5	38.1	12.0	41.8
Max Q Clear Time (g_c+I1), s	4.4	8.7	9.1	6.3	8.1	15.5	7.7	7.3
Green Ext Time (p_c), s	0.3	9.5	0.4	5.7	0.7	15.9	0.5	6.0

Intersection Summary	
HCM 7th Control Delay, s/veh	28.0
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	195	161	11	326	7	421	36	22	19	81	145
Future Volume (veh/h)	65	195	161	11	326	7	421	36	22	19	81	145
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	247	204	14	413	9	566	0	28	24	103	184
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	809	683	31	648	14	725	0	322	30	127	227
Arrive On Green	0.06	0.23	0.23	0.02	0.18	0.18	0.20	0.00	0.20	0.23	0.23	0.23
Sat Flow, veh/h	1781	3554	1585	1781	3556	77	3563	0	1585	130	558	997
Grp Volume(v), veh/h	82	247	204	14	206	216	566	0	28	311	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1856	1781	0	1585	1684	0	0
Q Serve(g_s), s	2.7	3.4	5.0	0.5	6.3	6.4	8.9	0.0	0.8	10.3	0.0	0.0
Cycle Q Clear(g_c), s	2.7	3.4	5.0	0.5	6.3	6.4	8.9	0.0	0.8	10.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.08		0.59
Lane Grp Cap(c), veh/h	112	809	683	31	324	338	725	0	322	384	0	0
V/C Ratio(X)	0.74	0.31	0.30	0.45	0.64	0.64	0.78	0.00	0.09	0.81	0.00	0.00
Avail Cap(c_a), veh/h	253	2203	1305	160	1008	1053	2232	0	993	1056	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.2	18.9	11.0	28.7	22.3	22.3	22.3	0.0	19.1	21.6	0.0	0.0
Incr Delay (d2), s/veh	3.5	0.2	0.2	3.8	2.1	2.0	0.7	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.3	2.3	0.2	2.6	2.7	3.4	0.0	0.3	3.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.7	19.1	11.2	32.5	24.4	24.3	23.0	0.0	19.1	23.1	0.0	0.0
LnGrp LOS	C	B	B	C	C	C	C		B	C		
Approach Vol, veh/h		533			436			594			311	
Approach Delay, s/veh		17.9			24.6			22.8			23.1	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	18.7		18.1	8.3	16.1		16.6				
Change Period (Y+Rc), s	4.6	5.3		4.6	4.6	5.3		4.6				
Max Green Setting (Gmax), s	5.3	36.6		37.0	8.4	33.5		37.0				
Max Q Clear Time (g_c+I1), s	2.5	7.0		12.3	4.7	8.4		10.9				
Green Ext Time (p_c), s	0.0	2.3		1.2	0.0	2.4		1.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	21.9
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	201	45	5	203	76	38
Future Vol, veh/h	201	45	5	203	76	38
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	264	59	7	267	100	50
Number of Lanes	2	0	1	2	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	3
HCM Control Delay, s/veh	9.9	8.2	10.6
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	67%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	60%	0%	100%	100%
Vol Right, %	33%	0%	40%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	114	134	112	5	102	102
LT Vol	76	0	0	5	0	0
Through Vol	0	134	67	0	102	102
RT Vol	38	0	45	0	0	0
Lane Flow Rate	150	176	147	7	134	134
Geometry Grp	5	6	6	5	5	5
Degree of Util (X)	0.246	0.27	0.214	0.011	0.198	0.133
Departure Headway (Hd)	5.904	5.507	5.223	5.831	5.327	3.578
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	603	647	682	612	670	992
Service Time	3.687	3.28	2.996	3.587	3.083	1.333
HCM Lane V/C Ratio	0.249	0.272	0.216	0.011	0.2	0.135
HCM Control Delay, s/veh	10.6	10.3	9.4	8.7	9.4	6.9
HCM Lane LOS	B	B	A	A	A	A
HCM 95th-tile Q	1	1.1	0.8	0	0.7	0.5

Intersection	
Intersection Delay, s/veh	24.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	159	150	19	11	123	8	15	324	23	11	95	24
Future Vol, veh/h	159	150	19	11	123	8	15	324	23	11	95	24
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	196	185	23	14	152	10	19	400	28	14	117	30
Number of Lanes	1	1	1	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	3
HCM Control Delay, s/veh	15	16.6	40	15.5
HCM LOS	B	C	E	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	8%	8%
Vol Thru, %	0%	93%	0%	100%	0%	87%	73%
Vol Right, %	0%	7%	0%	0%	100%	6%	18%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	347	159	150	19	142	130
LT Vol	15	0	159	0	0	11	11
Through Vol	0	324	0	150	0	123	95
RT Vol	0	23	0	0	19	8	24
Lane Flow Rate	19	428	196	185	23	175	160
Geometry Grp	6	6	5	5	5	6	6
Degree of Util (X)	0.04	0.866	0.425	0.375	0.043	0.403	0.362
Departure Headway (Hd)	7.831	7.274	7.797	7.285	6.567	8.271	8.125
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	456	497	461	493	543	433	441
Service Time	5.595	5.039	5.568	5.055	4.337	6.054	5.911
HCM Lane V/C Ratio	0.042	0.861	0.425	0.375	0.042	0.404	0.363
HCM Control Delay, s/veh	10.9	41.3	16.3	14.4	9.6	16.6	15.5
HCM Lane LOS	B	E	C	B	A	C	C
HCM 95th-tile Q	0.1	9.2	2.1	1.7	0.1	1.9	1.6

Intersection	
Intersection Delay, s/veh	29.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	351	34	47	365	56	105	75	18	74	33	38
Future Vol, veh/h	11	351	34	47	365	56	105	75	18	74	33	38
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	377	37	51	392	60	113	81	19	80	35	41
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	2
HCM Control Delay, s/veh	43.4	25.6	18.5	15.7
HCM LOS	E	D	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	53%	100%	0%	100%	0%	0%	51%
Vol Thru, %	38%	0%	91%	0%	100%	0%	23%
Vol Right, %	9%	0%	9%	0%	0%	100%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	198	11	385	47	365	56	145
LT Vol	105	11	0	47	0	0	74
Through Vol	75	0	351	0	365	0	33
RT Vol	18	0	34	0	0	56	38
Lane Flow Rate	213	12	414	51	392	60	156
Geometry Grp	5	6	6	5	5	5	5
Degree of Util (X)	0.484	0.027	0.876	0.106	0.77	0.106	0.359
Departure Headway (Hd)	8.184	8.198	7.618	7.578	7.064	6.345	8.284
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	439	435	472	471	510	561	432
Service Time	5.974	5.98	5.4	5.359	4.845	4.125	6.082
HCM Lane V/C Ratio	0.485	0.028	0.877	0.108	0.769	0.107	0.361
HCM Control Delay, s/veh	18.5	11.2	44.3	11.3	29.9	9.9	15.7
HCM Lane LOS	C	B	E	B	D	A	C
HCM 95th-tile Q	2.6	0.1	9.3	0.4	6.8	0.4	1.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	360	36	68	331	206	59	202	88	194	134	76
Future Volume (veh/h)	19	360	36	68	331	206	59	202	88	194	134	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	450	45	85	414	258	74	252	110	242	168	95
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	666	67	134	464	289	129	358	152	275	826	369
Arrive On Green	0.04	0.40	0.40	0.08	0.43	0.43	0.07	0.15	0.15	0.15	0.23	0.23
Sat Flow, veh/h	1781	1673	167	1781	1078	672	1781	2431	1031	1781	3554	1585
Grp Volume(v), veh/h	24	0	495	85	0	672	74	182	180	242	168	95
Grp Sat Flow(s),veh/h/ln	1781	0	1840	1781	0	1749	1781	1777	1685	1781	1777	1585
Q Serve(g_s), s	1.2	0.0	21.1	4.4	0.0	33.8	3.8	9.3	9.7	12.6	3.6	4.7
Cycle Q Clear(g_c), s	1.2	0.0	21.1	4.4	0.0	33.8	3.8	9.3	9.7	12.6	3.6	4.7
Prop In Lane	1.00		0.09	1.00		0.38	1.00		0.61	1.00		1.00
Lane Grp Cap(c), veh/h	70	0	733	134	0	753	129	262	248	275	826	369
V/C Ratio(X)	0.34	0.00	0.68	0.63	0.00	0.89	0.58	0.70	0.72	0.88	0.20	0.26
Avail Cap(c_a), veh/h	150	0	854	170	0	826	219	673	638	300	1458	650
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	0.0	23.6	42.7	0.0	25.0	42.7	38.5	38.7	39.3	29.4	29.8
Incr Delay (d2), s/veh	4.0	0.0	3.4	1.8	0.0	13.3	1.5	3.3	4.0	22.1	0.1	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	9.2	2.0	0.0	15.6	1.7	4.3	4.3	7.1	1.5	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.5	0.0	27.0	44.5	0.0	38.4	44.2	41.8	42.7	61.4	29.5	30.2
LnGrp LOS	D		C	D		D	D	D	D	E	C	C
Approach Vol, veh/h		519			757			436			505	
Approach Delay, s/veh		28.0			39.0			42.6			44.9	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	43.2	11.6	28.4	8.8	46.3	19.7	20.3
Change Period (Y+Rc), s	4.7	5.4	4.7	6.3	5.0	5.4	5.0	* 6.3
Max Green Setting (Gmax), s	9.1	44.1	11.7	39.0	8.0	44.9	16.0	* 36
Max Q Clear Time (g_c+I1), s	6.4	23.1	5.8	6.7	3.2	35.8	14.6	11.7
Green Ext Time (p_c), s	0.0	6.4	0.0	1.4	0.0	5.2	0.1	2.3

Intersection Summary	
HCM 7th Control Delay, s/veh	38.5
HCM 7th LOS	D

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	704	177	204	643	0	249	0	207	0	0	0
Future Volume (veh/h)	0	704	177	204	643	0	249	0	207	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0	1870	0	1870	0	1870	0
Adj Flow Rate, veh/h	0	791	199	229	722	0	280	0	233	0	0	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	2	2	2	2	0	2	0	2	0	2	0
Cap, veh/h	0	1156	789	786	2277	0	308	0	0	0	3	0
Arrive On Green	0.00	0.33	0.33	0.23	0.64	0.00	0.17	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3647	1585	3456	3647	0	1781	280		0	-56111	0
Grp Volume(v), veh/h	0	791	199	229	722	0	280	55.2		0	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1728	1777	0	1781	E		0	1870	0
Q Serve(g_s), s	0.0	12.5	4.7	3.6	5.9	0.0	10.0			0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	12.5	4.7	3.6	5.9	0.0	10.0			0.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			0.00		0.00
Lane Grp Cap(c), veh/h	0	1156	789	786	2277	0	308			0	3	0
V/C Ratio(X)	0.00	0.68	0.25	0.29	0.32	0.00	0.91			0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	2466	1374	799	3639	0	308			0	1096	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	19.0	9.3	20.7	5.3	0.0	26.3			0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.2	0.1	0.1	0.0	28.9			0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.6	0.0	1.3	1.4	0.0	6.3			0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	19.7	9.5	20.8	5.3	0.0	55.2			0.0	0.0	0.0
LnGrp LOS		B	A	C	A		E					
Approach Vol, veh/h		990			951						0	
Approach Delay, s/veh		17.7			9.1						0.0	
Approach LOS		B			A							

Timer - Assigned Phs	1	2		4			7	8				
Phs Duration (G+Y+Rc), s	16.9	0.0		47.9			20.5	27.5				
Change Period (Y+Rc), s	5.7	3.0		* 6.4			5.7	6.4				
Max Green Setting (Gmax), s	11.2	38.0		* 66			15.0	45.0				
Max Q Clear Time (g_c+I1), s	12.0	0.0		7.9			5.6	14.5				
Green Ext Time (p_c), s	0.0	0.0		5.4			0.3	6.6				

Intersection Summary	
HCM 7th Control Delay, s/veh	18.7
HCM 7th LOS	B

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	535	187	212	578	268	204	556	83	244	575	147
Future Volume (veh/h)	147	535	187	212	578	268	204	556	83	244	575	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	165	601	210	238	649	301	229	625	93	274	646	165
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	220	758	468	940	1459	664	284	741	110	311	877	391
Arrive On Green	0.06	0.21	0.21	0.27	0.43	0.43	0.08	0.24	0.24	0.09	0.25	0.25
Sat Flow, veh/h	3456	3554	1585	3456	3431	1562	3456	3103	461	3456	3554	1585
Grp Volume(v), veh/h	165	601	210	238	644	306	229	357	361	274	646	165
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1589	1728	1777	1787	1728	1777	1585
Q Serve(g_s), s	5.6	19.2	5.4	6.5	16.1	16.5	7.8	23.0	23.1	9.4	20.1	10.5
Cycle Q Clear(g_c), s	5.6	19.2	5.4	6.5	16.1	16.5	7.8	23.0	23.1	9.4	20.1	10.5
Prop In Lane	1.00		1.00	1.00		0.98	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	220	758	468	940	1447	676	284	424	427	311	877	391
V/C Ratio(X)	0.75	0.79	0.45	0.25	0.44	0.45	0.81	0.84	0.84	0.88	0.74	0.42
Avail Cap(c_a), veh/h	239	1190	661	940	1447	676	311	563	566	311	1105	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	44.7	13.1	34.1	24.5	24.6	54.1	43.5	43.6	54.0	41.6	38.0
Incr Delay (d2), s/veh	9.8	8.4	3.1	0.1	1.0	2.2	11.0	7.9	8.1	23.3	2.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	9.2	2.7	2.7	6.5	6.4	3.8	10.9	11.0	4.9	8.6	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	65.1	53.1	16.2	34.2	25.4	26.7	65.1	51.5	51.6	77.3	43.6	38.7
LnGrp LOS	E	D	B	C	C	C	E	D	D	E	D	D
Approach Vol, veh/h		976			1188			947			1085	
Approach Delay, s/veh		47.1			27.5			54.8			51.4	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	38.3	31.2	15.1	35.5	12.8	56.6	16.7	33.9
Change Period (Y+Rc), s	5.6	* 5.6	5.2	5.9	5.2	5.6	5.9	* 5.2
Max Green Setting (Gmax), s	9.8	* 40	10.8	37.3	8.3	41.7	10.8	* 38
Max Q Clear Time (g_c+I1), s	8.5	21.2	9.8	22.1	7.6	18.5	11.4	25.1
Green Ext Time (p_c), s	0.1	4.4	0.0	3.8	0.0	6.4	0.0	3.6

Intersection Summary	
HCM 7th Control Delay, s/veh	44.4
HCM 7th LOS	D

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	261	302	194	102	356	113	210	359	90	112	460	384
Future Volume (veh/h)	261	302	194	102	356	113	210	359	90	112	460	384
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	330	382	246	129	451	143	266	454	114	142	582	486
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	356	872	389	157	819	517	265	1043	260	171	1128	666
Arrive On Green	0.10	0.25	0.25	0.09	0.23	0.23	0.15	0.37	0.37	0.10	0.32	0.32
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	2818	702	1781	3554	1585
Grp Volume(v), veh/h	330	382	246	129	451	143	266	285	283	142	582	486
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	1744	1781	1777	1585
Q Serve(g_s), s	10.4	10.0	15.2	7.8	12.3	7.3	16.3	13.2	13.4	8.6	14.7	28.1
Cycle Q Clear(g_c), s	10.4	10.0	15.2	7.8	12.3	7.3	16.3	13.2	13.4	8.6	14.7	28.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	356	872	389	157	819	517	265	658	645	171	1128	666
V/C Ratio(X)	0.93	0.44	0.63	0.82	0.55	0.28	1.01	0.43	0.44	0.83	0.52	0.73
Avail Cap(c_a), veh/h	356	1325	591	219	1373	764	265	732	718	235	1393	784
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	35.0	37.0	49.2	37.2	27.4	46.7	25.9	26.0	48.7	30.6	26.6
Incr Delay (d2), s/veh	29.4	1.6	7.6	11.3	2.7	1.3	56.7	0.5	0.5	12.2	0.4	2.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	4.3	6.6	3.8	5.3	2.9	11.3	5.5	5.5	4.4	6.2	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	78.2	36.6	44.6	60.5	39.9	28.7	103.4	26.4	26.5	60.9	30.9	29.5
LnGrp LOS	E	D	D	E	D	C	F	C	C	E	C	C
Approach Vol, veh/h		958			723			834			1210	
Approach Delay, s/veh		53.0			41.3			51.0			33.9	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.4	34.4	21.0	39.9	16.0	32.8	15.2	45.7
Change Period (Y+Rc), s	4.7	* 7.5	4.7	5.1	4.7	7.5	4.7	* 5.1
Max Green Setting (Gmax), s	13.5	* 41	16.3	43.0	11.3	42.4	14.5	* 45
Max Q Clear Time (g_c+I1), s	9.8	17.2	18.3	30.1	12.4	14.3	10.6	15.4
Green Ext Time (p_c), s	0.0	9.7	0.0	4.7	0.0	10.1	0.1	3.6

Intersection Summary	
HCM 7th Control Delay, s/veh	44.1
HCM 7th LOS	D

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	145.9

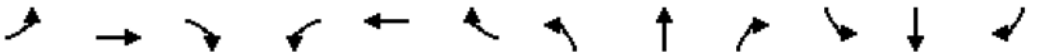
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	388	248	0	33	242	20	0	19	26	11	30	361
Future Vol, veh/h	388	248	0	33	242	20	0	19	26	11	30	361
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	680	-	-	525	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	497	318	0	42	310	26	0	24	33	14	38	463

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	336	0	0	318	0	0	1727	1733	318	1733	1721	323
Stage 1	-	-	-	-	-	-	1313	1313	-	408	408	-
Stage 2	-	-	-	-	-	-	414	421	-	1325	1313	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1223	-	-	1242	-	-	70	88	723	69	89	718
Stage 1	-	-	-	-	-	-	195	228	-	620	597	-
Stage 2	-	-	-	-	-	-	615	589	-	192	228	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1223	-	-	1242	-	-	5	50	723	25	51	718
Mov Cap-2 Maneuver	-	-	-	-	-	-	5	50	-	25	51	-
Stage 1	-	-	-	-	-	-	116	135	-	599	577	-
Stage 2	-	-	-	-	-	-	197	569	-	89	135	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	6.07	0.89	70.51	$ 481.94
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	109	1223	-	-	1242	-	-	262
HCM Lane V/C Ratio	0.53	0.407	-	-	0.034	-	-	1.971
HCM Ctrl Dly (s/v)	70.5	9.9	-	-	8	-	-	$ 481.9
HCM Lane LOS	F	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	2.4	2	-	-	0.1	-	-	37

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	164	30	35	131	59	23	409	27	61	305	22
Future Volume (veh/h)	22	164	30	35	131	59	23	409	27	61	305	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	184	34	39	147	66	26	460	30	69	343	25
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	309	266	49	605	214	96	106	720	47	188	1258	90
Arrive On Green	0.17	0.17	0.17	0.18	0.18	0.18	0.06	0.21	0.21	0.11	0.26	0.26
Sat Flow, veh/h	1781	1536	284	3456	1223	549	1781	3387	220	1781	4862	350
Grp Volume(v), veh/h	25	0	218	39	0	213	26	241	249	69	239	129
Grp Sat Flow(s),veh/h/ln	1781	0	1819	1728	0	1772	1781	1777	1831	1781	1702	1807
Q Serve(g_s), s	0.7	0.0	6.3	0.5	0.0	6.4	0.8	7.0	7.0	2.0	3.2	3.2
Cycle Q Clear(g_c), s	0.7	0.0	6.3	0.5	0.0	6.4	0.8	7.0	7.0	2.0	3.2	3.2
Prop In Lane	1.00		0.16	1.00		0.31	1.00		0.12	1.00		0.19
Lane Grp Cap(c), veh/h	309	0	315	605	0	310	106	378	389	188	881	468
V/C Ratio(X)	0.08	0.00	0.69	0.06	0.00	0.69	0.25	0.64	0.64	0.37	0.27	0.28
Avail Cap(c_a), veh/h	929	0	949	1924	0	986	316	788	812	329	1533	814
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	21.9	19.4	0.0	21.8	25.3	20.2	20.2	23.5	16.7	16.7
Incr Delay (d2), s/veh	0.1	0.0	3.3	0.1	0.0	3.2	0.4	2.2	2.1	0.4	0.2	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.8	0.2	0.0	2.8	0.3	2.8	2.9	0.8	1.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.7	0.0	25.1	19.5	0.0	25.0	25.8	22.4	22.4	23.9	16.9	17.1
LnGrp LOS	B		C	B		C	C	C	C	C	B	B
Approach Vol, veh/h		243			252			516			437	
Approach Delay, s/veh		24.6			24.2			22.5			18.0	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.5	17.0		14.4	7.9	19.6		14.5				
Change Period (Y+Rc), s	4.6	5.0		4.6	4.6	5.0		4.6				
Max Green Setting (Gmax), s	10.4	25.0		29.4	10.0	25.4		31.4				
Max Q Clear Time (g_c+I1), s	4.0	9.0		8.3	2.8	5.2		8.4				
Green Ext Time (p_c), s	0.0	3.0		1.6	0.0	2.5		1.7				

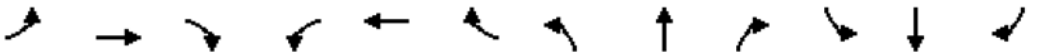
Intersection Summary			
HCM 7th Control Delay, s/veh		21.8	
HCM 7th LOS		C	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	48	73	8	50	16	63	639	21	7	713	31
Future Volume (veh/h)	51	48	73	8	50	16	63	639	21	7	713	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	49	75	8	52	16	65	659	22	7	735	32
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	62	95	16	102	31	183	1211	40	26	891	39
Arrive On Green	0.13	0.13	0.13	0.08	0.08	0.08	0.10	0.35	0.35	0.01	0.26	0.26
Sat Flow, veh/h	513	474	726	189	1227	377	1781	3509	117	1781	3469	151
Grp Volume(v), veh/h	177	0	0	76	0	0	65	334	347	7	376	391
Grp Sat Flow(s),veh/h/ln	1714	0	0	1793	0	0	1781	1777	1849	1781	1777	1843
Q Serve(g_s), s	7.8	0.0	0.0	3.2	0.0	0.0	2.6	11.8	11.8	0.3	15.6	15.6
Cycle Q Clear(g_c), s	7.8	0.0	0.0	3.2	0.0	0.0	2.6	11.8	11.8	0.3	15.6	15.6
Prop In Lane	0.30		0.42	0.11		0.21	1.00		0.06	1.00		0.08
Lane Grp Cap(c), veh/h	225	0	0	149	0	0	183	613	638	26	456	473
V/C Ratio(X)	0.79	0.00	0.00	0.51	0.00	0.00	0.36	0.54	0.54	0.27	0.82	0.83
Avail Cap(c_a), veh/h	660	0	0	691	0	0	183	613	638	183	543	563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.8	0.0	0.0	34.2	0.0	0.0	32.5	20.6	20.6	38.0	27.3	27.3
Incr Delay (d2), s/veh	2.3	0.0	0.0	1.0	0.0	0.0	0.4	1.0	1.0	5.6	8.7	8.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	0.0	1.4	0.0	0.0	1.1	4.7	4.9	0.2	7.3	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.1	0.0	0.0	35.2	0.0	0.0	33.0	21.6	21.5	43.5	36.0	35.7
LnGrp LOS	D			D			C	C	C	D	D	D
Approach Vol, veh/h		177			76			746			774	
Approach Delay, s/veh		35.1			35.2			22.5			35.9	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	34.0		15.2	16.7	27.1		18.9				
Change Period (Y+Rc), s	8.7	7.1		8.7	8.7	7.1		8.7				
Max Green Setting (Gmax), s	8.6	23.8		30.0	8.0	23.8		30.0				
Max Q Clear Time (g_c+I1), s	2.3	13.8		5.2	4.6	17.6		9.8				
Green Ext Time (p_c), s	0.0	2.9		0.2	0.0	2.4		0.7				

Intersection Summary	
HCM 7th Control Delay, s/veh	30.2
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	60	76	3	60	222	35	1019	7	224	1458	30
Future Volume (veh/h)	24	60	76	3	60	222	35	1019	7	224	1458	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	63	80	3	63	0	37	1073	7	236	1535	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	93	103	46	239		120	1713	11	273	1989	41
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.00	0.07	0.47	0.47	0.15	0.56	0.56
Sat Flow, veh/h	156	716	793	25	1834	1585	1781	3619	24	1781	3560	74
Grp Volume(v), veh/h	168	0	0	66	0	0	37	527	553	236	765	802
Grp Sat Flow(s),veh/h/ln	1666	0	0	1860	0	1585	1781	1777	1866	1781	1777	1857
Q Serve(g_s), s	4.5	0.0	0.0	0.0	0.0	0.0	1.8	19.7	19.7	11.5	29.6	29.7
Cycle Q Clear(g_c), s	8.6	0.0	0.0	2.8	0.0	0.0	1.8	19.7	19.7	11.5	29.6	29.7
Prop In Lane	0.15		0.48	0.05		1.00	1.00		0.01	1.00		0.04
Lane Grp Cap(c), veh/h	263	0	0	284	0		120	841	883	273	993	1038
V/C Ratio(X)	0.64	0.00	0.00	0.23	0.00		0.31	0.63	0.63	0.87	0.77	0.77
Avail Cap(c_a), veh/h	990	0	0	1098	0		201	871	915	380	1050	1097
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	0.0	0.0	34.8	0.0	0.0	39.4	17.5	17.5	36.7	15.2	15.2
Incr Delay (d2), s/veh	2.6	0.0	0.0	0.4	0.0	0.0	0.5	2.9	2.8	10.9	5.1	5.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	0.0	1.3	0.0	0.0	0.7	7.4	7.8	5.4	10.7	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.8	0.0	0.0	35.2	0.0	0.0	39.9	20.4	20.3	47.6	20.3	20.2
LnGrp LOS	D			D			D	C	C	D	C	C
Approach Vol, veh/h		168			66			1117			1803	
Approach Delay, s/veh		39.8			35.2			21.0			23.8	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.3	50.4		19.0	11.7	58.0		19.0				
Change Period (Y+Rc), s	5.7	8.4		7.5	5.7	8.4		7.5				
Max Green Setting (Gmax), s	18.9	43.5		51.0	10.0	52.4		51.0				
Max Q Clear Time (g_c+I1), s	13.5	21.7		10.6	3.8	31.7		4.8				
Green Ext Time (p_c), s	0.1	13.9		1.0	0.0	17.8		0.3				

Intersection Summary		
HCM 7th Control Delay, s/veh	23.9	
HCM 7th LOS	C	

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	590	97	294	321	264	62	683	301	497	892	139
Future Volume (veh/h)	104	590	97	294	321	264	62	683	301	497	892	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	112	634	104	316	345	284	67	734	324	534	959	149
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	929	414	344	527	447	144	970	433	540	1238	552
Arrive On Green	0.08	0.26	0.26	0.10	0.28	0.28	0.08	0.27	0.27	0.16	0.35	0.35
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	112	634	104	316	345	284	67	734	324	534	959	149
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	7.6	19.8	6.4	11.2	20.1	19.4	4.4	23.4	23.1	19.0	29.7	8.4
Cycle Q Clear(g_c), s	7.6	19.8	6.4	11.2	20.1	19.4	4.4	23.4	23.1	19.0	29.7	8.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	929	414	344	527	447	144	970	433	540	1238	552
V/C Ratio(X)	0.79	0.68	0.25	0.92	0.65	0.64	0.46	0.76	0.75	0.99	0.77	0.27
Avail Cap(c_a), veh/h	177	1295	578	344	682	578	144	1079	481	540	1347	601
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.9	41.0	36.0	55.1	39.1	38.8	54.2	41.1	41.0	52.0	35.9	28.9
Incr Delay (d2), s/veh	17.4	3.2	1.1	28.7	5.0	5.4	0.9	4.8	9.8	35.7	4.2	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	9.0	0.1	6.2	9.8	8.1	1.9	10.3	10.1	10.5	12.8	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	73.3	44.2	37.2	83.8	44.0	44.2	55.1	45.9	50.8	87.7	40.1	29.9
LnGrp LOS	E	D	D	F	D	D	E	D	D	F	D	C
Approach Vol, veh/h		850			945			1125			1642	
Approach Delay, s/veh		47.2			57.4			47.9			54.7	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	42.1	18.0	38.4	15.7	51.4	15.5	40.9
Change Period (Y+Rc), s	5.7	8.4	5.7	6.1	5.7	8.4	5.7	6.1
Max Green Setting (Gmax), s	19.3	37.5	12.3	45.0	10.0	46.8	12.3	45.0
Max Q Clear Time (g_c+I1), s	21.0	25.4	13.2	21.8	6.4	31.7	9.6	22.1
Green Ext Time (p_c), s	0.0	8.3	0.0	10.5	0.0	10.6	0.1	8.0

Intersection Summary	
HCM 7th Control Delay, s/veh	52.2
HCM 7th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	413	587	81	58	395	279	147	212	61	271	322	310
Future Volume (veh/h)	413	587	81	58	395	279	147	212	61	271	322	310
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	426	605	84	60	407	288	152	219	63	279	486	217
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	504	1181	164	82	1412	718	196	606	170	314	1075	687
Arrive On Green	0.15	0.38	0.38	0.05	0.28	0.28	0.11	0.22	0.22	0.18	0.29	0.29
Sat Flow, veh/h	3456	3135	434	1781	5106	1585	1781	2740	769	1781	3741	1585
Grp Volume(v), veh/h	426	342	347	60	407	288	152	140	142	279	486	217
Grp Sat Flow(s),veh/h/ln	1728	1777	1792	1781	1702	1585	1781	1777	1732	1781	1870	1585
Q Serve(g_s), s	11.7	14.5	14.6	3.3	6.1	11.9	8.1	6.5	6.8	15.0	10.4	8.8
Cycle Q Clear(g_c), s	11.7	14.5	14.6	3.3	6.1	11.9	8.1	6.5	6.8	15.0	10.4	8.8
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	504	669	675	82	1412	718	196	393	383	314	1075	687
V/C Ratio(X)	0.84	0.51	0.51	0.73	0.29	0.40	0.77	0.36	0.37	0.89	0.45	0.32
Avail Cap(c_a), veh/h	523	701	708	273	2026	908	271	745	726	324	1680	943
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	23.5	23.5	46.1	27.8	17.9	42.3	32.2	32.3	39.3	28.5	18.2
Incr Delay (d2), s/veh	15.8	2.8	2.8	44.5	0.5	1.7	25.2	2.5	2.7	29.1	1.4	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	6.4	6.5	2.4	2.5	4.6	5.0	3.1	3.1	8.9	4.7	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.5	26.3	26.3	90.6	28.3	19.6	67.5	34.7	35.0	68.4	29.9	19.4
LnGrp LOS	E	C	C	F	C	B	E	C	D	E	C	B
Approach Vol, veh/h		1115			755			434			982	
Approach Delay, s/veh		37.8			29.9			46.3			38.5	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	41.4	15.0	32.7	18.5	31.6	21.4	26.2
Change Period (Y+Rc), s	4.2	4.6	4.2	4.6	4.2	4.6	4.2	4.6
Max Green Setting (Gmax), s	15.6	38.6	14.9	43.9	14.8	38.8	17.8	41.0
Max Q Clear Time (g_c+I1), s	5.3	16.6	10.1	12.4	13.7	13.9	17.0	8.8
Green Ext Time (p_c), s	0.3	12.8	0.7	15.7	0.5	13.2	0.3	6.6

Intersection Summary	
HCM 7th Control Delay, s/veh	37.3
HCM 7th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	352	409	26	325	22	266	47	46	9	33	71
Future Volume (veh/h)	62	352	409	26	325	22	266	47	46	9	33	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	378	440	28	349	24	322	0	49	10	35	76
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	1178	748	58	1020	70	499	0	222	13	47	102
Arrive On Green	0.06	0.33	0.33	0.03	0.30	0.30	0.14	0.00	0.14	0.10	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	1781	3375	231	3563	0	1585	138	484	1052
Grp Volume(v), veh/h	67	378	440	28	183	190	322	0	49	121	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1829	1781	0	1585	1674	0	0
Q Serve(g_s), s	1.8	3.8	9.7	0.7	3.8	3.9	4.1	0.0	1.3	3.4	0.0	0.0
Cycle Q Clear(g_c), s	1.8	3.8	9.7	0.7	3.8	3.9	4.1	0.0	1.3	3.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.13	1.00		1.00	0.08		0.63
Lane Grp Cap(c), veh/h	110	1178	748	58	537	553	499	0	222	162	0	0
V/C Ratio(X)	0.61	0.32	0.59	0.48	0.34	0.34	0.64	0.00	0.22	0.75	0.00	0.00
Avail Cap(c_a), veh/h	313	2635	1397	238	1243	1280	2753	0	1225	1294	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.9	12.0	9.3	22.8	13.0	13.0	19.5	0.0	18.3	21.0	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.2	0.7	2.3	0.4	0.4	0.5	0.0	0.2	2.5	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.2	3.7	0.3	1.3	1.4	1.5	0.0	0.4	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.9	12.1	10.0	25.1	13.4	13.4	20.0	0.0	18.4	23.6	0.0	0.0
LnGrp LOS	C	B	A	C	B	B	B		B	C		
Approach Vol, veh/h		885			401			371			121	
Approach Delay, s/veh		12.0			14.2			19.8			23.6	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	21.2		9.2	7.5	19.8		11.3				
Change Period (Y+Rc), s	4.6	5.3		4.6	4.6	5.3		4.6				
Max Green Setting (Gmax), s	6.4	35.5		37.0	8.4	33.5		37.0				
Max Q Clear Time (g_c+I1), s	2.7	11.7		5.4	3.8	5.9		6.1				
Green Ext Time (p_c), s	0.0	4.1		0.4	0.0	2.2		0.7				

Intersection Summary	
HCM 7th Control Delay, s/veh	14.9
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	338	54	17	334	31	12
Future Vol, veh/h	338	54	17	334	31	12
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	380	61	19	375	35	13
Number of Lanes	2	0	1	2	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	3
HCM Control Delay, s/veh	10.6	8.3	9.7
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	72%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	68%	0%	100%	100%
Vol Right, %	28%	0%	32%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	43	225	167	17	167	167
LT Vol	31	0	0	17	0	0
Through Vol	0	225	113	0	167	167
RT Vol	12	0	54	0	0	0
Lane Flow Rate	48	253	187	19	188	188
Geometry Grp	5	6	6	5	5	5
Degree of Util (X)	0.086	0.376	0.266	0.03	0.266	0.175
Departure Headway (Hd)	6.379	5.343	5.116	5.605	5.102	3.359
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	559	671	700	639	704	1064
Service Time	4.143	3.087	2.86	3.338	2.836	1.092
HCM Lane V/C Ratio	0.086	0.377	0.267	0.03	0.267	0.177
HCM Control Delay, s/veh	9.7	11.3	9.7	8.5	9.7	6.8
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0.3	1.7	1.1	0.1	1.1	0.6

Intersection	
Intersection Delay, s/veh	54.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	294	17	19	251	12	19	83	20	9	299	73
Future Vol, veh/h	32	294	17	19	251	12	19	83	20	9	299	73
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	359	21	23	306	15	23	101	24	11	365	89
Number of Lanes	1	1	1	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	3
HCM Control Delay, s/veh	54.5	42.5	16.5	92.8
HCM LOS	D	E	C	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	7%	2%
Vol Thru, %	0%	81%	0%	100%	0%	89%	78%
Vol Right, %	0%	19%	0%	0%	100%	4%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	103	32	294	17	282	381
LT Vol	19	0	32	0	0	19	9
Through Vol	0	83	0	294	0	251	299
RT Vol	0	20	0	0	17	12	73
Lane Flow Rate	23	126	39	359	21	344	465
Geometry Grp	6	6	5	5	5	6	6
Degree of Util (X)	0.064	0.325	0.093	0.807	0.043	0.825	1.072
Departure Headway (Hd)	10.382	9.715	8.992	8.473	7.747	9.052	8.307
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	347	373	401	430	465	402	437
Service Time	8.082	7.415	6.692	6.173	5.447	6.752	6.07
HCM Lane V/C Ratio	0.066	0.338	0.097	0.835	0.045	0.856	1.064
HCM Control Delay, s/veh	13.8	17	12.6	38.2	10.8	42.5	92.8
HCM Lane LOS	B	C	B	E	B	E	F
HCM 95th-tile Q	0.2	1.4	0.3	7.3	0.1	7.6	15.2

Intersection	
Intersection Delay, s/veh	97.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	533	137	66	280	39	54	23	33	44	20	10
Future Vol, veh/h	29	533	137	66	280	39	54	23	33	44	20	10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	592	152	73	311	43	60	26	37	49	22	11
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	2
HCM Control Delay, s/veh	165	14.8	13.6	13
HCM LOS	F	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	49%	100%	0%	100%	0%	0%	59%
Vol Thru, %	21%	0%	80%	0%	100%	0%	27%
Vol Right, %	30%	0%	20%	0%	0%	100%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	110	29	670	66	280	39	74
LT Vol	54	29	0	66	0	0	44
Through Vol	23	0	533	0	280	0	20
RT Vol	33	0	137	0	0	39	10
Lane Flow Rate	122	32	744	73	311	43	82
Geometry Grp	5	6	6	5	5	5	5
Degree of Util (X)	0.255	0.063	1.31	0.136	0.533	0.066	0.179
Departure Headway (Hd)	8.14	6.987	6.334	7.05	6.539	5.824	8.473
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	444	513	573	512	554	619	426
Service Time	5.84	4.727	4.073	4.75	4.239	3.524	6.173
HCM Lane V/C Ratio	0.275	0.062	1.298	0.143	0.561	0.069	0.192
HCM Control Delay, s/veh	13.6	10.2	171.7	10.9	16.5	8.9	13
HCM Lane LOS	B	B	F	B	C	A	B
HCM 95th-tile Q	1	0.2	30.9	0.5	3.1	0.2	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	500	59	97	297	87	48	120	111	120	129	33
Future Volume (veh/h)	21	500	59	97	297	87	48	120	111	120	129	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	526	62	102	313	92	51	126	117	126	136	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	663	78	167	631	186	124	217	185	176	541	241
Arrive On Green	0.04	0.40	0.40	0.09	0.45	0.45	0.07	0.12	0.12	0.10	0.15	0.15
Sat Flow, veh/h	1781	1642	194	1781	1389	408	1781	1818	1550	1781	3554	1585
Grp Volume(v), veh/h	22	0	588	102	0	405	51	123	120	126	136	35
Grp Sat Flow(s),veh/h/ln	1781	0	1836	1781	0	1797	1781	1777	1591	1781	1777	1585
Q Serve(g_s), s	0.9	0.0	21.1	4.1	0.0	11.9	2.1	4.9	5.4	5.2	2.5	1.4
Cycle Q Clear(g_c), s	0.9	0.0	21.1	4.1	0.0	11.9	2.1	4.9	5.4	5.2	2.5	1.4
Prop In Lane	1.00		0.11	1.00		0.23	1.00		0.97	1.00		1.00
Lane Grp Cap(c), veh/h	70	0	741	167	0	817	124	212	190	176	541	241
V/C Ratio(X)	0.32	0.00	0.79	0.61	0.00	0.50	0.41	0.58	0.63	0.72	0.25	0.14
Avail Cap(c_a), veh/h	189	0	1012	196	0	991	189	859	770	213	1704	760
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.2	0.0	19.7	32.8	0.0	14.5	33.5	31.4	31.6	32.9	28.1	27.7
Incr Delay (d2), s/veh	3.6	0.0	6.0	1.9	0.0	1.4	0.8	2.5	3.4	6.2	0.2	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	9.1	1.8	0.0	4.5	0.9	2.2	2.2	2.4	1.1	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.8	0.0	25.7	34.7	0.0	15.8	34.3	33.8	35.0	39.1	28.4	27.9
LnGrp LOS	D		C	C		B	C	C	D	D	C	C
Approach Vol, veh/h		610			507			294			297	
Approach Delay, s/veh		26.2			19.6			34.4			32.8	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	35.8	9.9	17.8	7.9	39.6	12.4	15.3
Change Period (Y+Rc), s	4.7	5.4	4.7	6.3	5.0	5.4	5.0	* 6.3
Max Green Setting (Gmax), s	8.3	41.5	8.0	36.1	8.0	41.5	9.0	* 36
Max Q Clear Time (g_c+I1), s	6.1	23.1	4.1	4.5	2.9	13.9	7.2	7.4
Green Ext Time (p_c), s	0.0	7.3	0.0	0.9	0.0	5.7	0.0	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	26.8
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	620	358	329	550	0	167	0	241	0	0	0
Future Volume (veh/h)	0	620	358	329	550	0	167	0	241	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0	1870	0	1870	0	1870	0
Adj Flow Rate, veh/h	0	653	377	346	579	0	176	0	254	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0	2	0	2	0	2	0
Cap, veh/h	0	1080	730	852	2290	0	278	0	0	0	3	0
Arrive On Green	0.00	0.30	0.30	0.25	0.64	0.00	0.16	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3647	1585	3456	3647	0	1781	176		0	-56111	0
Grp Volume(v), veh/h	0	653	377	346	579	0	176	25.6		0	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1728	1777	0	1781	C		0	1870	0
Q Serve(g_s), s	0.0	9.5	10.2	5.1	4.2	0.0	5.6			0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.5	10.2	5.1	4.2	0.0	5.6			0.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			0.00		0.00
Lane Grp Cap(c), veh/h	0	1080	730	852	2290	0	278			0	3	0
V/C Ratio(X)	0.00	0.60	0.52	0.41	0.25	0.00	0.63			0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	2635	1423	854	3888	0	329			0	1171	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	18.0	11.6	19.1	4.6	0.0	24.0			0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.6	0.1	0.1	0.0	1.6			0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.4	9.9	1.8	0.9	0.0	2.3			0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	18.6	12.2	19.3	4.6	0.0	25.6			0.0	0.0	0.0
LnGrp LOS		B	B	B	A		C					
Approach Vol, veh/h		1030			925						0	
Approach Delay, s/veh		16.2			10.1						0.0	
Approach LOS		B			B							

Timer - Assigned Phs	1	2		4			7	8				
Phs Duration (G+Y+Rc), s	5.2	0.0		45.5			20.7	24.8				
Change Period (Y+Rc), s	5.7	3.0		* 6.4			5.7	6.4				
Max Green Setting (Gmax), s	1.3	38.0		* 66			15.0	45.0				
Max Q Clear Time (g_c+I1), s	7.6	0.0		6.2			7.1	12.2				
Green Ext Time (p_c), s	0.1	0.0		4.1			0.4	6.2				

Intersection Summary	
HCM 7th Control Delay, s/veh	14.3
HCM 7th LOS	B

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	552	176	180	476	216	227	700	99	320	844	249
Future Volume (veh/h)	212	552	176	180	476	216	227	700	99	320	844	249
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	228	594	189	194	512	232	244	753	106	344	908	268
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	253	748	471	768	1262	552	299	859	121	369	1048	468
Arrive On Green	0.07	0.21	0.21	0.22	0.36	0.36	0.09	0.27	0.27	0.11	0.29	0.29
Sat Flow, veh/h	3456	3554	1585	3456	3479	1522	3456	3128	440	3456	3554	1585
Grp Volume(v), veh/h	228	594	189	194	501	243	244	428	431	344	908	268
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1596	1728	1777	1791	1728	1777	1585
Q Serve(g_s), s	7.9	19.0	5.6	5.6	13.2	13.8	8.3	27.6	27.6	11.9	29.0	17.2
Cycle Q Clear(g_c), s	7.9	19.0	5.6	5.6	13.2	13.8	8.3	27.6	27.6	11.9	29.0	17.2
Prop In Lane	1.00		1.00	1.00		0.95	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	253	748	471	768	1235	579	299	488	492	369	1048	468
V/C Ratio(X)	0.90	0.79	0.40	0.25	0.41	0.42	0.82	0.88	0.88	0.93	0.87	0.57
Avail Cap(c_a), veh/h	253	1190	668	768	1235	579	325	563	567	369	1149	512
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	44.9	13.0	38.5	28.6	28.8	53.9	41.6	41.6	53.2	40.1	35.9
Incr Delay (d2), s/veh	30.9	8.5	2.5	0.1	1.0	2.2	10.5	11.1	11.1	30.0	6.7	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	9.1	2.7	2.3	5.4	5.5	4.0	13.4	13.5	6.5	12.9	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	86.0	53.4	15.5	38.5	29.6	31.0	64.4	52.7	52.6	83.1	46.8	37.2
LnGrp LOS	F	D	B	D	C	C	E	D	D	F	D	D
Approach Vol, veh/h		1011			938			1103			1520	
Approach Delay, s/veh		53.7			31.8			55.2			53.3	
Approach LOS		D			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	30.9	15.6	41.3	14.0	49.1	18.7	38.2
Change Period (Y+Rc), s	5.6	* 5.6	5.2	5.9	5.2	5.6	5.9	* 5.2
Max Green Setting (Gmax), s	7.8	* 40	11.3	38.8	8.8	39.2	12.8	* 38
Max Q Clear Time (g_c+I1), s	7.6	21.0	10.3	31.0	9.9	15.8	13.9	29.6
Green Ext Time (p_c), s	0.0	4.3	0.1	3.8	0.0	4.8	0.0	3.4

Intersection Summary	
HCM 7th Control Delay, s/veh	49.4
HCM 7th LOS	D

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	265	154	53	264	104	104	249	41	71	294	250
Future Volume (veh/h)	248	265	154	53	264	104	104	249	41	71	294	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	267	285	166	57	284	112	112	268	44	76	316	269
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	422	884	394	141	732	508	214	671	109	204	760	532
Arrive On Green	0.12	0.25	0.25	0.08	0.21	0.21	0.12	0.22	0.22	0.11	0.21	0.21
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3062	496	1781	3554	1585
Grp Volume(v), veh/h	267	285	166	57	284	112	112	154	158	76	316	269
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	1781	1781	1777	1585
Q Serve(g_s), s	4.8	4.3	5.7	2.0	4.5	3.4	3.8	4.8	4.9	2.6	5.0	8.8
Cycle Q Clear(g_c), s	4.8	4.3	5.7	2.0	4.5	3.4	3.8	4.8	4.9	2.6	5.0	8.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	422	884	394	141	732	508	214	389	390	204	760	532
V/C Ratio(X)	0.63	0.32	0.42	0.40	0.39	0.22	0.52	0.40	0.40	0.37	0.42	0.51
Avail Cap(c_a), veh/h	547	2268	1011	263	2191	1159	246	1175	1178	274	2382	1256
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	20.0	20.5	28.5	22.3	16.1	26.9	21.7	21.8	26.6	22.1	17.3
Incr Delay (d2), s/veh	0.6	1.0	3.3	0.7	1.6	1.0	0.7	0.7	0.7	0.4	0.4	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.7	2.3	0.8	1.8	1.2	1.6	1.9	2.0	1.0	2.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.8	20.9	23.8	29.2	23.8	17.1	27.6	22.4	22.4	27.0	22.4	18.0
LnGrp LOS	C	C	C	C	C	B	C	C	C	C	C	B
Approach Vol, veh/h		718			453			424			661	
Approach Delay, s/veh		24.1			22.9			23.8			21.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	23.7	12.5	19.0	12.6	20.9	12.2	19.3
Change Period (Y+Rc), s	4.7	* 7.5	4.7	5.1	4.7	7.5	4.7	* 5.1
Max Green Setting (Gmax), s	9.6	* 42	9.0	43.6	10.3	40.1	10.0	* 43
Max Q Clear Time (g_c+I1), s	4.0	7.7	5.8	10.8	6.8	6.5	4.6	6.9
Green Ext Time (p_c), s	0.0	8.0	0.0	3.1	0.2	6.9	0.0	1.9

Intersection Summary	
HCM 7th Control Delay, s/veh	22.9
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

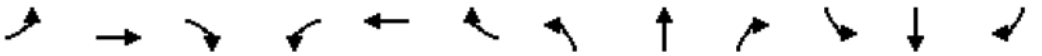
Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	127	276	0	30	269	15	0	14	20	21	51	180
Future Vol, veh/h	127	276	0	30	269	15	0	14	20	21	51	180
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	680	-	-	525	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	141	307	0	33	299	17	0	16	22	23	57	200

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	316	0	0	307	0	0	983	971	307	971	963	307
Stage 1	-	-	-	-	-	-	589	589	-	374	374	-
Stage 2	-	-	-	-	-	-	394	382	-	597	589	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1245	-	-	1254	-	-	228	253	733	232	256	733
Stage 1	-	-	-	-	-	-	495	496	-	647	618	-
Stage 2	-	-	-	-	-	-	631	613	-	490	496	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1245	-	-	1254	-	-	110	218	733	182	221	733
Mov Cap-2 Maneuver	-	-	-	-	-	-	110	218	-	182	221	-
Stage 1	-	-	-	-	-	-	438	439	-	630	601	-
Stage 2	-	-	-	-	-	-	405	596	-	406	439	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	2.6	0.76	15.77	28.28
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	372	1245	-	-	1254	-	-	426
HCM Lane V/C Ratio	0.102	0.113	-	-	0.027	-	-	0.658
HCM Ctrl Dly (s/v)	15.8	8.3	-	-	7.9	-	-	28.3
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.3	0.4	-	-	0.1	-	-	4.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	135	106	105	164	46	27	138	65	36	582	65
Future Volume (veh/h)	35	135	106	105	164	46	27	138	65	36	582	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	139	109	108	169	47	28	142	67	37	600	67
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	355	194	152	627	255	71	112	529	238	124	1068	118
Arrive On Green	0.20	0.20	0.20	0.18	0.18	0.18	0.06	0.22	0.22	0.07	0.23	0.23
Sat Flow, veh/h	1781	971	762	3456	1408	392	1781	2383	1071	1781	4666	515
Grp Volume(v), veh/h	36	0	248	108	0	216	28	104	105	37	436	231
Grp Sat Flow(s),veh/h/ln	1781	0	1733	1728	0	1800	1781	1777	1678	1781	1702	1778
Q Serve(g_s), s	0.9	0.0	7.7	1.5	0.0	6.4	0.9	2.8	3.0	1.1	6.5	6.6
Cycle Q Clear(g_c), s	0.9	0.0	7.7	1.5	0.0	6.4	0.9	2.8	3.0	1.1	6.5	6.6
Prop In Lane	1.00		0.44	1.00		0.22	1.00		0.64	1.00		0.29
Lane Grp Cap(c), veh/h	355	0	346	627	0	326	112	394	372	124	779	407
V/C Ratio(X)	0.10	0.00	0.72	0.17	0.00	0.66	0.25	0.26	0.28	0.30	0.56	0.57
Avail Cap(c_a), veh/h	913	0	888	1891	0	985	310	817	772	279	1507	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.8	0.0	21.5	19.8	0.0	21.9	25.6	18.5	18.5	25.3	19.6	19.6
Incr Delay (d2), s/veh	0.1	0.0	3.4	0.2	0.0	2.8	0.4	0.4	0.5	0.5	0.8	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	3.2	0.6	0.0	2.8	0.3	1.1	1.1	0.5	2.4	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.9	0.0	24.8	20.0	0.0	24.6	26.0	18.9	19.0	25.8	20.3	21.1
LnGrp LOS	B		C	C		C	C	B	B	C	C	C
Approach Vol, veh/h		284			324			237			704	
Approach Delay, s/veh		24.1			23.1			19.8			20.9	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	17.7		16.0	8.2	18.1		15.0				
Change Period (Y+Rc), s	4.6	5.0		4.6	4.6	5.0		4.6				
Max Green Setting (Gmax), s	9.0	26.4		29.4	10.0	25.4		31.4				
Max Q Clear Time (g_c+I1), s	3.1	5.0		9.7	2.9	8.6		8.4				
Green Ext Time (p_c), s	0.0	1.3		1.9	0.0	4.5		2.1				

Intersection Summary												
HCM 7th Control Delay, s/veh			21.8									
HCM 7th LOS			C									

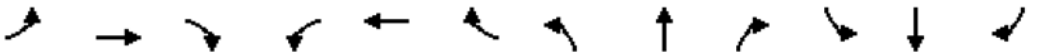


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	6	9	9	36	35	137	910	11	66	664	82
Future Volume (veh/h)	1	6	9	9	36	35	137	910	11	66	664	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	7	10	10	40	38	151	1000	12	73	730	90
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	22	31	18	71	67	196	1252	15	149	1025	126
Arrive On Green	0.03	0.03	0.03	0.09	0.09	0.09	0.11	0.35	0.35	0.08	0.32	0.32
Sat Flow, veh/h	94	660	942	196	785	745	1781	3596	43	1781	3184	392
Grp Volume(v), veh/h	18	0	0	88	0	0	151	494	518	73	407	413
Grp Sat Flow(s),veh/h/ln	1696	0	0	1726	0	0	1781	1777	1863	1781	1777	1800
Q Serve(g_s), s	0.8	0.0	0.0	3.6	0.0	0.0	6.2	18.7	18.7	2.9	15.0	15.1
Cycle Q Clear(g_c), s	0.8	0.0	0.0	3.6	0.0	0.0	6.2	18.7	18.7	2.9	15.0	15.1
Prop In Lane	0.06		0.56	0.11		0.43	1.00		0.02	1.00		0.22
Lane Grp Cap(c), veh/h	57	0	0	155	0	0	196	619	648	149	572	579
V/C Ratio(X)	0.32	0.00	0.00	0.57	0.00	0.00	0.77	0.80	0.80	0.49	0.71	0.71
Avail Cap(c_a), veh/h	682	0	0	694	0	0	246	805	844	191	750	760
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.2	0.0	0.0	32.6	0.0	0.0	32.3	22.0	22.0	32.7	22.3	22.3
Incr Delay (d2), s/veh	1.2	0.0	0.0	1.2	0.0	0.0	8.4	4.3	4.2	2.5	2.2	2.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	1.6	0.0	0.0	3.0	7.9	8.2	1.3	6.1	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.4	0.0	0.0	33.8	0.0	0.0	40.7	26.3	26.1	35.1	24.4	24.4
LnGrp LOS	D			C			D	C	C	D	C	C
Approach Vol, veh/h		18			88			1163			893	
Approach Delay, s/veh		36.4			33.8			28.1			25.3	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.9	33.1		15.4	16.9	31.1		11.2				
Change Period (Y+Rc), s	8.7	7.1		8.7	8.7	7.1		8.7				
Max Green Setting (Gmax), s	8.3	33.8		30.0	10.3	31.5		30.0				
Max Q Clear Time (g_c+I1), s	4.9	20.7		5.6	8.2	17.1		2.8				
Green Ext Time (p_c), s	0.0	5.2		0.3	0.0	4.4		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	27.2
HCM 7th LOS	C

HORIZON YEAR 2050 CONDITIONS
WITH PROPOSED REZONING



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	53	67	4	52	281	41	1139	14	80	974	38
Future Volume (veh/h)	24	53	67	4	52	281	41	1139	14	80	974	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	59	74	4	58	0	46	1266	16	89	1082	42
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	100	107	60	253		150	1575	20	208	1643	64
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.00	0.08	0.44	0.44	0.12	0.47	0.47
Sat Flow, veh/h	176	718	769	39	1812	1585	1781	3594	45	1781	3487	135
Grp Volume(v), veh/h	160	0	0	62	0	0	46	626	656	89	551	573
Grp Sat Flow(s),veh/h/ln	1663	0	0	1851	0	1585	1781	1777	1862	1781	1777	1846
Q Serve(g_s), s	2.9	0.0	0.0	0.0	0.0	0.0	1.7	21.6	21.6	3.3	16.8	16.8
Cycle Q Clear(g_c), s	6.4	0.0	0.0	2.1	0.0	0.0	1.7	21.6	21.6	3.3	16.8	16.8
Prop In Lane	0.17		0.46	0.06		1.00	1.00		0.02	1.00		0.07
Lane Grp Cap(c), veh/h	292	0	0	313	0		150	779	816	208	837	869
V/C Ratio(X)	0.55	0.00	0.00	0.20	0.00		0.31	0.80	0.80	0.43	0.66	0.66
Avail Cap(c_a), veh/h	1238	0	0	1367	0		252	814	853	252	837	869
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.9	0.0	0.0	27.1	0.0	0.0	30.5	17.2	17.2	29.0	14.3	14.4
Incr Delay (d2), s/veh	1.6	0.0	0.0	0.3	0.0	0.0	0.4	7.8	7.5	0.5	3.5	3.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	0.9	0.0	0.0	0.7	8.5	8.8	1.3	5.9	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.5	0.0	0.0	27.4	0.0	0.0	30.9	25.0	24.7	29.6	17.8	17.7
LnGrp LOS	C			C			C	C	C	C	B	B
Approach Vol, veh/h		160			62			1328			1213	
Approach Delay, s/veh		30.5			27.4			25.1			18.6	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.0	39.4		17.4	11.7	41.7		17.4				
Change Period (Y+Rc), s	5.7	8.4		7.5	5.7	8.4		7.5				
Max Green Setting (Gmax), s	10.0	32.4		51.0	10.0	32.4		51.0				
Max Q Clear Time (g_c+I1), s	5.3	23.6		8.4	3.7	18.8		4.1				
Green Ext Time (p_c), s	0.0	7.4		0.9	0.0	10.0		0.3				

Intersection Summary	
HCM 7th Control Delay, s/veh	22.6
HCM 7th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	427	88	165	341	256	73	621	205	208	668	103
Future Volume (veh/h)	111	427	88	165	341	256	73	621	205	208	668	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	121	464	96	179	371	278	79	675	223	226	726	112
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	977	436	326	518	439	169	1032	460	328	1032	460
Arrive On Green	0.09	0.27	0.27	0.09	0.28	0.28	0.09	0.29	0.29	0.09	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	121	464	96	179	371	278	79	675	223	226	726	112
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	7.0	11.5	4.9	5.2	18.9	16.2	4.4	17.5	12.3	6.7	19.2	5.7
Cycle Q Clear(g_c), s	7.0	11.5	4.9	5.2	18.9	16.2	4.4	17.5	12.3	6.7	19.2	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	164	977	436	326	518	439	169	1032	460	328	1032	460
V/C Ratio(X)	0.74	0.48	0.22	0.55	0.72	0.63	0.47	0.65	0.48	0.69	0.70	0.24
Avail Cap(c_a), veh/h	191	1527	681	328	780	661	169	1298	579	338	1308	583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	31.9	29.5	45.6	34.4	33.4	45.2	32.8	30.9	46.2	33.4	28.6
Incr Delay (d2), s/veh	11.9	1.3	0.9	1.9	6.6	5.4	0.7	2.6	2.9	5.7	3.3	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	5.0	2.0	2.3	9.3	6.7	1.9	7.4	4.9	3.0	8.1	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.6	33.2	30.4	47.5	40.9	38.8	46.0	35.4	33.7	51.9	36.6	29.6
LnGrp LOS	E	C	C	D	D	D	D	D	C	D	D	C
Approach Vol, veh/h		681			828			977			1064	
Approach Delay, s/veh		37.3			41.6			35.8			39.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.7	39.0	15.6	35.1	15.7	39.0	15.4	35.3
Change Period (Y+Rc), s	5.7	8.4	5.7	6.1	5.7	8.4	5.7	6.1
Max Green Setting (Gmax), s	10.3	38.5	10.0	45.3	10.0	38.8	11.3	44.0
Max Q Clear Time (g_c+I1), s	18.7	19.5	7.2	13.5	6.4	21.2	9.0	20.9
Green Ext Time (p_c), s	0.1	10.2	0.1	8.9	0.0	9.4	0.1	8.4

Intersection Summary	
HCM 7th Control Delay, s/veh	38.5
HCM 7th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	355	59	47	498	338	143	171	53	114	98	145
Future Volume (veh/h)	240	355	59	47	498	338	143	171	53	114	98	145
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	374	62	49	524	356	151	180	56	120	103	153
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	433	1404	231	74	1919	738	223	506	153	160	285	881
Arrive On Green	0.13	0.46	0.46	0.04	0.38	0.38	0.13	0.19	0.19	0.09	0.15	0.15
Sat Flow, veh/h	3456	3055	502	1781	5106	1585	1781	2689	812	1781	1870	3170
Grp Volume(v), veh/h	253	216	220	49	524	356	151	117	119	120	103	153
Grp Sat Flow(s),veh/h/ln	1728	1777	1780	1781	1702	1585	1781	1777	1724	1781	1870	1585
Q Serve(g_s), s	5.5	6.0	6.1	2.2	5.7	12.3	6.5	4.6	4.8	5.2	3.9	2.9
Cycle Q Clear(g_c), s	5.5	6.0	6.1	2.2	5.7	12.3	6.5	4.6	4.8	5.2	3.9	2.9
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	433	817	818	74	1919	738	223	334	324	160	285	881
V/C Ratio(X)	0.58	0.26	0.27	0.66	0.27	0.48	0.68	0.35	0.37	0.75	0.36	0.17
Avail Cap(c_a), veh/h	455	817	818	335	2440	900	264	932	904	268	985	2068
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.9	13.3	13.3	37.7	17.3	14.7	33.3	28.1	28.2	35.4	30.3	21.8
Incr Delay (d2), s/veh	5.7	0.8	0.8	38.2	0.4	2.2	15.2	2.9	3.2	27.1	3.5	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	2.4	2.4	1.7	2.1	4.7	3.7	2.2	2.2	3.4	2.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.6	14.0	14.1	75.8	17.7	16.9	48.5	31.0	31.4	62.5	33.8	22.3
LnGrp LOS	D	B	B	E	B	B	D	C	C	E	C	C
Approach Vol, veh/h		689			929			387			376	
Approach Delay, s/veh		23.1			20.4			38.0			38.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	41.3	14.2	16.8	14.2	34.6	11.4	19.6
Change Period (Y+Rc), s	4.2	4.6	4.2	4.6	4.2	4.6	4.2	4.6
Max Green Setting (Gmax), s	15.6	33.6	11.8	42.0	10.5	38.1	12.0	41.8
Max Q Clear Time (g_c+I1), s	4.2	8.1	8.5	5.9	7.5	14.3	7.2	6.8
Green Ext Time (p_c), s	0.3	9.0	0.5	5.3	0.8	15.6	0.5	5.6

Intersection Summary	
HCM 7th Control Delay, s/veh	26.9
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	182	150	10	305	7	393	34	21	18	76	135
Future Volume (veh/h)	61	182	150	10	305	7	393	34	21	18	76	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	230	190	13	386	9	528	0	27	23	96	171
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	806	669	29	641	15	695	0	309	29	121	216
Arrive On Green	0.06	0.23	0.23	0.02	0.18	0.18	0.20	0.00	0.20	0.22	0.22	0.22
Sat Flow, veh/h	1781	3554	1585	1781	3550	83	3563	0	1585	134	558	993
Grp Volume(v), veh/h	77	230	190	13	193	202	528	0	27	290	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1855	1781	0	1585	1685	0	0
Q Serve(g_s), s	2.3	3.0	4.4	0.4	5.5	5.5	7.8	0.0	0.8	9.0	0.0	0.0
Cycle Q Clear(g_c), s	2.3	3.0	4.4	0.4	5.5	5.5	7.8	0.0	0.8	9.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.08		0.59
Lane Grp Cap(c), veh/h	112	806	669	29	321	335	695	0	309	366	0	0
V/C Ratio(X)	0.69	0.29	0.28	0.45	0.60	0.60	0.76	0.00	0.09	0.79	0.00	0.00
Avail Cap(c_a), veh/h	270	2348	1356	170	1074	1122	2379	0	1059	1125	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.4	17.7	10.5	27.0	20.9	20.9	21.1	0.0	18.3	20.5	0.0	0.0
Incr Delay (d2), s/veh	2.8	0.2	0.2	3.9	1.8	1.7	0.7	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.1	1.9	0.2	2.2	2.3	2.9	0.0	0.3	3.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.3	17.9	10.8	30.9	22.7	22.6	21.7	0.0	18.3	22.0	0.0	0.0
LnGrp LOS	C	B	B	C	C	C	C		B	C		
Approach Vol, veh/h		497			408			555			290	
Approach Delay, s/veh		16.8			22.9			21.6			22.0	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	17.9		16.6	8.1	15.3		15.4				
Change Period (Y+Rc), s	4.6	5.3		4.6	4.6	5.3		4.6				
Max Green Setting (Gmax), s	5.3	36.6		37.0	8.4	33.5		37.0				
Max Q Clear Time (g_c+I1), s	2.4	6.4		11.0	4.3	7.5		9.8				
Green Ext Time (p_c), s	0.0	2.1		1.1	0.0	2.3		1.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	20.6
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	188	42	5	190	71	35
Future Vol, veh/h	188	42	5	190	71	35
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	247	55	7	250	93	46
Number of Lanes	2	0	1	2	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	3
HCM Control Delay, s/veh	9.6	8	10.3
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	67%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	60%	0%	100%	100%
Vol Right, %	33%	0%	40%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	106	125	105	5	95	95
LT Vol	71	0	0	5	0	0
Through Vol	0	125	63	0	95	95
RT Vol	35	0	42	0	0	0
Lane Flow Rate	139	165	138	7	125	125
Geometry Grp	5	6	6	5	5	5
Degree of Util (X)	0.226	0.249	0.197	0.011	0.183	0.122
Departure Headway (Hd)	5.828	5.437	5.154	5.765	5.262	3.514
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	612	658	693	619	680	1013
Service Time	3.598	3.198	2.915	3.513	3.009	1.261
HCM Lane V/C Ratio	0.227	0.251	0.199	0.011	0.184	0.123
HCM Control Delay, s/veh	10.3	10	9.2	8.6	9.2	6.8
HCM Lane LOS	B	A	A	A	A	A
HCM 95th-tile Q	0.9	1	0.7	0	0.7	0.4

Intersection	
Intersection Delay, s/veh	20
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	149	140	18	10	115	7	14	303	21	10	89	22
Future Vol, veh/h	149	140	18	10	115	7	14	303	21	10	89	22
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	184	173	22	12	142	9	17	374	26	12	110	27
Number of Lanes	1	1	1	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	3
HCM Control Delay, s/veh	13.8	15.1	29.6	14.2
HCM LOS	B	C	D	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	8%	8%
Vol Thru, %	0%	94%	0%	100%	0%	87%	74%
Vol Right, %	0%	6%	0%	0%	100%	5%	18%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	324	149	140	18	132	121
LT Vol	14	0	149	0	0	10	10
Through Vol	0	303	0	140	0	115	89
RT Vol	0	21	0	0	18	7	22
Lane Flow Rate	17	400	184	173	22	163	149
Geometry Grp	6	6	5	5	5	6	6
Degree of Util (X)	0.036	0.779	0.384	0.336	0.039	0.358	0.323
Departure Headway (Hd)	7.569	7.014	7.509	6.998	6.283	7.917	7.773
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	473	516	478	513	569	453	462
Service Time	5.317	4.762	5.259	4.748	4.032	5.68	5.535
HCM Lane V/C Ratio	0.036	0.775	0.385	0.337	0.039	0.36	0.323
HCM Control Delay, s/veh	10.6	30.4	14.9	13.3	9.3	15.1	14.2
HCM Lane LOS	B	D	B	B	A	C	B
HCM 95th-tile Q	0.1	7	1.8	1.5	0.1	1.6	1.4

Intersection	
Intersection Delay, s/veh	41.2
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	374	36	50	389	60	112	80	19	79	35	40
Future Vol, veh/h	12	374	36	50	389	60	112	80	19	79	35	40
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	402	39	54	418	65	120	86	20	85	38	43
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	2
HCM Control Delay, s/veh	66.4	35.7	21.4	17.5
HCM LOS	F	E	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	53%	100%	0%	100%	0%	0%	51%
Vol Thru, %	38%	0%	91%	0%	100%	0%	23%
Vol Right, %	9%	0%	9%	0%	0%	100%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	211	12	410	50	389	60	154
LT Vol	112	12	0	50	0	0	79
Through Vol	80	0	374	0	389	0	35
RT Vol	19	0	36	0	0	60	40
Lane Flow Rate	227	13	441	54	418	65	166
Geometry Grp	5	6	6	5	5	5	5
Degree of Util (X)	0.545	0.031	0.987	0.12	0.87	0.121	0.405
Departure Headway (Hd)	8.651	8.639	8.057	8.008	7.492	6.77	8.807
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	417	414	450	447	485	529	409
Service Time	6.406	6.39	5.808	5.758	5.241	4.519	6.567
HCM Lane V/C Ratio	0.544	0.031	0.98	0.121	0.862	0.123	0.406
HCM Control Delay, s/veh	21.4	11.7	68	11.9	42.7	10.5	17.5
HCM Lane LOS	C	B	F	B	E	B	C
HCM 95th-tile Q	3.2	0.1	12.5	0.4	9.2	0.4	1.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	383	38	72	353	219	63	215	94	207	143	81
Future Volume (veh/h)	20	383	38	72	353	219	63	215	94	207	143	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	479	48	90	441	274	79	269	118	259	179	101
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	686	69	131	475	295	126	372	159	267	836	373
Arrive On Green	0.04	0.41	0.41	0.07	0.44	0.44	0.07	0.15	0.15	0.15	0.24	0.24
Sat Flow, veh/h	1781	1673	168	1781	1079	671	1781	2425	1036	1781	3554	1585
Grp Volume(v), veh/h	25	0	527	90	0	715	79	195	192	259	179	101
Grp Sat Flow(s),veh/h/ln	1781	0	1840	1781	0	1750	1781	1777	1684	1781	1777	1585
Q Serve(g_s), s	1.4	0.0	23.7	4.9	0.0	38.8	4.3	10.5	10.9	14.5	4.1	5.2
Cycle Q Clear(g_c), s	1.4	0.0	23.7	4.9	0.0	38.8	4.3	10.5	10.9	14.5	4.1	5.2
Prop In Lane	1.00		0.09	1.00		0.38	1.00		0.62	1.00		1.00
Lane Grp Cap(c), veh/h	71	0	754	131	0	770	126	273	258	267	836	373
V/C Ratio(X)	0.35	0.00	0.70	0.69	0.00	0.93	0.62	0.72	0.74	0.97	0.21	0.27
Avail Cap(c_a), veh/h	142	0	825	165	0	802	215	638	605	267	1334	595
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	0.0	24.4	45.3	0.0	26.5	45.2	40.3	40.5	42.4	30.9	31.3
Incr Delay (d2), s/veh	4.1	0.0	3.9	4.8	0.0	17.9	1.9	3.5	4.2	46.8	0.1	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	10.5	2.3	0.0	18.6	2.0	4.8	4.8	9.7	1.7	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.0	0.0	28.4	50.1	0.0	44.4	47.1	43.8	44.7	89.2	31.0	31.7
LnGrp LOS	D		C	D		D	D	D	D	F	C	C
Approach Vol, veh/h		552			805			466			539	
Approach Delay, s/veh		29.4			45.1			44.8			59.1	
Approach LOS		C			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	46.5	11.8	29.9	9.0	49.5	20.0	21.7
Change Period (Y+Rc), s	4.7	5.4	4.7	6.3	5.0	5.4	5.0	* 6.3
Max Green Setting (Gmax), s	9.3	44.9	12.1	37.6	8.0	45.9	15.0	* 36
Max Q Clear Time (g_c+I1), s	6.9	25.7	6.3	7.2	3.4	40.8	16.5	12.9
Green Ext Time (p_c), s	0.0	6.5	0.0	1.4	0.0	3.4	0.0	2.5

Intersection Summary	
HCM 7th Control Delay, s/veh	44.5
HCM 7th LOS	D

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	750	189	217	685	0	265	0	220	0	0	0
Future Volume (veh/h)	0	750	189	217	685	0	265	0	220	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0	1870	0	1870	0	1870	0
Adj Flow Rate, veh/h	0	843	212	244	770	0	298	0	247	0	0	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	2	2	2	2	0	2	0	2	0	2	0
Cap, veh/h	0	1220	794	784	2336	0	281	0	0	0	3	0
Arrive On Green	0.00	0.34	0.34	0.23	0.66	0.00	0.16	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3647	1585	3456	3647	0	1781	298		0	-56111	0
Grp Volume(v), veh/h	0	843	212	244	770	0	298	98.4		0	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1728	1777	0	1781	F		0	1870	0
Q Serve(g_s), s	0.0	13.3	5.0	3.8	6.2	0.0	10.3			0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	13.3	5.0	3.8	6.2	0.0	10.3			0.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			0.00		0.00
Lane Grp Cap(c), veh/h	0	1220	794	784	2336	0	281			0	3	0
V/C Ratio(X)	0.00	0.69	0.27	0.31	0.33	0.00	1.06			0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	2447	1341	793	3611	0	281			0	1113	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	18.5	9.4	21.0	4.9	0.0	27.5			0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.2	0.1	0.1	0.0	70.9			0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.9	5.8	1.4	1.4	0.0	9.5			0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	19.2	9.6	21.1	5.0	0.0	98.4			0.0	0.0	0.0
LnGrp LOS		B	A	C	A		F					
Approach Vol, veh/h		1055			1014						0	
Approach Delay, s/veh		17.3			8.9						0.0	
Approach LOS		B			A							

Timer - Assigned Phs	1	2		4			7	8				
Phs Duration (G+Y+Rc), s	16.0	0.0		49.4			20.5	28.8				
Change Period (Y+Rc), s	5.7	3.0		* 6.4			5.7	6.4				
Max Green Setting (Gmax), s	10.3	38.9		* 66			15.0	45.0				
Max Q Clear Time (g_c+I1), s	12.3	0.0		8.2			5.8	15.3				
Green Ext Time (p_c), s	0.0	0.0		5.9			0.3	7.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	23.9
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	570	199	226	616	285	217	592	88	260	612	157
Future Volume (veh/h)	157	570	199	226	616	285	217	592	88	260	612	157
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	176	640	224	254	692	320	244	665	99	292	688	176
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	800	494	856	1405	641	298	779	116	311	906	404
Arrive On Green	0.07	0.23	0.23	0.25	0.41	0.41	0.09	0.25	0.25	0.09	0.25	0.25
Sat Flow, veh/h	3456	3554	1585	3456	3429	1564	3456	3103	461	3456	3554	1585
Grp Volume(v), veh/h	176	640	224	254	687	325	244	380	384	292	688	176
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1589	1728	1777	1787	1728	1777	1585
Q Serve(g_s), s	6.0	20.4	6.0	7.2	17.9	18.2	8.3	24.5	24.5	10.1	21.5	11.2
Cycle Q Clear(g_c), s	6.0	20.4	6.0	7.2	17.9	18.2	8.3	24.5	24.5	10.1	21.5	11.2
Prop In Lane	1.00		1.00	1.00		0.98	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	230	800	494	856	1395	651	298	446	449	311	906	404
V/C Ratio(X)	0.76	0.80	0.45	0.30	0.49	0.50	0.82	0.85	0.85	0.94	0.76	0.44
Avail Cap(c_a), veh/h	239	1190	668	856	1395	651	311	563	566	311	1105	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.1	43.9	12.5	36.6	26.2	26.3	53.9	42.8	42.8	54.3	41.3	37.5
Incr Delay (d2), s/veh	11.7	8.2	3.0	0.1	1.2	2.7	12.7	9.0	9.1	34.8	2.5	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	9.7	2.9	3.0	7.3	7.2	4.1	11.7	11.8	5.7	9.2	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	66.8	52.2	15.5	36.7	27.4	29.0	66.6	51.8	51.9	89.1	43.8	38.2
LnGrp LOS	E	D	B	D	C	C	E	D	D	F	D	D
Approach Vol, veh/h		1040			1266			1008			1156	
Approach Delay, s/veh		46.8			29.7			55.4			54.4	
Approach LOS		D			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	35.3	32.6	15.6	36.5	13.2	54.8	16.7	35.3
Change Period (Y+Rc), s	5.6	* 5.6	5.2	5.9	5.2	5.6	5.9	* 5.2
Max Green Setting (Gmax), s	9.8	* 40	10.8	37.3	8.3	41.7	10.8	* 38
Max Q Clear Time (g_c+I1), s	19.2	22.4	10.3	23.5	8.0	20.2	12.1	26.5
Green Ext Time (p_c), s	0.0	4.6	0.0	3.9	0.0	6.7	0.0	3.6

Intersection Summary	
HCM 7th Control Delay, s/veh	45.9
HCM 7th LOS	D

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	261	302	194	102	356	113	210	359	90	112	460	384
Future Volume (veh/h)	261	302	194	102	356	113	210	359	90	112	460	384
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	330	382	246	129	451	143	266	454	114	142	582	486
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	356	872	389	157	819	517	265	1043	260	171	1128	666
Arrive On Green	0.10	0.25	0.25	0.09	0.23	0.23	0.15	0.37	0.37	0.10	0.32	0.32
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	2818	702	1781	3554	1585
Grp Volume(v), veh/h	330	382	246	129	451	143	266	285	283	142	582	486
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	1744	1781	1777	1585
Q Serve(g_s), s	10.4	10.0	15.2	7.8	12.3	7.3	16.3	13.2	13.4	8.6	14.7	28.1
Cycle Q Clear(g_c), s	10.4	10.0	15.2	7.8	12.3	7.3	16.3	13.2	13.4	8.6	14.7	28.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	356	872	389	157	819	517	265	658	645	171	1128	666
V/C Ratio(X)	0.93	0.44	0.63	0.82	0.55	0.28	1.01	0.43	0.44	0.83	0.52	0.73
Avail Cap(c_a), veh/h	356	1325	591	219	1373	764	265	732	718	235	1393	784
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	35.0	37.0	49.2	37.2	27.4	46.7	25.9	26.0	48.7	30.6	26.6
Incr Delay (d2), s/veh	29.4	1.6	7.6	11.3	2.7	1.3	56.7	0.5	0.5	12.2	0.4	2.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	4.3	6.6	3.8	5.3	2.9	11.3	5.5	5.5	4.4	6.2	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	78.2	36.6	44.6	60.5	39.9	28.7	103.4	26.4	26.5	60.9	30.9	29.5
LnGrp LOS	E	D	D	E	D	C	F	C	C	E	C	C
Approach Vol, veh/h		958			723			834			1210	
Approach Delay, s/veh		53.0			41.3			51.0			33.9	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.4	34.4	21.0	39.9	16.0	32.8	15.2	45.7
Change Period (Y+Rc), s	4.7	* 7.5	4.7	5.1	4.7	7.5	4.7	* 5.1
Max Green Setting (Gmax), s	13.5	* 41	16.3	43.0	11.3	42.4	14.5	* 45
Max Q Clear Time (g_c+I1), s	9.8	17.2	18.3	30.1	12.4	14.3	10.6	15.4
Green Ext Time (p_c), s	0.0	9.7	0.0	4.7	0.0	10.1	0.1	3.6

Intersection Summary	
HCM 7th Control Delay, s/veh	44.1
HCM 7th LOS	D

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	145.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	388	248	0	33	242	20	0	19	26	11	30	361
Future Vol, veh/h	388	248	0	33	242	20	0	19	26	11	30	361
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	680	-	-	525	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	497	318	0	42	310	26	0	24	33	14	38	463

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	336	0	0	318	0	0	1727	1733	318	1733	1721	323
Stage 1	-	-	-	-	-	-	1313	1313	-	408	408	-
Stage 2	-	-	-	-	-	-	414	421	-	1325	1313	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1223	-	-	1242	-	-	70	88	723	69	89	718
Stage 1	-	-	-	-	-	-	195	228	-	620	597	-
Stage 2	-	-	-	-	-	-	615	589	-	192	228	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1223	-	-	1242	-	-	5	50	723	25	51	718
Mov Cap-2 Maneuver	-	-	-	-	-	-	5	50	-	25	51	-
Stage 1	-	-	-	-	-	-	116	135	-	599	577	-
Stage 2	-	-	-	-	-	-	197	569	-	89	135	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	6.07	0.89	70.51	$ 481.94
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	109	1223	-	-	1242	-	-	262
HCM Lane V/C Ratio	0.53	0.407	-	-	0.034	-	-	1.971
HCM Ctrl Dly (s/v)	70.5	9.9	-	-	8	-	-	$ 481.9
HCM Lane LOS	F	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	2.4	2	-	-	0.1	-	-	37

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	175	32	37	140	63	24	436	29	65	325	23
Future Volume (veh/h)	23	175	32	37	140	63	24	436	29	65	325	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	197	36	42	157	71	27	490	33	73	365	26
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	276	50	631	223	101	108	739	50	188	1285	90
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.06	0.22	0.22	0.11	0.26	0.26
Sat Flow, veh/h	1781	1539	281	3456	1220	552	1781	3379	227	1781	4870	343
Grp Volume(v), veh/h	26	0	233	42	0	228	27	257	266	73	254	137
Grp Sat Flow(s),veh/h/ln	1781	0	1820	1728	0	1771	1781	1777	1829	1781	1702	1809
Q Serve(g_s), s	0.7	0.0	7.2	0.6	0.0	7.2	0.9	7.9	8.0	2.3	3.6	3.6
Cycle Q Clear(g_c), s	0.7	0.0	7.2	0.6	0.0	7.2	0.9	7.9	8.0	2.3	3.6	3.6
Prop In Lane	1.00		0.15	1.00		0.31	1.00		0.12	1.00		0.19
Lane Grp Cap(c), veh/h	320	0	327	631	0	323	108	388	400	188	898	477
V/C Ratio(X)	0.08	0.00	0.71	0.07	0.00	0.70	0.25	0.66	0.67	0.39	0.28	0.29
Avail Cap(c_a), veh/h	874	0	892	1810	0	928	297	741	763	309	1442	766
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.5	0.0	23.1	20.3	0.0	23.0	26.9	21.4	21.4	25.0	17.6	17.6
Incr Delay (d2), s/veh	0.1	0.0	3.5	0.1	0.0	3.4	0.4	2.3	2.3	0.5	0.2	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	3.3	0.2	0.0	3.2	0.4	3.2	3.3	0.9	1.3	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.6	0.0	26.6	20.3	0.0	26.4	27.3	23.7	23.7	25.5	17.8	18.0
LnGrp LOS	C		C	C		C	C	C	C	C	B	B
Approach Vol, veh/h		259			270			550			464	
Approach Delay, s/veh		26.0			25.4			23.9			19.0	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.9	18.1		15.4	8.2	20.8		15.5				
Change Period (Y+Rc), s	4.6	5.0		4.6	4.6	5.0		4.6				
Max Green Setting (Gmax), s	10.4	25.0		29.4	10.0	25.4		31.4				
Max Q Clear Time (g_c+I1), s	4.3	10.0		9.2	2.9	5.6		9.2				
Green Ext Time (p_c), s	0.0	3.1		1.7	0.0	2.7		1.8				

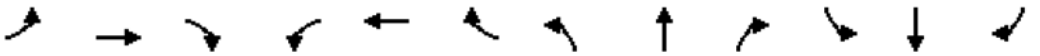
Intersection Summary			
HCM 7th Control Delay, s/veh		23.1	
HCM 7th LOS		C	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	51	78	9	53	17	67	681	22	7	759	33
Future Volume (veh/h)	54	51	78	9	53	17	67	681	22	7	759	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	56	53	80	9	55	18	69	702	23	7	782	34
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	67	100	16	100	33	178	1228	40	26	917	40
Arrive On Green	0.14	0.14	0.14	0.08	0.08	0.08	0.10	0.35	0.35	0.01	0.26	0.26
Sat Flow, veh/h	508	481	726	196	1200	393	1781	3511	115	1781	3469	151
Grp Volume(v), veh/h	189	0	0	82	0	0	69	355	370	7	400	416
Grp Sat Flow(s),veh/h/ln	1714	0	0	1790	0	0	1781	1777	1850	1781	1777	1843
Q Serve(g_s), s	8.6	0.0	0.0	3.5	0.0	0.0	2.9	13.0	13.0	0.3	17.2	17.2
Cycle Q Clear(g_c), s	8.6	0.0	0.0	3.5	0.0	0.0	2.9	13.0	13.0	0.3	17.2	17.2
Prop In Lane	0.30		0.42	0.11		0.22	1.00		0.06	1.00		0.08
Lane Grp Cap(c), veh/h	237	0	0	150	0	0	178	621	647	26	470	487
V/C Ratio(X)	0.80	0.00	0.00	0.55	0.00	0.00	0.39	0.57	0.57	0.27	0.85	0.85
Avail Cap(c_a), veh/h	641	0	0	669	0	0	178	621	647	178	527	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	0.0	0.0	35.3	0.0	0.0	33.8	21.2	21.2	39.1	28.0	28.0
Incr Delay (d2), s/veh	2.3	0.0	0.0	1.2	0.0	0.0	0.5	1.3	1.2	5.6	11.7	11.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	0.0	1.6	0.0	0.0	1.2	5.3	5.5	0.2	8.4	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.8	0.0	0.0	36.5	0.0	0.0	34.3	22.5	22.4	44.7	39.7	39.4
LnGrp LOS	D			D			C	C	C	D	D	D
Approach Vol, veh/h		189			82			794			823	
Approach Delay, s/veh		35.8			36.5			23.5			39.6	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.9	35.2		15.4	16.7	28.3		19.8				
Change Period (Y+Rc), s	8.7	7.1		8.7	8.7	7.1		8.7				
Max Green Setting (Gmax), s	8.6	23.8		30.0	8.0	23.8		30.0				
Max Q Clear Time (g_c+I1), s	2.3	15.0		5.5	4.9	19.2		10.6				
Green Ext Time (p_c), s	0.0	2.9		0.3	0.0	2.0		0.7				

Intersection Summary		
HCM 7th Control Delay, s/veh	32.3	
HCM 7th LOS	C	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	60	76	3	60	222	35	1019	7	224	1458	30
Future Volume (veh/h)	24	60	76	3	60	222	35	1019	7	224	1458	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	63	80	3	63	0	37	1073	7	236	1535	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	93	103	46	239		120	1713	11	273	1989	41
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.00	0.07	0.47	0.47	0.15	0.56	0.56
Sat Flow, veh/h	156	716	793	25	1834	1585	1781	3619	24	1781	3560	74
Grp Volume(v), veh/h	168	0	0	66	0	0	37	527	553	236	765	802
Grp Sat Flow(s),veh/h/ln	1666	0	0	1860	0	1585	1781	1777	1866	1781	1777	1857
Q Serve(g_s), s	4.5	0.0	0.0	0.0	0.0	0.0	1.8	19.7	19.7	11.5	29.6	29.7
Cycle Q Clear(g_c), s	8.6	0.0	0.0	2.8	0.0	0.0	1.8	19.7	19.7	11.5	29.6	29.7
Prop In Lane	0.15		0.48	0.05		1.00	1.00		0.01	1.00		0.04
Lane Grp Cap(c), veh/h	263	0	0	284	0		120	841	883	273	993	1038
V/C Ratio(X)	0.64	0.00	0.00	0.23	0.00		0.31	0.63	0.63	0.87	0.77	0.77
Avail Cap(c_a), veh/h	990	0	0	1098	0		201	871	915	380	1050	1097
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	0.0	0.0	34.8	0.0	0.0	39.4	17.5	17.5	36.7	15.2	15.2
Incr Delay (d2), s/veh	2.6	0.0	0.0	0.4	0.0	0.0	0.5	2.9	2.8	10.9	5.1	5.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	0.0	1.3	0.0	0.0	0.7	7.4	7.8	5.4	10.7	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.8	0.0	0.0	35.2	0.0	0.0	39.9	20.4	20.3	47.6	20.3	20.2
LnGrp LOS	D			D			D	C	C	D	C	C
Approach Vol, veh/h		168			66			1117			1803	
Approach Delay, s/veh		39.8			35.2			21.0			23.8	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.3	50.4		19.0	11.7	58.0		19.0				
Change Period (Y+Rc), s	5.7	8.4		7.5	5.7	8.4		7.5				
Max Green Setting (Gmax), s	18.9	43.5		51.0	10.0	52.4		51.0				
Max Q Clear Time (g_c+I1), s	13.5	21.7		10.6	3.8	31.7		4.8				
Green Ext Time (p_c), s	0.1	13.9		1.0	0.0	17.8		0.3				

Intersection Summary		
HCM 7th Control Delay, s/veh	23.9	
HCM 7th LOS	C	

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	551	91	275	300	247	58	638	281	464	833	130
Future Volume (veh/h)	97	551	91	275	300	247	58	638	281	464	833	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	592	98	296	323	266	62	686	302	499	896	140
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	897	400	350	509	431	150	956	426	551	1224	546
Arrive On Green	0.08	0.25	0.25	0.10	0.27	0.27	0.08	0.27	0.27	0.16	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	104	592	98	296	323	266	62	686	302	499	896	140
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	6.8	17.8	5.9	10.0	18.1	17.4	3.9	20.8	20.5	16.9	26.3	7.6
Cycle Q Clear(g_c), s	6.8	17.8	5.9	10.0	18.1	17.4	3.9	20.8	20.5	16.9	26.3	7.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	897	400	350	509	431	150	956	426	551	1224	546
V/C Ratio(X)	0.72	0.66	0.25	0.85	0.63	0.62	0.41	0.72	0.71	0.91	0.73	0.26
Avail Cap(c_a), veh/h	184	1345	600	358	708	600	150	1121	500	561	1399	624
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	39.9	35.4	52.5	38.1	37.8	51.7	39.4	39.2	49.1	34.2	28.0
Incr Delay (d2), s/veh	9.3	3.0	1.1	16.6	4.7	5.1	0.7	3.9	8.0	18.1	3.3	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	8.0	2.4	5.1	8.8	7.3	1.7	9.1	8.8	8.3	11.1	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	62.6	42.9	36.6	69.1	42.7	43.0	52.3	43.2	47.3	67.2	37.5	28.9
LnGrp LOS	E	D	D	E	D	D	D	D	D	E	D	C
Approach Vol, veh/h		794			885			1050			1535	
Approach Delay, s/veh		44.7			51.6			44.9			46.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	40.4	17.7	36.1	15.7	49.3	15.4	38.5
Change Period (Y+Rc), s	5.7	8.4	5.7	6.1	5.7	8.4	5.7	6.1
Max Green Setting (Gmax), s	19.3	37.5	12.3	45.0	10.0	46.8	12.3	45.0
Max Q Clear Time (g_c+I1), s	8.9	22.8	12.0	19.8	5.9	28.3	8.8	20.1
Green Ext Time (p_c), s	0.1	9.2	0.0	10.2	0.0	11.8	0.1	7.7

Intersection Summary	
HCM 7th Control Delay, s/veh	46.8
HCM 7th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	386	548	76	54	369	261	137	198	57	253	301	290
Future Volume (veh/h)	386	548	76	54	369	261	137	198	57	253	301	290
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	398	565	78	56	380	269	141	204	59	261	454	203
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	502	1179	162	76	1395	705	193	600	169	306	1058	678
Arrive On Green	0.15	0.38	0.38	0.04	0.27	0.27	0.11	0.22	0.22	0.17	0.28	0.28
Sat Flow, veh/h	3456	3137	432	1781	5106	1585	1781	2737	771	1781	3741	1585
Grp Volume(v), veh/h	398	319	324	56	380	269	141	131	132	261	454	203
Grp Sat Flow(s),veh/h/ln	1728	1777	1793	1781	1702	1585	1781	1777	1732	1781	1870	1585
Q Serve(g_s), s	10.3	12.6	12.7	2.9	5.4	10.5	7.1	5.7	6.0	13.1	9.2	7.8
Cycle Q Clear(g_c), s	10.3	12.6	12.7	2.9	5.4	10.5	7.1	5.7	6.0	13.1	9.2	7.8
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.45	1.00		1.00
Lane Grp Cap(c), veh/h	502	668	674	76	1395	705	193	389	379	306	1058	678
V/C Ratio(X)	0.79	0.48	0.48	0.74	0.27	0.38	0.73	0.34	0.35	0.85	0.43	0.30
Avail Cap(c_a), veh/h	554	742	749	289	2144	938	287	789	768	343	1777	983
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	21.9	22.0	43.7	26.4	17.1	39.9	30.4	30.5	37.1	27.1	17.3
Incr Delay (d2), s/veh	12.1	2.4	2.4	47.4	0.5	1.6	21.6	2.3	2.5	24.8	1.3	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	5.5	5.6	2.2	2.2	4.1	4.2	2.7	2.8	7.7	4.1	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	50.3	24.4	24.4	91.1	26.8	18.7	61.5	32.7	33.0	61.9	28.3	18.5
LnGrp LOS	D	C	C	F	C	B	E	C	C	E	C	B
Approach Vol, veh/h		1041			705			404			918	
Approach Delay, s/veh		34.3			28.8			42.8			35.7	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.1	39.3	14.2	30.7	17.6	29.8	20.1	24.8
Change Period (Y+Rc), s	4.2	4.6	4.2	4.6	4.2	4.6	4.2	4.6
Max Green Setting (Gmax), s	15.6	38.6	14.9	43.9	14.8	38.8	17.8	41.0
Max Q Clear Time (g_c+I1), s	14.3	14.7	9.1	11.2	12.3	12.5	15.1	8.0
Green Ext Time (p_c), s	0.3	12.8	0.7	15.0	1.1	12.8	0.8	6.1

Intersection Summary	
HCM 7th Control Delay, s/veh	34.6
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	329	382	24	304	21	248	44	43	8	31	66
Future Volume (veh/h)	58	329	382	24	304	21	248	44	43	8	31	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	354	411	26	327	23	301	0	46	9	33	71
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	1138	723	55	981	69	485	0	216	12	44	95
Arrive On Green	0.06	0.32	0.32	0.03	0.29	0.29	0.14	0.00	0.14	0.09	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	1781	3369	236	3563	0	1585	133	489	1052
Grp Volume(v), veh/h	62	354	411	26	172	178	301	0	46	113	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1828	1781	0	1585	1674	0	0
Q Serve(g_s), s	1.5	3.4	8.6	0.6	3.4	3.5	3.6	0.0	1.2	3.0	0.0	0.0
Cycle Q Clear(g_c), s	1.5	3.4	8.6	0.6	3.4	3.5	3.6	0.0	1.2	3.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.13	1.00		1.00	0.08		0.63
Lane Grp Cap(c), veh/h	107	1138	723	55	517	532	485	0	216	151	0	0
V/C Ratio(X)	0.58	0.31	0.57	0.47	0.33	0.34	0.62	0.00	0.21	0.75	0.00	0.00
Avail Cap(c_a), veh/h	331	2793	1461	252	1318	1355	2918	0	1298	1371	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.7	11.6	9.0	21.5	12.6	12.6	18.4	0.0	17.4	20.1	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.2	0.7	2.3	0.4	0.4	0.5	0.0	0.2	2.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	3.2	0.3	1.2	1.2	1.3	0.0	0.4	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.6	11.7	9.7	23.9	12.9	12.9	18.9	0.0	17.5	22.8	0.0	0.0
LnGrp LOS	C	B	A	C	B	B	B		B	C		
Approach Vol, veh/h		827			376			347			113	
Approach Delay, s/veh		11.6			13.7			18.7			22.8	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.0	19.8		8.7	7.3	18.5		10.7				
Change Period (Y+Rc), s	4.6	5.3		4.6	4.6	5.3		4.6				
Max Green Setting (Gmax), s	6.4	35.5		37.0	8.4	33.5		37.0				
Max Q Clear Time (g_c+I1), s	2.6	10.6		5.0	3.5	5.5		5.6				
Green Ext Time (p_c), s	0.0	3.9		0.4	0.0	2.0		0.6				

Intersection Summary	
HCM 7th Control Delay, s/veh	14.3
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	316	50	16	312	29	11
Future Vol, veh/h	316	50	16	312	29	11
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	355	56	18	351	33	12
Number of Lanes	2	0	1	2	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	3
HCM Control Delay, s/veh	10.2	8.1	9.6
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	73%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	68%	0%	100%	100%
Vol Right, %	28%	0%	32%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	211	155	16	156	156
LT Vol	29	0	0	16	0	0
Through Vol	0	211	105	0	156	156
RT Vol	11	0	50	0	0	0
Lane Flow Rate	45	237	175	18	175	175
Geometry Grp	5	6	6	5	5	5
Degree of Util (X)	0.078	0.347	0.245	0.028	0.246	0.161
Departure Headway (Hd)	6.277	5.281	5.055	5.555	5.053	3.311
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	569	679	709	645	712	1081
Service Time	4.035	3.021	2.795	3.282	2.78	1.037
HCM Lane V/C Ratio	0.079	0.349	0.247	0.028	0.246	0.162
HCM Control Delay, s/veh	9.6	10.8	9.4	8.4	9.4	6.7
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0.3	1.6	1	0.1	1	0.6

Intersection	
Intersection Delay, s/veh	40
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	275	16	18	234	11	18	78	19	8	279	68
Future Vol, veh/h	30	275	16	18	234	11	18	78	19	8	279	68
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	335	20	22	285	13	22	95	23	10	340	83
Number of Lanes	1	1	1	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	3
HCM Control Delay, s/veh	28.1	34.5	15.5	62.9
HCM LOS	D	D	C	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	7%	2%
Vol Thru, %	0%	80%	0%	100%	0%	89%	79%
Vol Right, %	0%	20%	0%	0%	100%	4%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	18	97	30	275	16	263	355
LT Vol	18	0	30	0	0	18	8
Through Vol	0	78	0	275	0	234	279
RT Vol	0	19	0	0	16	11	68
Lane Flow Rate	22	118	37	335	20	321	433
Geometry Grp	6	6	5	5	5	6	6
Degree of Util (X)	0.06	0.301	0.087	0.746	0.039	0.765	0.966
Departure Headway (Hd)	9.834	9.169	8.524	8.007	7.284	8.588	8.03
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	363	390	420	449	490	420	450
Service Time	7.617	6.952	6.292	5.775	5.052	6.357	5.792
HCM Lane V/C Ratio	0.061	0.303	0.088	0.746	0.041	0.764	0.962
HCM Control Delay, s/veh	13.2	15.9	12.1	30.9	10.4	34.5	62.9
HCM Lane LOS	B	C	B	D	B	D	F
HCM 95th-tile Q	0.2	1.2	0.3	6.1	0.1	6.4	11.8

Intersection	
Intersection Delay, s/veh	24.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	568	146	70	298	42	58	24	35	47	21	11
Future Vol, veh/h	31	568	146	70	298	42	58	24	35	47	21	11
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	631	162	78	331	47	64	27	39	52	23	12
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	2
HCM Control Delay, s/veh	22.8	16.1	14.3	13.5
HCM LOS	F	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	50%	100%	0%	100%	0%	0%	59%
Vol Thru, %	21%	0%	80%	0%	100%	0%	27%
Vol Right, %	30%	0%	20%	0%	0%	100%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	117	31	714	70	298	42	79
LT Vol	58	31	0	70	0	0	47
Through Vol	24	0	568	0	298	0	21
RT Vol	35	0	146	0	0	42	11
Lane Flow Rate	130	34	793	78	331	47	88
Geometry Grp	5	6	6	5	5	5	5
Degree of Util (X)	0.275	0.068	1.428	0.146	0.575	0.072	0.193
Departure Headway (Hd)	8.412	7.134	6.48	7.253	6.741	6.025	8.763
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	430	502	563	498	540	598	413
Service Time	6.112	4.878	4.224	4.953	4.441	3.725	6.463
HCM Lane V/C Ratio	0.302	0.068	1.409	0.157	0.613	0.079	0.213
HCM Control Delay, s/veh	14.3	10.4	221.6	11.2	18.2	9.2	13.5
HCM Lane LOS	B	B	F	B	C	A	B
HCM 95th-tile Q	1.1	0.2	37.4	0.5	3.6	0.2	0.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	533	63	103	316	93	51	128	118	128	137	35
Future Volume (veh/h)	22	533	63	103	316	93	51	128	118	128	137	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	561	66	108	333	98	54	135	124	135	144	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	685	81	164	646	190	125	225	190	171	543	242
Arrive On Green	0.04	0.42	0.42	0.09	0.47	0.47	0.07	0.12	0.12	0.10	0.15	0.15
Sat Flow, veh/h	1781	1642	193	1781	1388	409	1781	1824	1545	1781	3554	1585
Grp Volume(v), veh/h	23	0	627	108	0	431	54	131	128	135	144	37
Grp Sat Flow(s),veh/h/ln	1781	0	1836	1781	0	1797	1781	1777	1592	1781	1777	1585
Q Serve(g_s), s	1.0	0.0	23.8	4.6	0.0	13.3	2.3	5.5	6.0	5.8	2.8	1.6
Cycle Q Clear(g_c), s	1.0	0.0	23.8	4.6	0.0	13.3	2.3	5.5	6.0	5.8	2.8	1.6
Prop In Lane	1.00		0.11	1.00		0.23	1.00		0.97	1.00		1.00
Lane Grp Cap(c), veh/h	72	0	766	164	0	836	125	219	196	171	543	242
V/C Ratio(X)	0.32	0.00	0.82	0.66	0.00	0.52	0.43	0.60	0.65	0.79	0.27	0.15
Avail Cap(c_a), veh/h	181	0	966	187	0	946	181	820	735	203	1627	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	0.0	20.3	34.6	0.0	14.8	35.1	32.7	33.0	34.9	29.5	29.0
Incr Delay (d2), s/veh	3.6	0.0	7.2	4.6	0.0	1.4	0.9	2.6	3.6	13.1	0.3	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	10.5	2.1	0.0	5.1	1.0	2.5	2.5	3.1	1.2	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.4	0.0	27.5	39.2	0.0	16.3	36.0	35.3	36.6	48.0	29.8	29.3
LnGrp LOS	D		C	D		B	D	D	D	D	C	C
Approach Vol, veh/h		650			539			313			316	
Approach Delay, s/veh		28.0			20.9			36.0			37.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	38.3	10.2	18.4	8.2	42.1	12.6	16.0
Change Period (Y+Rc), s	4.7	5.4	4.7	6.3	5.0	5.4	5.0	* 6.3
Max Green Setting (Gmax), s	8.3	41.5	8.0	36.1	8.0	41.5	9.0	* 36
Max Q Clear Time (g_c+I1), s	6.6	25.8	4.3	4.8	3.0	15.3	7.8	8.0
Green Ext Time (p_c), s	0.0	7.1	0.0	1.0	0.0	6.0	0.0	1.7

Intersection Summary	
HCM 7th Control Delay, s/veh	28.9
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱	↰↰	↑↑		↰		↱↱		↑	
Traffic Volume (veh/h)	0	660	381	350	586	0	178	0	257	0	0	0
Future Volume (veh/h)	0	660	381	350	586	0	178	0	257	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0	1870	0	1870	0	1870	0
Adj Flow Rate, veh/h	0	695	401	368	617	0	187	0	271	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0	2	0	2	0	2	0
Cap, veh/h	0	1133	750	832	2314	0	275	0	0	0	3	0
Arrive On Green	0.00	0.32	0.32	0.24	0.65	0.00	0.15	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3647	1585	3456	3647	0	1781	187		0	-56111	0
Grp Volume(v), veh/h	0	695	401	368	617	0	187	28.0		0	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1728	1777	0	1781	C		0	1870	0
Q Serve(g_s), s	0.0	10.3	11.1	5.6	4.6	0.0	6.2			0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	10.3	11.1	5.6	4.6	0.0	6.2			0.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			0.00		0.00
Lane Grp Cap(c), veh/h	0	1133	750	832	2314	0	275			0	3	0
V/C Ratio(X)	0.00	0.61	0.53	0.44	0.27	0.00	0.68			0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	2571	1391	833	3793	0	321			0	1143	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	17.9	11.6	20.1	4.6	0.0	24.8			0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.6	0.1	0.1	0.0	3.2			0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.7	0.1	2.0	1.0	0.0	2.6			0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	18.5	12.2	20.2	4.6	0.0	28.0			0.0	0.0	0.0
LnGrp LOS		B	B	C	A		C					
Approach Vol, veh/h		1096			985						0	
Approach Delay, s/veh		16.2			10.5						0.0	
Approach LOS		B			B							

Timer - Assigned Phs	1	2		4			7	8				
Phs Duration (G+Y+Rc), s	15.3	0.0		46.9			20.7	26.2				
Change Period (Y+Rc), s	5.7	3.0		* 6.4			5.7	6.4				
Max Green Setting (Gmax), s	11.3	38.0		* 66			15.0	45.0				
Max Q Clear Time (g_c+I1), s	8.2	0.0		6.6			7.6	13.1				
Green Ext Time (p_c), s	0.1	0.0		4.5			0.4	6.7				

Intersection Summary	
HCM 7th Control Delay, s/veh	14.7
HCM 7th LOS	B

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	226	588	187	192	507	230	242	746	105	341	899	265
Future Volume (veh/h)	226	588	187	192	507	230	242	746	105	341	899	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	243	632	201	206	545	247	260	802	113	367	967	285
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	253	790	496	684	1216	534	314	899	127	369	1078	481
Arrive On Green	0.07	0.22	0.22	0.20	0.35	0.35	0.09	0.29	0.29	0.11	0.30	0.30
Sat Flow, veh/h	3456	3554	1585	3456	3473	1527	3456	3127	441	3456	3554	1585
Grp Volume(v), veh/h	243	632	201	206	534	258	260	456	459	367	967	285
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1596	1728	1777	1791	1728	1777	1585
Q Serve(g_s), s	8.4	20.2	6.1	6.1	14.5	15.1	8.9	29.5	29.5	12.7	31.3	18.3
Cycle Q Clear(g_c), s	8.4	20.2	6.1	6.1	14.5	15.1	8.9	29.5	29.5	12.7	31.3	18.3
Prop In Lane	1.00		1.00	1.00		0.96	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	253	790	496	684	1192	559	314	511	515	369	1078	481
V/C Ratio(X)	0.96	0.80	0.41	0.30	0.45	0.46	0.83	0.89	0.89	1.00	0.90	0.59
Avail Cap(c_a), veh/h	253	1190	675	684	1192	559	325	563	567	369	1149	512
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	44.2	12.6	41.1	30.1	30.2	53.6	41.0	41.0	53.6	40.0	35.5
Incr Delay (d2), s/veh	44.8	8.4	2.4	0.1	1.2	2.7	10.3	11.1	11.1	45.6	9.1	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	9.6	2.9	2.6	6.0	6.1	4.3	14.2	14.3	7.6	14.2	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	100.2	52.5	15.1	41.1	31.3	33.0	63.9	52.1	52.1	99.2	49.2	37.2
LnGrp LOS	F	D	B	D	C	C	E	D	D	F	D	D
Approach Vol, veh/h		1076			998			1175			1619	
Approach Delay, s/veh		56.3			33.8			54.7			58.4	
Approach LOS		E			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	32.3	16.1	42.3	14.0	47.6	18.7	39.7
Change Period (Y+Rc), s	5.6	* 5.6	5.2	5.9	5.2	5.6	5.9	* 5.2
Max Green Setting (Gmax), s	7.8	* 40	11.3	38.8	8.8	39.2	12.8	* 38
Max Q Clear Time (g_c+I1), s	8.1	22.2	10.9	33.3	10.4	17.1	14.7	31.5
Green Ext Time (p_c), s	0.0	4.5	0.0	3.1	0.0	5.1	0.0	3.0

Intersection Summary	
HCM 7th Control Delay, s/veh	52.0
HCM 7th LOS	D

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	265	154	53	264	104	104	249	41	71	294	250
Future Volume (veh/h)	248	265	154	53	264	104	104	249	41	71	294	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	267	285	166	57	284	112	112	268	44	76	316	269
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	422	884	394	141	732	508	214	671	109	204	760	532
Arrive On Green	0.12	0.25	0.25	0.08	0.21	0.21	0.12	0.22	0.22	0.11	0.21	0.21
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3062	496	1781	3554	1585
Grp Volume(v), veh/h	267	285	166	57	284	112	112	154	158	76	316	269
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	1781	1781	1777	1585
Q Serve(g_s), s	4.8	4.3	5.7	2.0	4.5	3.4	3.8	4.8	4.9	2.6	5.0	8.8
Cycle Q Clear(g_c), s	4.8	4.3	5.7	2.0	4.5	3.4	3.8	4.8	4.9	2.6	5.0	8.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	422	884	394	141	732	508	214	389	390	204	760	532
V/C Ratio(X)	0.63	0.32	0.42	0.40	0.39	0.22	0.52	0.40	0.40	0.37	0.42	0.51
Avail Cap(c_a), veh/h	547	2268	1011	263	2191	1159	246	1175	1178	274	2382	1256
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	20.0	20.5	28.5	22.3	16.1	26.9	21.7	21.8	26.6	22.1	17.3
Incr Delay (d2), s/veh	0.6	1.0	3.3	0.7	1.6	1.0	0.7	0.7	0.7	0.4	0.4	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.7	2.3	0.8	1.8	1.2	1.6	1.9	2.0	1.0	2.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.8	20.9	23.8	29.2	23.8	17.1	27.6	22.4	22.4	27.0	22.4	18.0
LnGrp LOS	C	C	C	C	C	B	C	C	C	C	C	B
Approach Vol, veh/h		718			453			424			661	
Approach Delay, s/veh		24.1			22.9			23.8			21.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	23.7	12.5	19.0	12.6	20.9	12.2	19.3
Change Period (Y+Rc), s	4.7	* 7.5	4.7	5.1	4.7	7.5	4.7	* 5.1
Max Green Setting (Gmax), s	9.6	* 42	9.0	43.6	10.3	40.1	10.0	* 43
Max Q Clear Time (g_c+I1), s	4.0	7.7	5.8	10.8	6.8	6.5	4.6	6.9
Green Ext Time (p_c), s	0.0	8.0	0.0	3.1	0.2	6.9	0.0	1.9

Intersection Summary	
HCM 7th Control Delay, s/veh	22.9
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

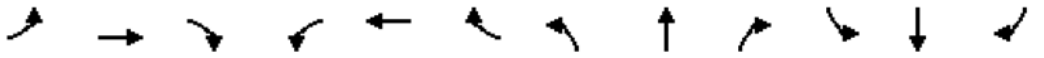
Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	127	276	0	30	269	15	0	14	20	21	51	180
Future Vol, veh/h	127	276	0	30	269	15	0	14	20	21	51	180
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	680	-	-	525	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	141	307	0	33	299	17	0	16	22	23	57	200

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	316	0	0	307	0	0	983	971	307	971	963	307
Stage 1	-	-	-	-	-	-	589	589	-	374	374	-
Stage 2	-	-	-	-	-	-	394	382	-	597	589	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1245	-	-	1254	-	-	228	253	733	232	256	733
Stage 1	-	-	-	-	-	-	495	496	-	647	618	-
Stage 2	-	-	-	-	-	-	631	613	-	490	496	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1245	-	-	1254	-	-	110	218	733	182	221	733
Mov Cap-2 Maneuver	-	-	-	-	-	-	110	218	-	182	221	-
Stage 1	-	-	-	-	-	-	438	439	-	630	601	-
Stage 2	-	-	-	-	-	-	405	596	-	406	439	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	2.6	0.76	15.77	28.28
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	372	1245	-	-	1254	-	-	426
HCM Lane V/C Ratio	0.102	0.113	-	-	0.027	-	-	0.658
HCM Ctrl Dly (s/v)	15.8	8.3	-	-	7.9	-	-	28.3
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.3	0.4	-	-	0.1	-	-	4.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	144	113	112	175	49	29	147	69	38	620	69
Future Volume (veh/h)	37	144	113	112	175	49	29	147	69	38	620	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	148	116	115	180	51	30	152	71	39	639	71
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	368	201	157	649	263	75	116	542	242	127	1087	120
Arrive On Green	0.21	0.21	0.21	0.19	0.19	0.19	0.07	0.23	0.23	0.07	0.23	0.23
Sat Flow, veh/h	1781	972	762	3456	1402	397	1781	2390	1066	1781	4668	514
Grp Volume(v), veh/h	38	0	264	115	0	231	30	111	112	39	464	246
Grp Sat Flow(s),veh/h/ln	1781	0	1733	1728	0	1799	1781	1777	1679	1781	1702	1778
Q Serve(g_s), s	1.1	0.0	8.7	1.7	0.0	7.3	1.0	3.2	3.4	1.3	7.4	7.5
Cycle Q Clear(g_c), s	1.1	0.0	8.7	1.7	0.0	7.3	1.0	3.2	3.4	1.3	7.4	7.5
Prop In Lane	1.00		0.44	1.00		0.22	1.00		0.63	1.00		0.29
Lane Grp Cap(c), veh/h	368	0	358	649	0	338	116	403	381	127	793	414
V/C Ratio(X)	0.10	0.00	0.74	0.18	0.00	0.68	0.26	0.28	0.29	0.31	0.59	0.59
Avail Cap(c_a), veh/h	856	0	833	1774	0	924	291	767	725	262	1414	738
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	0.0	22.7	20.9	0.0	23.1	27.2	19.5	19.6	27.0	20.8	20.9
Incr Delay (d2), s/veh	0.1	0.0	3.6	0.2	0.0	2.9	0.4	0.4	0.5	0.5	0.8	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	3.7	0.7	0.0	3.2	0.4	1.2	1.3	0.5	2.8	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.8	0.0	26.3	21.0	0.0	26.1	27.6	19.9	20.1	27.5	21.7	22.5
LnGrp LOS	B		C	C		C	C	B	C	C	C	C
Approach Vol, veh/h		302			346			253			749	
Approach Delay, s/veh		25.5			24.4			20.9			22.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	18.9		17.2	8.6	19.2		16.1				
Change Period (Y+Rc), s	4.6	5.0		4.6	4.6	5.0		4.6				
Max Green Setting (Gmax), s	9.0	26.4		29.4	10.0	25.4		31.4				
Max Q Clear Time (g_c+I1), s	3.3	5.4		10.7	3.0	9.5		9.3				
Green Ext Time (p_c), s	0.0	1.4		2.0	0.0	4.7		2.2				

Intersection Summary			
HCM 7th Control Delay, s/veh		23.1	
HCM 7th LOS		C	

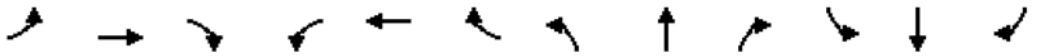


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	6	10	10	38	37	146	969	12	70	707	87
Future Volume (veh/h)	1	6	10	10	38	37	146	969	12	70	707	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	7	11	11	42	41	160	1065	13	77	777	96
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	22	34	18	69	68	203	1297	16	149	1053	130
Arrive On Green	0.03	0.03	0.03	0.09	0.09	0.09	0.11	0.36	0.36	0.08	0.33	0.33
Sat Flow, veh/h	89	623	978	202	771	752	1781	3595	44	1781	3183	393
Grp Volume(v), veh/h	19	0	0	94	0	0	160	526	552	77	434	439
Grp Sat Flow(s),veh/h/ln	1690	0	0	1725	0	0	1781	1777	1862	1781	1777	1800
Q Serve(g_s), s	0.8	0.0	0.0	4.0	0.0	0.0	6.7	20.7	20.7	3.2	16.7	16.7
Cycle Q Clear(g_c), s	0.8	0.0	0.0	4.0	0.0	0.0	6.7	20.7	20.7	3.2	16.7	16.7
Prop In Lane	0.05		0.58	0.12		0.44	1.00		0.02	1.00		0.22
Lane Grp Cap(c), veh/h	59	0	0	155	0	0	203	641	672	149	588	595
V/C Ratio(X)	0.32	0.00	0.00	0.61	0.00	0.00	0.79	0.82	0.82	0.52	0.74	0.74
Avail Cap(c_a), veh/h	658	0	0	671	0	0	238	779	817	185	726	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.3	0.0	0.0	33.8	0.0	0.0	33.3	22.4	22.4	33.8	22.8	22.8
Incr Delay (d2), s/veh	1.2	0.0	0.0	1.4	0.0	0.0	11.7	5.9	5.6	2.7	3.1	3.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.7	0.0	0.0	3.5	9.0	9.3	1.4	6.9	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.5	0.0	0.0	35.2	0.0	0.0	45.0	28.3	28.0	36.6	25.9	25.9
LnGrp LOS	D			D			D	C	C	D	C	C
Approach Vol, veh/h		19			94			1238			950	
Approach Delay, s/veh		37.5			35.2			30.3			26.8	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.2	34.9		15.6	17.5	32.6		11.4
Change Period (Y+Rc), s	8.7	7.1		8.7	8.7	7.1		8.7
Max Green Setting (Gmax), s	6.5	33.8		30.0	10.3	31.5		30.0
Max Q Clear Time (g_c+I1), s	5.2	22.7		6.0	8.7	18.7		2.8
Green Ext Time (p_c), s	0.0	5.1		0.3	0.0	4.4		0.0

Intersection Summary		
HCM 7th Control Delay, s/veh		29.1
HCM 7th LOS		C

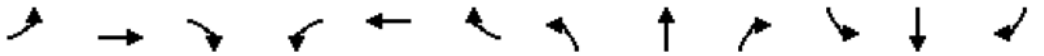
HORIZON YEAR 2050 CONDITIONS
WITH PROPOSED REZONING
WITH RECOMMENDED IMPROVEMENTS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	140	18	10	115	7	14	303	21	10	89	22
Future Volume (veh/h)	149	140	18	10	115	7	14	303	21	10	89	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	184	173	22	12	142	9	17	374	26	12	110	27
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	614	447	378	165	394	24	749	606	42	169	488	112
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1236	1870	1585	64	1651	100	1252	1729	120	53	1392	320
Grp Volume(v), veh/h	184	173	22	163	0	0	17	0	400	149	0	0
Grp Sat Flow(s),veh/h/ln	1236	1870	1585	1815	0	0	1252	0	1849	1765	0	0
Q Serve(g_s), s	0.6	2.0	0.3	0.0	0.0	0.0	0.0	0.0	4.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.5	2.0	0.3	1.9	0.0	0.0	0.2	0.0	4.6	1.5	0.0	0.0
Prop In Lane	1.00		1.00	0.07		0.06	1.00		0.06	0.08		0.18
Lane Grp Cap(c), veh/h	614	447	378	583	0	0	749	0	648	770	0	0
V/C Ratio(X)	0.30	0.39	0.06	0.28	0.00	0.00	0.02	0.00	0.62	0.19	0.00	0.00
Avail Cap(c_a), veh/h	2148	2767	2345	2789	0	0	2065	0	2592	2549	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.4	8.2	7.6	8.2	0.0	0.0	5.5	0.0	6.9	5.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.5	0.1	0.3	0.0	0.0	0.0	0.0	1.0	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.5	0.1	0.4	0.0	0.0	0.0	0.0	1.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.6	8.8	7.6	8.5	0.0	0.0	5.5	0.0	7.9	6.1	0.0	0.0
LnGrp LOS	A	A	A	A			A		A	A		
Approach Vol, veh/h		379			163			417			149	
Approach Delay, s/veh		8.6			8.5			7.8			6.1	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		11.5		14.4		11.5		14.4				
Change Period (Y+Rc), s		5.3		5.3		5.3		5.3				
Max Green Setting (Gmax), s		38.2		36.2		38.2		36.2				
Max Q Clear Time (g_c+I1), s		4.5		3.5		3.9		6.6				
Green Ext Time (p_c), s		1.7		0.8		0.8		2.6				

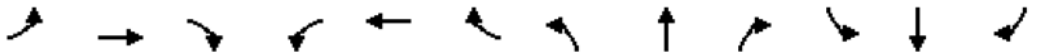
Intersection Summary												
HCM 7th Control Delay, s/veh			8.0									
HCM 7th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	374	36	50	389	60	112	80	19	79	35	40
Future Volume (veh/h)	12	374	36	50	389	60	112	80	19	79	35	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	402	39	54	418	65	120	86	20	85	38	43
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	552	54	161	734	622	295	151	30	277	115	89
Arrive On Green	0.03	0.33	0.33	0.09	0.39	0.39	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	1678	163	1781	1870	1585	757	733	145	677	558	432
Grp Volume(v), veh/h	13	0	441	54	418	65	226	0	0	166	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1841	1781	1870	1585	1634	0	0	1666	0	0
Q Serve(g_s), s	0.3	0.0	8.3	1.1	6.9	1.0	1.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	8.3	1.1	6.9	1.0	4.7	0.0	0.0	3.2	0.0	0.0
Prop In Lane	1.00		0.09	1.00		1.00	0.53		0.09	0.51		0.26
Lane Grp Cap(c), veh/h	48	0	605	161	734	622	476	0	0	481	0	0
V/C Ratio(X)	0.27	0.00	0.73	0.33	0.57	0.10	0.47	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	366	0	1632	366	1658	1405	1584	0	0	1555	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.8	0.0	11.7	16.8	9.4	7.6	14.2	0.0	0.0	13.7	0.0	0.0
Incr Delay (d2), s/veh	3.0	0.0	1.7	1.2	0.7	0.1	0.7	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	2.6	0.4	1.9	0.2	1.7	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.8	0.0	13.4	18.0	10.1	7.7	15.0	0.0	0.0	14.1	0.0	0.0
LnGrp LOS	C		B	B	B	A	B			B		
Approach Vol, veh/h		454			537			226			166	
Approach Delay, s/veh		13.6			10.6			15.0			14.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.3	18.4		12.8	5.8	20.9		12.8				
Change Period (Y+Rc), s	4.7	5.4		4.7	4.7	5.4		4.7				
Max Green Setting (Gmax), s	8.1	35.0		37.1	8.1	35.0		37.1				
Max Q Clear Time (g_c+I1), s	3.1	10.3		5.2	2.3	8.9		6.7				
Green Ext Time (p_c), s	0.0	2.6		1.1	0.0	2.7		1.5				

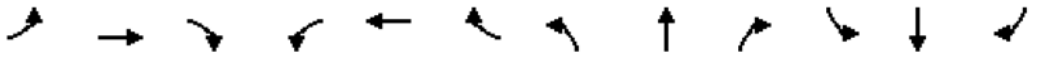
Intersection Summary												
HCM 7th Control Delay, s/veh			12.7									
HCM 7th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	248	1	33	242	20	1	19	26	11	30	361
Future Volume (veh/h)	388	248	1	33	242	20	1	19	26	11	30	361
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	497	318	1	42	310	26	1	24	33	14	38	463
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	545	867	3	110	376	32	50	173	230	139	339	865
Arrive On Green	0.31	0.47	0.47	0.06	0.22	0.22	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	1863	6	1781	1702	143	5	724	962	327	1416	1585
Grp Volume(v), veh/h	497	0	319	42	0	336	58	0	0	52	0	463
Grp Sat Flow(s),veh/h/ln	1781	0	1869	1781	0	1845	1691	0	0	1743	0	1585
Q Serve(g_s), s	20.4	0.0	8.3	1.7	0.0	13.2	0.0	0.0	0.0	0.0	0.0	14.2
Cycle Q Clear(g_c), s	20.4	0.0	8.3	1.7	0.0	13.2	2.0	0.0	0.0	1.6	0.0	14.2
Prop In Lane	1.00		0.00	1.00		0.08	0.02		0.57	0.27		1.00
Lane Grp Cap(c), veh/h	545	0	870	110	0	408	453	0	0	477	0	865
V/C Ratio(X)	0.91	0.00	0.37	0.38	0.00	0.82	0.13	0.00	0.00	0.11	0.00	0.54
Avail Cap(c_a), veh/h	665	0	1412	188	0	900	868	0	0	898	0	1258
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.3	0.0	13.1	34.2	0.0	28.1	22.7	0.0	0.0	22.6	0.0	11.1
Incr Delay (d2), s/veh	14.9	0.0	0.3	2.1	0.0	4.2	0.1	0.0	0.0	0.1	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	0.0	2.8	0.7	0.0	5.6	0.8	0.0	0.0	0.7	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.3	0.0	13.3	36.3	0.0	32.3	22.8	0.0	0.0	22.7	0.0	11.6
LnGrp LOS	D		B	D		C	C			C		B
Approach Vol, veh/h		816			378			58			515	
Approach Delay, s/veh		29.7			32.8			22.8			12.7	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	42.8		23.7	27.9	24.3		23.7				
Change Period (Y+Rc), s	4.7	7.5		5.5	4.7	7.5		5.5				
Max Green Setting (Gmax), s	8.0	57.3		37.0	28.3	37.0		37.0				
Max Q Clear Time (g_c+I1), s	3.7	10.3		16.2	22.4	15.2		4.0				
Green Ext Time (p_c), s	0.0	1.7		1.9	0.9	1.6		0.3				

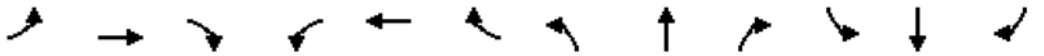
Intersection Summary												
HCM 7th Control Delay, s/veh			25.2									
HCM 7th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	275	16	18	234	11	18	78	19	8	279	68
Future Volume (veh/h)	30	275	16	18	234	11	18	78	19	8	279	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	335	20	22	285	13	22	95	23	10	340	83
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	629	555	470	146	498	22	607	508	123	128	504	121
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1081	1870	1585	58	1678	74	964	1455	352	15	1441	345
Grp Volume(v), veh/h	37	335	20	320	0	0	22	0	118	433	0	0
Grp Sat Flow(s),veh/h/ln	1081	1870	1585	1809	0	0	964	0	1807	1801	0	0
Q Serve(g_s), s	0.0	4.6	0.3	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	4.6	0.3	4.4	0.0	0.0	0.4	0.0	1.4	6.1	0.0	0.0
Prop In Lane	1.00		1.00	0.07		0.04	1.00		0.19	0.02		0.19
Lane Grp Cap(c), veh/h	629	555	470	665	0	0	607	0	632	753	0	0
V/C Ratio(X)	0.06	0.60	0.04	0.48	0.00	0.00	0.04	0.00	0.19	0.58	0.00	0.00
Avail Cap(c_a), veh/h	1742	2479	2101	2474	0	0	1226	0	1792	1901	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.6	9.0	7.5	9.0	0.0	0.0	6.5	0.0	6.8	8.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.5	0.0	0.0	0.0	0.0	0.1	0.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.3	0.1	1.0	0.0	0.0	0.1	0.0	0.3	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.6	10.1	7.5	9.5	0.0	0.0	6.5	0.0	6.9	9.0	0.0	0.0
LnGrp LOS	A	B	A	A			A		A	A		
Approach Vol, veh/h		392			320			140			433	
Approach Delay, s/veh		9.7			9.5			6.9			9.0	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.2		15.8		14.2		15.8				
Change Period (Y+Rc), s		5.3		5.3		5.3		5.3				
Max Green Setting (Gmax), s		39.7		29.7		39.7		29.7				
Max Q Clear Time (g_c+I1), s		6.6		8.1		6.4		3.4				
Green Ext Time (p_c), s		2.3		2.4		1.8		0.7				

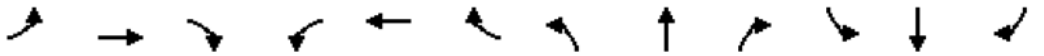
Intersection Summary												
HCM 7th Control Delay, s/veh			9.1									
HCM 7th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	568	146	70	298	42	58	24	35	47	21	11
Future Volume (veh/h)	31	568	146	70	298	42	58	24	35	47	21	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	631	162	78	331	47	64	27	39	52	23	12
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	736	189	176	1035	877	180	63	65	207	83	31
Arrive On Green	0.06	0.51	0.51	0.10	0.55	0.55	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1781	1435	369	1781	1870	1585	655	472	483	810	623	229
Grp Volume(v), veh/h	34	0	793	78	331	47	130	0	0	87	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1804	1781	1870	1585	1610	0	0	1663	0	0
Q Serve(g_s), s	1.1	0.0	22.2	2.4	5.6	0.8	1.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	22.2	2.4	5.6	0.8	4.2	0.0	0.0	2.5	0.0	0.0
Prop In Lane	1.00		0.20	1.00		1.00	0.49		0.30	0.60		0.14
Lane Grp Cap(c), veh/h	104	0	925	176	1035	877	308	0	0	321	0	0
V/C Ratio(X)	0.33	0.00	0.86	0.44	0.32	0.05	0.42	0.00	0.00	0.27	0.00	0.00
Avail Cap(c_a), veh/h	248	0	1392	255	1449	1228	1074	0	0	1069	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.3	0.0	12.3	24.7	7.0	6.0	23.5	0.0	0.0	22.9	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	3.6	1.8	0.2	0.0	0.9	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	7.3	1.0	1.6	0.2	1.7	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.1	0.0	15.9	26.4	7.2	6.0	24.5	0.0	0.0	23.3	0.0	0.0
LnGrp LOS	C		B	C	A	A	C			C		
Approach Vol, veh/h		827			456			130			87	
Approach Delay, s/veh		16.4			10.4			24.5			23.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.4	35.2		12.5	8.1	37.5		12.5				
Change Period (Y+Rc), s	4.7	5.4		4.7	4.7	5.4		4.7				
Max Green Setting (Gmax), s	8.3	44.8		37.1	8.1	45.0		37.1				
Max Q Clear Time (g_c+I1), s	4.4	24.2		4.5	3.1	7.6		6.2				
Green Ext Time (p_c), s	0.0	5.6		0.5	0.0	2.1		0.8				

Intersection Summary			
HCM 7th Control Delay, s/veh		15.7	
HCM 7th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	276	1	30	269	15	1	14	20	21	51	180
Future Volume (veh/h)	127	276	1	30	269	15	1	14	20	21	51	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	141	307	1	33	299	17	1	16	22	23	57	200
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	622	2	108	423	24	90	134	177	159	279	537
Arrive On Green	0.15	0.33	0.33	0.06	0.24	0.24	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1781	1863	6	1781	1753	100	13	723	953	266	1507	1585
Grp Volume(v), veh/h	141	0	308	33	0	316	39	0	0	80	0	200
Grp Sat Flow(s),veh/h/ln	1781	0	1869	1781	0	1852	1690	0	0	1773	0	1585
Q Serve(g_s), s	3.1	0.0	5.5	0.7	0.0	6.6	0.0	0.0	0.0	0.0	0.0	4.0
Cycle Q Clear(g_c), s	3.1	0.0	5.5	0.7	0.0	6.6	0.8	0.0	0.0	1.5	0.0	4.0
Prop In Lane	1.00		0.00	1.00		0.05	0.03		0.56	0.29		1.00
Lane Grp Cap(c), veh/h	273	0	624	108	0	447	401	0	0	439	0	537
V/C Ratio(X)	0.52	0.00	0.49	0.30	0.00	0.71	0.10	0.00	0.00	0.18	0.00	0.37
Avail Cap(c_a), veh/h	351	0	1655	338	0	1627	1559	0	0	1611	0	1635
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.4	0.0	11.2	18.9	0.0	14.6	14.3	0.0	0.0	14.6	0.0	10.5
Incr Delay (d2), s/veh	1.5	0.0	0.6	1.6	0.0	2.1	0.1	0.0	0.0	0.2	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	1.5	0.3	0.0	2.1	0.3	0.0	0.0	0.6	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.9	0.0	11.8	20.5	0.0	16.7	14.4	0.0	0.0	14.8	0.0	11.0
LnGrp LOS	B		B	C		B	B			B		B
Approach Vol, veh/h		449			349			39			280	
Approach Delay, s/veh		13.7			17.1			14.4			12.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	21.6		13.3	11.2	17.7		13.3				
Change Period (Y+Rc), s	4.7	7.5		5.5	4.7	7.5		5.5				
Max Green Setting (Gmax), s	8.0	37.3		37.0	8.3	37.0		37.0				
Max Q Clear Time (g_c+I1), s	2.7	7.5		6.0	5.1	8.6		2.8				
Green Ext Time (p_c), s	0.0	1.5		1.1	0.1	1.6		0.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			14.4									
HCM 7th LOS			B									

APPENDIX D

ITE AND SANDAG TRIP GENERATION RATE SHEETS

Land Use: 210
Single-Family Detached Housing

Description

A single-family detached housing site includes any single-family detached home on an individual lot. A typical site surveyed is a suburban subdivision.

Specialized Land Use

Data have been submitted for several single-family detached housing developments with homes that are commonly referred to as patio homes. A patio home is a detached housing unit that is located on a small lot with little (or no) front or back yard. In some subdivisions, communal maintenance of outside grounds is provided for the patio homes. The three patio home sites total 299 dwelling units with overall weighted average trip generation rates of 5.35 vehicle trips per dwelling unit for weekday, 0.26 for the AM adjacent street peak hour, and 0.47 for the PM adjacent street peak hour. These patio home rates, based on a small sample of sites, are lower than those for single-family detached housing (Land Use 210), lower than those for single-family attached housing (Land Use 215), and higher than those for senior adult housing—single-family (Land Use 251). (Source 1008)

Additional Data

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Alabama, Arizona, British Columbia (CAN), California, Delaware, Illinois, Kentucky, Massachusetts, Minnesota, Montana, New Jersey, New York, North Carolina, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Vermont, and West Virginia.

Source Numbers

356, 357, 367, 384, 387, 407, 435, 522, 550, 552, 579, 598, 601, 603, 614, 637, 711, 716, 720, 728, 735, 868, 869, 903, 925, 936, 1005, 1007, 1008, 1010, 1033, 1066, 1077, 1078, 1079, 1204, 1221, 1225, 1236, 1251, 1265, 1267

Single-Family Detached Housing
(210)

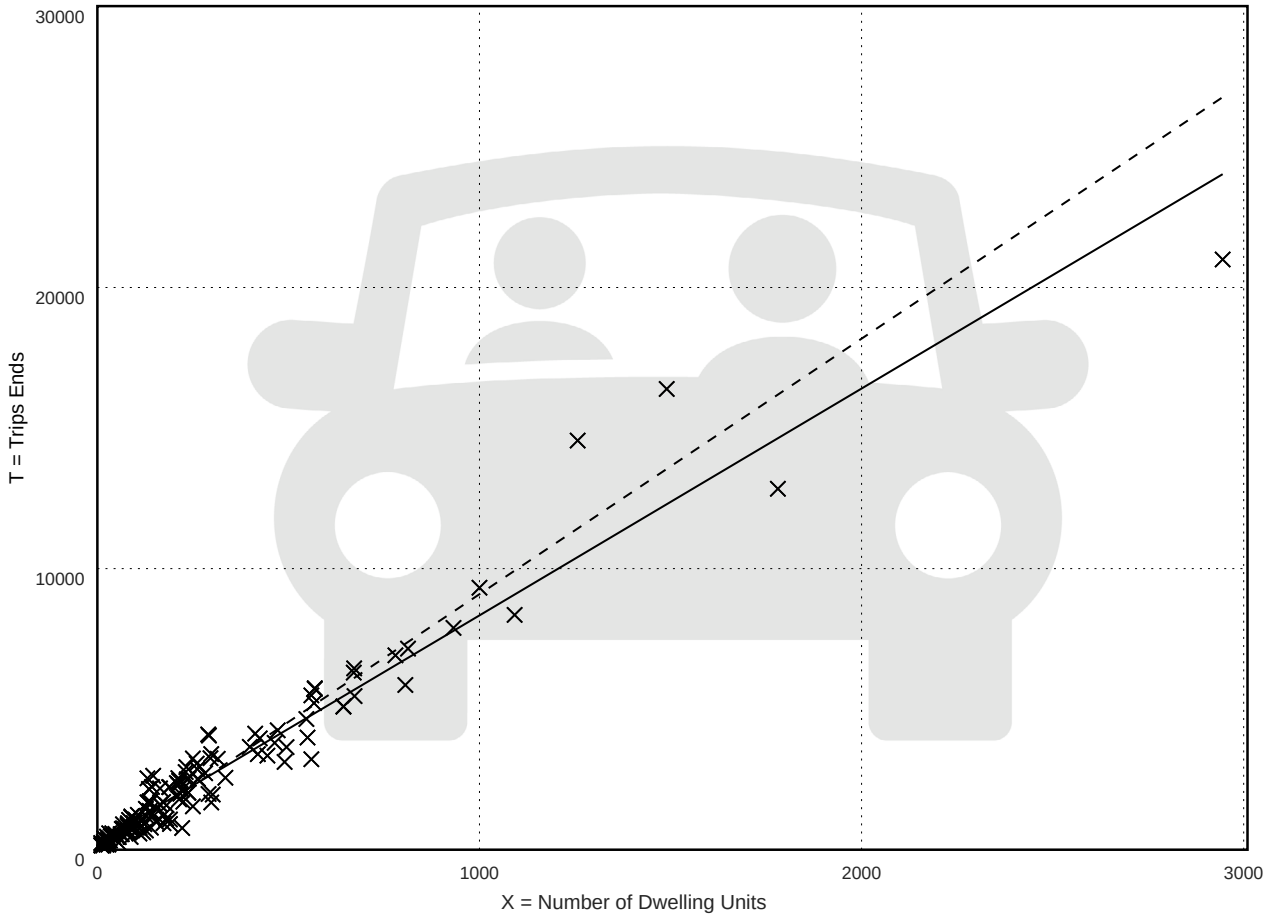
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 155
Avg. Num. of Dwelling Units: 261
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.09	3.47 - 23.80	2.29

Data Plot and Equation



Fitted Curve Equation: T = 8.07(X) + 265.45

R^2= 0.94

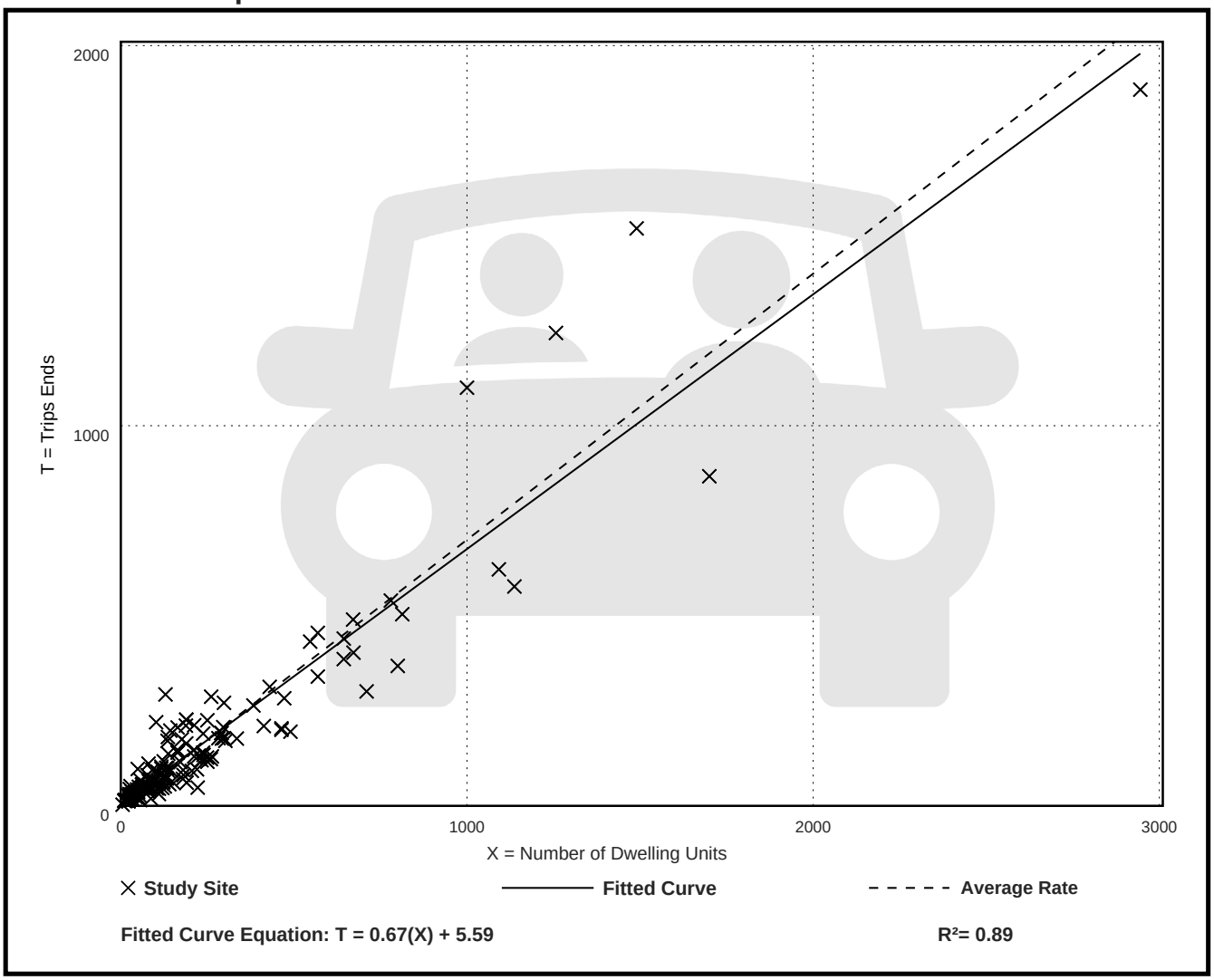
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	153
Avg. Num. of Dwelling Units:	239
Directional Distribution:	27% entering, 73% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.22 - 2.27	0.26

Data Plot and Equation



Fitted Curve Equation: T = 0.67(X) + 5.59

R^2= 0.89

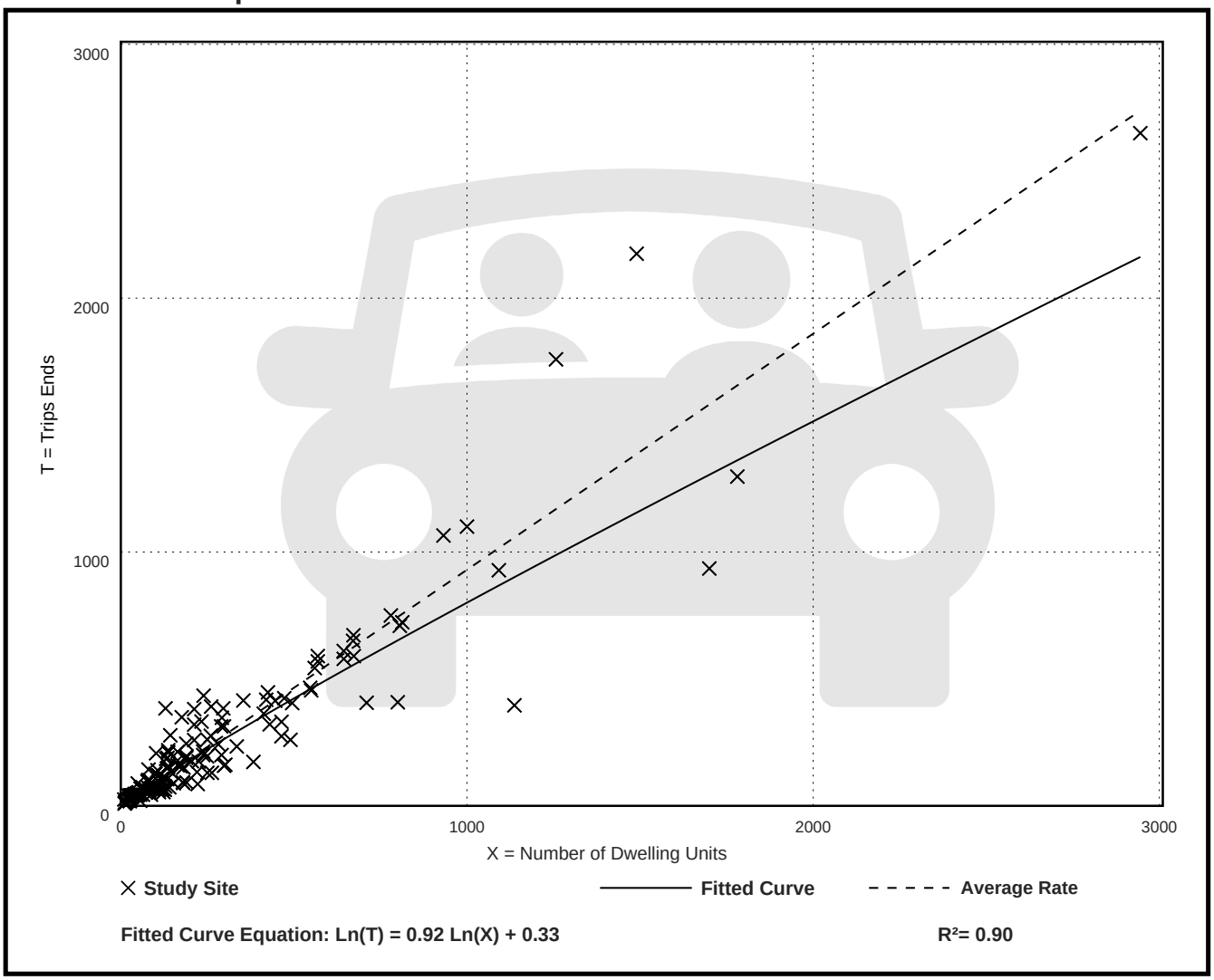
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	166
Avg. Num. of Dwelling Units:	266
Directional Distribution:	62% entering, 38% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.93	0.35 - 2.98	0.33

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.92 Ln(X) + 0.33

R^2= 0.90

Land Use: 215
Single-Family Attached Housing

Description

Single-family attached housing includes any single-family housing unit that shares a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space. This land use includes duplexes (defined as a single structure with two distinct dwelling units, typically joined side-by-side and each with at least one outside entrance) and townhouses/rowhouses (defined as a single structure with three or more distinct dwelling units, joined side-by-side in a row and each with an outside entrance).

Additional Data

The sites were surveyed in the 1990s, the 2000s, and the 2010s in British Columbia (CAN), California, Georgia, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Dakota, Utah, and Wisconsin.

Source Numbers

357, 390, 418, 525, 571, 583, 638, 868, 869, 870, 896, 912, 959, 1009, 1046, 1056, 1058, 1077

Single-Family Attached Housing
(215)

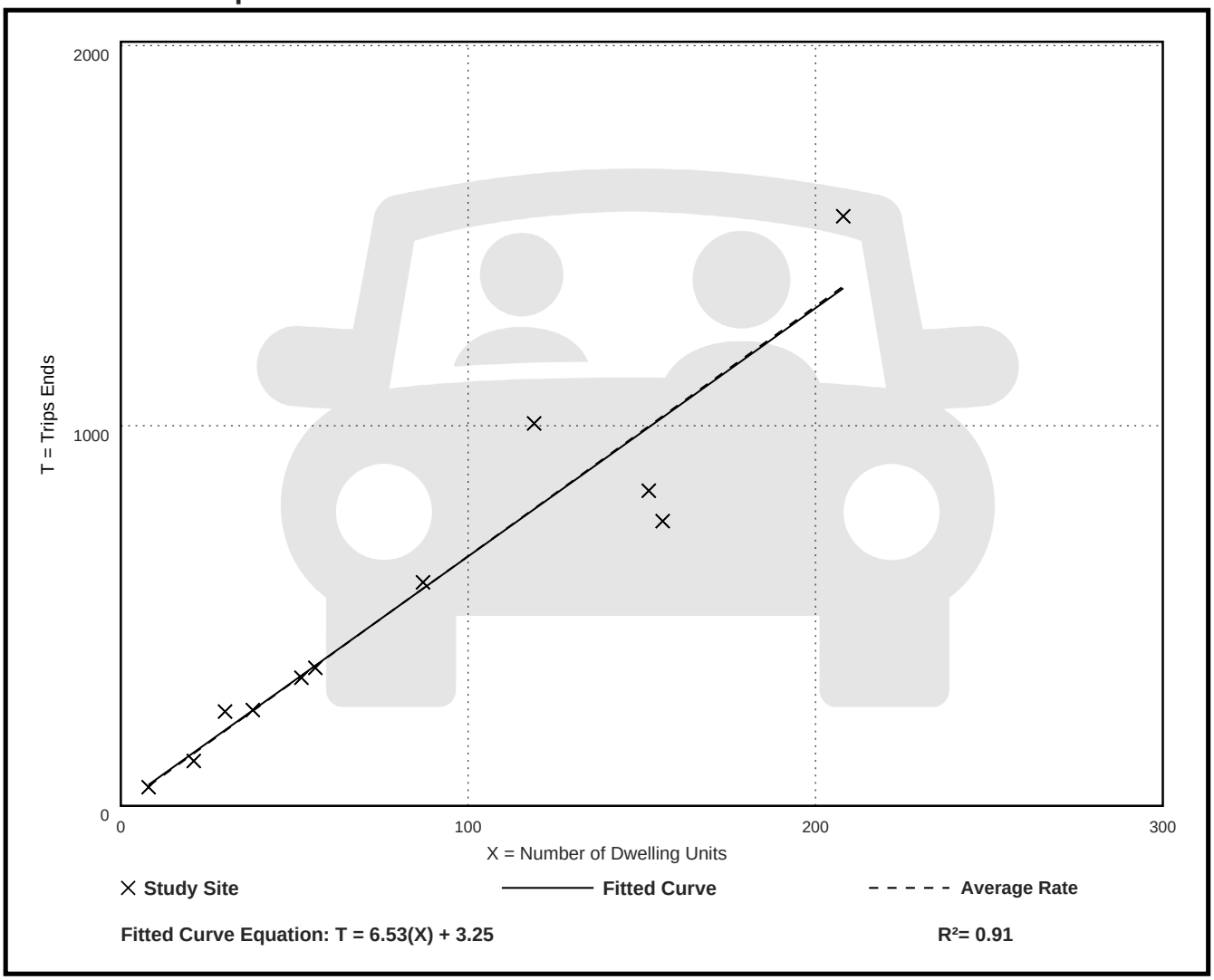
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 11
Avg. Num. of Dwelling Units: 84
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
6.57	4.80 - 8.45	1.28

Data Plot and Equation



Fitted Curve Equation: T = 6.53(X) + 3.25

R^2= 0.91

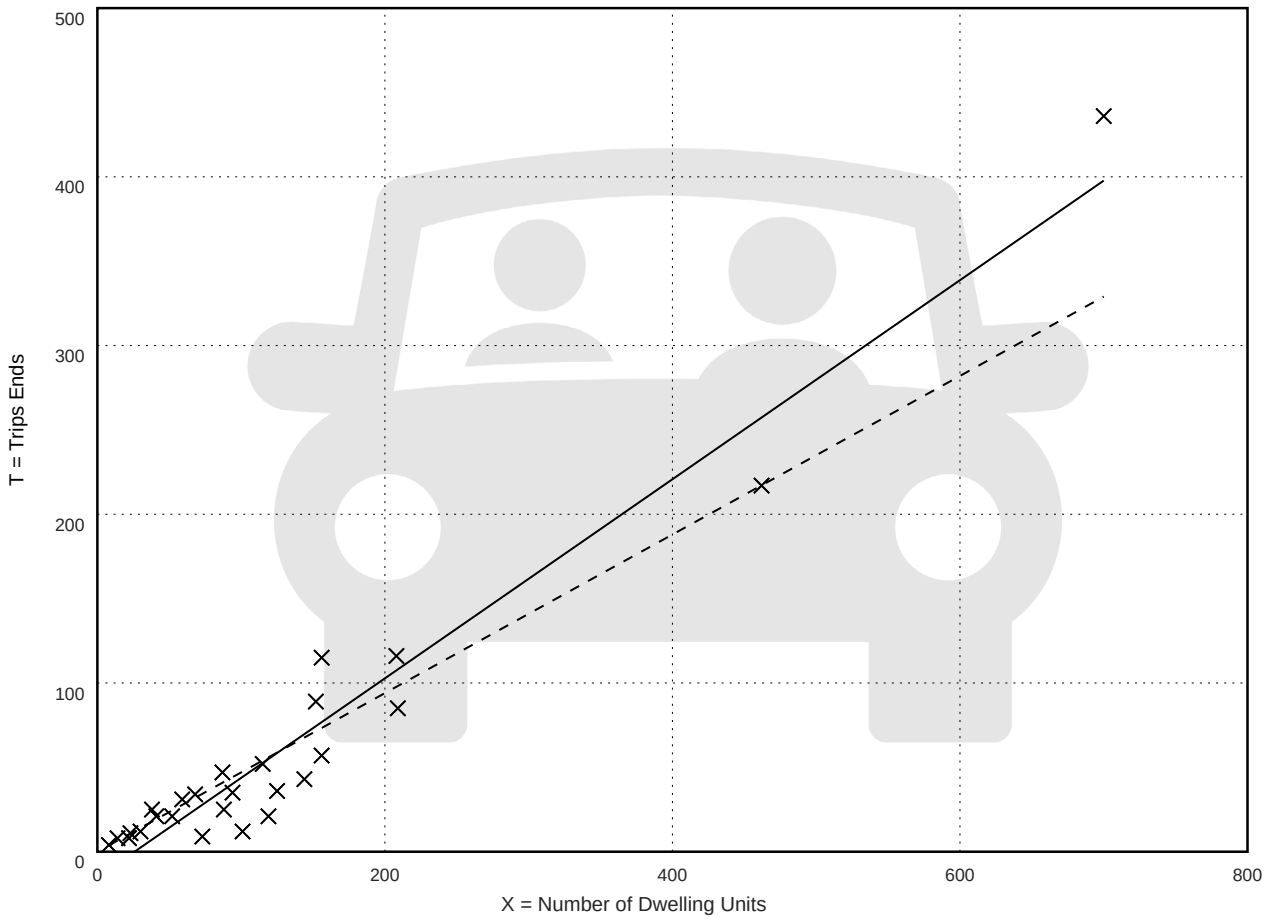
Single-Family Attached Housing
(215)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	26
Avg. Num. of Dwelling Units:	129
Directional Distribution:	25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.47	0.12 - 0.74	0.16

Data Plot and Equation



Fitted Curve Equation: T = 0.59(X) - 15.25

R^2= 0.94

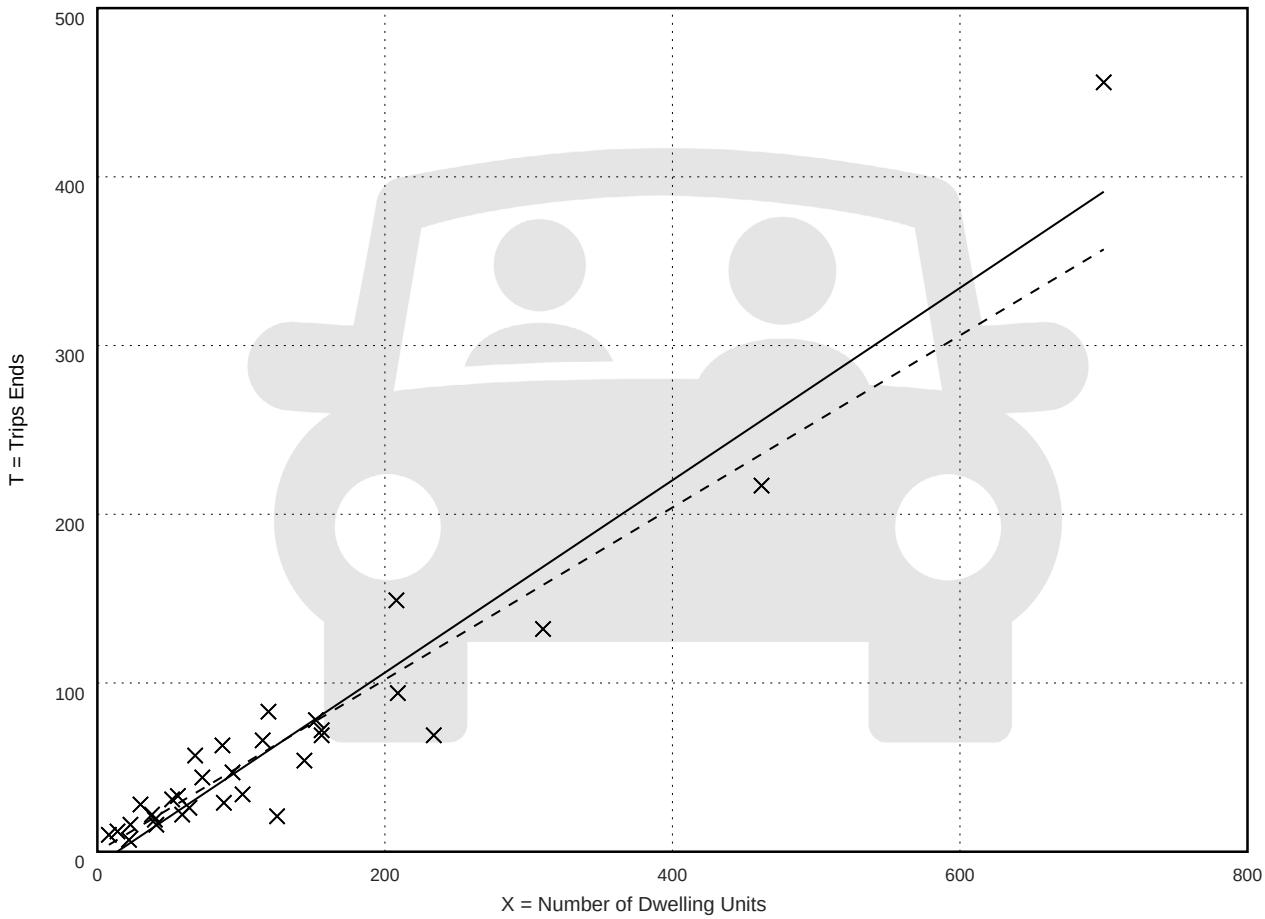
Single-Family Attached Housing
(215)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	31
Avg. Num. of Dwelling Units:	131
Directional Distribution:	57% entering, 43% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.17 - 1.25	0.16

Data Plot and Equation



Fitted Curve Equation: T = 0.57(X) - 7.84

R^2= 0.92

Land Use: 220
Multifamily Housing (Low-Rise)

Description

Low-rise multifamily housing is a residential building with two or three floors (levels) of residences. Various configurations fit this description, including the following:

- Walk-up apartment or multiplex—access to the individual dwelling units is typically internal to the structure and provided through a shared entry, stairway, and hallway.
- Mansion apartment with several dwelling units within what appears from the outside to be a single-family dwelling unit.
- Stacked townhouse designed to match the external appearance of a townhouse, but which has dwelling units that share both floors and walls and with access through a central entry and stairway.

Land Use Subcategory

Data are presented for two subcategories for this land use: (1) not close to rail transit and (2) close to rail transit. A site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is ½ mile or less.

Additional Data

For the three sites for which both the number of residents and the number of occupied dwelling units were available, there was an average of 2.72 residents per occupied dwelling unit.

For the two sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96.2 percent of the total dwelling units were occupied.

It is expected that the number of bedrooms and number of residents are likely correlated to the trips generated by a residential site. To assist in future analysis, trip generation studies of all multifamily housing should attempt to obtain information on occupancy rate and on the mix of residential unit sizes (i.e., number of units by number of bedrooms at the site complex).

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Arizona, British Columbia (CAN), California, Delaware, Florida, Illinois, Maine, Massachusetts, Minnesota, New Jersey, New York, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Utah, and Washington.

Source Numbers

357, 390, 412, 525, 530, 579, 583, 638, 864, 866, 896, 901, 903, 904, 936, 939, 944, 946, 947, 948, 963, 964, 966, 967, 1012, 1013, 1014, 1036, 1047, 1056, 1071, 1076, 1219, 1236, 1265, 1267

Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

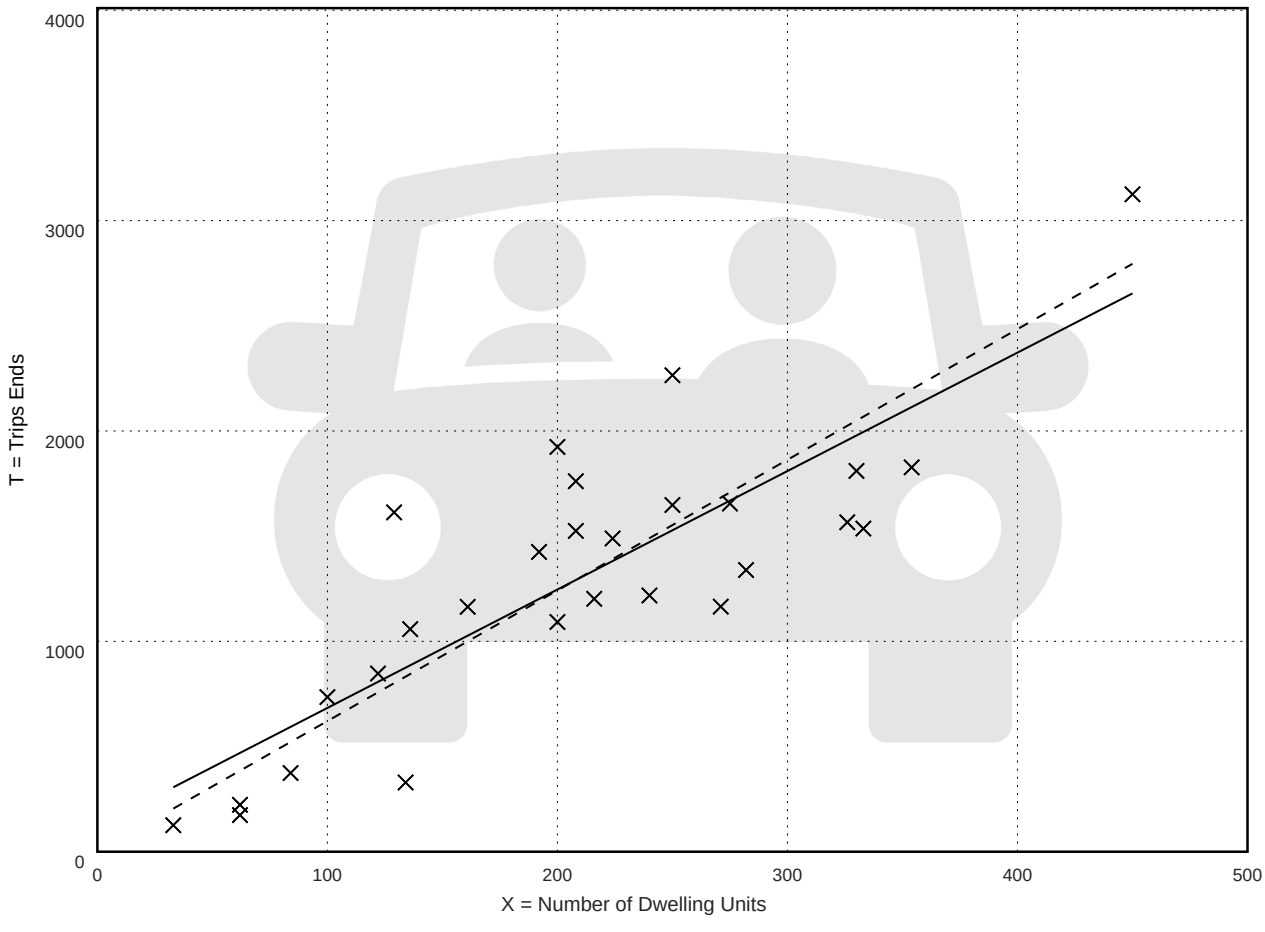
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 28
Avg. Num. of Dwelling Units: 208
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
6.21	2.46 - 12.50	1.87

Data Plot and Equation



Fitted Curve Equation: T = 5.63(X) + 120.45

R^2= 0.70

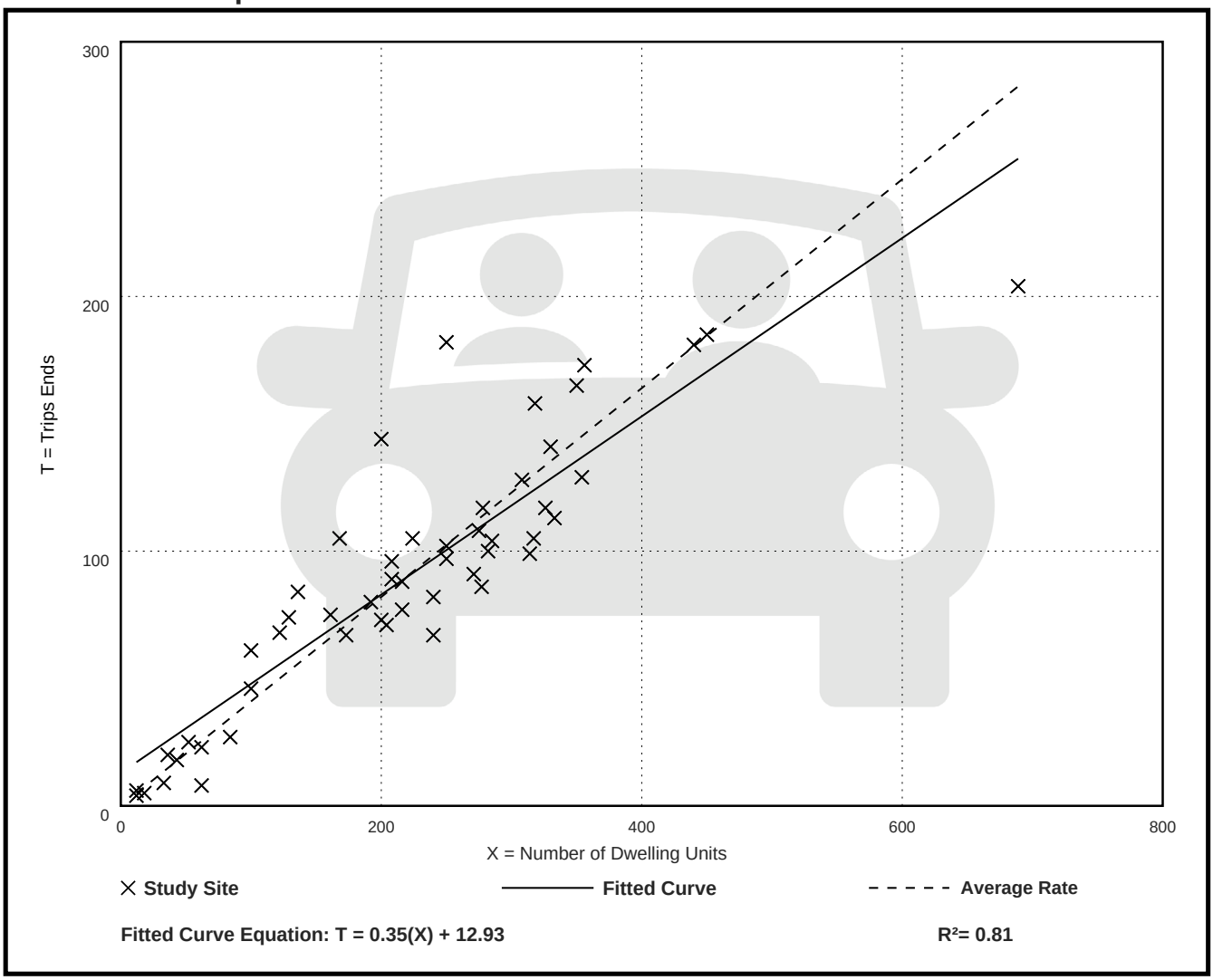
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	51
Avg. Num. of Dwelling Units:	219
Directional Distribution:	24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.41	0.13 - 0.73	0.10

Data Plot and Equation



Fitted Curve Equation: T = 0.35(X) + 12.93

R^2= 0.81

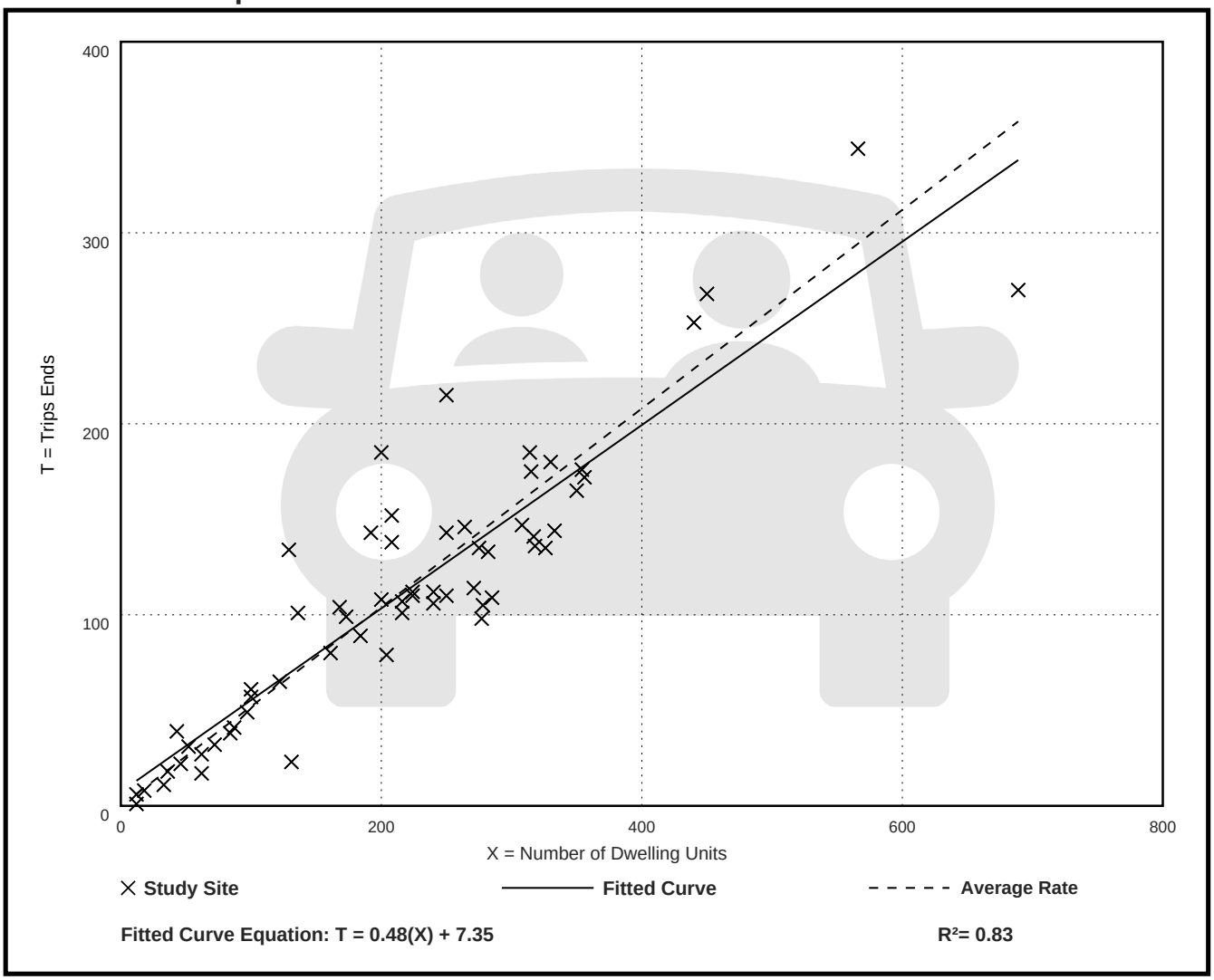
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	61
Avg. Num. of Dwelling Units:	215
Directional Distribution:	62% entering, 38% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.52	0.08 - 1.04	0.13

Data Plot and Equation



Fitted Curve Equation: T = 0.48(X) + 7.35

R^2= 0.83

(NOT SO)

BRIEF GUIDE OF VEHICULAR TRAFFIC GENERATION RATES FOR THE SAN DIEGO REGION

APRIL 2002

SANDAG
401 B Street, Suite 800
San Diego, California 92101
(619) 699-1900 • Fax (619) 699-1950

NOTE: This listing only represents a ***guide*** of average, or estimated, traffic generation "driveway" rates and some very general trip data for land uses (emphasis on acreage and building square footage) in the San Diego region. These rates (both local and national) are subject to change as future documentation becomes available, or as regional sources are updated. For more specific information regarding traffic data and trip rates, please refer to the San Diego Traffic Generators manual. ***Always check with local jurisdictions for their preferred or applicable rates.***

LAND USE	TRIP CATEGORIES [PRIMARY:DIVERTED:PASS-BY][P]	ESTIMATED WEEKDAY VEHICLE TRIP GENERATION RATE (DRIVEWAY)	HIGHEST PEAK HOUR % (plus IN:OUT ratio) Between 6:00-9:30 A.M.	Between 3:00-6:30 P.M.	TRIP LENGTH (Miles)[L]
AGRICULTURE (Open Space)	[80:18:2]	2/acre**			10.8
AIRPORT	[78:20:2]				12.5
Commercial		60/acre, 100/flight, 70/1000 sq. ft.* **	5% (6:4)	6% (5:5)	
General Aviation		6/acre, 2/flight, 6/based aircraft* **	9% (7:3)	15% (5:5)	
Heliports		100/acre**			
AUTOMOBILE[S]					
Car Wash					
Automatic		900/site, 600/acre**	4% (5:5)	9% (5:5)	
Self-serve		100/wash stall**	4% (5:5)	8% (5:5)	
Gasoline	[21:51:28]				2.8
with/Food Mart		160/vehicle fueling space**	7% (5:5)	8% (5:5)	
with/Food Mart & Car Wash		155/vehicle fueling space**	8% (5:5)	9% (5:5)	
Older Service Station Design		150/vehicle fueling space, 900/station**	7% (5:5)	9% (5:5)	
Sales (Dealer & Repair)		50/1000 sq. ft., 300/acre, 60/service stall* **	5% (7:3)	8% (4:6)	
Auto Repair Center		20/1000 sq. ft., 400/acre, 20/service stall*	8% (7:3)	11% (4:6)	
Auto Parts Sales		60/1000 sq. ft. **	4%	10%	
Quick Lube		40/service stall**	7% (6:4)	10% (5:5)	
Tire Store		25/1000 sq. ft., 30/service stall**	7% (6:4)	11% (5:5)	
CEMETERY		5/acre*			
CHURCH (or Synagogue)	[64:25:11]	9/1000 sq. ft., 30/acre** (quadruple rates for Sunday, or days of assembly)	5% (6:4)	8% (5:5)	5.1
COMMERCIAL/RETAIL[S]					
Super Regional Shopping Center (More than 80 acres, more than 800,000 sq. ft., w/usually 3+ major stores)		35/1000 sq. ft.,[C] 400/acre*	4% (7:3)	10% (5:5)	
Regional Shopping Center (40-80acres, 400,000-800,000 sq. ft., w/usually 2+ major stores)	[54:35:11]	50/1000 sq. ft.,[C] 500/acre*	4% (7:3)	9% (5:5)	5.2
Community Shopping Center (15-40 acres, 125,000-400,000 sq. ft., w/usually 1 major store, detached restaurant(s), grocery and drugstore)	[47:31:22]	80/1000 sq. ft., 700/acre* **	4% (6:4)	10% (5:5)	3.6
Neighborhood Shopping Center (Less than 15 acres, less than 125,000 sq. ft., w/usually grocery & drugstore, cleaners, beauty & barber shop, & fast food services)		120/1000 sq. ft., 1200/acre* **	4% (6:4)	10% (5:5)	
Commercial Shops	[45:40:15]				
Specialty Retail/Strip Commercial		40/1000 sq. ft., 400/acre*	3% (6:4)	9% (5:5)	4.3
Electronics Superstore		50/1000 sq. ft**		10% (5:5)	
Factory Outlet		40/1000 sq. ft.**	3% (7:3)	9% (5:5)	
Supermarket		150/1000 sq. ft., 2000/acre* **	4% (7:3)	10% (5:5)	
Drugstore		90/1000 sq. ft.**	4% (6:4)	10% (5:5)	
Convenience Market (15-16 hours)		500/1000 sq. ft.**	8% (5:5)	8% (5:5)	
Convenience Market (24 hours)		700/1000 sq. ft.**	9% (5:5)	7% (5:5)	
Convenience Market (w/gasoline pumps)		850/1000 sq. ft., 550/vehicle fueling space**	6% (5:5)	7% (5:5)	
Discount Club		60/1000 sq. ft., 600/acre* **	1% (7:3)	9% (5.5)	
Discount Store		60/1000 sq. ft., 600/acre**	3% (6:4)	8% (5:5)	
Furniture Store		6/1000 sq. ft., 100/acre**	4% (7:3)	9% (5:5)	
Lumber Store		30/1000 sq. ft., 150/acre**	7% (6:4)	9% (5:5)	
Home Improvement Superstore		40/1000 sq. ft.**	5% (6:4)	8% (5:5)	
Hardware/Paint Store		60/1000 sq. ft., 600/acre**	2% (6:4)	9% (5:5)	
Garden Nursery		40/1000 sq. ft., 90/acre**	3% (6:4)	10% (5:5)	
Mixed Use: Commercial (w/supermarket)/Residential		{110/1000 sq. ft., 2000/acre* (commercial only) {5/dwelling unit, 200/acre* (residential only)	3% (6:4) 9% (3:7)	9% (5:5) 13% (6:4)	
EDUCATION					
University (4 years)	[91:9:0]	2.4/student, 100 acre*	10% (8:2)	9% (3:7)	8.9
Junior College (2 years)	[92:7:1]	1.2/student, 24/1000 sq. ft., 120/acre* **	12% (8:2)	9% (6:4)	9.0
High School	[75:19:6]	1.3/student, 15/1000 sq. ft., 60/acre* **	20% (7:3)	10% (4:6)	4.8
Middle/Junior High	[63:25:12]	1.4/student, 12/1000 sq. ft. 50/acre**	30% (6:4)	9% (4:6)	5.0
Elementary	[57:25:10]	1.6/student, 14/1000 sq. ft., 90/acre* **	32% (6:4)	9% (4:6)	3.4
Day Care	[28:58:14]	5/child, 80/1000 sq. ft.**	17% (5:5)	18% (5:5)	3.7
FINANCIAL[S]	[35:42:23]				3.4
Bank (Walk-In only)		150/1000 sq. ft., 1000/acre* **	4% (7:3)	8% (4:6)	
with Drive-Through		200/1000 sq. ft., 1500/acre*	5% (6:4)	10% (5:5)	
Drive-Through only		250 (125 one-way)/lane*	3% (5:5)	13% (5:5)	
Savings & Loan		60/1000 sq. ft., 600/acre**	2%	9%	
Drive-Through only		100 (50 one-way)/lane**	4%	15%	
HOSPITAL	[73:25:2]				8.3
General		20/bed, 25/1000 sq. ft., 250/acre*	8% (7:3)	10% (4:6)	
Convalescent/Nursing		3/bed**	7% (6:4)	7% (4:6)	
INDUSTRIAL					
Industrial/Business Park (commercial included)	[79:19:2]	16/1000 sq. ft., 200/acre* **	12% (8:2)	12% (2:8)	9.0
Industrial Park (no commercial)		8/1000 sq. ft., 90/acre**	11% (9:1)	12% (2:8)	
Industrial Plant (multiple shifts)	[92:5:3]	10/1000 sq. ft., 120/acre*	14% (8:2)	15% (3:7)	11.7
Manufacturing/Assembly		4/1000 sq. ft., 50/acre**	19% (9:1)	20% (2:8)	
Warehousing		5/1000 sq. ft., 60/acre**	13% (7:3)	15% (4:6)	
Storage		2/1000 sq. ft., 0.2/vault, 30/acre*	6% (5:5)	9% (5:5)	
Science Research & Development		8/1000 sq. ft., 80/acre*	16% (9:1)	14% (1:9)	
Landfill & Recycling Center		6/acre	11% (5:5)	10% (4:6)	

(OVER)

MEMBER AGENCIES: Cities of Carlsbad, Chula Vista, Coronado, Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, La Mesa, Lemon Grove, National City, Oceanside, Poway, San Diego, San Marcos, Santee, Solana Beach, Vista and County of San Diego.
ADVISORY/LIAISON MEMBERS: California Department of Transportation, County Water Authority, U.S. Department of Defense, S.D. Unified Port District and Tijuana/Baja California.

LAND USE	TRIP CATEGORIES [PRIMARY:DIVERTED:PASS-BY][P]	ESTIMATED WEEKDAY VEHICLE TRIP GENERATION RATE (DRIVEWAY)	HIGHEST PEAK HOUR % (plus IN:OUT ratio) Between 6:00-9:30 A.M.		Between 3:00-6:30 P.M.		TRIP LENGTH (Miles)[L]
LIBRARY	[44:44:12]	50/1000 sq. ft., 400/acre**	2%	(7:3)	10%	(5:5)	3.9
LODGING	[58:38:4]						7.6
Hotel (w/convention facilities/restaurant)		10/occupied room, 300/acre	6%	(6:4)	8%	(6:4)	
Motel		9/occupied room, 200/acre*	8%	(4:6)	9%	(6:4)	
Resort Hotel		8/occupied room, 100/acre*	5%	(6:4)	7%	(4:6)	
Business Hotel		7/occupied room**	8%	(4:6)	9%	(6:4)	
MILITARY	[82:16:2]	2.5/military & civilian personnel*	9%	(9:1)	10%	(2:8)	11.2
OFFICE							
Standard Commercial Office (less than 100,000 sq. ft.)	[77:19:4]	20/1000 sq. ft.,[O] 300/acre*	14%	(9:1)	13%	(2:8)	8.8
Large (High-Rise) Commercial Office (more than 100,000 sq. ft., 6+ stories)	[82:15:3]	17/1000 sq. ft.,[O] 600/acre*	13%	(9:1)	14%	(2:8)	10.0
Office Park (400,000+ sq. ft.)		12/1000 sq.ft., 200/acre* **	13%	(9:1)	13%	(2:8)	
Single Tenant Office		14/1000 sq. ft., 180/acre*	15%	(9:1)	15%	(2:8)	8.8
Corporate Headquarters		7/1000 sq. ft., 110/acre*	17%	(9:1)	16%	(1:9)	
Government (Civic Center)	[50:34:16]	30/1000 sq. ft.**	9%	(9:1)	12%	(3:7)	6.0
Post Office							
Central/Walk-In Only		90/1000 sq. ft.**	5%		7%		
Community (not including mail drop lane)		200/1000 sq. ft., 1300/acre*	6%	(6:4)	9%	(5:5)	
Community (w/mail drop lane)		300/1000 sq. ft., 2000/acre*	7%	(5:5)	10%	(5:5)	
Mail Drop Lane only		1500 (750 one-way)/lane*	7%	(5:5)	12%	(5:5)	
Department of Motor Vehicles		180/1000 sq. ft., 900/acre**	6%	(6:4)	10%	(4:6)	
Medical-Dental	[60:30:10]	50/1000 sq. ft., 500/acre*	6%	(8:2)	11%	(3:7)	6.4
PARKS	[66:28:6]		4%		8%		5.4
City (developed w/meeting rooms and sports facilities)		50/acre*	13%	(5:5)	9%	(5:5)	
Regional (developed)		20/acre*					
Neighborhood/County (undeveloped)		5/acre (add for specific sport uses), 6/picnic site* **					
State (average 1000 acres)		1/acre, 10/picnic site**					
Amusement (Theme)		80/acre, 130/acre (summer only)**			6%	(6:4)	
San Diego Zoo		115/acre*					
Sea World		80/acre*					
RECREATION							
Beach, Ocean or Bay	[52:39:9]	600/1000 ft. shoreline, 60/acre*					6.3
Beach, Lake (fresh water)		50/1000 ft. shoreline, 5/acre*					
Bowling Center		30/1000 sq. ft., 300/acre, 30/lane **	7%	(7:3)	11%	(4:6)	
Campground		4/campsite**	4%		8%		
Golf Course		7/acre, 40/hole, 700/course* **	7%	(8:2)	9%	(3:7)	
Driving Range only		70/acre, 14/tee box*	3%	(7:3)	9%	(5:5)	
Marinas		4/berth, 20/acre* **	3%	(3:7)	7%	(6:4)	
Multi-purpose (miniature golf, video arcade, batting cage, etc.)		90/acre	2%		6%		
Racquetball/Health Club		30/1000 sq. ft., 300/acre, 40/court*	4%	(6:4)	9%	(6:4)	
Tennis Courts		16/acre, 30/court**	5%		11%	(5:5)	
Sports Facilities							
Outdoor Stadium		50/acre, 0.2/seat*					
Indoor Arena		30/acre, 0.1/seat*					
Racetrack		40/acre, 0.6 seat*					
Theaters (multiplex w/matinee)	[66:17:17]	80/1000 sq. ft., 1.8/seat, 360/screen*	1/3%		8%	(6:4)	6.1
RESIDENTIAL	[86:11:3]						7.9
Estate, Urban or Rural (average 1-2 DU/acre)		12/dwelling unit*[R]	8%	(3:7)	10%	(7:3)	
Single Family Detached (average 3-6 DU/acre)		10/dwelling unit*[R]	8%	(3:7)	10%	(7:3)	
Condominium (or any multi-family 6-20 DU/acre)		8/dwelling unit*[R]	8%	(2:8)	10%	(7:3)	
Apartment (or any multi-family units more than 20 DU/acre)		6/dwelling unit*[R]	8%	(2:8)	9%	(7:3)	
Military Housing (off-base, multi-family)							
(less than 6 DU/acre)		8/dwelling unit	7%	(3:7)	9%	(6:4)	
(6-20 DU/acre)		6/dwelling unit	7%	(3:7)	9%	(6:4)	
Mobile Home							
Family		5/dwelling unit, 40/acre*	8%	(3:7)	11%	(6:4)	
Adults Only		3/dwelling unit, 20/acre*	9%	(3:7)	10%	(6:4)	
Retirement Community		4/dwelling unit**	5%	(4:6)	7%	(6:4)	
Congregate Care Facility		2.5/dwelling unit**	4%	(6:4)	8%	(5:5)	
RESTAURANT[S]	[51:37:12]						4.7
Quality		100/1000 sq. ft., 3/seat, 500/acre* **	1%	(6:4)	8%	(7:3)	
Sit-down, high turnover		160/1000 sq. ft., 6/seat, 1000/acre* **	8%	(5:5)	8%	(6:4)	
Fast Food (w/drive-through)		650/1000 sq. ft., 20/seat, 3000/acre* **	7%	(5:5)	7%	(5:5)	
Fast Food (without drive-through)		700/1000 sq. ft.**	5%	(6:4)	7%	(5:5)	
Delicatessen (7am-4pm)		150/1000 sq. ft., 11/seat*	9%	(6:4)	3%	(3:7)	
TRANSPORTATION							
Bus Depot		25/1000 sq. ft.**					
Truck Terminal		10/1000 sq. ft., 7/bay, 80/acre**	9%	(4:6)	8%	(5:5)	
Waterport/Marine Terminal		170/berth, 12/acre**					
Transit Station (Light Rail w/parking)		300/acre, $2^{1/2}$/parking space (4/occupied)**	14%	(7:3)	15%	(3:7)	
Park & Ride Lots		400/acre (600/paved acre), 5/parking space (8/occupied)* **	14%	(7:3)	15%	(3:7)	

* Primary source: *San Diego Traffic Generators.*

* Other sources: *ITE Trip Generation Report [6th Edition]*, Trip Generation Rates (other agencies and publications), various SANDAG & CALTRANS studies, reports and estimates.

[P] Trip category percentage ratios are daily from local household surveys, often cannot be applied to very specific land uses, and do not include non-resident drivers (draft SANDAG *Analysis of Trip Diversion*, revised November, 1990):
PRIMARY - one trip directly between origin and primary destination.
DIVERTED - linked trip (having one or more stops along the way to a primary destination) whose distance compared to direct distance ≥ 1 mile.
PASS-BY - undiverted or diverted < 1 mile.

[L] Trip lengths are average weighted for all trips to and from general land use site. (All trips system-wide average length = 6.9 miles)

[C] Fitted curve equation: $Ln(T) = 0.502\ Ln(x) + 6.945$

[O] Fitted curve equation: $Ln(T) = 0.756\ Ln(x) + 3.950$

T = total trips, x = 1,000 sq. ft.

[R] Fitted curve equation: $t = -2.169\ Ln(d) + 12.85$ t = trips/DU, d = density (DU/acre), DU = dwelling unit

[S] Suggested PASS-BY [undiverted or diverted < 1 mile] percentages for trip rate reductions only during P.M. peak period (based on combination of local data/review and Other sources**):

COMMERCIAL/RETAIL	
Regional Shopping Center	20%
Community " "	30%
Neighborhood " "	40%
Specialty Retail/Strip Commercial (other)	10%
Supermarket	40%
Convenience Market	50%
Discount Club/Store	30%
FINANCIAL	
Bank	25%
AUTOMOBILE	
Gasoline Station	50%
RESTAURANT	
Quality	10%
Sit-down high turnover	20%
Fast Food	40%

[T] Trip Reductions - In order to help promote regional "smart growth" policies, and acknowledge San Diego's expanding mass transit system, consider vehicle trip rate reductions (with proper documentation and necessary adjustments for peak periods). The following are some examples:

[1] A 5% daily trip reduction for land uses with transit access or near transit stations accessible within 1/4 mile.

[2] Up to 10% daily trip reduction for mixed-use developments where residential and commercial retail are combined (demonstrate mode split of walking trips to replace vehicular trips).

APPENDIX E

SCAG MODEL PLOTS, FORECAST VOLUME GROWTH CALCULATIONS AND POST-PROCESSING WORKSHEETS

SCAG Road Network
2019 - Daily Volume

CITY OF CALEXICO HOUSING ELEMENT

RICK

5620 FRIARS RD
SAN DIEGO, CA 92110
rickengineering.com

SAN DIEGO ORANGE RIVERSIDE SACRAMENTO
SAN LUIS OBISPO SANTA CLARITA PHOENIX
TUCSON LAS VEGAS DENVER

JOB NUMBER: 20484
DATE OF EXHIBIT: 5/27/2026

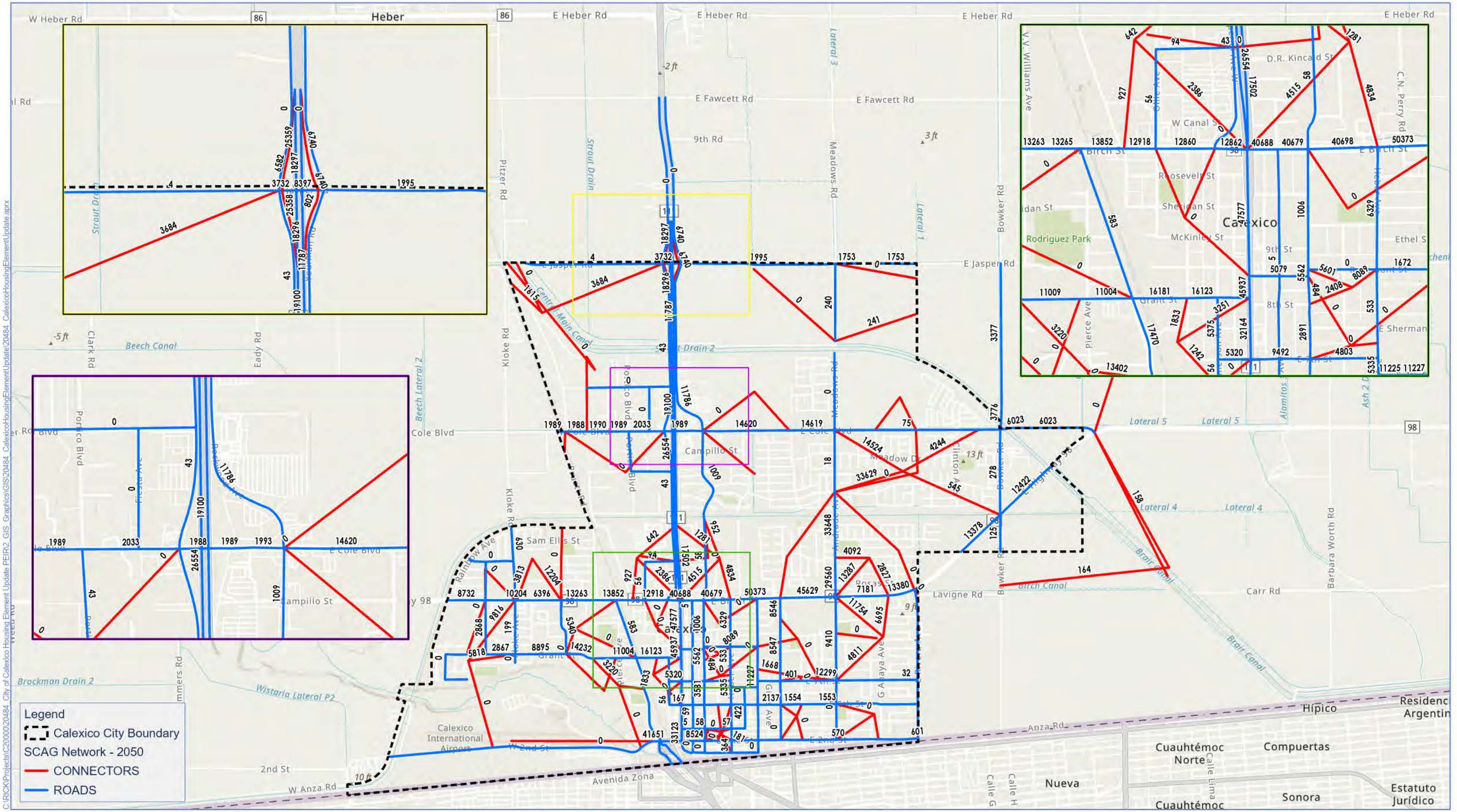
SOURCES:
SCAG NETWORK, 2026
ESRI TOPOGRAPHIC WORLD BASEMAP

SCALE IN FEET
0 1,500 3,000

NORTH

Legend
- Calexico City Boundary
- SCAG Network - 2019
- CONNECTORS
- ROADS

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RICK

5620 FRIARS RD
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TUCSON LAS VEGAS DENVER

JOB NUMBER: 20484
DATE OF EXHIBIT: 5/28/2026

SOURCES
SCAG NETWORK, 2026
ESRI TOPOGRAPHIC WORLD BASEMAP

SCALE IN FEET
0 1,500 3,000

NORTH

SCAG Road Network 2050 - Daily Volume

CITY OF CALEXICO HOUSING ELEMENT

Horizon Year 2050 Forecast Growth Calculations

	Intersection	Intersection Leg	2019 Base Year Model ADT	Horizon Year 2050 Model ADT	Model Growth 2019 to 2050 (31 years)	Annual Growth (31 years)	Growth Factors 2025/2026 to 2050 (24-25 years)	Existing Year 2025/ 2026 ADT	Horizon Year 2050 ADT per Growth Factors	Adjusted Growth 2026 to 2050 (24-25 years)	Final Horizon Year 2050 ADT
1	SR-111 / Jasper Road	North	50,609	56,978	12.58%	0.38%	1.10	32,076	35,159	1.11	**35,715**
		South	52,158	56,288	7.92%	0.25%	1.06	27,984	29,685	1.11	**31,159**
		East	388	1,995	414.18%	5.42%	3.55	6,204	22,040	1.11	**6,908**
		West	2,593	3,684	42.07%	1.14%	1.31	3,072	4,032	1.11	**3,421**
		Total:	**105,748**	**118,945**	**12.48%**	**0.38%**	**1.10**				
2	SR-111 / Cole Boulevard	North	52,158	56,288	7.92%	0.25%	1.06	27,780	29,468	1.11	**30,932**
		South	39,563	45,654	15.40%	0.46%	1.12	25,092	28,034	1.11	**27,939**
		East	15,917	17,177	7.92%	0.25%	1.06	24,420	25,904	1.11	**27,190**
		West	250	1,988	695.20%	6.92%	4.98	14,148	70,443	1.11	**15,753**
		Total:	**107,888**	**121,107**	**12.25%**	**0.37%**	**1.09**				
3	Cole Boulevard / Yourman Road	North	10,921	11,786	7.92%	0.25%	1.06	19,464	20,647	1.11	**21,672**
		South	1,075	1,009	-6.14%	-0.20%	0.95	9,492	9,038	1.11	**10,569**
		East	15,087	16,282	7.92%	0.25%	1.06	17,796	18,877	1.11	**19,815**
		West	15,917	17,177	7.92%	0.25%	1.06	20,832	22,098	1.11	**23,195**
		Total:	**43,000**	**46,254**	**7.57%**	**0.24%**	**1.06**				
4	Cole Boulevard / Meadows Road	North	0	0	0.00%	0.00%	1.00	2,640	2,640	1.11	**2,940**
		South	13,224	14,524	9.83%	0.30%	1.08	8,904	9,574	1.11	**9,914**
		East	3,523	4,244	20.47%	0.60%	1.16	8,400	9,702	1.11	**9,353**
		West	15,087	14,619	-3.10%	-0.10%	0.98	16,008	15,622	1.11	**17,824**
		Total:	**31,834**	**33,387**	**4.88%**	**0.15%**	**1.04**				
5	Cole Boulevard / G. Cleveland Road	North	0	0	0.00%	0.00%	1.00	0	0	0.00	**0**
		South	0	0	0.00%	0.00%	1.00	1,188	1,188	1.16	**1,372**
		East	3,523	4,244	20.47%	0.60%	1.16	7,284	8,413	1.16	**8,413**
		West	3,523	4,244	20.47%	0.60%	1.16	7,872	9,093	1.16	**9,093**
		Total:	**7,046**	**8,488**	**20.47%**	**0.60%**	**1.16**				
6	Cole Boulevard / Bowker Road	North	1,123	3,776	236.24%	3.99%	2.56	4,572	11,691	1.34	**6,105**
		South	209	278	33.01%	0.92%	1.25	4,104	5,118	1.34	**5,480**
		East	5,003	6,023	20.39%	0.60%	1.15	5,436	6,276	1.34	**7,258**
		West	3,523	4,244	20.47%	0.60%	1.16	6,168	7,124	1.34	**8,236**
		Total:	**9,858**	**14,321**	**45.27%**	**1.21%**	**1.34**				

Horizon Year 2050 Forecast Growth Calculations

	Intersection	Intersection Leg	2019 Base Year Model ADT	Horizon Year 2050 Model ADT	Model Growth 2019 to 2050 (31 years)	Annual Growth (31 years)	Growth Factors 2025/2026 to 2050 (24-25 years)	Existing Year 2025/ 2026 ADT	Horizon Year 2050 ADT per Growth Factors	Adjusted Growth 2026 to 2050 (24-25 years)	Final Horizon Year 2050 ADT
7	SR-98 / David Navarro Ave	North	0	0	0.00%	0.00%	1.00	1,620	1,620	1.23	**1,986**
		South	2,059	2,868	39.29%	1.07%	1.29	3,264	4,219	1.23	**4,002**
		East	4,651	5,856	25.91%	0.75%	1.20	9,744	11,647	1.23	**11,946**
		West	6,707	8,732	30.19%	0.85%	1.23	10,212	12,526	1.23	**12,520**
		Total:	**13,417**	**17,456**	**30.10%**	**0.85%**	**1.23**				
8	SR-98 / Kloke Road	North	311	626	101.29%	2.28%	1.72	4,944	8,497	1.24	**6,124**
		South	150	199	32.67%	0.92%	1.24	5,472	6,811	1.24	**6,778**
		East	4,807	6,396	33.06%	0.93%	1.25	11,748	14,655	1.24	**14,551**
		West	4,651	5,856	25.91%	0.75%	1.20	9,300	11,116	1.24	**11,519**
		Total:	**9,919**	**13,077**	**31.84%**	**0.90%**	**1.24**				
9	SR-98 / Cesar Chavez Blvd	North	0	0	0.00%	0.00%	1.00	0	0	0.00	**0**
		South	442	583	31.90%	0.90%	1.24	11,304	14,006	1.16	**13,145**
		East	10,625	12,918	21.58%	0.63%	1.16	17,952	20,884	1.16	**20,876**
		West	10,959	13,265	21.04%	0.62%	1.16	17,496	20,284	1.16	**20,346**
		Total:	**22,026**	**26,766**	**21.52%**	**0.63%**	**1.16**				
10	SR-98 / Imperial Ave (SR-111)	North	38,050	44,056	15.78%	0.47%	1.12	26,784	30,002	1.14	**30,499**
		South	42,145	47,577	12.89%	0.39%	1.10	23,460	25,769	1.14	**26,714**
		East	31,990	40,679	27.16%	0.78%	1.20	19,428	23,400	1.14	**22,123**
		West	10,567	12,862	21.72%	0.64%	1.16	19,944	23,222	1.14	**22,710**
		Total:	**122,752**	**145,174**	**18.27%**	**0.54%**	**1.14**				
11	SR-98 / Andrade Ave	North	26,645	29,560	10.94%	0.34%	1.08	13,140	14,240	1.11	**14,588**
		South	9,122	9,410	3.16%	0.10%	1.02	9,684	9,920	1.11	**10,752**
		East	5,941	7,181	20.87%	0.61%	1.16	8,640	10,006	1.11	**9,592**
		West	38,476	45,629	18.59%	0.55%	1.14	13,896	15,857	1.11	**15,428**
		Total:	**80,184**	**91,780**	**14.46%**	**0.44%**	**1.11**				
12	SR-98 / Bowker Road	North	209	278	33.01%	0.92%	1.25	4,200	5,238	1.17	**4,912**
		South	54	125	131.48%	2.74%	1.92	1,188	2,275	1.17	**1,389**
		East	10,440	12,422	18.98%	0.56%	1.14	6,480	7,413	1.17	**7,578**
		West	10,702	13,378	25.00%	0.72%	1.19	8,748	10,398	1.17	**10,231**
		Total:	**21,405**	**26,203**	**22.42%**	**0.65%**	**1.17**				

Horizon Year 2050 Forecast Growth Calculations

Intersection		Intersection Leg	2019 Base Year Model ADT	Horizon Year 2050 Model ADT	Model Growth 2019 to 2050 (31 years)	Annual Growth (31 years)	Growth Factors 2025/2026 to 2050 (24-25 years)	Existing Year 2025/ 2026 ADT	Horizon Year 2050 ADT per Growth Factors	Adjusted Growth 2026 to 2050 (24-25 years)	Final Horizon Year 2050 ADT
13	Cesar Chavez Blvd / Grant St	North	443	583	31.60%	0.89%	1.24	9,708	12,008	1.11	**10,809**
		South	14,991	17,470	16.54%	0.49%	1.13	11,016	12,402	1.11	**12,266**
		East	15,219	16,181	6.32%	0.20%	1.05	5,916	6,203	1.11	**6,587**
		West	9,832	11,004	11.92%	0.36%	1.09	5,712	6,232	1.11	**6,360**
		Total:	**40,485**	**45,238**	**11.74%**	**0.36%**	**1.09**				
14	Imperial Ave / Grant St	North	39,837	45,937	15.31%	0.46%	1.12	18,936	21,144	1.11	**21,084**
		South	27,701	32,164	16.11%	0.48%	1.12	18,744	21,042	1.11	**20,870**
		East	0	0	0.00%	0.00%	1.00	1,740	1,740	1.11	**1,937**
		West	15,324	16,123	5.21%	0.16%	1.04	2,916	3,033	1.11	**3,247**
		Total:	**82,862**	**94,224**	**13.71%**	**0.42%**	**1.10**				
TOTAL/AVERAGE GROWTH:			**698,424**	**802,420**	**14.89%**	**0.45%**	**1.11**				

Existing AM #1 N/S Street: Imperial Avenue (SR- 111) E/W Street: Jasper Road

Existing ADT		EX AM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes	FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Jasper Road**		**%**			**Northbound**		**N of**	**Jasper Road**						
	Left	**37**	NB	1297	57%	NB	1444	**41** Left	**1444**	NB	1444	41		**41**	**1444**	0	144
32,076	Thru	**1023**	SB	981	43%	SB	1092	**1139** Thru	**1092**	SB	1092	1125		**1139**	**1092**	0	109
	Right	**13**	Sum	**2278**		**Enter**	**35715**	**14** Right		Sum	**2536**	14		**14**			
	Southbound	**S. of**	**Jasper Road**					**Southbound**		**S of**	**Jasper Road**						
	Left	**72**	NB	1073	53%	NB	1195	**80** Left	**1195**	NB	1195	79		**80**	**1195**	0	119
27,984	Thru	**875**	SB	939	47%	SB	1046	**974** Thru	**1046**	SB	1046	963		**974**	**1046**	0	105
	Right	**34**	Sum	**2012**		**Enter**	**31159**	**38** Right		Sum	**2240**	37		**38**			
	Eastbound	**E. of**	**Imperial Avenue (SR- 111)**					**Eastbound**		**E of**	**Imperial Avenue (SR- 111)**						
	Left	**22**	EB	133	31%	EB	148	**24** Left	**148**	EB	148	24		**24**	**148**	0	15
6,204	Thru	**48**	WB	303	69%	WB	337	**53** Thru	**337**	WB	337	53		**53**	**337**	0	34
	Right	**60**	Sum	**436**		**Enter**	**6908**	**67** Right		Sum	**485**	66		**67**			
	Westbound	**W.of**	**Imperial Avenue (SR- 111)**					**Westbound**		**W of**	**Imperial Avenue (SR- 111)**						
	Left	**4**	EB	130	52%	EB	145	**4** Left	**145**	EB	145	4		**4**	**145**	0	14
3,072	Thru	**47**	WB	118	48%	WB	131	**52** Thru	**131**	WB	131	52		**52**	**131**	0	13
	Right	**252**	Sum	**248**		**Enter**	**3421**	**281** Right		Sum	**276**	277		**281**			

0.007411

Existing PM N/S Street: Imperial Avenue (SR- 111) E/W Street: Jasper Road

Existing ADT		EX PM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes	FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Jasper Road**		**%**			**Northbound**		**N of**	**Jasper Road**						
	Left	**31**	NB	1136	42%	NB	1265	**35** Left	**1265**	NB	1265	34		**35**	**1265**	0	126
32,076	Thru	**915**	SB	1537	58%	SB	1711	**1019** Thru	**1711**	SB	1711	1007		**1019**	**1711**	0	171
32076	Right	**6**	Sum	**2673**		**Enter**	**35715**	**7** Right		Sum	**2976**	7		**7**			
	Southbound	**S. of**	**Jasper Road**					**Southbound**		**S of**	**Jasper Road**						
	Left	**201**	NB	952	41%	NB	1060	**224** Left	**1060**	NB	1060	221		**224**	**1060**	0	106
27,984	Thru	**1309**	SB	1380	59%	SB	1537	**1458** Thru	**1537**	SB	1537	1440		**1458**	**1537**	0	154
27984	Right	**27**	Sum	**2332**		**Enter**	**31159**	**30** Right		Sum	**2597**	30		**30**			
	Eastbound	**E. of**	**Imperial Avenue (SR- 111)**					**Eastbound**		**E of**	**Imperial Avenue (SR- 111)**						
	Left	**22**	EB	261	50%	EB	291	**24** Left	**291**	EB	291	24		**24**	**291**	0	29
6,204	Thru	**54**	WB	256	50%	WB	285	**60** Thru	**285**	WB	285	59		**60**	**285**	0	29
6204	Right	**68**	Sum	**517**		**Enter**	**6908**	**76** Right		Sum	**576**	75		**76**			
	Westbound	**W.of**	**Imperial Avenue (SR- 111)**					**Westbound**		**W of**	**Imperial Avenue (SR- 111)**						
	Left	**3**	EB	144	56%	EB	160	**3** Left	**160**	EB	160	3		**3**	**160**	0	16
3,072	Thru	**54**	WB	112	44%	WB	125	**60** Thru	**125**	WB	125	59		**60**	**125**	0	12
3072	Right	**199**	Sum	**256**		**Enter**	**3421**	**222** Right		Sum	**285**	219		**222**			

0.001322

Existing AM #2 N/S Street: Imperial Avenue (SR- 111) E/W Street: Cole Boulevard

Existing ADT		EX AM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes	FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Cole Boulevard**		**%**			**Northbound**		**N of**	Cole Boulevard						
	Left	**70**	NB	950	50%	NB	1058	**78** Left	**1058**	NB	1058	77		**78**	**1058**	0	106
27,780	Thru	**597**	SB	941	50%	SB	1048	**665** Thru	**1048**	SB	1048	657		**665**	**1048**	0	105
	Right	**198**	Sum	**1891**		**Enter**	**30932**	**220** Right		Sum	**2106**	218		**220**			
	Southbound	**S. of**	**Cole Boulevard**					**Southbound**		**S of**	Cole Boulevard						
	Left	**200**	NB	865	49%	NB	963	**223** Left	**963**	NB	963	220		**223**	**963**	0	96
25,092	Thru	**642**	SB	885	51%	SB	985	**715** Thru	**985**	SB	985	706		**715**	**985**	0	99
	Right	**99**	Sum	**1750**		**Enter**	**27939**	**110** Right		Sum	**1949**	109		**110**			
	Eastbound	**E. of**	**Imperial Avenue (SR- 111)**					**Eastbound**		**E of**	Imperial Avenue (SR- 111)						
	Left	**107**	EB	808	52%	EB	900	**119** Left	**900**	EB	900	118		**119**	**900**	0	90
24,420	Thru	**410**	WB	733	48%	WB	816	**457** Thru	**816**	WB	816	451		**457**	**816**	0	82
	Right	**84**	Sum	**1541**		**Enter**	**27190**	**94** Right		Sum	**1716**	92		**94**			
	Westbound	**W.of**	**Imperial Avenue (SR- 111)**					**Westbound**		**W of**	Imperial Avenue (SR- 111)						
	Left	**159**	EB	601	55%	EB	669	**177** Left	**669**	EB	669	175		**177**	**669**	0	67
14,148	Thru	**328**	WB	497	45%	WB	553	**365** Thru	**553**	WB	553	361		**365**	**553**	0	55
	Right	**246**	Sum	**1098**		**Enter**	**15753**	**274** Right		Sum	**1223**	271		**274**			

0.000348

Existing PM N/S Street: Imperial Avenue (SR- 111) E/W Street: Cole Boulevard

Existing ADT		EX PM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes	FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Cole Boulevard**		**%**			**Northbound**		**N of**	Cole Boulevard						
	Left	**56**	NB	943	41%	NB	1050	**62** Left	**1050**	NB	1050	62		**62**	**1050**	0	105
27,780	Thru	**613**	SB	1372	59%	SB	1528	**683** Thru	**1528**	SB	1528	674		**683**	**1528**	0	153
27780	Right	**270**	Sum	**2315**		**Enter**	**30932**	**301** Right		Sum	**2578**	297		**301**			
	Southbound	**S. of**	**Cole Boulevard**					**Southbound**		**S of**	Cole Boulevard						
	Left	**446**	NB	939	45%	NB	1046	**497** Left	**1046**	NB	1046	491		**497**	**1046**	0	105
25,092	Thru	**801**	SB	1152	55%	SB	1283	**892** Thru	**1283**	SB	1283	881		**892**	**1283**	0	128
25092	Right	**125**	Sum	**2091**		**Enter**	**27939**	**139** Right		Sum	**2328**	138		**139**			
	Eastbound	**E. of**	**Imperial Avenue (SR- 111)**					**Eastbound**		**E of**	Imperial Avenue (SR- 111)						
	Left	**93**	EB	1246	61%	EB	1387	**104** Left	**1387**	EB	1387	102		**104**	**1387**	0	139
24,420	Thru	**530**	WB	789	39%	WB	878	**590** Thru	**878**	WB	878	583		**590**	**878**	0	88
24420	Right	**87**	Sum	**2035**		**Enter**	**27190**	**97** Right		Sum	**2266**	96		**97**			
	Westbound	**W.of**	**Imperial Avenue (SR- 111)**					**Westbound**		**W of**	Imperial Avenue (SR- 111)						
	Left	**264**	EB	710	60%	EB	791	**294** Left	**791**	EB	791	290		**294**	**791**	0	79
14,148	Thru	**288**	WB	469	40%	WB	522	**321** Thru	**522**	WB	522	317		**321**	**522**	0	52
14148	Right	**237**	Sum	**1179**		**Enter**	**15753**	**264** Right		Sum	**1313**	261		**264**			

0.00975

Existing AM #3 N/S Street: Yourman Road E/W Street: Cole Boulevard

Existing ADT		EX AM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes	FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Cole Boulevard**		**%**			**Northbound**		**N of**	**Cole Boulevard**						
	Left	**137**	NB	720	68%	NB	802	**153** Left	**802**	NB	802	151		**153**	**802**	0	80
19,464	Thru	**164**	SB	343	32%	SB	382	**183** Thru	**382**	SB	382	180		**183**	**382**	0	38
	Right	**51**	Sum	**1063**		**Enter**	**21672**	**57** Right		Sum	**1184**	56		**57**			
	Southbound	**S. of**	**Cole Boulevard**					**Southbound**		**S of**	**Cole Boulevard**						
	Left	**110**	NB	352	64%	NB	392	**122** Left	**392**	NB	392	121		**122**	**392**	0	39
9,492	Thru	**94**	SB	196	36%	SB	218	**105** Thru	**218**	SB	218	103		**105**	**218**	0	22
	Right	**139**	Sum	**548**		**Enter**	**10569**	**155** Right		Sum	**610**	153		**155**			
	Eastbound	**E. of**	**Yourman Road**					**Eastbound**		**E of**	**Yourman Road**						
	Left	**231**	EB	502	37%	EB	559	**257** Left	**559**	EB	559	254		**257**	**559**	0	56
17,796	Thru	**341**	WB	849	63%	WB	945	**380** Thru	**945**	WB	945	375		**380**	**945**	0	95
	Right	**57**	Sum	**1351**		**Enter**	**19815**	**63** Right		Sum	**1504**	63		**63**			
	Westbound	**W.of**	**Yourman Road**					**Westbound**		**W of**	**Yourman Road**						
	Left	**45**	EB	629	45%	EB	700	**50** Left	**700**	EB	700	50		**50**	**700**	0	70
20,832	Thru	**479**	WB	755	55%	WB	841	**533** Thru	**841**	WB	841	527		**533**	**841**	0	84
	Right	**325**	Sum	**1384**		**Enter**	**23195**	**362** Right		Sum	**1541**	358		**362**			

0.00909

Existing PM N/S Street: Yourman Road E/W Street: Cole Boulevard

Existing ADT		EX PM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes	FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Cole Boulevard**		**%**			**Northbound**		**N of**	**Cole Boulevard**						
	Left	**132**	NB	812	50%	NB	904	**147** Left	**904**	NB	904	145		**147**	**904**	0	90
19,464	Thru	**190**	SB	810	50%	SB	902	**212** Thru	**902**	SB	902	209		**212**	**902**	0	90
19464	Right	**55**	Sum	**1622**		**Enter**	**21672**	**61** Right		Sum	**1806**	61		**61**			
	Southbound	**S. of**	**Cole Boulevard**					**Southbound**		**S of**	**Cole Boulevard**						
	Left	**243**	NB	377	48%	NB	420	**271** Left	**420**	NB	420	267		**271**	**420**	0	42
9,492	Thru	**289**	SB	414	52%	SB	461	**322** Thru	**461**	SB	461	318		**322**	**461**	0	46
9492	Right	**278**	Sum	**791**		**Enter**	**10569**	**310** Right		Sum	**881**	306		**310**			
	Eastbound	**E. of**	**Yourman Road**					**Eastbound**		**E of**	**Yourman Road**						
	Left	**371**	EB	825	56%	EB	919	**413** Left	**919**	EB	919	408		**413**	**919**	0	92
17,796	Thru	**527**	WB	658	44%	WB	733	**587** Thru	**733**	WB	733	580		**587**	**733**	0	73
17796	Right	**73**	Sum	**1483**		**Enter**	**19815**	**81** Right		Sum	**1651**	80		**81**			
	Westbound	**W.of**	**Yourman Road**					**Westbound**		**W of**	**Yourman Road**						
	Left	**52**	EB	971	56%	EB	1081	**58** Left	**1081**	EB	1081	57		**58**	**1081**	0	108
20,832	Thru	**355**	WB	765	44%	WB	852	**395** Thru	**852**	WB	852	391		**395**	**852**	0	85
20832	Right	**251**	Sum	**1736**		**Enter**	**23195**	**279** Right		Sum	**1933**	276		**279**			

-0.00477

Existing AM #4 N/S Street: Meadows Road E/W Street: Cole Boulevard

Existing ADT		EX AM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Cole Boulevard**		**%**				**Northbound**		**N of**	**Cole Boulevard**						
	Left	**378**	NB	96	30%	NB	107	**421**	Left	**107**	NB	107	416		**421**	**107**	0	11
2,640	Thru	**32**	SB	220	70%	SB	245	**36**	Thru	**245**	SB	245	35		**36**	**245**	0	25
	Right	**20**	Sum	**316**		**Enter**	**2940**	**22**	Right		Sum	**352**	22		**22**			
	Southbound	**S. of**	**Cole Boulevard**						**Southbound**		**S of**	**Cole Boulevard**						
	Left	**17**	NB	430	65%	NB	479	**19**	Left	**479**	NB	479	19		**19**	**479**	0	48
8,904	Thru	**73**	SB	228	35%	SB	254	**81**	Thru	**254**	SB	254	80		**81**	**254**	0	25
	Right	**130**	Sum	**658**		**Enter**	**9914**	**145**	Right		Sum	**733**	143		**145**			
	Eastbound	**E. of**	**Meadows Road**						**Eastbound**		**E of**	**Meadows Road**						
	Left	**58**	EB	212	41%	EB	236	**65**	Left	**236**	EB	236	64		**65**	**236**	0	24
8,400	Thru	**175**	WB	309	59%	WB	344	**195**	Thru	**344**	WB	344	193		**195**	**344**	0	34
	Right	**145**	Sum	**521**		**Enter**	**9353**	**161**	Right		Sum	**580**	160		**161**			
	Westbound	**W.of**	**Meadows Road**						**Westbound**		**W of**	**Meadows Road**						
	Left	**10**	EB	378	32%	EB	421	**11**	Left	**421**	EB	421	11		**11**	**421**	0	42
16,008	Thru	**293**	WB	801	68%	WB	892	**326**	Thru	**892**	WB	892	322		**326**	**892**	0	89
	Right	**6**	Sum	**1179**		**Enter**	**17824**	**7**	Right		Sum	**1313**	7		**7**			

0.022581

Existing PM N/S Street: Meadows Road E/W Street: Cole Boulevard

Existing ADT		EX PM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Cole Boulevard**		**%**				**Northbound**		**N of**	**Cole Boulevard**						
	Left	**239**	NB	118	54%	NB	131	**266**	Left	**131**	NB	131	263		**266**	**131**	0	13
2,640	Thru	**42**	SB	102	46%	SB	114	**47**	Thru	**114**	SB	114	46		**47**	**114**	0	11
2640	Right	**41**	Sum	**220**		**Enter**	**2940**	**46**	Right		Sum	**245**	45		**46**			
	Southbound	**S. of**	**Cole Boulevard**						**Southbound**		**S of**	**Cole Boulevard**						
	Left	**8**	NB	322	43%	NB	359	**9**	Left	**359**	NB	359	9		**9**	**359**	0	36
8,904	Thru	**30**	SB	420	57%	SB	468	**33**	Thru	**468**	SB	468	33		**33**	**468**	0	47
8904	Right	**64**	Sum	**742**		**Enter**	**9914**	**71**	Right		Sum	**826**	70		**71**			
	Eastbound	**E. of**	**Meadows Road**						**Eastbound**		**E of**	**Meadows Road**						
	Left	**56**	EB	365	52%	EB	406	**62**	Left	**406**	EB	406	62		**62**	**406**	0	41
8,400	Thru	**316**	WB	335	48%	WB	373	**352**	Thru	**373**	WB	373	348		**352**	**373**	0	37
8400	Right	**367**	Sum	**700**		**Enter**	**9353**	**409**	Right		Sum	**779**	404		**409**			
	Westbound	**W.of**	**Meadows Road**						**Westbound**		**W of**	**Meadows Road**						
	Left	**23**	EB	739	55%	EB	823	**26**	Left	**823**	EB	823	25		**26**	**823**	0	82
16,008	Thru	**292**	WB	595	45%	WB	662	**325**	Thru	**663**	WB	663	321		**325**	**663**	0	66
16008	Right	**20**	Sum	**1334**		**Enter**	**17824**	**22**	Right		Sum	**1485**	22		**22**			

-0.00227

Existing AM #5 N/S Street: G. Cleveland Avenue E/W Street: Cole Boulevard

Existing ADT		EX AM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes	FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Cole Boulevard**		**%**			**Northbound**		**N of**	**Cole Boulevard**						
	Left	**66**	NB	0	0%	NB	0	**76**	Left	**0**	NB	0	73		**76**	**0**	0	0
0	Thru	**0**	SB	0	0%	SB	0	**0**	Thru	**0**	SB	0	0		**0**	**0**	0	0
	Right	**33**	Sum	**0**		**Enter**	**0**	**38**	Right		Sum	**0**	36		**38**			
	Southbound	**S. of**	**Cole Boulevard**					**Southbound**		**S of**	**Cole Boulevard**						
	Left	**0**	NB	99	70%	NB	114	**0**	Left	**114**	NB	114	0		**0**	**114**	0	11
1,188	Thru	**0**	SB	43	30%	SB	50	**0**	Thru	**50**	SB	50	0		**0**	**50**	0	5
	Right	**0**	Sum	**142**		**Enter**	**1372**	**0**	Right		Sum	**164**	0		**0**			
	Eastbound	**E. of**	**G. Cleveland Avenue**					**Eastbound**		**E of**	**G. Cleveland Avenue**						
	Left	**0**	EB	207	53%	EB	239	**0**	Left	**239**	EB	239	0		**0**	**239**	0	24
7,284	Thru	**174**	WB	180	47%	WB	208	**201**	Thru	**208**	WB	208	191		**201**	**208**	0	21
	Right	**39**	Sum	**387**		**Enter**	**8413**	**45**	Right		Sum	**447**	43		**45**			
	Westbound	**W.of**	**G. Cleveland Avenue**					**Westbound**		**W of**	**G. Cleveland Avenue**						
	Left	**4**	EB	213	47%	EB	246	**5**	Left	**246**	EB	246	4		**5**	**246**	0	25
7,872	Thru	**176**	WB	242	53%	WB	280	**203**	Thru	**280**	WB	280	194		**203**	**280**	0	28
	Right	**0**	Sum	**455**		**Enter**	**9093**	**0**	Right		Sum	**526**	0		**0**			

-0.00962

Existing PM N/S Street: G. Cleveland Avenue E/W Street: Cole Boulevard

Existing ADT		EX PM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes	FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Cole Boulevard**		**%**			**Northbound**		**N of**	**Cole Boulevard**						
	Left	**27**	NB	0	0%	NB	0	**31**	Left	**0**	NB	0	30		**31**	**0**	0	0
0	Thru	**0**	SB	0	0%	SB	0	**0**	Thru	**0**	SB	0	0		**0**	**0**	0	0
0	Right	**10**	Sum	**0**		**Enter**	**0**	**12**	Right		Sum	**0**	11		**12**			
	Southbound	**S. of**	**Cole Boulevard**					**Southbound**		**S of**	**Cole Boulevard**						
	Left	**0**	NB	37	37%	NB	43	**0**	Left	**43**	NB	43	0		**0**	**43**	0	4
1,188	Thru	**0**	SB	62	63%	SB	72	**0**	Thru	**72**	SB	72	0		**0**	**72**	0	7
1188	Right	**0**	Sum	**99**		**Enter**	**1372**	**0**	Right		Sum	**114**	0		**0**			
	Eastbound	**E. of**	**G. Cleveland Avenue**					**Eastbound**		**E of**	**G. Cleveland Avenue**						
	Left	**0**	EB	303	50%	EB	350	**0**	Left	**350**	EB	350	0		**0**	**350**	0	35
7,284	Thru	**293**	WB	304	50%	WB	351	**338**	Thru	**351**	WB	351	322		**338**	**351**	0	35
7284	Right	**47**	Sum	**607**		**Enter**	**8413**	**54**	Right		Sum	**701**	52		**54**			
	Westbound	**W.of**	**G. Cleveland Avenue**					**Westbound**		**W of**	**G. Cleveland Avenue**						
	Left	**15**	EB	340	52%	EB	393	**17**	Left	**393**	EB	393	17		**17**	**393**	0	39
7,872	Thru	**289**	WB	316	48%	WB	365	**334**	Thru	**365**	WB	365	318		**334**	**365**	0	36
7872	Right	**0**	Sum	**656**		**Enter**	**9093**	**0**	Right		Sum	**758**	0		**0**			

0.005504

Existing AM #6 N/S Street: Bowker Road E/W Street: Cole Boulevard

Existing ADT		EX AM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Cole Boulevard**		**%**				**Northbound**		**N of**	**Cole Boulevard**						
	Left	**11**	NB	368	79%	NB	491	**15**	Left	**491**	NB	491	12		**15**	**491**	0	49
4,572	Thru	**243**	SB	97	21%	SB	130	**324**	Thru	**130**	SB	130	267		**324**	**130**	0	13
	Right	**17**	Sum	**465**		**Enter**	**6105**	**23**	Right		Sum	**621**	19		**23**			
	Southbound	**S. of**	**Cole Boulevard**						**Southbound**		**S of**	**Cole Boulevard**						
	Left	**8**	NB	271	74%	NB	362	**11**	Left	**362**	NB	362	9		**11**	**362**	0	36
4,104	Thru	**71**	SB	93	26%	SB	124	**95**	Thru	**124**	SB	124	78		**95**	**124**	0	12
	Right	**18**	Sum	**364**		**Enter**	**5480**	**24**	Right		Sum	**486**	20		**24**			
	Eastbound	**E. of**	**Bowker Road**						**Eastbound**		**E of**	**Bowker Road**						
	Left	**119**	EB	137	56%	EB	183	**159**	Left	**183**	EB	183	131		**159**	**183**	0	18
5,436	Thru	**112**	WB	106	44%	WB	142	**150**	Thru	**142**	WB	142	123		**150**	**142**	0	14
	Right	**14**	Sum	**243**		**Enter**	**7258**	**19**	Right		Sum	**324**	15		**19**			
	Westbound	**W.of**	**Bowker Road**						**Westbound**		**W of**	**Bowker Road**						
	Left	**8**	EB	245	67%	EB	327	**11**	Left	**327**	EB	327	9		**11**	**327**	0	33
6,168	Thru	**92**	WB	121	33%	WB	162	**123**	Thru	**162**	WB	162	101		**123**	**162**	0	16
	Right	**6**	Sum	**366**		**Enter**	**8236**	**8**	Right		Sum	**489**	7		**8**			

-0.00227

Existing PM N/S Street: Bowker Road E/W Street: Cole Boulevard

Existing ADT		EX PM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Cole Boulevard**		**%**				**Northbound**		**N of**	**Cole Boulevard**						
	Left	**14**	NB	95	25%	NB	127	**19**	Left	**127**	NB	127	15		**19**	**127**	0	13
4,572	Thru	**62**	SB	286	75%	SB	382	**83**	Thru	**382**	SB	382	68		**83**	**382**	0	38
4572	Right	**15**	Sum	**381**		**Enter**	**6105**	**20**	Right		Sum	**509**	17		**20**			
	Southbound	**S. of**	**Cole Boulevard**						**Southbound**		**S of**	**Cole Boulevard**						
	Left	**7**	NB	91	27%	NB	122	**9**	Left	**122**	NB	122	8		**9**	**122**	0	12
4,104	Thru	**224**	SB	251	73%	SB	335	**299**	Thru	**335**	SB	335	246		**299**	**335**	0	34
4104	Right	**55**	Sum	**342**		**Enter**	**5480**	**73**	Right		Sum	**457**	61		**73**			
	Eastbound	**E. of**	**Bowker Road**						**Eastbound**		**E of**	**Bowker Road**						
	Left	**24**	EB	242	53%	EB	323	**32**	Left	**323**	EB	323	26		**32**	**323**	0	32
5,436	Thru	**220**	WB	211	47%	WB	282	**294**	Thru	**282**	WB	282	242		**294**	**282**	0	28
5436	Right	**13**	Sum	**453**		**Enter**	**7258**	**17**	Right		Sum	**605**	14		**17**			
	Westbound	**W.of**	**Bowker Road**						**Westbound**		**W of**	**Bowker Road**						
	Left	**14**	EB	257	50%	EB	343	**19**	Left	**343**	EB	343	15		**19**	**343**	0	34
6,168	Thru	**188**	WB	257	50%	WB	343	**251**	Thru	**343**	WB	343	207		**251**	**343**	0	34
6168	Right	**9**	Sum	**514**		**Enter**	**8236**	**12**	Right		Sum	**686**	10		**12**			

0.007066

Existing AM #7 N/S Street: David Navarro Avenue E/W Street: Birch Street (SR- 98)

Existing ADT		EX AM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Birch Street (SR- 98)**		**%**				**Northbound**		**N of** Birch Street (SR- 98)							
	Left	**86**	NB	116	50%	NB	142	**105**	Left	**142**	NB	142	95		**105**	**142**	0	14
1,620	Thru	**61**	SB	118	50%	SB	145	**75**	Thru	**145**	SB	145	67		**75**	**145**	0	14
	Right	**15**	Sum	**234**		**Enter**	**1986**	**18**	Right		Sum	**287**	17		**18**			
	Southbound	**S. of**	**Birch Street (SR- 98)**						**Southbound**		**S of** Birch Street (SR- 98)							
	Left	**60**	NB	162	64%	NB	199	**74**	Left	**199**	NB	199	66		**74**	**199**	0	20
3,264	Thru	**27**	SB	93	36%	SB	114	**33**	Thru	**114**	SB	114	30		**33**	**114**	0	11
	Right	**31**	Sum	**255**		**Enter**	**4002**	**38**	Right		Sum	**313**	34		**38**			
	Eastbound	**E. of**	**David Navarro Avenue**						**Eastbound**		**E of** David Navarro Avenue							
	Left	**9**	EB	361	49%	EB	443	**11**	Left	**443**	EB	443	10		**11**	**443**	0	44
9,744	Thru	**286**	WB	382	51%	WB	468	**351**	Thru	**468**	WB	468	315		**351**	**468**	0	47
	Right	**28**	Sum	**743**		**Enter**	**11946**	**34**	Right		Sum	**911**	31		**34**			
	Westbound	**W.of**	**David Navarro Avenue**						**Westbound**		**W of** David Navarro Avenue							
	Left	**38**	EB	323	44%	EB	396	**47**	Left	**396**	EB	396	42		**47**	**396**	0	40
10,212	Thru	**298**	WB	415	56%	WB	509	**365**	Thru	**509**	WB	509	328		**365**	**509**	0	51
	Right	**46**	Sum	**738**		**Enter**	**12520**	**56**	Right		Sum	**905**	51		**56**			

0.005852

Existing PM N/S Street: David Navarro Avenue E/W Street: Birch Street (SR- 98)

Existing ADT		EX PM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Birch Street (SR- 98)**		**%**				**Northbound**		**N of** Birch Street (SR- 98)							
	Left	**44**	NB	75	56%	NB	92	**54**	Left	**92**	NB	92	48		**54**	**92**	0	9
1,620	Thru	**19**	SB	60	44%	SB	74	**23**	Thru	**74**	SB	74	21		**23**	**74**	0	7
1620	Right	**27**	Sum	**135**		**Enter**	**1986**	**33**	Right		Sum	**166**	30		**33**			
	Southbound	**S. of**	**Birch Street (SR- 98)**						**Southbound**		**S of** Birch Street (SR- 98)							
	Left	**36**	NB	90	33%	NB	110	**44**	Left	**110**	NB	110	40		**44**	**110**	0	11
3,264	Thru	**16**	SB	182	67%	SB	223	**20**	Thru	**223**	SB	223	18		**20**	**223**	0	22
3264	Right	**8**	Sum	**272**		**Enter**	**4002**	**10**	Right		Sum	**333**	9		**10**			
	Eastbound	**E. of**	**David Navarro Avenue**						**Eastbound**		**E of** David Navarro Avenue							
	Left	**24**	EB	498	61%	EB	611	**29**	Left	**611**	EB	611	26		**29**	**611**	0	61
9,744	Thru	**435**	WB	314	39%	WB	385	**533**	Thru	**385**	WB	385	479		**533**	**385**	0	38
9744	Right	**112**	Sum	**812**		**Enter**	**11946**	**137**	Right		Sum	**996**	123		**137**			
	Westbound	**W.of**	**David Navarro Avenue**						**Westbound**		**W of** David Navarro Avenue							
	Left	**54**	EB	571	67%	EB	700	**66**	Left	**700**	EB	700	59		**66**	**700**	0	70
10,212	Thru	**228**	WB	280	33%	WB	343	**280**	Thru	**343**	WB	343	251		**280**	**343**	0	34
10212	Right	**32**	Sum	**851**		**Enter**	**12520**	**39**	Right		Sum	**1043**	35		**39**			

-0.00313

Existing AM #8 N/S Street: Kloke Road E/W Street: Birch Street (SR- 98)

Existing ADT		EX AM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Birch Street (SR- 98)**		**%**				**Northbound**		**N of**	Birch Street (SR- 98)						
	Left	**48**	NB	344	51%	NB	426	**59**	Left	**426**	NB	426	53		**59**	**426**	0	43
4,944	Thru	**163**	SB	326	49%	SB	404	**202**	Thru	**404**	SB	404	179		**202**	**404**	0	40
	Right	**71**	Sum	**670**		**Enter**	**6124**	**88**	Right		Sum	**830**	78		**88**			
	Southbound	**S. of**	**Birch Street (SR- 98)**						**Southbound**		**S of**	Birch Street (SR- 98)						
	Left	**157**	NB	282	59%	NB	349	**194**	Left	**349**	NB	349	173		**194**	**349**	0	35
5,472	Thru	**108**	SB	192	41%	SB	238	**134**	Thru	**238**	SB	238	119		**134**	**238**	0	24
	Right	**61**	Sum	**474**		**Enter**	**6778**	**76**	Right		Sum	**587**	67		**76**			
	Eastbound	**E. of**	**Kloke Road**						**Eastbound**		**E of**	**Kloke Road**						
	Left	**15**	EB	519	52%	EB	643	**19**	Left	**643**	EB	643	17		**19**	**643**	0	64
11,748	Thru	**291**	WB	488	48%	WB	604	**360**	Thru	**604**	WB	604	320		**360**	**604**	0	60
	Right	**29**	Sum	**1007**		**Enter**	**14551**	**36**	Right		Sum	**1247**	32		**36**			
	Westbound	**W.of**	**Kloke Road**						**Westbound**		**W of**	**Kloke Road**						
	Left	**55**	EB	335	47%	EB	415	**68**	Left	**415**	EB	415	61		**68**	**415**	0	41
9,300	Thru	**267**	WB	376	53%	WB	466	**331**	Thru	**466**	WB	466	294		**331**	**466**	0	47
	Right	**166**	Sum	**711**		**Enter**	**11519**	**206**	Right		Sum	**881**	183		**206**			

0.005051

Existing PM N/S Street: Kloke Road E/W Street: Birch Street (SR- 98)

Existing ADT		EX PM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Birch Street (SR- 98)**		**%**				**Northbound**		**N of**	Birch Street (SR- 98)						
	Left	**39**	NB	184	45%	NB	228	**48**	Left	**228**	NB	228	43		**48**	**228**	0	23
4,944	Thru	**97**	SB	228	55%	SB	282	**120**	Thru	**282**	SB	282	107		**120**	**282**	0	28
4944	Right	**90**	Sum	**412**		**Enter**	**6124**	**111**	Right		Sum	**510**	99		**111**			
	Southbound	**S. of**	**Birch Street (SR- 98)**						**Southbound**		**S of**	Birch Street (SR- 98)						
	Left	**97**	NB	226	50%	NB	280	**120**	Left	**280**	NB	280	107		**120**	**280**	0	28
5,472	Thru	**104**	SB	230	50%	SB	285	**129**	Thru	**285**	SB	285	114		**129**	**285**	0	28
5472	Right	**27**	Sum	**456**		**Enter**	**6778**	**33**	Right		Sum	**565**	30		**33**			
	Eastbound	**E. of**	**Kloke Road**						**Eastbound**		**E of**	**Kloke Road**						
	Left	**17**	EB	591	60%	EB	732	**21**	Left	**732**	EB	732	19		**21**	**732**	0	73
11,748	Thru	**404**	WB	388	40%	WB	481	**500**	Thru	**481**	WB	481	444		**500**	**481**	0	48
11748	Right	**48**	Sum	**979**		**Enter**	**14551**	**59**	Right		Sum	**1213**	53		**59**			
	Westbound	**W.of**	**Kloke Road**						**Westbound**		**W of**	**Kloke Road**						
	Left	**78**	EB	469	61%	EB	581	**97**	Left	**581**	EB	581	86		**97**	**581**	0	58
9,300	Thru	**240**	WB	306	39%	WB	379	**297**	Thru	**379**	WB	379	264		**297**	**379**	0	38
9300	Right	**70**	Sum	**775**		**Enter**	**11519**	**87**	Right		Sum	**960**	77		**87**			

0.004548

Existing AM #9 N/S Street: Cesar Chavez Boulevard E/W Street: Birch Street (SR- 98)

Existing ADT		EX AM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Birch Street (SR- 98)**		**%**				**Northbound**		**N of** Birch Street (SR- 98)							
	Left	**214**	NB	0	0%	NB	0	**249**	Left	**0**	NB	0	235		**249**	**0**	0	0
0	Thru	**0**	SB	0	0%	SB	0	**0**	Thru	**0**	SB	0	0		**0**	**0**	0	0
	Right	**178**	Sum	**0**		**Enter**	**0**	**207**	Right		Sum	**0**	196		**207**			
	Southbound	**S. of**	**Birch Street (SR- 98)**						**Southbound**		**S of** Birch Street (SR- 98)							
	Left	**0**	NB	392	55%	NB	456	**0**	Left	**456**	NB	456	0		**0**	**456**	0	46
11,304	Thru	**0**	SB	327	45%	SB	380	**0**	Thru	**380**	SB	380	0		**0**	**380**	0	38
	Right	**0**	Sum	**719**		**Enter**	**13145**	**0**	Right		Sum	**836**	0		**0**			
	Eastbound	**E. of**	**Cesar Chavez Boulevard**						**Eastbound**		**E of** Cesar Chavez Boulevard							
	Left	**0**	EB	783	52%	EB	911	**0**	Left	**911**	EB	911	0		**0**	**911**	0	91
17,952	Thru	**605**	WB	728	48%	WB	847	**704**	Thru	**847**	WB	847	666		**704**	**847**	0	85
	Right	**152**	Sum	**1511**		**Enter**	**20876**	**177**	Right		Sum	**1757**	167		**177**			
	Westbound	**W.of**	**Cesar Chavez Boulevard**						**Westbound**		**W of** Cesar Chavez Boulevard							
	Left	**175**	EB	757	50%	EB	880	**204**	Left	**880**	EB	880	193		**204**	**880**	0	88
17,496	Thru	**553**	WB	767	50%	WB	892	**643**	Thru	**892**	WB	892	608		**643**	**892**	0	89
	Right	**0**	Sum	**1524**		**Enter**	**20346**	**0**	Right		Sum	**1772**	0		**0**			

-0.0012

Existing PM N/S Street: Cesar Chavez Boulevard E/W Street: Birch Street (SR- 98)

Existing ADT		EX PM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Birch Street (SR- 98)**		**%**				**Northbound**		**N of** Birch Street (SR- 98)							
	Left	**144**	NB	0	0%	NB	0	**167**	Left	**0**	NB	0	158		**167**	**0**	0	0
0	Thru	**0**	SB	0	0%	SB	0	**0**	Thru	**0**	SB	0	0		**0**	**0**	0	0
0	Right	**207**	Sum	**0**		**Enter**	**0**	**241**	Right		Sum	**0**	228		**241**			
	Southbound	**S. of**	**Birch Street (SR- 98)**						**Southbound**		**S of** Birch Street (SR- 98)							
	Left	**0**	NB	351	37%	NB	408	**0**	Left	**408**	NB	408	0		**0**	**408**	0	41
11,304	Thru	**0**	SB	591	63%	SB	687	**0**	Thru	**687**	SB	687	0		**0**	**687**	0	69
11304	Right	**0**	Sum	**942**		**Enter**	**13145**	**0**	Right		Sum	**1095**	0		**0**			
	Eastbound	**E. of**	**Cesar Chavez Boulevard**						**Eastbound**		**E of** Cesar Chavez Boulevard							
	Left	**0**	EB	740	49%	EB	861	**0**	Left	**861**	EB	861	0		**0**	**861**	0	86
17,952	Thru	**533**	WB	756	51%	WB	879	**620**	Thru	**879**	WB	879	586		**620**	**879**	0	88
17952	Right	**308**	Sum	**1496**		**Enter**	**20876**	**358**	Right		Sum	**1740**	339		**358**			
	Westbound	**W.of**	**Cesar Chavez Boulevard**						**Westbound**		**W of** Cesar Chavez Boulevard							
	Left	**283**	EB	841	58%	EB	978	**329**	Left	**978**	EB	978	311		**329**	**978**	0	98
17,496	Thru	**473**	WB	617	42%	WB	718	**550**	Thru	**717**	WB	717	520		**550**	**717**	0	72
17496	Right	**0**	Sum	**1458**		**Enter**	**20346**	**0**	Right		Sum	**1695**	0		**0**			

0.007352

Existing AM #10 N/S Street: Imperial Avenue (SR- 111) E/W Street: Birch Street (SR- 98)

Existing ADT		EX AM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Birch Street (SR- 98)**	**%**					**Northbound**		**N of** Birch Street (SR- 98)							
	Left	**179**	NB	852	50%	NB	970	**204**	Left	**970**	NB	970	197		**204**	**970**	0	97
26,784	Thru	**488**	SB	848	50%	SB	966	**556**	Thru	**966**	SB	966	537		**556**	**966**	0	97
	Right	**73**	Sum	**1700**		**Enter**	**30499**	**83**	Right		Sum	**1936**	80		**83**			
	Southbound	**S. of**	**Birch Street (SR- 98)**						**Southbound**		**S of** Birch Street (SR- 98)							
	Left	**214**	NB	740	46%	NB	843	**244**	Left	**843**	NB	843	235		**244**	**843**	0	84
23,460	Thru	**505**	SB	855	54%	SB	974	**575**	Thru	**974**	SB	974	556		**575**	**974**	0	97
	Right	**129**	Sum	**1595**		**Enter**	**26714**	**147**	Right		Sum	**1816**	142		**147**			
	Eastbound	**E. of**	**Imperial Avenue (SR- 111)**						**Eastbound**		**E of** Imperial Avenue (SR- 111)							
	Left	**129**	EB	757	45%	EB	862	**147**	Left	**862**	EB	862	142		**147**	**862**	0	86
19,428	Thru	**470**	WB	929	55%	WB	1058	**535**	Thru	**1058**	WB	1058	517		**535**	**1058**	0	106
	Right	**164**	Sum	**1686**		**Enter**	**22123**	**187**	Right		Sum	**1920**	180		**187**			
	Westbound	**W.of**	**Imperial Avenue (SR- 111)**						**Westbound**		**W of** Imperial Avenue (SR- 111)							
	Left	**186**	EB	763	48%	EB	869	**212**	Left	**869**	EB	869	205		**212**	**869**	0	87
19,944	Thru	**508**	WB	816	52%	WB	929	**578**	Thru	**929**	WB	929	559		**578**	**929**	0	93
	Right	**235**	Sum	**1579**		**Enter**	**22710**	**268**	Right		Sum	**1798**	259		**268**			

0.003108

Existing PM N/S Street: Imperial Avenue (SR- 111) E/W Street: Birch Street (SR- 98)

Existing ADT		EX PM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Birch Street (SR- 98)**	**%**					**Northbound**		**N of** Birch Street (SR- 98)							
	Left	**199**	NB	991	44%	NB	1128	**227**	Left	**1128**	NB	1128	219		**227**	**1128**	0	113
26,784	Thru	**615**	SB	1241	56%	SB	1413	**700**	Thru	**1413**	SB	1413	677		**700**	**1413**	0	141
26784	Right	**87**	Sum	**2232**		**Enter**	**30499**	**99**	Right		Sum	**2542**	96		**99**			
	Southbound	**S. of**	**Birch Street (SR- 98)**						**Southbound**		**S of** Birch Street (SR- 98)							
	Left	**281**	NB	901	46%	NB	1026	**320**	Left	**1026**	NB	1026	309		**320**	**1026**	0	103
23,460	Thru	**741**	SB	1054	54%	SB	1200	**844**	Thru	**1200**	SB	1200	815		**844**	**1200**	0	120
23460	Right	**219**	Sum	**1955**		**Enter**	**26714**	**249**	Right		Sum	**2226**	241		**249**			
	Eastbound	**E. of**	**Imperial Avenue (SR- 111)**						**Eastbound**		**E of** Imperial Avenue (SR- 111)							
	Left	**186**	EB	853	53%	EB	971	**212**	Left	**971**	EB	971	205		**212**	**971**	0	97
19,428	Thru	**485**	WB	766	47%	WB	872	**552**	Thru	**872**	WB	872	534		**552**	**872**	0	87
19428	Right	**155**	Sum	**1619**		**Enter**	**22123**	**176**	Right		Sum	**1844**	171		**176**			
	Westbound	**W.of**	**Imperial Avenue (SR- 111)**						**Westbound**		**W of** Imperial Avenue (SR- 111)							
	Left	**158**	EB	826	50%	EB	941	**180**	Left	**941**	EB	941	174		**180**	**941**	0	94
19,944	Thru	**418**	WB	836	50%	WB	952	**476**	Thru	**952**	WB	952	460		**476**	**952**	0	95
19944	Right	**190**	Sum	**1662**		**Enter**	**22710**	**216**	Right		Sum	**1893**	209		**216**			

-0.00148

Existing AM #11 N/S Street: Andrade Avenue E/W Street: Birch Street (SR- 98)

Existing ADT		EX AM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Birch Street (SR- 98)**		**%**				**Northbound**		**N of** Birch Street (SR- 98)							
	Left	**189**	NB	660	43%	NB	733	**210**	Left	**733**	NB	733	208		**210**	**733**	0	73
13,140	Thru	**323**	SB	861	57%	SB	956	**359**	Thru	**956**	SB	956	355		**359**	**956**	0	96
	Right	**81**	Sum	**1521**		**Enter**	**14588**	**90**	Right		Sum	**1689**	89		**90**			
	Southbound	**S. of**	**Birch Street (SR- 98)**						**Southbound**		**S of** Birch Street (SR- 98)							
	Left	**101**	NB	593	47%	NB	658	**112**	Left	**658**	NB	658	111		**112**	**658**	0	66
9,684	Thru	**414**	SB	681	53%	SB	756	**460**	Thru	**756**	SB	756	455		**460**	**756**	0	76
	Right	**346**	Sum	**1274**		**Enter**	**10752**	**384**	Right		Sum	**1414**	381		**384**			
	Eastbound	**E. of**	**Andrade Avenue**						**Eastbound**		**E of** Andrade Avenue							
	Left	**235**	EB	454	47%	EB	504	**261**	Left	**504**	EB	504	259		**261**	**504**	0	50
8,640	Thru	**272**	WB	515	53%	WB	572	**302**	Thru	**572**	WB	572	299		**302**	**572**	0	57
	Right	**175**	Sum	**969**		**Enter**	**9592**	**194**	Right		Sum	**1076**	193		**194**			
	Westbound	**W.of**	**Andrade Avenue**						**Westbound**		**W of** Andrade Avenue							
	Left	**92**	EB	682	44%	EB	757	**102**	Left	**757**	EB	757	101		**102**	**757**	0	76
13,896	Thru	**321**	WB	856	56%	WB	950	**356**	Thru	**950**	WB	950	353		**356**	**950**	0	95
	Right	**102**	Sum	**1538**		**Enter**	**15428**	**113**	Right		Sum	**1708**	112		**113**			

-0.01709

Existing PM N/S Street: Andrade Avenue E/W Street: Birch Street (SR- 98)

Existing ADT		EX PM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Birch Street (SR- 98)**		**%**				**Northbound**		**N of** Birch Street (SR- 98)							
	Left	**94**	NB	541	49%	NB	601	**104**	Left	**601**	NB	601	103		**104**	**601**	0	60
13,140	Thru	**224**	SB	554	51%	SB	615	**249**	Thru	**615**	SB	615	246		**249**	**615**	0	62
13140	Right	**37**	Sum	**1095**		**Enter**	**14588**	**41**	Right		Sum	**1216**	41		**41**			
	Southbound	**S. of**	**Birch Street (SR- 98)**						**Southbound**		**S of** Birch Street (SR- 98)							
	Left	**64**	NB	355	44%	NB	394	**71**	Left	**394**	NB	394	70		**71**	**394**	0	39
9,684	Thru	**265**	SB	452	56%	SB	502	**294**	Thru	**502**	SB	502	292		**294**	**502**	0	50
9684	Right	**225**	Sum	**807**		**Enter**	**10752**	**250**	Right		Sum	**896**	248		**250**			
	Eastbound	**E. of**	**Andrade Avenue**						**Eastbound**		**E of** Andrade Avenue							
	Left	**223**	EB	340	47%	EB	377	**248**	Left	**377**	EB	377	245		**248**	**377**	0	38
8,640	Thru	**239**	WB	380	53%	WB	422	**265**	Thru	**422**	WB	422	263		**265**	**422**	0	42
8640	Right	**139**	Sum	**720**		**Enter**	**9592**	**154**	Right		Sum	**799**	153		**154**			
	Westbound	**W.of**	**Andrade Avenue**						**Westbound**		**W of** Andrade Avenue							
	Left	**48**	EB	601	52%	EB	667	**53**	Left	**667**	EB	667	53		**53**	**667**	0	67
13,896	Thru	**238**	WB	557	48%	WB	618	**264**	Thru	**618**	WB	618	262		**264**	**618**	0	62
13896	Right	**94**	Sum	**1158**		**Enter**	**15428**	**104**	Right		Sum	**1286**	103		**104**			

-0.00677

Existing AM #12 N/S Street: Bowker Road E/W Street: Birch Street (SR- 98)

Existing ADT		EX AM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Birch Street (SR- 98)**		**%**				**Northbound**		**N of** Birch Street (SR- 98)							
	Left	**0**	NB	365	51%	NB	427	**0**	Left	**427**	NB	427	0		**0**	**427**	0	43
4,200	Thru	**16**	SB	344	49%	SB	402	**19**	Thru	**402**	SB	402	18		**19**	**402**	0	40
	Right	**22**	Sum	**709**		**Enter**	**4912**	**26**	Right		Sum	**829**	24		**26**			
	Southbound	**S. of**	**Birch Street (SR- 98)**						**Southbound**		**S of** Birch Street (SR- 98)							
	Left	**9**	NB	38	41%	NB	44	**11**	Left	**44**	NB	44	10		**11**	**44**	0	4
1,188	Thru	**26**	SB	54	59%	SB	63	**30**	Thru	**63**	SB	63	29		**30**	**63**	0	6
	Right	**309**	Sum	**92**		**Enter**	**1389**	**361**	Right		Sum	**108**	340		**361**			
	Eastbound	**E. of**	**Bowker Road**						**Eastbound**		**E of** Bowker Road							
	Left	**332**	EB	243	49%	EB	284	**388**	Left	**284**	EB	284	365		**388**	**284**	0	28
6,480	Thru	**212**	WB	252	51%	WB	295	**248**	Thru	**295**	WB	295	233		**248**	**295**	0	29
	Right	**0**	Sum	**495**		**Enter**	**7578**	**0**	Right		Sum	**579**	0		**0**			
	Westbound	**W.of**	**Bowker Road**						**Westbound**		**W of** Bowker Road							
	Left	**28**	EB	544	51%	EB	636	**33**	Left	**636**	EB	636	31		**33**	**636**	0	64
8,748	Thru	**207**	WB	516	49%	WB	603	**242**	Thru	**603**	WB	603	228		**242**	**603**	0	60
	Right	**17**	Sum	**1060**		**Enter**	**10231**	**20**	Right		Sum	**1240**	19		**20**			

0.004614

Existing PM N/S Street: Bowker Road E/W Street: Birch Street (SR- 98)

Existing ADT		EX PM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Birch Street (SR- 98)**		**%**				**Northbound**		**N of** Birch Street (SR- 98)							
	Left	**0**	NB	134	38%	NB	157	**0**	Left	**157**	NB	157	0		**0**	**157**	0	16
4,200	Thru	**12**	SB	216	62%	SB	253	**14**	Thru	**253**	SB	253	13		**14**	**253**	0	25
4200	Right	**17**	Sum	**350**		**Enter**	**4912**	**20**	Right		Sum	**409**	19		**20**			
	Southbound	**S. of**	**Birch Street (SR- 98)**						**Southbound**		**S of** Birch Street (SR- 98)							
	Left	**18**	NB	29	29%	NB	34	**21**	Left	**34**	NB	34	20		**21**	**34**	0	3
1,188	Thru	**44**	SB	70	71%	SB	82	**51**	Thru	**82**	SB	82	48		**51**	**82**	0	8
1188	Right	**154**	Sum	**99**		**Enter**	**1389**	**180**	Right		Sum	**116**	169		**180**			
	Eastbound	**E. of**	**Bowker Road**						**Eastbound**		**E of** Bowker Road							
	Left	**109**	EB	271	50%	EB	317	**127**	Left	**317**	EB	317	120		**127**	**317**	0	32
6,480	Thru	**236**	WB	269	50%	WB	315	**276**	Thru	**315**	WB	315	260		**276**	**315**	0	31
6480	Right	**0**	Sum	**540**		**Enter**	**7578**	**0**	Right		Sum	**632**	0		**0**			
	Westbound	**W.of**	**Bowker Road**						**Westbound**		**W of** Bowker Road							
	Left	**26**	EB	345	47%	EB	403	**30**	Left	**403**	EB	403	29		**30**	**403**	0	40
8,748	Thru	**230**	WB	384	53%	WB	449	**269**	Thru	**449**	WB	449	253		**269**	**449**	0	45
8748	Right	**13**	Sum	**729**		**Enter**	**10231**	**15**	Right		Sum	**853**	14		**15**			

0.013741

Existing AM #13 N/S Street: Cesar Chavez Boulevard E/W Street: Grant Street

Existing ADT		EX AM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Grant Street**		**%**				**Northbound**		**N of**	**Grant Street**						
	Left	**21**	NB	440	56%	NB	490	**23**	Left	**490**	NB	490	23		**23**	**490**	0	49
9,708	Thru	**367**	SB	349	44%	SB	389	**409**	Thru	**389**	SB	389	404		**409**	**389**	0	39
	Right	**24**	Sum	**789**		**Enter**	**10809**	**27**	Right		Sum	**879**	26		**27**			
	Southbound	**S. of**	**Grant Street**						**Southbound**		**S of**	**Grant Street**						
	Left	**55**	NB	412	55%	NB	459	**61**	Left	**459**	NB	459	61		**61**	**459**	0	46
11,016	Thru	**274**	SB	332	45%	SB	370	**305**	Thru	**370**	SB	370	301		**305**	**370**	0	37
	Right	**20**	Sum	**744**		**Enter**	**12266**	**22**	Right		Sum	**828**	22		**22**			
	Eastbound	**E. of**	**Cesar Chavez Boulevard**						**Eastbound**		**E of**	Cesar Chavez Boulevard						
	Left	**20**	EB	226	53%	EB	252	**22**	Left	**252**	EB	252	22		**22**	**252**	0	25
5,916	Thru	**147**	WB	202	47%	WB	225	**164**	Thru	**225**	WB	225	162		**164**	**225**	0	22
	Right	**27**	Sum	**428**		**Enter**	**6587**	**30**	Right		Sum	**477**	30		**30**			
	Westbound	**W.of**	**Cesar Chavez Boulevard**						**Westbound**		**W of**	Cesar Chavez Boulevard						
	Left	**31**	EB	194	55%	EB	216	**35**	Left	**216**	EB	216	34		**35**	**216**	0	22
5,712	Thru	**118**	WB	159	45%	WB	177	**131**	Thru	**177**	WB	177	130		**131**	**177**	0	18
	Right	**53**	Sum	**353**		**Enter**	**6360**	**59**	Right		Sum	**393**	58		**59**			

0.005727

Existing PM N/S Street: Cesar Chavez Boulevard E/W Street: Grant Street

Existing ADT		EX PM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Grant Street**		**%**				**Northbound**		**N of**	**Grant Street**						
	Left	**24**	NB	196	24%	NB	218	**27**	Left	**218**	NB	218	26		**27**	**218**	0	22
9,708	Thru	**124**	SB	613	76%	SB	683	**138**	Thru	**683**	SB	683	136		**138**	**683**	0	68
9708	Right	**58**	Sum	**809**		**Enter**	**10809**	**65**	Right		Sum	**901**	64		**65**			
	Southbound	**S. of**	**Grant Street**						**Southbound**		**S of**	**Grant Street**						
	Left	**32**	NB	206	22%	NB	229	**36**	Left	**229**	NB	229	35		**36**	**229**	0	23
11,016	Thru	**523**	SB	712	78%	SB	793	**582**	Thru	**793**	SB	793	575		**582**	**793**	0	79
11016	Right	**58**	Sum	**918**		**Enter**	**12266**	**65**	Right		Sum	**1022**	64		**65**			
	Eastbound	**E. of**	**Cesar Chavez Boulevard**						**Eastbound**		**E of**	Cesar Chavez Boulevard						
	Left	**31**	EB	211	43%	EB	235	**35**	Left	**235**	EB	235	34		**35**	**235**	0	23
5,916	Thru	**121**	WB	282	57%	WB	314	**135**	Thru	**314**	WB	314	133		**135**	**314**	0	31
5916	Right	**95**	Sum	**493**		**Enter**	**6587**	**106**	Right		Sum	**549**	105		**106**			
	Westbound	**W.of**	**Cesar Chavez Boulevard**						**Westbound**		**W of**	Cesar Chavez Boulevard						
	Left	**94**	EB	247	52%	EB	275	**105**	Left	**275**	EB	275	103		**105**	**275**	0	28
5,712	Thru	**147**	WB	229	48%	WB	255	**164**	Thru	**255**	WB	255	162		**164**	**255**	0	25
5712	Right	**41**	Sum	**476**		**Enter**	**6360**	**46**	Right		Sum	**530**	45		**46**			

-0.02892

Existing AM #14 N/S Street: Imperial Avenue (SR- 111) E/W Street: Grant Street

Existing ADT		EX AM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Grant Street**		**%**				**Northbound**		**N of**	**Grant Street**						
	Left	**57**	NB	634	48%	NB	706	**63**	Left	**706**	NB	706	63		**63**	**706**	0	71
18,936	Thru	**574**	SB	674	52%	SB	750	**639**	Thru	**750**	SB	750	631		**639**	**750**	0	75
	Right	**19**	Sum	**1308**		**Enter**	**21084**	**21**	Right		Sum	**1456**	21		**21**			
	Southbound	**S. of**	**Grant Street**						**Southbound**		**S of**	**Grant Street**						
	Left	**6**	NB	650	48%	NB	724	**7**	Left	**724**	NB	724	7		**7**	**724**	0	72
18,744	Thru	**640**	SB	713	52%	SB	794	**713**	Thru	**794**	SB	794	704		**713**	**794**	0	79
	Right	**28**	Sum	**1363**		**Enter**	**20870**	**31**	Right		Sum	**1518**	31		**31**			
	Eastbound	**E. of**	**Imperial Avenue (SR- 111)**						**Eastbound**		**E of**	Imperial Avenue (SR- 111)						
	Left	**46**	EB	68	51%	EB	76	**51**	Left	**76**	EB	76	51		**51**	**76**	0	8
1,740	Thru	**43**	WB	66	49%	WB	73	**48**	Thru	**73**	WB	73	47		**48**	**73**	0	7
	Right	**66**	Sum	**134**		**Enter**	**1937**	**73**	Right		Sum	**149**	73		**73**			
	Westbound	**W.of**	**Imperial Avenue (SR- 111)**						**Westbound**		**W of**	Imperial Avenue (SR- 111)						
	Left	**7**	EB	155	54%	EB	173	**8**	Left	**173**	EB	173	8		**8**	**173**	0	17
2,916	Thru	**45**	WB	130	46%	WB	145	**50**	Thru	**145**	WB	145	50		**50**	**145**	0	14
	Right	**14**	Sum	**285**		**Enter**	**3247**	**16**	Right		Sum	**317**	15		**16**			

0.003097

Existing PM N/S Street: Imperial Avenue (SR- 111) E/W Street: Grant Street

Existing ADT		EX PM	Existing Link Volumes			Future ADT (2050)		FUTURE Raw Turning Movement Volumes		FUTURE Link Volumes	Verify		Minimum 10% Growth	Volume Adj.	Refined Turning Movement Volumes	Refined Link Volumes	Gap Closure	10% Gap
	Northbound	**N.of**	**Grant Street**		**%**				**Northbound**		**N of**	**Grant Street**						
	Left	**123**	NB	849	54%	NB	945	**137**	Left	**945**	NB	945	135		**137**	**945**	0	95
18,936	Thru	**817**	SB	729	46%	SB	812	**910**	Thru	**812**	SB	812	899		**910**	**812**	0	81
18936	Right	**10**	Sum	**1578**		**Enter**	**21084**	**11**	Right		Sum	**1757**	11		**11**			
	Southbound	**S. of**	**Grant Street**						**Southbound**		**S of**	**Grant Street**						
	Left	**59**	NB	950	61%	NB	1058	**66**	Left	**1058**	NB	1058	65		**66**	**1058**	0	106
18,744	Thru	**596**	SB	612	39%	SB	681	**664**	Thru	**681**	SB	681	656		**664**	**681**	0	68
18744	Right	**74**	Sum	**1562**		**Enter**	**20870**	**82**	Right		Sum	**1739**	81		**82**			
	Eastbound	**E. of**	**Imperial Avenue (SR- 111)**						**Eastbound**		**E of**	Imperial Avenue (SR- 111)						
	Left	**1**	EB	74	51%	EB	82	**1**	Left	**82**	EB	82	1		**1**	**82**	0	8
1,740	Thru	**5**	WB	71	49%	WB	79	**6**	Thru	**79**	WB	79	6		**6**	**79**	0	8
1740	Right	**8**	Sum	**145**		**Enter**	**1937**	**9**	Right		Sum	**161**	9		**9**			
	Westbound	**W.of**	**Imperial Avenue (SR- 111)**						**Westbound**		**W of**	Imperial Avenue (SR- 111)						
	Left	**8**	EB	14	6%	EB	16	**9**	Left	**16**	EB	16	9		**9**	**16**	0	2
2,916	Thru	**32**	WB	229	94%	WB	255	**36**	Thru	**255**	WB	255	35		**36**	**255**	0	25
2916	Right	**31**	Sum	**243**		**Enter**	**3247**	**35**	Right		Sum	**271**	34		**35**			

-0.01987

APPENDIX F

TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

EXISTING CONDITIONS

Warrant 2: Four-Hour Volume

	YES	NO
SATISFIED?		X

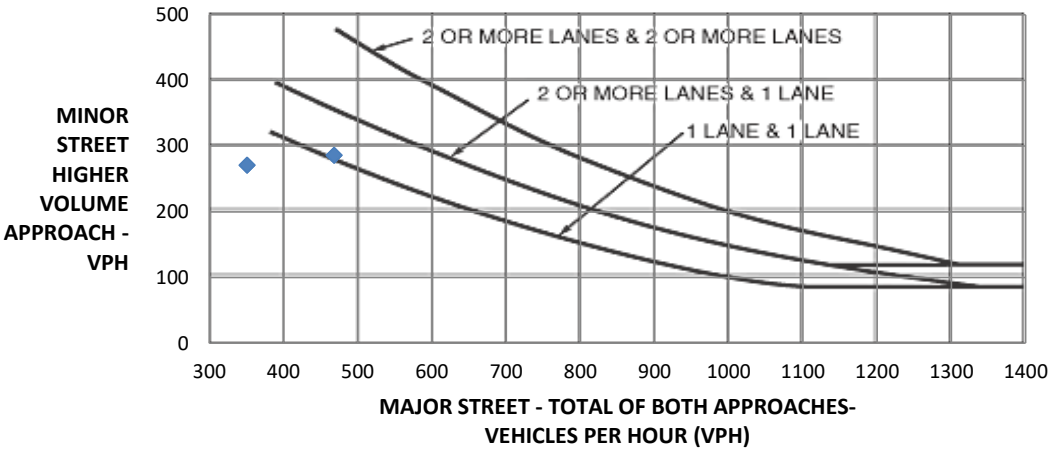
Intersection: Cole Boulevard / Bowker Road
Scenario: Existing

Major: Cole Boulevard
Minor: Bowker Road

APPROACH LANES	One	2 or More	7:00AM	8:00AM	4:00PM	5:00PM
Both Approaches - Major Street	x		351	351	468	468
Higher Approach - Minor Street	x		271	271	286	286

	Yes	No
*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)		X
OR, All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)		

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for the minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for the minor-street approach with one lane.

SIGNAL WARRANT ANALYSIS

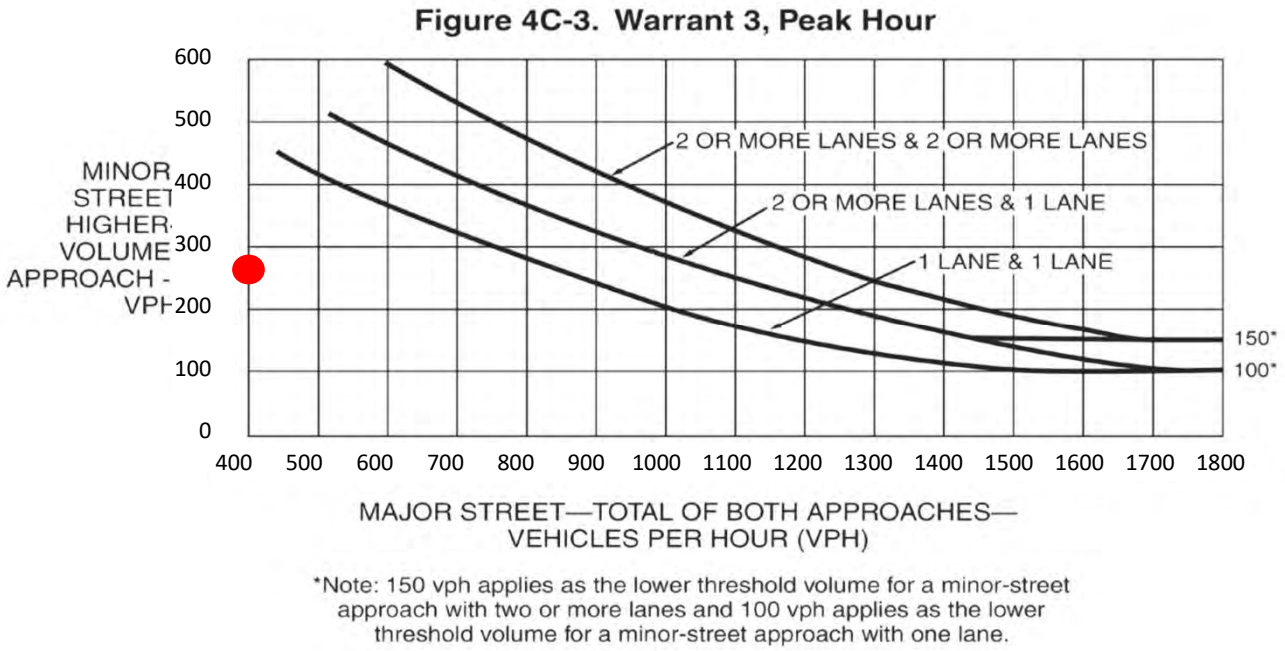
Minor Street:	Bowker Rd	**Number of Lanes on minor street:**	1
Major Street	Cole Blvd	**Number of Lanes on major street:**	1
Scenario:	Existing AM Peak	**Total Number of Vehicles Entering:**	719
		Number of Approaches:	4
		Intersection total delay (seconds):	13.5
		Minor St approach total delay (veh-hr):	1.0

Part A

		Criteria Met?
1	Minor St approach total stopped time delay	NO
2	Volume on the same minor street approach (one directional only)	YES
3	Total volume entering the intersection during the peak hour	NO

Part B

Volume on Major St (Σ of both Approaches)	Volumes on Minor St (higher approach)
351	271



	Does the Intersection Meet Peak Hour Signal Warrants?:
PART A	**NO**
PART B	**NO**

SIGNAL WARRANT ANALYSIS

Minor Street:	Bowker Rd	**Number of Lanes on minor street:**	1
Major Street	Cole Blvd	**Number of Lanes on major street:**	1
Scenario:	Existing PM Peak	**Total Number of Vehicles Entering:**	845
		Number of Approaches:	4
		Intersection total delay (seconds):	18.1
		Minor St approach total delay (veh-hr):	1.4

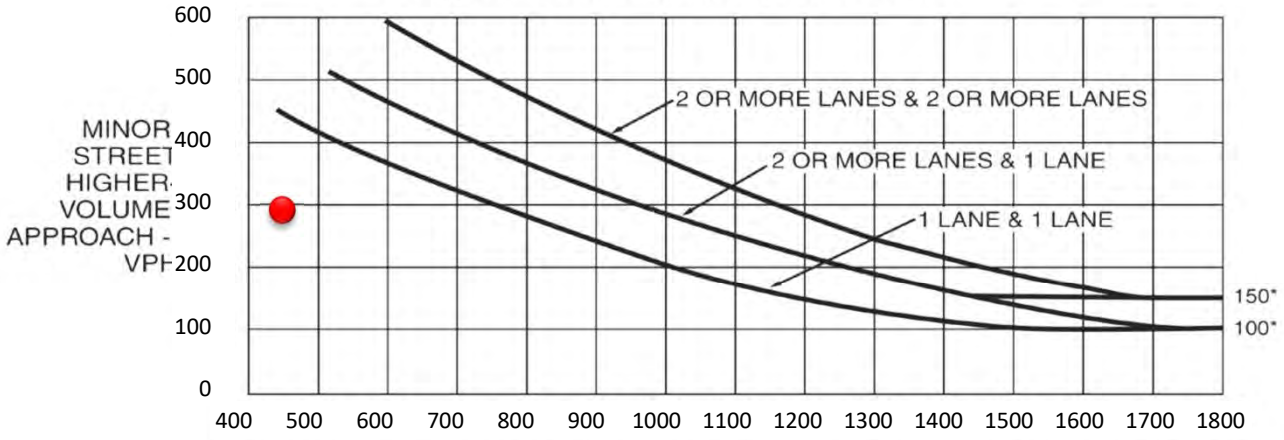
Part A

		Criteria Met?
1	Minor St approach total stopped time delay	NO
2	Volume on the same minor street approach (one directional only)	YES
3	Total volume entering the intersection during the peak hour	YES

Part B

Volume on Major St (Σ of both Approaches)	Volumes on Minor St (higher approach)
468	286

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

	Does the Intersection Meet Peak Hour Signal Warrants?:
PART A	**NO**
PART B	**NO**

Warrant 2: Four-Hour Volume

	YES	NO
SATISFIED?		X

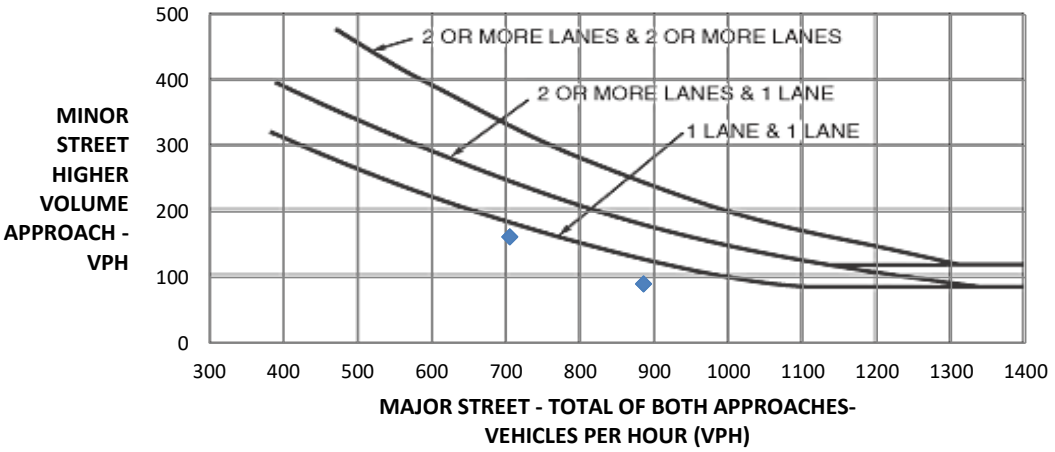
Intersection: Birch Street (SR-98) / David Navarro Avenue
Scenario: Existing

Major: Birch Street (SR-98)
Minor: David Navarro Avenue

APPROACH LANES	One	2 or More	7:00AM	8:00AM	4:00PM	5:00PM
Both Approaches - Major Street	x		705	705	885	885
Higher Approach - Minor Street	x		162	162	90	90

	Yes	No
*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)		X
OR, All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)		

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for the minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for the minor-street approach with one lane.

SIGNAL WARRANT ANALYSIS

Minor Street:	David Navarro Ave	**Number of Lanes on minor street:**	1
Major Street	Birch St (SR-98)	**Number of Lanes on major street:**	1
Scenario:	Existing AM Peak	**Total Number of Vehicles Entering:**	985
		Number of Approaches:	4
		Intersection total delay (seconds):	16.4
		Minor St approach total delay (veh-hr):	0.7

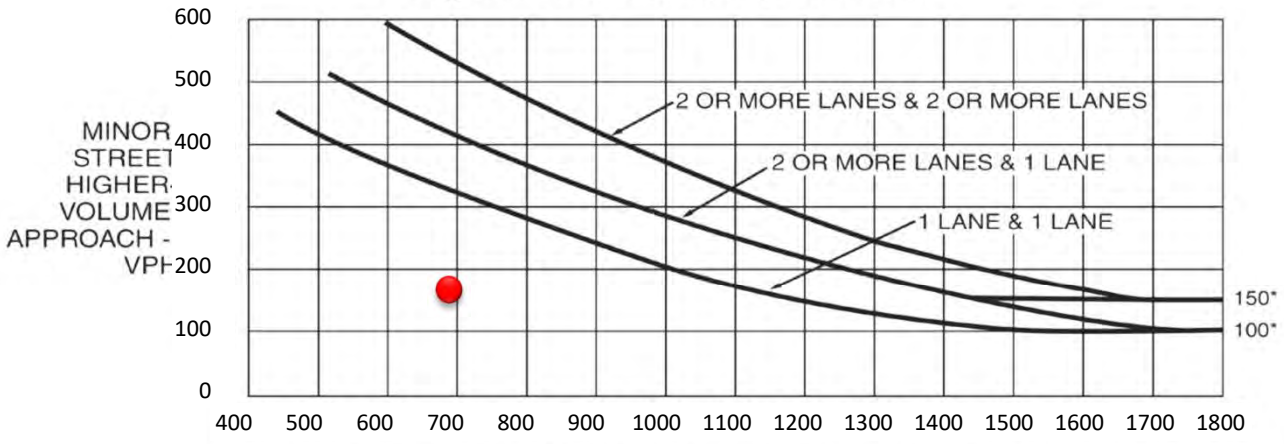
Part A

		Criteria Met?
1	Minor St approach total stopped time delay	NO
2	Volume on the same minor street approach (one directional only)	YES
3	Total volume entering the intersection during the peak hour	YES

Part B

Volume on Major St (Σ of both Approaches)	Volumes on Minor St (higher approach)
705	162

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

	Does the Intersection Meet Peak Hour Signal Warrants?:
PART A	**NO**
PART B	**NO**

SIGNAL WARRANT ANALYSIS

Minor Street:	David Navarro Ave	**Number of Lanes on minor street:**	1
Major Street	Birch St (SR-98)	**Number of Lanes on major street:**	1
Scenario:	Existing PM Peak	**Total Number of Vehicles Entering:**	1035
		Number of Approaches:	4
		Intersection total delay (seconds):	37.5
		Minor St approach total delay (veh-hr):	0.9

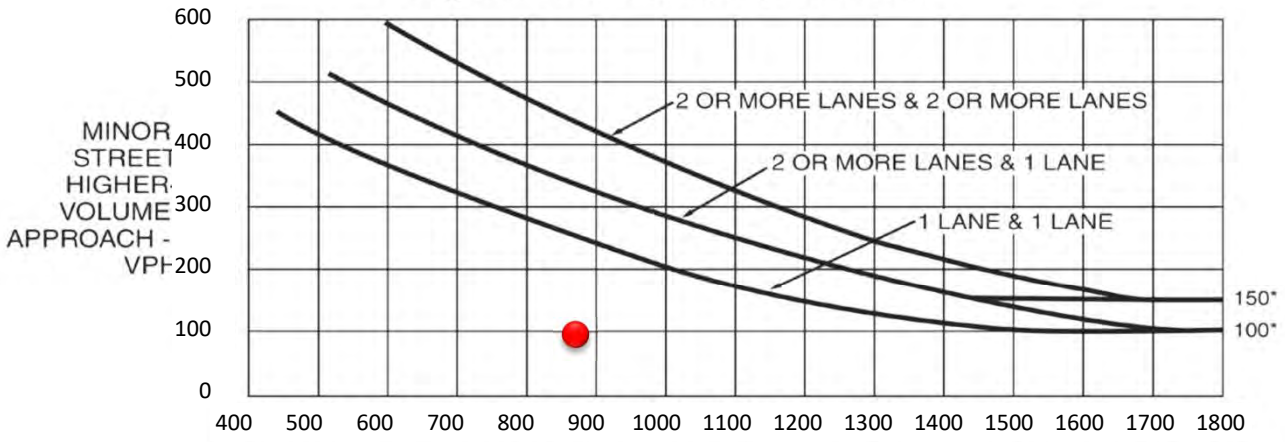
Part A

		Criteria Met?
1	Minor St approach total stopped time delay	NO
2	Volume on the same minor street approach (one directional only)	YES
3	Total volume entering the intersection during the peak hour	YES

Part B

Volume on Major St (Σ of both Approaches)	Volumes on Minor St (higher approach)
885	90

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

	Does the Intersection Meet Peak Hour Signal Warrants?:
PART A	**NO**
PART B	**NO**

Warrant 2: Four-Hour Volume

	YES	NO
SATISFIED?	X	

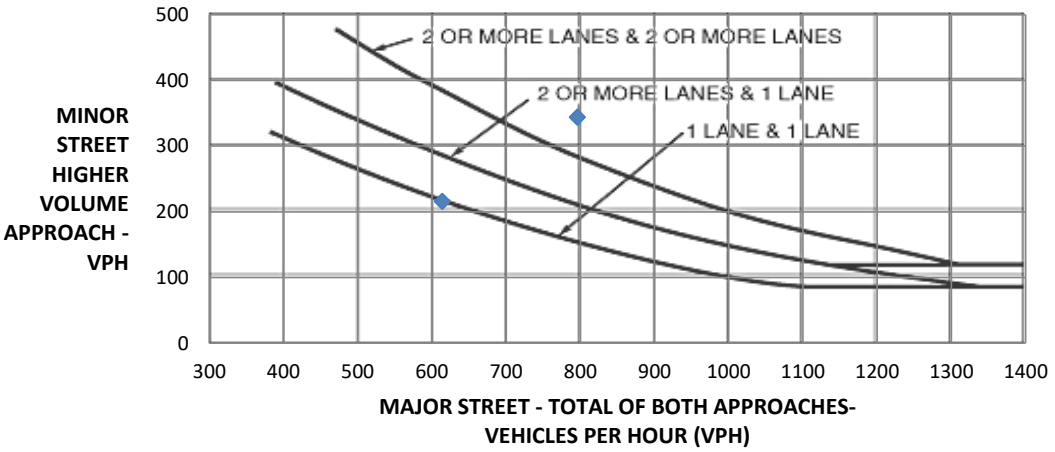
Intersection: Birch Street (SR-98) / Bowker Road
Scenario: Existing

Major: Birch Street (SR-98)
Minor: Bowker Road

APPROACH LANES	One	2 or More	7:00AM	8:00AM	4:00PM	5:00PM
Both Approaches - Major Street	x		796	796	614	614
Higher Approach - Minor Street	x		344	344	216	216

	Yes	No
*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	X	
OR, All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)		

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for the minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for the minor-street approach with one lane.

SIGNAL WARRANT ANALYSIS

Minor Street:	Bowker Road	**Number of Lanes on minor street:**	1
Major Street	Birch St (SR-98)	**Number of Lanes on major street:**	1
Scenario:	Existing AM Peak	**Total Number of Vehicles Entering:**	1178
		Number of Approaches:	4
		Intersection total delay (seconds):	122.8
		Minor St approach total delay (veh-hr):	11.7

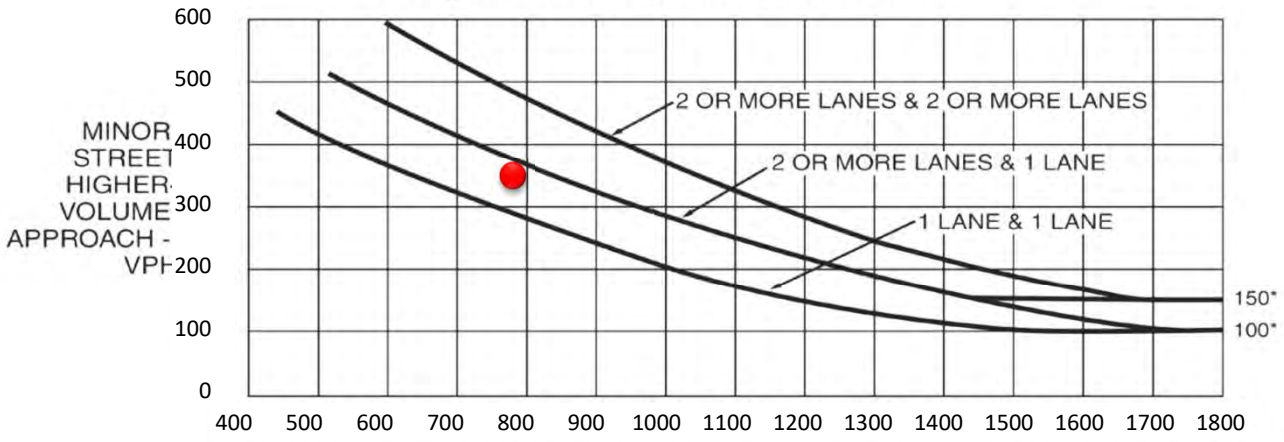
Part A

		Criteria Met?
1	Minor St approach total stopped time delay	YES
2	Volume on the same minor street approach (one directional only)	YES
3	Total volume entering the intersection during the peak hour	YES

Part B

Volume on Major St (Σ of both Approaches)	Volumes on Minor St (higher approach)
796	344

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

	Does the Intersection Meet Peak Hour Signal Warrants?:
PART A	**YES**
PART B	**YES**

SIGNAL WARRANT ANALYSIS

Minor Street:	Bowker Road	**Number of Lanes on minor street:**	1
Major Street	Birch St (SR-98)	**Number of Lanes on major street:**	1
Scenario:	Existing PM Peak	**Total Number of Vehicles Entering:**	859
		Number of Approaches:	4
		Intersection total delay (seconds):	18.9
		Minor St approach total delay (veh-hr):	1.1

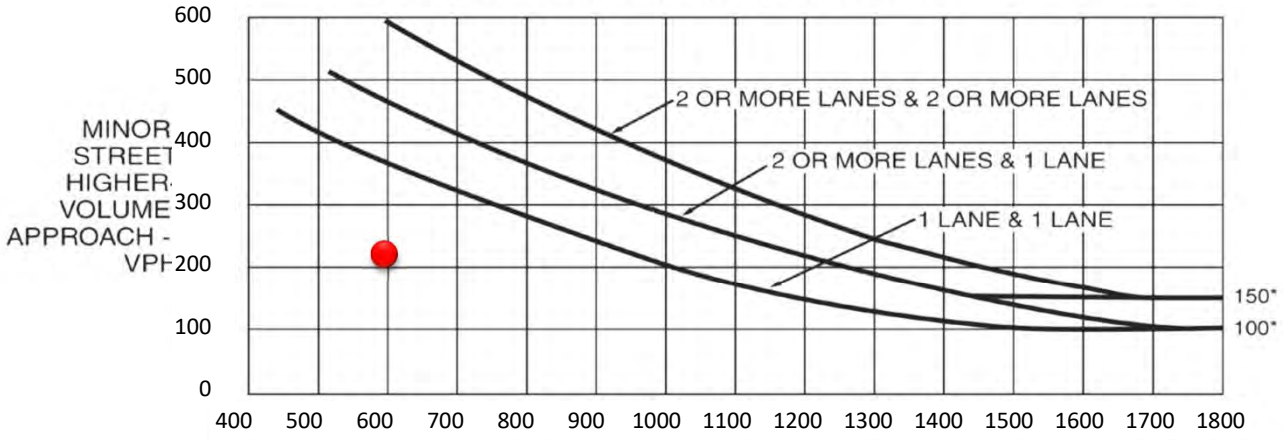
Part A

		Criteria Met?
1	Minor St approach total stopped time delay	NO
2	Volume on the same minor street approach (one directional only)	YES
3	Total volume entering the intersection during the peak hour	YES

Part B

Volume on Major St (Σ of both Approaches)	Volumes on Minor St (higher approach)
614	216

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

	Does the Intersection Meet Peak Hour Signal Warrants?:
PART A	**NO**
PART B	**NO**

HORIZON YEAR 2050 CONDITIONS
WITH PROPOSED REZONING

Warrant 2: Four-Hour Volume

	YES	NO
SATISFIED?	X	

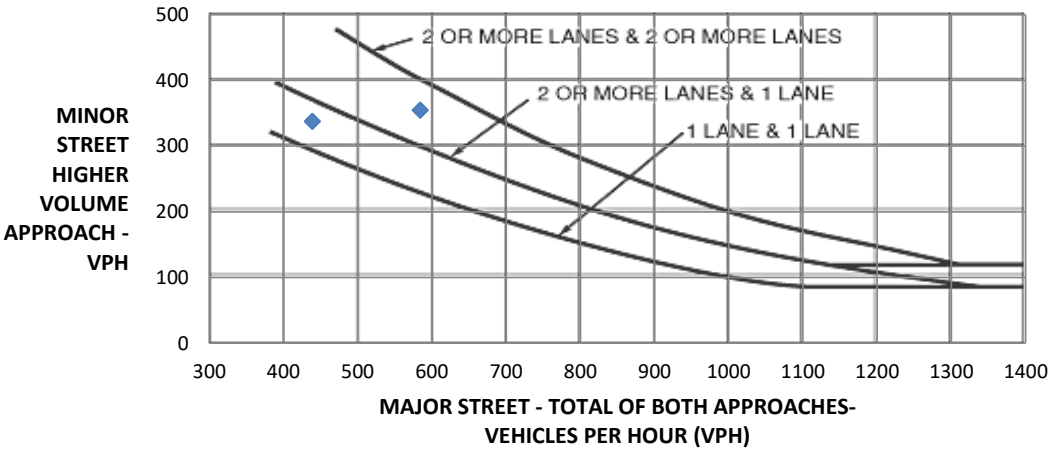
Intersection: Cole Boulevard / Bowker Road
Scenario: Horizon Year 2050 With Rezoning

Major: Cole Boulevard
Minor: Bowker Road

APPROACH LANES	One	2 or More	7:00AM	8:00AM	4:00PM	5:00PM
Both Approaches - Major Street	x		439	439	584	584
Higher Approach - Minor Street	x		338	338	355	355

	Yes	No
*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	X	
OR, All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)		

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for the minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for the minor-street approach with one lane.

SIGNAL WARRANT ANALYSIS

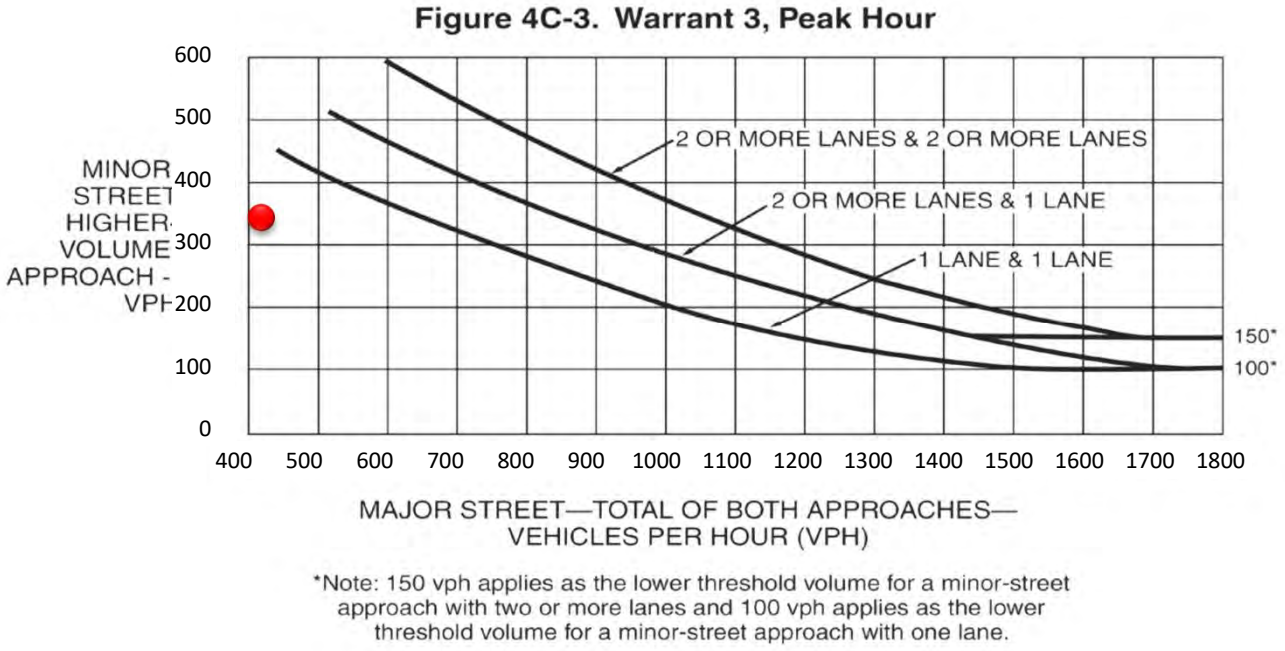
Minor Street:	Bowker Rd	**Number of Lanes on minor street:**	1
Major Street	Cole Blvd	**Number of Lanes on major street:**	1
Scenario:	Horizon Year 2050 With Rezoning AM Peak	**Total Number of Vehicles Entering:**	898
		Number of Approaches:	4
		Intersection total delay (seconds):	20.0
		Minor St approach total delay (veh-hr):	1.9

Part A

		Criteria Met?
1	Minor St approach total stopped time delay	NO
2	Volume on the same minor street approach (one directional only)	YES
3	Total volume entering the intersection during the peak hour	YES

Part B

Volume on Major St (Σ of both Approaches)	Volumes on Minor St (higher approach)
439	338



Does the Intersection Meet Peak Hour Signal Warrants?:	
PART A	**NO**
PART B	**NO**

SIGNAL WARRANT ANALYSIS

Minor Street:	Bowker Rd	**Number of Lanes on minor street:**	1
Major Street	Cole Blvd	**Number of Lanes on major street:**	1
Scenario:	Horizon Year 2050 With Rezoning PM Peak	**Total Number of Vehicles Entering:**	1054
		Number of Approaches:	4
		Intersection total delay (seconds):	40
		Minor St approach total delay (veh-hr):	3.9

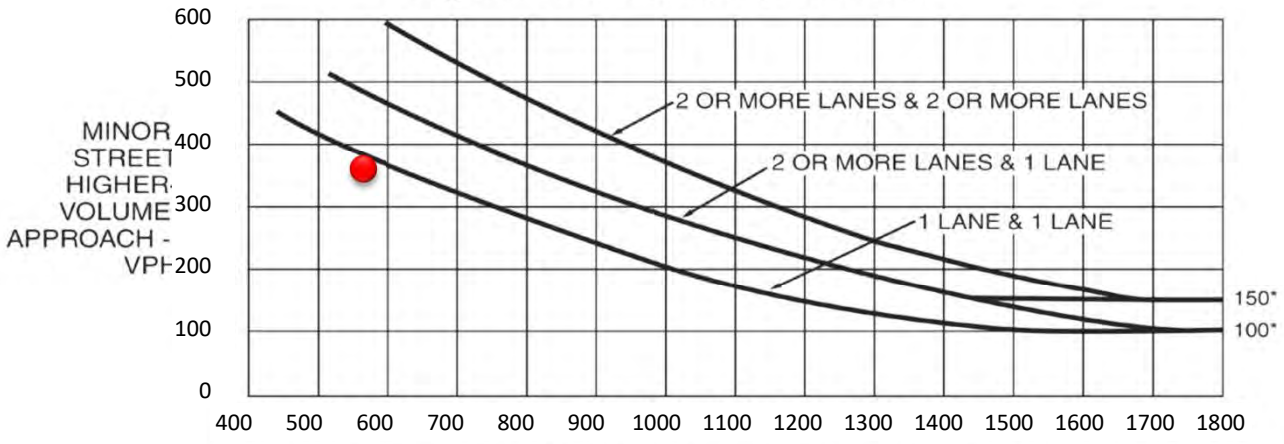
Part A

		Criteria Met?
1	Minor St approach total stopped time delay	NO
2	Volume on the same minor street approach (one directional only)	YES
3	Total volume entering the intersection during the peak hour	YES

Part B

Volume on Major St (Σ of both Approaches)	Volumes on Minor St (higher approach)
584	355

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

	Does the Intersection Meet Peak Hour Signal Warrants?:
PART A	**NO**
PART B	**NO**

Warrant 2: Four-Hour Volume

	YES	NO
SATISFIED?	X	

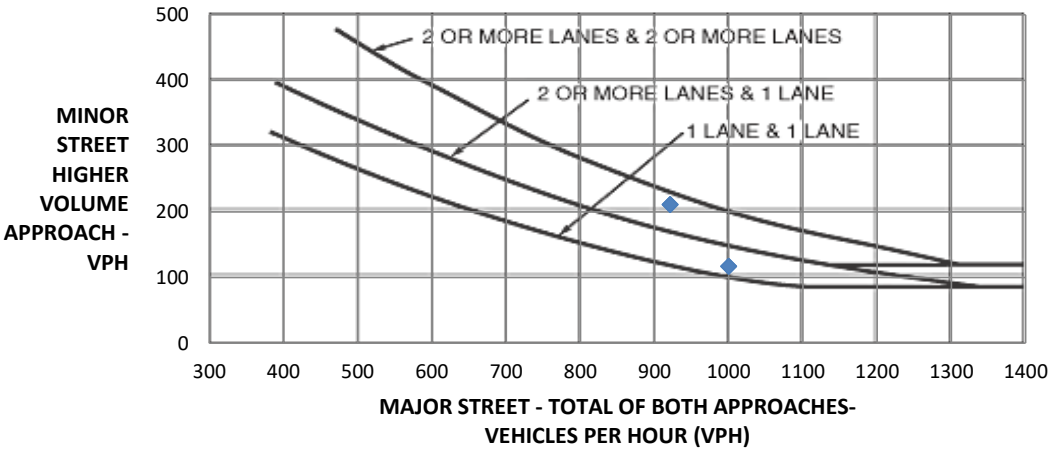
Intersection: Birch Street (SR-98) / David Navarro Avenue
Scenario: Horizon Year 2050 With Rezoning

Major: Birch Street (SR-98)
Minor: David Navarro Avenue

APPROACH LANES	One	2 or More	7:00AM	8:00AM	4:00PM	5:00PM
Both Approaches - Major Street	x		921	921	1,155	1,155
Higher Approach - Minor Street	x		211	211	117	117

	Yes	No
*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	X	
OR, All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)		

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for the minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for the minor-street approach with one lane.

SIGNAL WARRANT ANALYSIS

Minor Street:	David Navarro Ave	**Number of Lanes on minor street:**	1
Major Street	Birch St (SR-98)	**Number of Lanes on major street:**	1
Scenario:	Horizon Year 2050 With Rezoning AM Peak	**Total Number of Vehicles Entering:**	1286
		Number of Approaches:	4
		Intersection total delay (seconds):	41.2
		Minor St approach total delay (veh-hr):	2.4

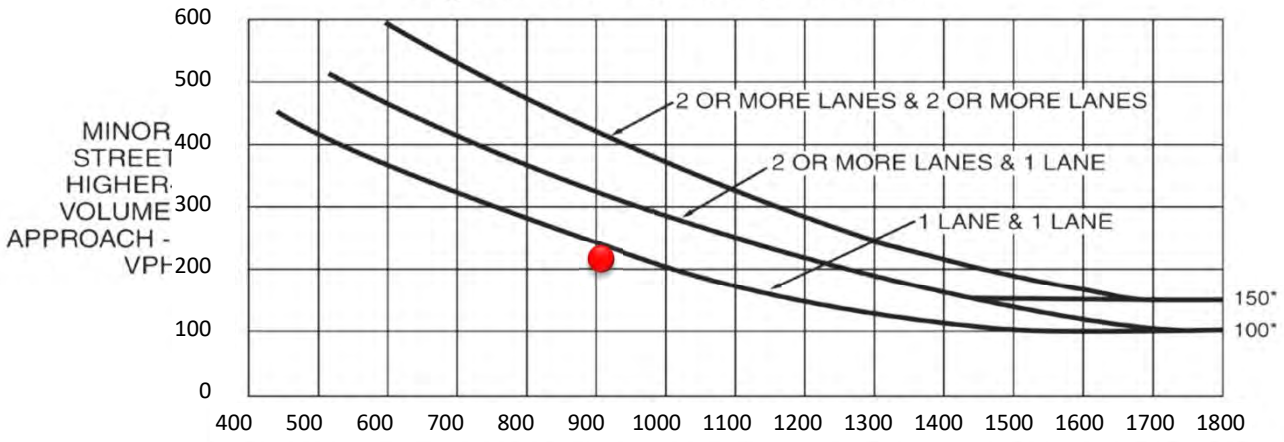
Part A

		Criteria Met?
1	Minor St approach total stopped time delay	NO
2	Volume on the same minor street approach (one directional only)	YES
3	Total volume entering the intersection during the peak hour	YES

Part B

Volume on Major St (Σ of both Approaches)	Volumes on Minor St (higher approach)
921	211

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

	Does the Intersection Meet Peak Hour Signal Warrants?:
PART A	**NO**
PART B	**NO**

SIGNAL WARRANT ANALYSIS

Minor Street:	David Navarro Ave	**Number of Lanes on minor street:**	1
Major Street	Birch St (SR-98)	**Number of Lanes on major street:**	1
Scenario:	Horizon Year 2050 With Rezoning PM Peak	**Total Number of Vehicles Entering:**	1351
		Number of Approaches:	4
		Intersection total delay (seconds):	124.3
		Minor St approach total delay (veh-hr):	4.0

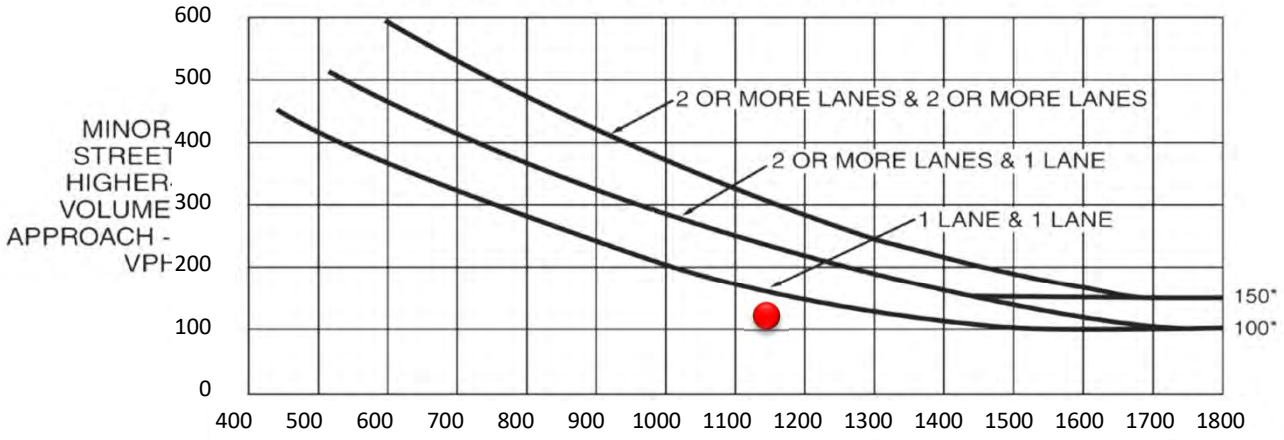
Part A

		Criteria Met?
1	Minor St approach total stopped time delay	YES
2	Volume on the same minor street approach (one directional only)	YES
3	Total volume entering the intersection during the peak hour	YES

Part B

Volume on Major St (Σ of both Approaches)	Volumes on Minor St (higher approach)
1155	117

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Does the Intersection Meet Peak Hour Signal Warrants?:	
PART A	**YES**
PART B	**NO**

Warrant 2: Four-Hour Volume

	YES	NO
SATISFIED?	X	

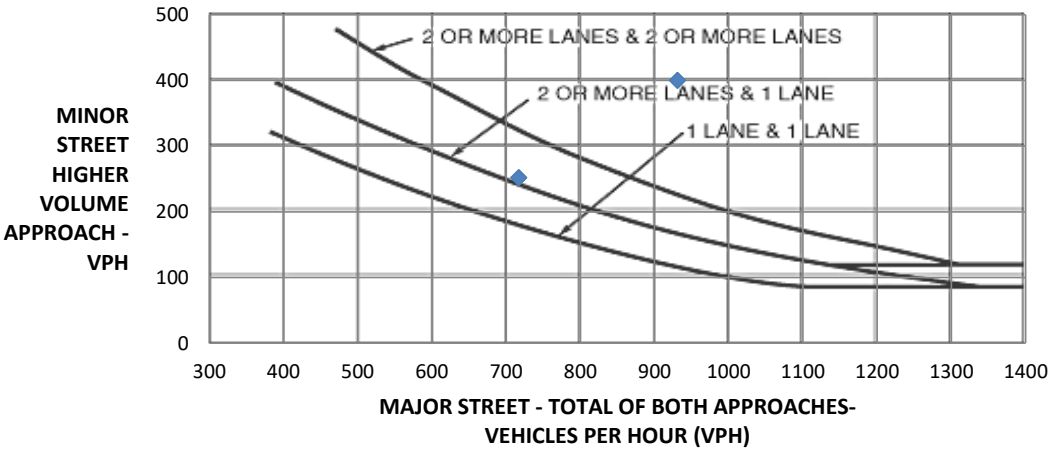
Intersection: Birch Street (SR-98) / Bowker Road
Scenario: Horizon Year 2050 With Rezoning

Major: Birch Street (SR-98)
Minor: Bowker Road

APPROACH LANES	One	2 or More	7:00AM	8:00AM	4:00PM	5:00PM
Both Approaches - Major Street	x		931	931	717	717
Higher Approach - Minor Street	x		402	402	252	252

	Yes	No
*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	X	
OR, All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)		

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for the minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for the minor-street approach with one lane.

SIGNAL WARRANT ANALYSIS

Minor Street:	Bowker Road	**Number of Lanes on minor street:**	1
Major Street	Birch St (SR-98)	**Number of Lanes on major street:**	1
Scenario:	Horizon Year 2050 With Rezoning AM Peak	**Total Number of Vehicles Entering:**	1378
		Number of Approaches:	4
		Intersection total delay (seconds):	481.9
		Minor St approach total delay (veh-hr):	53.8

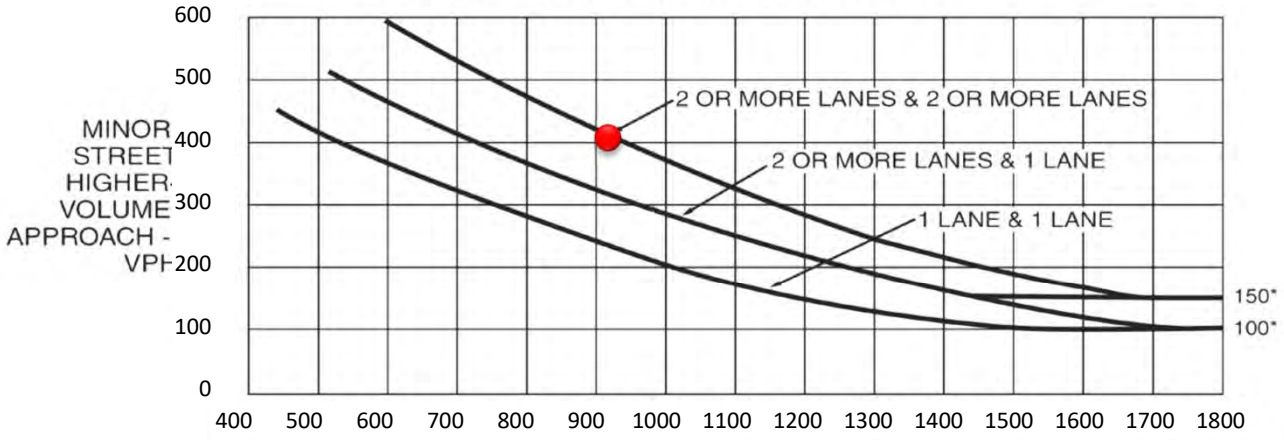
Part A

		Criteria Met?
1	Minor St approach total stopped time delay	YES
2	Volume on the same minor street approach (one directional only)	YES
3	Total volume entering the intersection during the peak hour	YES

Part B

Volume on Major St (Σ of both Approaches)	Volumes on Minor St (higher approach)
931	402

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Does the Intersection Meet Peak Hour Signal Warrants?:	
PART A	**YES**
PART B	**YES**

SIGNAL WARRANT ANALYSIS

Minor Street:	Bowker Road	**Number of Lanes on minor street:**	1
Major Street	Birch St (SR-98)	**Number of Lanes on major street:**	1
Scenario:	Horizon Year 2050 With Rezoning PM Peak	**Total Number of Vehicles Entering:**	1003
		Number of Approaches:	4
		Intersection total delay (seconds):	28.3
		Minor St approach total delay (veh-hr):	2.0

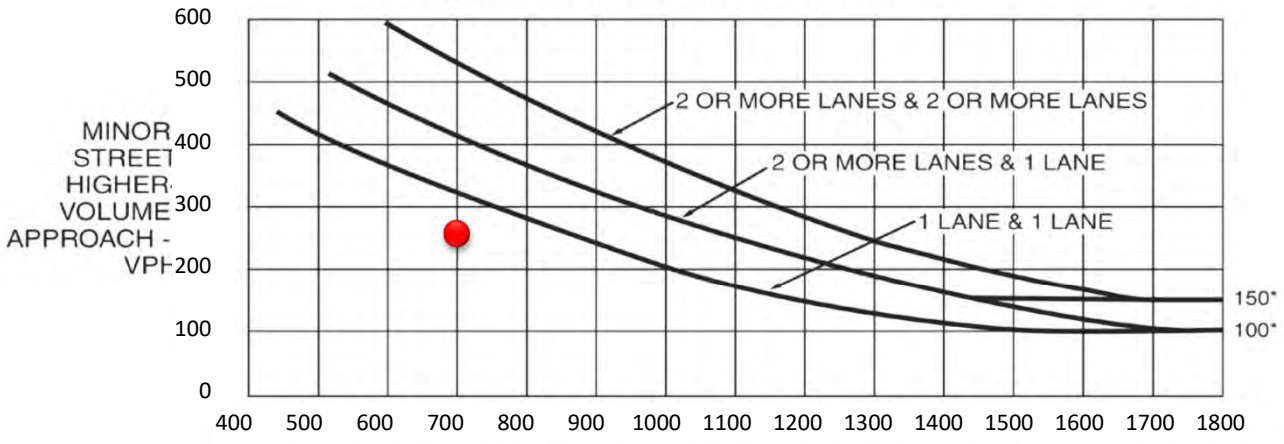
Part A

		Criteria Met?
1	Minor St approach total stopped time delay	NO
2	Volume on the same minor street approach (one directional only)	YES
3	Total volume entering the intersection during the peak hour	YES

Part B

Volume on Major St (Σ of both Approaches)	Volumes on Minor St (higher approach)
717	252

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

	Does the Intersection Meet Peak Hour Signal Warrants?:
PART A	**NO**
PART B	**NO**

Appendix J

Water Supply Assessment

JULY 2026

Water Supply Assessment

For the Calexico Housing Element Update Program Environmental Impact Report

Prepared for:

City of Calexico
608 Heber Avenue
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Prepared by:

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1. Introduction

1.1. Project Description

This Water Supply Consistency Evaluation (WSCE) evaluates the water supply available to serve implementation of the City of Calexico (City) 6th Cycle Housing Element Update (Housing Element) and associated actions (proposed project or project). The City is implementing its 6th Cycle 2021–2029 Housing Element, a state-mandated update designed to accommodate a Regional Housing Needs Allocation (RHNA) through strategic rezoning, upzoning, and General Plan amendments. The Housing Element supports 53 housing sites that may be developed by-right or through discretionary actions. The proposed project also includes the rezone of the 37-acre Bowker site, APN 059-180-029, from Residential Condominium (RC) to Industrial (I).

This evaluation is being prepared to support the California Environmental Quality Act (CEQA) analysis prepared for this project, which includes a program-level environmental impact report (EIR). The impact analysis provided in this WSCE provides a program-level (versus project-level) analysis, consistent with Section 15168 of the CEQA Guidelines.

1.2. Purpose and Intent of this Water Supply Assessment

This WSCE was prepared for the City of Calexico (City) by RICK, to evaluate the proposed project in compliance with Government Code 65352.5 and the relevant CEQA Appendix G topics to be addressed in the EIR (expansion of existing water facilities; sufficient water supplies during normal, dry and multiple dry years; conflict with an urban water management plan; and decrease groundwater supplies), as further defined in Section 1.3 Regulatory Framework.

1.3. Regulatory Framework

This section determines the applicability of relevant Water Supply Assessment (WSA) regulations of the California Water Code (CWC) including Senate Bill 220 (SB221), Senate Bill 610 (SB 610), and Government Code 65352.5.

1.3.1. Senate Bill 221

SB 221 requires that proposed subdivisions adding more than 500 dwelling units must also receive written verification of the available water supply from the project's water supplier. The Housing Element and associated actions do not involve the creation of a subdivision or a subdivision tract map, so no written verification is required to be provided.

1.3.2. Senate Bill 610

SB 610 amended the CWC to require detailed analysis of water supply availability for certain types of development projects. SB 610 requires cities and counties to develop a WSA when

considering approval of applicable development projects to determine whether projected water supplies can meet the project's anticipated water demand. Per CWC Section 10912(a), projects requiring the preparation of a WSA means any of the following:

1. A proposed residential development of more than 500 dwelling units.
2. A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
3. A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
4. A proposed hotel or motel, or both, having more than 500 rooms.
5. A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
6. A mixed-use project that includes one or more of the projects specified in this subdivision.
7. A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project.

The proposed project includes 53 housing sites and the rezone of the 37-acre Bowker site (APN 059-180-029, from Residential Condominium (RC) to Industrial (I), however this EIR evaluates the environmental effects of the proposed land use designation and zoning changes at a program level and does not constitute project-level environmental review of any specific future project, including industrial development on the Bowker site. If a future development proposal on the Bowker site, or any other site implementing the proposed Housing Element and associated rezoning actions, constitutes a "project" under California Water Code section 10912 and is subject to CEQA, the applicable lead agency will be required to comply with SB 610, including preparation of a WSA, if the statutory thresholds are met.

The County of San Bernardino Superior Court, in *Citizens for Responsible Equitable Environmental Development v. City of Chino* (2011), ruled that a General Plan is not subject to the Water Supply Assessment (WSA) requirements of Water Code section 10910 because a General Plan is a long-range planning document rather than an "actual development project" of the type identified in Water Code section 10912. The court reasoned that the Legislature specifically enumerated the categories of projects that trigger a WSA requirement under SB 610, and a General Plan adoption or update is not among them. Accordingly, the court concluded that a proposed general plan is not the type of actual development project identified in Water Code section 10912 triggering the WSA requirement.

Accordingly, the proposed project is not expressly subject to a WSA under Water Code Section 10912 pursuant to SB 610. Nevertheless, General Plan law sets forth an alternative process for local governments to consult with water supply agencies during General Plan preparation (see Section 1.2.3, Government Code Section 65352.5 below).

1.3.3. Government Code Section 65352.5

Government Code Section 65352.5 provides a standardized process for determining the adequacy of existing and planned future water supplies to meet existing and planned future demands on these water supplies and the impact of land use decisions on the management of California's water supply resources. Government Code Section 65352.5 requires cities and counties, during preparation or amendment of a General Plan or housing element, to consult with the public water systems that may serve the planning area. As part of this consultation, the public water supplier must provide information as appropriate and relevant, including:

1. The current version of its urban water management plan

2. The current version of its capital improvement program or plan

3. A description of the source or sources of the total water supply currently available to the water supplier by water right or contract, taking into account historical data concerning wet, normal, and dry runoff years.

4. A description of the quantity of surface water that was purveyed by the water supplier in each of the previous five years.

5. A description of the quantity of groundwater that was purveyed by the water supplier in each of the previous five years.

6. A description of all proposed additional sources of water supplies for the water supplier, including the estimated dates by which these additional sources should be available and the quantities of additional water supplies that are being proposed.

7. A description of the total number of customers currently served by the water supplier, as identified by the following categories and by the amount of water served to each category:
    a. Agricultural users.
    b. Commercial users.
    c. Industrial users.
    d. Residential users.

8. Quantification of the expected reduction in total water demand, identified by each customer category set forth in paragraph (7), associated with future implementation of water use reduction measures identified in the water supplier's urban water management plan.

9. Any additional information that is relevant to determining the adequacy of existing and planned future water supplies to meet existing and planned future demands on these water supplies.

This coordination ensures that land use planning decisions are informed by current water supply conditions and that water availability considerations are integrated early in the planning process.

1.3.4. California Environmental Quality Act (CEQA) Guidelines

CEQA Guidelines, Section 21121.9, repeat the CWC Sections 10910-10912, included in Section 1.3.2, Senate Bill 610, of this WSCE. CEQA Guidelines Section 15155 further specifies that the WSA must include:

1. Sufficient demand and supply information to permit the lead agency to evaluate the pros and cons of supplying needed water to the proposed project;

2. An analysis of the reasonably foreseeable environmental impacts of supplying water through all project phases;

3. An analysis of circumstances affecting the likelihood of water availability and the degree of uncertainty involved, including drought, saltwater intrusion, and regulatory or contractual curtailments; and

4. If it cannot be determined whether a particular water supply will be available, an analysis of alternative sources and a plan for acquiring additional supplies is required.

Per CEQA Guidelines Section 15155, the WSA must also include a discussion of whether the total water supplies determined to be available for the project during normal, single-dry, and multiple-dry water years over a 20-year period will meet the project's anticipated water demand in addition to existing and planned future water uses.

As stated in Section 1.3.2, Senate Bill 610, the proposed project is not expressly subject to a WSA under Water Code Section 10912 pursuant to SB 610 and is therefore not required to prepare a WSA under the CEQA Guidelines. However, this WSCE touches on related topics from CEQA Guidelines Appendix G, including whether the proposed project would:

1. Result in the construction of new or expansion of existing water facilities;

2. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years

3. Conflict with or obstruct implementation of an urban water management plan or sustainable groundwater management plan.

4. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

1.3.5. IID Water Rights and Relevant Planning Documents

Colorado River water rights are governed by numerous compacts, state and federal laws, court decisions and decrees, contracts, and regulatory guidelines collectively known as the "Law of the River." Together, these documents form the basis for allocation of the water, regulation of land use, and management of the Colorado River water supply among the seven basin states and Mexico. The following documents are relevant to this WSCE.

QSA and Water Transfer Agreement

The Quantification Settlement Agreement (QSA) was executed in 2003 to help California reduce its use of Colorado River water and operate within its legal water entitlement under the Law of the River. The QSA established long-term agreements among IID, Metropolitan Water District (MWD), Coachella Valley Water District (CVWD), San Diego County Water Authority (SDCWA), and other parties regarding Colorado River water use, conservation, transfers, and priorities. Under the QSA, IID agreed to transfer approximately 415,000 acre-feet per year (AFY) of conserved Colorado River water to other Southern California agencies, including:

- 110,000 AF to MWD [modified to 105,000 AF in 2007],
- 205,000 AF to SDCWA
- 103,000 AF to CVWD and MWD combined, and
- Up to 11,500 AFY of water to certain San Luis Rey Indian Tribes.

The QSA provides greater certainty regarding IID's Colorado River water rights and long-term water supply reliability, supporting the availability of water to serve future growth within the City of Calexico.

Interim Water Supply Policy for Non-Agricultural Projects (2009)

The IID Interim Water Supply Policy for Non-Agricultural Projects (IWSP) provides a mechanism for IID to address water supply requests for new non-agricultural projects being developed within the IID water service area. The IWSP designates up to 25,000 AFY of water to be conserved from IID's annual Colorado River water supply, consumptive use cap, for new non-agricultural projects. The IWSP provides a mechanism and process to develop a water supply agreement for any appropriately permitted project and establishes a framework and set of fees to ensure the supplies used to meet new demands do not adversely affect existing users by funding water conservation or augmentation projects as needed to offset the new demand. [1]

[1] *IID website: Municipal, Industrial and Commercial Customers.*

Should implementing future development trigger the need for a WSA, the development may be subject to the IWSP and IWSP fee schedule (IID 2024).

2008 Imperial Integrated Regional Water Management Plan

The Imperial IRWMP serves as the governing document for regional water planning to meet present and future water resource needs and demands by addressing such issues as additional water supply options, demand management and determination and prioritization of uses and classes of service provided. Chapter 7 of the IRWMP identifies strategies to increase the water supply for IID including:

1. **Groundwater storage and banking** to capture Colorado River underruns (near-term)
2. **Recylced municipal water** integrated with a regional mitigation banking strategy (near-term)
3. **Desalination** of brackish groundwater in the Easte Mesa integrated with groundwater recharge strategies (near to mid-term)
4. **Matching water quality** to use to allow the Imperial Region to realize an increase in economic activity by using poor quality water for purposes like algae production and use high quality water, like recycled water, to provide secondary uses for Colorado River water
5. **Local and regional conveyance improvements** to accommodate new conveyance infrastructure related to recycling, groundwater banking, or other proposed Imperial IRWMP projects (mid to long-term)
6. **Surface storage** for municipal system storage for raw or treated water.

After further evaluations 27 projects were configured and ranked. The top ten included six desalination, two groundwater blending, one system conservation, and one groundwater storage capital projects.

1.3.6. Calexico Urban Water Management Plan

Established in the Urban Water Management Planning Act (California Water Code Section 10610-10656), Urban Water Management Plans (UWMPs) must be updated every five years and submitted to the California Department of Water Resources. UWMPs must include the following:

- An assessment of the reliability of water sources over a 20-year planning period
- A description of demand management measures
- A water shortage contingency plan
- A discussion of the use and planned use of recycled water

As of June 2026, the City adopted the Final 2020 UWMP in February 2022, which remains the most recent adopted plan available.

1.3.7. Calexico Capital Improvement Plan

The City of Calexico implements a five-year Capital Improvement Program (CIP) to identify, prioritize, and fund infrastructure improvements necessary to maintain and expand public services, including water supply, water treatment, and wastewater collection and treatment. The CIP serves as the City's primary infrastructure planning and budgeting tool and is updated annually through the City's budget adoption process.

As reflected in the City's FY 2024–2029, the City continues to invest in both water and wastewater system improvements to maintain existing levels of service, address aging infrastructure, and ensure compliance with state and federal regulatory requirements. Planned and programmed water system improvements include:

- New Clarifier and Filter System
- Water Pipeline Replacement
- New Water Equipment
- Switch to Hypochlorine
- Repair Pumps at Water Treatment Plant, Raw Water and Eastside Raw Water Reservoir
- Replacement of Variable Frequency Drives (VFDs)
- Storage Tank Baffle Repairs
- Water Rate Study

The CIP also identifies improvements yet to be funded including an Urban Water Management Study, a water distribution expansion, and raw water reservoir improvements.

In addition to water system improvements, the CIP includes wastewater system capital projects such as upgrades to the City's wastewater treatment plant, including but not limited to disinfection enhancements (including ultraviolet disinfection system upgrades), lift station rehabilitation, and replacement of laboratory equipment. These efforts are funded by Fund 516: Water enterprise and Fund 547: Wastewater enterprise.

1.3.8. Calexico 2018 Service Area Plan (SAP)

The City of Calexico 2018 SAP was prepared to evaluate the City's ability to provide public facilities and services within its existing city limits and Sphere of Influence (SOI) and to demonstrate that adequate infrastructure can be extended to future annexation areas. The SAP serves as a long-range planning document that evaluates existing utility infrastructure, projected demand associated with planned growth, and improvements necessary to maintain adequate levels of service.

The SAP identifies a number of long-term improvements necessary to maintain reliable municipal water service and accommodate future growth within the City and its Sphere of Influence. The SAP recommends continued expansion of the water distribution system through construction of new transmission and distribution mains to serve future development areas, replacement, and rehabilitation of aging water pipelines to improve

system reliability and reduce water losses, and upgrades to pumping facilities and associated mechanical and electrical equipment to improve operational efficiency. The SAP also recommends maintaining and expanding potable water storage facilities, as necessary, to provide adequate operational, equalization, and emergency storage capacity as development occurs.

In addition, the SAP identifies the need for continued upgrades to the City's water treatment facilities to maintain treatment capacity, operational reliability, and compliance with state and federal drinking water regulations. The SAP recommends that water infrastructure planning be coordinated with future land use planning and annexation activities so that treatment, storage, transmission, and distribution improvements are implemented concurrently with development. The SAP anticipates that these improvements would be constructed incrementally and financed through a combination of development impact fees, utility revenues, grants, bond proceeds, and other capital funding sources. The SAP does not recommend development of new water supply sources or acquisition of additional water rights; rather, it assumes continued delivery of Colorado River water by the Imperial Irrigation District and focuses on the infrastructure improvements necessary to treat, store, and distribute that water to existing and future development.

1.3.9. Calexico General Plan

Public Facilities/Services Element

- **Policy 2g:** All future tentative maps should be approved only with conditions based on water and sewer service availability. There shall be no exceptions, either on occasion or by approval.
- **Objective 3**: To provide high quality potable water services to existing residents as well as to accommodate future growth and development.
    - **Policy 3a**: The City shall assess existing water capacity when reviewing applications for new development, and comply with Senate Bills 610 and 221 requiring water supply assurance for projects of significant size (any project requiring water in the amount of or greater than that which would be required by a 500 dwelling unit residential project).
    - **Policy 3b:** All improvements to existing water system that are necessitated by a new development shall be financed entirely by the developer either by fee or actual construction.
    - **Policy 3c:** The dedication, maintenance, and construction of new water storage facilities, pumps, and transmission lines to serve new development shall be reviewed by the City with each new development application.
    - **Policy 3d:** The City shall incorporate measures to promote the conversation of water in new and existing development, specifically best available technologies in new construction and site development, including, but not limited to, water-saving toilets, showerheads, faucets, and water conserving irrigation.

- **Policy 3e:** The extension of water service facilities such as transmission lines or pumps should be limited to one-quarter mile across an undeveloped area when necessitated by new development.

1.3.10. Calexico Municipal Code

Title 13 of the Calexico Municipal Code (Public Services and Utilities) establishes regulations governing the provision, operation, and maintenance of public utility services within the City. The title contains requirements related to municipal water services, including service connections, infrastructure standards, fees, operational responsibilities, and enforcement provisions. The Calexico Municipal Code (CMC), which states that water service is subject to City requirements and reserves the City's authority to limit water service when necessary in the interest of public health and safety (CMC §13.01.060). In addition, whenever the City Council determines by resolution that water use must be limited, it is unlawful to violate those water use restrictions (CMC §13.01.450). Additionally, the CMC requires property owners seeking water connection authorization, enter a water service agreement approved by the city manager and the city attorney (CMC §13.01.130A), and anyone seeking to connect to the City water system, shall enter into a written water extension agreement with the city which shall constitute an application for permission to make said extensions and connections that shall be made and the payments that shall be required (CMC §13.01.160). Review of the water service agreements and water extension agreements include a verification of available connections and the water purveyor's ability to provide service. (Note that part of the project planning process includes a determination of fire flow requirements. The water district cannot issue a WSL without demonstration of sufficient fire flow.)

1.4. Methodology

This Water Supply Consistency Evaluation (WSCE) was prepared to demonstrate compliance with Government Code Section 65352.5 and relevant CEQA Appendix G water supply considerations. The evaluation demonstrates the existing water supplies, projected water supplies, and projected water supplies in normal, single0dry and multiple-dry year conditions. The following sources of data were utilized in developing this report:

- City of Calexico 2007 General Plan Update
- City of Calexico 2022 Final Urban Water Management Plan
- Imperial Irrigation District (IID) Imperial Integrated Regional Water Management Plan (IRWMP) 2009.
- IID Water Supply Assessment Base Form (2024)
- Communications with Calexico Public Works (Williams 2026)
- Communications with IID staff (Gamboa-Arce 2026)

To determine whether implementation of the proposed Housing Element would conflict with or obstruct implementation of the UWMP, projected growth associated with the proposed

project was compared to the population assumptions incorporated into the UWMP. Because the proposed Bowker Site rezone could facilitate future employment-generating development, potential employment associated with future industrial development was also evaluated for consistency with the population-based demand methodology used by the UWMP.

Water supply reliability was evaluated using the planning framework established in the City's UWMP.

1.4.1. Assumptions

This assessment incorporates several assumptions intended to provide a more realistic, yet conservative future water demand, including:

- The Housing Element sites inventory housing yield estimates assume a net parcel acreage (90%) and roughly 80% of the maximum allowable residential density on all identified housing sites.
- Population projections assume the City's 2020-2024 average persons per household metric of 3.82 (U.S. Census Bureau 2024).
- Residential units would be occupied by entirely new residences, not existing.
- Buildout of the newly added 6th Cycle Housing Element sites would occur by 2045 since that is the horizon year of the UWMP, however actual buildout would likely occur over a much longer period given development trends.
- Potential future industrial development associated with the Bowker Site rezone would be less than 650,000 square feet and result in approximately one employee per every 2,000 square feet.
- Dry-year analyses utilize demand increases and reduced available capacities identified in the UWMP to evaluate worst-case supply conditions.

As a result, the projected population presented in this WSCE likely overstates actual future population and thus water demand. As such, this WSCE provides a conservative basis for evaluating long-term water supply adequacy.

2. Water Sources and Supply

As discussed in the UWMP, the City's sole source of water is the Colorado River, which is supplied to the City by the Imperial Irrigation District (IID). The right to water from the Colorado River is governed by numerous compacts, state and federal laws contracts, and regulatory guidelines collectively known as the "Law of the River." With execution of the Quantitative Settlement Agreement (2003)/Transfer Agreements, IID's Priority 3(a) consumptive use was capped at 3.1-million-acre fee per year (MAFY) for the 45-year term of the IID/ San Diego County Water Authority transfer agreement, with possible extension for an additional 30 years (City of Calexico 2022).

The City of Calexico has a 25 million gallon (MG) reservoir for raw water located at the City's Water Treatment Plant.

This section breaks down the City's water supply into historical water supply, and existing and future water supply.

2.1. Historical Water Supply

The total water supply provided to the City by IID is provided in Table 2-1, Historical Water Supply.

Table 2-1: Historical Water Supply

	2021	2022	2023	2024	2025
Total Supplied by IID million gallons (MG)	1,798.8	1,738.6	1,654.6	1,740.2	1,656.9

Source: Gamboa-Arce 2026

2.2. Existing and Future Water Supply

As shown in Table 2-1: Historical Water Supply, the most current total water supply to the City was 1,656.9 MG in 2025.

As for future water supply, IID annually apportions water to its municipalities according to the Equitable Distribution Plan (EDP). Municipal water demand is projected by each municipality and IID manages municipal apportionments collectively under the EDP. If a municipality exceeds their quantified water apportionment, IID will ensure reasonable and beneficial uses that are implementing appropriate best management practices for this area (IID 2026a).

According to the UMWP, the only constraint to the City's future water supply is the City's own water treatment plant (WTP), which has a capacity of 14.2 MGD, although its permitted capacity is 16.67 MGD. Thus, the City's projected available supplies will be based off current annual capacity (5,100 million gallons per year (MGY) per year) (City of Calexico 2022). Assuming no expansions to the WTP, the City's projected maximum available water supply is stable at 5,100 MGY for the foreseeable future until the water treatment plant is expanded. The likely available, or 80% projected available water supply would be 4,080 (City of Calexico 2022).

Additional Water Supply Sources

IID's sole source of water is its 3.1 million-acre-feet entitlement of Colorado River water. IID has no other additional sources of water supply identified (IID 2026b). According to the UWMP, there are no new additional sources of water supplies anticipated for the City of Calexico.

Groundwater

The City does not rely on local groundwater basins due to the poor quality of the groundwater (City of Calexico 2022). The City does not currently rely on other alternative imported water sources such as recycled water either. If needed, the City will rely on the implementation of the Water Shortage Contingency Plan (WSCP) to augment the City's reduced supply during consecutively dry years (City of Calexico 2022).

As such, the proposed project would not decrease groundwater supplies or interfere with groundwater recharge or impede sustainable groundwater management of the basin.

3. Water Demand

3.1. Historical Water Demand

Based on communications with City Public Work's staff, the City's water demand over the past five years is included in Table 3-1, Water Demand in Past Five Years (MGY).

While the City does not supply water to agricultural users, IID does not collect data specific to agricultural lands within the incorporated city limits. Therefore, agricultural water demand was not included in Table 3-1. However, it may be deduced that the agricultural water demand is the difference between the quantity of water supplied by IID, shown in Table 2-1.

Table 3-1: Water Demand in the Past Five Years (MGY)

User type	2021	2022	2023	2024	2025
Commercial/Institutional	210.6	210.5	197.0	208.6	198
Industrial	4.6	4.9	5.6	5.5	4.0
Residential	1,354.6	1,294.8	1,255.7	1,256.4	1,243.9
Single Family	1,157.7	1,107.4	1,074.8	1,065.0	1,048.7
Multi Family	196.9	187.4	180.9	191.4	195.2
Landscape Irrigation	93.2	90.0	131.1	97.9	106.4
Other	8.3	13.1	8.7	8.0	15.1
Total	1,671.3	1,613.3	1,598.1	1,576.4	1,567.4

Source: Williams 2026

This represents an overall decline of approximately eight percent in water demand between 2021 and 2025. The decline in water demand may be in part due to a decline in population of about 3.3 percent since 2017 (U.S. Census Bureau).

3.2. Existing Water Demand

The 2025 Calexico water demand is included in Table 3-1, Water Demand in Past Five Years (MGY).

Based on communications with City Public Work's staff, the total number of customers currently served, as of May 31, 2026, is 451 commercial customers, 20 industrial customers, and 7,984 residential customers (Williams 2026).

3.3. Urban Water Management Plan Consistency

Future water demand for the City is estimated in the most current UWMP. The future water demand projections in Calexico's UWMP are population-based, meaning the estimated water demand through 2045, was calculated by multiplying a water consumption rate by the number of people estimated to live and work in Calexico. As shown in Table 3-2, UWMP Population-Based Water Demand, the UWMP assumes the water demand in the City will increase from 2,343 million gallons a year (MGY) in 2025 to 2,887 in 2045, roughly a 23 percent increase over 20 years. This increase in water demand stems from the increase in the population projected which was estimated to increase by 16,349 people, or approximately 33% over 20 years.

Table 3-2: UWMP Population-Based Water Demand

	2025	2030	2035	2040	2045
UWMP Water Service Area Population	49,075	53,165	57,254	61,344	65,424
Consumption Rate (GPCD) Including 0.5% Annual Passive Savings	143	139	136	132	129
UWMP Water Demand	2,343	2,492	2,632	2,764	2,887

Source: City of Calexico 2022

The UWMP estimates the water demand and supplies through 2045, based on a projected service area population. To assess whether the proposed project would conflict with or obstruct implementation of the UWMP, a population-based methodology was used to maintain a consistent methodology as the UWMP. The following analysis of the proposed project's population uses the Housing Element sites inventory assumed unit yield, multiplies the units by the City's persons per household rate of 3.82 (U.S. Census Bureau

2024), and adds an assumed number of employees from the industrial development site (U.S. GBC 2023).

3.3.1. Consistency Analysis

While the 6th Cycle Housing Element (prepared in 2025) was not available at the time of the UWMP, the UWMP would have accounted for the growth anticipated by the 4th and 5th Cycle Housing Elements, prepared in 2003 and 2015, respectively. In other words, we can therefore assume the 4th and 5th Housing Cycle populations were included in the UWMP projections.

Therefore, for the purposes of determining the proposed project's consistency with the UWMP, the 4th and 5th Cycle Housing Element sites were removed from the project population projections, leaving only newly added 6th Cycle Housing Element sites. As a result, the proposed project's 6th Cycle Housing Element unit yield to assess is 2,645 units, or approximately 10,104 people by project buildout. In addition, the industrial development that may occur on the Bowker site is assumed to have approximately 325 employees[2], thus increasing our water population for assessment to 10,429.

Since the preparation of the UWMP, SCAG has updated their regional and jurisdictional population projections in the 2024 Connect SoCal to portray population trends more accurately. As shown in Table 3-3, Population Comparisons, SCAG's 2024 population projections are now significantly lower than the population projections assumed in the UWMP. The 2024 population projections from SCAG more accurately reflect the local population trends in Imperial County and Calexico, however, are still relatively aggressive considering the City's population peaked in 2017 at approximately 39,953 people and declined to approximately 38,633 in 2020 where it has remained relatively flat to its current estimate of 38,623 people (U.S. Census Bureau 2025). Nevertheless, by relying on the updated population data from SCAG's 2024 Connect SoCal, there is a significant margin between the UWMP assumed population and SCAG's assumed population.

Table 3-3: Population Comparisons

	2025 Census	2030	2035	2040	2045	2050
UWMP Water Service Area Population	38,623	49,075	53,165	57,254	61,344	65,424

[2] Based on approximately 649,999 square feet of light industrial warehouse using approximately 2,000 square feet per employee per the Institute of Transportation Engineers (ITE) data prepared by the U.S. Green Building Council (2023)

SCAG 2024 Connect SoCal Projections		43,423	44,400	46,677	47,256	47,400
Margin (Delta) between UWMP and 2024 SCAG Projections		5,652	8,765	10,577	14,078	18,024
Assumed maximum Project population (minus 4th and 5th cycle housing element sites)		2,086	4,172	6,257	8,343	10,429
Sources: City of Calexico 2022; U.S. Census Bureau 2024; SCAG 2024 Note: Italicized numbers are assumed estimates based on the interpolated and extrapolated quantities based on the provided data in the listed sources.						

As shown in Table 3-3, Population Comparisons, the additional population from the proposed project that was not accounted for in the UWMP (10,429 people), is within the margin between the UWMP projections and the 2024 SCAG population projections. Therefore, the UWMP was conservative enough to account for the population resulting from the proposed 6th cycle housing sites. Accordingly, implementation of the proposed project would occur within the population planning assumptions used to develop the City's long-term water demand projections.

3.4. Reliability Planning

3.4.1. IID Considerations

Historically, when drought conditions exist within the IID water service area, as has been the case for the past two decades, the water supply available to meet agricultural and non-agricultural water demands remains the same as normal year water supply because IID historically relied solely on its entitlement for Colorado River water. Due to the priority of IID water rights and other agreements, drought conditions affecting Colorado River water supplies cause shortages for Arizona, Nevada, and Mexico, before impacting California and IID (IID 2024).

However, today, given the Colorado River conditions, “the likelihood that IID will not receive its annual 3.1 MAF apportionment less QSA/Transfer Agreement obligations of Colorado River water is no longer low despite the high priority of the IID entitlement relative to other Colorado River contractors” (IID 2024).

IID forecasted future non-agricultural water demand from 2025 to 2055 and forecasted an increase in the use of non-agricultural water of 94 KAF, or 30,630 MG, for the period of 2015 to 2055 (IID 2024). While forecasted long-term annual yield is sufficient to meet the forecasted non-agricultural use demand, without regulatory cuts and without expanding IID's Water Supply Portfolio, IID has also evaluated the feasibility of numerous capital projects to increase its water supply portfolio.

Should reductions to IID's wholesale water supply be ordered or directed from a governmental authority having appropriate jurisdiction, development within the City may be required to reduce its water supply demand by a proportionate reduction of the total volume of wholesale water available to IID.

3.4.2. Calexico Reliability Planning

The City's water reliability is based entirely on the reliability of IID's water rights (Calexico 2022). The City of Calexico, through the UWMP, has the responsibility to determine if the current and projected demands and water supply conditions, including projected uncertainties of Colorado River hydrology are sufficient to enable the City to make the findings necessary to approve the proposed project.

The UWMP includes a drought risk assessment for the City's water system which compares projected future City water demands with expected water supply availability under normal year, single dry year, and multiple dry year scenarios. The current UWMP's planning horizon year in 2045. However as shown in Table 3-3, the proposed project's unallocated population of 10,429 is still within the margin between the UWMP 2045 population projections and SCAG's 2024 population projections for 2045 (14,078); meaning the proposed project's additional population is still covered by the UWMP projections through 2045. The UWMP population projections are conservative enough meet the demands of the proposed project and therefore the UWMP water reliability tables are used throughout this section.

The UWMP results for normal year conditions are shown in Table 3-4, Normal Year Water Supply & Demand Projections. Single dry year conditions are shown in Table 3-5, Single Dry Year Water Supply & Demand Projections, and Multiple Dry Year conditions are shown in Table 3-6, Multiple Dry Year Water Supply & Demand Projections.

Normal Year

Table 3-4, Normal Year Water Supply & Demand Projections, depicts projected water use in normal water year types for 2030 to 2045 from the UWMP. Because IID's, and thus the City's water supplies are mostly drought-proof as stated previously in this section, it is very unlikely that supplies will be restricted, even during multi-year droughts. However, for conservative planning purposes, the City's UWMP base projected water supplies were based on two-thirds (2/3) of the 2018 assumed capacity of the City's WTP, which was roughly 2,920 MGY.

Table 3-4: Normal Year Water Supply & Demand Projections

	2030	2035	2040	2045
Total Supply (MG)	2,492	2,632	2,764	2,887
Total Normal Demand (MG)	2,492	2,632	2,764	2,887
Supply – Demand (Difference)	0	0	0	0

Source: City of Calexico 2022

Single and Multiple Dry Year

Per the City's UWMP, for drought-time demands, it is expected that there will be a small degree of increase due to the lack of rainfall on landscapes. To estimate demands during single and multiple (five) year drought periods, the following increase factors will be assumed:

- Single Dry Year: +5%
- Multiple Dry Years: + 5%, +10%, +2%, +2%, and +2%

Table 3-5 Single Dry Year Water Supply & Demand Projections

	2030	2035	2040	2045
Total Supply (MG)	2,920	2,920	3,285	3,285
Total Normal Demand (MG)	2,617	2,764	2,902	3,032
Supply – Demand (Difference)	303	156	383	253

Source: City of Calexico 2022

Table 3-6 Multiple Dry Year Water Supply & Demand Projections

	2030	2035	2040	2045
Total Supply (MG)	2,920	2,920	2,920	3,285
Total Normal Demand (MG)	2,542	2,685	2,819	2,945

Supply – Demand (Difference)	378	235	101	340

Source: City of Calexico 2022

As shown in Tables 3-4, 3-5, and 3-6, the City will have sufficient water supplies available to serve the City, including the proposed project during normal, dry, and multiple dry year conditions.

3.4.3. Demand Reductions

Regional Reduction Measures

As discussed in Section 1.3, IID Water Rights and Relevant Planning Documents, IID is executing water conservation measures through the IIRWMP which establishes strategies to diversify and supplement the IID water supply such as groundwater storage and municipal water recycling.

In addition, IID has authority to manage the water supply within its service area and impose conservation measures during a period of temporary water shortage, such as Equitable Distribution Plan (EDP) and the Overrun Payback Policy (IOPP).

Local Reduction and Enhancement Measures

The UWMP indicates the City has already achieved its (2020) demand reduction target of 172 gallons per day per capita (GPCD) in accordance with Section 10608.22 of the Code. The City of Calexico does not have any reclaimed (grey) water infrastructure in place to enforce. If there is a need to further reduce water demands, the City's Water Shortage Contingency Plan provides the City with the authority and guidance to implement a phased water shortage response (City of Calexico 2022).

Furthermore, By-Right Development projects would be subject to the Calexico Municipal Code (CMC), which states that water service is subject to City requirements and reserves the City's authority to limit water service when necessary in the interest of public health and safety (CMC §13.01.060). In addition, whenever the City Council determines by resolution that water use must be limited, it is unlawful to violate those water use restrictions (CMC §13.01.450). Additionally, the CMC requires property owners seeking water connection authorization, enter a water service agreement approved by the city manager and the city attorney (CMC §13.01.130A), and anyone seeking to connect to the City water system, shall enter into a written water extension agreement with the city which shall constitute an application for permission to make said extensions and connections that shall be made and the payments that shall be required (CMC §13.01.160). Review of the water service agreements and water extension agreements include a verification of available connections and the water purveyor's ability to provide service. (Note that part of the project planning

process includes a determination of fire flow requirements. The water district cannot issue a WSL without demonstration of sufficient fire flow.)

Lastly, water conservation requirements under Title 24 (CALGreen), Senate Bill 606 and Assembly Bill 1668, and Senate Bill X7-7 reduce per capita water demand through mandatory efficiency standards for indoor and outdoor uses. These statewide regulatory frameworks, combined with existing City conservation programs and IID efficiency measures, further support long-term supply reliability.

As previously stated, the City's water supply is the limited capacity of the City's WTP. The 2018 Calexico Service Area Plan noted that the City had already hired a civil team to prepare a Preliminary Engineering Report on interim and/or long-term improvements to the WTP, and design of a WTP Expansion project would also need to be initiated by the end of the 20-Year Planning Term (2038). While this would not reduce water demand, this would increase the water supply capacity, alleviating the need for further demand reduction measures.

4. Conclusion

This Water Supply Consistency Evaluation demonstrates that the proposed project is consistent with the City of Calexico's 2020 Urban Water Management Plan (UWMP) and that sufficient water supplies are available to serve the proposed Housing Element project over the planning horizon (2050).

The consistency analysis in Section 3.3.1 determined that the proposed project's additional population, attributable to the newly added 6th Cycle Housing Element sites and potential employment associated with the Bowker Site, would not exceed the population assumptions used to develop the City's UWMP. Although the UWMP was prepared prior to adoption of the 6th Cycle Housing Element, comparison with the updated 2024 SCAG Connect SoCal population forecasts demonstrates that the UWMP incorporated sufficiently conservative population assumptions. The estimated project-related population increase of approximately 10,429 people remains within the margin between the UWMP's projected service area population and SCAG's updated regional population projections through 2045. Accordingly, implementation of the proposed project would not conflict with or obstruct implementation of the City's UWMP, and the projected water demand associated with the project are encompassed within the City's long-term water demand planning assumptions.

The reliability analysis in Section 3.4 further demonstrates that adequate water supplies are expected to be available to meet the City's existing and projected demands under normal, single dry year, and multiple dry year conditions. The UWMP demonstrates that projected available supplies are sufficient to meet projected demands throughout the planning horizon under normal, single dry year, and multiple dry year conditions. Because the proposed project's projected population remains within the conservative planning assumptions incorporated into the UWMP, the reliability analysis and corresponding water supply projections remain applicable to the proposed project.

The City receives its entire potable water supply from the IID, whose Colorado River water entitlement provides a highly reliable source of supply. Although IID recognizes increasing uncertainty associated with long-term Colorado River hydrology and potential future regulatory actions, IID continues to plan for these uncertainties through regional water supply planning, implementation of the Equitable Distribution Plan, conservation programs, and evaluation of additional water supply portfolio projects. At the local level, the City's UWMP incorporates these planning considerations by evaluating water supply reliability under multiple drought scenarios, with the City's Water Shortage Contingency Plan as an option to further reduce water demand and address potential shortages should they occur.

Based on the analyses presented herein, the proposed project would not result in a demand for water that exceeds available or planned water supplies, would not require new or expanded water entitlements beyond those anticipated in the City's UWMP, and would not conflict with the City's long-term water supply planning. Therefore, sufficient water supplies are available to meet the projected water demands of the proposed project during normal, single dry year, and multiple dry year conditions.

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