Appendix P

Public Comments and Responses to Comments

Responses to Comment Letters Received on the Draft EIR

The Draft EIR was circulated for public review from March 2, 2023, through April 17, 2023, in accordance with Section 15105(a) of the California Environmental Quality Act (CEQA) Guidelines. A total of eight written comment letters were received on the Draft EIR from agencies and organizations, as shown in Table 1. Each of the written comment letters have been assigned an alphanumeric label, and the individual comments within each written comment letter are bracketed and numbered. For example, Comment Letter A1 contains one comment that is numbered A1-1.

The responses to each comment on the Draft EIR represent a good-faith, reasoned effort to address the environmental issues identified by the comments. Pursuant to Section 15088(a) of the CEQA Guidelines, the City of San Marcos (City), as lead agency, is not required to respond to all comments on the Draft EIR, but only those comments that raise environmental issues. In accordance with CEQA Guidelines Sections 15088 and 15204, the City has independently evaluated the comments and prepared the attached written responses to any significant environmental issues raised.

Table 1. Comment letters and Commenters

Comment Letter	Commenter	Date Received
Agency		
A1	City of Carlsbad Public Works Branch/Transportation Department	April 11, 2023
A2	US Department of Fish and Wildlife	April 13, 2023
A3	California Department of Fish and Wildlife	April 17, 2023
A4	California Department of Transportation	April 17, 2023
Organizations		
O1	San Diego County Archaeological Society, Inc.	April 3, 2023
O2	California Native Plant Society	April 17, 2023
O3	Southwest Mountain States Regional Council of Carpenters	April 17, 2023
Individuals		
I1	Leslie Kuhn	April 26, 2023

Global Responses

The City has received comments requesting additional information related to the feasibility, anticipated success, and contingency measures for the proposed mitigation for identified impacts to vernal pools containing San Diego fairy shrimp and for San Diego button celery, thread-leaved brodiaea, and Orcutt's brodiaea. The City has also received comments stating that proposed on-site mitigation for impacts to vernal pools containing San Diego fairy shrimp and for San Diego button celery, thread-leaved brodiaea, and Orcutt's brodiaea is not adequate to fully mitigate for Project impacts. Responses to these comments are provided below.

Global Response A: The Mitigation in the EIR is Feasible and Performance Standards and Contingency Measures will Ensure Impacts would be reduced to Less than Significant Levels

As discussed in the EIR, Section 3.3.5, the proposed project has been designed to minimize impacts to sensitive natural communities to the extent feasible. The proposed project would permanently preserve, restore, and manage 17.94 acres (approximately 54 percent) of the approximately 33.22-acre project site as open space and habitat area. The project design avoids and protects in place just over 80 percent of the on-site population of the federally and state listed endangered thread-leaved brodiaea, over 70 percent of the on-site population of the federally and state listed endangered San Diego button celery, and just under 40 percent of the non-listed but rare, Orcutt's brodiaea. The project design also avoids 60 percent of vernal pools/basins occupied by San Diego fairy shrimp, including their corresponding watersheds (i.e., the project avoids 11 occupied vernal pools and 1 road rut while impacting 8 occupied basins), and approximately 2/3 of the vernal pool sensitive natural communities onsite (avoiding 0.29 acres and impacting 0.15 acres of vernal pools onsite.)

Despite project design to protect in place and minimize impacts to sensitive biological resources onsite, the EIR identifies that the proposed project will result in potentially significant impacts. The proposed project will result in potentially significant impacts related to three special-status plant species (San Diego button celery, thread-leaved brodiaea, and Orcutt's brodiaea) and one special-status animal species (San Diego fairy shrimp); critical habitat for San Diego fairy shrimp, thread-leaved brodiaea, and spreading navarretia; the sensitive natural communities identified in the EIR at Table 3.3-6, Impacts to Sensitive Natural Communities (including 0.15 acres of vernal pool (Group A) and 14.9 acres of upland habitat); and potential jurisdictional resources.

Mitigation Measures MM-BIO-1 through MM-BIO-8b would ensure consistency with the Multiple Habitat Conservation Program (MHCP) and draft San Marcos Subarea Plan, reduce potential impacts related to special status plants and animals, would reduce potential impacts on sensitive natural communities, and would ensure that the appropriate permits are obtained and that impacts are compensated in accordance with USFWS, CDFW, RWQCB, and/or USACE requirements. These measures outline the comprehensive planning, management, and monitoring for success that is required to occur through consultation with the appropriate agencies to preserve and restore sensitive vegetation communities, provide suitable habitat for special-status species, and mitigate impacts to sensitive fairy shrimp. With implementation of mitigation, project impacts to biological resources would be reduced below a level of significance.

It is anticipated that mitigation will occur onsite through translocation, preservation, creation, expansion, and enhancement. The onsite conceptual biological mitigation and transplantation design proposed by the project is presented on Figure 13 of the Biological Technical Report, EIR Appendix C. The conceptual mitigation plan has been designed to accommodate the anticipated mitigation ratios required by MM-BIO-1 through MM-BIO-8. Onsite mitigation for impacted species is as follows: approximately 0.27-acre existing vernal pool preservation, approximately 0.28-acre of vernal pool creation, approximately 0.18-acre of vernal pool expansion, and approximately 0.02-acre

vernal pool enhancement, approximately 6.83 acres of existing thread-leaved brodiaea preservation, approximately 2.12 acres of existing Orcutt's brodiaea preservation, approximately 5.88 acres of thread-leaved brodiaea and Orcutt's brodiaea translocation, and, approximately 1.99 acres of existing grassland preservation.

This conceptual mitigation design is comprehensive, provides details of the proposed mitigation, and was developed based on field mapping of existing resources, consideration for mitigation suitability, and likelihood of success. For instance, regarding onsite transplantation, the locations on-site that are proposed for transplantation are those where the target species were not found to be present in multiple years of focused surveys. These areas could therefore support the species without disruption or impacting existing populations. In areas found to be occupied by thread-leaved brodiaea and Orcutt's brodiaea, results of the focused surveys and corresponding quadrat sampling of flowering individuals during the peak blooming period found that the brodiaea density on-site varies widely, from between approximately 16 flowering individuals per square meter (m^2) to approximately 91 flowering individuals/m^2. This variation in density, as well as the evidence of suitable habitat areas not occupied, would suggest that the site is not at the carrying capacity for the species. The site could likely accommodate additional flowering individuals within areas currently occupied at a low density.

What could not be adequately demonstrated to be mitigated on-site – which is anticipated to consist of approximately 1.09 acres of Diegan coastal Sage scrub -- must be shown to occur off-site through direct preservation, creation, restoration, and/or enhancement, or through the purchase of bank credits. Based on current credit availability, this remaining mitigation for Diegan coastal sage scrub and grassland could be provided through acquisition of credits from mitigation banks such as Brook Forest Mitigation Bank, Cleveland Corridor Conservation Bank, Heights of Pala Mesa Conservation Bank, Manchester Avenue Conservation Bank, Ramona Grasslands Conservation Bank, Red Mountain Conservation Bank, or another location deemed acceptable by the City, USFWS, and CDFW. MM-BIO-1 and MM-BIO-7b also provides this off-site contingency in response to comments from regulatory agencies and the subsequent regulatory process; however, it is anticipated that on-site measures will effectively mitigate for project impacts to vernal pools, San Diego button celery, thread-leaved brodiaea, Orcutt's brodiaea, San Diego fairy shrimp and habitat, and other sensitive vegetation communities (i.e., grassland). Given the locations on-site and the mitigation quantities proposed, conceptual mitigation will provide sufficient onsite compensation to mitigate the project impacts without needing to rely on an off-site contingency.

Project mitigation measures commit to rare plant and vernal pool mitigation requirements and explain the standards the project must meet. Additionally, please refer to the 2023 Summary Report from Helix (Attachment 1 to this Responses to Comments document), which confirms the capacity of the site to complete on-site translocation. Project mitigation requires that the City and regulatory agencies review and approve the HMMP and PMP prior to issuance of land disturbance, clearing, grubbing, or grading permits for the Project site.

Specifically, Mitigation Measure MM-BIO-1 would preserve or restore sensitive plant species and vegetation communities that provide suitable habitat for these species through a rare plant transplant plan. MM-BIO-1 requires that the City and resource agencies (USFWS and/or CDFW) review and approve a rare plant transplant plan of the target plant species and to achieve establishment success. In addition to direct replacement/relocation of individuals impacted, the proposed mitigation plan will also include salvaging of on-site seed for greenhouse propagation as well as direct dispersal of seeds collected. The mitigation plan also includes several adaptive monitoring and management strategies following installation to provide additional contingency and assurance for success such as additional seed collection/propagation, additional plant distribution, intensifying maintenance, as well as collection and distribution of additional vernal pool inoculum. Implementation of these additional efforts are expected to supplement direct transplanting and provide assurance and compensation/replacement for individuals impacted. The plan will cover an initial establishment period and also to contain contingency/remedial measures

in case the performance standards prescribed in the approved rare plant transplant plan are not met. Contingency or remedial measures may include supplemental seeding or transplantation of nursery-grown plants, replacing dead plants, improving weed control, or other adaptive management techniques required by the resource agencies (USFWS and/or CDFW). In addition, the resource agencies may require the rare plant transplant plan also include off-site translocation and/or replanting at one of several candidate sites in the City having appropriate soils and habitat for these species. Resource agency verification that transplant plan performance standards have been met is required for the measure to be completed. Planning, mitigation, maintenance and monitoring, contingency measures, and ultimate verification of success will ensure the success of the transplant plan to mitigate project impacts. Given the proposed mitigation to translocate and replant these impacted individuals on-site, as well as plant additional greenhouse propagated individuals and implement contingency or remedial measures as applicable, the project is anticipated to result in an increase of occupied habitat on-site for rare plant species following the completion of mitigation.

MM-BIO-3 requires the Applicant or Developer demonstrate that the required agency consultation has been completed related to adverse effects to San Diego Fairy shrimp, thread leaved brodiaea, and San Diego button celery prior to the issuance of any land disturbance, clearing, grubbing, or grading permits for the project site. This measure also requires that long-term perpetual protection and management of habitat for these listed species be addressed through implementation of a Habitat Mitigation and Monitoring Plan (HMMP) and Preserve Management Plan (PMP), as further set forth in mitigation measures MM-BIO-7a and MM-BIO-7b.

MM-BIO-7a through MM-BIO-7b establish the compensatory mitigation ratios for impacts to sensitive natural communities and species; require implementation of compensatory mitigation on- site or off-site and require the preparation and implementation of a HMMP and PMP. These measures detail the information, mitigation, monitoring, stewardship, and management measures for the preserve area onsite or within any off-site areas. These measures establish mandatory standards, information, and subsequent agency permitting that commits the Applicant or Developer to mitigation and will ensure the plan's success. A HMMP will include a summary of the project and corresponding mitigation requirements, the existing "baseline" conditions and functions of the proposed mitigation site, the suitability of the target mitigation site, proposed conditions and functions of the mitigation, costs and funding, ownership and other responsible entities, implementation (site preparation, resource salvaging, resource protection) procedures, maintenance and monitoring, reporting, contingencies, and determination of success. The standards for the HMMP and PMP are established by the mitigation measure; however, because condition, modification, and augmentation of the HMMP and PMP requires a consultation process and is subject to regulatory agency review, it is not feasible to provide the details of these plans as part of the mitigation measures. Evidence of agency consultation and approval of an HMMP and PMP must be provided to the City prior to issuance of any land disturbance, clearing, grubbing, or grading permits for the proposed project.

Mitigation Measure MM-BIO-2 requires City and the permit-issuing resource agency review and approval of a vernal pool mitigation plan (VPMP), that provides for the creation/expansion, re-establishment, and/or restoration, as well as maintenance and monitoring of vernal pools and the preservation and restoration of vernal pool areas to mitigate for impacts to this sensitive vegetation community and San Diego fairy shrimp and its habitat. This measure describes that mitigation will occur onsite according to the conceptual mitigation plan for the project. The measure describes that permit-issuing resource agency consultation and approval is required; and describes what shall be included in the VPMP, including creation and restoration methods, performance standards, contingency measures if performance standards are not met, and a resource salvage plan and translocation of fairy shrimp cysts by inoculation into suitable habitat within the preserve areas or created or restored onsite habitat. MM-BIO-2 requires that the Applicant or Developer provide full funding of the approved vernal pool mitigation plan via an endowment

or other mechanism of the cost estimate approved by the permit-issuing resource agency for financial assurance prior to any clearing, grubbing, grading, or other land disturbance related to the project.

Again, MM-BIO-3 and MM-BIO-7a through MM-BIO-7b mandate agency consultation and the compensatory mitigation ratios for vernal pools. These mandatory standards, requirements, and subsequent regulatory permitting process will ensure the success of mitigation for vernal pool and San Diego fairy shrimp-related project impacts.

Bolstered by a history of similar successfully implemented mitigation programs in the area, the proposed mitigation measures are feasible and support the finding that project impacts to biological resources will be less than significant following implementation of mitigation. For example, the successful implementation of rare plant translocation is supported by thread-leaved brodiaea translocations that have proven successful in the City at the Joli Ann Leichtag Elementary Preserve, Baldwin Preserve, and the Rancho Santalina Preserve. The Joli Ann Leichtag Elementary Preserve (Preserve) served as a receptor site for the translocation of thread-leaved brodiaea individuals that were within the impact footprint of the Elementary School. Subsequently, this Preserve site has also served as receptor location for thread-leaved brodiaea impacts related to the Laurel Creek Condominiums development project. Thread-leaved brodiaea were successfully translocated within an approximate 0.5-acre non-native grassland receptor area within the Preserve, which resulted in a total population of over 60,000 thread-leaved brodiaea in the Preserve. The Rancho Santalina Preserve has also been a receptor site for translocation of thread-leaved brodiaea. These sites display similar characteristics as the project site (soil and vegetation types) and are located less than 2 miles from the project site. Each of these sites have completed successful translocation, are protected with conservation easements, and are currently under perpetual management by a Habitat Manager.

The successful implementation of vernal pool preservation, creation, expansion, and enhancement is supported by the nearby Fry's (i.e. Palomar Station) vernal pool mitigation site, which has been successfully implemented for several decades. Located approximately half a mile from the project, the density of resources at the Fry's site are similar to that proposed for the project and depicted at Figure 13 of the Biological Resources Report (see EIR Appendix C), which represents the conceptual mitigation plan. The proposed project would also incorporate elements employed at the successful Fry's vernal pool mitigation site, such as vernal pool CRAM analysis, grading parameters and techniques, plantings, additional native pollinator support, and success criteria. Information summarizing the success of vernal pool mitigation and density of resources at the nearby Fry's site is included as Attachment 1 to Appendix C of the Final EIR.

Global Response B: Sufficiency of Vernal Pool Mitigation Ratios and Performance Standards

To the extent comments were received suggesting additional vernal pool mitigation is needed, the EIR recommends mitigation for vernal pools occur at a 3:1 ratio, which is more than the 2:1 minimum ratio required by the MHCP. Providing 3:1 means three times the impacted area will be enhanced, restored, and permanently preserved and managed with successful mitigation. Given the amount of disturbance at the site and likelihood that on-site vernal pools and sensitive plant populations would continue to degrade due to the competition of resources and abundance of non-native species, a 3:1 ratio is anticipated to fully compensate for the impacted vernal pool habitat and reduce impacts to less than significant levels. (*Banning Ranch Conservancy v. City of Newport Beach* (2012) 211 Cal.App.4th 1209, 1233 [upholding 2:1 mitigation ratio and noting "mitigation need not account for every square foot of impacted habitat to be adequate. What matters is that the unmitigated impact is no longer significant."]; *Mira Mar Mobile Community v. City of Oceanside* (2004) 119 Cal.App.4th 477, 495 [upholding 3:1 mitigation ratio for coastal sage scrub].)

Here, the mitigation ratios proposed were based on rarity or ecological importance of habitat type, distance from the impact site, temporal loss, and the likelihood of a successful mitigation process. As discussed in section 3.3.1, Existing Conditions, of the EIR, while the habitat type is important, it has been subject to continued disturbance due to human influence, including routine dumping of trash, off-highway vehicle recreation, unsanctioned community gatherings, and plant harvesting/poaching. The mitigation program would implement an onsite strategy to mitigate vernal pool impacts at a 3:1 ratio, which mitigation success will be ensured through appropriate creation, reestablishment, restoration, maintenance, monitoring with reporting, perpetual management, and financial assurances.

The standards provided in pertinent regional planning documents, including the MHCP[1], the MHCP subarea plans, industry examples of resource agency requirements, and experience in the field and review of successful mitigation in the area support the proposed 3:1 mitigation ratio for vernal pools at the site. Locally, a minimum 2:1 ratio is required by the MHCP and up to 3:1 is required by the City of Encinitas MHCP subarea plan. Within the adopted City of San Diego MSCP, a 2:1 ratio is required for impacts to vernal pools occupied with listed shrimp, a 3:1 ratio is required for pools also occupied by San Diego button celery, and up to 4:1 ratio is required for pools with Spreading navarretia, San Diego mesa mint, California Orcutt grass, and Otay mesa mint. The County of San Diego Biological Mitigation Ordinance states that a 3:1 mitigation ratio is required for impacts to vernal pools. Consistent with these local standards established to ensure adequate mitigation, the project proposes a 3:1 mitigation ratio for all impacted vernal pools both with and without listed shrimp or rare plants (including San Diego button celery).

U.S. Army Corps of Engineers and Regional Water Quality Control Board precedent was also considered. While neither has a standard ratio for impacts to vernal pools, as projects are evaluated on a case-by-case basis, the Corps' draft mitigation ratio checklist was consulted and verified the proposed 3:1 ratio. Further, the Regional Water Quality Control Board (RWQCB), mitigation at the immediately nearby (approximately 0.5-mile) Fry's vernal pool site required and completed at a 1.5:1 ratio (0.03-acres of vernal pool establishment to mitigate for a 0.02-acre direct permanent).

For instance, in *California Native Plant Society v. City of Rancho Cordova* (2009) 172 Cal.App.4th 603, 611, 621-622, the court upheld a 2-1/1-1 preservation/creation requirement for vernal pool impacts and a 1:1 ratio for impacts to waters of the US. The current project proposes double this ratio at 3:1.

For each of these reasons, the mitigation ratio of 3:1 proposed in the EIR is considered appropriate and sufficient to reduce vernal pool impacts below a level of significance.

Global Response C: Off-Site Mitigation Contingency

Comments questioned the feasibility of using off-site mitigation banks to fully compensate for project impacts. Based on the analysis of the Biological Resources Technical Report prepared for the project, the current project design proposes mitigation occur *onsite* via direct preservation, creation, restoration, and/or enhancement. Refer to EIR Appendix C, Biological Technical Report, Figure 13 Proposed Conceptual Mitigation, showing the proposed conceptual areas for onsite mitigation.

The conceptual mitigation plan includes the following onsite mitigation: approximately 0.27-acre existing vernal pool preservation, approximately 0.28-acre of vernal pool creation, approximately 0.18-acre of vernal pool expansion, and approximately 0.02-acre vernal pool enhancement; approximately 6.83 acres of existing thread-leaved brodiaea preservation; approximately 2.12 acres of existing Orcutt's brodiaea preservation; approximately

[1] Note, because the City of San Marcos has not approved or adopted their Draft Subarea Plan, the project is not subject to the requirements of the MHCP, though it is recognized and herein as a guide for project site planning considerations.

5.88 acres of thread-leaved brodiaea and Orcutt's brodiaea translocation; and, approximately 1.99 acres of existing grassland preservation.

What could not be adequately demonstrated to be mitigated onsite, which would be mitigated off-site, consists of approximately 1.09 acres of poor quality and isolated Diegan coastal Sage scrub. Mitigation for this sage scrub must occur off-site through direct preservation, creation, restoration, and/or enhancement, or through the purchase of bank credits.

Mitigation Measure MM-BIO-7b identifies several conservation banks in the region that are appropriate to provide conservation credits for equivalent or superior sage scrub replacement habitat, including Brook Forest Mitigation Bank, Cleveland Corridor Conservation Bank, Heights of Pala Mesa Conservation Bank, Manchester Avenue Conservation Bank, Ramona Grasslands Conservation Bank, Red Mountain Conservation Bank, or another location deemed acceptable by the City, USFWS, and CDFW. An agency does not need to identify the exact location of offsite mitigation property for an EIR to comply with CEQA where it has committed to mitigation. (*Preserve Wild Santee v. City of Santee* (2012) 210 Cal.App.4th 260, 279 [upholding mitigation providing for acquisition of offsite property – or properties – to meet Quino mitigation acreages], *California Native Plant Society v. City of Rancho Cordova* (2009) 172 Cal.App.4th 603, 621-622 [upholding proposed off-site vernal pool mitigation measure where no offsite location was identified].) The project is committed to purchase conservation credits prior to any land disturbance, clearing, grubbing, or issuance of grading permits for the project. Based on current credit availability, this remaining mitigation for Diegan coastal sage scrub and grassland could be provided through acquisition of credits from these banks.

As discussed above and in the bio report, on-site mitigation, and off-site mitigation property (or properties) together will mitigate project impacts to less than significant. Implementation will be enforced as the Applicant or Developer must demonstrate compliance with mitigation performance standards identified in EIR Table 3.3-8, Mitigation for Impacts to Sensitive Natural Communities, whether achieved on- or off-site, prior to issuance of permits for land disturbance, clearing, grubbing, or grading permits being issued for the Project (MM-BIO-7b).

In sum, the EIR adequately addresses the proposed project's potential to significantly impact vernal pools containing San Diego fairy shrimp; San Diego button celery; thread-leaved brodiaea; and Orcutt's brodiaea, and mitigation has been adopted that would reduce these impacts to less than significant levels.

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Comment Letter A1

From: Nick Gorman <Nick.Gorman@carlsbadca.gov>
Sent: Tuesday, April 11, 2023 8:24 AM
To: Pacific Project <pacificproject@san-marcos.net>
Cc: Nathan Schmidt <Nathan.Schmidt@carlsbadca.gov>
Subject: Pacific Specific Plan (SCH#2022050650) - City of Carlsbad Comment

Hey Chris,

Nick Gorman with the City of Carlsbad's Transportation Planning and Mobility group. We have just one comment on the Pacific Specific Plan (SCH#2022050650):

- Figure 7-1a in Appendix K currently shows 15 % of project traffic headed to/from the west along W San Marcos Blvd, please have the transportation analysis provide a trip distribution figure to show the number of daily and peak hour trips entering the City of Carlsbad via W San Marcos Blvd/Palomar Airport Road. Palomar Airport Road west of Melrose Rd is currently an exempt roadway, if the project adds 110 daily trips or 11 peak hour trips to any LOS exempt roadway, a Transportation System Management (TSM) payment will be required.

A1-1

Feel free to have LLG contact us if they have any questions or let us know if you have any questions.

Thanks!
Nick

Nick Gorman, EIT
Associate Engineer
Public Works Branch/Transportation Department
City of Carlsbad
1635 Faraday Ave.
Carlsbad, CA 92008

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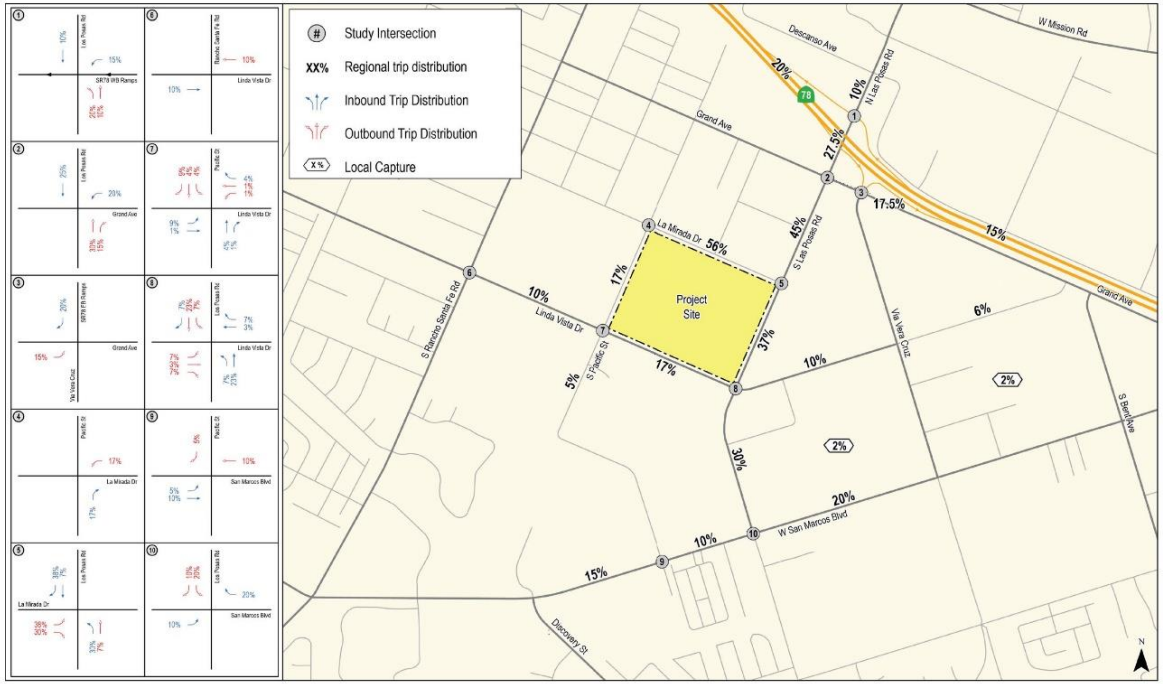

Figure 7-1a
Project Traffic Distribution

Pacific

Page 2 of 2 in Comment Letter A1

Response to Comment Letter A1

Agency
City of Carlsbad Public Works Branch/Transportation Department
April 11, 2023

A1-1 The comment relates to traffic delay or congestion, which is no longer considered a significant impact on the environment pursuant to CEQA. (Pub. Resources Code section 21099(b)(2).) The VMT analysis provided at Section 3.15 and Appendix J of the EIR address the project's transportation impacts under CEQA. As the comment does not raise an environmental issue within the meaning of CEQA, no further response is required or necessary.

Notwithstanding, in response to the comment related to the Local Transportation Analysis (LTA) prepared to comply with City requirements, LLG has prepared an extended project traffic distribution (attached below), which shows the distribution of trips entering Carlsbad via W. San Marcos Blvd/Palomar Airport Rd. To inform the distribution of trips, LLG has used existing traffic patterns and the location of compatible land uses. Palomar Airport Road, west of Melrose Drive, within the City of Carlsbad, is expected to receive approximately 3% of project traffic. This equates to 81 daily trips, 6 AM peak hour trips, and 7 PM peak hour trips, which is below the City of Carlsbad thresholds for triggering a required Transportation System Management payment of 110 daily trips or 11 peak hour trips. It should be noted that the City of Carlsbad's jurisdiction over Palomar Airport Road commences approximately 3.5 miles from the project site, such that most project traffic has already distributed to other roadways and locales before reaching the City.

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Comment Letter A2

United States Department of the Interior
U.S. FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

In Reply Refer to:
22-0053959_CEQA_EIR_SD

April 13, 2023
Sent Electronically

Chris Garcia
Associate Planner
City of San Marcos Planning Division
1 Civic Center Drive
San Marcos, California 92069

Subject: Comments on the Environmental Impact Report for the Pacific Specific Plan, City of San Marcos, San Diego County, California

Dear Chris Garcia:

The U.S. Fish and Wildlife Service (Service) has reviewed the draft Environmental Impact Report (DEIR) for the Pacific Specific Plan (project), in the City of San Marcos (City), California. We previously commented on the Notice of Preparation (NOP) for this project in our letter dated July 12th, 2022 (FWS-SDG-2022-0053959). Our comments and recommendations are based on the information provided in the DEIR and our knowledge of sensitive and declining vegetation communities in San Diego County, and our participation in regional conservation planning efforts including the Multiple Habitat Conservation Program (MHCP). A2-1

The primary concern and mandate of the Service is the protection of public fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and threatened and endangered animals and plants occurring in the United States. The Service is also responsible for administering the Federal Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), including habitat conservation plans (HCP) developed under section 10(a)(1)(B) of the Act.

The proposed 33-acre project site is located northwest of the corner of Las Posas Road and Linda Vista Drive in the City of San Marcos, and is surrounded by existing development. The DEIR evaluates a request for a Specific Plan, General Plan Amendment, Rezone, Multi-Family Site Development Plan, and Tentative Subdivision Map for a residential development project. The General Plan Amendment and Rezone would change the General Plan designation and Zoning from Industrial (I) to Specific Plan Area (SPA) to allow development of 449 residential units, including a mix of apartments, rowhomes, villas, and affordable flats on approximately 14.58 acres of the 33-acre project site. The project is located within the planning boundaries of the MHCP. The MHCP is a comprehensive, multiple jurisdictional planning program designed to develop an ecosystem preserve in northwestern San Diego County. Implementation of the MHCP is intended to protect viable populations of key sensitive species and their habitats, while A2-2

accommodating continued economic development and quality of life for residents of the region. Individual jurisdictions have the option of pursuing habitat conservation plans (HCPs) to implement the MHCP within their jurisdictions. Although San Marcos is not currently pursuing an HCP pursuant to the MHCP, the MHCP nevertheless provides helpful guidance for development and conservation within northwestern San Diego County.

A2-2 Cont.

As stated in our NOP comment letter, the project site includes the largest remaining vernal pool complex in the City. This vernal pool complex supports the federally endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*; fairy shrimp), federally endangered San Diego button celery (*Eryngium aristulatum* var. *parishii*; button celery), and federally threatened spreading navarretia (*Navarretia fossalis*; navarretia). The project site also includes the largest remaining unconserved native grassland in the City. This native grassland supports one of the largest known populations of the federally threatened thread-leaved brodiaea (*Brodiaea filifolia*) and regionally sensitive Orcutt's brodiaea (*Brodiaea orcuttii*). The *Recovery Plan for Vernal Pools of Southern California* (Service 1998) identifies the conservation of vernal pools and their watersheds at the project site in a configuration that maintains habitat function and species viability as important conservation actions for the recovery of fairy shrimp, button celery, and navarretia. The project site is also designated critical habitat for the fairy shrimp, thread-leaved brodiaea, and navarretia. Finally, the project site is part of the "San Marcos Major Amendment Area" identified in the MHCP, which identifies the thread-leaved and Ocrutt's brodiaea occurrences on the project site as "major populations" and "critical locations,"[1] and the fairy shrimp, button celery, and navarretia occurrences on the project site as critical locations for these species. The MHPA states that all major populations will be avoided to the maximum degree practicable without precluding reasonable use of the property and that known critical locations will be totally avoided.

A2-3

In light of the above, the Service considers the project site to be of high biological value and conservation priority. We appreciate the consideration of our recommendations provided on the NOP, as stated in Appendix A of the DEIR (Dudek 2023), and we support the protection of the site for conservation purposes, as described in Alternative 4.3.2 of the DEIR. As expressed previously, we also recommended that the DEIR include an alternative that develops no more than 25 percent along the southern border of the project site. Section 1.5.3 of the DEIR describes a reduced development footprint alternative that limits development to 25 percent of the project site but proposes three separate non-contiguous areas of the site: the northwest corner, the northeast corner, and the south-central portions of the site as opposed to limiting impacts to the southern border.

A2-4

In consideration of the project site's significant biological value, we continue to recommend the FEIR include an alternative that limits impacts to no more than 25 percent of the project site and restricts development to the southernmost third of the project site. Based on our review of the

[1] Major populations are defined in the MHCP as those "sufficiently large to be self-sustaining with a minimum of active or intensive management intervention (especially for plants) or at least support enough breeding individuals to contribute reliably to the overall metapopulation stability of the species (especially for animals)." Critical locations are defined as "areas that must be substantially conserved for that species [or vegetation] to be considered adequately conserved by the MHCP."

DEIR, limiting development to the southern third of the project site would minimize impacts to sensitive biological resources, including federally protected species. Limited development in this area would avoid direct impacts to most of the vernal pools; minimize impacts to the north to south surface water flow across the project site; and avoid significant areas occupied by thread-leaved brodiaea.

A2-4 Cont.

Mitigation measure 7b from Section 3.3 of the DEIR states that direct impacts to sensitive communities will be mitigated through the implementation of on-site and/or off-site habitat preservation, creation, restoration, and/or enhancement or the purchase of off-site conservation credits from a conservation mitigation bank (bank). At this time the Service is not aware of any off-site property or bank that would be appropriate to mitigate impacts to listed species and their critical habitats from the proposed project. Lack of viable off-site mitigation options emphasizes the importance of maximizing on-site avoidance, minimization, and mitigation of impacts.

A2-5

Based on a 2020 study of the project site, fairy shrimp were found in 20 vernal pool basins (HELIX 2023). We recommend that updated protocol surveys for fairy shrimp be conducted. If any additional basins are found to contain fairy shrimp, the FEIR should evaluate its impacts to these vernal pools and include alternatives that avoid, minimize, and/or mitigate potential additional impacts.

A2-6

The Service is available to arrange a meeting with the City and applicant to discuss project details, including design, avoidance measures, and mitigation options. We appreciate the opportunity to comment on this DEIR. If you have any questions regarding our comments, please contact Taylor Curtis[2] at 760-431-9440, extension 371.

Sincerely,

JONATHAN SNYDER Digitally signed by JONATHAN SNYDER Date: 2023.04.13 13:15:30 -07'00'

Jonathan D. Snyder
Assistant Field Supervisor

A2-7

cc:
David Mayer, California Department of Fish and Wildlife
Karen Drewe, California Department of Fish and Wildlife
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Chris Garcia (22-0053959_CEQA_EIR_SD) 4

LITERATURE CITED

Dudek. 2023. Environmental Impact Report for the Pacific Specific Plan Project. March.

HELIX Environmental Planning. 2023. Biological Technical Report for the Pacific Development Project. January.

[Service] U.S. Fish and Wildlife Service. 1998. Recovery plan for vernal pools of southern California. U.S. Fish and Wildlife Service, Portland, Oregon. U.S. Fish and Wildlife Service, Portland, Oregon. 113+ pp.

Response to Comment Letter A2

Agency
U.S. Fish and Wildlife Service (USFWS)
April 13, 2023

A2-1 The comment provides an introduction to the U.S. Fish and Wildlife's (USFWS) role and its function. The comment does not raise any specific issues related to the adequacy of the EIR. No further response is required or necessary.

A2-2 The comment provides a summary of the project description and project location and introduces the MHCP. The comment does not raise any specific issues related to the adequacy of the EIR. No further response is required or necessary.

A2-3 The comment describes the biological setting of the project site, including all federally endangered and threatened species on-site. This comment also describes the project site as part of the San Marcos Major Amendment Area identified in the MHCP. The comment restates information contained in the Draft EIR and does not raise any specific issues related to the adequacy of the EIR. No further response is required or necessary.

A2-4 The comment recommends that the EIR include an alternative that develops no more than 25 percent along the southern border of the project site, restricting development to the southernmost third of the project site. The comment states this would minimize impacts to sensitive biological resources, including federally protected species; avoid direct impacts to most of the vernal pools; minimize impacts to the north to south surface water flow across the project site; and avoid significant areas occupied by thread-leaved brodiaea.

In the Draft EIR, as the comment notes, a Reduced Development Footprint Alternative with a 25 percent footprint was considered in Section 4.4.5 in response to prior comments from USFWS. The Reduced Development Footprint Alternative was designed, as requested, to prioritize avoidance of vernal pools and then avoid thread-leafed brodiaea (TLB). This alternative was determined to avoid vernal pools in comparison to the proposed project impacts, but result in a more severe impact to TLB, impacting approximately 53% of TLB and its critical habitat onsite compared to the project's impact to 19% of TLB.

In response to this comment, an alternate design reflecting a development disturbance footprint that would affect approximately 30 percent of the overall 33.2-acre site, located along the southern border, is considered, and analyzed in Chapter 4 (Section 4.4.6) of the Final EIR. The "Reduced Development Footprint Alternative – Vernal Pool Impact Minimization" included in the Final EIR Alternatives Chapter, considers a variation on the Reduced Development Footprint Alternative previously evaluated in the Draft EIR. Under the "Reduced Development Footprint Alternative – Vernal Pool Impact Minimization", development would occur only within a reduced development footprint in the southern portion of the project site, resulting in the development of 228 multi-family homes on approximately 10.11 acres of the 33.2-acre project site. The remaining approximately 23.11 acres of the 33.2-acre project site would be preserved and restored as open space and habitat area.

Similar to the Reduced Development Footprint Alternative evaluated in Section 4.4.5 of the Draft EIR, the "Reduced Development Footprint Alternative – Vernal Pool Impact Minimization" would result in

significant impacts to sensitive biological resources (vegetation, vernal pools, and thread-leaved brodiaea) and would be required to incorporate mitigation to reduce impacts to less than significant. This "Reduced Development Footprint Alternative – Vernal Pool Impact Minimization" alternative would result in an increased level of significant impacts to a federally and state listed rare plant; approximately 72,158 more thread-leaved brodiaea plants would need translocation by this alternative rather than avoided and protected in-place by the proposed project analyzed in the Draft EIR. This "Reduced Development Footprint Alternative – Vernal Pool Impact Minimization" alternative would also cluster development along and within the southern portion of the site, which would consolidate development potentially reducing the development interfaces/edges to adjacent preservation areas on-site.

Because TLB has been found primarily in the southern portion of the site, this alternative would result in approximately 2.4 times the impact to TLB when compared to the proposed project. Although this alternative will result in increased impacts to TLB a development design along the southern third of the site would avoid direct impacts to most of the vernal pools, including all pools with listed fairy shrimp species. This alternative would result in a benefit to listed fairy shrimp species (i.e., no impacts); consequently, such an alternate design would impact approximately 45 percent of the TLB-occupied areas on-site compared to the project's impact to 19 percent of TLB-occupied areas.

To the extent the comment states that an alternative developing the southernmost third of the site should be considered to minimize impacts to north-south surface water flows, based on field surveys conducted for the project since 2018, above ground level surface (I.e., overland) water flows typically do not exist onsite. Furthermore, results of the aquatic resources delineation did not identify any natural Ordinary High Water Marks (OHWM) on-site, which is a primary indicator for surface water flow and defined in 33 Code of Federal Regulations Section 329.11 as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas." Overland surface flows were only detected in 2023, which was the largest rainfall year in the region for many decades. Even during this record-breaking rainfall year, overland surface flows were only observed in the southwest corner of the site. Specifically, overland surface flows were observed on-site during the field survey with the U.S. Army Corps of Engineers on March 23, 2023 within the storm drain outfall at Linda Vista Road, as well as the linear swale feature parallel to South Las Posas Road and the vernal pool located immediately to the north of the swale (see Figure 12b of the Biological Resources Technical Report), which is an area designed to be avoided and protected in place by the proposed project. Ultimately, proposing development of the southernmost third of the site as suggested by the commentor would worsen and eliminate this overland surface connection, rather than avoid or minimize impacts to such surface flows compared to the proposed project. No other areas of the site were found to have overland surface flows, including any overland surface flow into or between vernal pools or other depressional features. Thus, these survey observations further validate and confirm that the vernal pools and other depressional features on-site become inundated (i.e., fill with water) as a result of direct precipitation and are independent depressional features in the land that are not hydrologically connected or reliant on each other.

Nonetheless, to address this comment from USFWS, the "Reduced Development Footprint Alternative – Vernal Pool Impact Minimization" alternative has been included in Chapter 4, Section 4.4.6, of the Final EIR under project alternatives considered. Furthermore, as outlined in Section 4.5

of Chapter 4 of the Final EIR, this "Reduced Development Footprint Alternative – Vernal Pool Impact Minimization" alternative would be considered the environmentally superior alternative as a result of reduction in the development footprint on the 33.2-acre project site and identified significant impacts in comparison to the proposed project, in addition to meeting most of the project objectives.

A2-5 The comment references mitigation measure 7b (MM-BIO-7b) and states that USFWS is not aware of any off-site property or bank that would be appropriate to mitigate impacts to listed species and their critical habitats and that lack of viable off-site mitigation options emphasizes the importance of maximizing on-site avoidance, minimization, and mitigation of impacts.

MM-BIO-7b requires that the project demonstrate compliance with compensatory mitigation for direct permanent impacts to sensitive communities in accordance with ratios identified in MM-BIO-7a. The mitigation ratios in MM-BIO-7a act as minimum performance standards to ensure that adequate mitigation occurs for project impacts and includes that any additional requirements imposed in the approvals (i.e., agency permits) by the USFWS, USACE, RWQCB, and/or CDFW would also be required. Mitigation proposed for the project is primarily targeted to be on-site within the proposed conservation area, which is presented on Figure 13 of the Biological Resources Report. MM-BIO-7b provides some level of flexibility and presents additional options that such mitigation may occur through one or a combination of: on-site preservation, creation, restoration, and/or enhancement; off-site preservation, creation, restoration, and/or enhancement; or the purchase of off-site conservation credits from a conservation bank in the region. The mitigation thus establishes the performance standards the project must meet and identifies the alternative means to mitigate the identified impacts.

The current proposed project design first avoids and minimizes impacts to sensitive natural communities to the extent feasible. Based on the analysis of the Biological Resources Technical Report prepared for the project, it is anticipated that the current project design would allow for a substantial proportion of the required mitigation may be able to be provided onsite via direct preservation, creation, restoration, and/or enhancement. Refer to EIR Appendix C, Biological Technical Report, Figure 13 Proposed Conceptual Mitigation, showing the proposed conceptual areas for onsite mitigation. The conceptual mitigation proposed includes the following: approximately 0.27-acre existing vernal pool preservation, approximately 0.28-acre of vernal pool creation, approximately 0.18-acre of vernal pool expansion, and approximately 0.02-acre vernal pool enhancement; approximately 6.83 acres of existing thread-leaved brodiaea preservation; approximately 2.12 acres of existing Orcutt's brodiaea preservation; approximately 5.88 acres of thread-leaved brodiaea and Orcutt's brodiaea translocation; and, approximately 1.99 acres of existing grassland preservation. What could not be adequately demonstrated to be mitigated on-site (approximately 1.09 acres of Diegan coastal Sage scrub) must be shown to occur off-site through direct preservation, creation, restoration, and/or enhancement, or through the purchase of bank credits. Based on current credit availability, this remaining mitigation for Diegan coastal sage scrub and grassland could be provided through acquisition of credits from mitigation banks (such as Brook Forest Mitigation Bank, Cleveland Corridor Conservation Bank, Heights of Pala Mesa Conservation Bank, Manchester Avenue Conservation Bank, Ramona Grasslands Conservation Bank, Red Mountain Conservation Bank, or another location deemed acceptable by the City, USFWS, and CDFW). The City acknowledges the comment that an off-site property or bank may not currently offer adequate mitigation for the *entire* acreage set forth at MM-BIO-7a for the applicable listed species and critical habitat impacts at the project site; however, it is anticipated that on-site and off-site mitigation together would be able to satisfy the project's mitigation requirements. Accordingly,

it has been demonstrated that this mitigation approach proposed will successfully be implemented to reduce the identified impacts below a level of significance. Where the alternative means of mitigation have been identified and committed to, CEQA does not require that a proposed mitigation site be identified, or the precise details of implementation be identified at this stage. (See, *California Native Plant Society v. City of Rancho Cordova* (2009) 172 Cal.App.4th 603, 622; *Preserve Wild Santee v. City of Santee* (2012) 210 Cal.App.4th 260.)

A2-6 The comment restates information provided in the DEIR that fairy shrimp surveys were conducted in 2020 and recommends that updated protocol surveys for fairy shrimp be conducted.

Generally, only a single wet and dry season survey is required under the USFWS survey guidelines. However, if surveys do not adhere to USFWS protocol or if wet season surveys were conducted in year of insufficient rainfall (such as a drought year), the USFWS can consider the surveys invalid or unreliable and require an additional wet season survey.

USFWS-compliant protocol wet and dry season surveys for San Diego fairy shrimp were conducted by Helix across the entire property in 2020 in accordance with the USFWS *Survey Guidelines for the Listed Large Branchiopods* (USFWS 2017). (DEIR, Appendix C, Biological Technical Report; *Survey Guidelines for the Listed Large Branchiopods*, available at https://www.fws.gov/sites/default/files/documents/survey-guidelines-for-large-branchiopods.pdf.). The project's wet season survey occurred via seven site visits occurring from March 22 to May 4, 2020. The 2020 fairy shrimp survey of the project site was performed in a year recorded to have 68% more rainfall than average years. Following the wet season survey, dry season surveys were conducted. The 2020 wet and dry surveys encompassed features detected on-site in 2020, as well as features previously recorded by others during focal protocol efforts conducted by others in 2002 and 2006.

The wet and dry season surveys identified a total of 99 features (i.e., 46 vernal pools, 38 road ruts, and 15 other depressions) on-site that could support fairy shrimp. Of these features, the surveys found 20 basins (i.e., 16 vernal pools, 2 road ruts, and two other depressions) occupied by San Diego fairy shrimp, 4 basins occupied by versatile fairy shrimp, and 1 basin with unidentified fairy shrimp species. The remaining 74 features were found unoccupied for fairy shrimp species. Further, based on the results of the 2020 surveys, no features identified as unoccupied in 2002 or 2006 were found in 2020 to be occupied. Corresponding survey reports were submitted to the USFWS and were considered appropriate/acceptable by the USFWS.

Accordingly, the method of analysis in the EIR is supported by substantial evidence and provides a sufficient degree of analysis and complete information to allow the public and decision-makers assess impacts to fairy shrimp.

A2-7 The comment includes concluding remarks. The comment does not raise any specific environmental issues related to the adequacy of the Draft EIR. No further response is required or necessary.

Comment Letter A3

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April 17, 2023

Chris Garcia, Associate Planner
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Subject: Draft Environmental Impact Report for the Pacific Specific Plan, SCH #2022050650, San Diego County

Dear Mr. Garcia:

The California Department of Fish and Wildlife (CDFW) has reviewed the Draft Environmental Impact Report (DEIR) from the City of San Marcos (City; Lead Agency) for the Pacific Specific Plan (Project). 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's 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, subdivision (a) & 1802; Pub. Resources Code, § 21070; California Environmental Quality Act (CEQA) Guidelines, § 15386, subdivision (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 specifically on Projects and related activities that have the potential to adversely affect State fish and wildlife resources.

A3-1

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, including 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, Fish & G. Code, §1900 *et seq.*), CDFW recommends the Project proponent obtain appropriate authorization under the Fish and Game Code.

Conserving California's Wildlife Since 1870

CDFW also administers the Natural Community Conservation Planning (NCCP) program, a California regional habitat conservation planning program. The City was a local jurisdiction participant in the planning of the Subregional Multiple Habitat Conservation Program (MHCP) in the late 1990's and early 2000's. The City had prepared a draft Subarea Plan under the Subregional MHCP, which addressed regional conservation planning across seven incorporated jurisdictions on northern San Diego County. However, the San Marcos Subarea Plan was not finalized, and state and federal permits have not been issued to the City. To date, only the City of Carlsbad has received permits pursuant to the MHCP; however, the conservation principals in the subregional MHCP remain extremely relevant for development projects occurring in San Marcos and the other jurisdictions, and should be seen as a strong guide toward assessing the significance of impacts to biological resources under CEQA.

A3-1 Cont.

Project Description and Summary

Objective: The Project proposes a General Plan Amendment, Specific Plan, Rezone, Multi-Family Site Development Plan, and Tentative Subdivision Map for a proposed residential community development. The General Plan Amendment and Rezone would change the General Plan designation and Zoning from Industrial (I) to Specific Plan Area (SPA) to allow the Project. The proposed Project consists of residential development on undeveloped land as well as infrastructure improvements and connections to existing surrounding developed areas. The Project includes site grading and new construction of 449 dwelling units on approximately 15.09 acres of the 33.2-acre Project site, comprising a mix of apartments, rowhomes, villas, and affordable flats. The Project would also include a total of 927 parking spaces and 134,985 square feet of common open space area. The Project also includes biofiltration/retention features, landscaping, and circulation improvement elements. The remaining approximately 17.94 acres of the 33.2-acre Project site would be preserved and restored as open space and habitat area.

Location: The proposed Project site is located within Assessor's Parcel Numbers (APNs) 219-222-01-00, 219-222-02-00, 219-222-03-00, and 219-222-04-00 in the northwestern portion of San Diego County within the City. The Project site is surrounded by development, bordered by La Mirada Drive to the north, South Las Posas Road to the east, Linda Vista Drive to the south, and South Pacific Street to the west.

A3-2

Biological Resources: Though surrounded by development, the Project site contains multiple sensitive resources, including a vernal pool/mima mound complex, sensitive habitat types, and multiple state and federally listed species. Sensitive resources are distributed over the entirety of the property owing to the heavy clay soils comprising the site. The biological resource values have been well-documented, and the property has long been recognized as having extremely high biological value that is not found elsewhere in northern San Diego County.

Six special status plant species were observed on-site during biological surveys conducted in 2018, 2020, 2021 and 2022: San Diego button-celery (*Eryngium aristulatum* var. *parishii*; federally listed endangered, state-listed endangered, California Native Plant Society (CNPS) Rare Plant Rank 1B.1, proposed Narrow Endemic under the MHCP), thread-leaved brodiaea (*Brodiaea filifolia*; federally listed threatened, state-listed endangered, CNPS Rare Plant Rank 1B.1, proposed Narrow Endemic under the MHCP), Orcutt's brodiaea (*Brodiaea orcuttii*; CNPS Rare Plant Rank 1B.1), chaparral rein orchid (*Piperia cooperi*; CNPS Rare Plant Rank 4.2), small-flowered morning glory (*Convolvulus simulans*; CNPS Rare Plant Rank 4.2), and graceful tarplant (*Holocarpha virgata* ssp. *elongata;* CNPS Rare Plant Rank 4.2).

One special status animal species was detected on-site during protocol wet season and dry season focused surveys in 2020. San Diego fairy shrimp (*Branchinecta sandiegonensis*) is a vernal pool obligate species that is federally listed as endangered and proposed as a Narrow Endemic under the MHCP. The MHCP considers the on-site population to be a critical population of the species for the subregion.

A3-2 Cont.

The Project site is located within the boundaries of the MHCP, and within the Vernal Pool Major Amendment Area in the City's Draft Subarea Plan. In the context of the MHCP, the Project site is outside of the Biological Core and Linkage Area and is identified as a "Major Amendment Area" in the MHCP Focused Planning Area FPA. The site is not within or adjacent to any conserved lands. Although the Project site was specifically excluded from the MHCP conservation areas/acreages, estimates, and requirements, the site is recognized in the MHCP to support sensitive biological resources and is targeted as an isolated preserve area for conservation and incorporation into the MHCP preserve system.

The Project site is located within U.S. Fish and Wildlife Service (USFWS) designated critical habitat for the San Diego fairy shrimp and thread-leaved brodiaea.

In summary, the Project site includes the largest remaining vernal pool complex in the City that supports the San Diego fairy shrimp and San Diego button celery. The Project site also includes the largest remaining non-conserved native grassland in the City and supports one of the largest known populations of the state endangered thread-leaved brodiaea, as well as the non-listed but regionally sensitive Orcutt's brodiaea.

A3-3

Following meetings and site visits with the Project proponent and the City, and upon reviewing the 2022 Notice of Preparation of the DEIR, CDFW and the U.S. Fish and Wildlife Service (collectively the Wildlife Agencies) suggested two alternatives to the proposed Project. The first was conservation of the entire Project site as-is. Conservation of the site would occur through purchase with grants or mitigation funds from other projects or through the establishment of a mitigation bank. The Mitigation Bank Alternative was considered in the DEIR but rejected. The second alternative was a reduced footprint in which no more than 25% of the site would be impacted by the development footprint. The Reduced Footprint Alternative was considered in the DEIR. The proposed design would have reduced impacts to vernal pools but increased impacts to thread-leaved brodiaea. The Reduced Footprint Alternative was deemed environmentally superior to the proposed Project; however, it was not selected.

A3-4

Four of the special-status plant species occurring on-site would be directly impacted by the Project. Approximately 33,714 individuals (19%) of thread-leaved brodiaea and 47 individuals of San Diego button-celery (29%) are located within the Project footprint and would be directly impacted. Approximately 80,907 of the 127,517 Orcutt's brodiaea individuals mapped on site (approximately 63.4%) would be impacted. The MHCP identifies the Project site as supporting a critical population of Orcutt's brodiaea. Impacts to graceful tarplant would occur but were not quantified and not considered significant in the DEIR. Direct impacts to chaparral rein orchid and small-flowered morning-glory are not expected. Proposed mitigation for impacts to thread-leaved brodiaea, San Diego button-celery, and Orcutt's brodiaea is translocation and/or replanting through propagation into existing suitable habitat in the on-site open space preserve interspersed with existing patches of these species. Numbers of individuals that would be impacted was quantified in the DEIR, but not the spatial area occupied by the sensitive species that would be lost or the area of the proposed receptor sites on the Project property.

A3-5

The Project would impact 8 basins occupied by San Diego fairy shrimp, with the remaining 12 basins on-site occupied by San Diego fairy shrimp (11 vernal pools and 1 road rut) to be avoided by the Project development, including avoidance of their corresponding watersheds plus a buffer surrounding the watershed. The Project considered on-site drainage direction and would be designed in a manner to mimic the potential drainage/discharge flow point and path on-site; thus, Project impacts to site drainage were considered less than significant in the DEIR. Proposed mitigation for impacts to vernal pools would be creation, re-establishment, and/or restoration to occur on-site within appropriate suitable habitat. Impacts to San Diego fairy shrimp would consist of salvage and translocation of cysts by inoculation into existing suitable habitat within approved preserve areas or into created or restored habitat on-site.

A3-5 Cont.

Project implementation would result in significant impacts to sensitive natural communities (i.e., Diegan coastal sage scrub (1.09 acres), native grassland (5.32 acres), mixed grassland (5.52 acres), non-native grassland (3.57 acres), and vernal pools (0.15 acre). Proposed mitigation for these impacts would consist of implementation of on-site and/or off-site habitat preservation, creation, restoration, and/or enhancement and/or purchase of off-site conservation credits from a conservation bank in the region and deemed acceptable by the City. Proposed mitigation ratios for the impacted habitats are as follows: Diegan coastal sage scrub (1:1), native grassland (2:1), mixed grassland (0.5:1), non-native grassland (0.5:1), and vernal pools (3:1).

Comments and Recommendations

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

A3-6

1. **Mitigation Measure or Alternative and Related Impact Shortcoming**

   Comment #1:

   Issue: Proposed on-site mitigation for impacts to vernal pools containing San Diego fairy shrimp and for San Diego button celery, thread-leaved brodiaea, and Orcutt's brodiaea are not adequate to fully mitigate for permanent loss of occupied habitat acreage.

   Specific Impacts: Project impacts would permanently reduce the acreage of vernal pool habitat and habitat for the three sensitive plant species.

   Why impacts would occur: Project construction would directly impact the San Diego fairy shrimp and special status plants occurring within the Project footprint and result in permanent loss of acreage of habitat for these species.

   Evidence impacts would be significant: The Project site includes the largest remaining vernal pool complex in the City that supports the San Diego fairy shrimp and San Diego button celery. The Project site also includes the largest remaining unconserved native grassland in the City that supports one of the largest known populations of the thread-leaved brodiaea and regionally sensitive Orcutt's brodiaea. Over the years, there has been cumulative loss within the City of vernal pools and occupied habitat acreage for these sensitive species, three of which are proposed MHCP Narrow Endemics, due to construction of other projects.

A3-7

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #1: Creation of new vernal pools and translocation of the impacted sensitive species is proposed to occur on the Project site, in areas interspersed with existing vernal pools, thread-leaved brodiaea, and Orcutt's brodiaea. This proposed on-site mitigation may not be biologically viable and therefore not adequate to fully mitigate the loss of biological functions and values as required under CESA. Areas where an impacted species is already present are often at the carrying capacity for the habitat, and introduction of transplanted individuals may actually disrupt the equilibrium of the population and could decrease the on-site vitality of the species. In addition to on-site translocation of individuals of the impacted species, the final EIR should address off-site mitigation through acquisition and preservation in perpetuity of existing vernal pools containing San Diego fairy shrimp and/or San Diego button celery, as well as off-site preservation of existing occupied habitat for thread-leaved brodiaea and Orcutt's brodiaea. CDFW acknowledges it may not be possible to find one off-site location that supports multiple target species as occurs on the project site. A3-8

Specific Comments

1. For impacts to CESA-listed San Diego button celery and thread-leaved brodiaea, an Incidental Take Permit (ITP) would be required (pursuant to Fish & Game Code, § 2080 et seq.). To obtain appropriate take authorization under CESA, early consultation with CDFW is encouraged, as significant modification to a project and mitigation measures may be required to obtain a CESA permit. Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an ITP unless the Project's CEQA document addresses all Project impacts to CESA-listed species and specifies a mitigation, monitoring, and reporting program (MMRP) that will meet the requirements of an ITP. For these reasons, the take proposed to be authorized by CDFW's ITP, biological mitigation monitoring, and reporting proposals should be described in detail in the Project's CEQA document to satisfy the requirements for a CESA ITP. A3-9

2. The areas proposed as mitigation lands should be protected in perpetuity with a perpetual biological conservation easement (CE), financial assurance, and dedication to a qualified entity for long-term management and monitoring. Under Government Code, section 65967, the Lead Agency must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural resources on mitigation lands it approves. The CE should be approved by the Wildlife Agencies prior to its execution and should follow the Agency-approved template. There should be no provision for public trails in the CE areas. The Project Applicant should submit the CE to the Wildlife Agencies for review and approval at least 60 days prior to initiating Project impacts. The Project Applicant should submit the final easements and evidence of their recordation to the Wildlife Agencies within 60 days of receiving approval of the draft CE. A3-10

3. The Project Applicant should implement a Habitat Management Plan (HMP) to cover perpetual management, maintenance, and monitoring of the biological CE areas. The Applicant should also establish a non-wasting endowment for an amount approved by the Wildlife Agencies based on a Property Analysis Record (PAR) (Center for Natural Lands Management ©1998) or similar cost estimation method to secure the ongoing funding for the perpetual management, maintenance, and monitoring of the biological conservation easement areas by an agency, non-profit organization, or other entity approved by the A3-11

Wildlife Agencies. The Applicant should submit a draft HMP including a description of perpetual management, maintenance, and monitoring actions and the PAR or other cost estimation results for the non-wasting endowment to the City and Wildlife Agencies for approval at least 60 days prior to initiating Project impacts. The Applicant should submit the final plan to the Wildlife Agencies and transfer the funds for the non-wasting endowment to a non-profit conservation entity, within 60 days of receiving approval of the draft plan.

The HMP should include measures to protect the targeted habitat values of the mitigation areas in perpetuity from direct and indirect negative impacts. Issues that should be addressed include but are not limited to the following: protection from any future development and zone changes; prohibition on public access; proposed land dedications; control of illegal dumping; control of invasive plants; water pollution; and monitoring and enforcement against human intrusion. Adequate funding should be provided to allow for patrolling of the CE area 2-3 times per month to inspect for signs of human intrusion or damage. The PAR should include contingency funding that would provide for not only periodic fence repair, but complete replacement of the fencing should it become necessary, as well as the ability to hire an outside contractor to monitor for trespassing.

A3-11 Cont.

4. All off-site mitigation areas, including mitigation banks, should be agreed to by the Wildlife Agencies and the City. Evidence that off-site mitigation has been purchased and/or placed within a biological open space CE should be provided to the Wildlife Agencies and City prior to impacts occurring on the Project site.

A3-12

Environmental Data

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a data base which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDB_FieldSurveyForm.pdf. The completed form can be mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp.

A3-13

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.)

A3-14

Conclusion

We appreciate the opportunity to comment on the DEIR for the Pacific Specific Plan to assist the City in identifying and mitigating Project impacts on biological resources. If you have any questions or comments regarding this letter, please contact Meredith Osborne, Environmental Scientist, at Meredith.Osborne@wildlife.ca.gov or (858) 354-3334.

A3-15

Sincerely,

DocuSigned by:
David Mayer
D700B4520375406...

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A3-15
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Response to Comment Letter A3

Agency
California Department of Fish and Wildlife (CDFW)
April 17, 2023

A3-1 The comment introduces the California Department of Fish and Wildlife (CDFW) and its role and its function. The comment is an introduction to comments that follow and does not raise any specific issues related to the adequacy of the EIR. No further response is required or necessary.

A3-2 The comment provides a summary of the project description and project location. The comment restates information contained in the Draft EIR. As the comment does not raise any specific issues related to the adequacy of the EIR, no further response is required or necessary.

A3-3 The comment describes the biological setting of the project site, including endangered, threatened, and sensitive species on-site. This comment also describes the project site location within the boundaries of the MHCP. The comment restates information contained in the Draft EIR. The comment does not raise any specific issues related to the adequacy of the EIR, therefore no further response is required or necessary.

A3-4 The comment describes previous coordination with the project Applicant and City. The comment also describes the Wildlife Agencies suggested two alternatives to the proposed project; the first being conservation of the entire project site as is (mitigation bank), and the second being a reduced footprint in which no more than 25% of the site would be impacted by the development footprint.

In response, the comment restates information contained in the Draft EIR and expresses a preference for two alternatives but does not raise any specific issues related to the adequacy of the EIR. Therefore, no further response is required or necessary. Please see Response to Comment A2-4.

To clarify the consideration of the referenced alternatives in the Draft EIR, the Mitigation Bank Alternative proposed was considered but rejected in the Draft EIR as it would not meet any of the basic project objectives, would not provide housing units in an infill area, and would not enhance uses and connectivity in the surrounding area. A Mitigation Bank Alternative is also, in essence, a "No Project Alternative" where the site would remain undeveloped "as-is," which was considered in Section 4.4.3 of the Draft EIR. The EIR acknowledges that the No Project Alternative would have reduced impacts to biological resources compared to the proposed project; however, the No Project Alternative would not accomplish the basic project objectives. The proposed Mitigation Bank Alternative differs only to the extent it assumes conservation of the site would occur through purchase with grants or mitigation funds from other projects or through the establishment of a mitigation bank. By contrast, the No Project Alternative would not provide preservation of any portion of the project site.

The Reduced Development Footprint Alternative (no more than 25% development) was evaluated in the Draft EIR and identified as the environmentally superior alternative (CEQA Guidelines, § 15126.6(e)(2)). However, while the Reduced Development Footprint Alternative may reduce vernal pool impacts associated with the proposed project, it would result in substantially greater impacts to federally listed threatened and state-listed endangered thread-leaved brodiaea (TLB), impacting approximately 45% of the TLB-occupied areas on-site compared to the project's impact to 19% of TLB-

occupied areas. This alternative was further identified to not meet certain project objectives, or to meet them to a lesser extent compared to the proposed project. Specifically, while the Reduced Development Footprint Alternative would develop infill housing on an urbanized site and rezone the site to residential to assist the City to implement its housing goals (project objectives 1 and 2), it would implement less housing compared to the proposed project and less efficiently promote infill development. This alternative would also provide less varied housing compared to the proposed project, including less affordable housing (objective 3). This alternative would meet objective 4 by avoiding vernal pools but would result in greater impacts to thread-leaved brodiaea, such that it would be inconsistent with objective 4. This alternative would not meet project objective 5 because the site would be atypically designed in a manner that does not enhance connectivity. This alternative would also not meet objective 6 to the same extent as the project, as it would not maximize housing density for the City.

It is also noted that, while the Reduced Development Footprint Alternative would lessen biological impacts, the impacts to biological resources and corresponding recommended mitigation measures, the EIR concludes that, with the mitigation measures recommended in the EIR, there are no significant biological impacts of the proposed project.

As described in Response to Comment A2-4 above, a "Reduced Development Footprint Alternative – Vernal Pool Impact Minimization" alternative has been included in Chapter 4, Section 4.4.6, of the Final EIR under project alternatives considered to address comments from USFWS. This alternative considers development of 29% of the site which would occur within a reduced development footprint (as compared to the proposed Project) in the southern portion of the project site. As outlined in Section 4.5 of Chapter 4 of the Final EIR, this "Reduced Development Footprint Alternative – Vernal Pool Impact Minimization" alternative would be considered the environmentally superior alternative as a result of reduction in development area in comparison to the proposed project.

CEQA does not require an agency to select the environmentally superior alternative. (CEQA Guidelines Sections 15042-15043). Rather, the EIR is to analyze a reasonable range of potentially feasible alternatives that would feasibly attain most of the basic project objectives but would avoid or substantially lessen any of the significant effects of the proposed project. (CEQA Guidelines, Section 15126.6.) Decision-makers are thus enabled to weigh the pros and cons of the project and alternatives, considering a broad range of factors including the ability to meet project objectives, practicability, and desirability. The EIR provides the requisite analysis. The City will include the comment as part of the Final EIR for review and consideration by the decision-makers prior to a final decision on the project.

A3-5 The comment restates information contained in the Draft EIR and states that the numbers of individuals of thread-leaved brodiaea (TLB), San Diego button-celery, and Orcutt's brodiaea that would be impacted was quantified in the Draft EIR, but not the spatial area occupied by those sensitive species that would be lost or the area of the proposed receptor sites on the project property are not provided.

In response, the approximate spatial area occupied by these species that would be impacted by the project are as follows:

- 1.62 acres of TLB
- 3.88 acres of Orcutt's brodiaea
- 0.0003 acres of San Diego button celery

The proposed receptor sites on the project property are within areas (vernal pools and grasslands) on-site where not found present during focal surveys conducted between 2020 and 2023. These receptor areas comprise approximately 5.88 acres, which would provide a net increase of occupied habitat by these species. Approximately 1.99 acres of additional grasslands habitat located around the receptor sites would provide additional habitat for these species.

A3-6 This comment is an introduction to comment and recommendations to follow. CDFW offers the comments and recommendations herein to assist the City in adequately identifying, avoiding, and/or mitigating the project's significant, or potentially significant, direct, and indirect impacts on fish and wildlife (biological) resources. The comment does not raise any specific issues related to the adequacy of the EIR, thus, no further response is required or provided.

A3-7 The comment states that proposed on-site mitigation for impacts to vernal pools containing San Diego fairy shrimp and for San Diego button celery, thread-leaved brodiaea, and Orcutt's brodiaea are not adequate to fully mitigate for permanent loss of occupied habitat acreage. The comment states that project impacts would permanently reduce the acreage of vernal pool habitat and habitat for the three sensitive plant species.

In response, the proposed mitigation program is considered adequate where it is anticipated to result in a net increase of occupied habitat on-site. Implementation and success of the proposed mitigation would not result in a permanent loss off occupied habitat. Specifically, the mitigation proposed would provide approximately 0.38 acres of additional occupied habitat on-site compared to existing habitat on-site occupied by these species, thereby resulting in a net increase and no permanent reduction or loss of occupied habitat. Although occupied habitat for San Diego button celery, TLB, and Orcutt's brodiaea would be temporarily reduced by the project (approximately 5.50 acres), these species would be relocated and inoculated within areas on-site where not currently found present (i.e., non-occupied habitat) during focal surveys conducted between 2020 and 2023. These relocation and inoculation areas comprise approximately 6.36 acres of habitat, which would provide a net increase of approximately 0.86-acre of on-site habitat occupied by these species. Additionally, areas on-site which are currently mapped as disturbed habitat (including unvegetated trails that traverse the mitigation area) would be enhanced to create native grasslands and planted with TLB and Orcutt's brodiaea where they do not currently exist, which would provide additional acreage of occupied habitat by these species.

A3-8 The comment states that the proposed on-site mitigation may not be biologically viable and therefore not adequate to fully mitigate the loss of biological functions and values as required under CESA. The comment states that impacted species are often at carrying capacity for the habitat, and introduction of transplanted individuals may disrupt the equilibrium of the population and could decrease the on-site vitality of the species. The comment states that the final EIR should address off-site mitigation through acquisition and preservation in perpetuity of existing vernal pools containing San Diego fairy shrimp and/or San Diego button celery, as well as off-site preservation of existing occupied habitat for thread-leaved brodiaea and Orcutt's brodiaea. The comment states CDFW acknowledges it may not be possible to find one off-site location that supports multiple target species as occurs on the project site.

In response, the biologists from Helix Environmental have investigated the concerns raised by CDFW regarding onsite transplantation and herein describe and support the opinion that onsite transplantation is viable mitigation that will not disrupt the equilibrium of the population or decrease the onsite vitality of the species for several reasons (DEIR, Section 3.3.5). First, the locations on-site

that are proposed for transplantation are those where the target species were not found to be present in multiple years of focused surveys. These areas could therefore support the species without disruption or impacting existing populations. Second, in areas found to be occupied by thread-leaved brodiaea (TLB) and Orcutt's brodiaea, results of the focused surveys and corresponding quadrat sampling of flowering individuals during the peak blooming period found that the brodiaea density on-site varies widely, from between approximately 16 flowering individuals per meter square (m^2) to approximately 91 flowering individuals/m^2. This variation in density, as well as the evidence of suitable habitat areas not occupied, would suggest that the site is not at the carrying capacity for the species. The site could likely accommodate additional flowering individuals within areas currently occupied at a low density. Thus, reliance on proposed on-site mitigation/translocation of species is not expected to disrupt the equilibrium of the site. Refer to EIR Appendix C, Biological Technical Report, Figure 13, Proposed Conceptual Mitigation, for proposed conceptual locations for onsite transplantation.

Further, due to the potential fluctuation in vegetative/flowering individuals of brodiaea in any given year, additional surveys for brodiaea targeting both vegetative growth and flowering periods were conducted between 2020 and 2023 to verify the previous survey results and mapping of population extents and occupied habitat. Due to the abundant rainfall of 2023 which could in theory result in a larger amount of brodiaea corms to germinate and sprout vegetative growth than observed in previous survey years, additional vegetative surveys were conducted that focused on the proposed mitigation/translocation areas to verify these target locations remain viable for mitigation (i.e., are absent of brodiaea or other listed species). Results of the 2023 survey confirmed that the extents of occupied habitat mapping identified in the EIR remain accurate and the proposed mitigation areas remain suitable for transplantation (I.e., absent of brodiaea or other listed species). The results of these updated surveys, including the identification and analysis related to the carrying capacity and viability of mitigation/transplantation locales onsite, are provided at Appendix C of the Final EIR.

To the extent the comment requests the identification of off-site mitigation through acquisition and preservation in perpetuity of existing vernal pools containing San Diego fairy shrimp and/or San Diego button celery, as well as off-site preservation of existing occupied habitat for thread-leaved brodiaea and Orcutt's brodiaea, such identification is not deemed necessary in light of the above analysis, based on substantial evidence, which demonstrates that the proposed on-site mitigation is anticipated to be successful. However, the transplantation plan will provide contingency measures in case performance standards are not met, which may include additional seed collection/propagation, additional plant distribution, intensifying maintenance, collection and distribution of additional vernal pool inoculum, performance-based assurance bonds, and off-site mitigation. It should also be noted that, in addition to providing on-site translocation of individuals, MM-BIO-7a and MM-BIO-7b require compensatory mitigation for impacts to vernal pools at a 3:1 ratio. This compensatory mitigation may be secured through on- or off-site habitat establishment, reestablishment, or restoration or conservation credits. CDFW does not propose, and the City is not aware of, an off-site location that would effectively mitigate the identified impacts to the same anticipated effectiveness as the proposed onsite mitigation and translocation. Thus, an off-site location is not identified as the anticipated mitigation for the Project's impacts. However, the off-site option but may act as a supplement or as a contingency measure to ensure performance standards are met. See also, Global Response A, and Response to Comment A2-5.

A3-9 The comment states that, for impacts to San Diego button celery and thread-leaved brodiaea, an Incidental Take Permit (ITP) would be required under the Fish and Game Code; that early consultation with CDFW is encouraged; and that revisions to the Fish and Game Code, effective January 1998, may

require that CDFW issue a separate CEQA document for the issuance of an ITP unless the Project's CEQA document addresses all Project impacts to CESA-listed species and specifies a mitigation, monitoring, and reporting program (MMRP) that will meet the requirements of an ITP. The comment states that, for these reasons, the take proposed to be authorized by CDFW's ITP, biological mitigation monitoring, and reporting proposals should be described in detail in the Project's CEQA document to satisfy the requirements for a CESA ITP.

The comment provides background information and restates information provided in the Draft EIR. The comment does not raise any specific issues related to the Draft EIR, such that no further response is required. The project's EIR, as well as the Biological Resources Report, Appendix C, address project impacts to CESA-listed species, and specifies a corresponding mitigation program for those species potentially requiring an ITP. The mitigation outlines the elements that must be incorporated into a successful plan, including no loss of these plant species and establishment success. Consistent with the identified mitigation in the EIR, which includes standards for monitoring and reporting, comprehensive draft mitigation plan identifying proposed mitigation, monitoring, and reporting program for the project are in the process of being prepared for review by CDFW and USFWS. Prior to issuance of a grading permit for the project, the Applicant or Developer must demonstrate that it has obtained the appropriate ITP (if required) and that CDFW and USFWS have reviewed and approved the proposed mitigation plan. Refer to MM-BIO-1 through MM-BIO-3, MM-BIO-7b, and see Global Response A.

To ensure the mitigation monitoring and reporting proposals are described in the Project's CEQA document, as requested by the commenter, MM-BIO-1, MM-BIO-2, and MM-BIO-7b have been modified (shown in ~~strikeout~~/underline) within the EIR Errata (Section 3.3 Biological Resources) to clarify that monitoring and associated reporting will be provided in accordance with timing and frequencies prescribed in the HMMP.

The FEIR includes sufficient information and mitigation criteria to enable CDFW to rely on the EIR in its role as responsible agency. The EIR identifies the estimated number of these plants that would require an ITP: 33,714 (19%) individuals of thread-leaved brodiaea and 47 individuals of San Diego button leaved celery. MM-BIO-1 establishes performance standards for these plants and outlines the requirements of the transplant plan to meet those standards. Similarly, MM-BIO-7 establishes mitigation ratios that must be met for impacts to sensitive natural communities and outlines the required contents of an HMMP. The mitigation ratios for vegetation communities establish performance standards that satisfy CEQA and provide the criteria such management and transplantation programs must meet. In addition, the EIR has shown such mitigation is feasible onsite, see Figure 13 and Global Response A.

Because CDFW will ultimately issue the ITP after the City's process is complete, and will impose its own requirements, conditions, and mitigation, more specific details of these plans cannot be provided or committed to at this time. Numerous cases have upheld deferring the specifics of mitigation (including planting plans) where, as here, the EIR requires regulatory agency review, identifies the methods considered for mitigation, and identifies the expected outcome. E.g., *Rialto Citizens for Responsible Growth v. City of Rialto* (2012) 208 Cal.App.4th 899, *Clover Valley Foundation v. City of Rocklin* (2011) 197 Cal.App.4th 200, 237. Moreover, additional CEQA review would not be triggered by future CDFW action as the responsible agency where this in-depth review has occurred, the project has committed to adequate mitigation, and the EIR has shown the mitigation to be feasible.

A3-10 The comment states that the areas proposed as mitigation lands should be protected in perpetuity with a perpetual biological conservation easement (CE), financial assurance, and dedication to a qualified entity for long-term management and monitoring. The comment provides further processes and recommendations related to the CE, and states that there should be no provision for public trails in the CE areas. In response, the proposed mitigation areas would be perpetually protected with a CE or restrictive covenant that follows a CDFW and/or USFWS-approved template. Refer to MM-BIO-7b. Financial assurance of mitigation installation/implementation, as well as monitoring and maintenance to achieve success criteria sign-off to ensure that the impacted functions and services are restored would be provided. The management funding amount and mechanism would be based on a Property Analysis Record (PAR) or similar cost estimation method, likely covering more than 100% of the estimated costs. An itemized cost estimate would be provided to the applicable permit-issuing resources agency for review and approval. The draft CE or restrictive covenant, including financial assurance estimates and documentation, would be provided to the Wildlife Agencies at least 60-days prior to project impacts and the final CE would be provided within 60-days following draft approval, unless otherwise required by the Wildlife Agencies. No public trails are proposed in the mitigation areas, and none would be included in the areas protected by the CE. Rather, as discussed at MM-BIO-7b, the Preserve Management Plan for the proposed site will include preserve barriers and fencing and public awareness as two actions to prevent public intrusion in the preserve areas.

A3-11 The comment states that the Project Applicant should implement a Habitat Management Plan to cover perpetual management, maintenance, and monitoring of the biological CE areas. The comment states that the Applicant should also establish a non-wasting endowment for an amount approved by the Wildlife Agencies. The comment also provides further processes for HMP submittal and content to be included in the HMP.

In response, the Applicant or Developer will prepare a Habitat Mitigation Monitoring Plan (HMMP) as well as a Preserve Management Plan (PMP), which will be provided to the City and applicable resource/wildlife agencies for their review and approval. Mitigation measure MM-BIO-7b, outlined in Section 3.3 of the EIR, requires that a HMMP and a PMP be prepared and implemented to ensure the perpetual management, maintenance, and monitoring of the biological CE areas. See Global Response A for additional information. As requested in the CDFW comment, the management funding amount and mechanism would be based on a Property Analysis Record (PAR) or similar cost estimation method, as set out in MM-BIO-7b. An itemized cost estimate would be provided to the City and Wildlife Agencies for review and approval. MM-BIO-7b will be modified (shown in ~~strikeout~~/underline within the EIR Errata) to clarify that funding, as approved by the City and Wildlife Agencies will be provided in accordance with the PMP.

> **MM-BIO-7b Compensatory Mitigation for Permanent Impacts to Sensitive Natural Communities.** Prior to the issuance of ~~and~~ land disturbance, clearing, grubbing, or grading permits for the project, the Applicant or Developer shall demonstrate to the satisfaction of the City, and applicable permit-issuing resource agency (i.e., USFWS, USACE, RWQCB, and/or CDFW) that compensatory mitigation for direct permanent impacts to sensitive natural communities (e.g., Diegan coastal sage scrub, native grassland, non-native grassland, mixed grassland, and vernal pools) has been adequately provided in

accordance with the ratios described in mitigation measure MM-BIO-7a and secured through one or a combination of the following mechanisms:

- Implementation of on-site and/or off-site habitat preservation, creation/expansion, restoration, and/ or enhancement
- Purchase of off-site conservation credits from a conservation bank in the region (such as Brook Forest Mitigation Bank, Cleveland Corridor Conservation Bank, Heights of Pala Mesa Conservation Bank, Manchester Avenue Conservation Bank, Ramona Grasslands Conservation Bank, Red Mountain Conservation Bank, or another location deemed acceptable by the City).

~~Compensatory~~Prior to issuance of land disturbance, clearing, grubbing, or grading permits for the project site, compensatory mitigation areas proposed on- and/or off-site through habitat creation/expansion, enhancement, and/or restoration shall be required to prepare and implement a Habitat Mitigation Monitoring Plan (HMMP) and a Preserve Management Plan (PMP), which shall be subject to City and applicable permit-issuing resource agency (i.e. USFWS, USACE, RWQCB, and/or CDFW) review and approval prior to the issuance of any permits for the proposed project. Because the rare plant transplant plan and vernal pools mitigation plan (see MM-BIO-1 and MM-BIO-2 above) ultimately prescribes actions resulting in grasslands and vernal pool establishment/expansion, re-establishment, enhancement, and/or restoration, such plans shall suffice as the HMMP provided the pertinent information prescribed below is incorporated.

> The HMMP shall prescribe the on-/off-site mitigation actions of creation/establishment/expansion, re-establishment, restoration, enhancement, and/or preservation. The HMMP shall include the location of any creation/establishment, re-establishment, restoration, enhancement, and/or preservation site(s), requirements for site preparation, soil amendments, temporary irrigation, native plant palettes, installation methods, maintenance, and performance monitoring, as appropriate. The HMMP shall include graceful tarplant into the native habitat planting seed palette, where appropriate. The HMMP shall also include information pertaining to any specific rare plant translocation plans (see MM-BIO-1) or vernal pool resources mitigation plans (see MM-BIO-2) as required by MM-BIO-1 and MM-BIO-2. The HMMP shall require that all mitigation (except for preservation areas not restored) be subject to a monitoring with specific performance standards to ensure that the impacted functions and services are restored. ~~A protective instrument, such as a conservation easement or restrictive covenant, shall be recorded over the mitigation areas where such a protective instrument does not already exist.~~ All the mitigation areas shall be subject to long-term management as outlined by the approved PMP for the project.
>
> The PMP for the proposed project shall prescribe the on-/off-site actions of stewardship and perpetual management of the preserve areas and include at a minimum: (a) the location and description of the mitigation area(s); final plans for the mitigation area(s); (b) the responsible entities for the mitigation area(s); (c) the management funding amount and mechanism, based on a Property Analysis Record

(PAR) or similar cost estimation method approved by the City approved by the City and applicable permit-issuing resource agency (i.e., USFWS, USACE, RWQCB, and/or CDFW); (d) specific habitat and monitoring management directives including ~~such as~~: vegetation monitoring, sensitive species monitoring, water pollution, and control and treatment of non-native invasive/exotic plant species; (e) specific success criteria; (f) public awareness programs/initiatives; (g) preserve barriers, ~~or~~ fencing management, and signage to prevent human intrusion and control illegal dumping; (h) monitoring and reporting schedules; and (i) adaptive management recommendations for the preserve area. Implementation of long-term management shall be provided by a qualified entity approved by the City approved by the City and applicable permit-issuing resource agency (i.e., USFWS, USACE, RWQCB, and/or CDFW) with experience in managing preserve lands.

Prior to issuance of land disturbance, clearing, grubbing, or grading permits for the project a protective instrument, such as a conservation easement or restrictive covenant, shall be recorded over the mitigation areas where such a protective instrument does not already exist (including all on-/off-site conservation areas), and in-perpetuity management shall be provided by a qualified manager in accordance with the PMP, which would be funded by an endowment or other acceptable funding mechanism.

The draft HMMP and PMP, including the endowment estimate and documentation, shall be provided to the City and applicable permit-issuing resource agency (i.e., USFWS, USACE, RWQCB, and/or CDFW) at least 60-days prior to project impacts. The HMMP and PMP shall be approved by the City and applicable permit-issuing resource agency (i.e., USFWS, USACE, RWQCB, and/or CDFW) prior to the issuance of land disturbance, clearing, grubbing, or grading permits for the project. Implementation of the HMMP and PMP shall be fully funded by the Applicant via an endowment or other funding mechanism, as approved by the City and pertinent permit-issuing resource agency prior to any land disturbance for the project.

A3-12 The comment states that all off-site mitigation areas, including mitigation banks, should be agreed to by the Wildlife Agencies and the City. The comment states that evidence that off-site mitigation has been purchased and/or placed within a biological open space CE should be provided to the Wildlife Agencies and City prior to impacts occurring on the Project site.

In response, as discussed above, it is intended that a substantial portion of project mitigation (if not all) occur onsite within identified conservation/transplantation areas. For off-site mitigation, MM-BIO-7b and MM-BIO-7b require that, prior to the issuance of any permits for land disturbance at the site, the Applicant or Developer demonstrate to the satisfaction of the City and the Wildlife Agencies that any off-site mitigation area for the project (including conservation credits from an existing or future conservation bank in the region) have been secured in accordance with the required mitigation ratios and a protective instrument is recorded over such mitigation areas where one does not already exist. Thus, prior to project impacts, the project Applicant or Developer is required to demonstrate that off-site mitigation has been acquired and a CE/restrictive covenant has been recorded; and/or lands are within an existing biological open space conservation area subject to a CE/restrictive covenant.

A3-13 The comment provides a summary of CEQA and the California National Diversity Database. The comment is noted. The comment does not raise any specific issues related to the adequacy of the EIR, thus no further response is required or provided.

A3-14 The comment provides a summary of filing fees payable upon filing of the Notice of Determination. The comment is noted. The comment does not raise any specific issues related to the adequacy of the EIR; no further response is required or provided.

A3-15 The comment includes concluding remarks. The comment does not raise any specific environmental issues related to the adequacy of the Draft EIR. No further response is required or provided.

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Comment Letter A4

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, GOVERNOR

California Department of Transportation

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April 17, 2023

11-SD-78
PM 11.843
Pacific Specific Plan
DEIR/SCH#2022050650

Mr. Chris Garcia
Associate Planner
City of San Marcos
1 Civic Center Drive
San Marcos, CA 92069

Dear Mr. Garcia:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Draft Environmental Impact Report for the located near State Route 78 (SR-78). 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.

Safety is one of Caltrans' strategic goals. Caltrans strives to make the year 2050 the first year without a single death or serious injury on California's roads. We are striving for more equitable outcomes for the transportation network's diverse users. To achieve these ambitious goals, we will pursue meaningful collaboration with our partners. We encourage the implementation of new technologies, innovations, and best practices that will enhance the safety on the transportation network. These pursuits are both ambitious and urgent, and their accomplishment involves a focused departure from the status quo as we continue to institutionalize safety in all our work.

A4-1

Caltrans is committed to prioritizing projects that are equitable and provide meaningful benefits to historically underserved communities, to ultimately improve transportation accessibility and quality of life for people in the communities we serve.

We look forward to working with the City of San Marcos in areas where the City and Caltrans have joint jurisdiction to improve the transportation network and connections between various modes of travel, with the goal of improving the experience of those who use the transportation system.

"Provide a safe and reliable transportation network that serves all people and respects the environment"

A4-1 Cont.

Caltrans has the following comments:

Design
Local Transportation Analysis Appendix K

A4-2

According to the Synchro tables for location 3 SR-78/Via Vera Cruz there is no change in traffic volumes for the eastbound off-ramp for the 2050 table and the 2050+ Project (both AM and PM) table, please clarify.

Traffic Impact Study
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.

Caltrans requests that the "third methodology" per the Governor's OPR for VMT Analysis be used for this project (See OPR Guidance, Appendix 1 page 30). [1]

> **Assessing Change in Total VMT**
> A third method, estimating the change in total VMT with and without the project, can evaluate whether a project is likely to divert existing trips, and what the effect of those diversions will be on total VMT. This method answers the question, "What is the net effect of the project on area VMT?" As an illustration, assessing the total change in VMT for a grocery store built in a food desert that diverts trips from more distant stores could reveal a net VMT reduction. The analysis should address the full area over which the project affects travel behavior, even if the effect on travel behavior crosses political boundaries.

A4-3

A4-4

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.

Complete Streets and Mobility Network
Caltrans views all transportation improvements as opportunities to improve safety, access and mobility for all travelers in California and recognizes bicycle, pedestrian and transit modes as integral elements of the transportation network. Caltrans supports improved transit accommodation through the provision of Park and Ride facilities, improved bicycle and pedestrian access and safety improvements, signal prioritization for transit, bus on shoulders, ramp improvements, or other enhancements that promotes a complete and integrated transportation network. Early coordination

A4-5

[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

with Caltrans, in locations that may affect both Caltrans and the City of San Marcos is encouraged.
To reduce greenhouse gas emissions and achieve California's Climate Change target, Caltrans is implementing Complete Streets and Climate Change policies into State Highway Operations and Protection Program (SHOPP) projects to meet multi-modal mobility needs. Caltrans looks forward to working with the City to evaluate potential Complete Streets projects.

Bicycle, pedestrian, and public transit access during construction is important. Mitigation to maintain bicycle, pedestrian, and public transit access during construction is in accordance with Caltrans' goals and policies.

A4-5 Cont.

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.

A4-6

Environmental
Caltrans welcomes the opportunity to be a Responsible Agency under the California Environmental Quality Act (CEQA), as we have some discretionary authority of a portion of the project that is in Caltrans' R/W through the form of an encroachment permit process. We look forward to the coordination of our efforts to ensure that Caltrans can adopt the alternative and/or mitigation measure for our R/W. We would appreciate meeting with you to discuss the elements of the EIR that Caltrans will use for our subsequent environmental compliance.

An encroachment permit will be required for any work within the Caltrans' R/W prior to 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 the Caltrans' R/W and address any impacts from avoidance and/or mitigation measures.

A4-7

We recommend that this project specifically identifies and assesses potential impacts caused by the project or impacts from mitigation efforts that occur within Caltrans' R/W that includes impacts to the natural environment, infrastructure including but not limited to highways, roadways, structures, intelligent transportation systems elements, on-ramps and off-ramps, and appurtenant features including but not limited to fencing, lighting, signage, drainage, guardrail, slopes and landscaping.

A4-7 Cont.

Broadband

Caltrans recognizes that teleworking and remote learning lessen the impacts of traffic on our roadways and surrounding communities. This reduces the amount of VMT and decreases the amount of greenhouse gas (GHG) emissions and other pollutants. The availability of affordable and reliable, high-speed broadband is a key component in supporting travel demand management and reaching the state's transportation and climate action goals.

A4-8

Right-of-Way

- 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.
- 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 the Caltrans' R/W prior to construction.

Additional information regarding encroachment permits may be obtained by contacting the Caltrans Permits Office at (619) 688-6158 or emailing D11.Permits@dot.ca.gov or by visiting the website at https://dot.ca.gov/programs/traffic-operations/ep. Early coordination with Caltrans is strongly advised for all encroachment permits.

If you have any questions or concerns, please contact Kimberly Dodson, LDR Coordinator, at (619) 985-1587 or by e-mail sent to Kimberly.Dodson@dot.ca.gov.

A4-9

Sincerely,

Maurice A. Eaton

MAURICE EATON
Branch Chief
Local Development Review

"Provide a safe and reliable transportation network that serves all people and respects the environment"

Response to Comment Letter A4

Agency
California Department of Transportation (Caltrans)
April 17, 2023

A4-1 The comment provides an introduction to comments that follow. The comment does not raise any specific issues related to the adequacy of the EIR. No further response is required or provided.

A4-2 The comment asks for clarification where, according to the Synchro tables for location 3 SR-78/Via Vera Cruz, there is no change in traffic volumes for the eastbound off-ramp for 2050 and 2050+ (both AM and PM) table.

The comment relates to traffic delay or congestion, which is no longer considered a significant impact on the environment pursuant to CEQA. (Pub. Resources Code section 21099(b)(2).) As the comment does not raise an environmental issue within the meaning of CEQA, no further response is required or necessary.

Notwithstanding, LOS is required to be analyzed for consistency with the City's General Plan. The City provides the following clarification related to the Local Transportation Analysis (LTA) prepared to comply with City requirements. Table 10-1a of the Local Transportation Analysis (Appendix K to the EIR) presents the results for Via Vera Cruz / Grand Avenue / SR-78 EB in the Long-Term Without Project scenario as "greater than" 80.0 seconds of average delay and the project-related increase in average delay as "greater than" 2.0 seconds. Accordingly, the analysis does show a change in delay from the project of greater than 2.0 seconds in the Long-Term + Project scenario. The Synchro software cannot provide greater specificity when the intersection is over capacity. The Synchro output sheets can be found in Appendix K and Appendix M to the Local Transportation Analysis (Appendix K to the EIR).

A4-3 The comment states that a Vehicle Miles of Travel (VMT) analysis should be prepared for the project. A report was prepared for the project pursuant to CEQA and is included as Appendix J to the EIR. The VMT analysis methodology is consistent with the City of San Marcos *Transportation Impact Analysis Guidelines,* such that the project was evaluated using a VMT per resident metric and an impact threshold 15 percent below the existing countywide average. The commenter is referred to the EIR Section 3.15 and Appendix J.

A4-4 The comment states the Traffic Impact Study may also need to identify the project's near-term and long-term safety or operational issues, on or adjacent to any existing or proposed State facilities.

Section 3.15, Transportation, of the EIR evaluates safety related transportation issues under Threshold Nos. 3 and 4, which address whether the project would substantially increase hazards or result in inadequate emergency access. The EIR finds the project would result in less than significant impacts on the safety-related transportation issues. Further, a Local Transportation Analysis (Appendix K to the EIR) was prepared consistent with the City of San Marcos *Transportation Impact Analysis Guidelines,* which analyzes the effects of the project on the local street system and on State facilities, including SR-78 / Las Posas Road interchange, SR-78/ Via Vera Cruz, and Via Vera Cruz / Grand Avenue / SR-78 EB ramps. Refer to EIR Section 3.15, Transportation, and Appendix K, Local Transportation Analysis, for more information. The comment does not raise any specific issues related to the adequacy of this analysis, such that no further response is required or provided.

A4-5 The comment refers to complete streets and mobility, and states that Caltrans supports transit, pedestrian, and transit improvements. The comment states that Caltrans looks forward to potential opportunities to coordinate with the City to meet multi-modal mobility needs and reduce GHG emissions. The comment states that maintaining bicycle, pedestrian, and transit access during project construction is in accordance with Caltrans' goals and policies.

The comment does not raise any specific issues related to the adequacy of the EIR. The commenter is referred to Section 3.15.4, Project Impact Analysis, of the EIR, Threshold 1, which discusses the transit, bicycle, and pedestrian facility impacts. As described therein, Class II bike lanes are provided on Las Posas Road, from SR-78 to San Marcos Boulevard (both sides); Grand Avenue, from Rancho Santa Fe Road to Las Posas Road (both sides); Linda Vista Drive, from Rancho Santa Fe Road to Pacific Street (north side); and San Marcos Boulevard, from Pacific Street to Via Vera Cruz (both sides). Pedestrian sidewalks are generally provided throughout the area, with pedestrian crossings located at intersections surrounding the project site. The site is also served by existing transit. The following transportation improvements would ensure adequate pedestrian, bicycle, and transit facilities are provided consistent with City policies and guidelines:

1. Provide a 6-foot sidewalk and Class II buffered bike lane along the project's frontage on Pacific Street.
2. Provide a 12-foot urban trail (shared use path) along the project's frontage on Linda Vista Drive.
3. Provide a 12-foot urban trail (shared use path) along the project's frontage on La Mirada Drive.
4. Provide transit stop amenities including bench, shelter, and trash can at the southbound stop at the intersection of Las Posas Road/La Mirada Drive located on the southwest corner of the intersection. Provide a bus turnout for this stop along the project frontage.

Further, as described in Section 3.15.4, all proposed circulation improvements would be designed in accordance with the City's roadway design standards to ensure proper safety requirements are met. For any potential construction related activities in the public right-of-way during the construction period, applicable City regulations and policies require two-way traffic to be maintained, which would accommodate pedestrians, bikes, and transit. Additionally, as concluded in Section 3.7, Greenhouse Gas Emissions, and Section 3.15, Transportation, of the EIR, the project would result in less than significant impacts related to GHG emissions and traffic and circulation.

A4-6 The comment addresses land use and smart growth, and states that there is a strong link between transportation and land use and the City should continue to coordinate with Caltrans to implement improvements where there is joint jurisdiction.

The City acknowledges this comment. The comment does not raise any specific issues related to the adequacy of the EIR. The commenter is referred to Section 3.15.4, Project Impact Analysis, of the EIR, Threshold 1, which discusses that the project is located on an infill site in an area with moderately high employment density, an adjacent and walkable commercial area to serve the project's shopping and dining needs, and nearby schools, parks, and other facilities within walkable/bikeable distance from the site. The project thus aligns with "smart growth" type land use planning and policies.

A4-7 The comment states that Caltrans welcomes the opportunity to be a Responsible Agency under CEQA. The comment states that an encroachment permit would be required for any work within the Caltrans right-of-way and recommends that the project identify and assess all impacts within the Caltrans right of way and address any impacts from avoidance or mitigation measures in the CEQA document.

The City acknowledges this comment. The comment does not raise any specific issues related to the adequacy of the EIR such that no further response is required. The commenter is referred to Section 3.15, Transportation, and Appendices J and K of the EIR, which address transportation impacts of the project and identify avoidance and improvement measures. Please also refer to Section 3.3 of the EIR which addresses project impacts on the natural environment.

A4-8 The comment states that Caltrans recognizes that teleworking and remote learning reduces impacts of traffic, which reduces VMT and GHG emissions. The comment states that reliable high-speed broadband is a key component in reaching the state's transportation and climate action goals.

The City acknowledges the comment, which does not raise any specific issues related to the adequacy of the EIR. The commenter is referred to Section 3.17, Utilities and Service Systems, of the EIR, which identifies that telecommunications services to the project site may be provided by various distributors including AT&T and Cox Communications. The project connection to telecommunications services is facilitated by existing lines that surround the site.

A4-9 The comment states that perpetuation of survey monuments by a licensed land surveyor is required, if they are being destroyed by any construction. No survey monuments are anticipated to be destroyed during project construction. However, if proposed street improvements contemplate the removal of existing survey monuments, they shall be replaced in conformance with Business and Profession Code 8771.

The comment also states that any work performed within Caltrans' right-of-way will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans' right-of-way prior to construction. The City acknowledges this comment. The comment does not raise any specific issues related to the adequacy of the Draft EIR. Refer to Response to Comment A4-7.

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Comment Letter O1

San Diego County Archaeological Society, Inc.

Environmental Review Committee

3 April 2023

To: Ms. Chris Garcia, Senior Planner
Planning Division
City of San Marcos
1 Civic Center Drive
San Marcos, California 92069

Subject: Draft Environmental Impact Report
Pacific Specific Plan
SP22-0001, GPA21-0002, R21-0002, MFSDP22-0001, TSM22-0001

Dear Ms. Garcia:

I have reviewed the cultural resources aspects of the subject DEIR on behalf of this committee of the San Diego County Archaeological Society.

Based on the information contained in the DEIR and its cultural resources appendix, we agree with the impact analysis detailed in the cultural resources appendix, which indicates a low likelihood of encountering such resources. The specified mitigation measures in the DEIR are acceptable. O1-1

Thank you for providing SDCAS with the opportunity to participate in the public review of this DEIR.

Sincerely,

James W. Royle, Jr., Chairperson
Environmental Review Committee

cc: Dudek
SDCAS President
File

P.O. Box 81106 San Diego, CA 92138-1106 (858) 538-0935

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Response to Comment Letter O1

Organization
San Diego County Archaeological Society, Inc.
April 3, 2023

O1-1 The comment states that the Environmental Review Committee of the San Diego County Archaeological Society has reviewed the cultural resource aspects of the Draft EIR, agrees with the impact analysis that indicates a low likelihood of encountering cultural resources, and deems acceptable the proposed mitigation measures and the impact analysis conclusions detailed in the Draft EIR.

The comment does not raise any specific issues related to the adequacy of the EIR. No further response is required.

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Comment Letter O2

California Native Plant Society

San Diego Chapter of the California Native Plant Society
P O Box 121390
San Diego CA 92112-1390
conservation@cnpssd.org | www.cnpssd.org

April 17, 2023

Chris Garcia, Senior Planner
City of San Marcos – Planning Division
1 Civic Center Drive
San Marcos, CA 92069
PacificProject@san-marcos.net

RE: Pacific Specific Plan Comments
SP22-0001 / GPA21-0002 / R21-0002 / MFSDP22-0001 / TSM22-0001

Dear Mr. Garcia,

Thank you for the opportunity to comment on the draft of the City of San Marcos ("City") Pacific Specific Plan ("Project") and its associated Draft Environmental Impact Report ("DEIR"). The California Native Plant Society ("CNPS") and its San Diego Chapter ("CNPSSD") promotes sound plant science as the backbone of effective natural areas protection. We work closely with decision-makers, scientists, and local planners to advocate for well informed and environmentally friendly policies, regulations, and land management practices. Our focus is on California's native plants, the vegetation they form, and climate change as it affects both. O2-1

We strongly recommend that the DEIR should not be certified in it is current form, nor should the fate of the Project be decided at this time. The issues we found are detailed below. In particular, we **disagree** with the DEIR Section 3.3.7 – Conclusion. The points raised below are substantial and overall appear to have a lack of planning, poor to non-existent survey data, and are asking approval of a project on plans that are not yet in existence, even should they be feasible. We have **Bolded emphasis where problems are profound.** O2-2

The Mitigation Measures proposed are problematic and insufficient

According to the DEIR mitigation MM BIO-1 (pg 3.3-30): ***"Rare Plant Transplant Plan. ...****the project Applicant shall submit a rare plant transplant plan to the City and resource agencies (USFWS and CDFW) regarding transplanting and monitoring of special status plants: San Diego button-celery, Orcutt's brodiaea, and thread leaved brodiaea. The transplant plan shall include, at minimum, methods for plant salvage, seed/bulb/corm collection, transplantation, relocation, performance standards, and maintenance and monitoring (5 years) to provide for* ***no loss of these plant species and to achieve establishment success.*** *Overall, San Diego button-celery, Orcutt's brodiaea, and thread-leaved brodiaea shall be translocated and/or* ***replanted through propagation into existing suitable habitat in the on-site open space preserve near existing populations of these species*** *and according to the conceptual mitigation plan for* O2-3

the project... The planting of these species shall also be incorporated, as applicable, into the revegetation palettes discussed in the Vernal Pools Mitigation Plan (MM-BIO-2)." The transplant plan shall be approved by the City and resource agencies, and will ***meet currently accepted standards for sensitive species translocation****. Contingency measures, in case performance standards are not met after 5 years, shall be included in the plan to ensure success (i.e.,* ***no loss of these plant species****) is achieved. Resource Agency verification that transplant plan success criteria has been met is required for the completion of this measure. In addition to the transplant plan, a cost estimate to implement the plan shall be provided to the City and resource agencies for approval and the project Applicant shall post/secure a bond in the amount of 120% of the approved cost* ***estimate*** *for financial assurance of the plan prior to any clearing, grubbing, grading or other land disturbance related to the project.*"

O2-3 Cont.

Here there are multiple issue with the Rare Plant Transplant Plan beginning with:

1) **Transplant plans rarely work as intended.** If the metric for success of "no loss of the plant species", then we challenge the proponent to demonstrate an exemplar study of transplantation of the sensitive plant species above that did not occur in loss.

O2-4

2) **This DEIR proposes plans that does not yet exist** or has not been released for review. Therefore there is no ability to comment on or review the components or merits or issues they *might* have. There are no comparable transplantation plans offered for the same species in similar conditions even referenced.

O2-5

CNPSSD members and staff have operated in the non-profit realm that incorporates the nexus between performing and monitoring restoration sites, landscaping and gardening with sensitive species in the nursery trade, and working with agencies in the field to assist in achieving realistic conservation goals for decades, CNPSSD is in the unique position to state that the methods for transplantation are approached in very different manners for different species and history has shown very different results for even the best intended and funded approaches. During transplantation, the practice unavoidably causes root disturbance from mechanical means which leads to altered soil characteristics (changing affiliate biota, depth of water, temperature) and hydrological changes, even when transplanting in-situ. Transplantation introduces new exposures to variable temperature fluctuations and provides an introduction pathway for pathogens and invasive plant, fungal, and insect / vermin species. These are just some of the common factors that contribute to stress and loss of plants. Sensitive species require very specific conditions to survive and the transplantation plan components that we do not get to see or review are critical to this statement of presumed success. I ask what becomes of a transplantation plan that is not satisfactory to the City of San Marcos and the reviewing agencies? This statement as a lead mitigation measure is presumptuous of the permitting post passage of the DEIR.

O2-6

In further regards to the concept that such a plan would produce "no loss of these plant species," the 2011 US Fish and Wildlife Service (FWS) Five Year Review for Brodiaea filifolia (Federal Register Vol. 76, No.26), FWS remarks that "*hybridization could result in the loss of the species as well.*" Although populations are shown to occur where *B. filifolia* and *B. orcutti* co-occur on the Project site, the DEIR does not mention hybridization of these

O2-7

species at any point within the reports. **How then shall there be any metric proposed to establish the difference of natural hybridization of these two plant species from those that are meant to be propagated and planted which hybridization may be a direct result from human mediated activities?**

02-7 Cont.

3) **At what benchmark can the City of San Marcos consider the contingency measures to a Transplantation plan failure applicable?** Is it after the loss of a single plant, or after five years of monitoring post construction when possibly hundreds of thousands of extremely rare *Brodiaea* corms have failed to produce the intended metric of success? MM-BIO-1 offers that a cost estimate for financial assurance of the plan be approved and held with a bond. This effectively creates a capped settlement on failure to perform a promise which has a nearly impossible measure to meet. Where then does the bond get paid when / if MM-BIO-1 fails? This is problematic as it can be inferred that there may be a favorable monetary result for the Applicant and bond recipient(s) if Transplantation plan fails. **The Applicant essentially is setting up terms of their own legal settlement in this scenario. Mean while, the loss of these endangered species is a further obstacle against the species surviving avoidable extinction. Extinction is not something any amount of money can fix.**

02-8

4) MM-BIO-1 suggests that it's approval and metrics be established by the agencies, so let's hear from their perspective. California Department of Fish and Wildlife (CDFW) July 12, 2022 Comments on the NOP for the Project, they state that they "*recommend that project site be conserved through purchase with grants or mitigation funds from other projects or through the establishment of a mitigation bank. Also as stated, we recommend that any proposed development be limited to no more than 25 percent of the project site and be designed to first prioritize avoidance of vernal pools and their watersheds and then to avoid thread-leaved brodiaea.*" **In short, the mitigation measures proposed ignore the CDFW comments entirely. Where is the avoidance of rare and listed plant species measure or project alternative?**

02-9

5) For MM-BIO-2 Vernal Pool Mitigation Plan, the DEIR report again runs into the same problems mentioned directly above. We reiterate that this component relies on a Plan that is not available for review and on a bond contingency that does not offer further critical details for comment. However, it does suggest that "*Suitable habitat is located within existing depressions (found not occupied) near existing vernal pools to be preserved on-site, which is located within the Vernal Pool Major Amendment Area in the City's Draft Subarea Plan.*" **The problem with this statement is that is untrue by the very report in which it is stated.** In Figure 3.3-2 Special Status Wildlife Species, **all** the vernal pools appear to be occupied by the coloration of the map components by fairy shrimp. Collectively, the vernal pools are treated as a lump sum of their estimate area, but vernal pools are in fact somewhat unique, differentiated by a wide variety of hydrologic, geologic, and biological factors that form a delicate equilibrium. It would be much easier to assess and compare which pools are intended to be utilized for mitigation, as it currently appears that there are only direct impacts to the pools in the project footprint, with no means to implement a theoretical plan

02-10

without impacting the others intended for conservation as well. This is especially poignant because the 3:1 mitigation ratio for the 0.15 acre impacts to vernal pools (Found in Table 3.3-8) would effectively require more than doubling the existing natural pools on this site (Found in Table 3.3-5).

O2-10 Cont.

In Figure 15 of the Biological Resources Memorandum, the existing vernal pools marked for enhancement are also encompassed by a polygon indicating vernal pool **creation**. **There is no acceptable method know to simultaneously enhance a vernal pool while creating a new larger vernal pool around it. From a mitigation calculation standpoint, it has to be one or the other.** The DEIR is proposing to make existing vernal pools bigger without any evidence that their watershed or other conditions can support larger pools. This indicates a conceptual plan to force nature to perform in a way that is unnatural. This concept doesn't restore resources that have been lost. This site is a unique example of the survival of very rare resources among surrounding heavy urban development. We contend that it is inappropriate to propose creating more resources onsite. Given the increasing pressures of climate change, it seems unlikely that the site can support a higher density of rare plants and vernal pools in a smaller area given the increased impacts proposed by the Project.

O2-11

6) CEQA requires EIRs to be detailed, complete, and contain a sufficient degree of analysis to let the public and decision-makers understand the proposed project's adverse environmental impacts, so that corrections can be made and an informed decision can ultimately be undertaken.[1] As we understand it, the courts repeatedly have ruled against deferring analysis until after the EIR is approved.[2] Similarly, EIRs are generally not allowed to defer evaluation of mitigations.[3] **Why does the DEIR fail to include a complete Biological Resource Management plan? The DEIR mentions "***Compensatory mitigation proposed on- and/or off-site through habitat establishment, reestablishment, and/or restoration areas shall be required to prepare and implement a Habitat Mitigation Monitoring Plan (HMMP) and a Preserve Management Plan (PMP), which shall be subject to City review and approval prior to issuance of any permits for the proposed project***."** Again, this is punting the issue into a space where the public will not be allowed to review whether the HMMP and PMP are realistic or even viable. **Why not produce these plans prior to submittal of the DEIR for review rather than wait for these plans to be prepared?**

O2-12

This is not simply a legal issue. CNPSSD has reviewed environmental documents on multiple resource management plans. The reason these documents are created is that they often cause impacts of their own making unavoidable impacts to sensitive species and vegetation communities in addition to an exhaustive list of concerns. **What substantial evidence makes the Project proponents believe that their HMMP and PMP will be impact free? If such evidence exists, why was it not presented and used to support their case for permitting their Project? How can decision makers**

O2-13

1 CEQA Guidelines§ 15151. Standards for Adequacy of an EIR.

2 e.g. No Oil, Inc. v. City of Los Angeles (1974), Sundstrom v. County of Mendocino (1988), Gentry v. City of Murrieta (1995)

3 CEQA Guidelines §15126.4(a)(1)(B)

be expected to weight the benefits of the Project against its impacts, if the mitigation for management plan impact themselves are yet to be determined?

O2-13 Cont.

Incomplete Plant List & Survey Issues

Seventy three (73) plant species are referenced as being identified on the approximately 33 acres of the proposed Project parcel. There were multiple surveys for botanical inventory on the parcel between 2018 and 2022. CNPSSD encourages through plant lists during biological surveys. For a site with the variety of vegetation communities presented across ~33 acres, the figure of 73 is surprisingly low. In fact, this caused enough question to utilize the December 2022 google street view application publicity available online. Pictures just on the periphery of the site clearly shows the surveys entirely missed the 60'+ tall Eucalyptus tree at the corner of Las Posas Rd and Linda Vista Dr and the 20'+ tall fan palm on the corner of La Mirada Dr and S Pacific St. Also, how could the surveyors miss the thousands of cheeseweed (*Malva parviflora)* on the parcel, the multiple tumbleweed (*Kali (Salsola) sps)* evident in street view, as well as the broom baccharis (*Baccharis sarothroides)* that is clearly identifiable even from grainy La Mirada Dr google street view taken in Aug 2022? We can't conjecture on how these very common and very easily identifiable species were ignored in favor of the rare plants found in the hundreds of thousands on the parcel, but this calls into serious question whether this and other components of the surveys were undertaken to any rigorous standard of completion. Another odd note is the listing of Desert plantain (*Plantago ovata*) on site, which would be an odd, but not technically impossible find. This species has never been documented in the San Marcos area by the California Consortium of Herbaria. Why wasn't this species collected and submitted for confirmation at one of our many Herbaria, including the San Diego Natural History Museum Dept of Botany? **How many other plant species are on the parcel that the surveyors completely missed or did not document? Why not update these surveys?**

O2-14

On this note, no CRPR listed bryophytes, lichens, or mosses were surveyed for at all. The lack of information in the report indicates a glaring oversight and potential loss of such species as *Geothallus tuberosus* or *Sphaerocarpos drewei (*both CNPS 1B.1*)*, the latter of which was found recently near the Palomar College campus about a mile away [4].

4 - Palomar News Mar 6, 2020 - 'Tiny plant on campus turns out to be a big find'

O2-15

The DEIR states ..."*Three additional special status plant species have been recorded on the project site by others: San Diego thornmint (Acanthomintha ilicifolia), spreading navarretia (Navarretia fossalis), and small flowered microseris (Microseris douglasii ssp. Platycarpha). San Diego thornmint and spreading navarretia are reported to occur as critical populations on the project site; however, they have not been detected other than historical observations. These three species were not observed within the project site during biological surveys in 2018, 2020, 2021, or 2022. Because surveys for rare plants conducted for the project were performed during the blooming periods for these plant species, as well as in a year (2020) yielding above average rainfall, these three plant species would have been observed if present on site.*" Simply not observing these species when historical observations on the site have been made as recently as 2009 for the navarretia and 2017 for the microseris cause us to question the veracity of the statement that these species are absent. **Both the Spreading Navarettia and small flowered microseris can be difficult to locate. How can we trust they are in fact absent when multiple plant biological surveys missed a 60' tall Eucalyptus tree?**

O2-16

Thread leaved Brodiaea and Orcutt's Brodiaea are likely undercounted

Given that only a fraction of existing corms within the soil have been shown to flower in any given year, even in wet years, the *B. filifolia* population numbers estimated in the project's BTR are likely significantly lower than the actual numbers onsite. See the following language from the 2009 USFWS 5-year review of B. filifolia as evidence of the difficulty of assessing population sizes: "*The size of a particular population of Brodiaea filifolia as well as other corm and bulb forming species, is often measured by counting numbers of standing flower stalks. There are considerable difficulties in this approach. Because more plants flower in wet years than in dry years, flowering plants likely represent only a portion of the total population of plants present at any given site. In addition to the annual fluctuation in numbers of flowering plants, seedlings and young plants only produce leaves for a few years before they are able to produce flower stalks. These vegetative plants may go undetected in surveys (Service 2005a, p. 73837). The species may be present as mature but non-flowering corms or immature corms rather than flowering plants; therefore, the estimated number of individuals should be considered an estimate of the minimum number of plants present (Service 2005a, p. 73840). A field study at the Santa Rosa Plateau Preserve revealed an 8:1 ratio of non-flowering corms to flowering plants (12.5 percent flowered), and that the number of flowering plants may vary up to tenfold from wet to dry years (Morey 1995, p. 2). At a residential development site in Carlsbad, only 20 plants (0.25 percent) flowered, where 8,000 corms were later located (Taylor and Burkhart 1992, p. 1- 7). In 2007—a dry year—Vinje (pers. comm. 2008) reported that 14,373 vegetative plants were counted within three research plots at the Rancho La Costa occurrence in Carlsbad, but none of the plants flowered (J. Vinje, Center for Natural Lands Management, pers. comm. 2008, p. 2). Even in a wet year, only 2 to 26 percent of the plants within these plots flowered (Vinje, pers. comm. 2008, p. 2).*"

02-17

The DEIR states that the survey methodology for counting the *Brodiaea* of both species and *Holocarpha* was "*At each rare plant location, the plant was identified to species based on unique flower characteristics, the number of individuals was estimated, and the location was recorded with a GPS unit. Due to the relatively large area supporting Graceful tarplant (Holocarpha virgata ssp. elongata) on site, this species was also mapped and quantified using similar methods as thread-leaved and Orcutt's brodiaea species. Following the field surveys, GPS data was analyzed, and polygons were created where appropriate to demonstrate overall distribution. Clusters and individuals of rare plants that were isolated/distant from the polygons were left as single point locations."* This infers that only flowering stalks and inflorescence scapes were counted. This further is reinforced by the total *Brodiaea* numbers being in the hundreds of thousands, yet getting an exact number for both species. **Using the arithmetic in the comment by 2009 FWS 5 year review above, *Brodiaea filifolia* could possibly be under counted on the site by 1.25 Million corms.** Based on experience with these species and observing above average rainfall years compared to the blooms of drought years, this estimate is approximate, but the statement demonstrably true. Even at existing numbers, hundreds of thousands of individual Brodiaea being impacted by this Project can not be mitigated as suggested in the DEIR except by avoidance.

02-18

Questionable Feasibility

One question that continuously comes up is even with a theoretical HMMP and PMP, can onsite mitigation even be achieved? Figure 15, despite being very difficult to interpret,

02-19

crams all of the vernal pool mitigation, and rare plant mitigation into tiny gaps between existing rare plant populations and existing vernal pools. Essentially, we already have a site that has a high density of very sensitive resources, that has probably reached an ecological equilibrium over time regarding the density of vernal pools, *B. filifolia, B. orcuttii, Holocarpha*, and the distribution of native grassland habitat. The DEIR proposes to further increase the density of all of these resources by forcing them into a smaller area.

O2-19 Cont.

Where are the references to scientific literature proving that they can feasibly pack more B. filifolia into an area already very dense with *B. filifolia*? This will be made even more difficult when they account for the likely seriously underestimated population numbers. Will each mitigation vernal pool have sufficient watershed, and how would the Project Applicant deal with the impacts from the private and public interests that will have access to the site? Mitigation for the loss of native grassland is also unaccounted for where the DEIR proposes to create vernal pools. Do the referenced mitigation banks have comparable vegetation communities that are suitably comparable for the species listed, not just the vegetation community type? Do these mitigation banks have enough area to meet these requirements?

O2-20

Lack of Project Alternatives

Overall, CNPSSD is not against urban infill development and increased density where the lots are already degraded or developed, blighted or under utilized. **This Project proposes many housing components needed in this area of San Marcos, but does not analyze where alternative locations could achieve the same development benefits without the environmental impacts to sensitive resources.** We welcome a version of this Specific Plan located on lots like 1100 San Marcos Blvd, or where Linda Vista Dr meets Grand Ave. Please address why the Parcel with such a unique biological inventory has to be the site where this development is worth their degradation and potential destruction?

O2-21

Multiple Species Conservation Plan ("MSCP") Issues

The Project site is within the proposed North County Multiple Species Conservation Plan ("NCMSCP"). While the NCMSCP is not yet adopted, the Project does not appear to be consistent with the goals of the NCMSCP within its current form. Preserving this site now will allow San Marcos to keep good faith in the eventual passage of the MSCP, which indicates solid forethough and concern for the welfare of all the citizens of San Marcos, even those who need non-profit organizations and agency personnel to speak for them.

O2-22

CONCLUSION

San Marcos has a unique opportunity to integrate this lot as a natural park that protects these extremely sensitive resources in place into a conservation oriented open space / parks plan to allow people in the City to learn and appreciate the rarity and beauty of the site while enhancing the existing resources. CNPSSD would happily join the agencies satisfaction to turn this site into a Conserved lands with little to no development. We as stewards of land use are quickly closing in in the inability to save these plants from extinction. Without protecting them where they exist and focusing on more suitable aternatives, we will hasten the day when all choice is gone. **Losing this site will cause irreparable harm to a significant population of Thread leaved brodiaea (*Brodiaea filifolia)*, Orcutt's brodiaea (*Brodiaea orcutti*), Graceful tarplant (*Holocarpha virgata ssp elongata*), and San Diego Button celery**

O2-23

(Eryngium aristulatum var parishii) and the life that depend upon their continued unaltered existence. Please require the implementation of better surveys, substantially reduce the Project footprint and move the footprint as CDFW has already suggested, or favor another, more suitable location to approve this Project. As Senior Planner in San Marcos and as a visionary for the future of the City, we are counting on your consideration to please delay or require standards for this Project that can better provide reasoning to whether they are even possible to produce.

Thank you for taking these comments. Please keep CNPSSD informed of all developments with this project, at conservation@cnpssd.org and president@cnpssd.org.

O2-23
Cont.

Sincerely,

Justin Daniel

Mr. Justin Thomas Daniel
Chapter President
California Native Plant Society, San Diego Chapter

Response to Comment Letter O2

Organization
California Native Plant Society (CNPS)
April 17, 2023

O2-1 The comment introduces the California Native Plant Society (CNPS) and its San Diego Chapter (CNPSSD). The comment does not raise any specific issues related to the adequacy of the Draft EIR. No further response is required.

O2-2 The comment provides an introduction to comments that follow. The comment does not raise any specific issues related to the adequacy of the Draft EIR. No further response is required.

O2-3 This comment states that the proposed biological mitigation measures are problematic and insufficient. This comment provides an overview of proposed mitigation measure MM-BIO-1. Please refer to Global Responses A, B, and C above. The comment is an introduction to comments that follow. No further response is required.

O2-4 This comment states the commenter's concerns with the Rare Plant Transplant Plan and states that they rarely work as intended.

In response, it has been the experience of the Applicant biological (rare plant, vernal pool, and mitigation) consultant at Helix Environmental Planning, with approximately 65 years of cumulative experience working with rare plants (including translocation plans), vernal pools, and habitat/plant mitigation projects in the region, that rare plant transplant plans are successful and do work as instructed/intended. Several Helix biologists have contributed to the project, including three key specialist staff: include Mr. Jason Kurnow, Mr. Peter Tomsovic, and Mr. Thomas Liddicoat. Mr. Kurnow is a Senior Scientist II with approximately 23 years of experience and holds a USFWS 10(a)(1)(A) recovery permit for several listed species, including listed fairy shrimp. Mr. Kurnow also holds a California Rapid Assessment Method (CRAM) certification for vernal pools. He has successfully completed vernal pool and rare plant projects throughout southern California. Examples include: Miramar National Cemetery Vernal Pool Creation/Restoration and Long-Term Maintenance and Monitoring, MCAS Miramar MV-22 P178/180 and P-1045 Vernal Pools Projects, Camp Roberts San Luis Obispo Vernal Pool Project, Cousins Market Vernal Pool Maintenance and Monitoring, Robertson's Otay Mesa Vernal Pools, Fort Rosecrans Vernal Pool Creation/Restoration Project, MCB Camp Pendleton Vernal Pool Creation/Restoration Project, Hemet Valley Vernal Pool project, Robinhood Ridge Vernal Pool Preserve Creation/Restoration Project, the Fox Miller Brodiaea Preserve, Eastlake Tarplant Restoration Preserve, Santee Riverview Rare Plant Translocation and Monitoring, and the Salk Open Space Brodiaea Preserve.

Mr. Tomsovic is a Senior Construction Manager with approximately 25 years of experience in developing and successfully implementing habitat creation and restoration projects, including vernal pools and rare plant translocation across California. Some examples of Mr. Tomsovic's experience include: the Stonridge Development Vernal Pools, Jonas Salk Elementary School Vernal Pools Restoration, Maintenance and Monitoring Project, Lone Star Vernal Pool Creation/Restoration Mitigation Preserve, MCB Camp Pendleton Wire Mountain Vernal Pool Restoration Program, Pacific Commons Vernal Pool and Rare Plants Project, Dennery Canyon Vernal Pool Preserve Restoration, Antelope-Pardee Rare Plant

Restoration Project, Calabasas Rare Plant Restoration Project, Peninsular Rare Plant Salvage and Restoration Project, MCB Camp Pendleton Thread-Leaved Brodiaea Project, and MCAS Miramar Mounds National Natural Landmark Vernal Pool and Rare Plants Project.

Mr. Liddicoat is a Senior Biology Project Manager with 18 years of experience. He also holds a FWS 10(a)(1)(A) recovery permit for listed fairy shrimp and has worked on vernal pools and rare plant projects throughout southern California. Some examples of Mr. Liddicoat's experience with vernal pools and rare plants include multiple Newhall Land Rare Plant Villages Projects, several Otay Ranch Villages Vernal Pool Projects, Fry's Vernal Pool Mitigation Preserve, Laurel Creek Condominiums Brodiaea Project, MCAS Miramar Housing Vernal Pools and Rare Plants Project, and the Joli Ann Leichtag Elementary School Brodiaea Mitigation Preserve Project.

With regard to the focal rare plants on-site, two local examples of thread-leaved brodiaea translocation success are the Joli Ann Leichtag Elementary Preserve and the Rancho Santalina Preserve. The Joli Ann Leichtag Elementary Preserve (Preserve) served as a receptor site for the translocation of thread-leaved brodiaea individuals that were within the impact footprint of the Elementary School. This site has also served as receptor site for impacts related to the Laurel Creek Apartments development project. Thread-leaved brodiaea were successfully translocated within an approximate 0.5-acre non-native grassland receptor area within the Preserve, which resulted in a total population of over 60,000 thread-leaved brodiaea in the Preserve. The Rancho Santalina Preserve has also been a receptor site for translocation of thread-leaved brodiaea. Both sites have completed successful translocation, are protected with conservation easements, and are currently under perpetual management of a Habitat Manager. MM-BIO-1 requires that the City and resource agencies review and approve a transplantation plan to provide for no loss of the plant species and to achieve establishment success. In addition to direct replacement/relocation of individuals impacted, the proposed mitigation plan will also include salvaging of on-site seed for greenhouse propagation as well as direct dispersal of seeds collected. Implementation of these additional efforts are expected to supplement direct transplanting and provide assurance for no loss of individuals impacted. The plan is also to contain contingency measures in case the performance standards are not met. Resource agency (USFWS and CDFW) verification that success criteria is met is required for the measure to be completed. Planning, mitigation, maintenance and monitoring, contingency measures, and ultimate verification of success will ensure the success of the transplant plan to mitigate project impacts. Refer also to Response to Comment A3-8.

02-5 This comment expresses concerns with the Rare Plant Transplant Plan and states that the Draft EIR proposes plans that do not yet exist or have not been released for review.

Initially, the conceptual mitigation proposed for the project is presented on Figure 13 of the Biological Resources Report, Appendix C to the EIR. MM-BIO-1 identifies the detailed information that must be included in the Rare Plant Transplant Plan and identifies a performance standard of no loss of the plant species that the Plan must meet. The need to defer the specifics of the Rare Plant Transplant Plan arises in light of subsequent regulatory processes, during which agency consultation and approval will occur after the EIR is completed. Here, the City and the resource agencies (USFWS and CDFW) are required to review and approve the Rare Plant Transplant Plan2 , before issuance of land disturbance, clearing, grubbing, or grading permits for the site. During this review process, comments provided by

[2] The City notes the Rare Plant Transplant Plan may be incorporated into a Habitat Management and Monitoring Plan or similar document detailing the elements of rare plant transplantation, rather than appear in a standalone document.

the agencies would be addressed and incorporated into the Rare Plant Transplant Plan or HMMP as part of the approval process. Public review of such plan is not industry standard and not necessary. The mitigation type and techniques to be incorporated into the project transplant plan are based on acceptable industry standards and previously approved plans in the region that were completed successfully. The proposed mitigation techniques would be subject to resource agency review and approval, which are consistent with techniques that have been proven successful. Refer also to Global Response A and Response to Comments O2-4 and A3-8.

O2-6 This comment states that transplantation methods are different for different species, and states the commenters concerns with factors that contribute to the stress and loss of plants during plant transplantation. The commenter questions what becomes of a transplantation plan that is not satisfactory to the City of San Marcos and the reviewing agencies.

In response, as discussed above in Responses to Comments O2-4 and O2-5, MM-BIO-1 identifies the information that must be included in the Rare Plant Transplant Plan and identifies a performance standard of no loss of the plant species that the Plan must meet. The illustrative plans identify some manners/methods that are anticipated to be included in the projects Transplant Plan. Such plans have been approved and implemented successfully for other similar sites.

Because approval of the Transplant Plan is required prior to any physical project impacts and as part of regulatory permitting that follows the CEQA and City land use entitlement process, if the Transplant Plan is not approved, then project permits needed for development would not be issued. The project Applicant or Developer would work with the City and Agencies to prepare an acceptable plan to meet the no loss performance standard. It is required that project Applicant or Developer to approval of the transplant plan as well as obtain CDFW/USFWS verification of its success. Based on these factors, the City has determined that MM-BIO-1 is anticipated to be successful at reducing impacts to less than significant, together with the other biological resource mitigation measures.

O2-7 The comment expresses concerns related to species Brodiaea Fili folia and Brodiaea Orcutt to co-occur on the project site. The commenter questions how there shall be any metric proposed to establish the difference of natural hybridization of these two plant species from those that are meant to be propagated and planted which hybridization may be a direct result from human mediated activities.

Throughout multiple years (2020-2023) of focused surveys of the brodiaea on-site, no hybrids were detected. Based on the 100,000's of individuals on-site, the Applicant's biologists at Helix Environmental expected that hybrids of brodiaea species would likely have been detected, if present, and in a representative amount of the population. According to available literature from CNPS (Brodiaea filifolia taxon report), it is suggested that hybridization of brodiaea is generated by a non-native pollinizer – the European honeybee. Natural hybridization is not known and, based on observations onsite to date, unlikely. Further, according to the San Diego Management and Monitoring Program and current literature published by the American Journal of Botany (i.e., A phylogenetic evaluation of a biosystematic framework: Brodiaea and related petaloid monocots {hemidaceae]), Filifolia and B. Orcuttii have several similarities, but they have different physical reproductive characteristics; Hybridization between these two species is unlikely (Pires, J.C. and K.J. Sytsma. 2002). According to the USFWS 5-year review for the species, hybrids at the project site have been reported via personal communication in 2007; however, there have been no definitive studies to verify or determine the genetic identity, parentage, or distribution of supposed hybrids (USFWS 2009). Overall, hybridization

was not observed, is considered to be rare and speculative, and is biologically unlikely to occur at the site; and therefore, hybridization was not discussed in the Draft EIR.

A metric related to hybridization between these species on-site is not necessary. The proposed project mitigation for brodiaea on-site is not expected to encourage, deter, nor facilitate hybridization of the species beyond any naturally occurring, low likelihood.

02-8 This comment cites concerns with proposed mitigation measure MM-BIO-1. The commenter questions at what benchmark can the City of San Marcos consider the contingency measures to a Transplantation plan failure applicable.

In response, MM-BIO-1 requires that the proposed mitigation plan outline success criteria for the initial establishment period as well as maintenance and monitoring during subsequent years, to achieve performance standards. MM-BIO-1 provides that contingency measures are included "in case performance standards are not met … to ensure success." The mitigation plan also includes several adaptive monitoring and management strategies following installation to provide additional contingency and assurance for success such as additional seed collection/propagation, additional plant distribution, intensifying maintenance, collection and distribution of additional vernal pool inoculum, performance-based assurance bonds, and off-site mitigation. Based on the site's existing condition, which includes suitable soils, habitat, and appropriate topography contiguous across the site, and the prolific presence of the target species on-site, is it anticipated that by removal of concentrated areas of non-native herbaceous species and replacement with target native species translocation, along with regular monitoring and maintenance control of non-native species on-site, transplant would be achieved. Refer also why it is anticipated that the transplantation onsite will be successful. The determination of success would be evaluated and accomplished as set forth by performance standards prescribed by the final transplant plan (i.e., HMMP) approved by the applicable permit-issuing resource agency (i.e., USFWS, USACE, RWQCB, and/or CDFW). Performance standards would focus on occupied habitat area and specific density count of individuals.

Relating to the commenter's question regarding the timing of the bond, MM-BIO-1 has been revised and requires that the Applicant or Developer fully fund the approved transplant plan via an endowment or other funding mechanism prior to any clearing, grubbing, grading, or other land disturbance related to the project. Ultimately, the financial assurance of the mitigation plan must be reviewed and approved by the City and pertinent permit-issuing Resource Agency (i.e., USFWS, CDFW, etc.) prior to project impacts.

02-9 This comment states concerns with proposed mitigation measure MM-BIO-1, and references comments from CDFW recommending that a "no development" conservation alternative and 25% development alternative be evaluated. The comment states that CDFW's comments were ignored.

The commenter is referred to Response to Comments A2-4 and A3-4. As discussed therein, a conservation alternative was considered but rejected in the EIR for failing to meet basic project objectives. A conservation alternative is also essentially a repeat of the "No Project Alternative" for purposes of analyzing project impacts, as the site would remain undeveloped. The "No Project Alternative" was considered in Section 4.4.3 of the Draft EIR. The EIR acknowledges that the No Project Alternative would have reduced impacts to biological resources compared to the proposed project; however, the No Project Alternative would not accomplish the basic project objectives.

A conservation alternative is also practically infeasible. Per discussions between the Applicant, CDFW, USFWS, and the City, this private property is unavailable for purchase for conservation. Conservation of the site is highly unlikely and infeasible in light of this unavailability, as well as the continued and increasing degradation of the site, and difficulty in obtaining adequate grants, mitigation funds, or setting up a mitigation bank for its conservation.

A Reduced Development Footprint Alternative (no more than 25% development) was evaluated in the Draft EIR and identified as the environmentally superior alternative (CEQA Guidelines, § 15126.6€ (2)). However, while the Reduced Development Footprint Alternative may reduce vernal pool impacts associated with the proposed project, it would result in substantially greater impacts to federally listed threatened and state-listed endangered thread-leaved brodiaea (TLB), impacting approximately 45% of the TLB-occupied areas on-site compared to the project's impact to 19% of TLB-occupied areas. This alternative was further identified to not meet certain project objectives, or to meet them to a lesser extent compared to the proposed project. Specifically, while the Reduced Development Footprint Alternative would develop infill housing on an urbanized site and rezone the site to residential to assist the City in implementing its housing goals (project objectives 1 and 2), it would provide less housing compared to the proposed project and less efficiently promote infill development. This alternative would also provide less varied housing compared to the proposed project, including less affordable housing (objective 3). This alternative would meet objective 4 by avoiding vernal pools but would result in greater impacts to thread-leaved brodiaea, such that it would be inconsistent with objective 4. This alternative would not meet project objective 5 because the site would be atypically designed in a manner that does not enhance connectivity. This alternative would also not meet objective 6 to the same extent as the project, as it would not maximize housing density for the City.

It is also noted that, while the Reduced Development Footprint Alternative would lessen biological impacts, based on the analysis of the impacts, and recommended the mitigation measures from the Biological Technical Report (Helix 2023), the EIR concludes that, with the mitigation measures recommended in the EIR, there are no significant biological impacts of the proposed project.

As described in Response to Comment A2-4 above, a "Reduced Development Footprint Alternative – Vernal Pool Impact Minimization" alternative has been included in Chapter 4, Section 4.4.6, of the Final EIR under project alternatives considered to address comments from USFWS. This alternative considers development of 29% of the site which would occur only within a reduced development footprint in the southern portion of the project site.

In sum, the EIR did not ignore CDFW comments on the NOP of a DEIR for the project but incorporated and analyzed a "No Project Alternative" and "Reduced Project Footprint" alternative, as requested.

It is further notable that the project Applicant has worked early and continuously (including on-site meetings) with CDFW and USFWS during the planning stages of the project to design a project that reflects substantial avoidance of several species of rare plants and vernal pools, and takes a balanced approach to preserving, mitigating, and managing rare plants on-site and their habitats. During early site planning discussions and on-site meetings with CDFW and USFWS, the Applicant was informed that the top (#1) resource that should be avoided to the extent feasible was the thread-leaved brodiaea. Project plans reflect this stated preference, while avoiding to the extent possible impacts to vernal pools and other species and mitigating those impacts that are unavoidable. Thus, the project plans and

proposed mitigation demonstrate a commitment to respecting the sensitive biological resources onsite and mitigating, preserving, and managing them in perpetuity.

02-10 This comment expresses concerns with proposed mitigation measure MM-BIO-2, specifically that all vernal pools are occupied by fairy shrimp under existing conditions. The comment states the plan is not available for review and questions the effectiveness of vernal pool mitigation.

In response, see Global Response A. In addition, the commenter is incorrect that all vernal pools are occupied by fairy shrimp under existing conditions. Based on the results of the focused wet-season and dry-season survey efforts conducted between March to August of 2020, many (nearly 75%) of the depressions/pools on-site were found (via sampling of ponded pools for shrimp and soil sampling microscopy for shrimp cysts) to *not* be occupied by fairy shrimp. The Biological Technical Report, Appendix C to the EIR, evaluated the depressions/pools individually on their uniqueness, which is presented on Figure 12b, Vernal Pool Features and Biological Value, of Appendix C to the EIR. The depressions/pools intended for on-site mitigation (including creation and enhancement) are presented on Figure 13 of Appendix C to this EIR.

MM-BIO-7a and MM-BIO-7b require compensatory mitigation for impacts to vernal pools at a 3:1 ratio. Figure 13 shows where this mitigation is likely to be effectively implemented onsite. However, compensatory mitigation may be secured through on- or off-site habitat establishment, reestablishment, or restoration and/or conservation credits, or some mix of these options. Refer to MM-BIO-7a and MM-BIO-7b. MM-BIO-2 outlines the mandatory components of the Vernal Pool Mitigation Plan, which will ensure the success of vernal pool mitigation through creation, reestablishment, restoration, monitoring, contingency measures, and verification upon successful completion. Ultimately, the Vernal Pool mitigation plan for the project would be reviewed by the City and the resource agencies. Review and approval would be required prior to any land disturbance, clearing, grubbing, or grading of the project site. These elements will ensure the effectiveness of vernal pool mitigation.

02-11 This comment voices concerns over proposed vernal pool enhancement and proposed mitigation. The comment states that it is not acceptable to enhance a vernal pool while creating a larger vernal pool around it. The comment also states it seems unlikely the site can support a higher density of rare plants and vernal pools.

In response, please refer to Global Responses A, B and C. The proposed mitigation plan would describe and quantify the differences between depression/pool enhancement, creation, and expansion to ensure that vernal pools are appropriately mitigated at a 3:1 ratio. The proposed expansion of existing depressions/pools and new pool creation considers existing topography contours on-site, existing depressions/pools, and the potential watersheds for these features. The plan does provide for restoration/enhancement of resources that have been lost on-site due to off-road vehicular damage, trespassing, unauthorized poaching of plants, spread of non-native species, and unauthorized dumping/filling.

The site was also thoroughly investigated for appropriate opportunities to implement vernal pool mitigation. Based on the density of other vernal pool complexes in the region, including the nearby Fry's site which is nearly 1/4 the size of the proposed project, the proposal to expand, create, and enhance,

vernal pools on-site are appropriate. Information summarizing the success of vernal pool mitigation and density of resources at the nearby Fry's site is included as Attachment 1 to Appendix C of the Final EIR.

Accordingly, vernal pool enhancement, creation, and expansion has been implemented in the region successfully for several decades, including on a site (Fry's vernal pools) approximately 0.5 miles of the proposed project site. The proposed project would incorporate elements employed at the successful Fry's vernal pool mitigation site, such as vernal pool CRAM analysis, grading parameters and techniques, plantings, additional native pollinator support, and success criteria. It is anticipated that the proposed onsite mitigation areas can accommodate the proposed vernal pool mitigation. There is no literature available to suggest that the site is at max capacity or indicate that global climate change would decrease the site's capacity or ability to support these vernal pool and rare plant resources. Refer also to Response A3-8.

Regarding the densities of rare plants, survey results and quadrat sampling found that the rare plant density widely varies. This variation in density, as well as the evidence of suitable habitat areas not yet occupied, would suggest that the site is not at carrying capacity. Refer to Response to Comment A3-8 for additional information.

02-12 The comment asks why the DEIR does not include a complete Biological Resource Management plan. In response, because it is anticipated that further regulatory agency review may identify details and conditions related to these plans it is preferred that drafting the plans occur during the agency review process that occurs after the EIR is completed. At this time, the mitigation is sufficient where performance standards are identified, regulatory review is required, and the elements of the plans are outlined. The proposed mitigation in the EIR commits that the project will satisfy established performance standards (e.g., no loss of plants and 3:1 vernal pool mitigation) and details the information which must be included in any acceptable mitigation plan to ensure that significant impacts will in fact be mitigated. The final biological mitigation plans are subject to agency review, modification, and approval after the City makes a decision on the project's land use entitlements and prior to issuance of and any land disturbance, clearing, grubbing, or issuance of grading permits for the proposed project. The EIR also outlines the conceptual mitigation design at Figure 13 of the Biological Technical Report, EIR Appendix C. The project Applicant is currently preparing a draft conceptual mitigation plan based on the conceptual design presented on Figure 13 of the Biological Resources Technical Report; after which the appropriate management plans would also be prepared based on the mitigation plan. Both the mitigation plan and management plan would be reviewed and approved by the City and applicable resource agencies (CDFW and USFWS) prior to permit issuance or project impacts. Feasibility, viability, and effectiveness of the proposed plans would be confirmed by the City and resource agencies against the performance standards. Because no approval equals no project development, it is in the highest interest of the project Applicant to obtain approval of such plans, which will ensure that performance criteria are satisfied. Also refer to Global Response A.

02-13 The comment states that resource management plans often cause impacts of their own and asks what substantial evidence makes the Project proponents believe that their HMMP and PMP will be impact free.

In response, the DEIR identifies and analyzes the sensitive resources across the site. Based on the biological surveys conducted for the DEIR between 2018 and 2022 as well as subsequent surveys conducted between March through May of 2023, the proposed mitigation plan targets resources to be placed and/or created in places to not impact federally or state listed sensitive species as well as in areas

that do not substantially impact other sensitive resources/species (i.e., less rare species that do not warrant mitigation). It is uncommon that implementation of mitigation and management cause detrimental impacts to sites. Typically, if impacts occur by mitigation and management activities, they are temporary, do not result in permanent loss of native habitat or species, and are considered by the Resource Agencies to outweigh and off-set such impacts (i.e., self-mitigating efforts) by ultimately uplifting the area compared to the pre-mitigation/management condition. The mitigation and management plans factor the on-site resources and includes a several avoidance and minimization techniques (e.g., pre-construction surveys and species location demarcating, seasonal timing of work, using hand tools, and using rubber tire or rubber-tracked vehicles), as well as adaptive contingency measures (e.g., additional seed collection and distribution, additional plantings and inoculation, more intense weed control, and seeding of known pollinator plants) to ensure inadvertent impacts would not occur. If mitigation occurs off-site similar techniques would be employed to ensure impacts would be avoided.

02-14 The comment expresses concern regarding the biological surveys conducted on-site and questions whether species were missed.

The Applicant's biological consultant from Helix Environmental have reviewed their field notes and conducted additional botanical inventory surveys at the site this year (2023) in April and May, due to the exceptional rainfall year. The results of these additional survey efforts are provided in Appendix C to the Final EIR. The plant surveys have been updated and are provided in Appendix C to the Final EIR and included as Attachment 2 to this Response to Comments document.

02-15 The comment states that no CRPR listed bryophytes, lichens, or mosses were surveyed for at all. The comment states the lack of information in the report indicates a glaring oversight and potential loss of such species as Geothallus tuberosus or Sphaerocarpos drewei (both CNPS 1B.1), the latter of which was found recently near the Palomar College campus about a mile away.

In response, the records searches for documented rare plants encompassed a 2-mile radius, which is considered appropriate for infill sites surrounded by existing development. Species recorded within 2-miles of the site were searched for during field surveys. There is very little bare ground and no rock outcroppings or other suitable on-site to support bryophytes, lichens, or mosses occurs on-site. Where bare ground is present, it is due to urbanized trails or roadside edges. Additional botanical inventory surveys were conducted at the site in April and May of 2023 due to the exceptional rainfall year; bryophytes, lichens, and mosses were recorded if found present. The results of these efforts are included in Appendix C to the Final EIR.

02-16 The comment states that both the Spreading Navarettia and small flowered microseris can be difficult to locate. It states that simply not observing these species when historical observations on the site have been made as recently as 2009 for the navarretia and 2017 for the microseris cause the commenter to question the veracity of the statement that these species are absent. The comment asks how the commenter can trust they are in fact absent when multiple plant biological surveys missed a 60' tall Eucalyptus tree.

In response, focused vernal pool surveys and rare plant surveys were conducted. Extra attention was given to species with known historical presence on-site. These species were not previously identified. However, due to the abundant rainfall this year (2023), additional botanical inventory surveys were conducted at the site in April and May. The results of these efforts are provided in Attachment 2 to this

Response to Comments document. Small flowered microseris was detected in the southwest portion of the site in areas to be avoided by the project development. Spreading Navarettia was not observed on-site and would have been detected if present.

02-17 The comment states that given that only a fraction of existing corms within the soil have been shown to flower in any given year, even in wet years, the *B. Filifolia* population numbers estimated in the project's BTR are likely significantly lower than the actual numbers onsite.

In response, the focused brodiaea surveys and counts onsite reflect an estimate, which was quantified by number of flowering individuals. Based on the brodiaea flower count sampling, the density of plant varies throughout the site. To evaluate the brodiaea populations on-site, several focused brodiaea surveys were conducted by Helix biologists from 2018-2022, including vegetative (pre-flowering) surveys to ensure vegetative plants not go undetected. The data presented in the DEIR reflects the results of these surveys. Refer to Appendix C, Biological Technical Report, Sections 2.2.1 and 2.2.3 for additional information.

As discussed above, additional surveys were performed in April and May 2023, a wet year. Vegetative surveys for brodiaea were conducted across the site, with additional focus on the proposed mitigation areas, to verify mapping extents of brodiaea presented in the EIR as well as confirm the proposed mitigation areas are absent of brodiaea (i.e. are viable as a receptor area for brodiaea translocation). As the comment notes, more plants flower in wet years versus dry years, which may make for better detection. The most current 2023 survey findings closely resemble the past data sets/counts on-site, confirming that the estimates in the Draft EIR accurately represent the existing extent of brodiaea on-site. 2023 Surveys are appended at part of Appendix C to the Final EIR.

02-18 The comment discusses the total Brodiaea numbers, and states that hundreds of thousands of individual Brodiaea will be impacted by this Project that cannot be mitigated as suggested in the Draft EIR except by avoidance. The project was designed to minimize impacts to sensitive brodiaea species; specifically, just over 80 percent of the on-site population the federally and state listed endangered thread-leaved brodiaea would be avoided and just under 40 percent of the non-listed but rare, Orcutt's brodiaea, would be avoided. Given the proposed mitigation to translocate and replant these impacted individuals on-site, as well as plant additional greenhouse propagated individuals, impacts to these species are considered temporary, and would result in an increase of occupied habitat on-site for these species, following successful completion of the mitigation. Please also refer to Global Response A, and Response to Comment 02-17 and A3-8.

02-19 This comment expresses questions and concerns about the possibility to achieve on-site mitigation. In response, using available scientific data and on-site survey information, the conceptual mitigation plan shown in Figure 13 of EIR Appendix C proposes to effectively mitigate for project impacts to biological resources on-site. Given the amount and location of sensitive resources on-site, the proposed plant translocation/planting and vernal pool creation/expansion incorporates a minimum 5-foot buffer from existing resources, which is to be avoided. As stated previously, the plant count quadrat data varied greatly and suggests the site is not at max carrying capacity but, rather, can accommodate the translocation of rare plants to other areas of the site. The proposed mitigation efforts are focused on areas of the site that were found to be absent of these species, which was verified during the April 2023 survey effort. To accommodate the mitigation ratio anticipated to be imposed by the Agencies, the conceptual mitigation proposed for vernal pools would result in three times more vernal pool area

than impacted by the project. The conceptual rare plant translocation plan requirements focus on utilizing nearly the same (not smaller) and larger size areas for mitigation as those impacted; thus, not squeezing the resources into a smaller area (as suggested by the comment). Therefore, the density of plant areas with mitigation will be similar to those areas under existing conditions that will be impacted by the project. Refer also to Response to Comment A3-8.

02-20 This comment asks for references to scientific literature to support findings made in the Draft EIR and Biological Technical Report and expresses questions and concerns on the sufficiency of proposed mitigation and mitigation banks.

In response, please refer to Responses to Comments 02-19 and A3-8. Substantial evidence supports the determination that the areas of the site could support more brodiaea where few/none occur currently, sufficient to meet the project's mitigation requirements.

The created and expanded vernal pools would have a sufficient watershed. The pool creation and design would incorporate the findings from the vernal pool watershed analysis for the site, conducted by Tory Walker Engineering in September 2022, which found that the existing pools have a watershed approximately 3 times larger than the pool ponding area. Thus, the created and expanded pools would be constructed to have a watershed at least 3 times larger than the pooling surface area to ensure sufficient watershed would be provided. Vernal pool creation and expansion has been completed successfully throughout San Diego County. The pools on-site, which are similar to most vernal pool complexes, are filled by direct rainfall and are not filled by run-on.

Given the project proposal, public access would be restricted as part of the preservation plan. The project would include installation of a fenced boundary around the entire periphery of the preserve mitigation area. Locked gates suitable for on-foot access only by the maintenance management personnel to the site would be provided. The project does not include trails or trailheads and there would be no public access allowed into the mitigation site.

The creation and expansion of vernal pools is not expected to result in a substantial loss of grassland. The pools/depressions on-site when not inundated, reflect a native grassland. Overall, the mitigation for potential loss of grassland by creation and expansion of vernal pools would be provided by the on-site grassland preservation and restoration efforts as well as purchase of grassland bank credits.

The Applicant is currently preparing a mitigation plan and as part of developing the plan details will be obtaining specificity on mitigation bank credits.

02-21 The comment questions the site choice for residential development in comparison to other available sites and asks why the parcel with such a unique biological inventory has to be the site where this development is worth their degradation and potential destruction.

In response, Chapter 4 of the Draft EIR analyzes alternatives to the proposed project. An alternative location was considered but ultimately rejected for the following reasons. Pursuant to Section 15126.6(f)(2) of the CEQA Guidelines, the City considered the potential for alternative locations to develop the proposed project. There are sites within the City that are already zoned for residential use under the General Plan that could be developed or redeveloped with a residential project. However, the project Applicant does not control another site within the City of comparable land area that is

surrounded by existing infrastructure and near existing transit. One of the factors for feasibility of an alternative is "whether the proponent can reasonably acquire, control or otherwise have access to the alternative site." Because the City is highly urbanized and is largely built out, obtaining another site of a similar size in a similar location is not considered feasible. It should also be noted that the project site is surrounded on all sides by development and considered an infill site in an urban area. Furthermore, the site left unchecked has been deteriorating over time and is expected to continue to deteriorate without the funding from the development to preserve and protect the site's preserve areas in perpetuity. The preservation plan and restoration, as well as the long-term endowment under the project, will ensure the long-term viability of all sensitive species on site. As such, an alternative location was ultimately rejected from further analysis in the EIR.

To the extent the comment suggests specific locations at 1100 San Marcos Blvd or where Linda Vista Drive meets Grand Avenue, the project Applicant does not own or control these sites. They are not of comparable size, at approximately 2-acres (1100 San Marcos Blvd) and 4.6-acres (vacant parcel south of Linda Vista Drive and Grand Avenue), respectively, compared to the project's approximately 33.2-acre site. ~~The location at Linda Vista Drive and Grand Avenue is proximate to SR 78 and industrial uses, which may present air quality health risk concerns~~. If the commenter is referring to the approximately 12-acre vacant/demolished property north of Linda Vista Drive/south of Grand Avenue, the project Applicant does not own or control this site and separate development plans are already proposed for this site. Thus, the alternative sites are infeasible and are not considered further.

02-22 The comment states that the Project site is within the proposed North County Multiple Species Conservation Plan ("NCMSCP"). The comment states that, while the NCMSCP is not yet adopted, the Project does not appear to be consistent with the goals of the NCMSCP within its current form. The comment states that preserving this site now will allow San Marcos to keep good faith in the eventual passage of the NCMSCP.

In response, the project is located in the incorporated limits of San Marcos and is under the City's jurisdiction and is not part of the NCMSCP. The NCMSCP pertains to unincorporated areas within the County's jurisdiction, not areas within the City.

The EIR evaluates project consistency with the MHCP and the City's Draft San Marcos Subarea Plan at Section 3.3.5, Threshold 6. As described therein, the subject property is not a part of the adopted MHCP baseline and is identified as a major amendment area. Thus, the project is not subject to the MHCP. Further, the City does not have an adopted subarea plan. However, the project would not conflict with the provisions of the MHCP with mitigation incorporated to minimize impacts to species and critical populations to the extent practicable. Refer to the EIR analysis of MSCP consistency for additional information.

02-23 The comment includes concluding remarks and repeats comments previously made. The comment does not raise any additional specific environmental issues related to the adequacy of the Draft EIR that are not responded to above. No further response is required.

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Comment Letter 03

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Mitchell M. Tsai
Attorney At Law

139 South Hudson Avenue
Suite 200
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VIA E-MAIL

April 16, 2023

Chris Garcia, Senior Planner
City of San Marcos
1 Civic Center Dr.
San Marcos, CA 92069
Em: PacificProject@san-marcos.net

RE: Pacific Specific Plan Project Draft Environmental Impact Report

Dear Mr. Garcia and the City of San Marcos,

On behalf of the Southwest Mountain States Regional Council of Carpenters ("**Southwest Mountain States Carpenters**" or "**SWMSRCC**"), my Office is submitting these comments to the City of San Marcos ("**City**") regarding the Draft Environmental Impact Report ("**DEIR**") for the Pacific Specific Plan project (Project No. 624751) (SCH No. 2022050650) (**Project**").

The Southwest Mountain States Carpenters is a labor union representing 63,000 union carpenters in 10 states, including California, and has a strong interest in well-ordered land use planning and in addressing the environmental impacts of development projects.

03-1

Individual members of SWMSRCC live, work, and recreate in the City and surrounding communities and would be directly affected by the Project's environmental impacts.

The Southwest Mountain States Carpenters expressly reserves the right to supplement these comments at or prior to hearings on the Project, and at any later hearing and proceeding related to this Project. Gov. Code, § 65009, subd. (b); Pub. Res. Code, § 21177, subd. (a); see *Bakersfield Citizens for Local Control v. Bakersfield* (2004) 124 Cal.App.4th 1184, 1199-1203; see also *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal.App.4th 1109, 1121.

The Southwest Mountain States Carpenters incorporates by reference all comments raising issues regarding the environmental assessment for the Project prior to

approval of the Project. See *Citizens for Clean Energy v City of Woodland* (2014) 225 Cal.App.4th 173, 191 (finding that any party who has objected to the project's environmental documentation may assert any issue timely raised by other parties).

Moreover, the Southwest Mountain States Carpenters requests that the City provide notice for any and all notices referring or related to the Project issued under the California Environmental Quality Act, Pub. Res. Code, § 21000 *et seq* .("**CEQA"**) and the California Planning and Zoning Law, Gov. Code, §§ 65000–65010 ("**Planning and Zoning Law**"). California Public Resources Code sections 21092.2, and 21167(f) and California Government Code section 65092 require agencies to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body.

03-1 Cont.

I. THE CITY SHOULD REQUIRE THE USE OF A LOCAL WORKFORCE TO BENEFIT THE COMMUNITY'S ECONOMIC DEVELOPMENT AND ENVIRONMENT

The City should require the Project to be built using a local workers who have graduated from a Joint Labor-Management Apprenticeship Program approved by the State of California, have at least as many hours of on-the-job experience in the applicable craft which would be required to graduate from such a state-approved apprenticeship training program, or who are registered apprentices in a state-approved apprenticeship training program.

03-2

Community benefits such as local hire can also be helpful to reduce environmental impacts and improve the positive economic impact of the Project. Local hire provisions requiring that a certain percentage of workers reside within 10 miles or less of the Project site can reduce the length of vendor trips, reduce greenhouse gas emissions, and provide localized economic benefits. As environmental consultants Matt Hagemann and Paul E. Rosenfeld note:

> [A]ny local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

March 8, 2021, SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling.

03-3

Workforce requirements promote the development of skilled trades that yield sustainable economic development. As the California Workforce Development Board and the University of California, Berkeley Center for Labor Research and Education concluded:

> [L]abor should be considered an investment rather than a cost—and investments in growing, diversifying, and upskilling California's workforce can positively affect returns on climate mitigation efforts. In other words, well-trained workers are key to delivering emissions reductions and moving California closer to its climate targets.[1]

O3-3 Cont.

Furthermore, workforce policies have significant environmental benefits given that they improve an area's jobs-housing balance, decreasing the amount and length of job commutes and the associated greenhouse gas ("**GHG**") emissions. In fact, on May 7, 2021, the South Coast Air Quality Management District found that that the "[u]se of a local state-certified apprenticeship program" can result in air pollutant reductions.[2]

Locating jobs closer to residential areas can have significant environmental benefits. As the California Planning Roundtable noted in 2008:

> People who live and work in the same jurisdiction would be more likely to take transit, walk, or bicycle to work than residents of less balanced communities and their vehicle trips would be shorter. Benefits would include potential reductions in both vehicle miles traveled and vehicle hours traveled.[3]

Moreover, local hire mandates and skill-training are critical facets of a strategy to reduce vehicle miles traveled ("**VMT**"). As planning experts Robert Cervero and

O3-4

[1] California Workforce Development Board (2020) Putting California on the High Road: A Jobs and Climate Action Plan for 2030 at p. ii, *available at* https://laborcenter.berkeley.edu/wp-content/uploads/2020/09/Putting-California-on-the-High-Road.pdf.

[2] South Coast Air Quality Management District (May 7, 2021) Certify Final Environmental Assessment and Adopt Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions Program, and Proposed Rule 316 – Fees for Rule 2305, Submit Rule 2305 for Inclusion Into the SIP, and Approve Supporting Budget Actions, *available at* http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2021/2021-May7-027.pdf?sfvrsn=10.

[3] California Planning Roundtable (2008) Deconstructing Jobs-Housing Balance at p. 6, *available at* https://cproundtable.org/static/media/uploads/publications/cpr-jobs-housing.pdf

Michael Duncan have noted, simply placing jobs near housing stock is insufficient to achieve VMT reductions given that the skill requirements of available local jobs must match those held by local residents.[4] Some municipalities have even tied local hire and other workforce policies to local development permits to address transportation issues. Cervero and Duncan note that:

> In nearly built-out Berkeley, CA, the approach to balancing jobs and housing is to create local jobs rather than to develop new housing. The city's First Source program encourages businesses to hire local residents, especially for entry- and intermediate-level jobs, and sponsors vocational training to ensure residents are employment-ready. While the program is voluntary, some 300 businesses have used it to date, placing more than 3,000 city residents in local jobs since it was launched in 1986. When needed, these carrots are matched by sticks, since the city is not shy about negotiating corporate participation in First Source as a condition of approval for development permits.

03-4 Cont.

Recently, the State of California verified its commitment towards workforce development through the Affordable Housing and High Road Jobs Act of 2022, otherwise known as Assembly Bill No. 2011 ("**AB2011**"). AB2011 amended the Planning and Zoning Law to allow ministerial, by-right approval for projects being built alongside commercial corridors that meet affordability and labor requirements.

03-5

The City should consider utilizing local workforce policies and requirements to benefit the local area economically and to mitigate greenhouse gas, improve air quality, and reduce transportation impacts.

II. THE CITY SHOULD IMPOSE TRAINING REQUIREMENTS FOR THE PROJECT'S CONSTRUCTION ACTIVITIES TO PREVENT COMMUNITY SPREAD OF COVID-19 AND OTHER INFECTIOUS DISEASES

Construction work has been defined as a Lower to High-risk activity for COVID-19 spread by the Occupations Safety and Health Administration. Recently, several

03-6

[4] Cervero, Robert and Duncan, Michael (2006) Which Reduces Vehicle Travel More: Jobs-Housing Balance or Retail-Housing Mixing? Journal of the American Planning Association 72 (4), 475-490, 482, *available at* http://reconnectingamerica.org/assets/Uploads/UTCT-825.pdf.

construction sites have been identified as sources of community spread of COVID-19.[5]

Southwest Mountain States Carpenters recommend that the City adopt additional requirements to mitigate public health risks from the Project's construction activities. SWMSRCC requests that the City require safe on-site construction work practices as well as training and certification for any construction workers on the Project Site.

In particular, based upon Southwest Mountain States Carpenters' experience with safe construction site work practices, SWMSRCC recommends that the City require that while construction activities are being conducted at the Project Site:

Construction Site Design:

- The Project Site will be limited to two controlled entry points.
- Entry points will have temperature screening technicians taking temperature readings when the entry point is open.
- The Temperature Screening Site Plan shows details regarding access to the Project Site and Project Site logistics for conducting temperature screening.
- A 48-hour advance notice will be provided to all trades prior to the first day of temperature screening.
- The perimeter fence directly adjacent to the entry points will be clearly marked indicating the appropriate 6-foot social distancing position for when you approach the screening area. Please reference the Apex temperature screening site map for additional details.
- There will be clear signage posted at the project site directing you through temperature screening.

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Cont.

[5] Santa Clara County Public Health (June 12, 2020) COVID-19 CASES AT CONSTRUCTION SITES HIGHLIGHT NEED FOR CONTINUED VIGILANCE IN SECTORS THAT HAVE REOPENED, *available at* https://www.sccgov.org/sites/covid19/Pages/press-release-06-12-2020-cases-at-construction-sites.aspx.

- Provide hand washing stations throughout the construction site.

Testing Procedures:

- The temperature screening being used are non-contact devices.
- Temperature readings will not be recorded.
- Personnel will be screened upon entering the testing center and should only take 1-2 seconds per individual.
- Hard hats, head coverings, sweat, dirt, sunscreen or any other cosmetics must be removed on the forehead before temperature screening.
- Anyone who refuses to submit to a temperature screening or does not answer the health screening questions will be refused access to the Project Site.
- Screening will be performed at both entrances from 5:30 am to 7:30 am.; main gate [ZONE 1] and personnel gate [ZONE 2]
- After 7:30 am only the main gate entrance [ZONE 1] will continue to be used for temperature testing for anybody gaining entry to the project site such as returning personnel, deliveries, and visitors.
- If the digital thermometer displays a temperature reading above 100.0 degrees Fahrenheit, a second reading will be taken to verify an accurate reading.
- If the second reading confirms an elevated temperature, DHS will instruct the individual that he/she will not be allowed to enter the Project Site. DHS will also instruct the individual to promptly notify his/her supervisor and his/her human resources (HR) representative and provide them with a copy of Annex A.

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Cont.

Planning

- Require the development of an Infectious Disease Preparedness and Response Plan that will include basic infection prevention measures (requiring the use of personal protection equipment), policies and procedures for prompt identification and isolation of sick individuals, social distancing (prohibiting gatherings of no more than 10 people including all-hands meetings and all-hands lunches) communication and training and workplace controls that meet standards that may be promulgated by the Center for Disease Control, Occupational Safety and Health Administration, Cal/OSHA, California Department of Public Health or applicable local public health agencies.[6]

O3-6 Cont.

The United Brotherhood of Carpenters and Carpenters International Training Fund has developed COVID-19 Training and Certification to ensure that Carpenter union members and apprentices conduct safe work practices. The Agency should require that all construction workers undergo COVID-19 Training and Certification before being allowed to conduct construction activities at the Project Site.

Southwest Mountain States Carpenters has also developed a rigorous Infection Control Risk Assessment ("**ICRA**") training program to ensure it delivers a workforce that understands how to identify and control infection risks by implementing protocols to protect themselves and all others during renovation and construction projects in healthcare environments.[7]

O3-7

ICRA protocols are intended to contain pathogens, control airflow, and protect patients during the construction, maintenance and renovation of healthcare facilities.

[6] *See also* The Center for Construction Research and Training, North America's Building Trades Unions (April 27 2020) NABTU and CPWR COVIC-19 Standards for U.S Constructions Sites, *available at* https://www.cpwr.com/sites/default/files/NABTU_CPWR_Standards_COVID-19.pdf; Los Angeles County Department of Public Works (2020) Guidelines for Construction Sites During COVID-19 Pandemic, *available at* https://dpw.lacounty.gov/building-and-safety/docs/pw_guidelines-construction-sites.pdf.

[7] For details concerning Southwest Carpenters's ICRA training program, *see* https://icrahealthcare.com/.

ICRA protocols prevent cross contamination, minimizing the risk of secondary infections in patients at hospital facilities.

The City should require the Project to be built using a workforce trained in ICRA protocols.

O3-7 Cont.

III. THE CITY MUST REVISE AND RECIRCULATE THE DEIR

CEQA is a California statute designed to inform decision makers and the public about the potential, significant environmental effects of a project. 14 California Code of Regulations ("**CEQA Guidelines**") § 15002(a)(1).[8] At its core, "[i]ts purpose is to inform the public and its responsible officials of the environmental consequences of their decisions *before* they are made." *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564.

To achieve this purpose, CEQA mandates preparation of an Environmental Impact Report ("**EIR**") for projects so that the foreseeable impacts of pursuing the project can be understood and weighed. *Communities for a Better Environment v. Richmond* (2010) 184 Cal. App. 4th 70, 80. The EIR requirement "is the heart of CEQA." CEQA Guidelines, § 15003(a).

The preparation and circulation of an EIR is more than a set of technical hurdles for agencies and developers to overcome. The EIR's function is to ensure that government officials who decide to build or approve a project do so with a full understanding of the environmental consequences and, equally important, that the public is assured those consequences have been considered. For the EIR to serve these goals it must present information so that the foreseeable impacts of pursuing the project can be understood and weighed, and the public must be given an adequate opportunity to comment on that presentation before the decision to go forward is made. *Communities for a Better Environment v. Richmond* (2010) 184 Cal. App. 4th 70, 80 (quoting *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal. 4th 412, 449–450).

O3-8

[8] The CEQA Guidelines, codified in Title 14 of the California Code of Regulations, section 15000 *et seq*, are regulatory guidelines promulgated by the state Natural Resources Agency for the implementation of CEQA. (Cal. Pub. Res. Code § 21083.) The CEQA Guidelines are given "great weight in interpreting CEQA except when . . . clearly unauthorized or erroneous." *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal. 4th 204, 217.

Section 15088.5(a) of the CEQA Guidelines provides that an EIR must be recirculated whenever there is disclosure of significant new information, after public notice is given of the EIR's availability but before the EIR's certification. Significant new information includes: (1) disclosure of a new significant environmental impact resulting from the project or from a new proposed mitigation measure; (2) disclosure of a substantial increase in the severity of an environmental impact unless mitigation measures are adopted that reduce the impact to a level of insignificance; and (3) disclosure of a feasible project alternative or mitigation measure considerably different from others previously analyzed which would clearly lessen the significant environmental impacts of the project which the project proponents decline to adopt. *Id.*

The EIR must also be recirculated where there is new information added to the record, showing that the EIR provides no required analysis. *Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1120 (""If significant new information is added to an EIR [or to the administrative record], the lead agency must issue a new notice and recirculate the EIR for comments and consultation" & finding that "Given that there was no analysis done on whether the option to build a water system is a feasible mitigation measure, we conclude that the portion of the EIR addressing water concerns should have been recirculated.")

Additionally, an EIR must be recirculated when it is so fundamentally inadequate and conclusory in nature that meaningful public review and comment is precluded. In *Laurel Heights Impr. Assn. v. Reg. of Univ. of Cal.* (1993) 6 Cal. 4th 1112 ("*Laurel Heights II*"), our Supreme Court explained that Section 21092 favors EIR recirculation prior to certification. The Court stated:

> "Section 21092.1 was intended to encourage meaningful public comment. (See State Bar Rep., supra, at p. 28.) Therefore, new information that demonstrates that an EIR commented upon by the public was so fundamentally and basically inadequate or conclusory in nature that public comment was in effect meaningless triggers recirculation under section 21092.1. (See, Mountain Lion Coalition v. Fish & Game Com., supra, 214 Cal.App.3d 1043." *Laurel Heights II*, 6 Cal.4th at 1130, citing to *Mountain Lion Coalition v. Fish & Game Com.* (1989) 214 Cal.App.3d 1043.

Here, as discussed below, the DEIR fails to substantiate all of its conclusions to allow meaningful public review and comment, provide adequate mitigation measures, and

03-8
Cont.

assess all reasonable alternatives. Accordingly, this comment letter discloses significant new information, necessitating revision and recirculation of the DEIR.

03-8 Cont.

A. The DEIR Fails to Consider a Reasonable Range of Alternatives

An EIR must discuss a reasonable range of alternatives to the project, which "shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects." CEQA Guidelines § 15126.6(a)&(c). "[T]he discussion of alternatives shall focus on alternatives.... which are capable of avoiding or substantially lessening any significant effects of the project...." CEQA Guidelines § 15126.6(b). Further, an EIR is legally inadequate if it contains an overly narrow range of alternatives. *Watsonville Pilots Ass'n v. City of Watsonville* (2010) 183 Cal.App.4th 1059, 1087, 20190 [not considering a reduced development alternative was error].

Here, the DEIR considered a (1) no project alternative; (2) existing land use designation alternative; and (3) reduced development footprint alternative. DEIR at 4-3. However, the DEIR notes that two build alternatives it considered would both continue to result in significant biological impacts.[9] DEIR at 4-19 – 4-20. There is no analysis or explanation as to why an even more reduced alternative was not chosen, to avoid biological impacts. There is no analysis or explanation of infeasibility to choose any less impactful alternative for biological resources.

03-9

Accordingly, the DEIR fails to consider a reasonable range of alternatives which could eliminate or reduce the Project's significant biological impacts, as required.

B. The DEIR Fails to Specify Whether the Project Will Be Compliant with the 2022 Electric Vehicle and Solar Requirements

CEQA requires that all mitigation must be feasible and fully enforceable, and that all feasible mitigation must be imposed. CEQA Guidelines, §§ 15041; 15126.4. Similarly, CEQA provides that "[f]ormulation of mitigation measures should not be deferred until some future time". CEQA Guidelines § 15126.4(a)(1)(B). Although "[t]he specific details of a mitigation measure, however, may be developed after project approval when it is impractical or infeasible to include those details during the project's

03-10

[9] Although the DEIR notes that the reduced development footprint alternative would minimize impacts to vernal pools in comparison to the Project, it goes on to note that the alternative would cause greater impacts to thread-leaved brodiaea, a state-listed endangered plant.

environmental review", the agency still must "adop[t] specific performance standards the mitigation will achieve." *Id.* Also, CEQA does not permit deferred mitigation after project approval unless there is a practical or legal hardship or infeasibility to timely formulate mitigation measures. CEQA Guidelines § 15126.4(a)(1)(B) Here, the DEIR fails to comply with these mitigation requirements because it fails to clearly specify whether the Project will implement all feasible greenhouse gas mitigation measures such as electric vehicle ("**EV**") parking/charging stations and solar system installation in compliance with the most recent requirements. 03-10 Cont.

First, although the DEIR notes that the Project would include a total of 927 parking spaces and would equip a minimum of 5% of spaces with "EV charging stations" (DEIR at 3.7-28), it fails to specify whether such stations will be equipped with level 2 EV supply equipment, as required by section 4.106.4.2 of the 2022 Green Building Code. 03-11

Second, the DEIR fails to specify whether the Project will designate 10% of their parking spaces as EV capable and equip 25% of the parking spaces with low power level 2 EV charging receptacle, as also required. *Id.* 03-12

Moreover, although the DEIR notes that "the existing land use would install solar PV with a minimum of 2 watts per gross floor area, or 960,000 watts" (DEIR at 3.7-22), it fails to specify whether the Project will be compliant with section 140.10 of the 2022 Energy Efficiency Standards, identifying the minimum installation of photovoltaic and battery systems. 03-13

As such, the EIR leaves out critical information and fails to impose all feasible mitigation measures to ensure that significant impacts are mitigated to the maximum extent possible. To the extent the EIR presumes such details will be cleared afte the Project approval, it also impermissibly defers mitigation. The DEIR must be revised to make such mitigation specifications. 03-14

C. <u>The DEIR's Biological Resource Findings and Analysis Are Insufficient</u>

CEQA requires that an EIR identify and discuss the significant effects of a Project, as well as identify how those significant effects can be mitigated or avoided. CEQA Guidelines § 15126.2; PRC §§ 21100(b)(1), 21002.1(a). If a project has a significant effect on the environment, an agency may approve the project only upon finding that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are 03-15

"acceptable due to overriding concerns". CEQA Guidelines § 15092(b)(2)(A–B). Such findings must be supported by substantial evidence. CEQA Guidelines § 15091(b). The DEIR at hand fails to comply with these requirements for the following reasons.

03-15 Cont.

1. The DEIR Mischaracterizes the Environmental Setting

First, as noted in Shawn Smallwood's March 25, 2023, letter ("Exhibit D"), the DEIR's characterization of the existing environmental setting as one with a "high level of anthropogenic disturbances" is not supported by substantial evidence, rendering it speculative. Exhibit D at 8-9. The DEIR must either provide the evidence it bases the characterization upon or amend the characterization to reflect scientifically sound interpretation of evidence.

03-16

2. The DEIR Surveys Fail to Meet Reporting Standards and Protocols

Yet another reason why the DEIR biological resource analysis is insufficient is because the surveys conducted fail to comply with standard reporting standards and protocols. Exhibit D at 9-10. For example, the surveys failed to identify who performed the surveys, failed to note when the surveys began and how long they lasted, and failed to comply with the latest survey protocols for burrowing owl and California gnatcatcher. *Id.* Thus, the surveys must be reconducted to be protocol- and standard-compliant.

03-17

3. The DEIR Surveys Fail to Detect Numerous Species

In addition to failing with reporting requirements, the DEIR surveys also fail to detect a number of species of wildlife, including species with special status. In the single limited survey conducted by Smallwood's associate, 22 species which the DEIR failed to account for were detected. Exhibit D at 10. These include, amongst others, red-tailed hawk, Cooper's hawk, and Double-crested cormorant. *Id.* at 4. Thus, "the site supports a richer community of wildlife species than most other sites... in the region". *Id.* at 11.

Additionally, the surveys made insufficient use of available databases of wildlife species occurrence, resulting in significant contradictions between the surveys and databases. For example, half of the species which the surveys concluded have low or no potential to occur, including the Coopers Hawk and Burrowing Owl, have in fact been documented within only a few miles from the Project site. Exhibit D at 13. For these reasons, the DEIR's finding that the Project will have no significant biological impacts is merely speculative.

03-18

4. The DEIR Fails to Adequately Analyze All Potential Biological Impacts

The DEIR also fails to adequately analyze a number of important potential biological impacts. Specifically, the DEIR fails to adequately analyze the status and trends of vernal pools at the Project site (Exhibit D at 23-26), the Project site's capacity to support wildlife and the Project's contribution to habitat fragmentation (*id.* at 29-30), the Project's interference with wildlife movement in the region (*id.* at 30-31), the Project's collision bird fatality rate (*id.* at 31-34), the Project's traffic impacts to wildlife (*id.* at 34-38), and the Project's cumulative impacts (*id.* at 38-40). Thus, the DEIR must be revised to thoroughly analyze such impacts. 03-19

5. The DEIR Fails to Implement All Feasible Mitigation Measures

Finally, the DEIR fails to implement all feasible mitigation measures or explain why such mitigation is infeasible. For example, the DEIR fails to include measures specifying that the Project should be built with a design which minimizes bird collisions, that the Project should avoid using certain rodenticides, avicides, and poison bait stations, and that the Project will provide compensation for road mortality. Exhibit D at 46-47. The DEIR mitigation measures must be revised to include all feasible mitigation. 03-20

IV. CONCLUSION

In sum, SMSWRCC requests that the City require a local workforce, that the City impose training requirements for the Project's construction activities to prevent community spread of Covid-19 and other infectious diseases, and that the City revise and recirculate the DEIR to address the aforementioned concerns. If the City has any questions, feel free to contact my office. 03-21

Sincerely,

Talia Nimmer
Attorneys for Southwest Mountain
States Regional Council of Carpenters

Attached:

March 8, 2021, SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling (Exhibit A);

Air Quality and GHG Expert Paul Rosenfeld CV (Exhibit B);

Air Quality and GHG Expert Matt Hagemann CV (Exhibit C); and

March 25, 2023, Letter from Shawn Smallwood (Exhibit D).

EXHIBIT A

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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March 8, 2021

Mitchell M. Tsai
155 South El Molino, Suite 104
Pasadena, CA 91101

Subject: Local Hire Requirements and Considerations for Greenhouse Gas Modeling

Dear Mr. Tsai,

Soil Water Air Protection Enterprise ("SWAPE") is pleased to provide the following draft technical report explaining the significance of worker trips required for construction of land use development projects with respect to the estimation of greenhouse gas ("GHG") emissions. The report will also discuss the potential for local hire requirements to reduce the length of worker trips, and consequently, reduced or mitigate the potential GHG impacts.

Worker Trips and Greenhouse Gas Calculations

The California Emissions Estimator Model ("CalEEMod") is a "statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects."[1] CalEEMod quantifies construction-related emissions associated with land use projects resulting from off-road construction equipment; on-road mobile equipment associated with workers, vendors, and hauling; fugitive dust associated with grading, demolition, truck loading, and on-road vehicles traveling along paved and unpaved roads; and architectural coating activities; and paving.[2]

The number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[3]

03-22

[1] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[2] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[3] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.

Specifically, the number and length of vehicle trips is utilized to estimate the vehicle miles travelled ("VMT") associated with construction. Then, utilizing vehicle-class specific EMFAC 2014 emission factors, CalEEMod calculates the vehicle exhaust, evaporative, and dust emissions resulting from construction-related VMT, including personal vehicles for worker commuting.[4]

Specifically, in order to calculate VMT, CalEEMod multiplies the average daily trip rate by the average overall trip length (see excerpt below):

> "$VMT_d = \Sigma(\text{Average Daily Trip Rate}_i * \text{Average Overall Trip Length}_i)_n$
>
> Where:
>
> n = Number of land uses being modeled."[5]

Furthermore, to calculate the on-road emissions associated with worker trips, CalEEMod utilizes the following equation (see excerpt below):

> "$\text{Emissions}_{pollutant} = VMT * EF_{running,pollutant}$
>
> Where:
>
> $\text{Emissions}_{pollutant}$ = emissions from vehicle running for each pollutant
>
> VMT = vehicle miles traveled
>
> $EF_{running,pollutant}$ = emission factor for running emissions."[6]

Thus, there is a direct relationship between trip length and VMT, as well as a direct relationship between VMT and vehicle running emissions. In other words, when the trip length is increased, the VMT and vehicle running emissions increase as a result. Thus, vehicle running emissions can be reduced by decreasing the average overall trip length, by way of a local hire requirement or otherwise.

03-22 Cont.

Default Worker Trip Parameters and Potential Local Hire Requirements

As previously discussed, the number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[7] In order to understand how local hire requirements and associated worker trip length reductions impact GHG emissions calculations, it is important to consider the CalEEMod default worker trip parameters. CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence.[8] The default number of construction-related worker trips is calculated by multiplying the

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[4] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14-15.
[5] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 23.
[6] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[7] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[8] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 1, 9.

number of pieces of equipment for all phases by 1.25, with the exception of worker trips required for the building construction and architectural coating phases.[9] Furthermore, the worker trip vehicle class is a 50/25/25 percent mix of light duty autos, light duty truck class 1 and light duty truck class 2, respectively."[10] Finally, the default worker trip length is consistent with the length of the operational home-to-work vehicle trips.[11] The operational home-to-work vehicle trip lengths are:

> "[B]ased on the *location* and *urbanization* selected on the project characteristic screen. These values were *supplied by the air districts or use a default average for the state*. Each district (or county) also assigns trip lengths for urban and rural settings" (emphasis added). [12]

Thus, the default worker trip length is based on the location and urbanization level selected by the User when modeling emissions. The below table shows the CalEEMod default rural and urban worker trip lengths by air basin (see excerpt below and Attachment A).[13]

Worker Trip Length by Air Basin

Air Basin	Rural (miles)	Urban (miles)
Great Basin Valleys	16.8	10.8
Lake County	16.8	10.8
Lake Tahoe	16.8	10.8
Mojave Desert	16.8	10.8
Mountain Counties	16.8	10.8
North Central Coast	17.1	12.3
North Coast	16.8	10.8
Northeast Plateau	16.8	10.8
Sacramento Valley	16.8	10.8
Salton Sea	14.6	11
San Diego	16.8	10.8
San Francisco Bay Area	10.8	10.8
San Joaquin Valley	16.8	10.8
South Central Coast	16.8	10.8
South Coast	19.8	14.7
Average	**16.47**	**11.17**
Minimum	**10.80**	**10.80**
Maximum	**19.80**	**14.70**
Range	**9.00**	**3.90**

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[9] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[10] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[11] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14.
[12] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 21.
[13] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-84 – D-86.

3

As demonstrated above, default rural worker trip lengths for air basins in California vary from 10.8- to 19.8-miles, with an average of 16.47 miles. Furthermore, default urban worker trip lengths vary from 10.8- to 14.7-miles, with an average of 11.17 miles. Thus, while default worker trip lengths vary by location, default urban worker trip lengths tend to be shorter in length. Based on these trends evident in the CalEEMod default worker trip lengths, we can reasonably assume that the efficacy of a local hire requirement is especially dependent upon the urbanization of the project site, as well as the project location.

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Practical Application of a Local Hire Requirement and Associated Impact

To provide an example of the potential impact of a local hire provision on construction-related GHG emissions, we estimated the significance of a local hire provision for the Village South Specific Plan ("Project") located in the City of Claremont ("City"). The Project proposed to construct 1,000 residential units, 100,000-SF of retail space, 45,000-SF of office space, as well as a 50-room hotel, on the 24-acre site. The Project location is classified as Urban and lies within the Los Angeles-South Coast County. As a result, the Project has a default worker trip length of 14.7 miles.[14] In an effort to evaluate the potential for a local hire provision to reduce the Project's construction-related GHG emissions, we prepared an updated model, reducing all worker trip lengths to 10 miles (see Attachment B). Our analysis estimates that if a local hire provision with a 10-mile radius were to be implemented, the GHG emissions associated with Project construction would decrease by approximately 17% (see table below and Attachment C).

Local Hire Provision Net Change	
Without Local Hire Provision	
Total Construction GHG Emissions (MT CO_2e)	3,623
Amortized Construction GHG Emissions (MT CO_2e/year)	120.77
With Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,024
Amortized Construction GHG Emissions (MT CO_2e/year)	100.80
% Decrease in Construction-related GHG Emissions	***17%***

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As demonstrated above, by implementing a local hire provision requiring 10 mile worker trip lengths, the Project could reduce potential GHG emissions associated with construction worker trips. More broadly, any local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

This serves as an example of the potential impacts of local hire requirements on estimated project-level GHG emissions, though it does not indicate that local hire requirements would result in reduced construction-related GHG emission for all projects. As previously described, the significance of a local hire requirement depends on the worker trip length enforced and the default worker trip length for the project's urbanization level and location.

[14] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-85.

Disclaimer

SWAPE has received limited discovery. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

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Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

Attachment A

Location Type	Location Name	Rural H-W (miles)	Urban H-W (miles)
Air Basin	Great Basin	16.8	10.8
Air Basin	Lake County	16.8	10.8
Air Basin	Lake Tahoe	16.8	10.8
Air Basin	Mojave Desert	16.8	10.8
Air Basin	Mountain	16.8	10.8
Air Basin	North Central	17.1	12.3
Air Basin	North Coast	16.8	10.8
Air Basin	Northeast	16.8	10.8
Air Basin	Sacramento	16.8	10.8
Air Basin	Salton Sea	14.6	11
Air Basin	San Diego	16.8	10.8
Air Basin	San Francisco	10.8	10.8
Air Basin	San Joaquin	16.8	10.8
Air Basin	South Central	16.8	10.8
Air Basin	South Coast	19.8	14.7
Air District	Amador County	16.8	10.8
Air District	Antelope Valley	16.8	10.8
Air District	Bay Area AQMD	10.8	10.8
Air District	Butte County	12.54	12.54
Air District	Calaveras	16.8	10.8
Air District	Colusa County	16.8	10.8
Air District	El Dorado	16.8	10.8
Air District	Feather River	16.8	10.8
Air District	Glenn County	16.8	10.8
Air District	Great Basin	16.8	10.8
Air District	Imperial County	10.2	7.3
Air District	Kern County	16.8	10.8
Air District	Lake County	16.8	10.8
Air District	Lassen County	16.8	10.8
Air District	Mariposa	16.8	10.8
Air District	Mendocino	16.8	10.8
Air District	Modoc County	16.8	10.8
Air District	Mojave Desert	16.8	10.8
Air District	Monterey Bay	16.8	10.8
Air District	North Coast	16.8	10.8
Air District	Northern Sierra	16.8	10.8
Air District	Northern	16.8	10.8
Air District	Placer County	16.8	10.8
Air District	Sacramento	15	10

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Air District	San Diego	16.8	10.8
Air District	San Joaquin	16.8	10.8
Air District	San Luis Obispo	13	13
Air District	Santa Barbara	8.3	8.3
Air District	Shasta County	16.8	10.8
Air District	Siskiyou County	16.8	10.8
Air District	South Coast	19.8	14.7
Air District	Tehama County	16.8	10.8
Air District	Tuolumne	16.8	10.8
Air District	Ventura County	16.8	10.8
Air District	Yolo/Solano	15	10
County	Alameda	10.8	10.8
County	Alpine	16.8	10.8
County	Amador	16.8	10.8
County	Butte	12.54	12.54
County	Calaveras	16.8	10.8
County	Colusa	16.8	10.8
County	Contra Costa	10.8	10.8
County	Del Norte	16.8	10.8
County	El Dorado-Lake	16.8	10.8
County	El Dorado-	16.8	10.8
County	Fresno	16.8	10.8
County	Glenn	16.8	10.8
County	Humboldt	16.8	10.8
County	Imperial	10.2	7.3
County	Inyo	16.8	10.8
County	Kern-Mojave	16.8	10.8
County	Kern-San	16.8	10.8
County	Kings	16.8	10.8
County	Lake	16.8	10.8
County	Lassen	16.8	10.8
County	Los Angeles-	16.8	10.8
County	Los Angeles-	19.8	14.7
County	Madera	16.8	10.8
County	Marin	10.8	10.8
County	Mariposa	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Merced	16.8	10.8
County	Modoc	16.8	10.8
County	Mono	16.8	10.8
County	Monterey	16.8	10.8
County	Napa	10.8	10.8

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Cont.

County	Nevada	16.8	10.8
County	Orange	19.8	14.7
County	Placer-Lake	16.8	10.8
County	Placer-Mountain	16.8	10.8
County	Placer-	16.8	10.8
County	Plumas	16.8	10.8
County	Riverside-	16.8	10.8
County	Riverside-	19.8	14.7
County	Riverside-Salton	14.6	11
County	Riverside-South	19.8	14.7
County	Sacramento	15	10
County	San Benito	16.8	10.8
County	San Bernardino-	16.8	10.8
County	San Bernardino-	19.8	14.7
County	San Diego	16.8	10.8
County	San Francisco	10.8	10.8
County	San Joaquin	16.8	10.8
County	San Luis Obispo	13	13
County	San Mateo	10.8	10.8
County	Santa Barbara-	8.3	8.3
County	Santa Barbara-	8.3	8.3
County	Santa Clara	10.8	10.8
County	Santa Cruz	16.8	10.8
County	Shasta	16.8	10.8
County	Sierra	16.8	10.8
County	Siskiyou	16.8	10.8
County	Solano-	15	10
County	Solano-San	16.8	10.8
County	Sonoma-North	16.8	10.8
County	Sonoma-San	10.8	10.8
County	Stanislaus	16.8	10.8
County	Sutter	16.8	10.8
County	Tehama	16.8	10.8
County	Trinity	16.8	10.8
County	Tulare	16.8	10.8
County	Tuolumne	16.8	10.8
County	Ventura	16.8	10.8
County	Yolo	15	10
County	Yuba	16.8	10.8
Statewide	Statewide	16.8	10.8

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Cont.

Worker Trip Length by Air Basin		
Air Basin	**Rural (miles)**	**Urban (miles)**
Great Basin Valleys	16.8	10.8
Lake County	16.8	10.8
Lake Tahoe	16.8	10.8
Mojave Desert	16.8	10.8
Mountain Counties	16.8	10.8
North Central Coast	17.1	12.3
North Coast	16.8	10.8
Northeast Plateau	16.8	10.8
Sacramento Valley	16.8	10.8
Salton Sea	14.6	11
San Diego	16.8	10.8
San Francisco Bay Area	10.8	10.8
San Joaquin Valley	16.8	10.8
South Central Coast	16.8	10.8
South Coast	19.8	14.7
Average	**16.47**	**11.17**
Mininum	**10.80**	**10.80**
Maximum	**19.80**	**14.70**
Range	**9.00**	**3.90**

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Attachment B

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

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Cont.

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tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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Cont.

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1713	1.8242	1.1662	2.4000e-003	0.4169	0.0817	0.4986	0.1795	0.0754	0.2549	0.0000	213.1969	213.1969	0.0601	0.0000	214.6993
2022	0.6904	4.1142	6.1625	0.0189	1.3058	0.1201	1.4259	0.3460	0.1128	0.4588	0.0000	1,721.6826	1,721.6826	0.1294	0.0000	1,724.9187
2023	0.6148	3.3649	5.6747	0.0178	1.1963	0.0996	1.2959	0.3203	0.0935	0.4138	0.0000	1,627.5295	1,627.5295	0.1185	0.0000	1,630.4925
2024	4.1619	0.1335	0.2810	5.9000e-004	0.0325	6.4700e-003	0.0390	8.6300e-003	6.0400e-003	0.0147	0.0000	52.9078	52.9078	8.0200e-003	0.0000	53.1082
Maximum	**4.1619**	**4.1142**	**6.1625**	**0.0189**	**1.3058**	**0.1201**	**1.4259**	**0.3460**	**0.1128**	**0.4588**	**0.0000**	**1,721.6826**	**1,721.6826**	**0.1294**	**0.0000**	**1,724.9187**

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2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1713	1.8242	1.1662	2.4000e-003	0.4169	0.0817	0.4986	0.1795	0.0754	0.2549	0.0000	213.1967	213.1967	0.0601	0.0000	214.6991
2022	0.6904	4.1142	6.1625	0.0189	1.3058	0.1201	1.4259	0.3460	0.1128	0.4588	0.0000	1,721.6823	1,721.6823	0.1294	0.0000	1,724.9183
2023	0.6148	3.3648	5.6747	0.0178	1.1963	0.0996	1.2959	0.3203	0.0935	0.4138	0.0000	1,627.5291	1,627.5291	0.1185	0.0000	1,630.4921
2024	4.1619	0.1335	0.2810	5.9000e-004	0.0325	6.4700e-003	0.0390	8.6300e-003	6.0400e-003	0.0147	0.0000	52.9077	52.9077	8.0200e-003	0.0000	53.1082
Maximum	4.1619	4.1142	6.1625	0.0189	1.3058	0.1201	1.4259	0.3460	0.1128	0.4588	0.0000	1,721.6823	1,721.6823	0.1294	0.0000	1,724.9183

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-1-2021	11-30-2021	1.4103	1.4103
2	12-1-2021	2-28-2022	1.3613	1.3613
3	3-1-2022	5-31-2022	1.1985	1.1985
4	6-1-2022	8-31-2022	1.1921	1.1921
5	9-1-2022	11-30-2022	1.1918	1.1918
6	12-1-2022	2-28-2023	1.0774	1.0774
7	3-1-2023	5-31-2023	1.0320	1.0320
8	6-1-2023	8-31-2023	1.0260	1.0260

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9	9-1-2023	11-30-2023	1.0265	1.0265
10	12-1-2023	2-29-2024	2.8857	2.8857
11	3-1-2024	5-31-2024	1.6207	1.6207
		Highest	2.8857	2.8857

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

03-25 Cont.

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	6.8692	9.5223	30.3407	0.0914	7.7979	0.2260	8.0240	2.0895	0.2219	2.3114	236.9712	12,294.1807	12,531.1519	15.7904	0.1260	12,963.4751

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

03-25 Cont.

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

03-25 Cont.

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

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Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0012	51.0012	0.0144	0.0000	51.3601
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0012**	**51.0012**	**0.0144**	**0.0000**	**51.3601**

03-25
Cont.

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	7.5000e-004	8.5100e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.7000e-004	0.0000	2.2251	2.2251	7.0000e-005	0.0000	2.2267
Total	**2.9000e-003**	**0.0641**	**0.0233**	**2.0000e-004**	**6.4100e-003**	**2.1000e-004**	**6.6200e-003**	**1.7300e-003**	**2.0000e-004**	**1.9300e-003**	**0.0000**	**19.6816**	**19.6816**	**1.2800e-003**	**0.0000**	**19.7136**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0011	51.0011	0.0144	0.0000	51.3600
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0011**	**51.0011**	**0.0144**	**0.0000**	**51.3600**

03-25 Cont.

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	7.5000e-004	8.5100e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.7000e-004	0.0000	2.2251	2.2251	7.0000e-005	0.0000	2.2267
Total	**2.9000e-003**	**0.0641**	**0.0233**	**2.0000e-004**	**6.4100e-003**	**2.1000e-004**	**6.6200e-003**	**1.7300e-003**	**2.0000e-004**	**1.9300e-003**	**0.0000**	**19.6816**	**19.6816**	**1.2800e-003**	**0.0000**	**19.7136**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7061
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7061**

03-25 Cont.

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	6.0000e-004	6.8100e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.7801	1.7801	5.0000e-005	0.0000	1.7814
Total	**7.7000e-004**	**6.0000e-004**	**6.8100e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.7801**	**1.7801**	**5.0000e-005**	**0.0000**	**1.7814**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7060
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7060**

03-25 Cont.

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	6.0000e-004	6.8100e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.7801	1.7801	5.0000e-005	0.0000	1.7814
Total	**7.7000e-004**	**6.0000e-004**	**6.8100e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.7801**	**1.7801**	**5.0000e-005**	**0.0000**	**1.7814**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5405	103.5405	0.0335	0.0000	104.3776
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5405**	**103.5405**	**0.0335**	**0.0000**	**104.3776**

03-25 Cont.

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6400e-003	1.2700e-003	0.0144	4.0000e-005	4.1600e-003	3.0000e-005	4.2000e-003	1.1100e-003	3.0000e-005	1.1400e-003	0.0000	3.7579	3.7579	1.1000e-004	0.0000	3.7607
Total	**1.6400e-003**	**1.2700e-003**	**0.0144**	**4.0000e-005**	**4.1600e-003**	**3.0000e-005**	**4.2000e-003**	**1.1100e-003**	**3.0000e-005**	**1.1400e-003**	**0.0000**	**3.7579**	**3.7579**	**1.1000e-004**	**0.0000**	**3.7607**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5403	103.5403	0.0335	0.0000	104.3775
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5403**	**103.5403**	**0.0335**	**0.0000**	**104.3775**

03-25 Cont.

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6400e-003	1.2700e-003	0.0144	4.0000e-005	4.1600e-003	3.0000e-005	4.2000e-003	1.1100e-003	3.0000e-005	1.1400e-003	0.0000	3.7579	3.7579	1.1000e-004	0.0000	3.7607
Total	**1.6400e-003**	**1.2700e-003**	**0.0144**	**4.0000e-005**	**4.1600e-003**	**3.0000e-005**	**4.2000e-003**	**1.1100e-003**	**3.0000e-005**	**1.1400e-003**	**0.0000**	**3.7579**	**3.7579**	**1.1000e-004**	**0.0000**	**3.7607**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

03-25 Cont.

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.1000e-004	2.4400e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6679	0.6679	2.0000e-005	0.0000	0.6684
Total	**2.8000e-004**	**2.1000e-004**	**2.4400e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6679**	**0.6679**	**2.0000e-005**	**0.0000**	**0.6684**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

03-25 Cont.

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.1000e-004	2.4400e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6679	0.6679	2.0000e-005	0.0000	0.6684
Total	**2.8000e-004**	**2.1000e-004**	**2.4400e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6679**	**0.6679**	**2.0000e-005**	**0.0000**	**0.6684**

03-25 Cont.

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1324	293.1324	0.0702	0.0000	294.8881
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1324**	**293.1324**	**0.0702**	**0.0000**	**294.8881**

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3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.4088	0.3066	3.5305	0.0107	1.1103	8.8700e-003	1.1192	0.2949	8.1700e-003	0.3031	0.0000	966.8117	966.8117	0.0266	0.0000	967.4773
Total	**0.4616**	**2.0027**	**3.9885**	**0.0152**	**1.2243**	**0.0121**	**1.2363**	**0.3278**	**0.0112**	**0.3390**	**0.0000**	**1,408.7952**	**1,408.7952**	**0.0530**	**0.0000**	**1,410.1208**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1321	293.1321	0.0702	0.0000	294.8877
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1321**	**293.1321**	**0.0702**	**0.0000**	**294.8877**

03-25 Cont.

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.4088	0.3066	3.5305	0.0107	1.1103	8.8700e-003	1.1192	0.2949	8.1700e-003	0.3031	0.0000	966.8117	966.8117	0.0266	0.0000	967.4773
Total	**0.4616**	**2.0027**	**3.9885**	**0.0152**	**1.2243**	**0.0121**	**1.2363**	**0.3278**	**0.0112**	**0.3390**	**0.0000**	**1,408.7952**	**1,408.7952**	**0.0530**	**0.0000**	**1,410.1208**

03-25 Cont.

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2789	286.2789	0.0681	0.0000	287.9814
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2789**	**286.2789**	**0.0681**	**0.0000**	**287.9814**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.3753	0.2708	3.1696	0.0101	1.0840	8.4100e-003	1.0924	0.2879	7.7400e-003	0.2957	0.0000	909.3439	909.3439	0.0234	0.0000	909.9291
Total	**0.4135**	**1.5218**	**3.5707**	**0.0144**	**1.1953**	**9.8700e-003**	**1.2051**	**0.3200**	**9.1400e-003**	**0.3292**	**0.0000**	**1,327.3369**	**1,327.3369**	**0.0462**	**0.0000**	**1,328.4916**

03-25 Cont.

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2785	286.2785	0.0681	0.0000	287.9811
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2785**	**286.2785**	**0.0681**	**0.0000**	**287.9811**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.3753	0.2708	3.1696	0.0101	1.0840	8.4100e-003	1.0924	0.2879	7.7400e-003	0.2957	0.0000	909.3439	909.3439	0.0234	0.0000	909.9291
Total	**0.4135**	**1.5218**	**3.5707**	**0.0144**	**1.1953**	**9.8700e-003**	**1.2051**	**0.3200**	**9.1400e-003**	**0.3292**	**0.0000**	**1,327.3369**	**1,327.3369**	**0.0462**	**0.0000**	**1,328.4916**

03-25 Cont.

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

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3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.7000e-004	3.1200e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8963	0.8963	2.0000e-005	0.0000	0.8968
Total	**3.7000e-004**	**2.7000e-004**	**3.1200e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8963**	**0.8963**	**2.0000e-005**	**0.0000**	**0.8968**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

03-25 Cont.

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.7000e-004	3.1200e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8963	0.8963	2.0000e-005	0.0000	0.8968
Total	**3.7000e-004**	**2.7000e-004**	**3.1200e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8963**	**0.8963**	**2.0000e-005**	**0.0000**	**0.8968**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

03-25 Cont.

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	4.1000e-004	4.9200e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.4697	1.4697	4.0000e-005	0.0000	1.4706
Total	**5.9000e-004**	**4.1000e-004**	**4.9200e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.4697**	**1.4697**	**4.0000e-005**	**0.0000**	**1.4706**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

03-25 Cont.

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	4.1000e-004	4.9200e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.4697	1.4697	4.0000e-005	0.0000	1.4706
Total	**5.9000e-004**	**4.1000e-004**	**4.9200e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.4697**	**1.4697**	**4.0000e-005**	**0.0000**	**1.4706**

03-25 Cont.

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0101	6.9900e-003	0.0835	2.8000e-004	0.0307	2.3000e-004	0.0309	8.1500e-003	2.2000e-004	8.3700e-003	0.0000	24.9407	24.9407	6.1000e-004	0.0000	24.9558
Total	**0.0101**	**6.9900e-003**	**0.0835**	**2.8000e-004**	**0.0307**	**2.3000e-004**	**0.0309**	**8.1500e-003**	**2.2000e-004**	**8.3700e-003**	**0.0000**	**24.9407**	**24.9407**	**6.1000e-004**	**0.0000**	**24.9558**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

03-25 Cont.

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0101	6.9900e-003	0.0835	2.8000e-004	0.0307	2.3000e-004	0.0309	8.1500e-003	2.2000e-004	8.3700e-003	0.0000	24.9407	24.9407	6.1000e-004	0.0000	24.9558
Total	**0.0101**	**6.9900e-003**	**0.0835**	**2.8000e-004**	**0.0307**	**2.3000e-004**	**0.0309**	**8.1500e-003**	**2.2000e-004**	**8.3700e-003**	**0.0000**	**24.9407**	**24.9407**	**6.1000e-004**	**0.0000**	**24.9558**

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4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Unmitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162

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4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

03-25 Cont.

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
NaturalGas Mitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478
NaturalGas Unmitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

6.0 Area Detail

6.1 Mitigation Measures Area

03-25 Cont.

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Unmitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

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7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	585.8052	3.0183	0.0755	683.7567
Unmitigated	585.8052	3.0183	0.0755	683.7567

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Cont.

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

03-25 Cont.

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	207.8079	12.2811	0.0000	514.8354
Unmitigated	207.8079	12.2811	0.0000	514.8354

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Cont.

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

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8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

03-25
Cont.

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

03-25 Cont.

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

O3-25 Cont.

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

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tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

O3-25
Cont.

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2769	46.4588	31.6840	0.0643	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,234.7974	6,234.7974	1.9495	0.0000	6,283.5352
2022	5.3304	38.8967	49.5629	0.1517	9.8688	1.6366	10.7727	3.6558	1.5057	5.1615	0.0000	15,251.5674	15,251.5674	1.9503	0.0000	15,278.5288
2023	4.8957	26.3317	46.7567	0.1472	9.8688	0.7794	10.6482	2.6381	0.7322	3.3702	0.0000	14,807.5269	14,807.5269	1.0250	0.0000	14,833.1521
2024	237.1630	9.5575	15.1043	0.0244	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,361.3989	2,361.3989	0.7177	0.0000	2,379.3421
Maximum	**237.1630**	**46.4588**	**49.5629**	**0.1517**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**15,251.5674**	**15,251.5674**	**1.9503**	**0.0000**	**15,278.5288**

03-25 Cont.

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2769	46.4588	31.6840	0.0643	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,234.7974	6,234.7974	1.9495	0.0000	6,283.5352
2022	5.3304	38.8967	49.5629	0.1517	9.8688	1.6366	10.7727	3.6558	1.5057	5.1615	0.0000	15,251.5674	15,251.5674	1.9503	0.0000	15,278.5288
2023	4.8957	26.3317	46.7567	0.1472	9.8688	0.7794	10.6482	2.6381	0.7322	3.3702	0.0000	14,807.5269	14,807.5269	1.0250	0.0000	14,833.1520
2024	237.1630	9.5575	15.1043	0.0244	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,361.3989	2,361.3989	0.7177	0.0000	2,379.3421
Maximum	**237.1630**	**46.4588**	**49.5629**	**0.1517**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**15,251.5674**	**15,251.5674**	**1.9503**	**0.0000**	**15,278.5288**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

03-25 Cont.

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

03-25 Cont.

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

03-25 Cont.

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.2413	1,292.2413	0.0877		1,294.4337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.1916**	**4.1394**	**1.5644**	**0.0136**	**0.4346**	**0.0139**	**0.4485**	**0.1176**	**0.0133**	**0.1309**		**1,463.0568**	**1,463.0568**	**0.0927**		**1,465.3750**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

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3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.2413	1,292.2413	0.0877		1,294.4337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.1916**	**4.1394**	**1.5644**	**0.0136**	**0.4346**	**0.0139**	**0.4485**	**0.1176**	**0.0133**	**0.1309**		**1,463.0568**	**1,463.0568**	**0.0927**		**1,465.3750**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.0772**	**0.0530**	**0.7250**	**2.0600e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**204.9786**	**204.9786**	**6.0400e-003**		**205.1296**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

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3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.0772**	**0.0530**	**0.7250**	**2.0600e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**204.9786**	**204.9786**	**6.0400e-003**		**205.1296**

03-25 Cont.

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217
Total	**0.0857**	**0.0589**	**0.8056**	**2.2900e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**227.7540**	**227.7540**	**6.7100e-003**		**227.9217**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

03-25 Cont.

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217
Total	**0.0857**	**0.0589**	**0.8056**	**2.2900e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**227.7540**	**227.7540**	**6.7100e-003**		**227.9217**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

03-25 Cont.

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0803	0.0532	0.7432	2.2100e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		219.7425	219.7425	6.0600e-003		219.8941
Total	**0.0803**	**0.0532**	**0.7432**	**2.2100e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**219.7425**	**219.7425**	**6.0600e-003**		**219.8941**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0803	0.0532	0.7432	2.2100e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		219.7425	219.7425	6.0600e-003		219.8941
Total	**0.0803**	**0.0532**	**0.7432**	**2.2100e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**219.7425**	**219.7425**	**6.0600e-003**		**219.8941**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

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3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.5482	3,896.5482	0.2236		3,902.1384
Worker	3.2162	2.1318	29.7654	0.0883	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,800.6857	8,800.6857	0.2429		8,806.7582
Total	**3.6242**	**15.3350**	**33.1995**	**0.1247**	**9.8688**	**0.0949**	**9.9637**	**2.6381**	**0.0883**	**2.7263**		**12,697.2339**	**12,697.2339**	**0.4665**		**12,708.8966**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

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3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.5482	3,896.5482	0.2236		3,902.1384
Worker	3.2162	2.1318	29.7654	0.0883	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,800.6857	8,800.6857	0.2429		8,806.7582
Total	**3.6242**	**15.3350**	**33.1995**	**0.1247**	**9.8688**	**0.0949**	**9.9637**	**2.6381**	**0.0883**	**2.7263**		**12,697.2339**	**12,697.2339**	**0.4665**		**12,708.8966**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

03-25 Cont.

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.8762	3,773.8762	0.1982		3,778.8300
Worker	3.0203	1.9287	27.4113	0.0851	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		8,478.4408	8,478.4408	0.2190		8,483.9160
Total	**3.3229**	**11.9468**	**30.5127**	**0.1203**	**9.8688**	**0.0797**	**9.9485**	**2.6381**	**0.0738**	**2.7118**		**12,252.3170**	**12,252.3170**	**0.4172**		**12,262.7460**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

03-25 Cont.

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.8762	3,773.8762	0.1982		3,778.8300
Worker	3.0203	1.9287	27.4113	0.0851	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		8,478.4408	8,478.4408	0.2190		8,483.9160
Total	**3.3229**	**11.9468**	**30.5127**	**0.1203**	**9.8688**	**0.0797**	**9.9485**	**2.6381**	**0.0738**	**2.7118**		**12,252.3170**	**12,252.3170**	**0.4172**		**12,262.7460**

03-25 Cont.

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0566	0.0361	0.5133	1.5900e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		158.7723	158.7723	4.1000e-003		158.8748
Total	**0.0566**	**0.0361**	**0.5133**	**1.5900e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**158.7723**	**158.7723**	**4.1000e-003**		**158.8748**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

03-25 Cont.

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0566	0.0361	0.5133	1.5900e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		158.7723	158.7723	4.1000e-003		158.8748
Total	**0.0566**	**0.0361**	**0.5133**	**1.5900e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**158.7723**	**158.7723**	**4.1000e-003**		**158.8748**

03-25 Cont.

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0535	0.0329	0.4785	1.5400e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		153.8517	153.8517	3.7600e-003		153.9458
Total	**0.0535**	**0.0329**	**0.4785**	**1.5400e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**153.8517**	**153.8517**	**3.7600e-003**		**153.9458**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

03-25 Cont.

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0535	0.0329	0.4785	1.5400e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		153.8517	153.8517	3.7600e-003		153.9458
Total	**0.0535**	**0.0329**	**0.4785**	**1.5400e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**153.8517**	**153.8517**	**3.7600e-003**		**153.9458**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

03-25 Cont.

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5707	0.3513	5.1044	0.0165	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,641.0852	1,641.0852	0.0401		1,642.0886
Total	**0.5707**	**0.3513**	**5.1044**	**0.0165**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,641.0852**	**1,641.0852**	**0.0401**		**1,642.0886**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

03-25 Cont.

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5707	0.3513	5.1044	0.0165	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,641.0852	1,641.0852	0.0401		1,642.0886
Total	**0.5707**	**0.3513**	**5.1044**	**0.0165**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,641.0852**	**1,641.0852**	**0.0401**		**1,642.0886**

03-25 Cont.

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Unmitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208

03-25 Cont.

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

03-25 Cont.

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387

03-25 Cont.

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

03-25 Cont.

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day											lb/day				
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

03-25 Cont.

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

03-25
Cont.

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

03-25 Cont.

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

03-25 Cont.

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

03-25 Cont.

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

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tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

03-25
Cont.

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2865	46.4651	31.6150	0.0642	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,221.4937	6,221.4937	1.9491	0.0000	6,270.2214
2022	5.7218	38.9024	47.3319	0.1455	9.8688	1.6366	10.7736	3.6558	1.5057	5.1615	0.0000	14,630.3099	14,630.3099	1.9499	0.0000	14,657.2663
2023	5.2705	26.4914	44.5936	0.1413	9.8688	0.7800	10.6488	2.6381	0.7328	3.3708	0.0000	14,210.3424	14,210.3424	1.0230	0.0000	14,235.9160
2024	237.2328	9.5610	15.0611	0.0243	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,352.4178	2,352.4178	0.7175	0.0000	2,370.3550
Maximum	**237.2328**	**46.4651**	**47.3319**	**0.1455**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**14,630.3099**	**14,630.3099**	**1.9499**	**0.0000**	**14,657.2663**

03-25 Cont.

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2865	46.4651	31.6150	0.0642	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,221.4937	6,221.4937	1.9491	0.0000	6,270.2214
2022	5.7218	38.9024	47.3319	0.1455	9.8688	1.6366	10.7736	3.6558	1.5057	5.1615	0.0000	14,630.3099	14,630.3099	1.9499	0.0000	14,657.2663
2023	5.2705	26.4914	44.5936	0.1413	9.8688	0.7800	10.6488	2.6381	0.7328	3.3708	0.0000	14,210.3424	14,210.3424	1.0230	0.0000	14,235.9160
2024	237.2328	9.5610	15.0611	0.0243	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,352.4178	2,352.4178	0.7175	0.0000	2,370.3550
Maximum	**237.2328**	**46.4651**	**47.3319**	**0.1455**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**14,630.3099**	**14,630.3099**	**1.9499**	**0.0000**	**14,657.2663**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

03-25 Cont.

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

03-25 Cont.

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

03-25 Cont.

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

03-25 Cont.

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.8555	1,269.8555	0.0908		1,272.1252
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.2019**	**4.1943**	**1.5706**	**0.0133**	**0.4346**	**0.0141**	**0.4487**	**0.1176**	**0.0135**	**0.1311**		**1,430.6932**	**1,430.6932**	**0.0955**		**1,433.0812**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

03-25 Cont.

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.8555	1,269.8555	0.0908		1,272.1252
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.2019**	**4.1943**	**1.5706**	**0.0133**	**0.4346**	**0.0141**	**0.4487**	**0.1176**	**0.0135**	**0.1311**		**1,430.6932**	**1,430.6932**	**0.0955**		**1,433.0812**

03-25 Cont.

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.0858**	**0.0587**	**0.6629**	**1.9400e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**193.0052**	**193.0052**	**5.6800e-003**		**193.1472**

03-25 Cont.

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.0858**	**0.0587**	**0.6629**	**1.9400e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**193.0052**	**193.0052**	**5.6800e-003**		**193.1472**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

03-25 Cont.

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.0954**	**0.0652**	**0.7365**	**2.1500e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**214.4502**	**214.4502**	**6.3100e-003**		**214.6080**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

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3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.0954**	**0.0652**	**0.7365**	**2.1500e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**214.4502**	**214.4502**	**6.3100e-003**		**214.6080**

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3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0896	0.0589	0.6784	2.0800e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		206.9139	206.9139	5.7000e-003		207.0563
Total	**0.0896**	**0.0589**	**0.6784**	**2.0800e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**206.9139**	**206.9139**	**5.7000e-003**		**207.0563**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0896	0.0589	0.6784	2.0800e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		206.9139	206.9139	5.7000e-003		207.0563
Total	**0.0896**	**0.0589**	**0.6784**	**2.0800e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**206.9139**	**206.9139**	**5.7000e-003**		**207.0563**

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3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

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3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	3.5872	2.3593	27.1680	0.0832	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,286.9013	8,286.9013	0.2282		8,292.6058
Total	**4.0156**	**15.5266**	**30.9685**	**0.1186**	**9.8688**	**0.0957**	**9.9645**	**2.6381**	**0.0891**	**2.7271**		**12,075.9763**	**12,075.9763**	**0.4663**		**12,087.6341**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

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3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	3.5872	2.3593	27.1680	0.0832	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,286.9013	8,286.9013	0.2282		8,292.6058
Total	4.0156	15.5266	30.9685	0.1186	9.8688	0.0957	9.9645	2.6381	0.0891	2.7271		12,075.9763	12,075.9763	0.4663		12,087.6341

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

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3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.4007	3,671.4007	0.2096		3,676.6417
Worker	3.3795	2.1338	24.9725	0.0801	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		7,983.7318	7,983.7318	0.2055		7,988.8683
Total	**3.6978**	**12.1065**	**28.3496**	**0.1144**	**9.8688**	**0.0803**	**9.9491**	**2.6381**	**0.0743**	**2.7124**		**11,655.1325**	**11,655.1325**	**0.4151**		**11,665.5099**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.4007	3,671.4007	0.2096		3,676.6417
Worker	3.3795	2.1338	24.9725	0.0801	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		7,983.7318	7,983.7318	0.2055		7,988.8683
Total	**3.6978**	**12.1065**	**28.3496**	**0.1144**	**9.8688**	**0.0803**	**9.9491**	**2.6381**	**0.0743**	**2.7124**		**11,655.1325**	**11,655.1325**	**0.4151**		**11,665.5099**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

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3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0633	0.0400	0.4677	1.5000e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		149.5081	149.5081	3.8500e-003		149.6043
Total	**0.0633**	**0.0400**	**0.4677**	**1.5000e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**149.5081**	**149.5081**	**3.8500e-003**		**149.6043**

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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0633	0.0400	0.4677	1.5000e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		149.5081	149.5081	3.8500e-003		149.6043
Total	**0.0633**	**0.0400**	**0.4677**	**1.5000e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**149.5081**	**149.5081**	**3.8500e-003**		**149.6043**

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3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0601	0.0364	0.4354	1.4500e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		144.8706	144.8706	3.5300e-003		144.9587
Total	**0.0601**	**0.0364**	**0.4354**	**1.4500e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**144.8706**	**144.8706**	**3.5300e-003**		**144.9587**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

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3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0601	0.0364	0.4354	1.4500e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		144.8706	144.8706	3.5300e-003		144.9587
Total	**0.0601**	**0.0364**	**0.4354**	**1.4500e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**144.8706**	**144.8706**	**3.5300e-003**		**144.9587**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

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3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.6406	0.3886	4.6439	0.0155	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,545.2860	1,545.2860	0.0376		1,546.2262
Total	**0.6406**	**0.3886**	**4.6439**	**0.0155**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,545.2860**	**1,545.2860**	**0.0376**		**1,546.2262**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

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3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.6406	0.3886	4.6439	0.0155	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,545.2860	1,545.2860	0.0376		1,546.2262
Total	**0.6406**	**0.3886**	**4.6439**	**0.0155**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,545.2860**	**1,545.2860**	**0.0376**		**1,546.2262**

03-25 Cont.

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Unmitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839

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4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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Cont.

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day											lb/day				
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day											lb/day				
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

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6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

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Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

03-25 Cont.

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

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Cont.

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

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tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

03-25
Cont.

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1704	1.8234	1.1577	2.3800e-003	0.4141	0.0817	0.4958	0.1788	0.0754	0.2542	0.0000	210.7654	210.7654	0.0600	0.0000	212.2661
2022	0.5865	4.0240	5.1546	0.0155	0.9509	0.1175	1.0683	0.2518	0.1103	0.3621	0.0000	1,418.6554	1,418.6554	0.1215	0.0000	1,421.6925
2023	0.5190	3.2850	4.7678	0.0147	0.8497	0.0971	0.9468	0.2283	0.0912	0.3195	0.0000	1,342.4412	1,342.4412	0.1115	0.0000	1,345.2291
2024	4.1592	0.1313	0.2557	5.0000e-004	0.0221	6.3900e-003	0.0285	5.8700e-003	5.9700e-003	0.0118	0.0000	44.6355	44.6355	7.8300e-003	0.0000	44.8311
Maximum	**4.1592**	**4.0240**	**5.1546**	**0.0155**	**0.9509**	**0.1175**	**1.0683**	**0.2518**	**0.1103**	**0.3621**	**0.0000**	**1,418.6554**	**1,418.6554**	**0.1215**	**0.0000**	**1,421.6925**

03-25 Cont.

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1704	1.8234	1.1577	2.3800e-003	0.4141	0.0817	0.4958	0.1788	0.0754	0.2542	0.0000	210.7651	210.7651	0.0600	0.0000	212.2658
2022	0.5865	4.0240	5.1546	0.0155	0.9509	0.1175	1.0683	0.2518	0.1103	0.3621	0.0000	1,418.6550	1,418.6550	0.1215	0.0000	1,421.6921
2023	0.5190	3.2850	4.7678	0.0147	0.8497	0.0971	0.9468	0.2283	0.0912	0.3195	0.0000	1,342.4409	1,342.4409	0.1115	0.0000	1,345.2287
2024	4.1592	0.1313	0.2557	5.0000e-004	0.0221	6.3900e-003	0.0285	5.8700e-003	5.9700e-003	0.0118	0.0000	44.6354	44.6354	7.8300e-003	0.0000	44.8311
Maximum	4.1592	4.0240	5.1546	0.0155	0.9509	0.1175	1.0683	0.2518	0.1103	0.3621	0.0000	1,418.6550	1,418.6550	0.1215	0.0000	1,421.6921

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-1-2021	11-30-2021	1.4091	1.4091
2	12-1-2021	2-28-2022	1.3329	1.3329
3	3-1-2022	5-31-2022	1.1499	1.1499
4	6-1-2022	8-31-2022	1.1457	1.1457
5	9-1-2022	11-30-2022	1.1415	1.1415
6	12-1-2022	2-28-2023	1.0278	1.0278
7	3-1-2023	5-31-2023	0.9868	0.9868
8	6-1-2023	8-31-2023	0.9831	0.9831

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9	9-1-2023	11-30-2023	0.9798	0.9798
10	12-1-2023	2-29-2024	2.8757	2.8757
11	3-1-2024	5-31-2024	1.6188	1.6188
		Highest	2.8757	2.8757

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

03-25 Cont.

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	6.8692	9.5223	30.3407	0.0914	7.7979	0.2260	8.0240	2.0895	0.2219	2.3114	236.9712	12,294.1807	12,531.1519	15.7904	0.1260	12,963.4751

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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3.0 Construction Detail

Construction Phase

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

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Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

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Trips and VMT

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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Cont.

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0012	51.0012	0.0144	0.0000	51.3601
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0012**	**51.0012**	**0.0144**	**0.0000**	**51.3601**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.3000e-004	6.0900e-003	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5281	1.5281	5.0000e-005	0.0000	1.5293
Total	**2.6500e-003**	**0.0639**	**0.0209**	**2.0000e-004**	**5.6200e-003**	**2.0000e-004**	**5.8200e-003**	**1.5300e-003**	**1.9000e-004**	**1.7200e-003**	**0.0000**	**18.9847**	**18.9847**	**1.2600e-003**	**0.0000**	**19.0161**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0011	51.0011	0.0144	0.0000	51.3600
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0011**	**51.0011**	**0.0144**	**0.0000**	**51.3600**

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3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.3000e-004	6.0900e-003	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5281	1.5281	5.0000e-005	0.0000	1.5293
Total	**2.6500e-003**	**0.0639**	**0.0209**	**2.0000e-004**	**5.6200e-003**	**2.0000e-004**	**5.8200e-003**	**1.5300e-003**	**1.9000e-004**	**1.7200e-003**	**0.0000**	**18.9847**	**18.9847**	**1.2600e-003**	**0.0000**	**19.0161**

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3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7061
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7061**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	4.3000e-004	4.8700e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2225	1.2225	4.0000e-005	0.0000	1.2234
Total	**5.8000e-004**	**4.3000e-004**	**4.8700e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.2225**	**1.2225**	**4.0000e-005**	**0.0000**	**1.2234**

03-25 Cont.

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7060
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7060**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	4.3000e-004	4.8700e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2225	1.2225	4.0000e-005	0.0000	1.2234
Total	**5.8000e-004**	**4.3000e-004**	**4.8700e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.2225**	**1.2225**	**4.0000e-005**	**0.0000**	**1.2234**

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3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5405	103.5405	0.0335	0.0000	104.3776
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5405**	**103.5405**	**0.0335**	**0.0000**	**104.3776**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2200e-003	9.0000e-004	0.0103	3.0000e-005	2.8300e-003	2.0000e-005	2.8600e-003	7.5000e-004	2.0000e-005	7.8000e-004	0.0000	2.5808	2.5808	8.0000e-005	0.0000	2.5828
Total	**1.2200e-003**	**9.0000e-004**	**0.0103**	**3.0000e-005**	**2.8300e-003**	**2.0000e-005**	**2.8600e-003**	**7.5000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5808**	**2.5808**	**8.0000e-005**	**0.0000**	**2.5828**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5403	103.5403	0.0335	0.0000	104.3775
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5403**	**103.5403**	**0.0335**	**0.0000**	**104.3775**

03-25 Cont.

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2200e-003	9.0000e-004	0.0103	3.0000e-005	2.8300e-003	2.0000e-005	2.8600e-003	7.5000e-004	2.0000e-005	7.8000e-004	0.0000	2.5808	2.5808	8.0000e-005	0.0000	2.5828
Total	**1.2200e-003**	**9.0000e-004**	**0.0103**	**3.0000e-005**	**2.8300e-003**	**2.0000e-005**	**2.8600e-003**	**7.5000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5808**	**2.5808**	**8.0000e-005**	**0.0000**	**2.5828**

03-25 Cont.

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	1.7400e-003	1.0000e-005	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4587	0.4587	1.0000e-005	0.0000	0.4590
Total	**2.1000e-004**	**1.5000e-004**	**1.7400e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4587**	**0.4587**	**1.0000e-005**	**0.0000**	**0.4590**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

03-25 Cont.

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	1.7400e-003	1.0000e-005	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4587	0.4587	1.0000e-005	0.0000	0.4590
Total	**2.1000e-004**	**1.5000e-004**	**1.7400e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4587**	**0.4587**	**1.0000e-005**	**0.0000**	**0.4590**

03-25 Cont.

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1324	293.1324	0.0702	0.0000	294.8881
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1324**	**293.1324**	**0.0702**	**0.0000**	**294.8881**

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3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.3051	0.2164	2.5233	7.3500e-003	0.7557	6.2300e-003	0.7619	0.2007	5.7400e-003	0.2065	0.0000	663.9936	663.9936	0.0187	0.0000	664.4604
Total	**0.3578**	**1.9125**	**2.9812**	**0.0119**	**0.8696**	**9.4100e-003**	**0.8790**	**0.2336**	**8.7800e-003**	**0.2424**	**0.0000**	**1,105.9771**	**1,105.9771**	**0.0451**	**0.0000**	**1,107.1039**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1321	293.1321	0.0702	0.0000	294.8877
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1321**	**293.1321**	**0.0702**	**0.0000**	**294.8877**

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3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.3051	0.2164	2.5233	7.3500e-003	0.7557	6.2300e-003	0.7619	0.2007	5.7400e-003	0.2065	0.0000	663.9936	663.9936	0.0187	0.0000	664.4604
Total	**0.3578**	**1.9125**	**2.9812**	**0.0119**	**0.8696**	**9.4100e-003**	**0.8790**	**0.2336**	**8.7800e-003**	**0.2424**	**0.0000**	**1,105.9771**	**1,105.9771**	**0.0451**	**0.0000**	**1,107.1039**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2789	286.2789	0.0681	0.0000	287.9814
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2789**	**286.2789**	**0.0681**	**0.0000**	**287.9814**

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3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.2795	0.1910	2.2635	6.9100e-003	0.7377	5.9100e-003	0.7436	0.1960	5.4500e-003	0.2014	0.0000	624.5363	624.5363	0.0164	0.0000	624.9466
Total	**0.3177**	**1.4420**	**2.6646**	**0.0112**	**0.8490**	**7.3700e-003**	**0.8564**	**0.2281**	**6.8500e-003**	**0.2349**	**0.0000**	**1,042.5294**	**1,042.5294**	**0.0392**	**0.0000**	**1,043.5090**

03-25 Cont.

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2785	286.2785	0.0681	0.0000	287.9811
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2785**	**286.2785**	**0.0681**	**0.0000**	**287.9811**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.2795	0.1910	2.2635	6.9100e-003	0.7377	5.9100e-003	0.7436	0.1960	5.4500e-003	0.2014	0.0000	624.5363	624.5363	0.0164	0.0000	624.9466
Total	**0.3177**	**1.4420**	**2.6646**	**0.0112**	**0.8490**	**7.3700e-003**	**0.8564**	**0.2281**	**6.8500e-003**	**0.2349**	**0.0000**	**1,042.5294**	**1,042.5294**	**0.0392**	**0.0000**	**1,043.5090**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

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3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.2300e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6156	0.6156	2.0000e-005	0.0000	0.6160
Total	**2.8000e-004**	**1.9000e-004**	**2.2300e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6156**	**0.6156**	**2.0000e-005**	**0.0000**	**0.6160**

03-25 Cont.

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

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3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.2300e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6156	0.6156	2.0000e-005	0.0000	0.6160
Total	**2.8000e-004**	**1.9000e-004**	**2.2300e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6156**	**0.6156**	**2.0000e-005**	**0.0000**	**0.6160**

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3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

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3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.9000e-004	3.5100e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0094	1.0094	3.0000e-005	0.0000	1.0100
Total	**4.4000e-004**	**2.9000e-004**	**3.5100e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0094**	**1.0094**	**3.0000e-005**	**0.0000**	**1.0100**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

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3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.9000e-004	3.5100e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0094	1.0094	3.0000e-005	0.0000	1.0100
Total	**4.4000e-004**	**2.9000e-004**	**3.5100e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0094**	**1.0094**	**3.0000e-005**	**0.0000**	**1.0100**

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3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

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3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4800e-003	4.9300e-003	0.0596	1.9000e-004	0.0209	1.6000e-004	0.0211	5.5500e-003	1.5000e-004	5.7000e-003	0.0000	17.1287	17.1287	4.3000e-004	0.0000	17.1394
Total	**7.4800e-003**	**4.9300e-003**	**0.0596**	**1.9000e-004**	**0.0209**	**1.6000e-004**	**0.0211**	**5.5500e-003**	**1.5000e-004**	**5.7000e-003**	**0.0000**	**17.1287**	**17.1287**	**4.3000e-004**	**0.0000**	**17.1394**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

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3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4800e-003	4.9300e-003	0.0596	1.9000e-004	0.0209	1.6000e-004	0.0211	5.5500e-003	1.5000e-004	5.7000e-003	0.0000	17.1287	17.1287	4.3000e-004	0.0000	17.1394
Total	**7.4800e-003**	**4.9300e-003**	**0.0596**	**1.9000e-004**	**0.0209**	**1.6000e-004**	**0.0211**	**5.5500e-003**	**1.5000e-004**	**5.7000e-003**	**0.0000**	**17.1287**	**17.1287**	**4.3000e-004**	**0.0000**	**17.1394**

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4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Unmitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162

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Cont.

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
NaturalGas Mitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478
NaturalGas Unmitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

03-25 Cont.

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

03-25 Cont.

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

6.0 Area Detail

6.1 Mitigation Measures Area

03-25 Cont.

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Unmitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

03-25
Cont.

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

03-25 Cont.

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	585.8052	3.0183	0.0755	683.7567
Unmitigated	585.8052	3.0183	0.0755	683.7567

03-25
Cont.

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

03-25 Cont.

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

03-25 Cont.

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	207.8079	12.2811	0.0000	514.8354
Unmitigated	207.8079	12.2811	0.0000	514.8354

03-25 Cont.

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

03-25 Cont.

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8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

03-25
Cont.

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

03-25 Cont.

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

03-25 Cont.

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

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tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

03-25
Cont.

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2561	46.4415	31.4494	0.0636	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,163.4166	6,163.4166	1.9475	0.0000	6,212.1039
2022	4.5441	38.8811	40.8776	0.1240	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,493.4403	12,493.4403	1.9485	0.0000	12,518.5707
2023	4.1534	25.7658	38.7457	0.1206	7.0088	0.7592	7.7679	1.8799	0.7136	2.5935	0.0000	12,150.4890	12,150.4890	0.9589	0.0000	12,174.4615
2024	237.0219	9.5478	14.9642	0.0239	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,313.1808	2,313.1808	0.7166	0.0000	2,331.0956
Maximum	**237.0219**	**46.4415**	**40.8776**	**0.1240**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,493.4403**	**12,493.4403**	**1.9485**	**0.0000**	**12,518.5707**

03-25 Cont.

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2561	46.4415	31.4494	0.0636	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,163.4166	6,163.4166	1.9475	0.0000	6,212.1039
2022	4.5441	38.8811	40.8776	0.1240	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,493.4403	12,493.4403	1.9485	0.0000	12,518.5707
2023	4.1534	25.7658	38.7457	0.1206	7.0088	0.7592	7.7679	1.8799	0.7136	2.5935	0.0000	12,150.4890	12,150.4890	0.9589	0.0000	12,174.4615
2024	237.0219	9.5478	14.9642	0.0239	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,313.1808	2,313.1808	0.7166	0.0000	2,331.0955
Maximum	**237.0219**	**46.4415**	**40.8776**	**0.1240**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,493.4403**	**12,493.4403**	**1.9485**	**0.0000**	**12,518.5707**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

03-25 Cont.

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

03-25 Cont.

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

03-25
Cont.

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

03-25 Cont.

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

03-25 Cont.

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.2413	1,292.2413	0.0877		1,294.4337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0487	0.0313	0.4282	1.1800e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		117.2799	117.2799	3.5200e-003		117.3678
Total	**0.1760**	**4.1265**	**1.3884**	**0.0131**	**0.3810**	**0.0135**	**0.3946**	**0.1034**	**0.0129**	**0.1163**		**1,409.5212**	**1,409.5212**	**0.0912**		**1,411.8015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

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3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.2413	1,292.2413	0.0877		1,294.4337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0487	0.0313	0.4282	1.1800e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		117.2799	117.2799	3.5200e-003		117.3678
Total	**0.1760**	**4.1265**	**1.3884**	**0.0131**	**0.3810**	**0.0135**	**0.3946**	**0.1034**	**0.0129**	**0.1163**		**1,409.5212**	**1,409.5212**	**0.0912**		**1,411.8015**

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3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

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3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0584	0.0375	0.5139	1.4100e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		140.7359	140.7359	4.2200e-003		140.8414
Total	**0.0584**	**0.0375**	**0.5139**	**1.4100e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**140.7359**	**140.7359**	**4.2200e-003**		**140.8414**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

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3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0584	0.0375	0.5139	1.4100e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		140.7359	140.7359	4.2200e-003		140.8414
Total	**0.0584**	**0.0375**	**0.5139**	**1.4100e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**140.7359**	**140.7359**	**4.2200e-003**		**140.8414**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

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3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0649	0.0417	0.5710	1.5700e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		156.3732	156.3732	4.6900e-003		156.4904
Total	**0.0649**	**0.0417**	**0.5710**	**1.5700e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**156.3732**	**156.3732**	**4.6900e-003**		**156.4904**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

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3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0649	0.0417	0.5710	1.5700e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		156.3732	156.3732	4.6900e-003		156.4904
Total	**0.0649**	**0.0417**	**0.5710**	**1.5700e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**156.3732**	**156.3732**	**4.6900e-003**		**156.4904**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0607	0.0376	0.5263	1.5100e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		150.8754	150.8754	4.2400e-003		150.9813
Total	**0.0607**	**0.0376**	**0.5263**	**1.5100e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**150.8754**	**150.8754**	**4.2400e-003**		**150.9813**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0607	0.0376	0.5263	1.5100e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		150.8754	150.8754	4.2400e-003		150.9813
Total	**0.0607**	**0.0376**	**0.5263**	**1.5100e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**150.8754**	**150.8754**	**4.2400e-003**		**150.9813**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

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3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.5482	3,896.5482	0.2236		3,902.1384
Worker	2.4299	1.5074	21.0801	0.0607	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		6,042.5585	6,042.5585	0.1697		6,046.8000
Total	**2.8378**	**14.7106**	**24.5142**	**0.0971**	**7.0087**	**0.0741**	**7.0828**	**1.8799**	**0.0691**	**1.9490**		**9,939.1067**	**9,939.1067**	**0.3933**		**9,948.9384**

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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.5482	3,896.5482	0.2236		3,902.1384
Worker	2.4299	1.5074	21.0801	0.0607	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		6,042.5585	6,042.5585	0.1697		6,046.8000
Total	**2.8378**	**14.7106**	**24.5142**	**0.0971**	**7.0087**	**0.0741**	**7.0828**	**1.8799**	**0.0691**	**1.9490**		**9,939.1067**	**9,939.1067**	**0.3933**		**9,948.9384**

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3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.8762	3,773.8762	0.1982		3,778.8300
Worker	2.2780	1.3628	19.4002	0.0584	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,821.4028	5,821.4028	0.1529		5,825.2254
Total	**2.5807**	**11.3809**	**22.5017**	**0.0936**	**7.0088**	**0.0595**	**7.0682**	**1.8799**	**0.0552**	**1.9350**		**9,595.2790**	**9,595.2790**	**0.3511**		**9,604.0554**

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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.8762	3,773.8762	0.1982		3,778.8300
Worker	2.2780	1.3628	19.4002	0.0584	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,821.4028	5,821.4028	0.1529		5,825.2254
Total	**2.5807**	**11.3809**	**22.5017**	**0.0936**	**7.0088**	**0.0595**	**7.0682**	**1.8799**	**0.0552**	**1.9350**		**9,595.2790**	**9,595.2790**	**0.3511**		**9,604.0554**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

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3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0427	0.0255	0.3633	1.0900e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		109.0150	109.0150	2.8600e-003		109.0866
Total	**0.0427**	**0.0255**	**0.3633**	**1.0900e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**109.0150**	**109.0150**	**2.8600e-003**		**109.0866**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

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3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0427	0.0255	0.3633	1.0900e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		109.0150	109.0150	2.8600e-003		109.0866
Total	**0.0427**	**0.0255**	**0.3633**	**1.0900e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**109.0150**	**109.0150**	**2.8600e-003**		**109.0866**

03-25 Cont.

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0403	0.0233	0.3384	1.0600e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		105.6336	105.6336	2.6300e-003		105.6992
Total	**0.0403**	**0.0233**	**0.3384**	**1.0600e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**105.6336**	**105.6336**	**2.6300e-003**		**105.6992**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

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3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0403	0.0233	0.3384	1.0600e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		105.6336	105.6336	2.6300e-003		105.6992
Total	**0.0403**	**0.0233**	**0.3384**	**1.0600e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**105.6336**	**105.6336**	**2.6300e-003**		**105.6992**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

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3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4296	0.2481	3.6098	0.0113	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,126.7583	1,126.7583	0.0280		1,127.4583
Total	**0.4296**	**0.2481**	**3.6098**	**0.0113**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,126.7583**	**1,126.7583**	**0.0280**		**1,127.4583**

03-25 Cont.

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4296	0.2481	3.6098	0.0113	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,126.7583	1,126.7583	0.0280		1,127.4583
Total	**0.4296**	**0.2481**	**3.6098**	**0.0113**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,126.7583**	**1,126.7583**	**0.0280**		**1,127.4583**

03-25 Cont.

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Unmitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208

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4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

03-25 Cont.

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387

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Cont.

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day											lb/day				
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

03-25 Cont.

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

03-25 Cont.

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

03-25 Cont.

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

03-25 Cont.

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

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1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

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tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

03-25
Cont.

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2621	46.4460	31.4068	0.0635	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,154.3377	6,154.3377	1.9472	0.0000	6,203.0186
2022	4.7966	38.8851	39.6338	0.1195	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,035.3440	12,035.3440	1.9482	0.0000	12,060.6013
2023	4.3939	25.8648	37.5031	0.1162	7.0088	0.7598	7.7685	1.8799	0.7142	2.5940	0.0000	11,710.4080	11,710.4080	0.9617	0.0000	11,734.4497
2024	237.0656	9.5503	14.9372	0.0238	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,307.0517	2,307.0517	0.7164	0.0000	2,324.9627
Maximum	**237.0656**	**46.4460**	**39.6338**	**0.1195**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,035.3440**	**12,035.3440**	**1.9482**	**0.0000**	**12,060.6013**

03-25 Cont.

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2621	46.4460	31.4068	0.0635	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,154.3377	6,154.3377	1.9472	0.0000	6,203.0186
2022	4.7966	38.8851	39.6338	0.1195	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,035.3440	12,035.3440	1.9482	0.0000	12,060.6013
2023	4.3939	25.8648	37.5031	0.1162	7.0088	0.7598	7.7685	1.8799	0.7142	2.5940	0.0000	11,710.4080	11,710.4080	0.9617	0.0000	11,734.4497
2024	237.0656	9.5503	14.9372	0.0238	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,307.0517	2,307.0517	0.7164	0.0000	2,324.9627
Maximum	**237.0656**	**46.4460**	**39.6338**	**0.1195**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,035.3440**	**12,035.3440**	**1.9482**	**0.0000**	**12,060.6013**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

03-25 Cont.

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

03-25 Cont.

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

03-25 Cont.

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

03-25 Cont.

Trips and VMT

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

03-25 Cont.

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.8555	1,269.8555	0.0908		1,272.1252
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0532	0.0346	0.3963	1.1100e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		110.4707	110.4707	3.3300e-003		110.5539
Total	**0.1835**	**4.1800**	**1.4144**	**0.0128**	**0.3810**	**0.0137**	**0.3948**	**0.1034**	**0.0131**	**0.1165**		**1,380.3262**	**1,380.3262**	**0.0941**		**1,382.6791**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

03-25 Cont.

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.8555	1,269.8555	0.0908		1,272.1252
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0532	0.0346	0.3963	1.1100e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		110.4707	110.4707	3.3300e-003		110.5539
Total	**0.1835**	**4.1800**	**1.4144**	**0.0128**	**0.3810**	**0.0137**	**0.3948**	**0.1034**	**0.0131**	**0.1165**		**1,380.3262**	**1,380.3262**	**0.0941**		**1,382.6791**

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3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0638	0.0415	0.4755	1.3300e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		132.5649	132.5649	3.9900e-003		132.6646
Total	**0.0638**	**0.0415**	**0.4755**	**1.3300e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**132.5649**	**132.5649**	**3.9900e-003**		**132.6646**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

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3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0638	0.0415	0.4755	1.3300e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		132.5649	132.5649	3.9900e-003		132.6646
Total	**0.0638**	**0.0415**	**0.4755**	**1.3300e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**132.5649**	**132.5649**	**3.9900e-003**		**132.6646**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

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3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0709	0.0462	0.5284	1.4800e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		147.2943	147.2943	4.4300e-003		147.4051
Total	**0.0709**	**0.0462**	**0.5284**	**1.4800e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**147.2943**	**147.2943**	**4.4300e-003**		**147.4051**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

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3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0709	0.0462	0.5284	1.4800e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		147.2943	147.2943	4.4300e-003		147.4051
Total	**0.0709**	**0.0462**	**0.5284**	**1.4800e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**147.2943**	**147.2943**	**4.4300e-003**		**147.4051**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0665	0.0416	0.4861	1.4300e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		142.1207	142.1207	4.0000e-003		142.2207
Total	**0.0665**	**0.0416**	**0.4861**	**1.4300e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**142.1207**	**142.1207**	**4.0000e-003**		**142.2207**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0665	0.0416	0.4861	1.4300e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		142.1207	142.1207	4.0000e-003		142.2207
Total	**0.0665**	**0.0416**	**0.4861**	**1.4300e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**142.1207**	**142.1207**	**4.0000e-003**		**142.2207**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

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3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	2.6620	1.6677	19.4699	0.0571	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		5,691.9354	5,691.9354	0.1602		5,695.9408
Total	**3.0904**	**14.8350**	**23.2704**	**0.0926**	**7.0087**	**0.0749**	**7.0836**	**1.8799**	**0.0699**	**1.9498**		**9,481.0104**	**9,481.0104**	**0.3984**		**9,490.9691**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

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3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	2.6620	1.6677	19.4699	0.0571	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		5,691.9354	5,691.9354	0.1602		5,695.9408
Total	**3.0904**	**14.8350**	**23.2704**	**0.0926**	**7.0087**	**0.0749**	**7.0836**	**1.8799**	**0.0699**	**1.9498**		**9,481.0104**	**9,481.0104**	**0.3984**		**9,490.9691**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.4007	3,671.4007	0.2096		3,676.6417
Worker	2.5029	1.5073	17.8820	0.0550	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,483.7974	5,483.7974	0.1442		5,487.4020
Total	**2.8211**	**11.4799**	**21.2591**	**0.0893**	**7.0088**	**0.0601**	**7.0688**	**1.8799**	**0.0557**	**1.9356**		**9,155.1981**	**9,155.1981**	**0.3538**		**9,164.0437**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.4007	3,671.4007	0.2096		3,676.6417
Worker	2.5029	1.5073	17.8820	0.0550	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,483.7974	5,483.7974	0.1442		5,487.4020
Total	**2.8211**	**11.4799**	**21.2591**	**0.0893**	**7.0088**	**0.0601**	**7.0688**	**1.8799**	**0.0557**	**1.9356**		**9,155.1981**	**9,155.1981**	**0.3538**		**9,164.0437**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

03-25 Cont.

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0282	0.3349	1.0300e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		102.6928	102.6928	2.7000e-003		102.7603
Total	**0.0469**	**0.0282**	**0.3349**	**1.0300e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**102.6928**	**102.6928**	**2.7000e-003**		**102.7603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

03-25 Cont.

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0282	0.3349	1.0300e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		102.6928	102.6928	2.7000e-003		102.7603
Total	**0.0469**	**0.0282**	**0.3349**	**1.0300e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**102.6928**	**102.6928**	**2.7000e-003**		**102.7603**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

03-25 Cont.

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0444	0.0257	0.3114	1.0000e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		99.5045	99.5045	2.4700e-003		99.5663
Total	**0.0444**	**0.0257**	**0.3114**	**1.0000e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**99.5045**	**99.5045**	**2.4700e-003**		**99.5663**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

03-25 Cont.

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0444	0.0257	0.3114	1.0000e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		99.5045	99.5045	2.4700e-003		99.5663
Total	**0.0444**	**0.0257**	**0.3114**	**1.0000e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**99.5045**	**99.5045**	**2.4700e-003**		**99.5663**

03-25 Cont.

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4734	0.2743	3.3220	0.0107	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,061.3818	1,061.3818	0.0264		1,062.0410
Total	**0.4734**	**0.2743**	**3.3220**	**0.0107**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,061.3818**	**1,061.3818**	**0.0264**		**1,062.0410**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

03-25 Cont.

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4734	0.2743	3.3220	0.0107	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,061.3818	1,061.3818	0.0264		1,062.0410
Total	**0.4734**	**0.2743**	**3.3220**	**0.0107**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,061.3818**	**1,061.3818**	**0.0264**		**1,062.0410**

03-25 Cont.

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Unmitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839

03-25 Cont.

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

03-25
Cont.

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387

03-25 Cont.

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day											lb/day				
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

03-25 Cont.

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day											lb/day				
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

03-25 Cont.

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

03-25 Cont.

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

03-25
Cont.

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

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Cont.

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

03-25
Cont.

Attachment C

Local Hire Provision Net Change	
Without Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,623
Amortized (MT CO2e/year)	120.77
With Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,024
Amortized (MT CO2e/year)	100.80
% Decrease in Construction-related GHG Emissions	***17%***

O3-25 Cont.

EXHIBIT B

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

SOIL WATER AIR PROTECTION ENTERPRISE
2656 29th Street, Suite 201
Santa Monica, California 90405
Attn: Paul Rosenfeld, Ph.D.
Mobil: (310) 795-2335
Office: (310) 452-5555
Fax: (310) 452-5550
Email: prosenfeld@swape.com

Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial sources.

03-26

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health.* 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

03-26 Cont.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004*. New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality*. 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

03-26
Cont.

Chollack, T. and **P. Rosenfeld.** (1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society*. Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

03-26 Cont.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting*. Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition*. Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference*. Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference*. Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

03-26 Cont.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association.* Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants.*. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum.* Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association.* Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association.* Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association.* Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association.* Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America.* Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

03-26
Cont.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

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Cont.

Deposition and/or Trial Testimony:

In the United States District Court For The District of New Jersey
Duarte et al, *Plaintiffs,* vs. United States Metals Refining Company et. al. *Defendant.*
Case No.: 2:17-cv-01624-ES-SCM
Rosenfeld Deposition. 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk, *Plaintiffs,* vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" *Defendant.*
Case No.: 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition. 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No.: No. BC615636
Rosenfeld Deposition, 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No.: No. BC646857
Rosenfeld Deposition, 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiff vs. The 3M Company et al., Defendants
Case: No 1:16-cv-02531-RBJ
Rosenfeld Deposition, 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No 1923
Rosenfeld Deposition, 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintiffs vs. Chevron Corporation, et al., Defendants
Cause No C12-01481
Rosenfeld Deposition, 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition, 8-23-2017

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No.: LC102019 (c/w BC582154)
Rosenfeld Deposition, 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., *Plaintiffs,* vs. Meritor Inc., et al., *Defendants*
Case Number: 4:16-cv-52-DMB-JVM
Rosenfeld Deposition: July 2017

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In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No.: No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial, March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No.: RG14711115
Rosenfeld Deposition, September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No.: LALA002187
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

In The Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 2015

In The Iowa District Court For Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No 4980
Rosenfeld Deposition: May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case Number CACE07030358 (26)
Rosenfeld Deposition: December 2014

In the United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 2014

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Cont.

In the County Court of Dallas County Texas
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

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Cont.

EXHIBIT C

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Tel: (949) 887-9013
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Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

Geologic and Hydrogeologic Characterization
Industrial Stormwater Compliance
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
CEQA Review

Education:
M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:
California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

03-27

Professional Experience:
Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 100 environmental impact reports since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, Valley Fever, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

03-27 Cont.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.

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- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

03-27 Cont.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

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Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt taught physical geology (lecture and lab and introductory geology at Golden West College in Huntington Beach, California from 2010 to 2014.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

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Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

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Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F.** 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

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Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

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Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

EXHIBIT D

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Saima Qureshy, Principal Planner
City of San Marcos
1 Civic Center Drive
San Marcos, California 92069

25 March 2023

RE: Pacific Specific Plan DEIR

Dear Ms. Qureshy,

I write to comment on the draft Environmental Impact Report (DEIR) and Helix's (2023) technical report on biological resources that were prepared in support of the proposed Pacific Specific Plan, which I understand would add 539,706 square feet of floor space[1] in 449 residential units in 3-, 4-, and 5-story buildings[2] and 927 parking spaces to accommodate an estimated 1,388 new residents on 15.02 acres of a 33.2-acre project site located on APN 219-222-01, 219-222-02, 219-222-03, and 219-222-04 southeast of the intersection of La Mirada Road and South Pacific Street.

03-28

My qualifications for preparing expert comments are the following. I hold a Ph.D. degree in Ecology from University of California at Davis, where I also worked as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, wildlife interactions with the anthrosphere, and conservation of rare and endangered species. I authored many papers on these and other topics. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and Raptor Research Foundation, and I've lectured part-time at California State University, Sacramento. I was Associate Editor of wildlife biology's premier scientific journal, The Journal of Wildlife Management, as well as of Biological Conservation, and I was on the Editorial Board of Environmental Management. I have performed wildlife surveys in California for thirty-seven years. My CV is attached.

SITE VISIT

On my behalf, Noriko Smallwood, a wildlife biologist with a Master's Degree from California State University Los Angeles, visited the site of the proposed project for 2.83 hours from 07:25 to 10:15 hours on 17 March 2023. She walked the site's perimeter, stopping to scan for wildlife with use of binoculars. Noriko recorded all species of vertebrate wildlife she detected, including those whose members flew over the site or were seen nearby, off the site. Animals of uncertain species identity were either omitted or, if possible, recorded to the Genus or higher taxonomic level.

03-29

[1] I derived this number of sf from Figure 2.5, because I could not find it reported in the DEIR.
[2] I could not find exact building heights in the DEIR.

Conditions were partly cloudy to sunny with 3 mph northeast wind and 45-57° F. The site was covered by grassland and patches of coastal sage scrub with scattered trees along the border (Photos 1–2). Multiple vernal pools occur on site (Photo 3).

Photos 1–3. *Views of the project site, 17 March 2023. Photos by Noriko Smallwood.*

The breeding season is underway at the project site, as Noriko found two nests of Anna's hummingbird (Photos 4 and 5). Noriko detected 34 species of vertebrate wildlife at or adjacent to the project site, including 5 species with special status (Table 1). Noriko saw

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Cont.

red-tailed hawk and Cooper's hawk (Photos 6 and 7), white-crowned sparrows (Photo 8), Great Basin fence lizard and common side-blotched lizards (Photos 9 and 10), California ground squirrels and desert cottontails (Photos 11 and 12), savannah sparrow and black phoebe (Photos 13 and 14), house finch and American crows (Photos 15 and 16), and northern rough-winged swallows and Nuttall's woodpecker (Photos 17 and 18), among the other species listed in Table 1.

Noriko Smallwood certifies that the foregoing and following survey results are true and accurately reported.

Noriko Smallwood

Photos 4 and 5. *Anna's hummingbird nest on the project site (top), and just off of the project site (bottom), 17 March 2023. Photos by Noriko Smallwood.*

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Table 1. *Species of wildlife Noriko observed during 2.83 hours of survey on 17 March 2023.*

Common name	***Species name***	**Status[1]**	**Notes**
Common side-blotched lizard	*Uta stansburiana elegans*		
Great Basin fence lizard	*Sceloporus occidentalis longipes*		
Red-eared slider	*Trachemys scripta elegans*	Non-native	Just south of site in canal
Mallard	*Anas platyrhynchos*		Flew over
Eurasian collared-dove	*Streptopelia decaocto*	Non-native	
Mourning dove	*Zenaida macroura*		
Anna's hummingbird	*Calypte anna*		Two nests
Western gull	*Larus occidentalis*	BCC	Flew over
Double-crested cormorant	*Nannopterum auritum*	TWL, CSD2	Flew over
Cooper's hawk	*Accipiter cooperii*	TWL, BOP, CSD1	Circled over site
Red-tailed hawk	*Buteo jamaicensis*	BOP	Flew over and circled
Nuttall's woodpecker	*Picoides nuttallii*	BCC	Just south of site
Cassin's kingbird	*Tyrannus vociferans*		Territorial
Black phoebe	*Sayornis nigricans*		
Say's phoebe	*Sayornis saya*		
American crow	*Corvus brachyrhynchos*		
Northern rough-winged swallow	*Stelgidopteryx serripennis*		Foraged over site
Bushtit	*Psaltriparus minimus*		Just south of site
Ruby-crowned kinglet	*Regulus calendula*		
Northern mockingbird	*Mimus polyglottos*		
European starling	*Sturnus vulgaris*	Non-native	
American robin	*Turdus migratorius*		Just south of site
House finch	*Haemorphous mexicanus*		
White-crowned sparrow	*Zonotrichia leucophrys*		
Savannah sparrow	*Passerculus sandwichensis*		Just south of site
Song sparrow	*Melospiza melodia*		
California towhee	*Melozone crissalis*		
Common yellowthroat	*Geothlypis trichas*		Just south of site
Yellow-rumped warbler	*Setophaga coronata*		
Desert cottontail	*Sylvilagus auduboni*		Two observed on site
Botta's pocket gopher	*Thomomys bottae*		Burrows
California vole	*Microtus californicus*		Burrows; dead vole next to site
California ground squirrel	*Otospermophilus beecheyi*		Two observed on site

[1] Listed as BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern, TWL = Taxa to Watch List (Shuford and Gardali 2008), BOP = Birds of Prey (California Fish and Game Code 3503.5), and CSD1 and CSD2 = Group 1 and Group 2 species on County of San Diego Sensitive Animal List (County of San Diego 2010).

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Photos 6 and 7. *Red-tailed hawk (left) and Cooper's hawk (right) flying over the project site, 17 March 2023. Photos by Noriko Smallwood.*

Photo 8. *White-crowned sparrow at the project site, 17 March 2023. Photo by Noriko Smallwood. Helix (2023) detected this species, but not red-tailed hawk, Cooper's hawk, andGreat Basin fence lizard, all of which are shown in photos on this page at the project site.*

Photos 9 and 10. *Great Basin fence lizard (left) and common side-blotched lizard (right) on the project site, 17 March 2023. Photos by Noriko Smallwood.*

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Photo 11. *California ground squirrel on the project site, 17 March 2023. Photo by Noriko Smallwood.*

Photo 12. *Desert cottontail on the project site, 17 March 2023. Photo by Noriko Smallwood.*

Photos 13 and 14. *Savannah sparrow (left), and black phoebe (right) just south of the project site, 17 March 2023. Photo by Noriko Smallwood.*

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Photo 15. *House finch at the project site, 17 March 2023. Photo by Noriko Smallwood.*

Photo 16. *American crows at the project site, 17 March 2023. Photo by Noriko Smallwood. Surprisingly, these large birds, which typically occur in pairs or larger number and are quite vocal, were not detected at the project site by Helix (2023) during at least 15 survey dates.*

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Cont.

Photos 17 and 18. *Northern rough-winged swallow on the project site (left), and Nuttall's woodpecker just south of the project site (right), 17 March 2023. Photo by Noriko Smallwood.* Neither of these species were detected by Helix (2023).

03-29 Cont.

EXISTING ENVIRONMENTAL SETTING

The first step in analysis of potential project impacts to biological resources is to accurately characterize the existing environmental setting, including the biological species that use the site, their relative abundances, how they use the site, key ecological relationships, and known and ongoing threats to those species with special status. A reasonably accurate characterization of the environmental setting can provide the basis for determining whether the site holds habitat value to wildlife, as well as a baseline against which to analyze potential project impacts. For these reasons, characterization of the environmental setting, including the project's site's regional setting, is one of CEQA's essential analytical steps (§15125). Methods to achieve this first step typically include (1) surveys of the site for biological resources, and (2) reviews of literature, databases and local experts for documented occurrences of special-status species. In the case of this project, these essential steps remain incomplete and misleading.

03-30

The DEIR appears biased in favor of the project. The following statement exemplifies bias by speculating that the degraded condition of the environmental setting would worsen into the future, thereby justifying the project (p. 3.3-2): "Due to the relatively high level of continuous anthropogenic disturbances of the project site via trash dumping and off-highway vehicle recreation, the potential sensitive plant harvesting/poaching, unsanctioned community gatherings for 4th of July Holiday celebration parties and fireworks spectating, as well as the abundance of non-native invasive species, it is likely such disturbances would continue in the future and substantially result in ongoing degradation of the biological resources on site." The DEIR could just as well speculate over how the environmental setting could improve

without the project by more strictly controlling site access, by enforcement of litter laws, and by applying some effort toward habitat enhancements. Rather than speculating over how conditions would worsen without the project, the DEIR ought to simply disclose to the public and decision-makers the existing environmental setting. The characterization of the existing environmental setting should be based on evidence as well as scientifically sound interpretation of evidence.

03-30 Cont.

Environmental Setting informed by Field Surveys

To CEQA's primary objective to disclose potential environmental impacts of a proposed project, the analysis of potential project impacts benefits from identifying as many as reasonably possible the biological species that occur at the project site, and the special-status species that are otherwise likely to occur. It is also important to disclose the limitations of the survey effort directed to the project site. Analysts need this information to characterize the environmental setting as a basis for opining on, or predicting, potential project impacts to biological resources.

The DEIR prepared for the Pacific Specific Plan inaccurately characterizes the wildlife community as part of the existing environmental setting, and it fails to fully disclose and to rectify the limitations of the surveys that were implemented to sample the species composing the wildlife community. Whereas Helix (2023) acknowledges that its list of species detected by surveys incompletely represents the wildlife community, Helix does nothing to rectify the discrepancy by, for example, estimating the number of species that were not detected but which truly occur on the project site. Helix also repeatedly determines special-status species are not expected to occur, have no potential to occur, or have low likelihood of occurrence based on the species having not been detected during Helix's surveys. Given the survey limitation acknowledged by Helix, the cited basis for these determinations are inappropriate. Helix's surveys failed to detect many species of wildlife, including species with special status.

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According to the Helix (2023:ES-1), surveys were conducted "to document the existing biological conditions within the project site, to analyze potential impacts to sensitive biological resources." Helix (2023) reports 1 biologist completed a general survey on 24 July 2018, 2 biologists surveyed on 22 April 2020 to verify the 2018 resources mapping and to update and refine it, 1 biologist mapped vernal pools in September 2020, 1 biologist surveyed on 26 March 2021 to review the existing site conditions, evaluate the mapped vernal pools, assess the status of annual plants, and verify the biological resources mapped in 2020, and an unreported number of biologists surveyed on 25 February, 1, 29, 31 March, 6 April, 9, 10, 13 May, 19 July, and 4, 5 August 2022 to assess the vernal pools, verify vegetation and site conditions, assess grasslands, document and count special-status plants on-site, and to evaluate potential species and habitat mitigation (translocation, creation, restoration, enhancement, and preservation) areas on-site. For none of these surveys are details reported, such as when the survey started and how long it lasted. It is unreported for some of the surveys who performed them.

Some of the reported survey dates corresponded with dates later reported for focused surveys. Helix (2023:6) reports, "Focused surveys for burrowing owl (*Athene*

cunicularia) were conducted by HELIX in 2020 in accordance with current CDFW burrowing owl survey guidelines (California Department of Fish and Game [now CDFW] 2012)." And, "Focused surveys for the coastal California gnatcatcher were conducted by HELIX in 2020 in accordance with the *Coastal California Gnatcatcher (Polioptila californica californica) Presence/Absence Survey Protocol* (USFWS 1997) by HELIX (HELIX 2020a)." However, Helix (2023) fails to meet most of the reporting standards of both survey protocols, and because the reporting standards were mostly unmet, it is unkknown whether the Helix biologists were qualified to survey for burrowing owls or California gnatcatchers, and it is unknown whether the surveys were consistent with the other standards on the conduct of the surveys, such as the minimum time intervals between surveys, survey start times, and specific methods. Contrary to the reporting of Helix (2023), the surveys completed by Helix were not in accordance with the available survey protocols for burrowing owl and California gnatcatcher, and therefore Helix's negative findings cannot support absence determinations nor can they lend much support to determinations of low likelihoods of occurrence.

To their credit, Helix completed more surveys than usual for biological resources on the project site. Surveys were completed on at least 15 dates by multiple biologists. Unfortunately, I cannot determine how much time the surveys were given, nor how much of the site was covered or whether the surveys were performed at times of day when wildlife are most active and detectable. Regardless, Helix's (2023) many surveys resulted in the detections of only 13 species of vertebrate wildlife. Noriko, working from the site's perimeter, detected 28 species on the project site and 34 species including those detected just offsite. Depending on whether one decides to include the offsite detections,[3] Noriko detected 2.2 to 2.6 times the number of species detected by Helix, and she did it with one <3-hour survey instead of the 15 or more surveys completed by Helix. Helix detected two (15%) species (common raven and lesser goldfinch) that Noriko did not, but Noriko detected 22 (65%) species that Helix did not. These differences in survey outcome are inexplicable,[4] but it gives me no confidence in Helix's findings.

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Reconnaissance-level surveys cannot support species' absence determinations, but they can be useful for confirming presence of species that were detected, but they can also be useful for estimating the number of species that were not detected. One can model the pattern in species detections during a survey as a means to estimate the number of

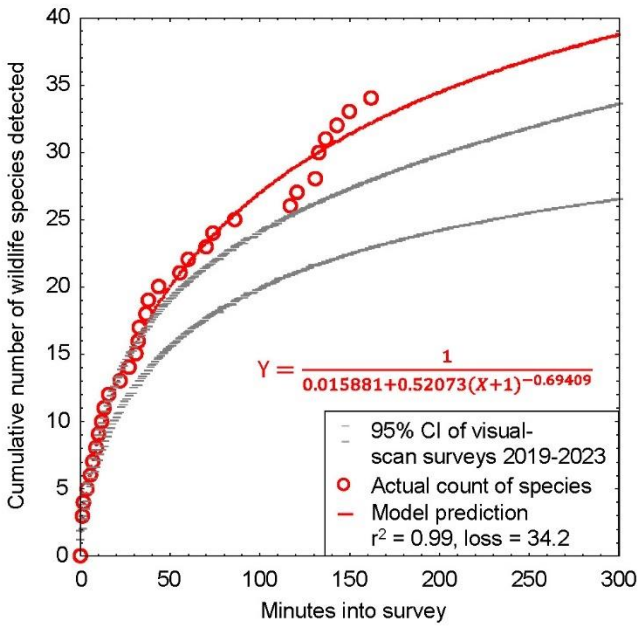
[3] The offsite detections should be included because offsite wildlife can readily move on site, and most likely do so frequently, but also because Helix (2023:3) reports having also surveyed for species in the "immediately surrounding areas."

[4] Possible explanations include (1) the deployment of only biologists who are young in their careers, (2) very cursory survey visits, (3) lack of discipline resulting in lack of focus, or (4) an extreme suite of conditions for inclusion of species seen on site, such as a requirement that the animals must have made contact with the vegetation or the ground. To help elucidate survey outcomes, Helix should report each survey's field notes along with start times and end times, areas covered, exactly who participated with the survey, and which species were detected, how they were detected, relative abundance and activity. Photo documentation of species seen would provide substantial evidence of species detections and accurate species identifications. It would also help to define the minimum standards for inclusion of species on the compendium of species detected at the project site.

species that used the site but were undetected during the survey. To support such a modeling effort, the observer needs to record the times into the survey when each species was first detected. The cumulative number of species' detections increases with increasing survey time, but eventually with diminishing returns (Figure 1). Due to reporting shortfalls, I was unable to model the pattern of species detections from Helix's survey, but I could model Noriko's pattern of species detections at the project site.

In the case of Noriko's survey, the pattern in the data predicts that had she spent more time on the site, or had she help from additional biologists of her skill-level, she would have detected 62 species of vertebrate wildlife on 17 March 2023, which would have been nearly twice the number of species than she actually detected (Figure 1). The pattern in the data also indicates the site's wildlife species richness exceeds the upper bound of the 95% confidence interval estimated from other project sites she and I have surveyed in the South Coast Region (Figure 1). The site supports a richer community of wildlife species than most other sites we have surveyed in the region.

Figure 1. *Actual (red circles) and predicted (red line) relationships between the number of vertebrate wildlife species detected and the elapsed survey time based on Noriko's visual-scan survey on 17 March 2023, and compared to the mean and 95% CI of 34 surveys she and I completed at sites proposed for projects in the South Coast Region of California. Note that the relationship would differ if the survey was based on another method or during another season.*



Although the above modeling approach is useful for more realistically representing species richness at the site at the time of a survey, it cannot represent species richness throughout the year or across multiple years because many species are seasonal or even multi-annual in their movement patterns and in their occupancy of habitat.

By use of an analytical bridge, a modeling effort applied to a much larger, more robust data set at a research site can predict the number of vertebrate wildlife species likely making use of the site over the longer term. As part of my research, I completed a much larger survey effort across 167 km² of annual grasslands of the Altamont Pass Wind

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Resource Area, where from 2015 through 2019 I performed 721 1-hour visual-scan surveys, or 721 hours of surveys, at 46 stations. I used binoculars and otherwise the methods were the same as the methods I and other consulting biologists use for surveys at proposed project sites. At each of the 46 survey stations at my research site, I tallied new species detected with each sequential survey at that station, and then related the cumulative species detected to the hours (number of surveys, as each survey lasted 1 hour) used to accumulate my counts of species detected. I used combined quadratic and simplex methods of estimation in Statistica to estimate least-squares, best-fit nonlinear models of the number of cumulative species detected regressed on hours of survey (number of surveys) at the station: $\hat{R} = \frac{1}{1/a+b\times(Hours)^c}$, where $\hat{R}$ represented cumulative species richness detected. The coefficients of determination, r^2, of the models ranged 0.88 to 1.00, with a mean of 0.97 (95% CI: 0.96, 0.98); or in other words, the models were excellent fits to the data.

I projected the predictions of each model to many hours of visual-scan surveys among the 46 stations to find predicted asymptotes of wildlife species richness. The mean model-predicted asymptote of species richness was 57. I also averaged model predictions of species richness at each incremental increase of number of surveys, i.e., number of hours (Figure 2). On average I detected 12.1 species over the first 2.83 hours of surveys in the Altamont Pass (2.83 hours to match the number of hours Noriko surveyed at the project site), which composed 21.2% of the total predicted species Noriko would detect with a much larger survey effort. Given the example illustrated in Figure 2, the 34 species Noriko detected after 2.83 hours of survey at the project site likely represented 21.2% of the species to be detected after many more visual-scan surveys over another year or longer. With many more repeat surveys through the year, Noriko would likely detect $34/0.212 = 160$ species of vertebrate wildlife at the site. Assuming Noriko's ratio of special-status to non-special-status species was to hold through the detections of all 160 predicted species, then continued surveys would eventually detect 24 special-status species of vertebrate wildlife.

Again, however, my prediction of 160 species of vertebrate wildlife, including 24 special-status species, is derived from a visual-scan survey during the daytime, and would not detect nocturnal birds and mammals. The true number of species composing the wildlife community of the site must be larger. A single reconnaissance-level survey should serve only as a starting point toward characterization of a site's wildlife community, but it certainly cannot alone inform of the inventory of species that use the site. In the case of Helix's (2023) survey, Helix detected 13 wildlife species of the 160 that my empirical model predicts, or only 8% of the species composition of the wildlife community. The DEIR's impacts analysis is based on a sampling of only 8% of the species of wildlife likely to use the site, which is grossly insufficient. Even more deficient, Helix (2023) reports nothing about all but one of the species of wildlife they detected, such as where they were located, their abundance and what they were doing there. Much more effort is needed to accurately characterize the wildlife community as part of the existing environmental setting. In the meantime, the DEIR lacks the basis needed for concluding that impacts to wildlife would be less than significant, even with mitigation.

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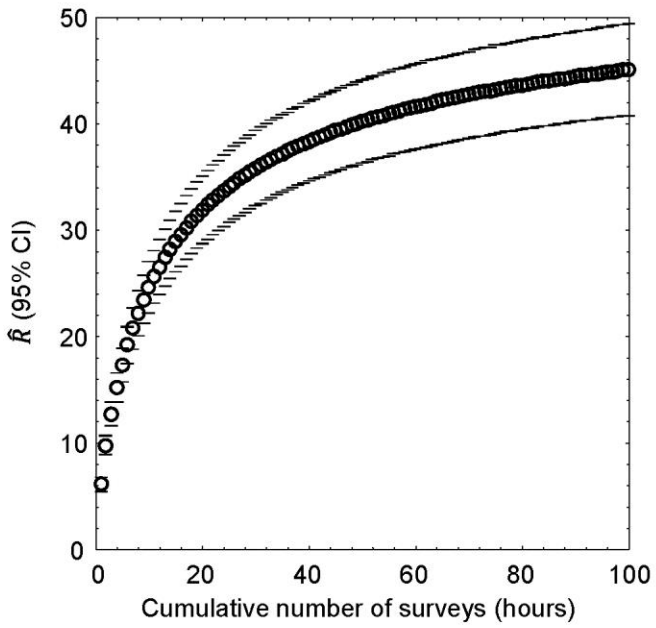

Figure 2. *Mean (95% CI) predicted wildlife species richness, $\hat{R}$, as a nonlinear function of hour-long survey increments across 46 visual-scan survey stations across the Altamont Pass Wind Resource Area, Alameda and Contra Costa Counties, 2015–2019.*

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Environmental Setting informed by Desktop Review

The purpose of literature and database review, and of consulting with local experts, is to inform the reconnaissance-level survey, to augment it, and to help determine which protocol-level detection surveys should be implemented. Analysts need this information to identify which species are known to have occurred at or near the project site, and to identify which other special-status species could conceivably occur at the site due to geographic range overlap and site conditions. This step is important because the reconnaissance-level survey is not going to detect all of the species of wildlife that make use of the site. This step can identity those species yet to be detected at the site but which have been documented to occur nearby or whose available habitat associations are consistent with site conditions. Some special-status species can be ruled out of further analysis, but only if compelling evidence is available in support of such determinations.

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Insufficient use was made of the available databases of wildlife species occurrences. As examples, no use was made of eBird and iNaturalist. Perhaps for this reason, Helix (2023) analyzes the occurrence potentials of only 30 special-status species out of the 153 such species listed in Table 2, or only 19.6% of the species in Table 2. Of these 30 species, Helix (2023) determines 29 (96.7%) to have low potential, no potential, or to be unexpected to occur at the site. And of these 29 species, 2 have been documented on the project site, another 8 have been documented within 1.5 miles and another 5 have been documented within 1.5 and 4 miles of the site. Half of the special-status species that Helix (2023) determines to have low or no potential to occur have been documented within only a few miles of the project site. One of these species – Cooper's hawk – was

seen on site by Noriko. Another – burrowing owl – has an occurrence record on site, which is also occupied by ground squirrels – a keystone species to burrowing owls. There would have to be very compelling reasons for determining that these 29 species have no potential to occur at the site. But the reasons reported by Helix (2023) are not compelling (see below).

The 30 special-status species of wildlife in Table 2 that Helix (2023) selected for analysis of occurrence potential were so selected as the result of an inappropriate use of the California Natural Diversity Data Base (CNDDB). According to Helix (2023:14), "A search of CNDDB and USFWS records (two-mile radius from the project site) was used to develop a matrix of sensitive animal species that may have the potential to occur on-site due to the presence of suitable habitat (e.g., vegetation communities, soils, elevation, geographic range, etc.)." By including only species whose documented occurrences within the nearest CNDDB quadrangles, Helix (2023) screens out many special-status species from further consideration in their characterization of the wildlife community as a component of the baseline environmental setting. CNDDB was not designed to support absence determinations or to screen out species from characterization of a site's wildlife community. As noted by CNDDB, "*The CNDDB is a positive sighting database. It does not predict where something may be found. We map occurrences only where we have documentation that the species was found at the site. There are many areas of the state where no surveys have been conducted and therefore there is nothing on the map. That does not mean that there are no special status species present*." Helix (2023) misuses CNDDB.

CNDDB relies entirely on volunteer reporting from biologists who were allowed access to whatever properties they report from. Many properties have never been surveyed by biologists. Many properties have been surveyed, but the survey outcomes never reported to CNDDB. Many properties have been surveyed multiple times, but not all survey outcomes reported to CNDDB. Furthermore, CNDDB is interested only in the findings of special-status species, which means that species more recently assigned special status will have been reported many fewer times to CNDDB than were species assigned special status since the inception of CNDDB. The lack of many CNDDB records for species recently assigned special status had nothing to do with true geographic distributions. And because negative findings are not reported to CNDDB, CNDDB cannot provide the basis for estimating occurrence likelihoods, either.

In my assessment based on database reviews and site visits, 153 special-status species of wildlife are known to occur near enough to the site to be analyzed for occurrence potential (Table 2). Of these, 8 occurred on the site or just off site, and another 41 (27%) have been documented within 1.5 miles of the site ('Very close'), another 31 (20%) within 1.5 and 4 miles ('Nearby'), and another 69 (45%) within 4 to 30 miles ('In region'). More than half (52%) of the species in Table 2 have been reportedly seen within 4 miles of the project site. The site therefore supports multiple special-status species of wildlife and carries a lot of potential for supporting many more special-status species of wildlife. On any given day, one or more yet-to-be documented special-status species likely make use of the project site, but being there to document that use probably requires multiple surveys (see Figures 1 and 2). Sufficient survey effort should be

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directed to the site to either confirm species in Table 2 use the site or to support absence determinations. Reconnaissance-level surveys are not designed to support absence determinations for any of the species in Table 2.

Helix (2023:D-2) determines that western spadefoot is not expected to occur because "there are no records of this species occurring on-site, was not detected during focused surveys in 2020, and has limited mobility to travel to the site from offsite habitats (nearest record of species is over two miles away)." None of these arguments qualify as evidence of absence. Lack of occurrence records likely reflects lack of survey effort directed to detection of western spadefoot. The focused surveys in 2020 were not focused on western spadefoot, so this particular argument is misleading. Limited mobility to the site of the nearest occurrence record, 2 miles away, would be irrelevant if western spadefoot has been present on site all along. Western spadefoots live deep underground throughout most of their lives, coming aboveground for brief periods only to breed. The most effective way to detect western spadefoot is to implement protocol-level detection surveys that have been formulated for western spadefoot.

Helix (2023:D-2) determines that orange-throated whiptail has low occurrence potential because "There are no records of this species occurring on-site, the species was not detected during biological surveys in 2018,2020, 2021, or 2022 and has limited mobility to travel to the site from off-site habitats (nearest record of species is approximately 2-miles away)." None of these arguments qualify as evidence of absence. The arguments are the same flawed arguments as applied to western spadefoot. That no orange-throated whiptails were detected during multiple surveys is unconvincing when considering that the same multiple surveys failed to detect Great Basin fence lizard, which Noriko detected upon her visit to the site's perimeter.

The same arguments made for the occurrence potentials determined for western spadefoot and orange-throated whiptail are repeated for other special-status species analyzed by Helix. In each case, these arguments fail to qualify as evidence of absence. I will refrain from repeating myself on this point going forward.

Helix (2023) does not expect Cooper's hawk on site by because "Suitable woodland and stands of trees are not present in the project site. This species may forage in the project site, but suitable breeding habitat not present. This species has not been recorded in the immediate vicinity of the project site and was not detected during project surveys." Nevertheless, Noriko detected Cooper's hawk on site during her first visit. Helix is wrong. At minimum, Cooper's hawk forages on the site, but considering the time of year Noriko saw a Cooper's hawk on site, Cooper's hawks are likely breeding either within the copse of trees that occurs on the site's southeast corner or very nearby.

Helix (2023) does not expect peregrine falcon for the reasson stated above but also because "cliff faces and structures for breeding do not occur on-site." Peregrine falcons do not require cliff faces for breeding. But whether they breed on site is irrelevant, anyhow, because foraging opportunities are no less important than breeding substrate for successful breeding by peregrine falcon or for any other species. The distinction Helix asserts between breeding habitat and other types of habitat is false.

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Table 2. *Occurrence likelihoods of special-status bird species at or near the proposed project site, according to eBird/iNaturalist records (https://eBird.org, https://www.inaturalist.org) and on-site survey findings, where 'Very close' indicates within 1.5 miles of the site, "nearby" indicates within 1.5 and 4 miles, and "in region" indicates within 4 and 30 miles, and 'in range' means the species' geographic range overlaps the site.*

Common name	*Species name*	Status[1]	MSHCP cover	Occurrence potential	
				DEIR	Database records, Site visits
Riverside fairy shrimp	*Streptocephalus woottoni*	FE	Yes	Not expected	In region
San Diego fairy shrimp	*Branchinecta sandiegonensis*	FE, CSD1	Yes	On site	On site
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT			In region
Monarch	*Danaus plexippus*	FC, CSD2			Very close
Quino checkerspot	*Euphydryas editha quino*	FE, CSD1			In region
Hermes copper	*Lycaena hermes*	FE, CSD1			In region
Crotch's bumble bee	*Bombus crotchii*	CCE			Nearby
Western spadefoot	*Spea hammondii*	SSC, CSD2	Yes	Not expected	Nearby
Arroyo toad	*Anaxyrus californicus*	FE, SSC	Yes		In region
California red-legged frog	*Rana draytonii*	FT, SSC, CSD1	Yes		In region
Western pond turtle	*Emys marmorata*	SSC, CSD1	Yes	None	In region
San Diego banded gecko	*Coleonyx variegatus abbotti*	SSC, CSD1			In region
Blainville's horned lizard	*Phrynosoma blainvillii*	SSC			Nearby
Coronado skink	*Plestiodon skiltonianus interparietalis*	WL, CSD2		Low	Nearby
Orange-throated whiptail	*Aspidoscelis hyperythra*	WL	Yes	Low	Very close
Coastal whiptail	*Aspidoscelis tigris stejnegeri*	SSC, CSD2			Very close
San Diegan legless lizard	*Anniella stebbinsi*	SSC			Nearby
Coastal rosy boa	*Lichanura trivirgata*	CSD2, CSD2			Very close
California glossy snake	*Arizona elegans occidentalis*	SSC			In region
San Diego ringneck snake	*Diadophis punctatus similis*	CSD2, CSD2			Nearby
Coast patch-nosed snake	*Salvadora hexalepis virgultea*	SSC, CSD2			In region
Two-striped gartersnake	*Thamnophis hammondii*	SSC, CSD1			Nearby
South coast gartersnake	*Thamnophis sirtalis pop. 1*	SSC, CSD2			In region

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Common name	*Species name*	Status[1]	MSHCP cover	Occurrence potential	
				DEIR	Database records, Site visits
Red-diamond rattlesnake	*Crotalus ruber*	SSC, CSD2			Very close
Brant	*Branta bernicla*	SSC2			In region
Cackling goose (Aleutian)	*Branta hutchinsii leucopareia*	WL			In region
Redhead	*Aythya americana*	SSC2, CSD2			Very close
Harlequin duck	*Histrionicus histrionicus*	SSC2			In region
Western grebe	*Aechmophorus occidentalis*	BCC, CSD1			Very close
Clark's grebe	*Aechmophorus clarkii*	BCC			Very close
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE, BCC, CSD1			In region
Black swift	*Cypseloides niger*	SSC3, BCC, CSD2			In region
Vaux's swift	*Chaetura vauxi*	SSC2, BCC			Very close
Costa's hummingbird	*Calypte costae*	BCC			Very close
Rufous hummingbird	*Selasphorus rufus*	BCC			Very close
Allen's hummingbird	*Selasphorus sasin*	BCC			Very close
Snowy plover	*Charadrius nivosus*	BCC			In region
Western snowy plover	*Charadrius nivosus nivosus*	FT, SSC, BCC	Yes	None	In range
Whimbrel	*Numenius phaeopus*	BCC			Nearby
Long-billed curlew	*Numenius americanus*	BCC, WL, CSD2			Nearby
Marbled godwit	*Limosa fedoa*	BCC			Nearby
Red knot (Pacific)	*Calidris canutus*	BCC			In region
Short-billed dowitcher	*Limnodromus griseus*	BCC			In region
Willet	*Tringa semipalmata*	BCC			In region
Laughing gull	*Leucophaeus atricilla*	WL, CSD2			In region
Heermann's gull	*Larus heermanni*	BCC			In region
Western gull	*Larus occidentalis*	BCC			**On site**
California gull	*Larus californicus*	BCC, WL, CSD2			Very close
California least tern	*Sternula antillarum browni*	FE, CE, FP, CSD1	Yes	Not expected	In region
Gull-billed tern	*Gelochelidon nilotica*	BCC, SSC3			In region

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Common name	*Species name*	Status[1]	MSHCP cover	Occurrence potential	
				DEIR	Database records, Site visits
Caspian tern	*Hydroprogne caspia*	BCC			Very close
Black tern	*Chlidonias niger*	SSC2, BCC, CSD2			In region
Elegant tern	*Thalasseus elegans*	BCC, WL, CSD1	Yes	Not expected	In region
Black skimmer	*Rynchops niger*	BCC, SSC3, CSD1			In region
Common loon	*Gavia immer*	SSC, CSD2			In region
Brandt's cormorant	*Urile penicillatus*	BCC			In region
Double-crested cormorant	*Phalacrocorax auritus*	WL, CSD2			**On site**
American white pelican	*Pelacanus erythrorhynchos*	SSC1, BCC, CSD2			Very close
California brown pelican	*Pelecanus occidentalis californicus*	FP, CSD2	Yes	Not expected	Nearby
Least bittern	*Ixobrychus exilis*	SSC2, CSD2			Very close
Green heron	*Butorides striatus*	CSD2			**Nearby**
White-faced ibis	*Plegadis chihi*	WL, CSD1	Yes	Not expected	Very close
Turkey vulture	*Cathartes aura*	BOP, CSD1			Very close
Osprey	*Pandion haliaetus*	WL, BOP, CSD1	Yes	Not expected	Very close
White-tailed kite	*Elanus luecurus*	CFP, WL, BOP, CSD1			Very close
Golden eagle	*Aquila chrysaetos*	BGEPA, CFP, BOP, CSD1	Yes		Nearby
Northern harrier	*Circus cyaneus*	BCC, SSC3, BOP, CSD1			Very close
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP, CSD1			Very close
Cooper's hawk	*Accipiter cooperii*	WL, BOP, CSD1	Yes	Not expected	**On site**
Bald eagle	*Haliaeetus leucocephalus*	BGEPA, BCC, CFP, CSD1			In region
Red-shouldered hawk	*Buteo lineatus*	BOP, CSD1			Very close
Swainson's hawk	*Buteo swainsoni*	CT, BOP, CSD1			Nearby
Red-tailed hawk	*Buteo jamaicensis*	BOP			**On site**
Ferruginous hawk	*Buteo regalis*	WL, BOP, CSD1			Very close
Rough-legged hawk	*Buteo lagopus*	BOP			In region
Barn owl	*Tyto alba*	BOP, CSD2			Very close
Western screech-owl	*Megascops kennicotti*	BCC, BOP			Nearby

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Common name	*Species name*	Status[1]	MSHCP cover	Occurrence potential	
				DEIR	Database records, Site visits
Great horned owl	*Bubo virginianus*	BOP			Very close
Burrowing owl	*Athene cunicularia*	BCC, SSC2, BOP, CSD1		Low	On site
Long-eared owl	*Asio Otis*	BCC, SSC3, CSD1			In region
Short-eared owl	*Asia flammeus*	BCC, SSC3, BOP, CSD2			In region
Lewis's woodpecker	*Melanerpes lewis*	BCC, CSD1			Nearby
Nuttall's woodpecker	*Picoides nuttallii*	BCC			**Just off site**
American kestrel	*Falco sparverius*	BOP			On site
Merlin	*Falco columbarius*	WL, BOP, CSD2			Nearby
Peregrine falcon	*Falco peregrinus*	CFP, BCC, BOP, CSD1	Yes	Not expected	Very close
Prairie falcon	*Falco mexicanus*	BCC, WL, BOP, CSD1			In region
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2, CSD2			Very close
Willow flycatcher	*Empidonax traillii*	CE, BCC			Nearby
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE, CSD1	Yes	Not expected	In range
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC2, CSD1			Nearby
Least Bell's vireo	*Vireo bellii pusillus*	FE, CE, CSD1	Yes	Not expected	In region
Loggerhead shrike	*Lanius ludovicianus*	BCC, SSC2, CSD1			Nearby
Oak titmouse	*Baeolophus inornatus*	BCC			Very close
California horned lark	*Eremophila alpestris actia*	WL, CSD2			Nearby
Bank swallow	*Riparia riparia*	CT, CSD1			Very close
Purple martin	*Progne subis*	SSC2, CSD1			Nearby
Wrentit	*Chamaea fasciata*	BCC			Very close
California gnatcatcher	*Polioptila c. californica*	CT, SSC, CSD1	Yes	Low	Very close
Western bluebird	*Sialia mexicana*	CSD2	Yes	Not expected	Very close
Clark's marsh wren[3]	*Cistothorus palustris clarkae*	SSC2			Very close
Coastal cactus wren	*Campylorhynchus brunneicapillus sandiegensis*	SSC1, BCC, CSD1	Yes	None	In region
California thrasher	*Toxostoma redivivum*	BCC			Very close

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Common name	*Species name*	Status[1]	MSHCP cover	Occurrence potential	
				DEIR	Database records, Site visits
Cassin's finch	*Haemorhous cassinii*	BCC			In region
Lawrence's goldfinch	*Spinus lawrencei*	BCC			Nearby
Grasshopper sparrow	*Ammodramus savannarum*	SSC2, CSD1			Nearby
Black-chinned sparrow	*Spizella atrogularis*	BCC			Nearby
Brewer's sparrow	*Spizella breweri*	BCC			Nearby
Bell's sparrow	*Amphispiza b. belli*	WL, BCC, CSD1	Yes	Not expected	Nearby
Oregon vesper sparrow	*Pooecetes gramineus affinis*	SSC2, BCC			Nearby
Belding's savannah sparrow [2]	*Passerculus sandwichensis beldingi*	CE, BCC, CSD1	Yes	None	In region
Large-billed savannah sparrow [2]	*Passerculus sandwichensis rostratus*	SSC2, CSD2	Yes	None	In region
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	WL, CSD1	Yes	Not expected	Very close
Yellow-breasted chat	*Icteria virens*	SSC3, CSD1	Yes	Not expected	Very close
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*	SSC3			Very close
Bullock's oriole	*Icterus bullockii*	BCC			Very close
Tricolored blackbird	*Agelaius tricolor*	CT, BCC, SSC1, CSD1			Very close
Lucy's warbler	*Leiothlypis luciae*	SSC3, BCC, CSD1			In region
Virginia's warbler	*Leiothlypis virginiae*	WL, BCC			In region
Yellow warbler	*Dendroica petechia*	BCC, SSC2, CSD2			**Nearby**
Hepatic tanager	*Piranga flava*	WL			In region
Summer tanager	*Piranga rubra*	SSC1, CSD2			Nearby
California leaf-nosed bat	*Macrotus californicus*	WBWG:H, CSD2			In region
Pallid bat	*Antrozous pallidus*	SSC, WBWG:H, CSD2			In region
Mexican long-tongued bat	*Choeronycteris mexicana*	SSC, WBWG:M, CSD2			In region
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG:H, CSD2		Not expected	In region
Canyon bat	*Parastrellus hesperus*	WBWG:L			Very close

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Common name	*Species name*	Status[1]	MSHCP cover	Occurrence potential	
				DEIR	Database records, Site visits
Big brown bat	*Episticus fuscus*	WBWG:L			In region
Silver-haired bat	*Lasionycteris noctivagans*	WBWG:M			In region
Spotted bat	*Euderma maculatum*	SSC, WBWG:H, CSD2			In region
Western red bat	*Lasiurus blossevillii*	SSC, WBWG:H			In region
Big brown bat	*Episticus fuscus*	WBWG:L			In region
Hoary bat	*Lasiurus cinereus*	WBWG:M			In region
Western yellow bat	*Lasiurus xanthinus*	SSC, WBWG:H			In region
Western small-footed myotis	*Myotis cililabrum*	WBWG:M			In region
Miller's myotis	*Myotis evotis*	WBWG:M			In region
Little brown myotis	*Myotis lucifugus*	WBWG:M			In region
Fringed myotis	*Myotis thysanodes*	WBWG:H, CSD2			In region
Long-legged myotis	*Myotis volans*	WBWG:H, CSD2			In region
Yuma myotis	*Myotis yumanensis*	WBWG:LM, CSD2			In region
California myotis	*Myotis californicus*	WBWG:L			In region
Western mastiff bat	*Eumops perotis*	SSC, WBWG:H, CSD2			In region
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	SSC, WBWG:M			In region
Big free-tailed bat	*Nyctinomops macrotis*	SSC, WBWG:MH			In region
Mexican free-tailed bat	*Tadarida brasiliensis*	WBWG: M			In region
San Diego black-tailed jackrabbit	*Lepus californicus bennettii*	SSC, CSD2	Yes	Not expected	In region
Stephens' kangaroo rat	*Dipodomys stephensi*	FE, CT, CSD1	Yes	Not expected	In region
Northwestern San Diego pocket mouse	*Chaetodipus fallax fallax*	SSC, CSD2	Yes	Low	Nearby
Dulzura pocket mouse	*Chaetodipus californicus femoralis*	SSC, CSD2			In range
Pallid San Diego pocket mouse	*Chaetodipus fallax pallidus*	SSC, CSD2			In range

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Common name	*Species name*	Status[1]	MSHCP cover	Occurrence potential	
				DEIR	Database records, Site visits
Los Angeles pocket mouse	*Perognathus longimembris brevinasus*	SSC, CSD2			In region
San Diego desert woodrat	*Neotoma lepida intermedia*	SSC, CSD2			In region
American badger	*Taxidea taxus*	SSC, CSD2	Yes	Not expected	In region

[1] Listed as FT or FE = federal threatened or endangered, FC = federal candidate for listing, BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern, CT or CE = California threatened or endangered, CCT or CCE = Candidate California threatened or endangered, CFP = California Fully Protected (California Fish and Game Code 3511), SSC = California Species of Special Concern (not threatened with extinction, but rare, very restricted in range, declining throughout range, peripheral portion of species' range, associated with habitat that is declining in extent), SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, respectively (Shuford and Gardali 2008), WL = Taxa to Watch List (Shuford and Gardali 2008), and BOP = Birds of Prey (CFG Code 3503.5), and WBWG = Western Bat Working Group with priority rankings, of low (L), moderate (M), and high (H), CSD1 and CSD2 = Group 1 and Group 2 species on County of San Diego Sensitive Animal List (County of San Diego 2010).
[2] Uncertain of subspecies, but either resident Belding's or wintering large-billed savannah sparrows.
[3] Reported simply as marsh wren, but marsh wrens in this area should be Clark's marsh wren.

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Helix (2023) does not expect osprey on th esite because "Suitable bodies of water not present in the project site." I have recorded many osprey far from any bodies of water. Helix (2023) contrives a false argument.

Large-billed savannah sparrows are reported to have no potentioal for occurrence because "Suitable shoreline habitats not present in the project site." Large-billed savannah sparrows of the Genus *Rostatus* often winter in the south coastal region. Nothing is known of their needs for stopover habitat between their breeding sites and their wintering sites, so Helix's premise for their determination is weak and quite possibly wrong.

In summary, the desktop review completed by Helix (2023) is flawed in multiple substantial ways that lead to an inaccurate characterization of the existing environmental setting. This inaccurate setting is therefore an inaccurate baseline from which Helix and the DEIR analyzes potential impacts to wildlife. The DEIR should be withdrawn so that an appropriate characterization of the environmental setting can be prepared in support of a revised DEIR.

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POTENTIAL BIOLOGICAL IMPACTS

An impacts analysis should consider whether and how a proposed project would affect members of a species, larger demographic units of the species, the whole of a species, and ecological communities. In the following I analyze several types of impacts likely to result from the project, a few of which are not analyzed in the DEIR.

VERNAL POOLS

The DEIR reports there are 20 (0.44 acres) vernal pools on the project site (DEIR Figure 3.3-2 depicts at least 36 vernal pools), and it very basically describes the hydrologic mechanics of vernal pools. A total area of 0.44 acres of vernal pools might not appear large relative to the project area, but this reporting is a bit misleading because a vernal pool complex is more than the areas of inundation. The DEIR only mentions mima mound once (Table 3.3-2), and that was as a habitat feature of San Diego button-celery (*Eryngium aristulatum* var. *parishii*). Mima mounds compose a prominent feature of the site, are intricately interlinked with vernal pools, and have been destroyed just about everywhere in the region but for this project site. The City of San Marcos possesses an ecological jewel in the mima mounds/vernal pool complex on the project site, which I will further characterize below.

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As precipitation-filled seasonal wetlands that dry out over the nongrowing season, vernal pools are nearly self-contained systems (Keeley and Zedler 1996). Soil formation in vernal pools is highly localized, driven principally by organic matter accumulation, mineral weathering and clay formation (Hobson and Dahlgren 1996). The flora and fauna that inhabit California's vernal pools, and even the morphologies of plant species, also depend largely on pool depth and surface area (Platenkemp 1996). Plant morphology further depends on the degree to which plant species are reliant on vernal pools (Spencer and Reiseberg 1996). And western spadefoot fitness depends on duration

of vernal pool inundation (Morey 1996). Therefore, very small changes in either vernal pool morphology or conditions in neighboring uplands can profoundly affect species composition and functionality of vernal pools. Additionally, considering the unique conditions that over the long term generated existing vernal pools, it stands to reason that each vernal pool is unique and irreplaceable.

Although vernal pools in California share many species of plants and animals with other wetlands, they are unique in their extensive flora and fauna that are endemic to vernal pools (Keeley and Zedler 1996). Unfortunately, an estimated 15% to 33% of crustacean species that were endemic to California's vernal pools had already been lost to extinctions resulting from an estimated 50% to 85% loss of California's vernal pools as of 25 years ago (King 1996). Degradation of remaining vernal pools has also taken devastating tolls on wildlife associated with vernal pools.

Vernal pools along with their neighboring uplands required hundreds or thousands of years of natural development. Vernal pools are often linked morphologically to adjacent uplands by long-term habitation by insect pollinators and fossorial (subterranean) mammals, which together contribute to plant morphologies and species composition in and around vernal pools, as well as raised soils (including mima mounds) intervening vernal pool soils (Photo 19).

Photo 19. *Mima mounds within a vernal pool complex in the Sacramento Valley (Photo by K. S. Smallwood, 23 February 2020) Note that the pools in the photo are not yet inundated, and the flowering plants around them have yet to bloom.*

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Cont.

Many of the flowering plants have evolved with bee pollinators in the Family Andrenidae (Thorp and Leong 1996). These species of bee construct their nests in the adjacent grassland uplands, thereby directly linking the uplands and vernal pools by thousands of years of natural selection for the plant-pollinator symbioses we see today. The specific plants pollinated by these upland-nesting bees also deposit much of the detritus to the vernal pool beds. Detritus is the primary source of ferrolysis, a soil formation process, and other types of mineral weathering upon which most trophic interactions (relationships across species at different levels of the food web) are based in vernal pool environments (Hobson and Dahlgren 1996).

Long-term burrowing activity by Botta's pocket gophers (*Thomomys bottae*) and California ground squirrels (*Otospermophilus beecheyi*) provide bee pollinators of flowering plants with substrate in and around vernal pools. This substrate is the interface between earth and atmosphere within and upon which organisms may live. Long-term burrowing activity raises ground elevations between vernal pools. Sometimes these raised soils are distinctly mounded, otherwise characterized as 'mima mounds' (Photo 19). This raised soil not only provides animal species with inundation-free substrate for breeding and refugia, but also drains precipitation into the vernal pools.

For five years, I mapped the spatial distributions of Botta's pocket gopher and California ground squirrel burrow systems across a large vernal pool complex on the Dixon National Radio Transmission Facility in Solano County. For four years, I mapped burrow systems of these species across a large vernal pool complex in Sacramento County. I also mapped their distributions across various additional vernal pool complexes elsewhere, including in Fresno County. Pocket gophers construct tunnels to access the flowering plants along the shorelines of vernal pools, resulting in distinctive rings of soil mounds amid the flowering plants of vernal pools. In the raised soils and mima mounds between the pools, mammalian carnivores excavate ground squirrel burrows as den sites (Photo 20), and grassland birds hide nests within vegetation (Photo 21). Based on the patterns I have mapped and that I have observed while mapping and performing visual scans for wildlife, the long-term interactions between seasonal pool inundation/dry-down and fossorial mammals have shaped complex, inter-dependent vernal pool complexes that benefit many species of wildlife, a large proportion of which are now listed as having special-status due to numerical declines and range contractions.

Amid vernal pools and the fossorial mammal burrows around vernal pools, I have documented alligator lizards, gopher snakes, racers, California kingsnakes, California voles, deer mice, western harvest mice, cinnamon teal, green-winged teal, American avocets, black-necked stilts, killdeer, long-billed dowitchers, Swainson's hawks, white-tailed kites, northern harriers, American kestrels (including a kestrel I witnessed successfully capture an animal on a mima mound in Photo 23), prairie falcons, burrowing owls, western kingbirds, loggerhead shrikes, mourning doves, and western meadowlarks among many other species. Table 3 includes my current list of special-status vertebrate species with potential to occur at the project site and also known to use or rely upon California's vernal pools. This long list is sure to grow longer as ecologists spend more time studying wildlife in vernal pool environments.

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Photo 20. *A species of mammalian Carnivora excavated a ground squirrel burrow for a den site between vernal pools, 17 May 1999. Photo by K. S. Smallwood.*

Photo 21. *Western meadowlark eggs in upland grassland adjacent to vernal pools in Sacramento County, California, 11 June 2002. Photo by K. S. Smallwood.*

Considering all of the above – that vernal pool ecosystems are complex and require many years to develop into what we see today, and that they are intimately tied to upland conditions and upland species – it is essential that assessments of the status and trends of vernal pools at the project site include monitoring efforts that are larger in scope than for making presence/absence determinations of special-status branchiopod species. Monitoring of vernal pool geochemistry is also needed, along with composition and cover of both hydrophytic and upland plant species, spatial distributions of fossorial mammal species and symbiotic species of terrestrial arthropod and avian species. In the absence of these other types of information, the reasons for any change in status of branchiopod species must be speculated rather than inferred. Sound scientific inference is essential for making sound management decisions to conserve vernal pools and their associated flora and fauna at the project site.

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Table 2. *Potentially occurring species of vertebrate wildlife species documented to make use of vernal pool complexes.*

Species	Scientific name	Status [a]	Use of vernal pools [b]
Western spadefoot	*Spea hammondi*	SSC	Breeding [b]
Aleutian cackling goose	*Branta hutchinsonii leucopareia*	TWL	Resting, foraging [c]
White-faced ibis	*Plegadis chihi*	TWL	Foraging [d]
Long-billed curlew	*Numenius americanus*	TWL, BCC	Foraging [c, d]
Whimbrel	*Numenius phaeopus*	BCC	Foraging [c, d]
Black tern	*Chlidonias niger*	SSC2	Flyover [d]
Turkey vulture	*Cathartes aura*	BOP	Use of mima mounds/shoreline [c, d]
Bald eagle	*Haliaeetus leucocephalus*	BGEPA, BCC, CE, CFP, BOP	Use of mima mounds/shoreline [c]
Golden eagle	*Aquila chrysaetos*	BGEPA, BCC, CFP, BOP	Use of mima mounds/shoreline [c]
Ferruginous hawk	*Buteo regalis*	BCC, TWL, BOP	Use of mima mounds/shoreline [c, d]
Red-tailed hawk	*Buteo jamaicensis*	BOP	Use of mima mounds/shoreline [c, d]
Rough-legged hawk	*Buteo lagopus*	BOP	Foraging [c]
Red-shouldered hawk	*Buteo lineatus*	BOP	Present [d]
Swainson's hawk	*Buteo swainsoni*	CT, BCC, BOP	Foraging [c, d] and nesting nearby [d]
Northern harrier	*Circus cyaneus*	SSC3, BOP	Foraging [c, d] and breeding [d]
White-tailed kite	*Elanus leucurus*	CFP, TWL, BOP	Foraging [c, d]
American kestrel	*Falco sparverius*	BOP	Foraging [c, d]
Merlin	*Falco columbarius*	BOP, TWL	Foraging [c]
Prairie falcon	*Falco mexicanus*	BOP, TWL	Foraging [c, d]
Peregrine falcon	*Falco peregrinus*	CE, CFP, BCC, BOP	Foraging [c, d]
Burrowing owl	*Athene cunicularia*	BCC, SSC2, BOP	Nest in mima mounds [c, d]
Great-horned owl	*Bubo virginianus*	BOP	Roosting in willow nearby [d]
Short-eared owl	*Asio flammeus*	BOP	Grasslands near vernal pools [c]
Barn owl	*Tyto alba*	BOP	Roosting in willow nearby [d]
Horned lark	*Eremophila alpestris*	TWL	Nest at pool edge [c]
Loggerhead shrike	*Lanius ludovicianus*	BCC, SSC2	Perching nearby [c] and breeding [d]
Grasshopper sparrow	*Ammodramus savannarum*	SSC2	Adjacent to pools [c]
Tricolored blackbird	*Agelaius tricolor*	CT, BCC	Forages on dry pool beds [c]

[a] Listed as BGEPA = Bald and Golden Eagle Protection Act; BCC = U.S. Fish and Wildlife Service Bird Species of Conservation Concern; CT & CE = California threatened and endangered; CFP = California Fully Protected (California

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Fish and Game Code 3511); BOP = Birds of Prey (FGC 3503.5); and SSC2 and SSC3 = California Bird Species of Special Concern priorities 2 and 3, respectively, TWL = Taxa to Watch List (Shuford and Gardali 2008).
[b] Morey (1996)
[c] Silveira (1996)
[d] My own observations.

03-33
Cont.

HABITAT LOSS

The DEIR fails to analyze the site's capacity to support wildlife. The project area has undergone severe habitat fragmentation, which is a process widely believed to pose the greatest threat to wildlife conservation (Smallwood 2015). The project would contribute further to habitat fragmentation in an environmental setting in which wildlife would be devastated by the loss of one of the region's last patches of naturally-covered open space. Habitat fragmentation and habitat loss have been recognized as the most likely leading causes of a documented 29% decline in overall bird abundance across North America over the last 48 years (Rosenberg et al. 2019). Habitat loss not only results in the immediate numerical decline of wildlife, but it also results in permanent loss of productive capacity. All this said, the very late stage of habitat fragmentation represented at the project site warrants concern, but the DEIR expresses no concern over the project's contribution to habitat fragmentation. The DEIR instead uses the existing advanced level of habitat fragmentation as its basis for speculating that multiple special-status species have low occurrence potentials; that is, the DEIR (and Helix 2023) repeatedly points out that the project site is surrounded by development.

In the case of birds, two methods exist for estimating the loss of productive capacity that would be caused by the project. One method would involve surveys to count the number of bird nests and chicks produced. Such counts would need to be made in the nesting season, but no effort was directed to find and record all of the bird nests on site – an effort that would be extraordinarily difficult due to the size of the project area, the numbers of birds likely to nest there, and the skill of birds at hiding their nests. The alternative method is to estimate productive capacity based on what is known of total nest density measured elsewhere. Two study sites in grassland-wetland-woodland complexes had total bird nesting densities of 32.8 and 35.8 nests per acre (Young 1948, Yahner 1982) for an average 34.3 nests per acre. Assuming the 15.02-acre project footprint supports about 80% of the total nesting density of the above-referenced study sites, one can predict a loss of 412 bird nests.

03-34

The loss of 412 nest sites would qualify as a significant project impact to birds that has not been quantitatively addressed in the DEIR. But the impact does not end with the immediate loss of nest sites as nest substrate is removed and foraging grounds graded in preparation for impervious surfaces. The reproductive capacity of the site would be lost. The average number of fledglings per nest in Young's (1948) study was 2.9. Assuming Young's (1948) study site typifies bird productivity, the project would prevent the production of 1,195 fledglings per year. Assuming an average bird generation time of 5 years, the lost capacity of both breeders and annual fledgling production can be estimated from an equation in Smallwood (2022): {(nests/year × chicks/nest × number of years) + (2 adults/nest × nests/year) × (number of years ÷ years/generation)} ÷ (number of years) = 1,360 birds per year denied to California. The DEIR proposes no mitigation for this impact. The DEIR needs to be revised to appropriately analyze the project's impacts to wildlife caused by habitat loss and habitat fragmentation.

The capacity of the project site to support species other than birds also needs to be estimated. In their 12 July 2022 letter on the Notice of Preparation (NOP), CDFW

"considers the Project site to be of high biological value and conservation priority." The US Fish and Wildlife Service came to the same conclusion in their 12 July 2022 letter on the NOP. I concur with CDFW and USFWS. The present degree of habitat fragmentation heightens rather than detracts from the conservation value of the project site, which supports one of the last and certainly the largest complex of vernal pools and mima mounds in the region.

CDFW (letter of 12 July 2022) recommended a 25% project alternative, and that if the project goes forward, development should be constrained to the southern aspect of the project area to minimize impacts to vernal pools and thread-leaved brodiaea. I concur with CDFW's recommendaton. Unfortunately, and against CDFW's recommendation, the proposed project would mostly go the northern aspect of the project area, and would take both vernal pools and thread-leaved brodiaea. The proposed project footprint would take 22 (61%) of the 36 vernal pools depected on DEIR Figure 3.3-2, as well as 9 (69%) of 13 depressions, most of the Orcutt's brodiaea, nearly all of the graaceful tarplant, and all fo the Diegan coastal sage scrub. The productive capacity of the site would be greatly diminished by the project. The DEIR needs to be revised to analyze and disclose this impact.

03-34 Cont.

WILDLIFE MOVEMENT

One of CEQA's principal concerns regarding potential project impacts is whether a proposed project would interfere with wildlife movement in the region. According to the DEIR (2023:3.3-12), "Given the barrier posed by surrounding development, the site is not expected to serve as a regional wildlife corridor or substantial habitat linkage that would be used by large mammals, riparian birds, or migratory birds." And, "given the project site location immediately adjacent to and surrounded by existing roadways and development within an urban setting, the project site is not considered to serve as a wildlife corridor or habitat linkage, either locally or regionally." And at page 3.3-13, the DEIR concludes, "Development on the project site would not interfere with wildlife movement .. The project site ... is entirely bounded by existing development, is not contiguous with native habitats, and is outside of areas where wildlife movement opportunities do occur (along undeveloped open space habitat corridors)." And, "Based on the analysis above, development on the project site would not interfere or impede with wildlife movement, corridors... No impacts would occur." These arguments imply that wildlife cannot move without direct terrestrial linkage to other patches of terrestrial habitat. Birds, bats and many arthropods have wings, meaning the aerosphere is part of their habitat linking the project site to other patches of terrestrial habitat. Wildlife that use the site got there by exploiting their own modes of movement. For example, the Cooper's hawk Noriko observed foraging over the project site did not get there by walking. The red-tailed hawk that Noriko saw repeatedly fly back and forth between the project site and its presumed nest site was connected to the project site by one of the most frequently used travel mediums worldwide – the aerosphere. By flight was how most of the animals seen at the site actually arrived to the site.

03-35

The DEIR implies the premise that interference with wildlife movement in the region can result only from the project's disruption of the function of a wildlife movement

corridor. This premise represents a false CEQA standard, and is therefore inappropriate to the analysis. The primary phrase of the CEQA standard goes to wildlife movement regardless of whether the movement is channeled by a corridor. A site such as the proposed project site is critically important for wildlife movement because it composes an increasingly diminishing area of open space within a growing expanse of anthropogenic uses, forcing more species of volant wildlife to use the site for stopover and staging during migration, dispersal, and home range patrol (Warnock 2010, Taylor et al. 2011, Runge et al. 2014). The project would cut wildlife off from one of the last remaining stopover and staging opportunities in the project area, forcing volant wildlife to travel even farther between remaining stopover sites. This impact would be significant, and as the project is currently proposed, it would be unmitigated.

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BIRD-WINDOW COLLISIONS

Considering the project would add 449 residential units in 3 to 5-story buildings, along with glass windows on the building's facades, the DEIR neglects a large portion of habitat that is essential to many species. To understand this part of their habitat, one must consider the definition of habitat, which is a species' use of the environment (Hall et al. 1997, Morrison et al. 1998, Smallwood 2002). The gaseous atmosphere, or aerosphere, is a principal medium of life to volant animals such as birds (Davy et al. 2017, Diehl et al. 2017). The aerosphere is where birds and bats and other volant animals with wings migrate, disperse, forage, perform courtship and where some of them mate. Birds are some of the many types of animals that evolved wings as a morphological adaptation to thrive by moving through the medium of the aerosphere. The aerosphere is habitat. Indeed, an entire discipline of ecology has emerged to study this essential aspect of habitat – the discipline of aeroecology (Kunz et al. 2008).

Compared to other residential projects I have seen proposed in recent years, the residential structures of the Pacific Specific Plan would pose lower risk of bird-window collision mortality. This is because there would be less glass on the facades of the buildings. Nevertheless, renderings of the buildings in the DEIR depict both tranparent and reflective glass, as well as trees planted at distances from windows that would enable birds to achieve lethal speeds in flights from the trees to the windows.

03-36

Many special-status species of birds have been recorded at or near the aerosphere of the project site. My database review and the site visits indicate there are 98 special-status species of birds with potential to use the site's aerosphere (Table 2). Of these, 7 have been recorded on or over or next to the project site, another 35 within 1.5 miles of the site ('Very close'), another 23 within 1.5 and 4 miles ('Nearby'), and another 31 within 4 to 30 miles ('In region'). The birds reported within all these distance domains from the project site can quickly fly those distances, so they would all be within short flights of the proposed project's windows.

Window collisions are often characterized as the second or third largest source or human-caused bird mortality. The numbers behind these characterizations are often attributed to Klem's (1990) and Dunn's (1993) estimates of about 100 million to 1 billion bird fatalities in the USA, or more recently by Loss et al.'s (2014) estimate of 365-988

million bird fatalities in the USA or Calvert et al.'s (2013) and Machtans et al.'s (2013) estimates of 22.4 million and 25 million bird fatalities in Canada, respectively. The proposed project would impose windows in the airspace normally used by birds.

Glass-façades of buildings intercept and kill many birds, but these façades are differentially hazardous to birds based on spatial extent, contiguity, orientation, and other factors. At Washington State University, Johnson and Hudson (1976) found 266 bird fatalities of 41 species within 73 months of monitoring of a three-story glass walkway (no fatality adjustments attempted). Prior to marking the windows to warn birds of the collision hazard, the collision rate was 84.7 per year. At that rate, and not attempting to adjust the fatality estimate for the proportion of fatalities not found, 4,659 birds were likely killed over the 55 years since the start of their study. Accounting for the proportion of fatalities not found, the number of birds killed by this walkway over the last 55 years would have been about 14,535. And this is just for one 3-story, glass-sided walkway between two college campus buildings.

Klem's (1990) estimate was based on speculation that 1 to 10 birds are killed per building per year, and this speculated range was extended to the number of buildings estimated by the US Census Bureau in 1986. Klem's speculation was supported by fatality monitoring at only two houses, one in Illinois and the other in New York. Also, the basis of his fatality rate extension has changed greatly since 1986. Whereas his estimate served the need to alert the public of the possible magnitude of the bird-window collision issue, it was highly uncertain at the time and undoubtedly outdated more than three decades hence. Indeed, by 2010 Klem (2010) characterized the upper end of his estimated range – 1 billion bird fatalities – as conservative. Furthermore, the estimate lumped species together as if all birds are the same and the loss of all birds to windows has the same level of impact.

By the time Loss et al. (2014) performed their effort to estimate annual USA bird-window fatalities, many more fatality monitoring studies had been reported or were underway. Loss et al. (2014) incorporated many more fatality rates based on scientific monitoring, and they were more careful about which fatality rates to include. However, they included estimates based on fatality monitoring by homeowners, which in one study were found to detect only 38% of the available window fatalities (Bracey et al. 2016). Loss et al. (2014) excluded all fatality records lacking a dead bird in hand, such as injured birds or feather or blood spots on windows. Loss et al.'s (2014) fatality metric was the number of fatalities per building (where in this context a building can include a house, low-rise, or high-rise structure), but they assumed that this metric was based on window collisions. Because most of the bird-window collision studies were limited to migration seasons, Loss et al. (2014) developed an admittedly assumption-laden correction factor for making annual estimates. Also, only 2 of the studies included adjustments for carcass persistence and searcher detection error, and it was unclear how and to what degree fatality rates were adjusted for these factors. Although Loss et al. (2014) attempted to account for some biases as well as for large sources of uncertainty mostly resulting from an opportunistic rather than systematic sampling data source, their estimated annual fatality rate across the USA was highly uncertain and vulnerable to multiple biases, most of which would have resulted in fatality estimates biased low.

03-36
Cont.

In my review of bird-window collision monitoring, I found that the search radius around homes and buildings was very narrow, usually 2 meters. Based on my experience with bird collisions in other contexts, I would expect that a large portion of bird-window collision victims would end up farther than 2 m from the windows, especially when the windows are higher up on tall buildings. In my experience, searcher detection rates tend to be low for small birds deposited on ground with vegetation cover or woodchips or other types of organic matter. Also, vertebrate scavengers entrain on anthropogenic sources of mortality and quickly remove many of the carcasses, thereby preventing the fatality searcher from detecting these fatalities. Adjusting fatality rates for these factors – search radius bias, searcher detection error, and carcass persistence rates – would greatly increase nationwide estimates of bird-window collision fatalities.

Buildings can intercept many nocturnal migrants as well as birds flying in daylight. As mentioned above, Johnson and Hudson (1976) found 266 bird fatalities of 41 species within 73 months of monitoring of a four-story glass walkway at Washington State University (no adjustments attempted for undetected fatalities). Somerlot (2003) found 21 bird fatalities among 13 buildings on a university campus within only 61 days. Monitoring twice per week, Hager at al. (2008) found 215 bird fatalities of 48 species, or 55 birds/building/year, and at another site they found 142 bird fatalities of 37 species for 24 birds/building/year. Gelb and Delacretaz (2009) recorded 5,400 bird fatalities under buildings in New York City, based on a decade of monitoring only during migration periods, and some of the high-rises were associated with hundreds of fatalities each. Klem et al. (2009) monitored 73 building façades in New York City during 114 days of two migratory periods, tallying 549 collision victims, nearly 5 birds per day. Borden et al. (2010) surveyed a 1.8 km route 3 times per week during 12-month period and found 271 bird fatalities of 50 species. Parkins et al. (2015) found 35 bird fatalities of 16 species within only 45 days of monitoring under 4 building façades. From 24 days of survey over a 48-day span, Porter and Huang (2015) found 47 fatalities under 8 buildings on a university campus. Sabo et al. (2016) found 27 bird fatalities over 61 days of searches under 31 windows. In San Francisco, Kahle et al. (2016) found 355 collision victims within 1,762 days under a 5-story building. Ocampo-Peñuela et al. (2016) searched the perimeters of 6 buildings on a university campus, finding 86 fatalities after 63 days of surveys. One of these buildings produced 61 of the 86 fatalities, and another building with collision-deterrent glass caused only 2 of the fatalities, thereby indicating a wide range in impacts likely influenced by various factors. There is ample evidence available to support my prediction that the proposed project would result in many collision fatalities of birds.

03-36 Cont.

Project Impact Prediction

By the time of these comments, I had reviewed and processed results of bird collision monitoring at 213 buildings and façades for which bird collisions per m^2 of glass per year could be calculated and averaged (Johnson and Hudson 1976, O'Connell 2001, Somerlot 2003, Hager et al. 2008, Borden et al. 2010, Hager et al. 2013, Porter and Huang 2015, Parkins et al. 2015, Kahle et al. 2016, Ocampo-Peñuela et al. 2016, Sabo et al. 2016, Barton et al. 2017, Gomez-Moreno et al. 2018, Schneider et al. 2018, Loss et al. 2019, Brown et al. 2020, City of Portland Bureau of Environmental Services and

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Portland Audubon 2020, Riding et al. 2020). These study results averaged 0.073 bird deaths per m² of glass per year (95% CI: 0.042-0.102). This average provides a robust basis for predicting fatality rates at proposed new projects.

The DEIR does not directly disclose the extent of glass windows on the proposed new buildings. Fortunately, I have maintained a database of the extent of glass windows relative to the extents of floor space among other projects for which I have prepared expert testimony. Total floorspace of the project would be 157,368 sf of Rowhomes, 155,952 sf of Villas, 179,408 sf of Apartments, and 46,978 sf of Affordable. However, because the size and number of windows looked about the same among Rowhomes, Villas and Apartments, and because, even though windows appear larger and more numerous on buildings of Affordable housing, the floor space of Affordable would comprise only 8.7% pf the project's residential floorspace, I assumed an equal ratio of window to floor space for the entire 539,706 sf project. For 24 recently proposed California residential projects (excluding mixed use), the ratio of m² of windows to ft² of floor space was 0.0173 (95% CI: 0.0088–0.0258), which applied to the floor space of the new proposed project would predict a total glass window area of 9,353 m2 (95% CI: 4,770–13,936 m²). Judging from the DEIR's rendering of the buildings, I estimate the extent of windows would be lower than the mean, so assumiing the mid-point between the mean and the lower bound of the 95% CI, it would be about 7,062 m². Applying the mean fatality rate (above) to my estimate of 7,062 m² of glass windows in the project, I predict annual bird deaths of 516 (95% CI: 306–726).

03-37 Cont.

The vast majority of bird-window collision deaths would be of birds protected under the Migratory Bird Treaty Act and under the California Migratory Bird Protection Act, thus causing significant unmitigated impacts. Given the predicted level of bird-window collision mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts. The DEIR should be revised to appropriately analyze the impact of bird-glass collisions that might be caused by the project.

TRAFFIC IMPACTS TO WILDLIFE

The DEIR neglects to address one of the project's most obvious, substantial impacts to wildlife, and that is wildlife mortality and injuries caused by project-generated traffic. Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic (Photos 22—24), including along roads far from the project footprint. Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

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Photo 22. *A Gambel's quail dashes across a road* on *3 April 2021. Such road crossings are usually successful, but too often prove fatal to the animal. Photo by Noriko Smallwood.*

Photo 23. *Great-tailed grackle walks onto a rural road in Imperial County, 4 February 2022.*

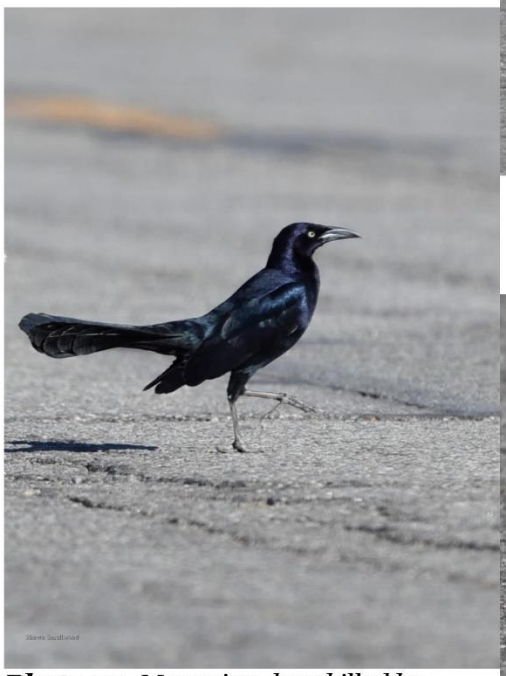

Photo 24. *Mourning dove killed by vehicle on a California road. Photo by Noriko Smallwood, 21 June 2020.*

Photo 25. *Raccoon killed on Road 31 just east of Highway 505 in Solano County. Photo taken on 10 November 2018.*

03-38
Cont.

The nearest study of traffic-caused wildlife mortality was performed along a 2.5-mile stretch of Vasco Road in Contra Costa County, California. Fatality searches in this study found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches (Mendelsohn et al. 2009). This fatality number needs to be adjusted for the proportion of fatalities that were not found due to scavenger removal and searcher error. This adjustment is typically made by placing carcasses for searchers to find (or not find) during their routine periodic fatality searches. This step was not taken at Vasco Road (Mendelsohn et al. 2009), but it was taken as part of another study next to Vasco Road (Brown et al. 2016). Brown et al.'s (2016) adjustment factors for carcass persistence resembled those of Santos et al. (2011). Also applying searcher detection rates from Brown et al. (2016), the adjusted total number of fatalities was estimated at 12,187 animals killed by traffic on the road. This fatality number over 1.25 years and 2.5 miles of road translates to 3,900 wild animals per mile per year. In terms comparable to the national estimates, the estimates from the Mendelsohn et al. (2009) study would translate to 243,740 animals killed per 100 km of road per year, or 29 times that of Loss et al.'s (2014) upper bound estimate and 68 times the Canadian estimate. An analysis is needed of whether increased traffic generated by the project site would similarly result in local impacts on wildlife.

For wildlife vulnerable to front-end collisions and crushing under tires, road mortality can be predicted from the study of Mendelsohn et al. (2009) as a basis, although it would be helpful to have the availability of more studies like that of Mendelsohn et al. (2009) at additional locations. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,900 animals killed per mile along a county road in Contra Costa County. Two percent of the estimated number of fatalities were birds, and the balance was composed of 34% mammals (many mice and pocket mice, but also ground squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 52.3% amphibians (large numbers of California tiger salamanders and California red-legged frogs, but also Sierran treefrogs, western toads, arboreal salamanders, slender salamanders and others), and 11.7% reptiles (many western fence lizards, but also skinks, alligator lizards, and snakes of various species). Vehicle miles traveled (VMT) is useful for predicting wildlife mortality because I was able to quantify miles traveled along the studied reach of Vasco Road during the time period of the Mendelsohn et al. (2009), hence enabling a rate of fatalities per VMT that can be projected to other sites, assuming similar collision fatality rates.

03-38 Cont.

Predicting project-generated traffic impacts to wildlife

The DEIR predicts an annual VMT of 7,692,187. During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was 19,500 cars and trucks × 2.5 miles × 365 days/year × 1.25 years = 22,242,187.5 vehicle miles per 12,187 wildlife fatalities, or 1,825 vehicle miles per fatality. This rate is likely higher than would occur in the project area, because the project area is more urbanized than was the study area of Mendelsohn et al. (2009). Even assuming the fatality rate in the project area would be a quarter of that of the Mendelsohn et al. (2009) study, dividing annual VMT by 7,300 vehicle miles per fatality

03-39

would predict 1,054 vertebrate wildlife fatalities per year, which would easily qualify as a significant, unmitigated impact of the project.

Based on my indicator-level analysis, the project-generated traffic would cause substantial, significant impacts to wildlife. The DEIR does not address this potential impact, let alone propose to mitigate it. Mitigation measures to improve wildlife safety along roads are available and are feasible, and they need exploration for their suitability with the proposed project. Given the predicted level of project-generated traffic-caused mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts. The DEIR needs to be revised to appropriately analyze the impact of wildlife-automobile collisions resulting from project-generated traffic.

03-39 Cont.

DOGS

The project would add 1,388 residents, many of whom would own dogs. Many of the dog owners in the project would treat the on-site habitat preservation as a de facto dog park. They would do so even if signage warns them not to, just as dog owners frequently run their dogs off-leash despite the signage against doing so in open spaces where I live and at places that I visit. The DEIR fails to analyze potential impacts to wildlife that could result from off-leash dogs. Dogs disturb and displace wildlife (Hennings 2016), and where dogs are frequently exercised, parasites accumulate. In one study of dog parks in Portugal (Ferreira et al. 2017), at least 7 different types of parasites were found in fecal and soil samples, and "the soil of all the parks was contaminated with hookworm eggs." The parasite loading of the on-site habitat preserve could spill-over to downstream to marine mammals at California's coast. The DEIR needs to be revised to appropriately analyze the potential impacts to wildlife caused by the dog use of the habitat preserve.

03-40

HOUSE CATS

The DEIR does not address the potential impacts of free-ranging house cats to wildlife. House cats serve as one of the largest sources of avian mortality in North America (Dauphiné and Cooper 2009, Blancher 2013, Loss et al. 2013, Loyd et al. 2017). Loss et al. (2013) estimated 139 million cats in the USA in 2013 (range 114 to 164 million), which killed an estimated 16.95 billion vertebrate wildlife annually (range 7.6 to 26.3 billion). In 2012 there were 0.44 house cats per human, and 122 vertebrate animals were killed per cat. Free-ranging house cats killed disproportionately larger numbers of vertebrate wildlife. The DEIR predicts 1,388 residents. Assuming that 58% of these new residents would live in the Rowhomes and Villas (based on proportion of floor space in the project), then 806 residents would be most likely to keep house cats. The above rates of cat ownership applied to 806 new residents **would predict 355 new cats, which would kill 43,266 members of vertebrate wildlife per year**. Even if there are only half this many house cats, the annual death toll to wildlife would be predicted at 21,633, which would easily qualify as an unmitigated significant impact to wildlife. Many of the wildlife fatalities caused by house cats would be in preserved open space of the project site.

03-41

House cats also contribute to downstream loading of *Toxoplasma gondii*. According to a UC Davis wildlife health research program, "*Toxoplasma gondii is a parasite that can infect virtually all warm-blooded animals, but the only known definitive hosts are cats – domesticated and feral house cats included. Cats catch the parasite through hunting rodents and birds and they offload it into the environment through their feces... and ...rain that falls on cement creates more runoff than rain that falls on natural earth, which contributes to increased runoff that can carry fecal pathogens to the sea*" (http://www.evotis.org/ toxoplasma-gondii- sea-otters/).

03-41 Cont.

If the project goes forward, it would be prudent to consider constraints on house cat ownership such as requiring cats to remain indoors. Another option would be to explore alternative project sites where free ranging cats would cause fewer wildlife fatalities due to lesser adjacency to open spaces. And another would be to fund the City to manage free-ranging house cats to check their number.

CUMULATIVE IMPACTS

The US Fish and Wildlife Service letter of 12 July 2022 on the NOP states, "The project site includes the largest remaining verna pool complex in the City that supports the federally endangered San Diego fairy shrimp, federally endangered San Diego button celery, and federally threatened spreading navarretia. The project site also includes the largest remaining unconserved native grassland in the City that supports one of the largest known populations of the federally threatened thread-leaved brodiaea and regionally sensitive Orcutt's brodiaea." CDFW's letter of 12 July 2022 on the NOP states, "The project site includes the largest remaining vernal pool complex in the City that supports the San Diego fairy shrimp, San Diego button celery, and spreading navarretia. The project site also includes the largest remaining non-conserved native grassland in the City and supports one of the largest known populations of the state endangered thread-leaved brodiaea, as well as the non-listed but still sensitive Orcutt's brodiaea." These statements include the term "largest" and "largest remaining" with respect to multiple highly sensitive resources, all of which are one or a few projects away from regional extirpation as a result of cumulative impacts. It is at this stage, where the last and the largest of the remaining vernal pool complexes and the largest remaining populations of special-status species are at stake, that a project's contribution to cumulative impacts is most significant.

03-42

Habitat fragmentation is a process that degrades populations of biological species to degrees that exceed the degradation that would have happened following the loss of the same area of habitat but from what was a large contiguous expanse of habitat. As habitat fragmentation leaves patches of habitat that are increasingly smaller and more distant from each other, those animal species able to persist on the fragmented landscape do so by visiting each of the remaining habitat fragments. The Cooper's hawk Noriko saw on the project site undoubtedly relies on additional habitat patches in the area, even if the project site comprises the hawk's largest and most valuable remaining habitat patch. The same is true of the red-tailed hawk Noriko observed and many other species that occur there. But if the Cooper's hawk, the red-tailed hawk and the many other species lose this habitat fragment, it is likely that they will be unable to survive. Some individual

animals might move off to some other place where they can survive, but in each case, doing so would come at the cost of members of the same species at those other places. The loss of this habitat fragment would result in a significant decline in the numerical and productive capacities of all the species that rely on it. The quantitative reductions would be significant for multiple species, but there would also be qualitatively significant effects. This is because there is a qualitative difference between any positive number and zero. Zero is extirpation. And extirpation would be a significant loss to Californians, who whether they appreciate it or not, would be harmed by certain species of wildlife never again to be seen near where they live and work. These quantitative and qualitative effects would be the project's contribution to cumulative impacts only because the City of San Marcos has allowed many projects to take habitat without setting aside ecological preserves of sufficient number, extent and proximity.

The DEIR (p 3.19-9) reveals a fundamental planning shortfall with its admission, "Like the proposed project, it is presumed that all reasonably foreseeable cumulative projects would be required to conform to existing regulations with respect to avoidance, minimization, and mitigation of impacts to sensitive habitat, achieving no-net-loss of wetlands and like/kind replacement for impacts to sensitive habitat that cannot be avoided." This fallacious assumption is based on the false premises that (1) regulations determine mitigation measures, and (2) no-net-loss of wetlands is achieved after each project. Most of the formulation of mitigation measures is left to the project applicant and the project permitting agency, sometimes influenced by input from regulatory agencies. As for the premise of no-net-loss achieved project after project, the vernal pool complex of the Pacific Specific Plan site would not be the largest remaining in the region had the premise been accurate. If the premise was accurate, the list of special-status species of wildlife in the region would not be 153 species long, which is likely the longest such list I have seen among the hundreds of project sites I have reviewed in California. And without a monitoring program, the DEIR's premise lacks foundation.

O3-42 Cont.

The DEIR (p. 3.19-8) explains that "Similar to the proposed project, cumulative projects would be required to mitigate impacts by avoiding the grading or clearing of suitable habitat for sensitive wildlife during breeding season, or by conducting pre-construction surveys to avoid sensitive species if construction would occur during breeding season." But this statement is misleading, because the mere avoidance of grading during the breeding season never prevented the decline of numerical and productive capacity of birds in the region. Each project that was constructed, regardless of whether it timed grading outside the breeding season, took habitat permanently, eventually leaving the situation in which the project-at-issue finds itself – the last remaining and largest patch of vernal pools and of habitat of multiple special-status species in the region. In other words, this mitigation measure was never effective, nor would it prove effective in the case of this project. There has never been any substantial evidence in the record of any project I have examined as an expert that timing construction grading outside the breeding season would effectively mitigate the takings of habitat needed by birds to successfully breed. No evidence is of this efficacy is cited in this DEIR.

The DEIR (p. 3.19-8) then asserts the following: "through the implementation of required mitigation, impacts to present and potentially present sensitive wildlife species

would be reduced to a level below significance for the proposed project and for cumulative projects. Therefore, cumulative impacts with regard to special-status wildlife species would not be cumulatively considerable." Again, where is the evidence that this assertion is true? As far as I can determine, the City has no regional monitoring program of wildlife, plants or other biological resources to assess the efficacy of the City's mitigation measures. That is, there is no monitoring for cumulative effects nor for mitigation efficacy at the regional level. There is no basis to trust the City's assertion.

Another problem with the City's assertion is its implication that a given project impact is cumulatively considerable only when it has not been fully mitigated. In essence, the DEIR implies that cumulative impacts are really residual impacts left over by inadequate mitigation at the project level. As an example, the DEIR (p. 3.19-9) claims that "MM-BIO-8b ... would compensate for impacts to jurisdictional resources, such that impacts would be reduced to below a level of significance." This notion of residual impacts being the source of cumulative impacts is inconsistent with CEQA's definition of cumulative effects. Individually mitigated projects do not negate the significance of cumulative impacts (see earlier comments). If they did, then CEQA would not require a cumulative effects analysis. To summarize, the DEIR effectively provides no cumulative effects analysis.

Lastly, the DEIR (p. 3.19-9) claims "Cumulative projects would also be required to comply with relevant MHCP and Natural Community Conservation Plan policies; therefore, cumulative impacts would be less than significant." According to CEQA Guideline 15064(h)(3), "When relying on a plan, regulation or program, the lead agency should explain how implementing the particular requirements in the plan, regulation or program ensure that the project's incremental contribution to the cumulative effect is not cumulatively considerable." The DEIR provides no explanation of how the project's compliance with the MHCP would ensure the project's contributions to cumulative impacts to special-status species of wildlife or to wetlands would be satisfactorily mitigated.

Detailing how the MHCP would ensure cumulative impacts would be less than significant is especially important in the case of this project. This is the case because most of the vernal pools and most of the region's wildlife habitat have already been destroyed, and because I predict the project would deny California another 1,360 birds per year, and would cause annual mortality of 516 (95% CI: 306–726) birds due to bird-window collisions and 1,054 vertebrate animals due to project-generated automobile traffic, and 43,266 vertebrate animals due to predation by free-ranging house cats. These predicted impacts, along with the project's interference with wildlife movement and the intrusive effects of dogs, would contribute cumulatively to impacts caused by past, present and foreseeable future projects and in ways that the MHCP likely did not plan for.

O3-42
Cont.

MITIGATION MEASURES

MM-BIO-1 Rare Plant Transplant Plan

According to the DEIR, "San Diego button-celery, Orcutt's brodiaea, and thread-leaved brodiaea shall be translocated and/or replanted through propagation into existing suitable habitat in the on-site open space preserve near existing populations of these species and according to the conceptual mitigation plan for the project..." However, the term *habitat suitability* is redundant and begs the question of what is unsuitable habitat (Hall et al., 1997, Krausman 2016). Because habitat is defined as "the resources and conditions present in an area that produce occupancy – including survival and reproduction – by a given organism" (Hall et al. 1997), or "that part of the environment where the species lives" (Smallwood 2015), it is presumptuous to propose transplanting the plants at issue from where they live to where they do not. If those portions of the on-site preserve qualified as habitat of San Diego button-celery, Orcutt's brodiaea, and thread-leaved brodiaea, then members of these species would live there already. If the City believes that particular factors currently inhibit these plant species from living elsewhere on the project site, and that these limiting factors can be rectified, then these factors need to be identified in a revised DEIR. Otherwise, the City proposes fantastical mitigation that lacks substantial evidence in support of its efficacy, and which at the same time would likely cause harm to existing biological resources in the transplant receiving areas.

Transplantations have a long history of failures. For this reason, guidelines have been prepared. The California Native Plant Society (CNPS) prepared mitigation guidelines for projects posing threats to special-status species of plants (CNPS 1998). Here I summarize the CNPS guidelines as well as CDFW's (1997) expectations for mitigation. I recommend that a new EIR be prepared to more carefully consider the use of translocation as a mitigation measure.

03-43

CNPS (1998) advocates only for mitigation involving avoidance of impacts. To avoid impacts, CNPS recommends pre-project planning and design, reconfiguring an existing project, or adopting the no-project alternative, in addition to site protection such as fencing and transfer of development rights in easements or fee title.

When lead agencies decide to minimize, rectify, reduce or compensate impacts, CNPS (1998) recommends certain standards. For example, mitigation measures should be developed on a site-specific basis, and should involve consultation with the appropriate regulatory agencies. Additional research should be conducted to determine which mitigation measures are appropriate for the specific life history and ecological relationships of rare plant species occurring at a particular site. CNPS (1998) regards habitat restoration and off-site introduction or translocation as unproven and usually unsuccessful. Genetic contamination of an otherwise unaffected population is intolerable.

When lead agencies allow reduction of impacts, CNPS's (1998) guidelines maintain that the project size should be reduced, the project sited in the least environmentally

sensitive area and surrounded by buffer zones permanently protected in conservation easements. CNPS also insists that efforts be made to salvage portions of the population that will be lost.

When restoration is pursued, CNPS (1998) recommends that it be directed to mitigate impacts of projects approved prior to environmental regulations. It must be tailored to the project site based on the assembly of local species and habitats. The goals of the restoration project and the courses of action intended to achieve those goals need to precede implementation. Pre-impact site conditions should be determined, and the restoration plan should consider land contours, soil types, erosion patterns, and pre-impact hydrologic conditions. Study of the targeted species should be thorough so as to identify their total distribution, habitat descriptions of occupied site and symbiotic relationships with other species. The plan should consider propagation techniques, re-introduction strategy, invasive species controls, site protection, public access and other factors. Finally, a monitoring program should be sufficiently rigorous to assess restoration success, and to augment the knowledge base relevant to related restoration efforts.

When lead agencies authorize reductions of impacts over time, the CNPS (1998) recommends limiting public access to protected habitat areas through fencing or other means, and that the species and habitat conditions are monitored to detect intrusion and subsequent impacts caused by construction and operation activities. Public education should be implemented regarding the values of these areas.

When off-site compensation is pursued, off-site populations should be protected permanently through conservation easement or mitigation banking. The area of a conservation easement must be sufficiently large to support a biologically secure, reproducing population within a buffer zone in perpetuity. The surrounding land uses must be considered, as well as expected future land uses. The design of the site boundary and management plan must be scientifically based, utilizing information from baseline studies and natural history data for each species. The contract should specify the rights of the grantee, the grantors rights and uses, and restrictions of undesirable activities, and it should include language that binds the terms and conditions of the contract in perpetuity, regardless of fee title transfers. The contract should protect the site from land use change, introduction of exotic species and public access, and it should protect the right of the grantee to enforce compliance with the terms of the easement.

Also, the mitigation exchange ratio should exceed 1:1 for most species, thereby accounting for an inevitable net loss of individuals and habitat area. Where needed, off-site compensation areas should be enhanced by reducing impacts caused by on-going activities such as over-grazing by livestock or dumping of hazardous materials or trash. Translocations should be preceded by detailed inventories of species occurring at the receiving site, accompanied by a feasibility assessment regarding persistence and avoidance of genetic contamination. These should also occur at the appropriate time of year, following proper handling and propagation methods in consultation with the regulatory agencies. Furthermore, all translocations should be completed and shown to be successful prior to the initiation of project activities.

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Cont.

CNPS (1998) and CDFW (1997) insist that the mitigation design, implementation measures, and reporting methods be clearly documented, along with whom or which agencies are responsible for achieving clearly defined success criteria. Assurances must be provided in writing that certain performance criteria of the mitigation plan will be realized, and guaranteed by a negotiable performance security large enough to complete the mitigation and to pursue alternative mitigation measures should the implementation be incomplete or the objectives fail to be achieved. Five years of monitoring the success of the mitigation should be the minimum time period before returning the performance security.

I must add that the security deposit should greatly exceed 120% of the estimated cost of the transplants. Given the history of poor success of transplantations, the likelihood is high that the transplantations would fail. Failures should trigger contingency plans, which need to be funded. A likely contingency plan, due to its practicality, would be additional compensatory mitigation. The security deposit should therefore be large enough to cover the cost of additional compensatory mitigation should some portion of, or all of, the transplants fail.

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MM-BIO-2 Vernal Pools Mitigation Plan

According to the DEIR, "the project Applicant shall submit a Vernal Pool Mitigation Plan (VPMP) to the City and resource agencies, describing the creation, re-establishment, and/or restoration, as well as maintenance and monitoring (5 years) of vernal pools in the mitigation plan. Vernal pool mitigation shall occur on-site within appropriate suitable habitat in the on-site open space preserve, according to the conceptual mitigation plan for the project." To create vernal pools where they do not currently exist would require the destruction of the complex of soil, plants, and wildlife at the creation sites.

03-44

Understanding the structure of vernal pool ecosystems is critical to understanding the impacts of the project on vernal pools and their associated habitats. Damage or loss of vernal pools and their neighboring uplands cannot be rectified by typical water quality mitigation measures, and they cannot be restored simply through grading and seeding. Even though most of California's vernal pools have already been destroyed, ecologists are still at the front-end of understanding vernal pool ecology. The prudent thing is to leave vernal pools undisturbed. Compensatory mitigation is commonly required by U.S. Army Corps of Engineers (USACE) and other regulatory agencies where vernal pools will be adversely affected or destroyed by a project, but compensatory mitigation has limited efficacy (33 CFR Part 332 - USACE Compensatory Mitigation for Losses of Aquatic Resources[5]).

[5] See also USFWS (1998), DeWeese, Vernal Pool Construction Monitoring Methods and Habitat Replacement Evaluation, available at https://vernalpools.ucmerced.edu/sites/vernalpools.ucmerced.edu/files/page/documents/3.4_vernal_pool_construction_monitoring_methods_and_habitat_replacement_values_by_june_m._de_weese.pdf (last visited 3/23/2023).

MM-BIO-3 Listed Species Conservation Measures

According to the DEIR, "Prior to issuance of any land disturbance, clearing, grubbing, or grading permits for the project site, the project Applicant shall demonstrate to the City that consultation with USFWS for adverse effects to San Diego Fairy shrimp, thread leaved brodiaea, and San Diego button celery has occurred in accordance with Section 7 or Section 10 of the federal ESA, as applicable." However, considering the situation in which these species are characterized by USFWS and CDFW in their 12 July 2022 letters to the City regarding the NOP, the DEIR should be withdrawn and revised with descriptions of viable mitigation options for these species. I suspect that there are no viable options or very limited options. If my suspicion is justified, then the DEIR needs to divulge that takings of these species at the project site are unmitigable and would cause irreparable impacts.

03-45

MM-BIO-4 Avoidance of Nesting Birds and Raptors

Preconstruction surveys should be performed for nesting birds, but not without first having completed detection surveys to inform both an EIR and the preconstruction surveys. Preconstruction surveys are only intended as last-minute, one-time salvage and rescue operations targeting readily detectable nests or individuals before they are crushed under heavy construction machinery. Because most special-status species are rare and cryptic, and because most bird species are expert at hiding their nests lest they get predated, most of their nests will not be detected by preconstruction surveys without prior support of detection surveys. Locating all of the nests on site would require more effort than is committed during preconstruction surveys.

03-46

Protocol-level detection surveys are needed to inform preconstruction take-avoidance surveys by mapping out where biologists performing preconstruction surveys are most likely to find animals or their breeding sites. Detection surveys are needed to assess impacts and to inform the formulation of appropriate mitigation measures, because preconstruction surveys are not intended for these roles either.

Regardless of whether construction timing avoids the nesting season or preconstruction surveys are completed, this measure would not reduce impacts to less-than-significant levels because the project would destroy the productive capacity of the birds that breed on the project site.

MM-BIO-5 Construction Work Limits Fencing

A construction fence would contain the damage that would be caused by construction grading. However, it would not reduce impacts to less-than-significant levels because the project would destroy the productive capacity of the birds that breed on the project site.

03-47

MM-BIO-6 Biological Construction Monitoring

I concur that this measure should be implemented if the project goes forward, but I must point out that it would not avoid impacts to wildlife as claimed in the DEIR. If the project goes forward, the biological monitor should have the authority to rectify situations that pose threats to wildlife. The events associated with construction monitoring, such as efforts to avoid impacts and findings of dead and injured wildlife, need to be summarized in a report that is subsequently made available to the public.

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MM-BIO-7a Compensatory Mitigation for Impacts to Sensitive Natural Communities and MM-BIO-7b Compensatory Mitigation for Permanent Impacts to Sensitive Natural Communities and MM-BIO-8b Compensatory Mitigation for Impacts to Jurisdictional Resources

The mitigation ratios that are proposed are based on acreages, thereby failing to mitigate the project's impact to the number of vernal pools that would be lost. On a acreage basis, the project would take 34% of the vernal pools, whereas on the basis of the number of vernal pools, the project would take 61% of the vernal pools. The mitigation approach adopted in the DEIR assumes that larger vernal pools are more valuable than smaller vernal pools, but the DEIR cites no evidence that value grades with vernal pool size.

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Nor does the proposed mitigation offset impacts of degradation of the vernal pools that would be left on the project site. The remaining vernal pools would be vulnerable to even more intrusion from people and dogs and cats and more accumulation of litter with the addition of 1,399 new residents to the site.

The typical mitigation ratios should not apply to this project, which comes at the tail end of a process of habitat fragmentation that has left the project site the largest remaining vernal pool complex and the largest remaining patch of wildlife habitat in the region. The loss of habitat on this site would cause more severe impacts to wildlife and plants and vernal pools than had the losses of habitat caused by previous projects in the area. Some of the potential project impacts, to be frank, are unmitigable.

MM-BIO-8a Regulatory Permitting

Obtaining regulatory permits is not a mitigation measure, as a permit in and of itself provides no substantial benefit to biological resources. In fact, a permit is permission from a regulatory agency to proceed with the destruction of whichever resources are at stake. It is misleading to claim this necessary step as a mitigation measure. This measure should be removed from the current DEIR, and it should not appear in a recirculated DEIR.

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RECOMMENDED MEASURES

Protocol-level Detection Surveys in Support of Mitigation: If the project goes forward, protocol-level detection surveys that achieve minimum standards of the

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available guidelines need to be completed for multiple species including western spadefoot, burrowing owl, California gnatcatcher, and a suite of special-status species of bats. These surveys are needed to (1) support negative findings of species when appropriate, (2) inform preconstruction surveys to improve their efficacy, (3) estimate project impacts, and (4) inform compensatory mitigation and other forms of mitigation. Detection survey protocols and guidelines are available from resource agencies. Otherwise, professional standards can be learned from the scientific literature and species' experts.

Pest Control: The project should commit to no use of rodenticides and avicides. It should commit to no placement of poison bait stations outside the building.

House Cats: If the project goes forward, residents should not be allowed to let their cats range free, nor should feeding of feral cats be permitted. A fund should be established for long-term management of house cats in the project. Management could include public education about the environmental effects of outdoor and free-ranging cats. It could also include a program to spade and neuter cats, especially free-ranging cats. It could also involve some removals of feral cats.

Guidelines on Building Design to Minimize Bird-Window Collisions: If the project goes forward, it should at a minimum adhere to available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco. The American Bird Conservancy (ABC) produced an excellent set of guidelines recommending actions to: (1) Minimize use of glass; (2) Placing glass behind some type of screening (grilles, shutters, exterior shades); (3) Using glass with inherent properties to reduce collisions, such as patterns, window films, decals or tape; and (4) Turning off lights during migration seasons (Sheppard and Phillips 2015). The City of San Francisco (San Francisco Planning Department 2011) also has a set of building design guidelines, based on the excellent guidelines produced by the New York City Audubon Society (Orff et al. 2007). The ABC document and both the New York and San Francisco documents provide excellent alerting of potential bird-collision hazards as well as many visual examples. The San Francisco Planning Department's (2011) building design guidelines are more comprehensive than those of New York City, but they could have gone further. For example, the San Francisco guidelines probably should have also covered scientific monitoring of impacts as well as compensatory mitigation for impacts that could not be avoided, minimized or reduced.

New research results inform of the efficacy of marking windows. Whereas Klem (1990) found no deterrent effect from decals on windows, Johnson and Hudson (1976) reported a fatality reduction of about 69% after placing decals on windows. In an experiment of opportunity, Ocampo-Peñuela et al. (2016) found only 2 of 86 fatalities at one of 6 buildings – the only building with windows treated with a bird deterrent film. At the building with fritted glass, bird collisions were 82% lower than at other buildings with untreated windows. Kahle et al. (2016) added external window shades to some windowed façades to reduce fatalities 82% and 95%. Brown et al. (2020) reported an 84% lower collision probability among fritted glass windows and windows treated with ORNILUX R UV. City of Portland Bureau of Environmental Services and Portland

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Audubon (2020) reduced bird collision fatalities 94% by affixing marked Solyx window film to existing glass panels of Portland's Columbia Building. Many external and internal glass markers have been tested experimentally, some showing no effect and some showing strong deterrent effects (Klem 1989, 1990, 2009, 2011; Klem and Saenger 2013; Rössler et al. 2015).

Monitoring and the use of compensatory mitigation should be incorporated at any new building project because the measures recommended in the available guidelines remain of uncertain efficacy, and even if these measures are effective, they will not reduce collision fatalities to zero. The only way to assess mitigation efficacy and to quantify post-construction fatalities is to monitor the project for fatalities.

Road Mortality: Compensatory mitigation is needed for the increased wildlife mortality that would be caused by bird-window collisions and the project-generated road traffic in the region. I suggest that this mitigation can be directed toward funding research to identify fatality patterns and effective impact reduction measures such as reduced speed limits and wildlife under-crossings or overcrossings of particularly dangerous road segments. Compensatory mitigation can also be provided in the form of donations to wildlife rehabilitation facilities (see below).

Fund Wildlife Rehabilitation Facilities: Compensatory mitigation ought also to include funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care. Many animals would likely be injured by free-ranging house cats and by collisions with windows and automobiles.

Landscaping: If the project goes forward, California native plant landscaping (i.e., chaparral, grassland, and locally appropriate scrub plants) should be considered to be used as opposed to landscaping with lawn and exotic shrubs. Native plants offer more structure, cover, food resources, and nesting substrate for wildlife than landscaping with lawn. Native plant landscaping has been shown to increase the abundance of arthropods which act as importance sources of food for wildlife and are crucial for pollination and plant reproduction (Narango et al. 2017, Adams et al. 2020, Smallwood and Wood 2022.). Further, many endangered and threated insects require native host plants for reproduction and migration, e.g., monarch butterfly. Around the world, landscaping with native plants over exotic plants increases the abundance and diversity of birds, and is particularly valuable to native birds (Lerman and Warren 2011, Burghardt et al. 2008, Berthon et al. 2021, Smallwood and Wood 2022). Landscaping with native plants is a way to maintain or to bring back some of the natural habitat and lessen the footprint of urbanization by acting as interconnected patches of habitat for wildlife (Goddard et al. 2009, Tallamy 2020). Lastly, not only does native plant landscaping benefit wildlife, it requires less water and maintenance than traditional landscaping with lawn and hedges.

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Cont.

Thank you for your attention,

Shawn Smallwood, Ph.D.

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Response to Comment Letter O3

Organization
Southwest Mountain States Regional Council of Carpenters
April 17, 2023

O3-1 The comment provides an introduction to comments that follow. The commenter requests to be notified of any notices referring to or related to the project. The comment is noted, and the commenter will be added to the notification list for the project. The comment does not raise any specific issues related to the adequacy of the Draft EIR, thus no further response is required.

O3- 2 The comment states that the City should require that the project be built using local workers. The comment expresses the opinion of the commenter on economic, social, or political issues, and does not raise any specific issues related to the adequacy of the Draft EIR. No further response is required because the comment does not raise an environmental issue.

O3-3 The comment states that the potential benefits of hiring local workers may include reducing length of trips, GHG emissions, economic benefits, and air pollutant reductions. The comment does not raise any specific issues related to the adequacy of the Draft EIR. Thus, no further response is required or provided.

O3-4 The comment states that locating jobs closer to a residential area can lead to people being more likely to take transit, walk, or bike, and reduces VMT. The comment further states that local hire and workforce policies as a condition of approval for development permits are critical to VMT reductions. The comment does not raise any specific issues related to the adequacy of the Draft EIR. Thus, no further response is required or provided.

O3- 5 The comment includes information about the Affordable Housing and High Road Jobs Act of 2022 and affordability and labor requirements. The comment further expresses the opinion of the commenter that the City should consider utilizing local workforce to mitigate GHG emission, air quality, and transportation impacts. As discussed in the DEIR, all project impacts have been reduced to less than significant levels and no further mitigation is required. To the extent that the comment expresses the opinion of the commenter on economic, social, or political issues, no further response is required because the comment does not raise an environmental issue.

O3-6 The comment states that the City should impose training requirements to prevent the spread of Covid -19 and other infectious diseases. The comment further states that construction sites have been identified as being sources of community spread and then lists recommendations for safe construction site work practices.

Public Resources Code section 21083(b)(3) and CEQA Guidelines section15065(a)(4) provide that a project may have a significant effect on the environment if the project will cause substantial adverse effects on human beings, either directly or indirectly. COVID-19 is not an environmental effect of the project – it is already present in the population and unrelated to the proposed development. CEQA generally does not require analysis of an impact caused by the existing environment on the project. As such, no analysis is required. Public health in connection with COVID-19 is addressed by workplace health and safety laws other than CEQA. This comment does not require any revisions to the EIR.

03-7 The comment states the United Brotherhood of Carpenters and Carpenters International Training Fund and the Southwest Mountain State Carpenters have developed training programs. The comment further states that the City should require COVID-19 training before construction activities begin. The comment does not raise any specific issues related to the adequacy of the Draft EIR. Refer to Response to Comment 03-6.

03-8 The comment acts as an introduction to comments to follow. The comment provides background information concerning EIRs and CEQA, including requirements regarding EIR recirculation. The comment does not raise any specific issues related to the adequacy of the Draft EIR. However, as supported by the DEIR and these Responses to Comments, EIR recirculation is not warranted as no new significant environmental impacts are identified. Under CEQA, a lead agency is required to recirculate an EIR, or portions of an EIR, when significant new information is added to the EIR after notice is given of the availability of the Draft EIR for public review, but before certification. As used in section 15088.5 of the State CEQA Guidelines, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of meaningful opportunity to comment upon a substantial adverse environmental effect of the project, or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponent has declined to implement. As part of the Final EIR, a "Reduced Development Footprint Alternative – Vernal Pool Impact Minimization" alternative and a "Reduced Pacific Specific Plan Project Alternative" have been included under project alternatives considered. However, recirculation is not required simply because new information is added to an EIR.

In response to comments received from USFWS, the FEIR considers a variation on the Reduced Development Footprint Alternative evaluated in the Draft EIR. Under the "Reduced Development Footprint Alternative – Vernal Pool Impact Minimization", development would occur only within a reduced development footprint in the southern portion of the Project site, resulting in the development of only 229 multi-family homes. The "Reduced Development Footprint Alternative – Vernal Pool Impact Minimization" is designed to avoid most vernal pools across the site and achieve a 30% maximum building footprint on the site. However, while impacts to vernal pools would be reduced, this Alternative would cause a more severe significant impact to the federally listed threatened thread-leaved brodiaea. It would also reduce the scope and mix of housing compared to the Project. The City can consider this additional alternative and certify the EIR without recirculating for additional public review. This is because once a draft EIR has been circulated for public review, CEQA does not require any additional public review of the document before the lead agency may certify the EIR except in circumstances requiring recirculation. Recirculation is only required where "significant new information" is added to an EIR after the draft EIR has been circulated for public review. (Pub. Resources Code, § 21092.1; Guidelines, § 15088.5, subd. (a).) Where information added to a Final EIR consists of a new suggested project alternative or mitigation measure, recirculation is *only* required where *all* the following criteria are met it Is feasible, it is considerably different from the alternatives or mitigation measures already evaluated in the EIR, it would clearly lessen the Project's significant impacts, and it is not adopted. (*Laurel Heights Improvement Assn. v. Regents of the Univ. of Cal.* (1993) 6 Cal.4th 1112; *South County Citizens for Smart Growth v. County of Nevada* (2013) 221 Cal.App.4th 316, 330.) Recirculation is not required for consideration of the "Reduced Development Footprint Alternative – Vernal Pool Impact Minimization" as the alternative is a variation upon, and not considerably different from, the Reduced Development Footprint Alternative evaluated in the Draft EIR. Accordingly, because this alternative is not considerably different from the Reduced

Development Footprint Alternative, recirculation is not required for City consideration of this "Reduced Development Footprint Alternative – Vernal Pool Impact Minimization". (*North Coast Rivers Alliance v. Marin Municipal Water Dist. Bd. Of Directors* (2013) 216 Cal.App.4th 614, 654 [new alternative did not trigger recirculation because it was not considerably different from alternatives already evaluated and was not feasible.]) The City will consider the feasibility and desirability of this, and other alternatives evaluated in the EIR after receiving public comment to the DEIR and prior to making its ultimate decision on the Project. (Pub. Resources Code, § 21081(a)(3).)

Furthermore, the Project Applicant has prepared two additional alternatives in response to comments received from CDFW/USFWS during the public comment period. The "Reduced Pacific Specific Plan Project Alternative" included in Chapter 4 of the Final EIR is intended to reduce impacts to biological resources including vernal pools, native grassland, Diegan coastal sage scrub, mixed grassland, and non-native grassland. The reduction in the scale of development would result in similar (or slightly reduced) effects on all other environmental resource areas analyzed in the EIR. Recirculation is not required for incorporation of this alternative in the Final EIR in response to agency comments, as described above. That is because the "Reduced Pacific Specific Plan Project Alternative" would *reduce* the severity of some environmental impacts.

03-9 This comment states that the Draft EIR fails to consider a reasonable range of alternatives. The comment states there is no explanation as to why an even more reduced alternative was not considered.

In response, please see Responses to Comments A2-4, A3-4, and O3-8.

Chapter 4 of the Draft EIR considered but rejected two alternatives (an alternative location and mitigation bank alternative) and analyzed three alternatives including the No Project Alternative, Existing Land Use Designation Alternative, and the Reduced Development Footprint Alternative. The range of alternatives evaluated in an EIR is governed by the "rule of reason," which requires the EIR to set forth alternatives adequate to permit a reasoned choice by decision makers and limited to alternatives that "would avoid or substantially lessen any of the significant effects of the project." An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative (Section 15126.6[a] of the CEQA Guidelines).

The Reduced Development Footprint Alternative was developed in response to comments from the Wildlife Agencies and would reduce the development footprint at the site to just 25% of the site, from 15.28 acres to 8.3 acres, and would reduce the number of residential units developed from 449 to 321 units. This alternative would be constructed to avoid all vernal pools and wetlands mapped across the site, including pools/basins found not to support vernal pool branchiopods (fairy shrimp). However, it would impact thread-leafed brodiaea to a greater extent compared to the project.

As part of the Final EIR, two additional project alternatives were included to address USFWS and CDFW comments. The "Reduced Development Footprint Alternative – Vernal Pool Impact Minimization", considers a variation on the Reduced Development Footprint Alternative evaluated in the Draft EIR. Under the "Reduced Development Footprint Alternative – Vernal Pool Impact Minimization", development would occur only within a reduced development footprint in the southern portion of the Project site, resulting in the development of only 229 multi-family homes. The reduced development consists of 229 residential units, including a mix of rowhomes and villas on approximately 9.7 acres of the 33.2-acre project site. The remaining approximately 23.5 acres of the 33.2-acre project site would

be preserved and restored as open space and habitat area. This alternative would not include any affordable housing units. This alternative would reduce project impacts to vernal pools but cause a more severe significant impact to the federally listed threatened thread-leaved brodiaea.

Additionally, in response to comments received from USFWS and CDFW on the Draft EIR, the "Reduced Pacific Specific Plan Project Alternative" analyzed in the Final EIR considers a variation on the proposed project layout. The "Reduced Pacific Specific Plan Project Alternative" consists of 299 residential units, including a mix of rowhomes, villas, and affordable units on approximately 13.3 acres of the 33.2-acre project site. Forty-five (45) of the 299 total units (15% of the total) would be designated as deed-restricted affordable units (alternatively, the project reserves the option to contribute to the affordable housing fund by paying the in-lieu fee). The remaining approximately 19.9 acres of the 33.2-acre project site would be preserved and restored as open space and habitat area.

These two alternatives considered as part of the Final EIR would not meet all project objectives as they would provide a reduced number of housing units on the infill site and would not assist the City to implement its housing goals and efficiently promote infill development to the same degree as the proposed Project. It should be also noted that any development proposed for the site would result in biological impacts and require mitigation, such that a smaller alternative would not avoid identified impacts.

03-10 The comment acts as an introduction to comments to follow about the project's compliance with electric vehicle (EV) parking charging stations and solar system installation.

As discussed in the DEIR, the project's GHG impacts would be less than significant such that no mitigation is required. Refer to EIR Section 3.7.4.

Notwithstanding, note that the Project will be required to comply with the version of Title 24 that is current upon issuance of building permits. Title 24 presently establishes building standards that include rooftop solar generation and electric-vehicle ready requirements. The EIR, Section 3.7, Greenhouse Gas, identifies that EV charging stations would be provided for a minimum 5% of the project's parking spaces or as required by CalGreen, whichever is greater. Solar PV would be required to comply with Title 24. The EIR, Section 3.7.2, Regulatory Setting, describes Title 24 standards and that they would apply to the project.

03-11 The comment states that although the DEIR notes that the project would include a total of 927 parking spaces and would equip a minimum of 5% of spaces with "EV charging stations", it fails to specify whether such stations would be equipped with level 2 EV supply equipment (EVSE), as required by Section 4.106.4.2 of the 2022 Green Building Code.

In response, there are two different residential unit types in this project, townhouses with private garages and multi-family flats with common garages and open parking spaces. In the current 2022 CA building code, townhouses with private garages have different EV requirements per CBC 4.106.4.1. Each two-car garage is required to have its own 40-amp 208/240-volt circuit. Level 2 operates on 208/240 volt. There are 418 private garage spaces proposed in this project. Currently, per CalGreen Code requirements, it is estimated that 5% of the total number of parking spaces shall be equipped with Level 2 EVSE. All garage and parking spaces will be required by law to meet the current building codes in existence when construction begins.

Further, the project's Specific Plan (Appendix M to the EIR) Section 3.3.2. E, requires compliance with CalGreen and/or the CAP whichever is stricter:

> E. Electric Vehicle Parking and Charging
>
> The following standards implement the project's Specific Plan Objectives #3 and #4 and Measure T-2 of the Climate Action Plan to support and promote the use of electric vehicles:
>
> 1. A minimum of five percent (5%) of the guest parking spaces required shall be equipped with EV charging stations or as otherwise required by CalGreen, whichever is more stringent. Calculations for the required number of spaces shall be rounded up to the nearest whole number.
> 2. Garages shall be equipped with electric vehicle charging infrastructure in accordance with CalGreen.
> 3. Charging stations/spaces shall not interfere with on-site parking or pedestrian circulation.
> 4. Charging stations/spaces shall be maintained in functioning order in all respects.
> 5. Final EV stall locations will be determined at submittal of building plans.
> 6. EV charging station calculations shall apply to both garage/covered parking as well as uncovered and/or guest parking.

Neither the EIR nor entitlement approval would allow a project to deviate from current building codes when a project begins construction. The project would perform to code minimum compliance.

03-12 The comment states that the DEIR fails to specify whether the project would designate 10% of their parking spaces as EV capable and equip 25% of the parking spaces with low power level 2 EV charging receptable as required. As outlined in the previous Response to Comment 03-11, the project is required to conform to the current building codes when construction begins.

03-13 The comment states that the DEIR fails to specify whether the project would be compliant with Section 140.10 of the 2022 Energy Efficiency Standards, identifying the minimum installation of photovoltaic and battery systems. In response, the project is required to conform to the current building codes when construction begins. As outlined in Chapter 2 Project Description, and Section 3.5 Energy of the Draft EIR, in accordance with current Building Code, all buildings would be equipped with photovoltaic panels to provide solar energy to the homes. In addition, proposed homes would include energy conservation features such as spray foam insulation, thermal breaks, low-e windows, advanced thermostats, energy star appliances, and sealed insulated ducts. Proposed homes would be Energy Star Certified to meet U.S. Environmental Protection Agency standards.

03-14 The comment acts as a conclusion to comments about the project's electric vehicle (EV) and solar PV systems. Refer to Comments 03-10 through 03-13. The comment does not raise any specific issues related to the adequacy of the Draft EIR; no further response is required.

03-15 This comment describes requirements under CEQA and states the Draft EIR's Biological Resource findings and analysis are insufficient. This comment is an introductory comment to comments that

follow. The comment does not raise any specific issues related to the adequacy of the Draft EIR; no further response is required.

03-16 This comment states that the DEIR's characterization of the existing environmental setting as one with a "high level of anthropogenic disturbances" is not supported by substantial evidence, rendering it speculative.

The commenter is referred to the EIR, Section 3.3.1, Existing Conditions, and Section 3.1 of the Biological Technical Report (Appendix C to this EIR), which describes the evidence of the anthropogenic disturbances onsite, supported by both aerial imagery evaluation and field surveys over the course of many years (1978 to present).

03-17 The comment states that the biological analysis is insufficient because surveys conducted fail to comply with standard reporting standards and protocols. The comment states the surveys failed to identify who performed the surveys, failed to note when the surveys began and how long they lasted, and failed to comply with the latest survey protocols for burrowing owl and California gnatcatcher. The comment states that the surveys must be reconducted to be protocol- and standard-compliant.

In response, Section 2.2 of the Biological Technical Report (Appendix C to the EIR) provides names of the surveys as well as dates surveys were conducted. The surveys for burrowing owl and California gnatcatcher were conducted per the currently accepted protocols, which are discussed in Section 2.2.3 of the report. Thus, no revision to the EIR is needed.

03-18 The comment states that the DEIR surveys also fail to detect a number of species of wildlife identified in a "single limited survey conducted by Smallwood's associate," including species with special status. The comment states that the biological surveys made insufficient use of available databases of wildlife species occurrence, resulting in significant contradictions between the surveys and databases.

In response, based on the field surveys conducted for the site since 2018, the biological resources found on the site are accurately reflected in the DEIR. The site is entirely surrounded by development. The several species mentioned in the comment are birds that may fly over the site, but not use the site. Double-crested cormorant occurs in open water habitats, which does not occur on-site. Flyovers of this species may occur, same goes for seagull or other flying birds (cooper's hawk, burrowing, owl, California gnatcatcher, ravens, etc.), but that does not indicate that such species utilize the site. Refer to Responses to Comments 03-19 and 03-20 for specific responses to Smallwood's "limited survey."

03-19 The comment states the DEIR also fails to adequately analyze a number of important potential biological impacts. Specifically, the DEIR fails to adequately analyze the status and trends of vernal pools at the Project site (Exhibit D at 23-26), the Project site's capacity to support wildlife and the Project's contribution to habitat fragmentation (id. at 29-30), the Project's interference with wildlife movement in the region (id. at 30-31), the Project's collision bird fatality rate (id. at 31-34), the Project's traffic impacts to wildlife (id. at 34-38), and the Project's cumulative impacts (id. at 38-40). Thus, the DEIR must be revised to thoroughly analyze such impacts. In response, Section 3.1 Biological Technical Report (Appendix C to the EIR) discusses the status and degrading trend of the biological resources on-site. Furthermore, Section 3.8 of the report discusses wildlife use and movements of the site. Because of the surrounding development the project is not considered a steppingstone or used as a regional corridor for wildlife movement; thus, development of the site would not adversely result in habitat

fragmentation. The project proposes contiguous development that would not create fragmented habitats on-site. Bird collision mortality is not expected because the project proposes residential development at a site that is surrounded by existing development. Additional response information on potential traffic impacts to wildlife and cumulative impacts are provided following the specific comments referred to above and seen below under comments O3-38, O3-39, and O3-42.

O3-20 The comment states that the DEIR fails to implement all feasible mitigation measures or explain why such mitigation is infeasible. For example, the DEIR fails to include measures specifying that the Project should be built with a design which minimizes bird collisions, that the Project should avoid using certain rodenticides, avicides, and poison bait stations, and that the Project will provide compensation for road mortality and includes an exhibit (Exhibit D at 46-47). Lastly, the comment states the DEIR mitigation measures must be revised to include all feasible mitigation. In response, the mitigation measures of the DEIR were generated based on significant impacts anticipated by the project. There is no indication that the project proposal to develop residential housing would result in a significant impact to bird collisions. There are no sensitive small mammals on or expected to occur at the project site; no impacts would occur. Thus, a requirement to use certain rodenticides and poison bait stations is not applicable. The use of avicides is also not proposed or expected; thus, not applicable to the project. Regarding road mortality, the site is currently surrounded on all four sides by existing roads and does not propose additional roads. Due to the lack of adjacent native habitats and lack of wildlife movement on the site, wildlife road mortality is not expected; thus, corresponding mitigation is not required.

O3-21 The comment states that the City should consider implementing local workforce policies to benefit the local economy, and mitigate greenhouse gas, air quality, and transportation impacts. This comment is noted and forwarded to the City's decision-makers for their consideration; however, the comment does not raise any specific issues concerning the adequacy of the EIR, and no further response is required.

O3-22 The comment from Soil Water Air Protection Enterprise (SWAPE) is an exhibit (Exhibit A) to comment letter O3 and explains the significance of worker trips in relation to greenhouse gas emissions using CalEEMod. This comment serves as a general advisory document and does not raise any specific issues concerning the adequacy of the EIR. It is further noted that the comment is outdated and does not use current emissions factors or accepted protocols to quantify GHG emissions related to worker trips.

O3-23 The comment describes default worker trip length and trips and calculations provides an explanation on how urban worker trip lengths tend to be shorter. The comment does not raise any specific issues concerning the adequacy of the EIR. No further response is required.

O3-24 The comment alleges to provide an example to demonstrate how local hire provisions reduce construction-related worker trip lengths and could reduce greenhouse gas emissions associated with construction worker trips. The comment does not raise any specific environmental issues related to the adequacy of the Draft EIR. No further response is required.

O3-25 This comment includes a disclaimer for the technical preparer, SWAPE, and explains that the exhibit may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties. This comment also includes three attachments (Attachment A, CalEEMod default rural and urban worker trip lengths by air basin; Attachment B, Evaluation of local hire; and Attachment C, GHG emission estimations based on local

hire). The comment does not raise any specific environmental issues related to the adequacy of the Draft EIR. No further response is required.

03-26 This comment from Soil Water Air Protection Enterprise (SWAPE) is an exhibit (Exhibit B) to comment letter O3. This document was prepared by Dr. Paul Rosenfeld and provides his education, professional experience, and references. The comment does not raise any specific environmental issues related to the adequacy of the Draft EIR. No further response is required.

03-27 This comment from Soil Water Air Protection Enterprise (SWAPE) is an exhibit (Exhibit C) to comment letter O3. This document was prepared by Matthew F. Hagemann and provides his education, professional experience, and references. The comment does not raise any specific environmental issues related to the adequacy of the Draft EIR. No further response is required.

03-28 This comment from Dr. Shawn Smallwood is an exhibit (Exhibit D) to comment letter O3. This document was prepared by Dr. Smallwood and provides introductory statements on the project location, the Biological Technical Report, and his qualifications and professional experience. This comment is an introductory to comments that follow. The comment does not raise any specific environmental issues related to the adequacy of the Draft EIR. No further response is required.

03-29 This comment provides introductory remarks states that Noriko Smallwood walked the perimeter of the Project site for 2.83 hours on the morning of March 17, 2023. The comment states that Ms. Smallwood recorded wildlife on and off the site, including animals whose identity was uncertain. The comment provides several photographs and a table of species the commenter states were observed on and off-site or by fly-over, including common and non-native species. The comment does not raise any specific environmental issues related to the adequacy of the Draft EIR. No further response is required. The commenter is referred to Appendix C of the EIR, Biological Resources Memorandum, which addresses Animal Species Observed or Detected onsite at its Appendix B, as well as Special Status Animal Species Observed or with Potential to Occur at its Appendix D.

03-30 This comment discusses the commenter's opinion on how to characterize existing environmental setting for a site. The comment states that methods typically include (1) surveys of the site for biological resources, and (2) reviews of literature, databases, and local specialists for documented occurrences of special-status species. The comment states that, "In the case of this project, these essential steps remain incomplete and misleading". The comment also states that the DEIR "appears biased in favor of the project" by speculating that the degraded condition of the environmental setting would worsen into the future."

In response, Section 2.1 and 2.2 of the Biological Technical Report, EIR Appendix C, provides a discussion of the project literature reviews, database reviews, and Project site surveys undertaken by the biologists at Helix to accurately characterize the existing setting for biological purposes. This is consistent with the comment. With regards to the comment about ongoing degradation of the site being "speculative" or demonstrating bias, Section 3.1 of the Biological Technical Report provides evidence of the historic and continued degradation of the site, as shown by online satellite imagery and field observations at the site between 2018 and 2022. Thus, the discussion of the ongoing trend of disturbance at the site is accurate, and the statement that ongoing disturbance would likely continue in the future is not speculative but reasonably foreseeable based on historic trends and evidence in the Biological Technical Report.

03-31 First, the comment states that the DEIR prepared for the Pacific Specific Plan inaccurately characterizes the wildlife community as part of the existing environmental setting, and it fails to fully disclose and to rectify the limitations of the surveys that were implemented to sample the species composing the wildlife community. The comment states that the number of species that were not detected but which "truly occur on the project site" was not estimated. The comment states that Helix also repeatedly determines special-status species are not expected to occur, have no potential to occur, or have low likelihood of occurrence based on the species having not been detected during Helix's surveys; and that Helix's surveys failed to detect many species of wildlife, including species with special status.

In response, it is acknowledged that biologists are unlikely to observe all species that occur on a site through site surveys alone. Survey limitations are discussed in Section 2.3 of the Biological Technical Report (refer to EIR Appendix C). To address these limitations, the Biological Technical Report follows accepted practice to evaluate the potential for species to occur onsite by undertaking site surveys *and* creating a list of species not observed but considered to have potential to occur based on onsite resources; habitat types and vegetation communities; historic observations, species extents, geographic range, population sizes, and distribution, etc. Consistent with the applicable CEQA significance criteria, the focus of the analysis is on special status species – rather than common or non-native species – known to occur onsite or recorded in close proximity (usually less than 5-miles for sites surrounded by development) of the site. For the Project, a list of Special Status Animal Species Observed or with Potential to Occur at the site was generated and a discussion of additional species not observed but with potential to occur is presented in Section 3.6.3 of the Biological Technical Report. Refer to EIR Appendix C, Biotechnical Report, and its Appendix D, Special Status Animal Species Observed or with Potential to Occur.

Second, the comment states that the Biological Technical Report did not include survey details, such as when the survey started, how long it lasted, or who performed them, and the report fails to meet most of the reporting standards of both survey protocols. The comment states that it is unknown whether the Helix biologists were qualified to survey for burrowing owls or California gnatcatchers, and it is unknown whether the surveys were consistent with the other standards on the conduct of the surveys, such as the minimum time intervals between surveys, survey start times, and specific methods. The comment states that the surveys completed by Helix were not in accordance with the available survey protocols for burrowing owl and California gnatcatcher, and therefore Helix's negative findings cannot support absence determinations, nor can they lend much support to determinations of low likelihoods of occurrence.

In response, Section 2.2, Biological Surveys, of the Biological Technical Report provides information regarding when site visits were conducted, where the surveys were conducted (onsite plus certain offsite areas), and what protocols were followed. Additional information sought by the commenter is outlined in Table 1a, which will be appended to Appendix C, Biological Technical Report, in the Final EIR (Appendix E to the Biological Technical Report). Table 1a provides further details on when each survey started/ended, how long it lasted, and who performed each survey. The survey protocols that Helix biologists followed are outlined in Section 2.2, Biological Surveys, of the Biological Technical Report. More specifically, protocols and guidelines followed for focused Species Surveys, including for burrowing owl, coastal California gnatcatcher, and San Diego fairy shrimp are detailed and referenced in Section 2.2.3 of the Biological Technical Report. For the commenter's information, these

protocols/guidelines are available online with the links provided in the References Section of the Biological Technical Report (EIR Appendix C).

The survey reports for burrowing owl, California gnatcatcher, and Fairy Shrimp are also being provided as Appendix G to the Biological Technical Report, Appendix C to the Final EIR. As shown, contrary to the comment, qualified biologists conducted the species surveys pursuant to CDFW and USFWS-established protocols/guidelines. The EIR's determination that burrowing owl and coastal California gnatcatcher have a low likelihood of occurring onsite are well supported by the results of these surveys. The EIR did not rely on the surveys alone but also evaluated the species' potential to occur onsite based on population extent and/or distribution, historic observations, suitable habitat (e.g., site conditions, vegetation communities, soils, elevation) and related factors considered in the EIR and Biological Technical Report. (Refer to Appendix C, Section 2.2 and 3.6.) For instance, burrowing owl was not observed and has not been detected onsite for over 30 years, since 1991, which, together with negative survey results, supports its low potential to occur onsite. For gnatcatcher, in addition to negative survey results, habitat onsite for gnatcatcher (coastal sage scrub) is marginal/limited, and there is no suitable habitat immediately surrounding or contiguous to the site. Thus, its potential to occur onsite was also deemed low (refer to Appendix D of EIR, Appendix C, Biological Technical Report and EIR Section 3.3).

Third, the comment states that despite Helix completing more surveys than usual on at least 15 days by multiple biologists, the commenter's "empirical model" prediction and single survey by Ms. Noriko Smallwood suggests that significantly more vertebrate species should have been detected or otherwise occur onsite. The comment also states that off-site detections should be included in survey results because offsite wildlife can readily move on site, and most likely do so frequently, but also because Helix (2023:3) reports having also surveyed for species in the "immediately surrounding areas." The comment states that Helix's reports do not contain information about wildlife detected, their location, abundance, and what they were doing. The comment states that the DEIR lacks the basis needed for concluding that impacts to wildlife would be less than significant, even with mitigation.

In response, as discussed above, it is acknowledged that biologists are unlikely to observe all species that occur on a site through site surveys alone. Thus, the Biological Technical Report follows accepted practice to evaluate the potential for species to occur onsite by undertaking site surveys *and* creating a list of species not observed by considered to have potential to occur based on onsite resources; habitat types and vegetation communities; historic observations, species extents, geographic range, population sizes, and distribution, etc.

The comment's suggestion that the survey limitations should be rectified by instead estimating the number of additional species using the commenter's model is not an accepted practice or appropriate methodology for several reasons. The commenter's model likely greatly overstates the number of species that may occur on the site as it does not account for site resources; habitat types and vegetation communities (including soils, elevations, plants, etc.); historic observations, species extents, geographic range, population sizes, and distribution; urbanization; and other limitations to site use by wildlife. The commenter's extrapolation of site-specific modeling that worked at one rural location in Northern California (the Altamont Pass Wind Resource Area) cannot accurately be extrapolated for use elsewhere in the context of biological resources because the potential for species to occur is species and habitat specific.

In response to the comment that the biological survey did not detect certain wildlife species, identified by Ms. Noriko Smallwood, the comment is misleading and does not accurately characterize the site. More than 1/3 of Ms. Smallwood's observations were avian "flyovers" of the site or species detected off-site. Merely because a bird flew over the site does not suggest the site is utilized or inhabited by that species. Flyovers, unless observed the bird is observed hunting, foraging, perching, or preening, are generally not included in the list of avian species that inhabit a site.

Similarly, the off-site observations are misleading. Biological surveys are generally limited to the subject project site (i.e., property) only and what can be seen from the site or public property because permission to access, survey, and formally document resources on adjacent properties under separate ownership is generally not available. Furthermore, surveying and incorporating results or findings from adjacent properties with resources, habitats, and species that are not on the subject project site can be misleading and give false representation of the study site and project site analysis; thus, such is typically considered inappropriate. In general, the information on species provided in the comment and referenced table is misleading. However, it is notable that no additional special status species were observed inhabiting the Project site compared to what was evaluated in the EIR.

In any event, the EIR proposes mitigation to reduce potential impacts to nesting birds and raptors should they use the site. MM-BIO-4 provides for nest avoidance by requiring that construction occur outside of the breeding season and, if the breeding season cannot be avoided, but setbacks from next locations of 300 feet for passerine birds and 500 feet for raptors.

03-32 First, this comment states that insufficient use was made of the available databases of wildlife species occurrences, and that no use was made of eBird and iNaturalist. Additionally, the comment states that Helix selected 30 special-status species of wildlife for their potential to occur at the site, and states that the commenter's assessment would include 153 species located "near enough to the site to be analyzed for occurrence potential." The comment states that this demonstrates inappropriate and misuse of the California Natural Diversity Data Base (CNDDB) to estimate occurrence likelihood. The comment provides a table, Table 2, of these 153 species and states that sufficient survey effort should be directed to the site to either confirm species in Table 2 use the site or to support absence determinations. The comment states, "Reconnaissance level surveys are not designed to support absence determinations for any of the species in Table 2."

In response, State and Federal databases (i.e., USFWS, CDFW, etc.) serve as the primary sources of reliable data references for biological studies because they are species and sub-species specific, credible, and vetted by specialists, and provide site- and observation-specific location information. Public websites such as eBird and iNaturalist may be referred to as secondary resources. However, the information on these sites may not be credible as they are citizen-science projects. They are not considered by the City to be credible as a primary resource. Any member of the public can record an unverified observation, which may or may not be accurate. These observations from non-professional contributors may therefore be unreliable as to species and locational information. Further, even if accurate, the records provide general information, often not to the sub-species level, and depending on the species sensitivity do not provide site-specific or observation location information. eBird and iNaturalist usually provide general information on a regional scale dataset map, whereas the State and Federal databases provide site-specific observation information that can be very useful when analyzing a specific property.

The identification of special status species with the potential to occur at the Project site was selected using the comprehensive list generated by CNDDB and USFWS database queries and utilizing a 2-mile search radius from the Project site. This evaluation process is industry-standard common practice used by professional biologists in determining the distribution of special-status species in the vicinity of an urban project site as part of CEQA review. The use of the CNDDB and USFWS database queries and 2-mile radius are appropriate in this area of San Diego County, because it has been surveyed and studied extensively.

The commenter's statement that the commenter identified 153 special-status wildlife via eBird, iNaturalist, other databases as occurring up to 30-miles away is misleading and irrelevant to the species that may occur on the Project site. Just because a species has been reported as occurring "in region" does not mean that they have a potential for presence at the Project site, which would depend on whether suitable habitat is present. Using credible databases, reasonable distances, onsite habitat types and elevations, and various database tools, the biologists at Helix focused the Project analysis to those species with the reasonable potential to occur onsite. This is standard technique purposely used to screen out species unlikely to occur in the target survey study area.

To the extent the comment requests that surveys of the site be implemented to confirm presence or support absence determinations for the 153 species presented in Table 2 of the comment letter, no further detailed surveys for sensitive biological resources were considered necessary by the City's independent biological consultant in completing the CEQA review of the proposed Project. Helix conducted surveys at the site between 2018 and 2023, including focused surveys for special-status wildlife, where appropriate. Where focused survey protocols are not available or where specific habitat preferences are identified by other surveys, reconnaissance surveys are adequate to support absence determination. One example, coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*) was determined to be absent due to the lack of suitable cactus habitat. Where information generated by credible database reviews and during reconnaissance efforts at the site identified no possibility of species' occurrence, it was determined there was no need to conduct focused surveys or other additional analysis. There is no requirement or reasonable need to undertake the exhaustive survey effort suggested by the comment. This approach and technique to evaluate species presence/absence applies to the species listed throughout the commenter's Table 2.

Second, the comment questions the determination that western spadefoot toad is not expected to occur at the Project site, asserting protocol-level surveys are needed to confirm absence of the species.

In response, focused surveys for vernal pool branchiopods (i.e., fairy shrimp) were conducted at the site which include rigorous investigations of ponded areas. These ponded areas would be the only suitable breeding habitat for western spadefoot toad or other toads and frog species. Throughout the surveys, no evidence of frogs or toads occurring onsite were encountered, including no detection of frogs, toads, or egg masses. In addition, the nearest occurrence record of spadefoot toad is over 2-miles away. Because the site is entirely surrounded by development due to its location in an urbanized infill area, it is highly unlikely that spadefoot toad could travel to the site. (Biological Technical Report, Appendix D, Special Status Animal Species Observed or with Potential to Occur for the Pacific Development.) Given this evidence, the biologists at Helix determined that western spadefoot toad is not expected to occur at the project site. By contrast, the commenter provides no evidence that western spadefoot toad may occur onsite. Further surveys are therefore unlikely to yield helpful information and are not required or appropriate.

Third, the comment states that the determination of low potential for orange-throated whiptail occurrence is flawed. Citing the Biological Technical Report, the comment states that the fact that there are " 'no records of this species occurring onsite,'" that the species was not detected " 'during biological surveys in 2018, 2020, 2021, or 2022,'" and that the species " 'has limited mobility to travel to the site from offsite habitats (nearest record of the species is approximately 2-miles away)'" is not evidence of its absence onsite. The comment states that the arguments provided for other special-status species are also flawed.

In response, the determination that orange-throated whiptail has a low potential to occur on-site is appropriately based on facts, evidence, and the opinion of the biologists at Helix. This evidence includes that there are no records in credible databases of orange-throated whiptail occurring on the Project site; no field observations of the species occurred onsite in biological surveys conducted over a 4-year span; there is no on-site habitat suitable for orange throated whiptail; there is no proximity and connectivity to suitable habitat for orange throated whiptail; and the nearest recorded occurrence of the species was more than 2 miles away. The species has limited mobility to travel to the Project site from off-site habitats 2-miles away in this urbanized infill area. (Biological Technical Report, Appendix D, Special Status Animal Species Observed or with Potential to Occur for the Pacific Development.) Thus, substantial evidence supports the EIR's finding that orange-throated whiptail has a low potential to occur on the Project site.

By contrast, the commenter provides no evidence that orange-throated whiptail has a greater potential to occur onsite or has been observed onsite. Further surveys are therefore unlikely to yield helpful information and are not required or appropriate.

The comment also states that the Biological Technical Report is in error in stating that Cooper's hawk is not expected on-site but may forage on-site. The comment states, "At minimum, Cooper's hawk forages on the site, but considering the time of year Noriko saw a Cooper's hawk on site, Cooper's hawks are likely breeding either within the trees that occur on the site's southeast corner or very nearby."

In response, the finding that the Cooper's hawk is not expected to occur onsite is well supported in the Biological Technical Report. As explained in the Biological Technical Report, Cooper's hawk occurs in "oak groves, mature riparian woodlands, and eucalyptus stands or other mature forests" and is a "[r]elatively common bird in urban San Diego County." Cooper's hawk is not expected to occur onsite as:

> Suitable woodland and stands of trees are not present in the project site. This species may forage in the project site, but suitable breeding habitat not present. This species has not been recorded in the immediate vicinity of the project site and was not detected during project surveys.

(Biological Technical Report, Appendix D, Special Status Animal Species Observed or with Potential to Occur for the Pacific Development.)

Thus, although that species may forage at the Project site, Cooper's hawk is not expected to occur/remain on site. It is possible that Cooper's hawk may be nesting nearby the site, potentially along the riparian corridor of San Marcos Creek where riparian forest/woodlands occur. However, it is unlikely

that Cooper's hawk nests or may nest at the Project site. This is because Cooper's hawk is more territorial and susceptible to human presence than many urbanized raptor species. Based on Helix's experience, nesting of this species usually occurs within dense tree canopy cover and in a tree located away from continuous human activity. Given the low density and open structure of the eucalyptus trees on-site, itis unlikely Cooper's hawk would nest at the Project site. Further, a raptor nest would be easily visible at the site; however, no such nests have been identified present in the trees on-site.

Fifth, concerning the Biological Technical Report's finding that peregrine falcon is not expected to occur onsite, the comment states that that Peregrine falcons do not require cliff faces for breeding and that the distinction between breeding habitat and other types of habitat presented in the Biological Technical Report is false because "foraging opportunities are no less important than breeding substrate for successful breeding by peregrine falcon or for any other species."

In response, for Peregrine falcon (*Falco peregrinus anatum*), the Biological Technical Report explained that "Few nest sites are known anecdotally for southern California mostly at coastal estuaries and inland oases." Peregrine, "[i]nhabits a large variety of open habitats including marshes, grasslands, coastlines, and woodlands" and "[t]ypically nest[s] on cliff faces in remote rugged sites where adequate food is available nearby." However, "the species can also be found in urbanized areas nesting on man-made structures." (Biological Technical Report, Appendix D, Special Status Animal Species Observed or with Potential to Occur for the Pacific Development.)

With respect to the Project site, the Peregrine would not be expected because:

> Suitable grasslands [are] present in the project site but [are] relatively small for foraging given the site is entirely isolated and surrounded by development. Also, cliff faces and structures for breeding do not occur on-site. There are no records of this species occurring on-site, the species was not detected during biological surveys in 2018, 2020, 2021, or 2022; the nearest record of species is approximately 27-miles away.

(Biological Technical Report, Appendix D, Special Status Animal Species Observed or with Potential to Occur for the Pacific Development.)

Thus, contrary to the comment, the Biological Technical Report does not assert that Peregrine requires cliff faces for breeding but acknowledges they "typically" nest on cliff faces in remote rugged sites but may also "be found in urbanized areas nesting on manmade structures."

Further, contrary to the comment, the determination that Peregrine is unlikely to occur onsite is not premised solely upon the absence of breeding habitat/cliff faces. Rather, the Biological Technical Report describes that few Peregrine nest sites are known in Southern California; that there are no man-made structures or cliff faces providing for onsite nesting; that the site is small for foraging, isolated, and surrounded by development; that there are no records of species occurrence onsite; that Peregrine was not detected onsite in 4 years' worth of surveys; and that the nearest detection records are distant at 27-miles away.

The finding that Peregrine is not likely to occur onsite is thus supported by substantial evidence in the Biological Technical Report. The commenter provides no substantial evidence to the contrary showing that Peregrine Falcon has a greater potential to occur onsite.

Sixth, the comment provides a table listing the occurrence "likelihoods" for certain species to occur onsite based on the commenters asserted review of eBird and iNaturalist records.

In response, as detailed above, these websites are not considered by the City to be credible for the purpose of acting as a primary source of information. Any member of the public can record an observation, which observation may be wrong, not species or sub-species specific, and/or not location specific. Using credible databases (CNDDB and USFWS) and reasonable distance, habitat types, elevations, and similar database tools, the Applicant's biologists at Helix focused the Project analysis to identify which species have confirmed occurrences nearby the site. This record review was just part of the analysis that occurred to determine whether a species is likely to occur at the site. Refer to Biological Technical Report, Appendix D, Special Status Animal Species Observed or with Potential to Occur for the Pacific Development.

Seventh, concerning the Biological Technical Report's finding that osprey is not expected to occur onsite, the comment states this is a "false argument" because the commenter has "recorded osprey far from any bodies of water."

In response, the commenter cites no fact, evidence, or other support for the comment. The comment is also unclear as to how distant the commenter considers to be "far" from bodies of water. Further, the commenter provides no substantial evidence showing that osprey has a greater potential to occur on the Project site than disclosed in the EIR.

As explained in the Biological Technical Report, osprey is widely seen on the coast, with only "rare transients" observed in the interior portions of southern California (i.e., where the Project site is located). Ospreys are generally "[r]estricted to large water bodies such as rivers, lakes, and reservoirs supporting fish with suitable nesting habitat such as rocky pinnacles or large trees and snags." "Suitable bodies of water are not present in the project site."

Because birds fly, disperse, and migrate, they are quite often observed during these movement periods. Thus, the Biological Technical Report acknowledges that osprey could fly over the site: "[t]he species could potentially disperse across the project site, but suitable habitat for residence or breeding does not occur." This does not mean they are expected onsite. (Biological Technical Report, Appendix D, Special Status Animal Species Observed or with Potential to Occur for the Pacific Development.)

In sum, the Applicant's biologist conclusion that osprey is not expected at the site was supported by fact and evidence, and the EIR adequately disclosed the potential for osprey to disperse across the site. No revision in the analysis is warranted by the comment.

Eighth, the comment states that the determination that large-billed savannah sparrow have no potential to occur onsite because "[s]uitable shoreline habitats [are] not present in the project site" is weak and possibly wrong as there is nothing known about stopover habitat between breeding and wintering sites.

In response, the Biological Technical Report bases the determination that large-billed savannah sparrow (*Passerculus sandwichensis rostratus*) is not present at the Project site, based on several published references, one of which is the San Diego Bird Atlas. The San Diego Bird Atlas states that although savannah sparrow winters and migrates in several habitats in San Diego County, the large-

billed subspecies is strictly a coastal species tied to jetties, beaches, and salt marshes. Thus, because "suitable shoreline habitats are not present in the project site," there is no potential for this species to occur at the Project site. (Biological Technical Report, Appendix D, Special Status Animal Species Observed or with Potential to Occur for the Pacific Development.)

Finally, the comment states that that "the desktop review completed by Helix (2023) is flawed in multiple substantial ways that lead to an inaccurate characterization of the existing environmental setting." The City acknowledges the comment and notes it provides concluding remarks to the prior comments that do not raise new or additional environmental issues concerning the adequacy of the Draft EIR. For that reason, the City provides no further response to this comment.

03-33 The comment first provides an introduction to further comments below and states that the commenter analyzes several impacts "likely to result from the project, a few of which are not analyzed in the DEIR."

The City acknowledges the comment as an introduction to comments that follow. Please refer to the responses below. This comment is included in the Final EIR for review and consideration by the decision-makers prior to a final decision on the project. No further response is required.

The comment then recites information in the Draft EIR related to vernal pools. The comment restates some information contained in the Draft EIR, which does not raise an environmental issue within the meaning of CEQA. To the extent the commenter suggests that vernal pool complexes or mima mounds were not fully considered in the EIR, the commenter is referred to the EIR, Section 3.3.1, Existing Conditions, under the "Vernal Pools (44000)" subheading. This section discusses vernal pool characteristics, including mima mounds, low depressions, soils, and indicator species, both in a general sense and as were observed on the Project site under existing conditions.

The comment provides general information describing vernal pool ecology and provides photographs from vernal pools in Sacramento. The comment states that "assessments of the status and trends of vernal pools at the project site include monitoring efforts that are larger in scope than for making presence/absence determinations of special-status branchiopod species" and that " [m]onitoring of vernal pool geochemistry is also needed, along with composition and cover of both hydrophytic and upland plant species, spatial distributions of fossorial mammal species and symbiotic species of terrestrial arthropod and avian species." The comment then provides a list of species that the commenter asserts have the "potential to occur at the project site and [are] also known to use or rely on California's vernal pools."

In response, the comments providing information and photographs concerning vernal pool ecology and species that may make use of vernal pool complexes do not raise specific environmental issues related to the adequacy of the Draft EIR. For the vernal pools at the Project site, credible databases (CDFW CNDDB, CalFlora, and USFWS) and reasonable distance, habitat types, elevations, and similar database tools, were employed to focus review of species with the potential to occur onsite. The EIR and Biological Technical Report then considered the likelihood of each species occurring onsite in the Biological Technical Report, Appendix D, Special Status Animal Species Observed or with Potential to Occur for the Pacific Development.

The commenter's "Table 2" identifies species the commenter asserts may make use of vernal pool complexes based on two 1996 publications related to western spadefoot toad in coastal central

California, Riverside, and San Luis Obispo (Morey) and avian species (Silveira), as well as the commenter's own observations. The commenter provides no evidence of these species occurring at the Project site or area or occurring in the last 27 years. Further, most of the species are identified as using vernal pool complexes for foraging, flyovers, or resting, not as habitat for breeding, nesting, or other needs.

Further, some of the species listed in the commenter's "Table 2" were considered in the EIR, including western spadefoot toad, white-faced ibis, and burrowing owl. See also Response to Comment O3-32 above, related to western spadefoot toad and Peregrine falcon.

The commenter's opinions on what adequate monitoring and other efforts are necessary to evaluate trends of vernal pools are noted. Given the observations on-site and trends observed via satellite imagery, the DEIR's conclusion that the vernal pools on-site are degrading presents an accurate evaluation of existing onsite conditions. Refer to Responses to Comments O3-16 and O3-30. In regard to the commenter's statements regarding the management of vernal pools and their associated flora and fauna at the site, the Project will permanently preserve and enhance the habitat functions over 17.94 acres of the Project site. Vernal pools would be preserved, enhanced, restored, created, and permanently protected through the various mitigation measures including Mitigation Measures, MM-BIO-2 Vernal Pool Mitigation Plan, MM-BIO-5, Construction Work Limits Fencing, MM-BIO-6, Biological Construction Monitoring, MM-BIO-7a through 7b, Compensatory Mitigation, MM-BIO-8a, Regulatory Permitting, and MM-BIO-8b, Compensatory Mitigation for Impacts to Jurisdictional Resources. See also, Responses to Comments A2-5, A3-8 through A3-12, and O2-20. Permanent management of the preserve area will include monitoring, management, and adaptive management to ensure the success of the vernal pools and species. See MM-BIO-7a through 7b.

O3-34 First, the comment states that DEIR fails to analyze the site's capacity to support wildlife. The comment states that the project would contribute further to habitat fragmentation by "the loss of one of the region's last patches of naturally covered open space." The comment states that the "DEIR expresses no concern over the project's contribution to habitat fragmentation," "uses the existing advanced level of habitat fragmentation as its basis for speculating that multiple special-status species have low occurrence potentials," and "repeatedly points out that the project site is surrounded by development."

In response, the comment restates information in the Draft EIR concerning the fact that the project site is an infill development largely surrounded by development. Based on the location in an urbanized area, low diversity of habitats, and the low plant cover on-site, the site's capacity to support wildlife is considered limited.

The commenter's statement about the site being one of the last- patches of naturally covered open space in the region is incorrect. There are much larger and more expansive open space areas in the City and unincorporated north County San Diego within 5-miles and beyond, which are also contiguous with other naturally covered habitats. See, for example, Draft EIR Figure 2-7, Cumulative Project Map, and the City's General Plan, Figure 4-2, Wildlife Corridor and Linkage, and Figure 4-3, Open Space Areas, which are incorporated herein by reference. (available at https://www.san-marcos.net/home/showpublisheddocument/8478/636597348039500000)

The surrounding development condition at the site is a major factor in the evaluation of the site's ability to support wildlife. Given the limited number of wildlife species observed on the site and as discussed

in Section 3.1 (Wildlife Corridors/Core Wildlife Areas) of the DEIR, the site is not expected to serve as a habitat linkage for terrestrial mammals or riparian migratory birds. The site supports limited habitat for some birds, reptiles, small mammals, and vernal pool invertebrates.

The site is currently isolated and presents a fragmented habitat under existing conditions. Development of the site would not increase fragmentation, where the site is currently surrounded by existing roadways and development in an urban setting. Further, the project proposes to conserve and rehabilitate over half (approximately 54%) of the naturally covered areas of the site which would retain habitats for birds, reptiles, small mammals, and vernal pool invertebrates.

Second, the comment states that no effort was directed to find and record all of the bird nests on site – an effort that would be extraordinarily difficult due to the size of the project area, the numbers of birds likely to nest there, and the skill of birds at hiding their nests. The comment cites a 1948 (Young) and 1982 (Yahner) study of sites in "grassland-wetland-woodland" complexes and states that, assuming the 15.02-acre project footprint supports about 80% of the total nesting density of the above-referenced study sites, one can predict a loss of 412 bird nests. The comment states that the loss of 412 nest sites would qualify as a significant project impact to birds that has not been quantitatively addressed in the DEIR. The comment also states that the project would prevent the production of 1,195 fledglings per year and 1,360 birds per year based on productivity in Young's (1948) study site. The comment states that the DEIR needs to be revised to appropriately analyze the project's impacts to wildlife caused by habitat loss and habitat fragmentation.

In response, over the course of the field reconnaissance surveys conducted at the site in 2018, 2020, 2021, and 2022, biologists observed trees, structures, shrubs, and other vegetation for nesting activity by bird species. The focus of field surveys was on the potential presence of nesting by special-status species, not more common bird species. No nests of special-status species were observed onsite.

Despite not observing nests onsite, the Draft EIR evaluated impacts to nesting birds and found that the Project has the potential to result in impacts to nesting birds if construction were to occur during the nesting season. The Draft EIR proposed mitigation to reduce such impacts below significance consistent with the Migratory Bird Treaty Act and California Fish and Game Code. Specifically, the Draft EIR states:

> The project site contains trees, shrubs, and other vegetation that provide suitable nesting habitat for common birds, including raptors, protected under the MBTA and CFGC. Construction of the proposed project includes vegetation clearing, which could result in direct impacts to nesting birds if the removal or trimming of vegetation occurs during the bird nesting season (January 15 through September 15). Such impacts to nesting birds would be in violation of the MBTA and CFGC and would be significant, especially if the activities would impact the nesting of candidate, sensitive, or special status species. Additionally, construction activities could result in indirect impacts through disturbance to nesting from noise, dust, and physical presence, such that the disturbance results in nest abandonment or nest failure. These indirect impacts would also be considered significant. Implementation of mitigation measure MM-BIO-4 would require preconstruction surveys prior to impacts and construction fencing and biological monitoring measures MM-BIO-5 and MM-BIO-6 would reduce potentially significant impacts on nesting birds, including raptors, to less-than-significant levels. (Draft EIR, p. 3.3-25.)

MM-BIO-4 requires that:

> [A]ny project construction activities requiring the removal and/or trimming of vegetation suitable for nesting birds (including clearing, grubbing, trenching, grading, or any land disturbances) shall occur outside of the breeding season for general birds, including raptors (January 15 to September 15). The City may waive this condition, provided that the following additional avoidance measures are taken. If the construction activities cannot avoid the bird breeding season, a qualified biologist shall be retained to conduct a pre-construction nesting bird survey within 7 days prior to the activities to confirm the presence or absence of active bird nests. If no active bird nests are found by the qualified biologist, then the activities shall proceed with the reassurance that no violation to the MBTA and CFGC would occur. If an active bird nest is found by the qualified biologist, then vegetation removal and/or trimming activities at the nest location and within 300 feet for passerine birds and 500 feet for raptors shall not be allowed to occur until the qualified biologist has determined that the nest is no longer active. Buffers may be reduced only at the discretion of the qualified biologist, depending on the bird species and construction/vegetation removal activities required in the vicinity of the active nest.

MM-BIO-5 and MM-BIO-6 provide for construction work limits, fencing and biological construction monitoring, which would appropriately delineate the construction boundaries and provide for retention of a qualified biologist to ensure avoidance of sensitive biological resources (including nests) throughout Project construction.

Further, the Project proposes to conserve and rehabilitate over half (approximately 54%) of the naturally covered areas of the site, which would retain habitats (including any nesting areas) for birds. Thus, the potential for the Project to impact nesting birds has been appropriately evaluated and mitigated in the EIR. A focal nesting bird inventory survey is not typical for preparing biological technical studies at this stage of the CEQA process. The quantitative analysis requested by the commenter is unlikely to provide additional or helpful information needed to evaluate or mitigate for Project impacts.

The commenter's argument to the contrary extrapolates from studies that have no relation to the Project site. Based on the limited and low density of plant cover to support nests, as well as the relatively low number of birds observed within habitat on-site during the various field surveys of the site, the likelihood the site would support 412 bird nests per year is unlikely, speculative, and unsupported by substantial evidence. The Young (1948) survey cited by the commenter considered nesting birds at a single park with a pond in Madison, Wisconsin over 76 years ago. (See, https://sora.unm.edu/sites/default/files/journals/wilson/v061n01/p0036-p0047.pdf) The plant communities and bird species were significantly different than those occurring in the Project area.

Similarly, the Yahner (1982) survey looked at avian nest densities at seven farmstead shelterbelts (i.e., plantings of rows of shrubs and trees) at the University of Minnesota's Rosemount Agricultural Experiment Station in Dakota Co., Minnesota. (See, https://sora.unm.edu/sites/default/files/journals/wilson/v094n02/p0156-p0175.pdf). These surveys' limited observations in tree-heavy areas of the Midwest cannot reasonably be extrapolated to this site in an infill area of San Marcos, California. The habitat is not comparable to the grassland that dominates the Project site.

Further, the mathematical analysis used by the commenter to extrapolate bird nests and reproductive success for a particular site is misleading and inaccurate. Speculation of future impacts based on an unknown number of bird nests based on habitat removal, based on outdated or inapplicable surveys, is inappropriate, and such speculation is typically not part of an effective project impact analysis under CEQA.

Third, the comment states that similar to birds, the DEIR should also estimate the site's capacity to support other species. The comment states that CDFW recommended a 25% project alternative, and, if the project goes forward development should be constrained to the southern aspect of the Project area. The comment states that the proposed project footprint would take 22 (61%) of the 36 vernal pools depicted on DEIR Figure 3.3-2, as well as 9 (69%) of 13 depressions, "most of the Orcutt's brodiaea, nearly all of the graceful tarplant, and all of (sic) the Diegan coastal sage scrub." The comment states that the DEIR needs to be revised to analyze and disclose this impact.

In response, related to wildlife and vegetation species, the Draft EIR evaluated the existing condition of the site based on desktop data review accompanied with field surveys, including focused surveys, where considered appropriate based on reconnaissance efforts, are standard practice for documenting and evaluating species abundance for a given site. Refer to Section 3.3.1, Existing Conditions, of the EIR. The EIR also qualitatively considered the effect to biological resources that would occur if the Project was not developed in the analysis of the "No Project Alternative," Section 4.4.3 of the EIR. The EIR considered a 25% Alternative in the analysis of the "Reduced Development Footprint Alternative," in Section 4.4.5 of the EIR. Refer also to Response to Comment A2-4 and A3-4, addressing an additional reduced footprint alternative analyzed in the Final EIR, located solely in the southern 29% of the site.

The EIR fully evaluated and disclosed potential impacts to vernal pools, brodiaea, graceful tarplant, and Diegan coastal sage scrub. Refer to Section 3.3.1, describing existing conditions and Section 3.3.5, evaluating project impacts. The comment does not identify any specific issues with the EIR analysis. Accordingly, no further response is provided.

Regarding impacts and the site's productive capacity, this analysis is speculative and based on assumptions of a future conceptual site condition rather than analysis and observed evidence of the existing condition. The proposed impacts to biological resources existing on-site are already presented in Section 3.3.5 (Project Impact Analysis) of the DEIR as well as DEIR Appendix C, Biological Technical Report.

03-35 This comment discusses wildlife movement at the site and states that the EIR assumes wildlife could only travel to the site by direct terrestrial linkage. The comment states the project would cut wildlife off from one of the last remaining stopover and staging opportunities in the project area, forcing volant (flying) wildlife to travel even farther between remaining stopover sites. The comment states this impact would be significant and unmitigated.

The comment is incorrect that the EIR did not consider use of the site by flying (bird, bat, arthopod) species. Please see refer to Response to Comment 03-34 for additional information. Refer also to the Draft EIR, p. 3.3-12, which explains that:

> The project site is not identified as a preserve, nor are there preserve lands located within 2,000 feet of project site. The project site is not contiguous with any undeveloped land.

> Given the barrier posed by surrounding development, the site is not expected to serve as a regional wildlife corridor or substantial habitat linkage that would be used by large mammals, riparian birds, or migratory birds.

Figure 4-2 of the City of San Marcos General Plan further demonstrates that no wildlife corridors or linkages are located on or near the site. In any event, flying species could continue to use the preserved portion of the site as a stopover between offsite habitat areas.

03-36 This comment states that the DEIR neglects to include a large portion of habitat at the site that is essential to many species: the aerosphere. The comment states that "Compared to other residential projects I have seen proposed in recent years, the residential structures of the Pacific Specific Plan would pose lower risk of bird-window collision mortality" "because there would be less glass on the facades of the buildings." The comment provides a summary of various example studies of bird collisions, states that windows and glass-façade buildings "kill many birds" and states the commenter's opinion that the proposed project would still result in many collision fatalities of birds.

In response, the comment provides background information concerning bird fatalities, but, as the comment notes, the Project would be designed in a manner that would not result in substantial bird fatalities from collisions. Specifically, the Project would be designed to minimize glare, reflective materials, and finishes, as discussed in the EIR's Aesthetics chapter, Section 3.1.4, under Threshold No. 4:

> The project developer would be required by the City's Municipal Code Section 20.300.080, Light and Glare Standards, to minimize use of reflective building materials and finishes, as well as reflective lighting structures and metallic surfaces to the extent feasible to impede any potential-generated glare. As shown in the project renderings (Figures 2-6a through 2-6d in Chapter 2 of this EIR), the proposed development would incorporate materials and finishes that would minimize the potential for glare, including set back windows, window awnings, and neutral colors for building facades.

The comment does not evidence that the Project will result in a significant impact pursuant to the applicable thresholds of significance. Further, the studies cited by the commenter show variable fatality results, from 1-2 birds/building/year to more than 84 birds/building/year, occurring in numerous locations across the US (Washington State, New York, San Francisco, Illinois, Oregon, etc.). The comment provides no evidence that the Project would cause a significant number of bird fatalities in this infill area of San Marcos; and indeed, the commenter seems to acknowledge that it would not. Finally, the discussion and evaluation of impacts to the aerosphere as it relates to wildlife habitat is not typical for a CEQA analysis of a relatively small-scale residential development project.

03-37 This comment discusses bird collision studies and states that the DEIR does not directly disclose the extent of glass windows on the proposed new buildings. Averaging the deaths per square meter of glass in the studies cited in comment 03-36 and estimating window sizing by the commenter's own calculus, the comment predicts that the project would result in 516 annual bird deaths by collisions with building windows. The comment states that the majority of bird-window collision deaths would be of birds protected under the Migratory Bird Treaty Act and under the California Migratory Bird Protection Act, thus causing significant unmitigated impacts. The comment states that the DEIR should be revised to appropriately analyze the impact of bird-glass collisions that might be caused by the project.

Refer to Response to Comment O3-36. As discussed therein, the commenter fails to support the extrapolation and averaging of data from the studies cited. The studies show variability depending on location, building size, materials, the spatial extent of glass, orientation, whether glass was marked or otherwise visible. Here, the Project would be designed to minimize glare and minimize the use of reflective building materials and finishes. Glass would not be continuous, unlike, e.g., the glass walkway that resulted in bird mortality at Washington State University in 1976 referenced in comment O3-36. The Project would be typical of multi-family residential housing development and is located on an urbanized infill development site among similarly sized buildings. Further, the project site does not provide suitable habitat as a corridor for bird migration where waves of numerous birds fly would through the site. The statement that the Project would result in 516 annual bird deaths via collisions with building windows – more than 1 bird per day – is speculative, based on assumptions, and not supported by substantial evidence. Furthermore, this impact and magnitude are not known; to presume such a significant impact is inappropriate. The fatality rates presented by the commenter are not supportable by professional standards. No additional analysis or mitigation is needed in response to the comment.

O3-38 This comment states that "wildlife must…cross roads used by the project's traffic" and that the DEIR neglects to address wildlife mortality and injuries caused by project-generated traffic. The comment states that a study of traffic-caused wildlife mortality is needed of whether increased traffic generated by the project site would similarly result in local impacts to thousands of wildlife individuals. The comment provides various photos of animal road crossings that were not taken on or near the Project site (from Imperial County, Solano County, and other undisclosed locations).

In response, wildlife mortality as a result of collisions with vehicle traffic is a known risk and will not be exacerbated by the Project. The Project would not widen the size of existing off-site roads and no new off-site roadways would be constructed (Refer to DEIR Appendix K). Further, the Project is located in an urbanized infill area surrounded by development and there is no contiguous habitat to the site. Quadruped movement to and from the site is likely low, based on the surrounding development and lack of adjacent habitat. It is not considered a wildlife corridor, and there is little expectation that wildlife would cross the roads used by Project traffic in this area due to a lack of connection to habitat offsite. The project site is entirely bounded by existing development, not contiguous with native habitats, and is outside of areas where wildlife movement opportunities do occur (along undeveloped open space habitat corridors). Refer to Section 3.3 of the EIR.

The comment cites the "nearest" study undertaken in Contra Costa County in Northern California on Vasco Road, an extremely dangerous rural highway. (https://en.wikipedia.org/wiki/Vasco_Road) Applying mortality data from a study conducted along a rural stretch of a road in Contra Costa County and using it to formulate an estimate of wildlife loss from project-generated traffic is conjecture and not supportable by standard CEQA review practices. Given the project's minimal contribution to existing roadway volumes, there would be no substantial adverse effect to protected and more common wildlife species. No additional analysis is necessary in response to the comment.

O3-39 This comment further discusses traffic mortality and, citing the Contra Costa study, makes a prediction that 1,054 wildlife fatalities would occur per year at the project site. The comment asserts this is a significant unmitigated impact, and that mitigation is needed.

Refer to Response to Comment 03-38. Relying on the Contra Costa study and applying it to the site is nothing more than conjecture and speculation. Further, the commenter estimates at mortality rates per vehicle miles traveled based on unsubstantiated inputs; these mortality rates are not supportable by professional standards. There would be no substantial adverse effect to protected or more common wildlife species, and no additional analysis is necessary in response to the comment.

03-40 This comment discusses dog ownership and states that the future residents of the project would treat the on-site habitat as a dog park. The comment states that the DEIR fails to analyze potential impacts to wildlife that could result from off-leash dogs' use of the habitat preserve.

In response, EIR Appendix C, Biological Technical Report (see Section 5.0) discusses the exclusionary fencing proposed by the project. Specifically, the Project includes installation of security fencing which provides a physical barrier around the entire boundary of the on-site habitat preserve area. Thus, there would be no ability for future residents to use the on-site habitat as a dog park. This fencing would be chain-link or similar with small openings, which would function to preclude any off-leash dogs from entering the on-site habitat. The Project does not include trails or trailheads within the on-site habitat. There would be no public access allowed into the conservation/mitigation area. Although the Project is residential and would generate an increase of human presence and associated pets on-site, such activities would be restricted to the developed areas only.

03-41 This comment discusses domesticated house cat ownership and impact to wildlife. The comment states that 355 new cats would be introduced to the site by the project, which would kill 43,266 wildlife species at the site per year. The comment discusses downstream loading of *Toxoplasma gondii.* The comment states the project would result in significant unmitigated impacts, and that it would be prudent of the project to consider constraints on house cat ownership such as requiring cats to remain indoors, or to explore alternative project sites where free ranging cats would cause fewer wildlife fatalities, or to fund the City to manage free-ranging house cats to check their number.

In response, using an assemblage of studies on bird predation by house cats and then applying them to estimate the number of vertebrate wildlife killed as a result of future residents of the site with pet cats is speculative and not supportable by professional standards. The prediction that 355 new cats would be introduced by the Project and these cats would kill over 118 animals on-site every day is speculative and inappropriate. Further, as discussed in the EIR Appendix C, Biological Technical Report (see Section 5.0), the project would provide security barrier fencing along the entire periphery of the on-site habitat preserve area. As stated in response to comment 03-40above, the fencing would limit the size of openings or gaps in order to preclude entry by domesticated pets, which also applies to house cats.

Similarly, using research on the parasite Toxoplasma gondii, which can infect domesticated cats, and inferring that pet house cats from the proposed residences on the site would contribute to downstream loading is speculative and further analysis is not warranted under standard professional practices. No additional analysis or mitigation is considered necessary in response to the comment.

03-42 This comment concerns the DEIR's cumulative impact analysis at DEIR pp. 3.19-8 to 3.19-9. The comment repeats statements from NOP letters in the DEIR from USFWS and CDFW. The comment states the Cooper's hawk, the red-tailed hawk, and other species at the site will be unable to survive as a result of the Project's contribution to habitat fragmentation. The comment states the reasoning is

based on the "false premises that (1) regulations determine mitigation measures, and (2) no-net-loss of wetlands is achieved after each project." The comment states there is no evidence that construction grading outside the breeding season effectively mitigates for impacts to nesting birds. The comment states that without a regional monitoring program to monitor cumulative impacts, there is "no evidence" of the efficacy of mitigation related to cumulative projects. The comment states that "[i]ndividually mitigated projects do not negate the significance of cumulative impacts" and states "the DEIR effectively provides no cumulative effects analysis." The comment states that, "[t]he DEIR provides no explanation of how the project's compliance with the MHCP would ensure the project's contributions to cumulative impacts to special-status species of wildlife or to wetlands would be satisfactorily mitigated." The comment restates prior comments concerning asserted animal mortality.

In response to Dr. Smallwood's comment that the listed species on-site are one or a few projects away from regional extirpation is false. Note that there are several properties in the range of these species, including preserve lands, that support these species and protect them from extirpation. The project would also cumulatively contribute to perpetual protection of more than half the Project site, supporting these species.

On the effectiveness of Mitigation Measure MM-BIO-4 avoidance of nests by constructing outside the nesting season or establishing a construction buffer from active nests, this measure would mitigate impacts to nesting birds by not physically destroying nests and by minimizing the noise, dust, and physical presence from construction activities that may result in nest abandonment or failure. (See Draft EIR p. 3.3-25.) A nest avoidance buffer 300 feet for passerine and listed bird species and 500 feet for raptors is generally recommended by CDFW and biologists. MM-BIO-4 implements these recommendations.

In response to the comment regarding the reasoning for finding cumulative impacts to wetlands not cumulatively considerable, as noted in the EIR, projects in the region are required by regulation to meet a no-net-loss standard for both function and spatial area of wetland and non-wetland resources by state and federal regulatory agencies. Mitigation measures are imposed by lead agencies, which are presumed to comply with the law. The DEIR's statement that it is presumed that all reasonably foreseeable cumulative projects would be required to conform to existing regulations with respect to avoidance, minimization, and mitigation of impacts to sensitive habitat, achieving no-net-loss of wetlands and like/kind replacement for impacts to sensitive habitat that cannot be avoided is thus reasonable and supported. Refer also to mitigation measures MM-BIO-8a and 8b, which provide measures to reduce project impacts on jurisdictional resources to less than significant.

Further, a Mitigation Monitoring and Reporting Program (MMRP) will be prepared for the project as part of project approval to comply with Public Resources Code Section 21081.6(a)(1), which requires public agencies to adopt such programs to ensure effective implementation of mitigation measures. Other cumulative projects subject to CEQA would be subject to the same requirements to ensure mitigation is effectively monitored and enforced.

For the same reason, mitigation is effective without a "regional monitoring program." The City would ensure enforcement of cumulative project mitigation through appropriate, individualized monitoring and reporting. In addition, where appropriate, the regulatory permitting process would provide a further enforcement mechanism applicable to the Project and cumulative projects. Here, Project mitigation requires preparation, approval, and implementation of a monitoring plan (i.e., Habitat

Mitigation and Monitoring Plan [HMMP]) as well as a perpetual management plan (i.e., Preserve Management Plan [PMP]), which would both be reviewed and subject to approval by the City and applicable resource agencies.

Consideration of individual project impacts and adoption of mitigation would effectively address cumulative effects related to biological resources. This is because potential impacts of cumulative development on biological resources tends to be site specific, and the overall cumulative effect would be dependent on the degree to which significant vegetation and wildlife resources are protected on each property.

It is further notable that the City's General Plan balances planned development with open space preservation. Under the General Plan, the Project site is designated for infill development, not for protection as open space.

Regarding compliance with the MHCP, responding to the threshold question whether the Project, together with cumulative projects, would "[c]onflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan," (Draft EIR p. 3.3-21), the EIR explained that the Project would not conflict with the requirements and policies of the MHCP and San Marcos Subarea Plan (Draft EIR p. 3.19-9, see also Draft EIR pp. 3.3-29 to 3.3-30.) For example, because the proposed project site is excluded from the species and habitat conservation estimates of the MHCP, impacts at the site would not affect the MHCP. Conversely, any conservation of species or habitat at the project site would add and contribute positively to the regional elements to protect and conserve sensitive biological resources of the MHCP. The project also proposes to adhere to the MHCP narrow endemic species policies to the extent practicable and ultimately would result in no loss of narrow endemic species. In fact, implementation of the project's HMMP and PMP are anticipated to result in an increase of such species on-site, as well as provide perpetual protection. Further, although not required, the project proposes to mitigate for species and habitat in accordance with the standards and mitigation ratios prescribed in the MHCP.

Because cumulative projects would also be required to comply with relevant MHCP and Natural Community Conservation Plan policies, cumulative impacts would be less than significant. The comment misstates the analysis, which was appropriate in light of the threshold question and supported by analysis in the EIR.

With regard to wildlife collisions and kills, please see the responses to comments 03-37, -38, -39, -40, and -41.

03-43 This comment relates to the proposed rare plant transplantation under MM-BIO-1. The comment questions whether rare plants can effectively be transplanted to elsewhere on the Project site. The comment recommends that a new EIR be prepared to more carefully consider the use of translocation as a mitigation measure and goes on to cite California Native Plant Society to advocate for avoidance and to summarize CNPS (1998) mitigation recommendations and CDFW's (1997) expectations for mitigation. The comment recommends that the security deposit for the mitigation should greatly exceed 120% of the estimated cost of the transplants "[g]iven the history of poor success" and that the security deposit should "be large enough to cover the cost of additional compensatory mitigation should some portion of, or all of, the transplants fail."

Refer to Response to Comment O2-18, which details that the project was specifically designed to minimize impacts to these rare plant species; and Response to Comments A3-8 and A3-11, which address the capacity of the mitigation area to accommodate translocation, the details of translocation plans, and the security deposit. See also, the 2023 Summary Report from Helix (Attachment 1 to these Response to Comments), which confirms the capacity of the site to complete on-site translocation. Project mitigation requires that the City and regulatory agencies review and approve the HMMP and PMP prior to Project construction. These plans will factor in the existing on-site resources and include avoidance and minimization techniques (e.g., pre-construction surveys and species location demarcating, seasonal timing of work, using hand tools, and using rubber tire or rubber-tracked vehicles) as well as adaptive contingency measures (e.g., additional seed collection and distribution, additional plantings and inoculation, more intense weed control, and seeding of known pollinator plants) to ensure inadvertent significant impacts would not occur.

On the effectiveness of translocation, contingency planning, and the security deposit, please refer to Responses to Comments O2-4 through O2--8. Two local examples of brodiaea translocation success are at the Joli Ann Leichtag Elementary Preserve and the Rancho Santalina Preserve. Due to the distribution of rare plants at the site, full avoidance is not possible, and mitigation of rare plants would be required. The translocation approach is a method that is typically effective and acceptable to mitigate impacts to rare plants when done appropriately.

As requested by CDFW, the management funding amount and mechanism would be based on a Property Analysis Record (PAR) or similar cost estimation method, as set out in MM-BIO-7b. The deposit would cover contingency planning, which is set forth in the HMMP to ensure mitigation success. Ultimately, the project would be required to adhere to the dollar amount prescribed by the resource agencies during approval and permitting for the Project.

03-44 This comment refers to MM-BIO-2 Vernal Pool Mitigation Plan and states that creation of vernal pools where they do not currently exist would require the destruction of the complex of soil, plants, and wildlife at the creation sites. The comment states the prudent thing is to leave vernal pools undisturbed. The comment states compensatory mitigation is commonly required by U.S. Army Corps of Engineers (USACE) and other regulatory agencies where vernal pools will be adversely affected or destroyed by a project, but compensatory mitigation has limited efficacy.

Refer to Responses to Comments O2-9 through O2-11, which discuss the Project alternatives, vernal pool mitigation, and anticipated success. As discussed, Project mitigation provides for the enhancement, creation, and expansion to ensure that impacts to 0.44 acres of vernal pools are appropriately mitigated at a 3:1 ratio. The mitigation plan for vernal pools would be reviewed and approved by the USACE and other resource agencies as applicable. This comment is informational and does not raise specific issues related to the adequacy of the Draft EIR.

03-45 This comment concerns MM-BIO-3 Listed Species Conservation Measures and the required consultations with the USFWS and CDFW regarding San Diego fairy shrimp, thread leaved brodiaea, and San Diego button celery. The comment states that the DEIR should be withdrawn and revised with descriptions of viable mitigation options for these species and states that, in the commenter's opinion, impacts would be unmitigable and would cause irreparable impacts.

Refer to Responses to Comments A3-7 through A3-12. As discussed therein, the proposed mitigation for these species are as follows: approximately 0.27-acre existing vernal pool preservation, approximately 0.28-acre of vernal pool creation, approximately 0.18-acre of vernal pool expansion, and approximately 0.02-acre vernal pool enhancement; approximately 6.83 acres of existing thread-leaved brodiaea preservation; approximately 2.12 acres of existing Orcutt's brodiaea preservation; approximately 5.88 acres of thread-leaved brodiaea and Orcutt's brodiaea translocation; and, approximately 1.99 acres of existing grassland preservation; refer also to EIR Section 3.3, Biological Resources. The comment provides no factual basis for the assertion that impacts would be unavoidable or inadequately mitigated. The commenter's opinion is noted.

03-46 This comment concerns MM-BIO-4 Avoidance of Nesting Birds and Raptors. The comment states that nesting detection surveys should be completed to inform both an EIR and the preconstruction surveys. The comment states that MM-BIO-4 would not reduce impacts to less-than-significant levels because the project would destroy the productive capacity of the birds that breed on the project site.

Refer to Responses to Comments 03-34 and 03-42 regarding nest detection inventory surveys, productive capacity, and the effectiveness of mitigation.

03-47 This comment concerns MM-BIO-5 Construction Work Limits Fencing. The comment states that a construction fence would contain the damage that would be caused by construction grading but would destroy the productive capacity of the birds that breed on the project site.

Refer to Responses to Comments 03-34 and 03-42 regarding nest detection inventory surveys, productive capacity, and the effectiveness of mitigation. The intent of MM-BIO-5 fencing is to prevent inadvertent impacts to sensitive biological resources beyond the approved work limits. Construction fencing is intended to work in conjunction with setbacks (MM-BIO-4) and biological monitoring (MM-BIO-6) to reduce construction related impacts to nesting birds (and other sensitive species) to less than significant levels. The commenter's opinion that the Project would "destroy the productive capacity of birds that breed on the project site" is, as discussed in prior responses, unsupported and speculative.

03-48 This comment concerns MM-BIO-6 Biological Construction Monitoring. It states that the measure "should be implemented" but "would not avoid impacts to wildlife as claimed in the DEIR." The comment states the biological monitor should have the authority to rectify situations that pose threats to wildlife and that the events associated with construction monitoring need to be summarized in a report that is subsequently made available to the public.

Refer to Response to Comment 03-47. MM-BIO-6 is intended to be implemented as part of the broader mitigation program discussed in the EIR to routinely evaluate project implementation, minimize construction impacts, and document project compliance with the biological requirements. MM-BIO-6 does allow the biologist to implement corrective measures as necessary, and to promptly report any non-compliance to the City:

> If items of non-compliance are identified, the biologist shall notify the on-site construction superintendent immediately to discuss and implement corrective actions. Issues of non-compliance that result in additional impacts to sensitive biological resources shall be documented and provided to the City within 72 hours of identification. Mitigation for

unauthorized impacts shall adhere to the applicable measures in the Biological Resources Technical Report prepared for the project.

Further, the other mitigation measures grant the biologist this authority. See, for example, MM-BIO-4, provides the biologist shall establish nest buffers and provide no vegetation removal or trimming activities occur within the buffer until the nest is no longer active; MM-BIO-5, provides the biologist shall survey fencing and determine the need for additional inspections or monitoring during construction, etc.

Members of the public are able to request reports made to the City under the California Public Records Act.

03-49 This comment refers to MM-BIO-7a, MM-BIO-7b, and MM-BIO-8b and states that mitigation ratios proposed are based on acreages, which fail to mitigate the project's impact to the number of vernal pools that would be lost. The comment states that, on an acreage basis, the project would take 34% of the vernal pools, whereas on the basis of the number of vernal pools, the project would take 61% of the vernal pools. The comment states the mitigation approach adopted in the DEIR assumes that larger vernal pools are more valuable than smaller vernal pools, but the DEIR cites no evidence that value grades with vernal pool size. The comment states the proposed mitigation does not offset impacts of degradation of the vernal pools that would be left on the project site. The comment states remaining vernal pools would be vulnerable to even more intrusion from people and dogs and cats and more accumulation of litter with the addition of 1,399 new residents to the site. The comment states typical mitigation ratios should not apply to this project and asserts the commenter's opinion that potential Project impacts are unmitigable.

In response, it is the commonly accepted practice and industry standard that impacts to vegetation types, including vernal pools, be mitigated according to acreage. Mitigating by acreage at a 3:1 ratio, as required here, will improve, restore, and create vernal pool habitat at 3 times the acreage of vernal pools impacted by the project. Further, MM-BIO-2 outlines the mandatory components of the Vernal Pool Mitigation Plan, which will ensure the success of vernal pool mitigation through creation/ expansion, re-establishment, restoration, monitoring, contingency measures, and verification upon successful completion. Ultimately, the Vernal Pool mitigation plan for the project would be reviewed by the City and the permit-issuing resource agency for the project. Review and approval would be required prior to any land disturbance, clearing, grubbing, or grading of the project site. These elements will ensure the effectiveness of vernal pool mitigation.

For clarification, the Draft EIR does not assume larger pools are more valuable than smaller pools. The mitigation is based on the typically acceptable approaches, as mentioned above.

Vernal pools remaining onsite would not be degraded by the Project, but would be preserved, enhanced, restored, created, and permanently protected through the various mitigation measures and permanent conservation of the habitat area. Refer to Mitigation Measures, MM-BIO-2 Vernal Pool Mitigation Plan, MM-BIO-5, Construction Work Limits Fencing, MM-BIO-6, Biological Construction Monitoring, MM-BIO-7a through MM-BIO-7b, Compensatory Mitigation, MM-BIO-8a, Regulatory Permitting, and MM-BIO-8b, Compensatory Mitigation for Impacts to Jurisdictional Resources. See also, Responses to Comments A2-5, A3-8 through A3-12, and 02-20.

As discussed in Responses to Comments 03-40and -41, intrusion into on-site habitat preserve by people, dogs, and cats is not expected in light of the inclusion of preserve barriers and fencing

management, monitoring, and reporting. Additionally, public signage would be installed around the preserve to inform the public of the biological preserve and that trespassing is not allowed.

The commentor's opinion that typical mitigation ratios should not be applied is noted. The comment will be included as part of the Final EIR. No further response is necessary.

03-50 The comment concerns MM-BIO-8a and states that regulatory permits are not a mitigation measure, and that the measure should be removed from the current DEIR, and it should not appear in a recirculated DEIR.

In response, "a condition requiring compliance with regulations is a common and reasonable mitigation measure and may be proper where it is reasonable to expect compliance." (*Oakland Heritage Alliance v. City of Oakland* (2011) 195 Cal.App.4th 884, 906.) Impacts to aquatic resources under regulation by state or federal agencies must adhere to mitigation prescribed by those agencies, which is presented in the form of the applicable permit. Thus, obtaining additional permits or consulting with agencies is appropriately discussed in mitigation measures, as identified in the EIR.

03-51 Summarizing the commenter's letter, the comment provides opinions regarding additional protocol-level surveys and recommendations of additional mitigation measures related to pest control, cats, bird-window collisions, road mortality, funding wildlife rehabilitation facilities, and landscaping.

In response, the comment provides concluding remarks and recommends mitigation based on the commenter's prior opinions. Please refer to prior responses to this comment letter, which explain that no additional protocol-level detection surveys are warranted, and that no new significant impacts have been identified as a result of these comments that would require mitigation. The comments regarding protocol level surveys do not consider the geography, habitat, and credible observations at and around the site. As stated previously, the comments concerning cats, bird-window collisions, and road mortality are considered to be speculative and are unsupported by evidence.

With respect to landscaping, the commentor's opinion is noted. The comment will be included as part of the Final EIR. No further response is necessary.

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Comment Letter I1

From: Leslie Kuhn <glesliekuhn@gmail.com>
Sent: Wednesday, April 26, 2023 4:10 PM
To: Pacific Project <pacificproject@san-marcos.net>
Cc: Leslie <kuhnl@msu.edu>
Subject: Las Posas Vernal Pools

Dear Mr. Garcia,

I am writing to provide input concerning the Pacific project proposal for the 40 acres bounded by S. Las Posas Road, S. Pacific, Linda Vista, and La Mirada in San Marcos. It is not clear what is proposed for the site, nor the timescale, given that San Marcos Planning Department's permit application signage at the site has either been destroyed (NE corner) or is two years out of date and has key information taped over (SW corner). There are recent commercial for sale signs for 33 acres posted around the property. The confusing signage, combined with negligence in protecting this critical vernal pool complex with documented endangered animal (San Diego fairy shrimp) and plant species, is disturbing for a natural feature of such importance. I1-1

My professional background is in directing a research lab and graduate and undergraduate teaching as Professor of Biochemistry & Molecular Biology and Computer Science at Michigan State University for 25 years, preceded by 5 years of postgraduate research at The Scripps Research Institute in La Jolla. Alongside, I have been keenly active in the Stewardship Network (restoring natural areas) and the Michigan Botanical Society. I led a two-year citizen science effort to map and monitor the plants and animals in 50 candidate vernal pools in Meridian Township. Our work led to finding that many of the sites hosted fairy shrimps, wood frogs, and spotted salamanders and thus were true vernal pools. We also collected data on vernal pool macroinvertebrates and plants and rediscovered a salamander species not observed for decades in the region. Since moving back to North County, I have worked with both the Escondido Creek Conservancy and California Native Plant Society's native plant monitoring and restoration teams. I1-2

Similar to our vernal pool work in Michigan, the vernal pools at Las Posas have been the focus for field work by students in the Biology and Environmental Sciences programs at Palomar College for years, allowing them to learn first-hand about this rare wetland habitat. Together, Professor Armstrong and his students have documented rare and endangered plants and the federally endangered San Diego fairy shrimp in the San Marcos vernal pools: I1-3

http://www.waynesword.net/vernal1.htm

Before seeing this complex of vernal pools earlier in the week, I was impressed with the City of San Marcos' land preservation from hiking in Double Peak Park. Visitors like me have reported online: "best views of North County!" and "absolutely gorgeous". However, this vernal pool site is far more important and unique, representing a wetland habitat that is now extremely rare in California, with 95% of California vernal pools lost to agriculture or building. Given our warm and dry climate, these fresh seasonal wetlands featuring rare and beautiful wildflowers - the bright glimmer of new life - are the most amazing places, like the Garden of Eden! There is a I1-4

remarkable opportunity here for the City of San Marcos to work instead to conserve this magical place. This site also presents a great opportunity to engage knowledgeable members of the community in restoring the vernal pools and upland mima mounds by removing trash, invasive species, and damage recently inflicted by unauthorized offroad vehicles, and creating engaging intrepretive information online. This is an era when the public needs hope - that we can work together and succeed in saving the most special places of our natural heritage - rather than watching big money pave the way to losing them. I1-5

The photos attached below, taken in the last week and a half from the road crossing the Las Posas vernal pool site and a much smaller site in Miramar (now conserved and restored), give you a feeling for the sensitive and beautiful plants remaining, and what can be gained by restoring this jewel in San Marcos. I1-6

I look forward to hearing from you about the status of the project evaluation and how we can work to conserve the Las Posas vernal pools.

Sincerely,
Leslie Kuhn

Escondido, CA
KuhnL@msu.edu
442 257-2373

April 2023 Vernal Pool Photos I1-7

A swath of pink Castilleja densiflora (dense-flowered owl's clover, growing only in California) in the bed of a vernal pool at Las Posas:

I1-8

Goldenstar (Bloomeria crocea), a lily growing in clusters by the Las Posas vernal pools:

I1-9

A specie of blue dicks (Dipterostemon capitatus ssp. lacuna-vernalis) that grows only in vernal pools:

I1-10

A rare Brodiaea lily at Las Posas vernal pools - B. terrestris kernensis:

I1-11

A cloud of endangered pale-blue Downingia cuspidata flowers at the Miramar vernal pools, also reported at Las Posas by Prof. Armstrong:

I1-12

Parry's larkspur and camas lily (star lily) alongside Miramar vernal pool:

I1-13

Muilla maritima at Miramar:

I1-14

San Marcos Vernal Pool Checklist

Table Of Contents:

Until a satisfactory name is applied to these populations, I will refer to southern California populations previously called "Brodiaea jolonensis" as "Coastal BTK" and mountain populations previously called "Brodiaea terrestris ssp. kernensis" as "Montane BTK."

The flower color for Brodiaea species on this page is blue-purple to violet. In the following images I have attempted to match their true color; however, they may appear different on your monitor.

Note: The *Brodiaea*, that I referred to as "Coastal BTK," is listed as a possible undescribed taxon under *B. jolonensis* in the revised Jepson Manual II (2011)

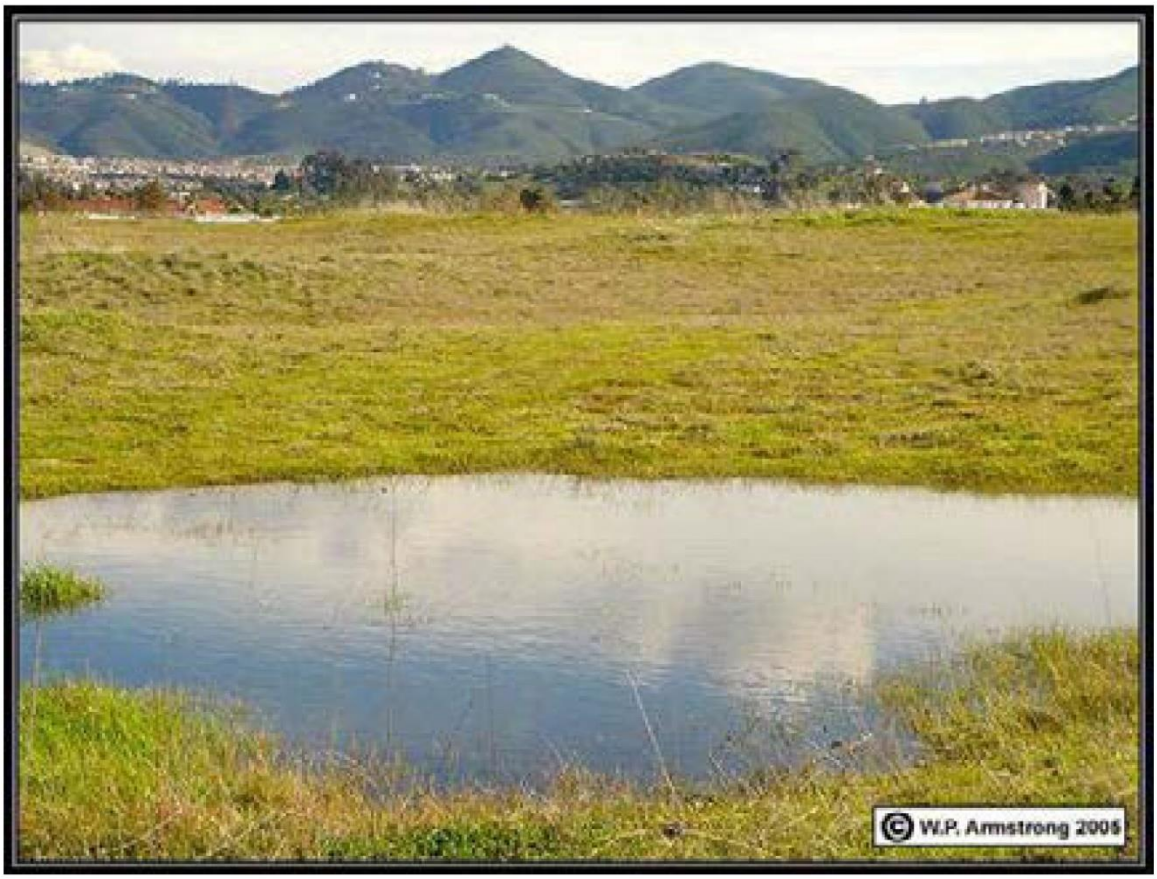
I1-15

← Click The PDF Icon To Print PDF Version Of Checklist

Close PDF Page Before Navigating Through HTML Pages

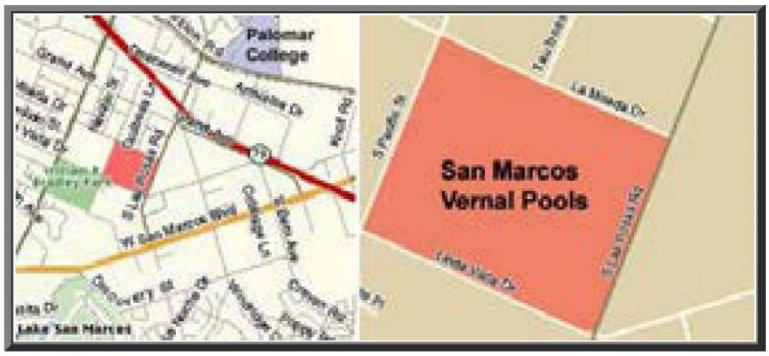
Click Here To Download Latest Acrobat Reader

1. Checklist Of Plants In & Around The San Marcos Vernal Pools



Vernal pool during heavy rains of January 2005

I1-15
Cont.



This site comprises approximately 40 acres of vacant land northeast of the William R. Bradley Park and southwest of Palomar College. Like other vernal pool areas in San Diego County, it is composed of undulating topography with clay hardpan depressions and elevated "mima" mounds. Vernal pools are formed as the water from winter rains accumulates in these impervious clay depressions. The vernal pool area is bounded by S. Pacific Street on the west, S. Las Posas Drive on the east, La Mirada Drive on the north, and Linda Vista Drive on the south. Most of the names in this checklist follow the nomenclature of **A Flora of San Diego County** by R.M. Beauchamp (1986). They have not been updated with the **Jepson Flora of Calif.** (1993).

I1-15 Cont.

Plants with an asterisk * are considered rare or unusual.

Family Name	Scientific Name	Common Name
AMARYLLIDACEAE (Liliaceae In The Flora of North America) Brodiaea now placed in the Themidaceae	1. Bloomeria crocea ssp. crocea 2. Brodiaea filifolia * 3. Coastal BTK (B. terrestris kernensis) * [Previously listed as B. jolonensis] 4. Brodiaea filifolia x B. orcuttii * 5. Brodiaea filifolia/B. orcuttii x BTK * 6. Brodiaea orcuttii * 7. Dichelostemma capitatum ssp. capitatum 8. Muilla maritima	Golden Stars Threadleaf Brodiaea Coastal BTK Mesa Brodiaea Fertile Hybrid Sterile Hybrid Orcutt Brodiaea Wild Hyacinth Common Muilla

APIACEAE	9. Eryngium aristulatum var. parishii * 10. Lomatium dasycarpum 11. Sanicula bipinnatifida	Coyote Thistle Lace Parsnip Purple Sanicle
ASTERACEAE	12. Acroptilon repens 13. Anthemia cotula 14. Calycadenia (Osmadenia) tenella 15. Carduus pyncnocephalus 16. Centaurea melitensis 17. Chaetopappa aurea 18. Chamomilla suaveolens 19. Corethrogyne filaginifolia virgata 20. Cotula coronopifolia 21. Cynara cardunculus 22. Erigeron foliosus var. foliosus 23. Filago gallica 24. Gazania linearis 25. Gnaphalium chilense 26. Grindelia camporum bracteosum 27. Hedypnois cretica 28. Hesperevax sparsiflora sparsiflora * 29. Hemizonia (Deinandra) fasciculata 30. Holocarpha virgata ssp. elongata * 31. Hypochoeris glabra 32. Isocoma veneta vernonioides 33. Lactuca sativa 34. Lasthenia chrysostoma 35. Layia platyglossa campestris 36. Microseris douglasii ssp. platycarpha * 37. Psilocarphus brevissimus * 38. Senecio vulgaris 39. Stebbinsoseris heterocarpa 40. Stylocline gnaphalioides	Russian Knapweed Mayweed Chamomile Rosin Weed Italian Thistle Tocalote Thistle Golden Daisy Pineapple Weed Sand Aster Brass Buttons Artichoke Thistle Leafy Daisy Narrow-Leaf Filago Gazania Hybrid Cotton-Batting Plant Gum Plant Hedypnois Erect Evax Golden Tarweed Graceful Tarweed Smooth Cat's Ear Isocoma Prickly Lettuce Goldfields Tidy-Tips Small Flower Microseris Dwarf Woollyheads Common Groundsel Brown Puffs Everlasting Nest-Straw
BORAGINACEAE	41. Plagiobothrys acanthocarpus 42. Plagiobothrys bracteatus 43. Plagiobothrys californicus	Spinefruited Popcorn Popcorn Flower Popcorn Flower

I1-15 Cont.

BRASSICACEAE	44. Brassica geniculata (Hirschfeldia incana) 45. Brassica nigra 46. Brassica rapa sylvestris 47. Lepidium lasiocarpum 48. Lepidium nitidum	Perennial (Short-Pod) Mustard Black Mustard Field Mustard Peppergrass Peppergrass
CALLITRICHACEAE	49. Callitriche longipedunculata *	Water Starwort
CAMPANULACEAE	50. Downingia cuspidata *	Downingia
CARYOPHYLLACEAE	51. Cerastium glomeratum 52. Silene gallica 53. Spergularia bocconii	Mouse-Ear Chickweed Windmill Pink Sand Spurrey
CHENOPODIACEAE	54. Atriplex semibaccata	Australian Saltbush
CONVOLVULACEAE	55. Calystegia macrostegia arida 56. Convolvulus arvensis 57. Convolvulus simulans * 58. Cressa truxillensis	Morning-Glory Bindweed Clay Bindweed Alkali Weed
CRASSULACEAE	59. Crassula aquatica * 60. Crassula connata	Pigmyweed Pigmyweed
CYPERACEAE	61. Cyperus eragrostis 62. Eleocharis macrostachya	Tall Flatsedge Spike Rush
ELATINACEAE	63. Elatine brachysperma *	Waterwort
EUPHORBIACEAE	64. Euphorbia spathulata *	Wart Spurge

I1-15 Cont.

FABACEAE	65. Lotus hamatus 66. Lotus purshianus var. purshianus 67. Lotus scoparius scoparius 68. Lupinus bicolor microphyllus 69. Lupinus densiflorus austrocollium 70. Lupinus longifolius 71. Lupinus succulentus 72. Melilotus albus 73. Melilotus indicus 74. Trifolium amplectens 75. Trifolium microcephalum	Grab Lotus Spanish Clover Deerweed Dwarf Lupine White Lupine Bush Lupine Succulent Lupine White Sweet Clover Yellow Sweet Clover Bladder Clover Maiden Clover
GENTIANACEAE	76. Centaurium venustum 77. Erodium botrys 78. Erodium moschatum 79. Erodium obtusiplicatum	Canchalagua Long-Beaked Filaree Filaree Long-Beaked Filaree
IRIDACEAE	80. Sisyrinchium bellum	Blue-Eyed Grass
ISOETACEAE	81. Isoetes orcuttii *	Quillwort
JUNCACEAE	82. Juncus bufonius 83. Juncus dubius	Toad Rush Mariposa Rush
LAMIACEAE	84. Acanthomintha ilicifolia * 85. Trichostema lanceolatum	Thornmint Vinegar Weed
LILIACEAE	86. Calochortus splendens 87. Calochortus weedii var. weedii 88. Chlorogalum parviflorum 89. Zygadenus fremontii var. minor	Lilac Mariposa Lily Weed's Mariposa Lily Soap Lily Star Lily
LYTHRACEAE	90. Lythrum hyssopifolia	Loosestrife

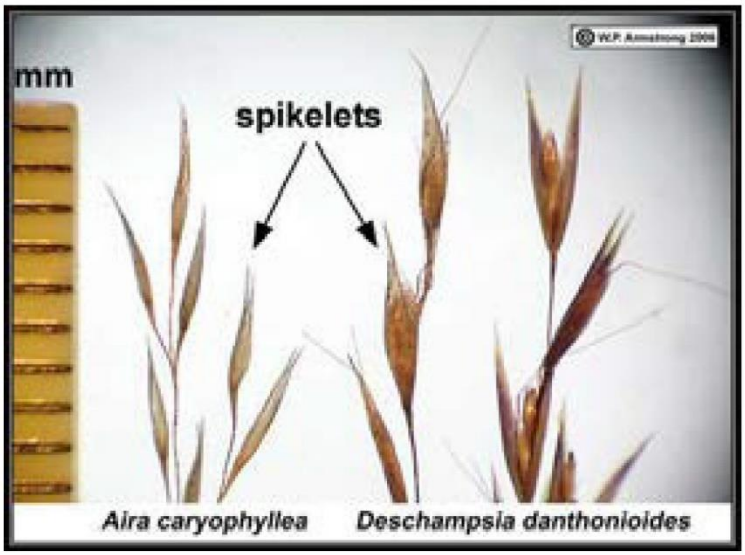
I1-15 Cont.

MARSILEACEAE	91. Pilularia americana *	American Pillwort
ONAGRACEAE	92. Clarkia purpurea quadrivulnera 93. Gaura sinuata	Farewell-To-Spring Butterfly Weed
PLANTAGINACEAE	94. Plantago elongata 95. Plantago erecta 96. Plantago pusilla	Alkali Plantain California Plantain Plantain
POACEAE	97. Aira caryophyllea (See note below) 98. Avena barbata 99. Avena fatua 100. Brachypodium distachyon 101. Bromus diandrus 102. Bromus mollis 103. Bromus rubens 104. Deschampsia danthonioides (See note below) 105. Distichlis spicata 106. Gastridium ventricosum 107. Hordeum intercedens * 108. Hordeum murinum leporinum 109. Lolium multiflorum 110. Nasella (Stipa) pulchra 111. Phalaris paradoxa praemorsa 112. Polypogon monspeliensis 113. Vulpia (Festuca) myuros	European Hairgrass Slender Wild Oat Wild Oat Purple False-Brome Ripgut Grass Soft Chess Foxtail Chess Slender Hair Grass Saltgrass Nitgrass Bobtail Barley Foxtail Barley Italian Rye Grass Purple Needlegrass Canary Grass Rabbitfoot Grass Foxtail Fescue
POLEMONIACEAE	114. Navarretia fossalis *	Navarretia
POLYGONACEAE	115. Rumex crispus	Curly Dock
PRIMULACEAE	116. Anagallis arvensis 117. Centunculus minimus *	Scarlet Pimpernel Common Chaffweed

I1-15 Cont.

SCROPHULARIACEAE	118. Castilleja densiflora ssp. gracilis 119. Linaria canadensis 120. Veronica peregrina xalapensis	Owl's Clover Blue Toadflax Veronica
SELAGINELLACEAE	121. Selaginella cinerascens *	Ashy Spike-Moss
TYPHACEAE	122. Typha latifolia	Cattail

Note: The San Marcos vernal pools contain native hairgrass (**Deschampsia danthonioides**) and the similar European hairgrass (**Aira caryophyllea**). When comparing the dried inflorescences of both species in the field, **Aira** has smaller spikelets (see following image):

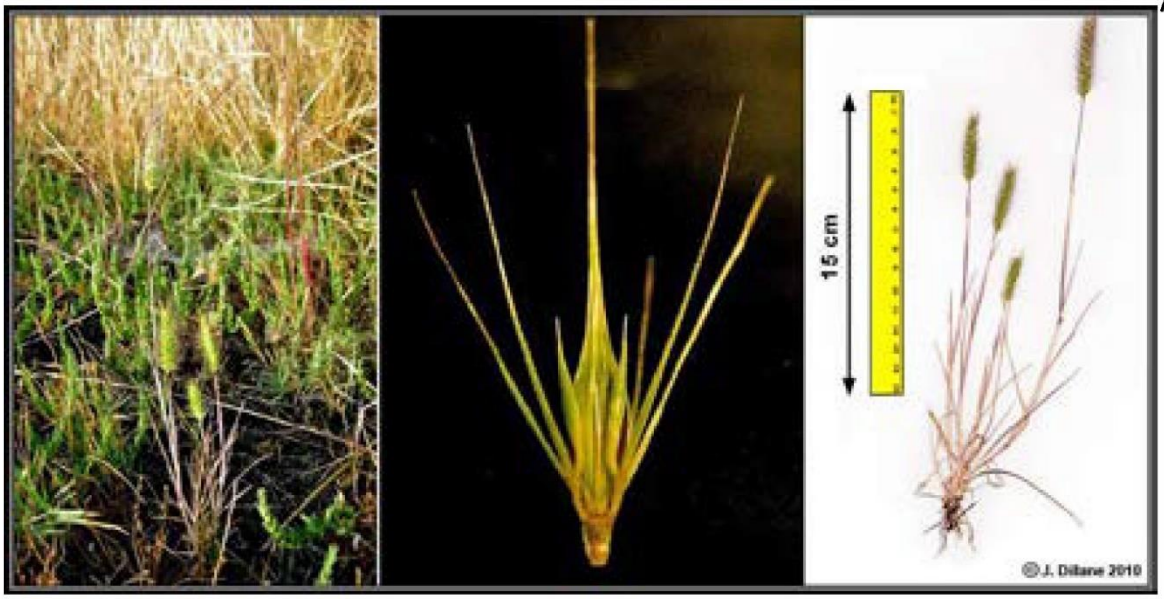


I1-15
Cont.

Comparison of the dried spikelets of **Aira caryophyllea** and **Deschampsia danthonioides** in August. Spikelets of **Aira caryophyllea** are generally less than 4 mm long and narrower.

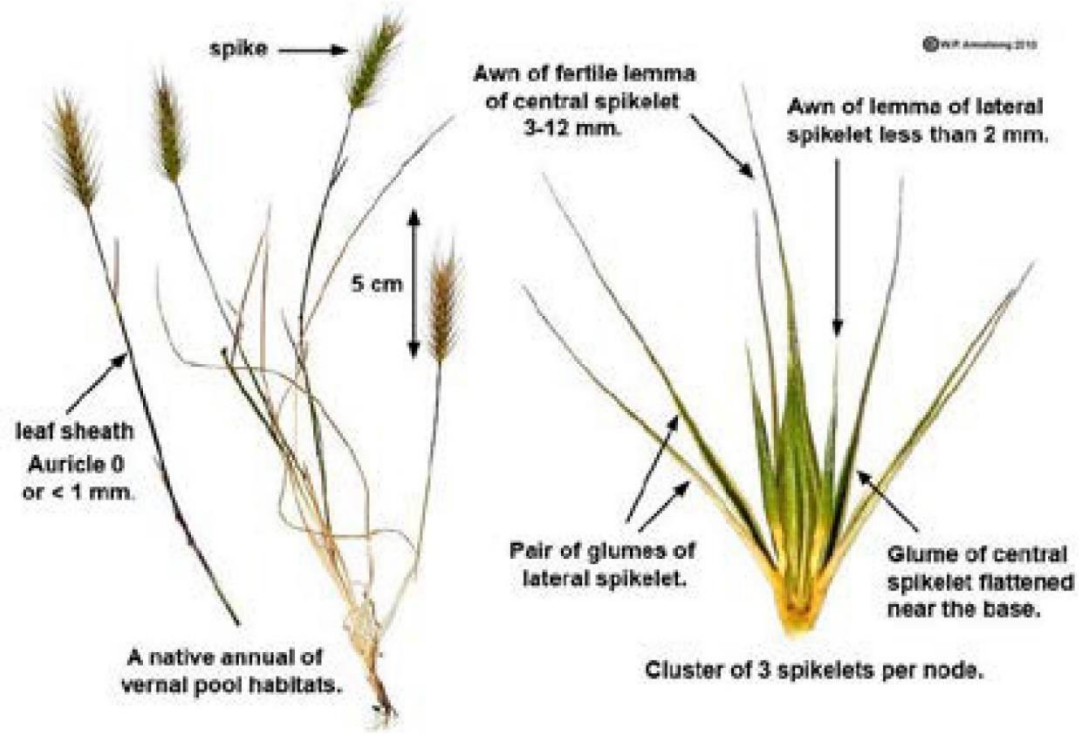
Poaceae: *Hordeum intercedens* (Bobtail Barley)

I1-15
Cont.



Bobtail barley (**Hordeum intercedens**), a native species in the vernal pool preserve adjacent to Fry's Electronics in San Marcos. The dense spikes are more slender than other naturalized (weedy) species. The spikelets are three per node like other species; however, the sterile lemma of lateral spikelets is 1.7-4.4 mm long with a short awn less than 1.2 mm. This species is similar to **H. depressum** which also grows in vernal pool areas and has been reported from San Diego County.

I1-15 Cont.



Bobtail barley (**Hordeum intercedens**), a native annual in vernal pools of San Marcos.

I1-15
Cont.

The status of these vernal pools and lovely wildflowers is rather dismal. They are surrounded by buildings in a rapidly growing area zoned for industry. Many of the vernal pools have been intentionally damaged by deep tire ruts and the dumping of debris. Raised topography (mounds) near the vernal pools once supported burrowing owls, but they haven't been seen in this field for years.

I1-15
Cont.

Burrowing Owl (**Speotyto cunicularia**) photographed in May 1979.

2. A Federally Endangered Animal In The San Marcos Vernal Pools

Fairy Shrimp Belong To The Arthropod Class Crustacea Order Anostraca

I1-15
Cont.

San Diego Fairy Shrimp (**Branchinecta sandiegonenis**). Discovered in the San Marcos Vernal Pools by Tom Chester during a Palomar College Botany 110 field trip on 8 Mar 2003. Identified by U.S. Fish & Wildlife certified biologist Megan Enright using the taxonomic key: Eriksen, C.H. and D. Belk. 1999. **Fairy Shrimps of California's Puddles, Pools, and Playas.** Mad River Press, Eureka, California.

San Diego Fairy Shrimp In Spring 2008
Swimming Fairy Shrimp (4 MB MPEG File)

The San Diego fairy shrimp (**Branchinecta sandiegoensis**) is endemic to vernal pools of coastal San Diego County. They have also been recorded from a few localities in Orange County and Baja California. Since most of the vernal pool habitats have been destroyed in southern California due to urbanization and pollution, these tiny crustaceans have been added to the U.S. Fish & Wildlife Service Endangered List in accordance with the Endangered Species Act. Their plight in the San Marcos area is uncertain due to the dumping of debris in the few remaining pools within a rapidly developing industrial zone.

I1-15
Cont.

This minute crustacean belongs to the order Anostraca, along with brine shrimp (**Artemia**). Other related orders of microscopic crustaceans include Cladocera (water fleas), Copepoda (copepods), Ostracoda (seed shrimp), Notostraca (tadpole shrimp), and Conchostraca (clam shrimp). All of these crustaceans are visible to the naked eye, although magnification is required to see details of their body structure. San Diego fairy shrimp are small and transparent, about 5 to 8 mm long.

A Massive Colony Of Brine Shimp In Mono Lake
Ostracods In A Vernal Pool On The Santa Rosa Plateau
Nostoc Balls In A Vernal Pool On The Santa Rosa Plateau

During winter and early spring, when the ponds collect water, fairy shrimp mature quickly, live as adults, and reproduce. During their mating cycle the male attaches to the female with his clasping antennae. Each female lays hundreds of eggs, which settle into the soft bottom mud and silt as the pool dries out. At this time the adult fairy shrimp die, and plants bordering the pools bloom and set seed for the next winter wet season. During the dormant stage, fairy shrimp survive as embryos within resistant eggs called cysts which are embedded in the desiccated mud sediment. They can remain here for years until sufficient winter rains once again fill the shallow depressions with water. As the vernal pools refill, the mud imbibes water and the cysts hatch, thus releasing a new generation of fairy shrimp into the shallow ponds. Clay hardpan depressions that fill with water during the winter and early spring provide the essential requirements for the survival and perpetuation of fairy shrimp. If vernal pool habitats are destroyed by land developers, the fairy shrimp will not emerge from their dormant cysts and will disappear forever. Unlike many other aquatic crustaceans, they cannot survive in permanent ponds or lakes. They must have the specific requirements of a vernal pool.

I1-15 Cont.

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3. Endangered Plants Of The San Marcos Vernal Pool Area

I1-15
Cont.

Left: **Navarretia fossalis** (Polemoniaceae), a fragile vernal pool endemic described by Dr. Reid Moran of the San Diego Natural History Museum in 1977 (**Madroño** 24: 141-159). Right: San Diego thornmint (**Acanthomintha ilicifolia**), a rare herb in the mint family (Lamiaceae) found in clay soils near the San Marcos vernal pools. This endemic species has been extirpated from many areas of northern San Diego County during the past two decades, mostly due to the construction of extensive housing developments on Las Posas soils. Both species are on the CNPS List 1B: Rare, threatened and endangered. They are also on the U.S. Fish & Wildlife List of Endangered Species.

See Another Image Of The Rare Thornmint

Navarretia fossalis (Polemoniaceae)

Navarretia prostrata at the Santa Rosa Plateau Ecological Reserve

I1-15
Cont.

San Diego coyote thistle or button-celery (**Eryngium aristulatum** var.**parishii**), a rare member of the carrot family (Apiaceae) that appears in dry vernal pol depressions during late spring. This California endemic is on the CNPS List 1B: Rare, threatened and endangered. It is also on the U.S. Fish & Wildlife List of Endangered Species. The globose flower heads resembling rabbit droppings (red arrow) are dwarf woollyheads (**Psilocarphus brevissimus**).

I1-15
Cont.

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4. Brodiaeas In San Marcos & San Clemente Island

Abstract: Coastal populations of **Brodiaea** in San Diego County with prominent hooded staminodes (with incurved apex) have been previously called **B. jolonensis**. Using the Jepson Manual (1996) which is based on A Biosystematic Study of the Genus **Brodiaea** (Amaryllidaceae) by T.F. Niehaus (1971), they key out to **B. terrestris** ssp. **kernensis**. This species has a green ovary, unlike the purple ovary of **B. jolonensis**. The term "dentate connective" used in the Jepson key ideally applies to **B. terrestris** ssp. **terrestris** of central and northern California. In this subspecies, the apex of the anther connective extends into a prominent dentate lobe. In southern California

populations of **Coastal BTK** and **Montane BTK**, the connective apex has a U-shaped or V-shaped notch. At the base of this notch there may be a minute, dentate lobe, although it is absent in most southern California populations. With a dentate appendage at the base, the notch appears W-shaped. **B. jolonensis** also has a V-shaped notch without a dentate appendage. These subtle differences are difficult to observe in pressed herbarium specimens. Floral dimensions of **Coastal BTK** and **Montane BTK** are significantly larger than populations of **B. jolonensis** in Monterey County, and the scapes are generally shorter. In addition, vascular strand patterns of the inner perianth match those of **B. terrestris kernensis.**

Populations of **Coastal BTK** throughout San Diego County generally have staminodes that are incurved at the apex (hooded), while populations of **Montane BTK** generally have erect staminodes that are inrolled along the upper margins, but not hooded or slightly hooded. Both Munz (A Flora of Southern California, 1974) and Beauchamp (A Flora of San Diego County, California, 1986) recognized a difference between the coastal and mountain populations. These authors called the mountain populations **B. terrestris** ssp. **kernensis** and the coastal populations **"B. jolonensis."** Brodiaeas resembling both the coastal and montane forms of BTK grow together on the Santa Rosa Plateau of Riverside County. There is also staminode variation at Cuyamaca Lake in San Diego County. Perhaps this is a single variable species in southern California. This is an ongoing research project with Tom Chester to understand the **Brodiaea** populations in southern California. W.P. Armstrong, May 2005.

I1-15
Cont.

Left: **Downingia cuspidata**, a lovely vernal pool endemic in the San Marcos Vernal Pools. This species belongs to the bellflower family (Campanulaceae). Right: A variant of **Coastal BTK** with strap-shaped staminodes.

Brodiaea kinkiensis, an endemic species on San Clemente Island, off the coast of San Diego County. It has strap-shaped staminodia like the San Marcos variant brodiaea; however it also has a mucronate or cuspidate apex (with a minute, abrupt tip). There is a gradual reduction in staminodia in these three species (B. kinkiensis--B. filifolia--B. orcuttii), culminating in **B. orcuttii** with no staminodia. Chromosome size also decreases in the same sequence. According to T.F. Niehaus ("A Biosytematic Study of the Genus **Brodiaea** (Amaryllidaceae)." **Univ. of Calif. Publications in Botany** Vol. 60, 1971), **B. kinkiensis** and **B. filifolia** are closely related and may have evolved from the same ancestral species.

I1-15 Cont.

This rare and beautiful brodiaea (**Brodiaea filifolia**) grows in and around the San Marcos vernal pools, along with several other endangered wildflowers. It can readily be distinguished from other brodiaeas by the spreading perianth and threadlike (filiform) staminodia. This California endemic is on the CNPS List 1B: Rare, threatened and endangered. It is also on the U.S. Fish & Wildlife List of Endangered Species. Populations of this endemic wildflower were once abundant in the San Marcos area, but most of them have been destroyed due to rapid urbanization in this region during the past 30 years.

I1-15
Cont.

This rare and beautiful brodiaea (**Brodiaea orcuttii**) grows in the San Marcos vernal pools, along with several other endangered wildflowers. It can readily be distinguished from other brodiaeas by the lack of sterile stamens called staminodia. This California endemic is on the CNPS List 1B: Rare, threatened and endangered. The following image shows another rare species of **Brodiaea** with distinctive staminodia.

I1-15
Cont.

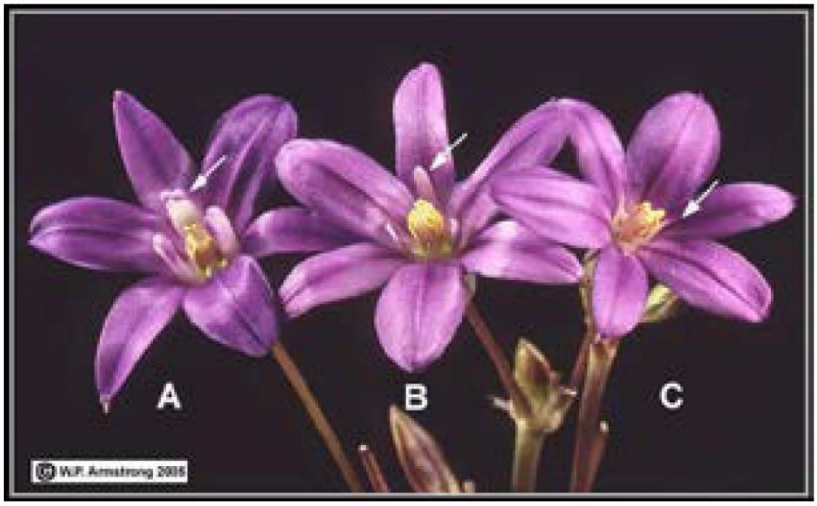
The normal flower of **Brodiaea orcuttii** (left) has 3 stamens and no staminodes. The abnormal flower (right) has 6 stamens rather than the normal 3. Additional stamens (red arrows) have developed where staminodes normally appear in other species. Apparently an ancestral gene for stamens has been expressed in this unusual individual.

I1-15
Cont.

Coastal BTK (previously labeled **B. jolonensis**), a spectacular brodiaea with incurved petaloid staminodia. Unlike the other species of **Brodiaea** on this property, this species has a shorter scape that is generally less than 8 inches (2 dm). The scapes of other species may be 12 inches (3 dm) or taller. For many years this species was listed in Wayne's Word as **B. jolonensis,** but recent observations by the author and Tom Chester indicate that the identity of this species may be questionable.

Does Brodiaea jolonensis Occur In San Diego County?

I1-15
Cont.



Three rare brodiaeas in the San Marcos vernal pool area with distinctive staminodia. A. **Coastal BTK**, previously labeled **B. jolonensis**; B. San Marcos variant brodiaea; and C. Thread-leaf brodiaea (**B. filifolia**).

The San Marcos variant brodiaea has intermediate characteristics between two other species. One of the most obvious characteristics that indicate possible hybridization is a structure called a staminodium which represents a sterile, nonfunctional stamen. All three species (A, B & C) have three staminodia in the center of the flower, just outside the three yellow stamens. The three staminodia of the variant are intermediate between the conspicuous, petaloid staminodia of **Coastal BTK** (A) and the slender (filiform), inconspicuous staminodia of **B. filifolia** (C). The three staminodia of the variant appear strap-shaped and are visible in the center of the flower, just outside the three yellowish stamens. The variant occurs throughout several acres of the property and may have reproduced asexually through cormlets. In May 2005 I visited this same site but did not observe any variants. Instead I found numerous **B. filifolia** and **Coastal BTK**. The previous winter and spring was an exceptional year for rainfall in San Diego County and brodiaea populations were plentiful. Unfortunately, the

I1-15
Cont.

fate of this 40 acre field of brodiaeas is dismal because of the rapid (uncontrolled) urbanization of northern San Diego County. The field is within an industrial zone and is surrounded by buildings.

On the Santa Rosa Plateau of Riverside County populations of BTK exhibit a wide range of variation, including strap-shaped staminodes similar to the San Marcos "variant." Could it be that the San Marcos variant brodiaea is simply a variation within the BTK population?

Staminode Variation On The Santa Rosa Plateau

Coastal BTK and the San Diego endemic mesa mint (**Pogogyne abramsii**) in a dried vernal pool on Kearny Mesa. The scapes are very short, barely extending above the population of mesa mint. Photograph taken in May 1982 on Kearny Mesa, San Diego County.

I1-15 Cont.

I1-15
Cont.

8. Vernal Pools Adjacent To Fry's In San Marcos (8 April 2013)

I1-15
Cont.

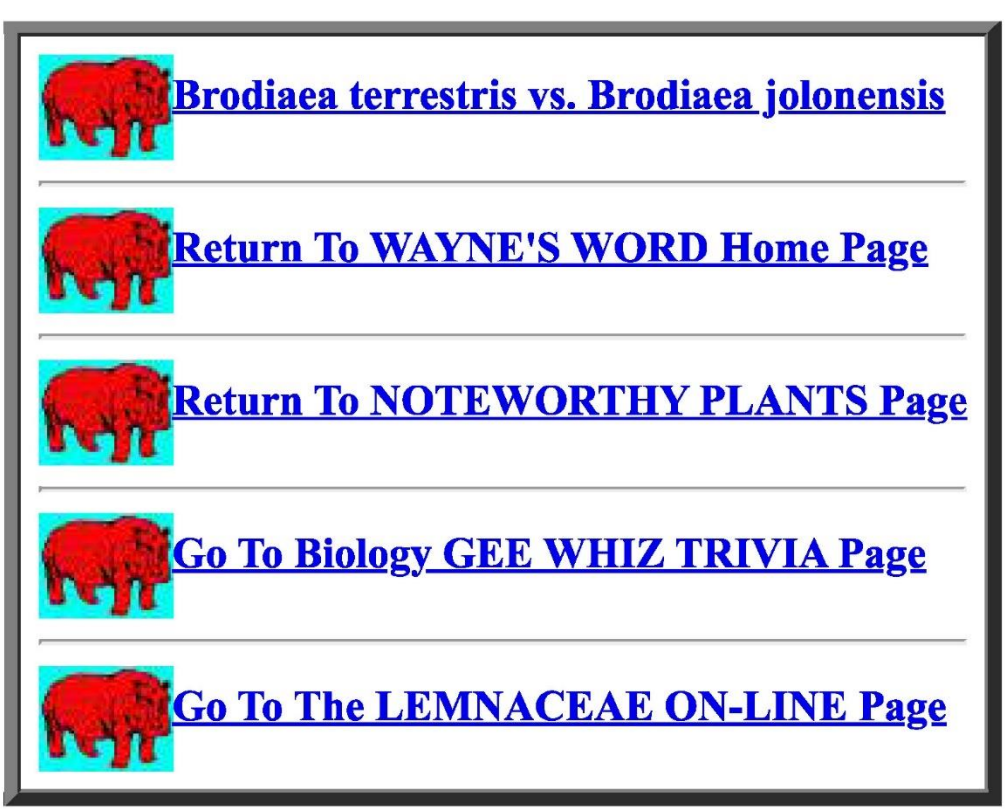
A: **Isoetes orcuttii** (Quillwort). B: **Pilularia americana** (American pillwort).

I1-15
Cont.

Vernal pool popcorn flower (**Plagiobothrys bracteatus**).

TOP ▲

I1-15
Cont.


Brodiaea terrestris vs. Brodiaea jolonensis
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Go To Biology GEE WHIZ TRIVIA Page
Go To The LEMNACEAE ON-LINE Page
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I1-15
Cont.

Response to Comment Letter I1

Individual
Leslie Kuhn
April 26, 2023
(LATE LETTER)

The City notes this comment letter was received after the close of the CEQA public comment period. Although CEQA does not require the City to provide written responses to late letters submitted after the noticed public comment period (Pub. Resources Code, §§2109l(d) and 21092.5(c); CEQA Guidelines, §15088), the City County has elected to provide the following response to this late letter without waiving its position that no such written response is required by CEQA or any other law or regulation.

I1-1 This comment is an introductory comment providing the project location and citing initial concerns for development of the project site. The comment states that the sign onsite has been destroyed. In response, due to the length of time the sign has been posted, vandalism, and weather, it is acknowledged that the sign was destroyed. However, the City confirms that the sign was replaced on-site on May 24, 2023. The comment does not raise any specific environmental issues related to the adequacy of the Draft EIR.

I1-2 This comment is an introductory comment describing the commenter's professional background and work efforts. The comment does not raise any specific environmental issues related to the adequacy of the Draft EIR. No further response is required.

I1-3 This comment describes vernal pool work of the commenter, students, and a Professor Armstrong. This comment provides a link to a document titled San Marcos Vernal Pool Checklist, prepared by W.P. Armstrong on May 22, 2011, and states that Armstrong and his students have documented rare and endangered plants and the federally endangered San Diego fairy shrimp in the San Marcos vernal pools.

In response, in contrast to the link provided which is at least 12 years old and references even older data (e.g., a burrowing owl sighted in 1979), Section 3.3 of the Draft EIR describes the rare/endangered plants and fairy shrimp on-site under existing conditions. Helix Environmental Planning, Inc has conducted numerous focused surveys on the property for sensitive species onsite from 2018 to the present, consistent with currently accepted methods/protocols. These surveys have been used to assist the Applicant with project design in consultation with the City and Resource Agencies (CDFW and USFWS) and have been used in analyzing and proposing mitigation for the project's impacts to biological resources (please refer to Appendix C of the EIR). The comment does not raise any specific environmental issues related to the adequacy of the Draft EIR. No further response is required.

I1-4 This comment describes existing resources in the City of San Marcos and states that this project site is more important than other resources in the City due to the unique wetland habitat and rare vernal pools, as well as rare wildflowers. The City acknowledges the comment and will include the comment for review and consideration by decision-makers prior to a final decision on the project. Please refer to the EIR, Section 3.3, Biological Resources, and the Biological Technical Report prepared for the project (Appendix C to the EIR), which outlines preservation areas and mitigation measures for biological resources on-site. The comment does not raise any specific environmental issues related to the adequacy of the Draft EIR. No further response is required.

I1-5 The comment states that there is a remarkable opportunity at the site for the City of San Marcos to conserve the site. The comment also states that the site presents a great opportunity to engage knowledgeable members of the community in restoring the vernal pools and upland mima mounds by removing trash, invasive species, and damage recently inflicted by unauthorized offroad vehicles, and creating engaging interpretive information online.

The City acknowledges the comment does not raise specific issues related to the adequacy of the Draft EIR. The City will include the comment for review and consideration by decision-makers prior to a final decision on the project. Note that the property is privately owned land, and the proposed project design would preserve over half of the site in perpetuity. Areas targeted for conservation are those with sensitive biological resources, including vernal pool mima mound complexes, rare vernal pool species, and rare plant species. The areas to be conserved on the property would undergo restoration to remove trash, non-native species, and remediate the damage inflicted by illegal off-road activities on-site. The efforts proposed within the on-site conservation area are anticipated to provide an uplift to the biological resources on-site as well as perpetual protection of the resources on-site, compared to the existing condition. The entire conservation area would be protected with a conservation easement (or equivalent) and managed in perpetuity by an entity approved by the City, USFWS, and CDFW. Installation of fencing around the periphery of the conservation area as well as public awareness/ interpretive signage at the site would be included as part of the project.

I1-6 This comment states that photos are attached, that were taken from the road crossing at the "Las Posas vernal pool" site and another site in Miramar. The comment is noted. It does not raise any specific environmental issues related to the adequacy of the Draft EIR, such that no further response is required.

I1-7 The comment includes concluding remarks and inquiries about project status and evaluation. In response, the current status of the project is that it is undergoing California Environmental Quality Act (CEQA) and land use entitlement processes. A Final EIR is being prepared for the project, after which it will be considered at a public hearing by the Planning Commission, which is yet to be scheduled.

I1-8 This comment provides a photo of pink Castilleja densiflora in the bed of a vernal pool at "Las Posas". The comment does not raise any specific environmental issues related to the adequacy of the Draft EIR.

I1-9 This comment provides a photo of Goldenstar, a lily growing in clusters by the "Las Posas vernal pools". The comment does not raise any specific environmental issues related to the adequacy of the Draft EIR.

I1-10 This comment provides a photo of a specie of blue dicks (*Dipterostemon capitatus* ssp. *lacuna-vernalis*) and states that it grows only in vernal pools. The photo is not stated to have been taken at the "Las Posas vernal pools" or project site. The comment does not raise any specific environmental issues related to the adequacy of the Draft EIR.

I1-11 This comment provides a photo of a Brodiaea lily at "Las Posas vernal pools". The comment does not raise any specific environmental issues related to the adequacy of the Draft EIR. The Draft EIR describes the current scope of Brodiaea at the project site. Refer to, e.g., EIR Appendix C, Figure 8, and Figure 11.

I1-12 This comment provides a photo of a cloud of endangered pale blue Downingia cuspidate flowers at the Miramar vernal pools, and states they are "also reported at 'Las Posas'". This photo is not specific to the project site and the comment does not raise any specific environmental issues related to the adequacy of the Draft EIR.

I1-13 This comment provides a photo of a Parry's larkspur and camas lily (star lily) alongside Miramar vernal pools. This photo is not specific to the project site and the comment does not raise any specific environmental issues related to the adequacy of the Draft EIR.

I1-14 This comment provides a photo of Muilla maritima at Miramar. This photo is not specific to the project site and the comment does not raise any specific environmental issues related to the adequacy of the Draft EIR.

I1-15 This comment includes a PDF of the link provided in comment I1-3. This document was prepared by Professor Armstrong and his students that documents rare and endangered plants and the federally endangered San Diego fairy shrimp in the San Marcos vernal pools. The document is titled San Marcos Vernal Pool Checklist, prepared by W.P. Armstrong on May 22, 2011. This comment does not raise any specific environmental issues related to the adequacy of the Draft EIR.

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