9-Lot Subdivision
72094 Ginger Rogers Road
Tentative Tract Map No. 38636
Initial Study/Mitigated Negative Declaration

Lead Agency:

City of Rancho Mirage

69-825 Highway 111

Rancho Mirage, California 92270

Prepared by:

PGN

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May 2025

ENVIRONMENTAL INITIAL STUDY
9 Lot Subdivision

Project Title:	9-Lot Subdivision – Tentative Tract Map No. 38636
City Project No:	Environmental Assessment Case No. EA23-0003, Major Variance Case No. VAR24-0002, and Tentative Tract Map Case No. TTM23-0001
Lead Agency Name and Address:	City of Rancho Mirage 69-825 Highway 111 Rancho Mirage, California 92270
Contact Person and Phone Number:	Joy Tsai - Senior Planner (760) 328-2266 Ext. 256
Project Sponsor/ Applicant Name and Address:	72094 Ginger Rogers Road, LLC Attention: Farhad Zomorodi PO Box 10544 Beverly Hills, CA 90213
Project Location:	5.04 gross acres at the northeast corner of Ginger Rogers Road and Landy Lane in the City of Rancho Mirage, County of Riverside, California. Portion of Township 4 South, Range 6 East, Section 30, San Bernardino Principal Meridian USGS Cathedral City, California Quadrangle. Latitude 33° 47’ 43.40” N and Longitude 116° 24’ 14.09” W.
Accessor Parcel Number:	685-080-002
General Plan Designation:	Very Low Density 2 du/ac maximum (R-L-2)
Zoning Designation:	R-L-2 (Residential Very Low Density) Zone

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CHAPTER 1: PROJECT DESCRIPTION

The City of Rancho Mirage is reviewing applications for a subdivision and a major variance. The proposed Project would involve the subdivision of 5.04-gross acres into nine residential lots, one private roadway lot, two retention basin lots and two landscaped lots under Tentative Tract Map Case No. TTM23-0001 (Tentative Tract Map No. 38636). The individual residential lot sizes would range from 16,122 to 16,841 square feet. The lots would be arranged around the proposed private cul-de-sac roadway. Two retention basins consisting of 5,683 and 5,640 square feet, respectively, would be located along the site's southern boundary corner. The Major Variance application (VAR24-0002) is a request to modify the minimum lot size specified under Rancho Mirage Municipal Code Section 17.08.020 Residential Districts General Development Standards, Table 2-3 Residential Zones General Development Standards Requirements by Individual Zoning District for R-L-2 (Residential Very Low Density) from 18,000 square feet to 16,000 square feet in order to be compatible with the established lot sizes with the immediate area. The Project will include the demolition of an existing single-family residence located at 72049 Ginger Rogers Road. The residence was built in 1958 and is approximately 1,095 square feet consisting of two bedrooms and one bath.

The General Plan Land Use Designation of the Project site is R-L-2 Very Low Density Residential (0-2 du/ac). This density designation provides for single-family residential development typically on individual lots of about 0.5-acre. Planned residential developments are also an appropriate form under this designation. Lands with this designation may serve to buffer more dense residential development from estate residential uses. The Zoning designation for the parcel is *Very Low Density Residential* (R-L-2). The parcel is subject to the Section 30 Design Guidelines and Master Circulation Plan.

Project Location

The proposed Project site is located in the northeastern portion of the City of Rancho Mirage. The City is located in the eastern portion of Riverside County within the Coachella Valley area. Rancho Mirage is generally bounded on the north by Thousand Palms and Cathedral City; on the east by Palm Desert; on the south by Palm Desert and unincorporated Riverside County; and on the west by Cathedral City. Regional access to the City of Rancho Mirage is provided by the Interstate 10 (I-10) Freeway which extends across the northernmost portion of the City. The I-10 Freeway is located approximately 1.18 miles northeast of the Project site. The location of Rancho Mirage, in a regional context, is shown in Exhibit 1. A regional topographic map is provided in Exhibit 2.

The proposed Project site is located at the northeast corner of Ginger Rogers Road and Landy Lane in the City of Rancho Mirage, County of Riverside, California. The Project site is comprised of one parcel identified as Assessor Parcel Number 685-080-002. It is identified as being a portion of Township 4 South, Range 6 East, Section 30, San Bernardino Principal Meridian on the USGS Cathedral City, California Quadrangle. The proposed Project's latitude and longitude is 33° 47' 43.40" N and 116° 24' 14.09" W. A Project vicinity map is provided in Exhibit 3. The Tentative Tract Map is shown on Exhibit 4.

Access and Parking

Access to the Project site would be provided from Ginger Rogers Road through a gated entry point, which would allow cars onto a proposed private street with a cul-de-sac located in the middle of the Project site. The proposed private street would provide access to each residential lot on the site. The internal roadway would have a curb-to-curb width of approximately 37 feet. The internal roadway is referred to as "Lot A" on the site plan. With the development of future housing, each unit would be provided with an enclosed garage that would accommodate two vehicles.

Utilities

The Project site is within the Imperial Irrigation District's (IID) power service area. Natural gas service is provided by the Southern California Gas Company. Currently, the existing site is occupied by one single-family residence that is served with electricity. The proposed development will connect a new 8-inch water line and a new 8-inch sewer line from the internal private road and Ginger Rogers Road. There are no existing water or wastewater treatment plants, electric power plants, telecommunications facilities, natural gas facilities, or stormwater drainage infrastructure located on-site. Groundwater is the primary source of domestic water supply in the Coachella Valley. The Coachella Valley Water District (CVWD) is the largest provider of potable water in the valley and currently provides potable water in the project vicinity. CVWD operates 6 water reclamation plants and maintains more than 1,000 miles of sewer pipelines and more than 30 lift stations that transport wastewater to the nearest treatment facility and nearly 6.3 billion gallons of wastewater are treated yearly. In addition, wastewater generated by the Project will be conveyed to CVWD Wastewater Reclamation Plant Number 10 in Palm Desert (WRP-10). Per the 2015 CVWD Urban Water Management Plan, WRP-10 has a capacity to treat 18 million gallons per day (MGD). Solid waste disposal and recycling services for the City of Rancho Mirage is provided by Burrtec. Solid waste and recycling collected from the proposed project will be hauled to the Edom Hill Transfer Station. Waste from this transfer station is then sent to a permitted landfill or recycling facility outside of the Coachella Valley. These include Badlands Disposal Site, El Sobrante Sanitary Landfill and Lamb Canyon Disposal Site.

Tentative Tract Map Characteristics

The proposed Project would involve the subdivision of 5.04-gross acres into 9 residential lots, one private roadway lot, two retention basin lots and two landscaped lots under Tentative Tract Map Case No. TTM23-0001 (Tentative Tract Map No. 38636). The individual residential lot sizes would range from 16,122 to 16,841 square feet. The lots would be arranged around the proposed private cul-de-sac roadway. Two retention basins consisting of 5,683 and 5,640 square feet, respectively, would be located along the site's southern boundary corner. The Project is summarized below in Table 1.

Table 1 Project Summary

Lot	Description	Lot Area
Lot 1	Single-Family Residential	16,617 sq. ft.
Lot 2	Single-Family Residential	16,191 sq. ft.
Lot 3	Single-Family Residential	16,184 sq. ft.
Lot 4	Single-Family Residential	16,299 sq. ft.
Lot 5	Single-Family Residential	16,841 sq. ft.
Lot 6	Single-Family Residential	16,122 sq. ft.
Lot 7	Single-Family Residential	16,186 sq. ft.
Lot 8	Single-Family Residential	16,191 sq. ft.
Lot 9	Single-Family Residential	16,786 sq. ft.
Lot A	Private Road	25,866 sq. ft.
Lot B	Retention Basin	5,683 sq. ft.
Lot C	Retention Basin	5,640 sq. ft.
Lot D	Landscape Lot	5,133 sq. ft.
Lot E	Landscape Lot	730 sq. ft.

Source: S.D. Engineering and Associates. Tentative Tract Map No. 38636, March 2025.

Construction Characteristics

The Project is anticipated to be built in one phase. The duration of construction is unknown at this time. For technical study modeling purposes, a start date of January 2025 was utilized with a completion date of early February 2026 and the Project being operational in 2026. The construction schedule utilized represents a “worst-case” analysis scenario even if construction was to occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent. The actual construction dates will also be dependent on processing improvement plans through the Imperial Irrigation District and their acceptance and approval of said improvement plans.

The key construction tasks that could occur are outlined in the paragraphs below.

- Task 1 Demolition and Grading. The existing onsite improvements would be removed, and the site would be graded and ready for construction. The typical heavy equipment used

during this site preparation phase would include graders, bulldozers, off-road trucks, back-hoes, and trenching equipment. This task would require 28 days to complete.

● Task 2 Building Construction. The new housing units would be constructed during this component. This task includes the site improvements including the installation of utilities and backbone infrastructure. The typical heavy equipment used during this construction phase would include off-road trucks, cranes, and fork-lifts. This task will take approximately eight months to complete.

● Task 3 Paving and Finishing. This concluding task would involve the paving and finishing. The typical heavy equipment used during this phase would include trucks, backhoes, rollers, pavers, and trenching equipment. The completion of this phase will take approximately eighteen days to complete.

Environmental Setting and Surrounding Land Uses

The relatively level 5.04-acre site ranges from 325 feet above mean sea level (AMSL) to 330 feet AMSL. The southwestern portion of the Project site is occupied by an older single-family residence. The only mature trees located within the property are located in the yard areas associated with this residence. The dominant plant community is a very sparse creosote bush scrub, dominated by creosote bush (*Larrea tridentata*). Other shrub species include Emory's indigo bush (*Psorothamnus emoryi*) and desert globemallow (*Sphaeralcea ambigua*). Annual flowering species observed include fanleaf crinklemat (*Tiquiila plicata*), Booth's desert primrose (*Eremothera boothii*), desert lantern (*Oenothera deltoides*) and desert needlegrass (*Pallafoxia arida var. arida*). Non-native species included a mix of weedy plant species such as Sahara mustard (*Brassica tournefortii*) and Mediterranean grass (*Schismus barbatus*) found scattered throughout the site. Landscape species such as oleander (*Nerium oleander*) and European olive (*Oleo europea*) grow along the margins of the property and are self-seeded individuals from adjacent development. No amphibians or reptiles were observed during the survey. Bird species were observed during the field surveys included horned lark (*Eremophila alpestris*) and common raven (*Corvus corax*).

Land uses and development located in the vicinity of the proposed Project site are outlined below:

West: Landy Lane abuts the west side of the Project site. Undeveloped land, senior living community and office buildings are located to the west of Landy Lane. These parcels are designated as Office (O) with the following uses: Rancho Mirage Terrace Senior Living Community, Desert Periodontics, Weil Institute of Critical Care Medicine and the Tolerance Education Center.

North: Single-family residential properties. These parcels are designated as Very Low Density Residential (R-L-2).

South: Ginger Rogers Road abuts the south side of the Project site. Vacant, undeveloped land is located south of Ginger Rogers Road. These parcels are designated as Very Low Density Residential (R-L-2).

East: Single-family residential properties. These parcels are designated as Very Low Density Residential (R-L-2).

An aerial photograph of the Project site and the surrounding area is provided as Exhibit 3.

Other Public Agencies Whose Approval is Required

A Discretionary Action is an action taken by a government agency (for this Project, the government agency is the City of Rancho Mirage) that calls for an exercise of judgment in deciding whether to approve a Project. The following discretionary approvals are required:

- Approval of Major Variance Case No. VAR24-0002;
- Approval of Tentative Tract Map Case No. TTM23-0001 (TTM 38636);
- Approval of the Mitigated Negative Declaration (MND); and
- The adoption of the Mitigation Monitoring and Reporting Program (MMRP).

Although land use authority is provided by the City of Rancho Mirage, the Project may be subject to additional permits and/or fees by other public agencies. A summary of these additional requirements is as follows:

Standard permits through the Colorado River Basin Regional Water Quality Control Board for compliance with NPDES standards. These include the following: Construction Stormwater General Permit; Notice of Intent to Comply with Section 402 of the Clean Water Act, Construction Stormwater Pollution Prevention Plan (SWPPP); and Approval of O&M SWPPP.

The Project will be subject to the regional Transportation Uniform Mitigation Fee (TUMF) as administered by the Riverside County Transportation Commission.

Clearance will also be required from the Coachella Valley Water District for domestic water and sewer connections.

Tribal Consultation

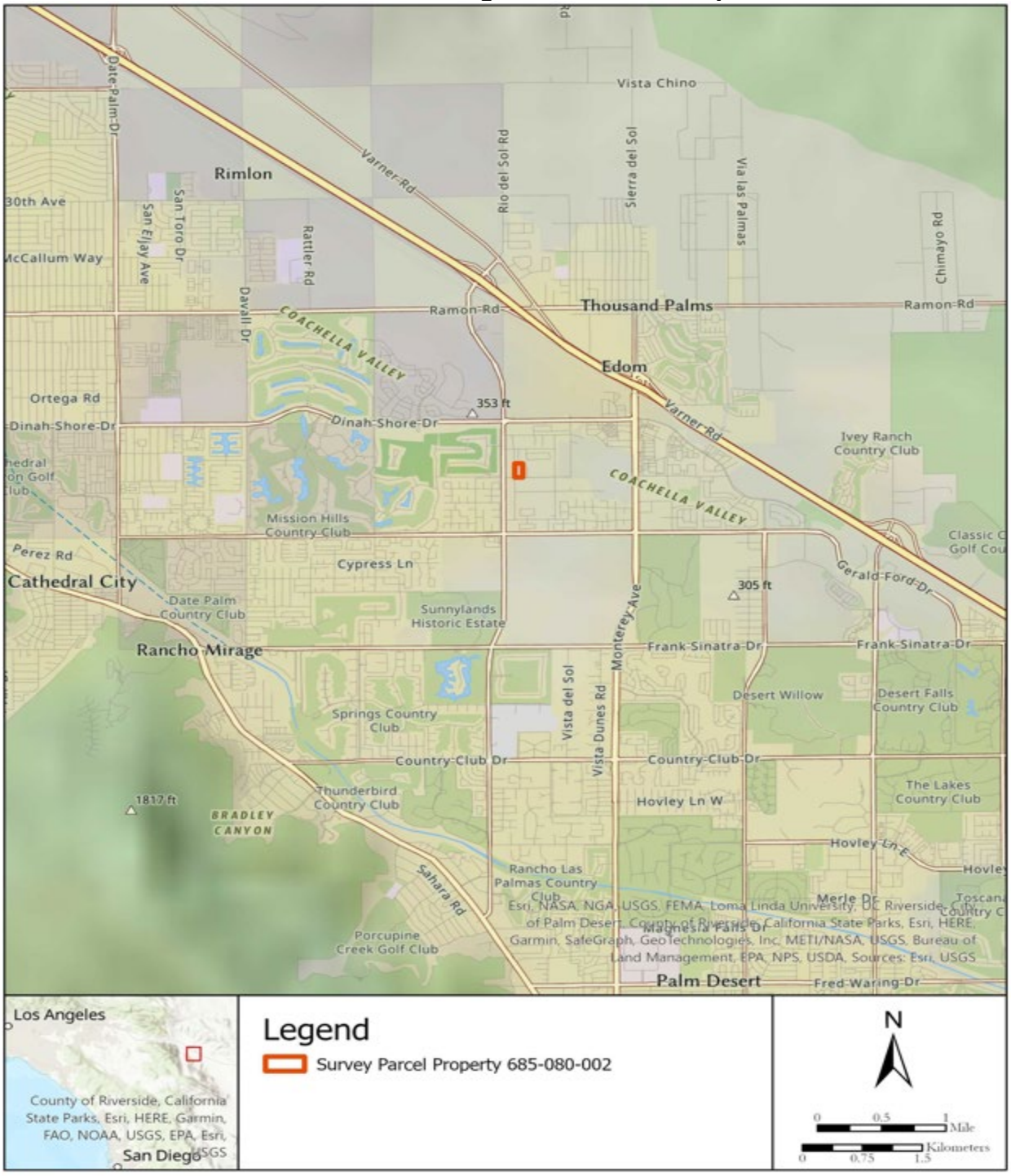
All potentially interested tribes identified by the Native American Heritage Commission (NAHC) were contacted pursuant to Assembly Bill 52 (AB 52) for information regarding their knowledge of cultural resources that were within or near the Project area. These groups include the following:

- Agua Caliente Band of Cahuilla Indians

- Augustine Band of Cahuilla Indians
- Cabazon Band of Cahuilla Indians
- Cahuilla Band of Indians
- Los Coyotes Band of Cahuilla and Cupeño Indians
- Morongo Band of Mission Indians
- Quechan Tribe of the Fort Yuma Reservation
- Ramona Band of Cahuilla
- Santa Rosa Band of Cahuilla Indians
- Soboba Band of Luiseno Indians
- Torres-Martinez Desert Cahuilla Indians

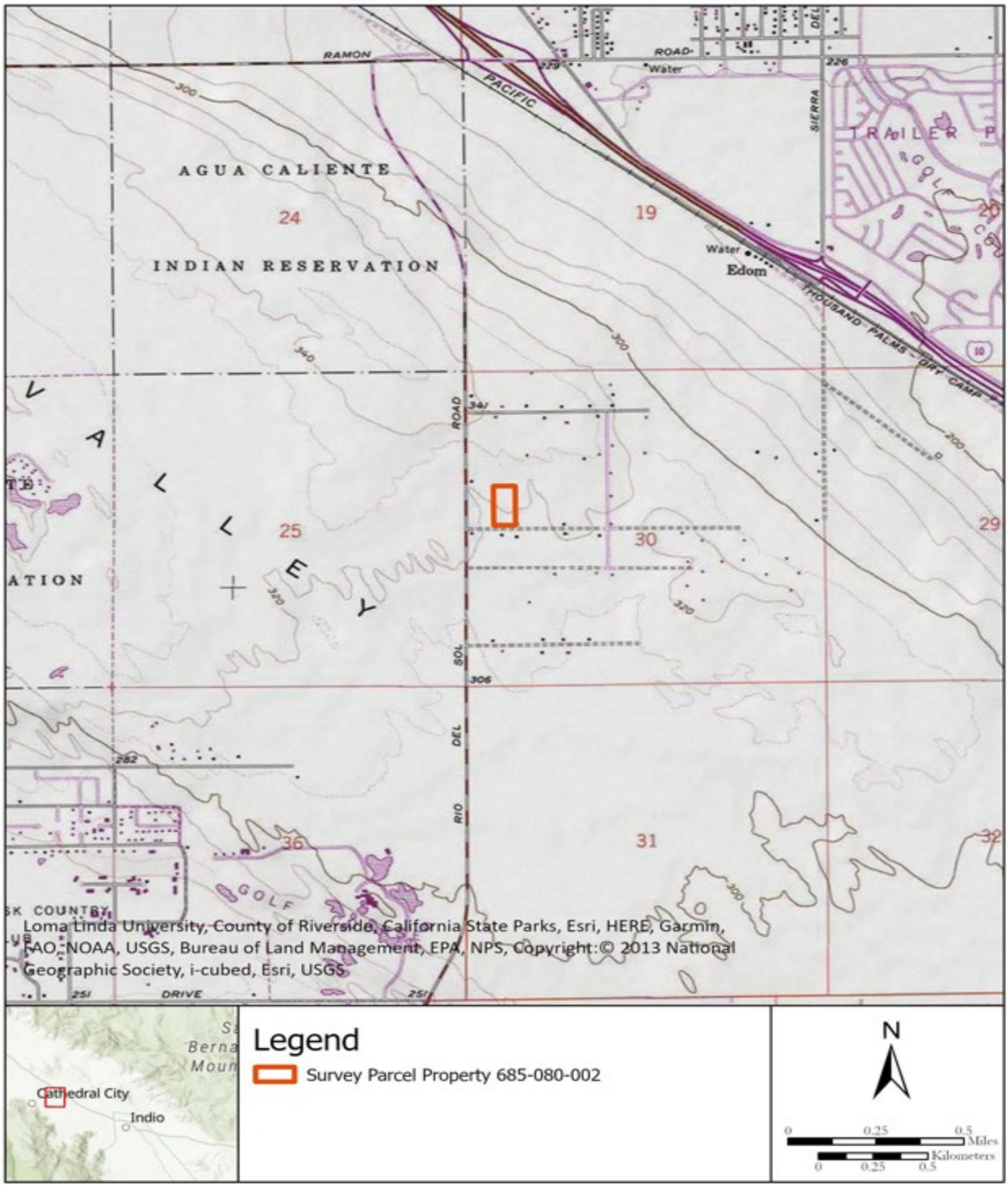
Three tribes (Agua Caliente Band of Cahuilla Indians, Augustine Band of Cahuilla Indians, and Morongo Band of Mission Indians) provided a response to the AB-52 Consultation Request Letter sent by the City of Rancho Mirage by certified mail on July 31, 2024. The Agua Caliente Band of Cahuilla Indians was the only tribe to request a formal consultation in their letter dated August 22, 2024. They concluded their consultation on September 11, 2024, with the recommendation that a condition of approval be added to the Project.

Exhibit 1 Regional Location Map



Source: Natural Resources Assessment

Exhibit 2 Regional Topographic Map

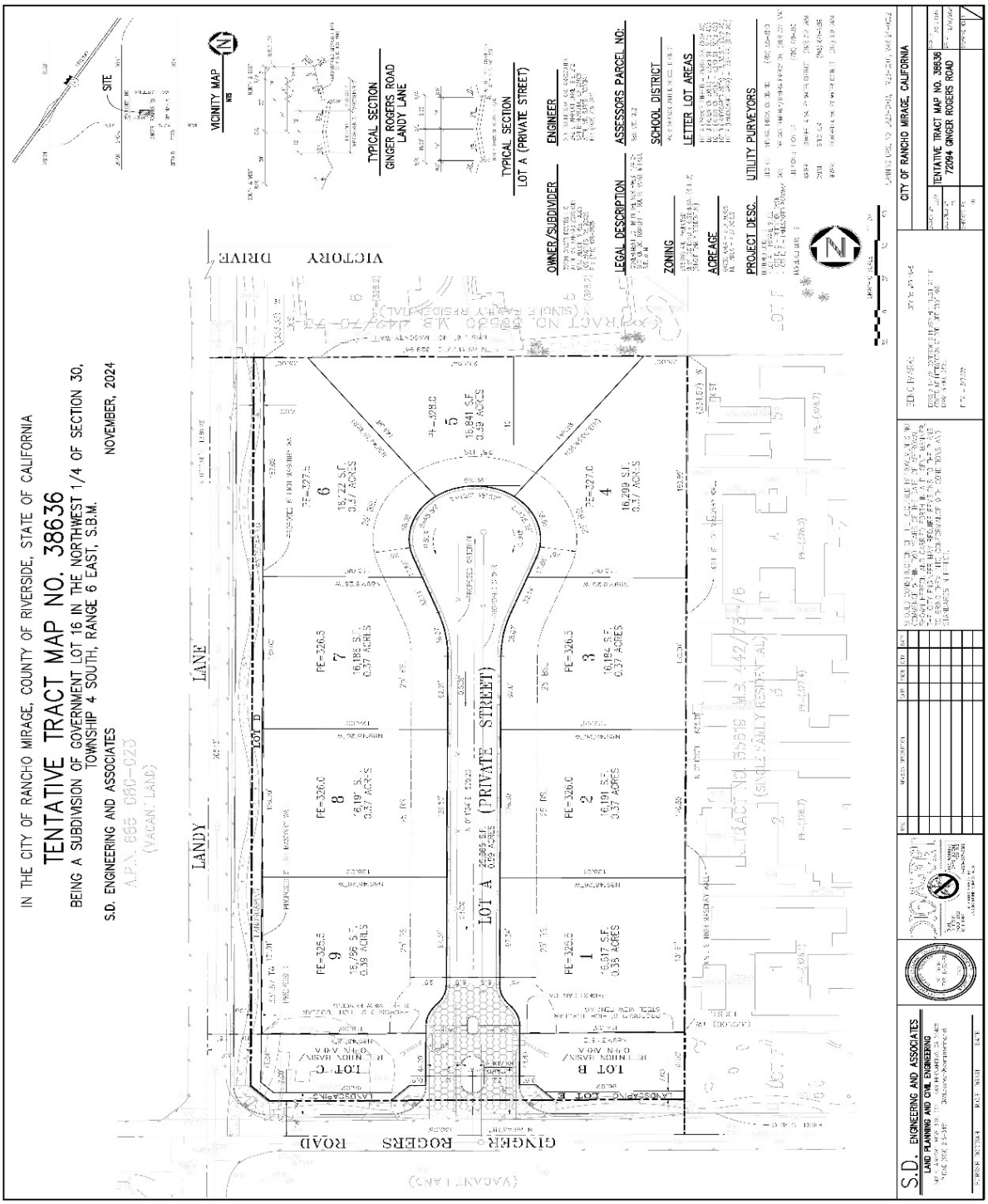


Source: Natural Resources Assessment

Exhibit 3 Project Vicinity Map

Source: NearMap, 2024

Exhibit 4 Tentative Tract Map No. 38636



Source: S.D. Engineering and Associates

CHAPTER 2: ENVIRONMENTAL ANALYSIS AND DETERMINATION

Environmental Factors Potentially Affected:

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

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

Evaluation of Environmental Impacts:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

a) Earlier Analysis Used. Identify and state where they are available for review.

b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify a) the significance criteria or threshold, if any, used to evaluate each question; and b) the mitigation measure identified, if any, to reduce the impact to less than significance.

Determination: (To be completed by the Lead Agency) On the basis of this initial evaluation:

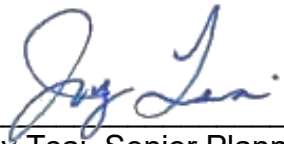
☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



5/27/2025

Joy Tsai, Senior Planner
City of Rancho Mirage

Date:

Environmental Checklist and Discussion:

The following checklist evaluates the proposed Project's potential adverse impacts. For those environmental topics for which a potential adverse impact may exist, a discussion of the existing site environment related to the topic is presented followed by an analysis of the Project's potential adverse impacts. When the Project does not have any potential for adverse impacts for an environmental topic, the reasons why there are no potential adverse impacts are described.

1 - Aesthetics

AESTHETICS -- Would the project**:**	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Sources: City of Rancho Mirage 2017 General Plan Update adopted November 16, 2017; Rancho Mirage Municipal Code, Google Earth, Earth viewer, S.D. Engineering and Associates, Tentative Tract Map No. 38636, November 25, 2024 and State of California, Department of Transportation, California Scenic Highway Mapping System.

1.1 Setting:

The Coachella Valley and the Project site are distinguished by the low-lying desert valley floor surrounded by the high terrain of the San Jacinto, San Bernardino, Little San Bernardino, and

Santa Rosa Mountains. These contrasting viewsheds result in open space and mountain scenery that is a major component of the aesthetic quality of the area. The San Jacinto, San Bernardino and Santa Rosa Mountains Ranges rise over the valley floor at elevations consisting of 11,489 feet (3,502 meters) 8,716 feet (2,657 meters), 10,834 feet (3,302 meters), respectively. Views from the subject site include the San Jacinto Mountains (to the west and southwest), Santa Rosa Mountains (to the southwest), San Bernardino Mountains (to the north and northwest), and the Little San Bernardino Mountains (to the northeast). Views of the San Jacinto (west and southwest) and Santa Rosa Mountains (southwest) are clearly visible from the Project site. Views of the San Bernardino (north and northwest) and Little San Bernardino Mountains (northeast) are slightly visible but primarily obstructed by existing development and topography.

The evaluation of aesthetics and aesthetic impacts is generally subjective, and it typically requires the identification of key visual features in the area and their importance. The characterization of aesthetic impacts involves establishing the existing visual characteristics including visual resources and scenic vistas that are unique to the area. Visual resources are determined by identifying existing landforms (e.g., topography and grading), views (e.g., scenic resources such as natural features or urban characteristics), and existing light and glare characteristics (e.g., nighttime illumination). Changes to the existing aesthetic environment associated with the proposed Project's implementation are identified and qualitatively evaluated based on the proposed modifications to the existing setting and the viewers' sensitivity. The Project-related impacts are then compared to the context of the existing setting, using the threshold criteria discussed above.

The natural setting of the Rancho Mirage area is critical to its overall visual character and provides scenic vistas for the community. The Santa Rosa Mountains and the foothills (including the Indio Hills), provide a natural, scenic backdrop to the Rancho Mirage community. The Santa Rosa Mountains are part of the Santa Rosa and San Jacinto Mountains National Monument.

1.2 Discussion of Impacts:

a) IMPACT: Less than Significant Impact.

The Project site is located in a semi-developed urban area of the City and surrounded by vacant, undeveloped land, residential homes, and commercial development. Development allowable under the proposed Project would be similar in nature to the existing residential development to the north and east, and would therefore not impede views of, or otherwise substantively affect scenic vistas or access to scenic vistas. Prior to development of the Project site, the City will review and approve the future architectural plans to ensure the proposed development meets the City's development standards for the Very Low Density Residential land use designation. Based on the preceding, the Project would not have a substantial adverse effect on scenic vistas and impacts would be less than significant.

b) IMPACT: Less than Significant Impact.

According to the City's General Plan, the majority of the City's roadways provide views to the San Jacinto and San Bernardino Mountains; however, no surrounding roadways are designated by the state as scenic highways. State Route 111 (SR 111) is considered to be an Eligible State Scenic Highway, though this roadway is not officially designated as such. This

segment of SR 111 runs from Interstate 10 near Whitewater to Route 74 near Palm Desert. Due to existing developments and the distance of approximately 4 miles to the southwest between SR-111 (at the corner of Frank Sinatra Drive and Highway 111) and the Project site, the Project site is not visible to vehicles driving along SR-111. According to the Rancho Mirage General Plan, Bob Hope Drive (located approximately 460 feet to the west of the site), is a City-designated Scenic Road. In addition to the foregoing, the project property is currently absent of any historic buildings, structures or other former permanent improvements that would have any aesthetic value. In addition, there are no historic buildings nor any unique geologic or topographic features such as rock outcrops, bodies of water, ridges or canyons found on or within the Project site. Therefore, due to topography and intervening development, the proposed Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. Impacts would be less than significant.

c) IMPACT: Less than Significant Impact.

As mentioned previously, the Project site is located in a semi-urbanized area. Implementation of the Project would result in the visual conversion of the site from vacant, undeveloped land to nine single-family residential lots. The Project would be compatible with the size, scale, and aesthetic features of other existing single-family homes located to the north and east of the Project site. Furthermore, the Project would be required to comply with the applicable development standards and design guidelines in the City of Rancho Mirage Municipal Code, which regulates the visual quality of new development and ensures that new development does not detract from any scenic attributes/qualities in the surrounding area. Because the Project is located in a semi-urbanized area and because the Project would not conflict with applicable development standards, impacts would be less than significant.

d) IMPACT: Less than Significant Impact.

Under existing conditions, the Project site contains one single-family residence. The Project would introduce new sources of lighting, including streetlights and security lighting. The nearest light sensitive receptors are the existing residential units located to the north and east of the project site. In addition, the properties located to the north and east are zoned for single-family residential development. Subject to City review and approval, all Project lighting would be required to conform to regulations, guidelines, and standards established under the City's Municipal Code Section 17.18.050, Exterior glare, heat, and light, which ensures adequate lighting for public safety while also minimizing light pollution and glare and public nuisances. Riverside County Ordinance Number 655 regulates light pollution in the County. Ordinance No. 655 restricts the use of certain light fixtures emitting into the night sky undesirable light rays which have a detrimental effect on astronomical observation and research. The Project would be required to comply with the County's standards. Since the proposed Project would be required to adhere to both the City's and County's light and glare requirements, the impacts would be less than significant.

1.3 Mitigation Measures: None required.

2 - Agriculture and Forestry Resources

AGRICULTURE AND FORESTRY RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of forest land, timberland, or timberland zoned Timberland Production?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒

Sources: Rancho Mirage General Plan 2017; California Department of Conservation, Farmland Mapping & Monitoring Program; and Riverside County Map My County

2.1 Setting

The City of Rancho Mirage contains no agricultural or forest lands, and no lands are designated for agricultural or forestry purposes in the General Plan. Agricultural production occurs in the eastern Coachella Valley, more than 10 miles east of the City. According to

California Department of Conservation (CDC), the Project site is considered as "Other Land".

The California Land Conservation Act of 1965, or the Williamson Act, allows a city or county government to preserve agricultural land or open space through contracts with landowners. Contracts last 10 years and are automatically renewed unless a notice of nonrenewal is issued.

The proposed Project would involve the subdivision of the 5.04-acre Project site into nine-lot residential lots. The common landscaped areas would total 5,863 square feet. Two retention basins would be located on the site's southern boundary and would consist of 11,323 square feet combined. The Project site's General Plan and Zoning designation is Very Low Density Residential (R-L-2). The relatively level 5.04-acre site ranges from 325 feet above mean sea level (AMSL) to 330 feet AMSL. The southernmost portion of the Project site is occupied by an older single-family residence. The only mature trees located within the property are located in the yard areas of this residence. The remainder of the Project site consists of both native and non-native shrubs and grasses. According to the California Department of Conservation, the Project site and the adjacent properties do not contain any areas of Farmland of Statewide Importance, and no agricultural uses are located onsite or adjacent to the property.

2.2 Discussion of Impacts:

a) IMPACT: No Impact.

According to the California Department of Conservation, the Project site and the adjacent properties do not contain any areas of Farmland of Statewide Importance, and no agricultural uses are located onsite or adjacent to the property. According to the California Farmland Mapping and Monitoring Program the proposed Project is located in a portion of Rancho Mirage designated as "Other Land". This category is land that is not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as "Other Land." The Project site and the properties to the north and east are designated as "Other Land." Properties to the south and west are classified as Urban and Built-Up Land. The Project site is not located in an area where the existing zoning promotes agricultural uses or is otherwise classified as farmland. Therefore, the implementation of the proposed Project would not involve the conversion of any prime farmland, unique farmland, or farmland of statewide importance to urban uses. As a result, no impacts would occur.

b) IMPACT: No Impact.

The Project site's General Plan and Zoning designation is Very Low Density Residential (R-L-2). The southwestern portion of the Project site is occupied by an older single-family residence and there are no agricultural uses located within the site that would be affected by the Project's implementation. According to the California Department of Conservation Division of Land Resource Protection, the Project site is not subject to a Williamson Act Contract. As a result, no impacts on existing Williamson Act Contracts would result from the proposed Project's implementation.

c) IMPACT: No Impact.

There are no forest lands or timber lands located within or adjacent to the site. Furthermore, the site's existing zoning designation does not contemplate forest land or timber land uses. As a result, no impacts will occur.

d) IMPACT: No Impact.

No forest lands are located within the Project site. The proposed use would be restricted to the site and would not affect any land under the jurisdiction of the Bureau of Land Management. As a result, no loss or conversion of forest lands to urban uses would result from the proposed Project's implementation.

e) IMPACT: No Impact.

The Project would not involve the disruption or damage of the existing environment that would result in a loss of farmland to nonagricultural use or conversion of forest land to non-forest use because the Project site does not contain any significant vegetation. As a result, no farmland conversion impacts would occur.

2.3 Mitigation Measures: None required.

3 - Air Quality

AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Sources: Ganddini Group, Inc., *TTM 38636 Air Quality, Global Climate Change, and Energy Impact Analysis, City of Rancho Mirage* dated October 24, 2023, U.S. EPA, California Air Resources Board https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations, 2022, and South Coast AQMD https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf, 2023.

3.1 Setting

The proposed Project would involve the subdivision of the 5.04-acre Project site into nine-lot residential lots. The individual lots would be arranged around the proposed private cul-de-sac roadway. The Project site's General Plan and Zoning designation is Very Low Density Residential (R-L-2). The following criteria pollutants are evaluated in this ISMND:

● Ozone (O3) is a nearly colorless gas that irritates the lungs, and damages materials and vegetation. Ozone is formed by photochemical reaction (when nitrogen dioxide is broken down by sunlight).

● Carbon Monoxide (CO) is a colorless, odorless toxic gas that interferes with the transfer of oxygen to the brain and is produced by the incomplete combustion of carbon-containing fuels emitted as vehicle exhaust.

● Nitrogen Oxide (NO_x) is a yellowish-brown gas, which at high levels can cause breathing difficulties. NOx is formed when nitric oxide (a pollutant from burning processes) combines with oxygen.

● Sulfur Dioxide (SO_2) is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Health effects include acute respiratory symptoms.

● PM_{10} and $PM_{2.5}$ refers to particulate matter less than ten microns and two and one-half microns in diameter, respectively. Particulates of this size cause greater health risks than larger-sized particles since fine particles can more easily cause irritation.

● Reactive Organic Gases (ROG) refers to organic chemicals that, with the interaction of sunlight photochemical reactions may lead to the creation of "smog."

Projects in the Salton Sea Air Basin (SSAB) generating construction-related emissions that exceed any of the following emissions thresholds are considered to be significant under CEQA:

● 75 pounds per day of reactive organic compounds;
● 100 pounds per day of nitrogen dioxide;
● 550 pounds per day of carbon monoxide;
● 150 pounds per day of PM_{10};
● 55 pounds per day of $PM_{2.5}$; or,
● 150 pounds per day of sulfur oxides.

A project would have a significant effect on air quality if any of the following operational emissions thresholds for criteria pollutants are exceeded:

● 55 pounds per day reactive organic compounds;
● 55 pounds per day of nitrogen dioxide;
● 550 pounds per day of carbon monoxide;
● 150 pounds per day of PM_{10};
● 55 pounds per day of $PM_{2.5}$; or,
● 150 pounds per day of sulfur oxides.

As shown in Table 2, Salton Sea Air Basin Attainment Status, below, the SSAB has been designated by the EPA as a federal non-attainment area for ozone and fine particulate matter (PM_{10}). Currently, the Basin is in attainment with the national ambient air quality standards for carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and fine particulate matter ($PM_{2.5}$). The Basin has been designated by the California Air Resources Board (CARB) as a non-attainment area for Ozone and PM_{10}.

Table 2 Salton Sea Air Basin Attainment Status

Pollutant	State Status	National Status
Ozone	Nonattainment	Nonattainment
Carbon monoxide	Attainment	Unclassified/Attainment

Nitrogen dioxide	Attainment	Unclassified/Attainment
Sulfur dioxide	Attainment	Unclassified/Attainment
PM_{10}	Nonattainment	Nonattainment
$PM_{2.5}$	Attainment	Unclassified/Attainment

Sources: U.S. EPA, California Air Resources Board https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations (2022).

Many air quality impacts that derive from dispersed mobile sources, which are the dominant pollution generators in the basin, often occur hours later and miles away after photochemical processes have converted primary exhaust pollutants into secondary contaminants such as ozone. The incremental regional air quality impact of an individual project is generally very small and difficult to measure. Therefore, the SCAQMD has developed significance thresholds based on the volume of pollution emitted rather than on actual ambient air quality because the direct air quality impact of a project is not quantifiable on a regional scale. The SCAQMD CEQA Handbook states that any project in the SSAB with daily emissions that exceed any of the identified significance thresholds should be considered as having an individually and cumulatively significant air quality impact. A regional air quality impact would be considered significant if emissions exceed the SCAQMD significance thresholds identified in Table 3, SCAQMD Air Quality Significance Thresholds, below.

Table 3 SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	**Construction (lbs/day)**	**Operation (lbs/day)**
NO_x	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_x	150	150
CO	550	550
Lead	3	3

Source: South Coast AQMD https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf (2023)

3.2 Discussion of Impacts:

a) IMPACT: Less than Significant Impact.

The SCAQMD has established the Air Quality Management Plan (AQMP) to achieve State and Federal air quality standards. On June 30, 2016, the SCAQMD released its Draft 2016 AQMP. The 2016 AQMP is a regional blueprint for achieving the federal air quality standards and healthful air. The 2016 AQMP includes both stationary and mobile source strategies to ensure that rapidly approaching attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the region is not faced with burdensome sanctions if the Plan is not approved or if the National Ambient Air Quality Standards (NAAQS) are not met on time. As with every AQMP, a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures is updated

with the latest data and methods. The most significant air quality challenge in the Basin is to reduce nitrogen oxide (NO_x) emissions sufficiently to meet the upcoming ozone standard deadlines. On March 23, 2017, the CARB approved the 2016 AQMP. The primary goal of this AQMP is to meet clean air standards and protect public health, including ensuring benefits to environmental justice and disadvantaged communities. Now that the Plan has been approved by the CARB, it has been forwarded to the U.S. EPA for its review. The Plan was approved by the EPA on June 15, 2017.

On June 21, 2002, the SCAQMD adopted the 2002 Coachella Valley PM_{10} State Implementation Plan (CVSIP). The 2002 CVSIP, which included a request for extension of the PM_{10} deadline and met all applicable federal Clean Air Act requirements, including a Most Stringent Measures analysis, control measures, and attainment demonstration. The U.S. EPA approved the 2002 CVSIP on April 18, 2003. At the time of adoption, the AQMD committed to revising with the 2002 CVSIP with the latest approved mobile source emissions estimates, planning assumptions and fugitive dust source emission estimates, when they became available.

The 2003 CVSIP updates those elements of the 2002 CVSIP; the control strategies and control measure commitments have not been revised and remain the same as in the 2002 CVSIP. The 2003 CVSIP contains updated emissions inventories, emission budgets, and attainment modeling. It requests that the U.S. EPA replace the approved transportation conformity budgets in the 2002 CVSIP with those in the 2003 CVSIP. U.S. EPA approved these budgets on March 25, 2004, with an effective date of April 9, 2004.

In May 2022, the SCAQMD completed the 2022 Draft AQMP. The 2022 Draft AQMP is focused on attaining the 2015 8-hour ozone standard (70 ppb) for the South Coast Air Basin and Coachella Valley by 2037. The Draft 2022 AQMP builds upon measures already in place from previous AQMPs. It also includes a variety of additional strategies such as regulation, accelerated deployment of available cleaner technologies (e.g., zero emission technologies, when cost-effective and feasible, and low NO_x technologies in other applications), best management practices, co-benefits from existing programs (e.g., climate and energy efficiency), incentives, and other Clean Air Act measures to achieve the 2015 8-hour ozone standard. The 2022 AQMP was adopted December 2, 2022, by SCAQMD Governing Board. The 2022 AQMP was approved and adopted by CARB on January 26, 2023.

A project should be considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The California Environmental Quality Act (CEQA) requires a discussion of any inconsistencies between a proposed Project and applicable General Plans and Regional Plans (CEQA Guidelines Section 15125). The regional plan that applies to the proposed Project includes the SCAQMD Air Quality Management Plan (AQMP). Therefore, this section discusses any potential inconsistencies of the proposed Project with the AQMP.

The purpose of this discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the proposed Project would interfere with the region's ability to comply with Federal and State air quality standards. If the

decision-makers determine that the proposed Project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

The SCAQMD CEQA Handbook states that "New or amended General Plan Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP". Strict consistency with all aspects of the plan is usually not required. A proposed Project should be considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The SCAQMD CEQA Handbook identifies two key indicators of consistency:

1) Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.

2) Whether the project will exceed the assumptions in the AQMP in 2022 or increments based on the year of project buildout and phase.

Both of these criteria are evaluated in the following sections.

Criteria 1 – Increase in the Frequency or Severity of Violations

Based on the air quality modeling analysis contained in the Ganddini Group study, short-term construction impacts will not result in significant impacts based on the SCAQMD regional and local thresholds of significance. The Air Analysis also found that long-term operations impacts will not result in significant impacts based on the SCAQMD local and regional thresholds of significance. Therefore, the proposed Project is not projected to contribute to the exceedance of any air pollutant concentration standards and is found to be consistent with the AQMP for the first criterion.

Criteria 2 – Exceed Assumptions in the AQMP?

Consistency with the AQMP assumptions is determined by performing an analysis of the proposed Project with the assumptions in the AQMP. The emphasis of this criterion is to ensure that the analyses conducted for the proposed Project are based on the same forecasts as the AQMP. The 2020-2045 Regional Transportation/Sustainable Communities Strategy prepared by SCAG (2020) includes chapters on: the challenges in a changing region, creating a plan for our future and the road to greater mobility and sustainable growth. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA. For this Project, the City of Rancho Mirage Land Use Plan defines the assumptions that are represented in the AQMP.

The Project site is currently designated as Very Low Density Residential (R-L-2) on the City of Rancho Mirage General Plan Land Use Map. The proposed Project includes development of the approximately 5.04-acre Project site with nine single-family dwelling units. Therefore, the proposed Project would not result in an inconsistency with the current land use designation in

the City's General Plan. Therefore, the proposed Project is not anticipated to exceed the AQMP assumptions for the Project site and is found to be consistent with the AQMP for the second criterion. Based on the above, the proposed Project will not result in an inconsistency with the SCAQMD AQMP. Therefore, a less than significant impact will occur.

b) IMPACT: Less than Significant Impact.

SHORT-TERM CONSTRUCTION EMISSIONS

Construction activities associated with the proposed Project would have the potential to generate air emissions, toxic air contaminant emissions, and odor impacts. Assumptions for the phasing, duration, and required equipment for the construction of the proposed Project were obtained from the Project applicant. Construction activities for the proposed Project are anticipated to include: the demolition of an approximately 1,095 square-foot existing single-family dwelling unit; grading of approximately 4.37 net acres; construction of nine single-family residential dwelling units and 0.4 acres of retention basins and landscaping; paving of 0.59 acres of on-site roadways; and application of architectural coatings. The amount of cut and fill materials are anticipated to balance during grading operations with no import or export of soils required. The proposed Project was modeled to start construction no earlier than January 2025. However, the duration of construction is unknown at this time. Therefore, CalEEMod default construction timing was utilized in this analysis. Based on CalEEMod defaults, with a start date of January 2025, the Project was anticipated to be completed by early February 2026 with the Project being operational in 2026.

Methodology

The following provides a discussion of the methodology used to calculate regional construction air emissions and an analysis of the proposed Project's short-term construction emissions for the criteria pollutants. The construction-related regional air quality impacts have been analyzed for both criteria pollutants and greenhouse gases (GHGs).

Emissions are estimated using the CalEEMod (Version 2022.1.1.20) software, which 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 GHG emissions from a variety of land use Projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California and is recommended by the SCAQMD.

Daily regional emissions during construction are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source and fugitive dust emissions factors. The input values used in this analysis were adjusted to be project-specific for the construction schedule and the equipment used was based on CalEEMod defaults. The CalEEMod program uses the

EMFAC2021 computer program to calculate the emission rates specific for the eastern portion of Riverside County for construction-related employee vehicle trips and the OFFROAD2017 computer program to calculate emission rates for heavy truck operations. EMFAC2021 and OFFROAD2017 are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour. Daily truck trips and CalEEMod default trip length data were used to assess roadway emissions from truck exhaust. The maximum daily emissions are estimated values for the worst-case day and do not represent the emissions that would occur for every day of project construction. The maximum daily emissions are compared to the SCAQMD daily regional numeric indicators.

The Project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rules 403 and 403.1 establish these procedures. Compliance with these rules is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, managing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent and stabilizing ground cover on finished sites.

In addition, any operator applying for a grading permit, or a building permit for an activity with a disturbed surface area of more than 5,000 square feet, shall not initiate any earth-moving operations unless a Fugitive Dust Control Plan has been prepared pursuant to the provisions of the Coachella Valley Fugitive Dust Control Handbook and approved by the City. It is anticipated that this Project will obtain and prepare the required Fugitive Dust Control Plan.

SCAQMD's Rule 403 and 403.1 minimum requirements require that the application of the best available dust control measures are used for all grading operations and include the application of water or other soil stabilizers in sufficient quantity to prevent the generation of visible dust plumes. Compliance with Rules 403 and 403.1 would require the use of water trucks during all phases where earth moving operations would occur. Compliance with Rule 403 has been included in the CalEEMod modeling for the proposed Project.

Per SCAQMD Rule 1113 as amended on June 3, 2011, the architectural coatings that would be applied after January 1, 2014, will be limited to an average of 50 grams per liter or less. CalEEMod defaults have been adjusted accordingly.

The phases of the construction activities which have been analyzed below for each phase are: (1) demolition, (2) grading, (3) building construction, (4) paving, and (5) application of architectural coatings. Building construction, paving and painting phases may overlap during construction.

Construction-Related Regional Impacts

The maximum daily criteria pollutant emissions from the proposed Project's construction-related criteria pollutant emissions are shown below in Table 4. The results of Table 4 show that none

of the Project's emissions will exceed regional thresholds. Therefore, a less than significant regional air quality impact would occur from construction of the proposed Project.

Table 4 Construction-Related Regional Pollutant Emissions

Activity	Pollutant Emissions (pounds/day)					
	VOC	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	7.73	22.30	23.20	0.04	3.68	2.05
SCAQMD Thresholds	75	100	550	150	150	55
Exceeds Thresholds?	No	No	No	No	No	No

Source: Ganddini Group, Inc., *TTM 38636 Air Quality, Global Climate Change, and Energy Impact Analysis, City of Rancho Mirage* dated October 24, 2023

LONG-TERM OPERATIONAL EMISSIONS

The on-going operation of the proposed project would result in a long-term increase in air quality emissions. This increase would be due to emissions from the project-generated vehicle trips and through operational emissions from the on-going use of the proposed project. The following section provides an analysis of potential long-term air quality impacts due to regional air quality and local air quality impacts with the on-going operations of the proposed project.

Operations-Related Regional Air Quality Impacts

The potential operations-related air emissions have been analyzed below for the criteria pollutants and cumulative impacts.

Operations-Related Criteria Pollutants Analysis

The operations-related criteria air quality impacts created by the proposed project have been analyzed through the use of the CalEEMod model. The operating emissions were based on the year 2026, which is the anticipated opening year for the proposed project. The CalEEMod analyzes operational emissions from area sources, energy usage, and mobile sources, which are discussed below.

Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. Per the project applicant, the project is to screen out of the requirement of a traffic study. Therefore, the vehicle trips associated with the proposed project have been analyzed by inputting the project-generated vehicular trips from the Institute of Transportation Engineers (ITE) 11th Edition Trip Generation Manual (2021) into the CalEEMod Model. Per the ITE rate for single-family housing (ITE 210) the proposed project will have trip generation rates of 9.43 trips per dwelling unit per weekday, 9.48 trips per dwelling unit per Saturday, and 8.48 trips per dwelling unit per Sunday. The program then applies the emission factors for each trip which is

provided by the EMFAC2021 model to determine the vehicular traffic pollutant emissions.

Area Sources

Per the CAPCOA Appendix A, Calculation Details for CalEEMod, area sources include emissions from consumer products, landscape equipment and architectural coatings. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. As specifics were not known about the landscaping equipment fleet, CalEEMod defaults were used to estimate emissions from landscaping equipment. No changes were made to the default area source parameters.

Energy Usage

Energy usage includes emissions from the generation of electricity and natural gas used on-site. No changes were made to the default energy usage parameters.

Project Impacts

The maximum daily pollutant emissions created from the proposed project's long-term operations have been calculated and are shown below in Table 5. Table 5 shows that none of the analyzed criteria pollutants would exceed the regional emissions thresholds. Therefore, a less than significant regional air quality impact would occur from operation of the proposed project.

Table 5 Regional Operational Pollutant Emissions

Activity	Pollutant Emissions (pounds/day)					
	VOC	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Maximum Daily	0.82	0.66	4.80	0.01	0.87	0.24
SCAQMD Thresholds	55	55	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod Version 2022.1.1.20; the higher of either summer or winter emissions.

CUMULATIVE AIR QUALITY IMPACTS

There are a number of cumulative projects in the project area that have not yet been built or are currently under construction. Since the timing or sequencing of the cumulative projects is unknown, any quantitative analysis to ascertain daily construction emissions that assumes multiple, concurrent construction projects would be speculative. Further, cumulative projects include local development as well as general growth within the project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered would cover an even larger area. The SCAQMD recommends using two different methodologies: (1) that project-specific air quality impacts be used to determine the potential cumulative impacts to regional air quality; and (2) that a

project's consistency with the current AQMP be used to determine its potential cumulative impacts.

Project Specific Impacts

The project area is out of attainment for ozone and PM_{10}. Construction and operation of cumulative projects will further degrade the local air quality, as well as the air quality of the Salton Sea portion of the South Coast Air Basin. The greatest cumulative impact on the quality of regional air cell will be the incremental addition of pollutants mainly from increased traffic volumes from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with the construction of these projects. Air quality will be temporarily degraded during construction activities that occur separately or simultaneously. However, in accordance with the SCAQMD methodology, projects that do not exceed the SCAQMD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact. This applies to TACs as well, as the SCAQMD does not have any cumulative TAC thresholds; therefore, projects that do not exceed the SCAQMD TAC threshold criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact. A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant.

Project operations would generate emissions of NO_x, ROG, CO, PM_{10}, and $PM_{2.5}$, which would not exceed the SCAQMD regional or local thresholds and would not be expected to result in ground level concentrations that exceed the NAAQS or CAAQS. The project will not be a source of significant TACs and will not cause significant cancer or non-cancer-related health risks. Since the project would not introduce any substantial stationary sources of emissions, CO is the benchmark pollutant for assessing local area air quality impacts from post-construction motor vehicle operations. As indicated earlier, no violations of the state and federal CO standards are projected to occur for the project, based on the magnitude of traffic the project is anticipated to create. Therefore, operation of the project would not result in a cumulatively considerable net increase for non-attainment of criteria pollutants or ozone precursors, or TACs. As a result, the project would result in a less than significant cumulative impact for operational emissions.

c) IMPACT: Less than Significant Impact.

Those who are sensitive to air pollution include children, the elderly, and persons with preexisting respiratory or cardiovascular illness. For purposes of CEQA, the SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24 hours, such as residences, hospitals, or convalescent facilities (South Coast Air Quality Management District 2008). Commercial and industrial facilities are not included in the definition because employees do not typically remain on-site for 24 hours.

The nearest sensitive receptors to the boundaries of the focus area of the project site are the existing single-family residential uses located adjacent to the north and east of the project site and approximately 566 feet (~172 meters) to the southwest, 590 feet (~180 meters) to the west, 1,340 feet (~408 meters) to the south, and 1,296 feet (~395 meters) to the southeast of the project site. Other air quality sensitive land uses are located further from the project site and

would experience lower impacts.

Construction-Related Local Impacts

Construction-related air emissions may have the potential to exceed the State and Federal air quality standards in the Project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Salton Sea portion of the South Coast Air Basin. The proposed Project has been analyzed for the potential local air quality impacts created from: construction-related fugitive dust and diesel emissions; from toxic air contaminants; and from construction-related odor impacts.

Local Air Quality Impacts from Construction

The SCAQMD has published a "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds" (South Coast Air Quality Management District 2011b). CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily disturbance activity possible for each piece of equipment. In order to compare CalEEMod reported emissions against the localized significance threshold lookup tables, the CEQA document should contain the following parameters:

(1) The off-road equipment list (including type of equipment, horsepower, and hours of operation) assumed for the day of construction activity with maximum emissions.
(2) The maximum number of acres disturbed on the peak day.
(3) Any emission control devices added onto off-road equipment.
(4) Specific dust suppression techniques used on the day of construction activity with maximum emissions.

The local air quality emissions from construction were analyzed using the SCAQMD's Mass Rate Localized Significant Threshold Look-up Tables and the methodology described in Localized Significance Threshold Methodology prepared by SCAQMD (revised July 2008). The Look-up Tables were developed by the SCAQMD in order to readily determine if the daily emissions of CO, NOx, PM10, and PM2.5 from the proposed Project could result in a significant impact to the local air quality. The emission thresholds were calculated based on the Coachella Valley source receptor area (SRA) 30 and a disturbance value of two acres per day, to be conservative. According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25-meter thresholds. The nearest sensitive receptors are the existing single-family residential uses with property lines located adjacent to the north and east of the Project site; therefore, the SCAQMD Look-up Tables for 25 meters were used. As shown in Table 6, none of the analyzed criteria pollutants would exceed the calculated local emissions thresholds at the nearest sensitive receptors. Therefore, impacts would be less than significant.

Table 6 Local Operational Pollutant Emissions

Activity	On-Site Pollutant Emissions (pounds/day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$

Demolition	22.20	19.90	0.96	0.85
Grading	16.30	17.90	3.48	2.00
Building Construction	10.40	13.00	0.43	0.40
Paving	6.52	8.84	0.29	0.26
Architectural Coating	0.86	1.13	0.02	0.02
SCAQMD Thresholds	191	1,299	7	5
Exceeds Threshold?	No	No	No	No

Source: CalEEMod Version 2022.1.1.20; the higher of either summer or winter emissions.

d) IMPACT: Less than Significant Impact.

Construction-Related Odor Impacts

Potential sources that may emit odors during Project construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the Project construction process are short-term in nature and the odor emissions are expected cease upon the drying or hardening of the odor producing materials. Diesel exhaust and VOCs would be emitted during construction of the Project, which are objectionable to some; however, emissions would disperse rapidly from the Project site and therefore should not reach an objectionable level at the nearest sensitive receptors. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the proposed Project.

Operational-Related Odor Impacts

The SCAQMD recommends that odor impacts be addressed in a qualitative manner. Such an analysis shall determine whether the Project would result in excessive nuisance odors, as defined under the California Code of Regulations and Section 41700 of the California Health and Safety Code and thus would constitute a public nuisance related to air quality.

Potential sources that may emit odors during the on-going operations of the proposed project would include odor emissions from vehicle emissions and trash storage areas. The project consists of residential uses and will not attract a significant amount of heavy-duty truck traffic. Due to the distance of the nearest receptors from the Project site and through compliance with SCAQMD's Rule 402, no significant impact related to odors would occur during the on-going operations of the proposed Project. Impacts would be less than significant.

3.3 Mitigation Measures: None required.

4 - Biological Resources

BIOLOGICAL RESOURCES – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan,	☐	☒	☐	☐

or other approved local, regional, or state habitat conservation plan?				

Sources: Natural Resources Assessment, Inc., 2024. *General Biological Assessment Single-family Residential Subdivision Tentative Tract Map – TTM 23-0001 (TTM38636) Environmental Assessment – EA 23-0003 APN 685-080-002 Rancho Mirage, California* dated January 18, 2024; United States Fish & Wildlife Service, Environmental Conservation Online System; United States Fish & Wildlife Service, Environmental Conservation Online System (ECOS). Critical Habitat Mapper; United State Fish & Wildlife Services, Habitat Conservation Plans: Summary Report; and United States Fish and Wildlife Service, National Wetlands Inventory, Wetlands Mapper.

4.1 Setting

The relatively level 5.04-acre site ranges from 325 feet above mean sea level (AMSL) to 330 feet AMSL. The southwestern portion of the Project site is occupied by an older single-family residence. The only mature trees located within the property are located in the yard areas of this residence. The dominant plant community is a very sparse creosote bush scrub, dominated by creosote bush (*Larrea tridentata*). Other shrub species include Emory's indigo bush (*Psorothamnus emoryi*) and desert globemallow (*Sphaeralcea ambigua*). Annual flowering species observed include fanleaf crinklemat (*Tiquiila plicata*), Booth's desert primrose (*Eremothera boothii*), desert lantern (*Oenothera deltoides*) and desert needlegrass (*Pallafoxia arida var. arida*). Non-native species included a mix of weedy plant species such as Sahara mustard (*Brassica tournefortii*) and Mediterranean grass (*Schismus barbatus*) found scattered throughout the site. Landscape species such as oleander (*Nerium oleander*) and European olive (*Oleo europea*) grow along the margins of the property and are self-seeded individuals from adjacent development. No amphibians or reptiles were observed during the survey. Bird species were observed during the field surveys included horned lark (*Eremophila alpestris*) and common raven (*Corvus corax*).

A literature review, records search, and field survey were conducted by Natural Resources Assessment, Inc. (NRAI) for information on plant and wildlife species known occurrences within the vicinity of the project. No special-status plants or wildlife was found on the Project site during the field survey. No fish, amphibians, or hydrogeomorphic features that would provide suitable habitat for fish or amphibian species were observed on or within the vicinity of the Project site.

4.2 Discussion of Impacts:

a) IMPACT: Less Than Significant with Mitigation Incorporated.

The Project site occurs in an area of the City of Rancho Mirage that has undergone a conversion from natural habitats to residential, recreational, and commercial developments. According to the City's General Plan, the Project site is located within the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP), which aims to conserve over 240,000 acres of open space and protect 27 plant and animal species.

A literature review, records search, and field survey were conducted by Natural Resources Assessment, Inc. (NRAI). During the field survey, no special-status plant community was found on the site. The Project site only supports ornamental, non-native vegetation, including

creosote bush scrub. Based on the results of the field survey, no special-status plant communities were observed on-site; therefore, no special-status plant communities would be impacted by Project implementation.

The Project site is not located within a federally designated Critical Habitat. Therefore, the loss or adverse modification of Critical Habitat would not occur as a result of the proposed Project.

No special-status wildlife species were found on the site.

The Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) has identified the areas of concern in the Coachella Valley and has established the locations and boundaries of these areas. The nearest Conservation Areas to the project are the Thousand Palms Conservation Area to the north and the Santa Rosa and San Jacinto Mountain Conservation Area to the south. The project is outside the boundaries of the two conservation areas and does not have any CVMSHCP linkages. NRAI's assessment included an evaluation of the habitats on site and in surrounding areas to determine whether there are other sensitive resources of concern in this area of Rancho Mirage that may be present on site.

During the field survey, the project site was surveyed for its ability to provide suitable habitat for burrowing owls. No burrowing owls or recent signs (i.e., pellets, feathers, castings, or whitewash) of such was observed during the field investigation. Portions of the project site are unvegetated and/or vegetated with a variety of low-growing plant species that allow for line-of-sight observation favored by burrowing owls. However, the project site lacks suitable burrows capable of providing roosting and nesting opportunities. Therefore, it was determined that the project site has a low potential to provide suitable habitat for burrowing owls and focused surveys are not recommended. To ensure impacts to burrowing owls do not occur from implementation of the proposed Project, a pre-construction burrowing owl clearance survey would be conducted prior to ground disturbance as described in Mitigation Measure (MM) BIO-1. If any special-status species are documented onsite, in addition to conducting preconstruction surveys, the qualified biologist must complete the California Natural Diversity Database (CNDDB) field survey form.

At the time of the survey, the parcel had nesting habitat for ground-nesting bird species, and suitable scrub habitat in the surrounding neighborhood. Mitigation Measure (MM) BIO-2 as described below in Section 4.3 Mitigation Measures shall require a breeding bird survey following the recommended guidelines of the MBTA will be required to determine if nesting is occurring in this area.

b) IMPACT: No Impact.

The Project site is located in an area of the City of Rancho Mirage that has undergone gradual urbanization. No jurisdictional drainage and/or wetland features were observed on the Project site during the field survey. Furthermore, no blue-line streams have been recorded on the Project site and there is no evidence that the Project contained any streams, riparian habitat, marshes, protected wetlands, vernal pools or sensitive natural communities that would be protected by the California Department of Fish and Wildlife (CDFW) or by the U.S. Army Corps of Engineers (USACE). Therefore, no impact would

occur.

c) IMPACT: No Impact.

No wetland areas or riparian habitats (e.g., wetlands, vernal pools, critical habitats for sensitive species, etc.) were observed on the site during the field investigations. As a result, no impacts are anticipated.

d) IMPACT: Less Than Significant with Mitigation Incorporated.

The Project site has not been identified as occurring in a wildlife corridor or linkage. The site has limited adjacent open space, and available open space is entirely surrounded by existing development, limiting its connectivity to surrounding habitats. In addition, there are no riparian corridors, creeks, or useful patches of steppingstone habitat (natural areas) within or connecting the site to a recognized wildlife corridor or linkage. As such, implementation of the proposed Project is not expected to impact wildlife movement opportunities. Therefore, impacts to wildlife corridors or linkages are not expected to occur.

However, nesting birds have the potential to occur given the sparse vegetation found on site. The Project's future construction could adversely affect nesting birds if construction was to occur while they are present or adjacent to the Project site, through direct mortality or abandonment of nest. If this was to occur it would be a violation of the MBTA and CFGC 3503, and a potentially significant impact. However, implementation of Mitigation Measures (MM) BIO-2 would require a pre-construction nesting bird survey to mitigate any potential impacts to protect migratory nesting birds. The pre-construction survey shall be conducted by a biologist prior to any ground disturbing activities and/or removal of any vegetation. In the event that a raptor nest is observed personnel would be notified and no ground disturbing activities will occur until the avian biologist has confirmed the breeding/nesting is completed and the young have fledged the nest. Therefore, through implementation of MM BIO-2, impacts would be reduced to less than significant.

e) IMPACT: No Impact.

The City has not adopted any ordinances regarding tree preservation. As observed during the field survey, the Project site mainly consists of small and medium size shrubs. No trees are located on the Project site under existing conditions. Therefore, the Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance and no impact would occur.

f) IMPACT: Less than Significant with Mitigation Incorporated.

The Project site is located within the boundaries of CVMSHCP but is not located within any conservation areas. The Project would be subject to payment of the Development Mitigation fee per Section 3.29.147 CVMSHCP/Natural Community Conservation Plan (NCCP) Local Development Mitigation Fee of the City's Municipal Code, as described as MM BIO-3. The fee would mitigate potential impacts to covered species within the CVMSHCP. Although the site is located within the CVMSHCP boundary, as mentioned in Section 4 (a), the Project site is not located within a biological sensitive or any conservation areas. The Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Impacts would be less than significant.

4.3 Mitigation Measures:

BIO-1 Pre-construction burrowing owl surveys shall be conducted no less than 14 days prior to the start of Project-related activities and within 24 hours prior to ground disturbance, in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012 or most recent version). Pre-construction surveys shall be performed by a qualified biologist following the recommendations and guidelines provided in the Staff Report on Burrowing Owl Mitigation. If the pre-construction surveys confirm occupied burrowing owl habitat, Project activities shall be immediately halted. The qualified biologist shall coordinate with CDFW and USFWS to conduct an impact assessment to develop avoidance and minimization measures to be approved by CDFW prior to commencing Project activities.

BIO-2 Nesting bird surveys shall be performed by a qualified avian biologist no more than (3) days prior to vegetation removal or ground-disturbing activities. Pre-construction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist shall make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the preconstruction nesting bird surveys, a qualified biologist shall establish an appropriate nest buffer to be marked on the ground. Nest buffers are species specific and shall be at least 300 feet for passerines and 500 feet for raptors. A smaller or larger buffer may be determined by the qualified biologist familiar with the nesting phenology of the nesting species and based on nest and buffer monitoring results. Established buffers shall remain on-site until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests and adequacy of the established buffer distance shall be monitored daily by the qualified biologist until the qualified biologist has determined the young have fledged or the Project has been completed. The qualified biologist shall have the authority to stop work if nesting pairs exhibit signs of disturbance.

BIO-3 Prior to construction and issuance of any grading permit, the City of Rancho Mirage and project applicant shall ensure compliance with the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) and its associated Implementing Agreement, and the City shall ensure the collection of payment of the CVMSHCP Local Development Mitigation Fee.

5 - Cultural Resources

CULTURAL RESOURCES – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Sources: ArchaeoPaleo Resource Management, Inc., 2024. *Phase I Archaeological and Paleontological Resources Assessment for the Rancho Mirage 9 Lot Subdivision Project, City of Rancho Mirage, Riverside County, California d*ated January 2024 and the City of Rancho Mirage, 2003 Historic Resources Survey.

5.1 Setting

Historic structures and sites are defined by local, State, and Federal criteria. A site or structure may be historically significant if it is locally protected through a General Plan or historic preservation ordinance. In addition, a site or structure may be historically significant according to State or Federal criteria even if the locality does not recognize such significance. To be considered eligible for the National Register, a property's significance may be determined if the property is associated with events, activities, or developments that were important in the past, with the lives of people who were important in the past, or represents significant architectural, landscape, or engineering elements. Specific criteria include the following:

- Districts, sites, buildings, structures, and objects that are associated with the lives of significant persons in or past;
- Districts, sites, buildings, structures, and objects that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or,
- Districts, sites, buildings, structures, and objects that have yielded or may be likely to yield, information important in history or prehistory.

Ordinarily, properties that have achieved significance within the past 50 years are not considered eligible for the National Register. However, such properties would qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- A religious property deriving primary significance from architectural or artistic distinction or historical importance;
- Districts, sites, buildings, structures, and objects that are associated with events that have made a significant contribution to the broad patterns of our history;
- A building or structure removed from its original location that is significant for architectural value, or which is the surviving structure is associated with a historic person or event;
- A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building associated with his or her productive life;
- A cemetery that derives its primary importance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events;
- A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived;
- A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or,
- A property achieving significance within the past 50 years if it is of exceptional importance.

According to the *Phase I Archaeological and Paleontological Resources Assessment* conducted by ArchaeoPaleo Resource Management, Inc., the field reconnaissance has determined the area to be relatively flat terrain with sparse vegetation and trees. The Project area was accessible and observable, except the area surrounding the existing single-family home. Project site ground surface was primarily loose fine sand, which has been blown by prevailing winds over the older alluvial gravel and sand, although in areas around the single-family home a concrete pad and mulch were observed, and hay was observed in the south-east corner. Evidence that the Project area has also previously been used as an illegal dumping site was observed during the field reconnaissance. It is possible that some of the material possesses historic informational value.

5.2 Discussion of Impacts:

a-b) IMPACT: Less Than Significant with Mitigation Incorporated.

Tribal Cultural Resources are discussed within Section 18 including the City of Rancho Mirage's role as lead agency for compliance with Assembly Bill 52 (AB52) for Tribal consultations. When conducting cultural resource assessments, the consultant will also make contact with Native American Tribes based on listed obtained from the Native American Heritage Commission (NAHC) for pertinent information from the Tribes.

On September 14, 2023, ArchaeoPaleo Resource Management, Inc. (APRMI) requested a cultural resource records search from the Eastern Information Center (EIC) in Riverside, California to identify any known cultural resources on or near the Project site. APRMI also

requested a sacred lands file and Native American contact list request with NAHC in West Sacramento, California on September 14, 2023. Archival research was conducted through different inventory databases, including the National Geologic Map Database, and/or historic societies to acquire more information or knowledge of the history of the Coachella Valley. In addition to resources publicly available online, and in the libraries of the University of Maryland and the University of California, Los Angeles, APRMI personnel viewed material located within the Special Collections of the Young Research Library at the University of California, Los Angeles.

On September 28, 2023, APRMI conducted a field reconnaissance of the Project area to evaluate the presence of any archaeological resources to determine if the development of the Project might have significant direct or indirect adverse impacts on such resources. The survey began near the southeasternmost boundary of the Project area on Ginger Rogers Road and towards the northeastern boundary of the project area for further evaluation. Pedestrian survey methods were conducted on undeveloped areas with clear brush access and high ground visibility. The Project area was surveyed in transects approximately 10 feet (3 m) apart towards an east direction. Vegetation, topography, and fauna observations were photographed and noted.

Six historic sites and four historic isolates have been recorded with primary record forms within a 1-mile radius of the Project site. These primarily consist of historic refuse dating to the late 1800s to early 1900s. A prior survey in 2007 found burnt slag and charcoal metal pieces and the remains of a shed on the subject site. An additional survey in 2017 reconfirmed the remains of the shed and found historic refuse. The current APRMI field survey discovered the presence of historic refuse on the Project property. None of the historic sites require further consideration. As a result, the impacts would be less than significant.

According to the literature review and records search, twenty-seven previous cultural reports have been conducted within a 1-mile radius. One survey recorded prehistoric isolates not reported elsewhere. No prior cultural reports were recorded on the subject property.

One 1,095 square foot residential structure constructed in 1958 is located along the southwestern Project boundary and is not identified as a potential historic resource in the City's 2003 Historic Resources Survey. This structure is proposed for demolition. The existing single-family residence is not identified as a potential historic resource in the City's 2003 Historic Resources Survey. Through implementation of Mitigation Measures CR-1 through CR-8, the potential for cultural resources is being addressed including educational programs, monitoring, discovery of buried cultural materials, inadvertent finds and curation. Therefore, with the incorporation of Mitigation Measures CR-1 through CR-8, impacts relating to significant historical and archaeological resources would be reduced to less than significant levels.

c) IMPACT: Less Than Significant with Mitigation Incorporated

The Project site is occupied by one single-family residential dwelling under existing conditions. Modern trash was noted throughout the Project site with larger concentrations along the western and southern margins of the boundary near proximity to the roads. There are no

dedicated cemeteries located within or in the vicinity of the Project site. The proposed Project would be restricted to the Project site and therefore would not affect any dedicated cemeteries in the vicinity. There is no evidence that the Project site is located within an area that would be likely to contain human remains. However, there is always the possibility that human remains could be uncovered during ground disturbing activities. In the unexpected event that human remains are found during construction activities, those remains would require proper treatment in accordance with all applicable laws. Through implementation of Mitigation Measure CR-6, all construction work taking place within the vicinity of the discovered remains must cease and the necessary steps to ensure the integrity of the immediate area must be taken. The State of California Health and Safety Code Section 7050.5 and the California Public Resource Code (PRC) Section 5097.98, states that the County Coroner must be notified within 24 hours of the discovery of human remains. If the remains discovered are determined by the County Coroner to the Native American descent, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC would in turn contact the Most Likely Descendant (MLD) would determine further action to be taken. The MLD would have 48 hours to access the Project site and make a recommendation regarding disposition of the remains. Therefore, with the incorporation of Mitigation Measure CR-6, impacts relating to the potential disturbance of human remains would be reduced to less than significant levels.

5.3 Mitigation Measures:

Due to the high sensitivity of the Project area for cultural and tribal resources, and at the request of the Agua Caliente Band of Cahuilla Indians, APRMI recommends that both a tribal monitor and a qualified archaeologist be present on site to monitor any ground-disturbing activities.

CR-1 Prior to the start of Project excavation, a qualified archaeologist shall be retained and create a Worker's Environmental Awareness Program (WEAP) pamphlet that will be prepared by the Project Archaeologist and provided as during the training class to Project personnel, so they understand the regulatory requirements for the protection of cultural resources. This training class shall include examples of cultural resources to look for during project excavation and the protocols to follow if discoveries are made.

CR-2: Archaeological resources monitoring shall be conducted by a professional archaeological resources monitor during Project related earth-disturbing activities, per OHP standards, under the supervision of a qualified Project Archaeologist. Monitoring will entail visual inspection of Project related earth-disturbing activities in native soil.

CR-3: As requested by the Agua Caliente Band of Cahuilla Indians, an approved Native American monitor, with documented ancestral ties to the area consistent with the standards of the Native American Heritage Commission (NAHC), shall be present for all ground disturbing activities that involve excavation of previously undisturbed soil, until the archaeologist and Native American monitor deems that they are no longer in soil that may contain prehistoric and/or historic artifacts, sites, or features.

Monitoring will entail visual inspection of all Project-related earth-disturbing activities.

CR-4: If an archaeological resource is encountered during excavation when a monitor is not on site, all excavation shall cease within at least 50 feet of the discovery and the Principal Investigator and Lead Archaeologist must be notified. Work cannot resume in the direct area of the discovery until it is assessed by the Principal Investigator and/or Lead Archaeologist and indicates that excavation can resume.

CR-5: If an archaeological discovery cannot be preserved in situ and requires an excavation team or requires additional time to collect cultural resources, a Discovery and Treatment Plan (DTP) will be developed by the Lead Archaeologist, and the area will be cordoned off and secured so that an archaeological resources excavation team, led by the Principal Investigator and Lead Archaeologist, may recover the cultural resources out of that area. Once the Principal Investigator has determined that the collection process is complete for a given area or locality, construction activity will resume in that localized area.

CR-6: If human remains are encountered, work on the project will be suspended and the City of Rancho Mirage will be contacted immediately. The City of Rancho Mirage will contact the Riverside County coroner. If the remains are deemed Native American in origin, the coroner will contact the NAHC, which will identify a most likely descendant in compliance with Public Resources Code Section 5097.98 and California Code of Regulations Section 15064.5. The most likely descendant will have up to 48 hours to visit the site and make recommendations as to the treatment and final deposition of the remains. Work may be resumed at the landowner's discretion but will only commence after consultation and treatment have been concluded to the satisfaction of the lead agency.

CR-7: All significant cultural resources collected by the archaeologist will be prepared in a properly equipped laboratory to a point ready for curation. All significant artifacts collected will be prepared in a properly equipped archaeological laboratory to a point ready for curation. Artifacts will be identified, photographed, catalogued, analyzed, and delivered to an accredited museum repository for permanent curation and storage or to the appropriate Tribe. Accompanying notes, maps, and photographs shall also be filed at the repository. The cost of curation is assessed by the repository and is the responsibility of the Project proponent.

CR-8: At the conclusion of laboratory work but prior to museum curation, a final (negative or positive) findings report will be prepared describing the results of the cultural mitigation monitoring efforts associated with the project. The report will include a summary of the field and laboratory methods, an overview of the cultural background within the project vicinity, a list of cultural resources recovered (if any), an analysis of cultural resources recovered (if any) and their scientific significance, and recommendations. A copy of the report will be prepared for the City of Rancho Mirage, the EIC, and be submitted to the designated museum repository (if applicable).

6 - Energy

ENERGY – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Sources: Ganddini Group, Inc., *TTM 38636 Air Quality, Global Climate Change, and Energy Impact Analysis, City of Rancho Mirage* dated October 24, 2023.

6.1 Setting

Primary sources of energy include fossil fuels (i.e., natural gas, oil, coal), nuclear energy, and renewable sources of energy such as wind, solar, geothermal, and hydro. These primary sources can be converted to electricity, a secondary source of energy. According to the California Energy Commission 2021 Total System Electric Generation, natural gas provided approximately 37.9% of the state's total electric power mix in 2021. The City of Rancho Mirage adopted an Energy Action Plan in 2013, which provides an inventory for the City's 2010 energy usage, and establishes energy action steps that aimed to achieve 10% reductions in municipal and community-wide energy usage by 2015. The Renewables Portfolio Standard, established by the California Energy Commission in 2002, applies increasingly stringent renewable energy procurement requirements for energy providers. In accordance with Senate Bill 100, by 2030, 60% of the state's electricity must be generated by renewable resources.

Electricity

Imperial Irrigation District (IID) service territory covers Sections 19 and 30 in Rancho Mirage. All other areas of the City are serviced by Southern California Edison (SCE). The project site is located within Section 30, which consists of roughly one square mile and is bounded by Dinah Shore Drive to the north, Gerald Ford Drive to the south, Monterey Avenue to the east, and Bob Hope Drive to the west. IID provides electric power to more than 158,000-plus customers in the Imperial Valley and parts of Riverside and San Diego counties. The 2021 IID Power Mix has renewable energy at 40 percent of the overall energy resources, of which biomass and waste is at 8.8 percent, geothermal is at 12.1 percent, eligible hydroelectric is at 6.9 percent, and solar energy is at 12.3 percent; other energy sources include large hydroelectric at 4.8 percent, natural gas at 35.6 percent, nuclear at 3.5 percent, and unspecified sources at 16.1 percent.

IID facilities include 12 kV transmission lines for local distribution. High voltage lines for more distant transmission range up to 115 kV and 230 kV. Substations step down voltage for local distribution and use. The IID operates 133 substations within its service area and two substations are located near the City of Rancho Mirage: one on Interstate 10 and Monterey Avenue (Edom Substation) and one on East Ramon Road (Ramon Substation).

IID service territory in recent years has experienced significant capacity issues, with new projects/customers and being required to implement new capacity in the form of a substation to obtain electrical service. Individual projects are being conditioned to implement these substations. The developer will coordinate with IID to work on solutions regarding these capacity issues.

Natural Gas

The California Public Utilities Commission (CPUC) provides the following summary of natural gas resources and service providers, delivery systems, and associated regulation:

The CPUC regulates natural gas utility service for approximately 11 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller investor-owned natural gas utilities. The CPUC also regulates independent storage operators Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage. The vast majority of California's natural gas customers are residential and small commercial customers, referred to as "core" customers. Larger volume gas customers, like electric generators and industrial customers, are called "noncore" customers. Although very small in number relative to core customers, noncore customers consume about 65% of the natural gas delivered by the state's natural gas utilities, while core customers consume about 35%. The PUC regulates the California utilities' natural gas rates and natural gas services, including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing. Most of the natural gas used in California comes from out-of-state natural gas basins. In 2017, for example, California utility customers received 38% of their natural gas supply from basins located in the U.S. Southwest, 27% from Canada, 27% from the U.S. Rocky Mountain area, and 8% from production located in California."

Natural gas would be provided to the Project by Southern California Gas (SoCalGas). There is one existing residence on site that is planned for demolition.

Energy and natural gas consumption were estimated using default energy intensities by building type in CalEEMod. In addition, it was assumed the new buildings would be constructed pursuant to the 2022 CALGreen standards, which was considered in the CalEEMod inputs.

6.2 Discussion of Impacts:

a) IMPACT: Less Than Significant Impact.

The proposed Project would involve the subdivision of the 5.04-acre Project site into nine-lot residential lots. The Project site's General Plan and Zoning designation is Very Low Density

Residential (R-L-2). During construction, the proposed Project would consume energy related to the use of fuels used to power construction vehicles and other equipment that would be used during site clearing, grading, and construction. Fuel use associated with construction vehicle trips generated by the proposed Project was also estimated; trips include construction worker trips, haul truck trips for material transport, and vendor trips for construction material deliveries. Energy consumed during construction would be temporary in nature and would not present a significant demand on energy resources. The proposed Project would be constructed pursuant to the 2022 energy standards of Title 24. Construction equipment greater than 150 horsepower (hp), is also required to comply with the Environmental Protection Agency (EPA)/California Air Resources Board (CARB) Tier 3 emissions standards and shall ensure that all construction equipment is tuned into and maintained in accordance with the manufacturer's specifications. For engines from 175 to less than 750 hp, the Tier 4 Final regulations took effect on January 1, 2014. For engines from 49 to less than 75 hp, it took effect on January 1, 2013. Finally, for engines from 75 to less than 175 hp, the Tier 4 regulations took effect on January 1, 2015.

In addition, the Project would be required to comply with the California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. These emissions standards require highly efficient combustion systems that maximize fuel efficiency and reduce unnecessary fuel consumption. The use of fuels during construction of the Project would be temporary and minimal, and would not be wasteful or inefficient. Therefore, no significant impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during Project construction are anticipated and no mitigation measures are required.

Construction Energy Demands

The construction of the Project was modeled to occur between January 2025 and February 2026 and is to be completed in one phase. Staging of construction vehicles and equipment will occur on-site. The approximately thirteen-month schedule is relatively short, and the Project site is approximately 5.04 gross acres/4.37 net acres.

Construction Equipment Electricity Usage Estimates

Electrical service will be provided by Imperial Irrigation District. The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the proposed Project. Based on the 2021 National Construction Estimator, Richard Pray (2021), the typical power cost per 1,000 square feet of building construction per month is estimated to be $2.37. The Project plans to develop the site with nine single-family residential lots, which per CalEEMod defaults would total approximately 17,550 square feet. The total power cost of the on-site electricity usage during the construction of the proposed Project is estimated to be approximately $540.72. Furthermore, IID's General Service rate is approximately $0.12 per kWh of electricity. The total electricity usage from Project construction related activities is estimated to be approximately 4,625 kWh.

Construction Equipment Fuel Estimates

Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. Fuel consumed by construction equipment was evaluated with the following assumptions:

- Construction schedule of 13 months
- All construction equipment was assumed to run on diesel fuel
- Typical daily use of 8 hours, with some equipment operating from ~6-7 hours
- Aggregate fuel consumption rate for all equipment was estimated at 18.5 hp-hr/gallon (from CARB's 2017 Emissions Factors Tables and fuel consumption rate factors as shown in Table D-21 of the Moyer Guidelines: (https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf).
- Diesel fuel would be the responsibility of the equipment operators/contractors and would be sources within the region.
- Project construction represents a "single-event" for diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources during long term operation.

Using the CalEEMod data input for the air quality and greenhouse gas analyses, the Project's construction phase would consume electricity and fossil fuels as a single energy demand, that is, once construction is completed their use would cease. CARB's 2017 Emissions Factors Tables show that on average aggregate fuel consumption (gasoline and diesel fuel) would be approximately 18.5 hp-hr-gal. Project construction activities would consume an estimated 30,759 gallons of diesel fuel. Project construction would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

Construction Worker Fuel Estimates

It is assumed that construction worker trips are from light duty autos (LDA), light duty truck 1 (LDT1), and light duty truck 2 (LDT2) at a mix of 25 percent/50 percent/25 percent, respectively, along area roadways. With respect to estimated VMT, the construction worker trips would generate an estimated 28,433 VMT. Data regarding Project related construction worker trips were based on CalEEMod 2022.1.1.20 model defaults.

Vehicle fuel efficiencies for construction workers were estimated in the air quality and greenhouse gas analyses using information generated using CARB's 2021 EMFAC model. An aggregate fuel efficiency of 26 miles per gallon (mpg) was used to calculate vehicle miles traveled for construction worker trips. There is an estimated 1,069 gallons of fuel would be consumed for construction worker trips.

Construction Vendor/Hauling Fuel Estimates

With respect to estimated VMT, the vendor and hauling trips would generate an estimated 2,512

VMT. Data regarding Project related construction worker trips were based on CalEEMod 2022.1.1.20 model defaults.

For the architectural coatings it is assumed that the contractors would be responsible for bringing coatings and equipment with them in their light duty vehicles. Therefore, vendors delivering construction material or hauling debris from the site during building construction would use medium to heavy duty vehicles with an average fuel consumption of 7.87 mpg for medium heavy-duty trucks and 6.15 mpg for heavy heavy-duty trucks. There is an estimated 364 gallons of fuel would be consumed for vendor and hauling trips.

Construction Energy Efficiency/Conservation Measures

Construction equipment used over the approximately thirteen-month construction phase would conform to CARB regulations and California emissions standards and is evidence of related fuel efficiencies. There are no unusual Project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in the construction of the Project would therefore not result in inefficient wasteful or unnecessary consumption of fuel.

The Project would utilize construction contractors which practice compliance with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with these measures would result in a more efficient use of construction-related energy and would minimize or eliminate wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additionally, as required by California Code of Regulations Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby minimizing or eliminating unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Therefore, as the Project's construction is required to comply with CARB regulations and does not include the need of construction processes that would require the use of equipment that is more energy efficient, the proposed Project annual construction related fuel consumption would not be considered significant.

Operational Energy Demands

Energy consumption in support of or related to Project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the Project site) and facilities energy demands (energy consumed by building operations and site

maintenance activities).

Transportation Fuel Consumption

Using the CalEEMod output from the air quality and greenhouse gas analyses, it is assumed that an average trip for autos was assumed to be 8.46 miles and light, medium and 3- 4-axle trucks were assumed to travel an average of 28.25 miles. As the Project includes the development of the site with residential uses, which are frequently utilized on weekends, and in order to present a worst-case scenario, it was assumed that vehicles would operate 365 days per year.

The proposed Project would generate approximately 85 trips per weekday. The vehicle fleet mix was used from the CalEEMod output. There is an estimated 21,638 gallons of fuel that would be consumed per year for the operation of the proposed Project.

As shown in the trip generation provided by ITE, the trip generation generated by the proposed Project is consistent with other similar residential uses of similar scale and configuration as reflected respectively in either the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) and/or surveys, etc. That is, the proposed Project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor associated excess and wasteful vehicle energy consumption. Furthermore, the state of California consumed approximately 4.2 billion gallons of diesel and 15.1 billion gallons of gasoline in 2015. Therefore, the increase in fuel consumption from the proposed Project is insignificant in comparison to the State's demand. Therefore, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Facility Energy Demands (Electricity and Natural Gas)

Building operation and site maintenance (including landscape maintenance) would result in the consumption of electricity (provided by Imperial Irrigation District) and natural gas (provided by Southern California Gas Company). The annual natural gas and electricity demands were provided per the CalEEMod output from the air quality and greenhouse gas analyses.

The estimated electricity demand for the proposed Project is approximately 84,053 kWh per year. In 2022, the residential sector of the County of Riverside consumed approximately 9,061 million kWh of electricity. In addition, the estimated natural gas consumption for the proposed Project is approximately 320,079 kBTU per year. In 2022, the residential sector of the County of Riverside consumed approximately 284 million therms of gas. Therefore, the increase in both electricity and natural gas demand from the proposed Project is insignificant compared to the County's 2022 residential sector demand.

Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as in plug-in appliances. In California, the California Building Standards Code Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. Non-building energy use, or "plug-in" energy use can be further subdivided by specific end-use

(refrigeration, cooking, appliances, etc.). The proposed Project would be required to comply with Title 24 standards.

Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as in plug-in appliances. In California, the California Building Standards Code Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. Non-building energy use or "plug-in" energy use can be further subdivided by specific end-use (refrigeration, cooking, appliances, etc.). The proposed Project would be required to comply with Title 24 standards.

The proposed Project's energy consumption would be related to energy that would be used for lighting and other household activities. Lighting would be required to follow the City's Outdoor Lighting Policy, which includes the use of energy efficient lighting. For these reasons, the Project would not result in wasteful, inefficient, or unnecessary use of energy. The Project applicant would be required to work with the local electrical utility company to identify existing and future strategies that would be effective in reducing energy consumption. As a result, the impact would be less than significant.

b) IMPACT: Less Than Significant Impact.

Future development of the Project's proposed nine single-family lots would be required to comply with the California Green Building Standards Code requirements for energy efficient buildings and appliances and other standards, including utility energy efficiency programs implemented by the IID, Rancho Mirage Energy Action Plan, and SoCalGas. In addition, compliance with these requirements will ensure that that proposed Project does not interfere with the energy conservation goals established in the City's Sustainability Plan.

Regarding federal transportation regulations, the Project site is located in an already developed area. Access to and from the Project site is from existing roads; therefore, the Project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be proposed pursuant to the Intermodal Surface Transportation Efficiency Act (ISTEA) because SCAG is not planning for intermodal facilities in the Project area. Therefore, the Project would have a less than significant impact on plans for energy efficiency.

6.3 Mitigation Measures: None required.

7 - Geology and Soils

GEOLOGY AND SOILS – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Sources: Rancho Mirage General Plan 2017, Exhibits 21-25; Rancho Mirage Municipal Code, Title 15; Riverside County Map My County; ArchaeoPaleo Resource Management, Inc., *Phase I Archaeological and Paleontological Resources Assessment for the Rancho Mirage 9 Lot Subdivision Project, City of Rancho Mirage, Riverside County, California d*ated January 2024; Sampson and Associates, *Preliminary Soils Evaluation (9) New Single-Family Residences on TTM No. 38636 in the City of Rancho Mirage, California* dated March 03, 2023; Sampson and Associates, *Infiltration Evaluation, New Single-Family Residences on TTM No. 38636 in the City of Rancho Mirage, California* dated March 04, 2023; University of California Davis Soil Resource Laboratory, SoilWeb; State of California, Department of Conservation, California Geological Survey (CGS), Data Viewer; and State of California, Department of Conservation, California Geological Survey, Earthquake Zones of Required Investigation.

7.1 Setting

The City of Rancho Mirage lies within the western portion of the Coachella Valley, which is the northwestern extension of the Salton Trough, a tectonic depression formed by regional faulting. The Salton Trough is roughly 130 miles long and 70 miles wide and extends from the San Gorgonio Pass to the Gulf of Mexico. Regional soils range from rocky outcrops within the mountains bordering the valley to coarse gravels of mountain canyons and recently laid fine- and medium-grained alluvial (stream-deposited) and aeolian (wind-deposited) sediments on the central valley floor. Sediments from the surrounding mountains are carried into and across the Coachella Valley through numerous seasonal streams. The Whitewater River and its extension, the Coachella Valley Stormwater Channel, are the master drainage for the valley, which generally flows northwest to southeast. Episodic flooding of major regional drainages results in the deposition of sand and gravel on the valley floor.

The City of Rancho Mirage is located in a seismically active region. Earthquakes from several active and potentially active faults in the Southern California region could affect the proposed project site. In 1972, the Alquist-Priolo Earthquake Zoning Act was passed in response to the damage sustained in the 1971 San Fernando Earthquake. The Alquist-Priolo Earthquake Fault Zoning Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. Surface ruptures are visible instances of horizontal or vertical displacement, or a combination of the two. The amount of ground shaking depends on the intensity of the earthquake, the duration of shaking, soil conditions, type of building, and distance from epicenter or fault. The potential impacts from fault rupture and ground shaking are considered no greater for the project site than for the surrounding areas given the distance between the site and the fault trace. However, the deep groundwater in Rancho Mirage does not allow the saturation of the sediments; therefore, the potential for liquefaction to occur at the project site is less than significant. Windblown sand and other recently deposited sediments are typically loose and, therefore, potentially subject to seismically induced settlement.

The Project site, excepting a few small areas around the existing family home, is covered by Holocene eolian sand eroded from the neighboring Peninsular Range and blown by prevailing winds into the valley. It is primarily clean to slightly silty, fine to medium sand.

It overlays the quaternary alluvium, composed of Holocene and possibly Pleistocene sand and gravel.

7.2 Discussion of Impacts:

a.i.) IMPACT: Less Than Significant Impact.
There are no known active faults crossing or projecting through the Project site. The Project site is not located within an Alquist-Priolo Earthquake Fault Zone, or within a fault zone identified by the County of Riverside GIS data. Therefore, ground rupture due to faulting is considered unlikely at this site. To ensure the safety of the project against seismically induced hazards, the project site shall adhere to the standard design requirements stated in the most recent California Building Code (CBC), and the City's building standards. A less than significant impact would occur.

a.ii.) IMPACT: Less Than Significant Impact.
The Project site is located in a seismically active area of southern California and is expected to experience moderate to severe ground shaking during the lifetime of the Project. This risk is not considered substantially different than that of other similar properties in the southern California area. As a mandatory condition of Project approval, the Project would be required to construct the proposed buildings in accordance with the California Building Standards Code (CBSC), also known as California Code of Regulations (CCR), Title 24 (Part 2), and the Rancho Mirage Municipal Code, which is based on the CBSC with local amendments. The CBSC and Rancho Mirage Municipal Code (Chapter 15.04) provide standards that must be met to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures, and have been specifically tailored for California earthquake conditions. In addition, a geotechnical report is required as part of the application for a grading permit and the Project would be required to comply with the site-specific ground preparation and construction recommendations contained in the geotechnical report. With mandatory compliance with these standards and site-specific design and construction measures set forth in the Project's geotechnical report, potential impacts related to seismic ground shaking would be less than significant. As such, implementation of the Project would not expose people or structures to substantial adverse effects, including loss, injury, or death, involving seismic ground shaking. Impacts would be less than significant.

a.iii.) IMPACT: Less Than Significant Impact.
According to Map My County (Riverside County's public GIS web viewer) and Exhibit 22 of the City's General Plan, the Project site is located in a moderate susceptibility zone for liquefaction. However, a geotechnical report is required as part of the application for a grading permit and the Project would be required to comply with the site-specific ground preparation and construction recommendations contained in the geotechnical report to further reduce the risk of seismic-related ground failure due to liquefaction. Therefore, implementation of the Project would not directly or indirectly expose people or structures to substantial hazards associated with seismic-related ground failure and/or liquefaction hazards. Impacts would be less than significant.

a.iv.) IMPACT: No Impact.
The Project is located in an area of the City that has been developed and is relatively flat and not located immediately adjacent to any sloped hillsides. In addition, according to Exhibit 24, Seismically Induced Rock Falls and Landslide Susceptibility, of the City's General Plan, the Project site is located within an area with a low susceptibility of being impacted by rock falls and seismically induced landsliding. Therefore, the development of the Project would result in no impacts relating to landslide hazards.

b) IMPACT: Less Than Significant Impact.
During construction of the proposed Project, soils would be disrupted during grading activities due to exposure of uncovered soils, thereby increasing the potential for wind or water-related erosion and sedimentation until construction is completed. Pursuant to State Water Resources Control Board requirements, the Applicant is required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for construction activities, which involves preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) for construction-related activities. The SWPPP will specify the Best Management Practices (BMPs) that would be required to be implemented during construction activities to ensure that waterborne pollution (erosion and sedimentation) is prevented, minimized, and/or otherwise appropriately treated prior to surface runoff being discharged from the subject property. The Project also would be required to comply with SCAQMD Rule 403 to minimize water and windborne erosion. Lastly, the Project would be required to prepare and implement a Water Quality Management Plan (WQMP), which is a site-specific post-construction water quality management program designed to minimize the release of waterborne pollutants, including pollutants of concern for downstream receiving waters, under long-term conditions via BMPs. The WQMP also is required to establish a post-construction implementation and maintenance plan to ensure on-going, long-term erosion protection. Therefore, with adherence to SCAQMD Rule 403, and preparation of a SWPPP and WQMP, the proposed Project would result in less than significant impacts related to soil erosion.

c) IMPACT: Less Than Significant Impact.
The Project site does not contain substantial natural or man-made slopes under existing conditions. Additionally, there are no hillsides in the vicinity of the Project site with a potential to expose the site to landslide hazards. Therefore, no impact would occur related to landslides.

Lateral spreading is primarily associated with liquefaction hazards. As previously mentioned in Section 7(a)(ii), above, the Project would be required to comply with the grading and construction recommendations contained within the geotechnical report for the Project to further reduce the risk of seismic-related ground failure due to liquefaction as well as soil shrinkage/subsidence and collapse. Therefore, impacts associated with liquefaction, lateral spreading, soil shrinkage/subsidence, and collapse would be less than significant.

d) IMPACT: Less Than Significant Impact.
According to the University of California Davis' SoilWeb, the Project site consists of Myoma sands. Due to the low clay content in underlying soils, these near surface soils are non-

expansive. The Project site is not located in an area known for expansive soil (as defined in Table 18-1-B of the Uniform Building Code (1994)), and the potential for the Project to create substantial risks to life or property, relating to expansive soils, is very low. Therefore, Project impacts would be less than significant.

e) IMPACT: No Impact.

The Project would not involve the use of septic tanks or any other alternative wastewater disposal systems. The Project would be served through the Coachella Valley Water District (CVWD). Therefore, there would be no impacts associated with septic tanks or alternative wastewater systems.

f) IMPACT: Less Than Significant with Mitigation Incorporated.

APRMI requested a paleontological records check on September 14, 2023, from the Western Science Center located in the City of Hemet, California. This records check is intended to identify any subsurface paleontological deposits that have been previously recorded directly on the Project site or surrounding area. APRMI received the records check results on December 28, 2023, and the Collections Manager for the Western Science Center has determined the sedimentary units as loose fine sands from the Holocene Epoch. Deeper excavation in the early Holocene and Pleistocene Epochs could contain fossil remains, but shallow excavation in the site would unlikely contain fossil materials. No known fossil localities were identified within the immediate Project area or a 1-mile radius from the site.

A field reconnaissance survey was conducted on September 28, 2023, to identify the presence of any paleontological resources on the site of the Project and assist in determining if the Project will have any significant adverse effects on such resource. The Project site consists of sparse vegetation and loose fine sand over quaternary alluvium. A pre-existing single-family home was present on the site. Once on site, APRMI surveyors noted evidence that the undeveloped land appeared to have previously been utilized as an illegal refuse dump. No paleontological resources were observed during the survey.

According to Map My County, the Project site is located in a low potential zone regarding paleontological sensitivity. Areas recognized for having a “low” potential have a reduced likelihood of containing significant non-renewable paleontological resources, including vertebrate or significant invertebrate fossils.

Since deeper excavation in the early Holocene and Pleistocene Epochs could contain fossil remains, Mitigation Measures GEO-1 through GEO-6 are being proposed in the event the Project’s construction activities would have the potential to unearth significant paleontological resources. With the implementation of these measures, the impacts would be less than significant.

7.3 Mitigation Measures:

GEO-1: Prior to the commencement of grading or excavation activities, the Lead Paleontologist retained for the construction of Rancho Mirage 9 Lot Subdivision Project, shall create a Worker’s Environmental Awareness Program (WEAP)

pamphlet that will be prepared and provided by the Project Paleontologist and provided as during the training class to Project personnel, so they understand the regulatory requirements for the protection of paleontological resources. This training class shall include examples of paleontological resources to look for during project excavation and the protocols to follow if discoveries are made.

GEO-2: In the event that a paleontological resource is encountered when a monitor is not on site, all construction shall cease within at least 50 feet of the discovery and the Principal Investigator and/or Lead Paleontologist must be notified immediately. If the monitor is present at the time of discovery, then the monitor will have the authority to temporarily divert the construction equipment around the find and notify the Principal Investigator and/or Lead Paleontologist until it is assessed for scientific significance. Work cannot resume in the direct area of the discovery until it is assessed by the Principal Investigator and/or Lead Paleontologist, and he/she indicates that construction can resume.

GEO-3: In the event that a paleontological resource is encountered, the Lead Paleontologist will implement the Paleontological Management Treatment Plan (PMTP) prepared for Rancho Mirage 9 Lot Subdivision Project. The purpose of the PMTP is to achieve compliance with the California Environmental Quality Act (CEQA), and local governmental agencies concerning the treatment of unexpected paleontological finds which are significant at the federal, state, and/or local level. Based on the sensitivity of the area, APRMI recommends the following monitoring mitigation measures that would comply with the Paleontological Management Treatment Plan and reduce the potential effects to any paleontological resource to a less than significant impact.

GEO-4: If a paleontological discovery requires an excavation team or requires additional time to collect specimens, or the size of the discovery is more than a monitor can collect during standard daily monitoring services, a Discovery and Treatment Plan (DTP) will be developed and the area will be cordoned off and secured so that a paleontological resources excavation team, led by the Principal Investigator and/or Lead Paleontologist, may recover the fossilized specimens out of that area once the DTP has been approved. Once the Principal Investigator and/or Lead Paleontologist has determined that the collection process is complete for a given area or locality, construction activity will resume in that localized area.

GEO-5: Once construction activities are complete, all significant fossils collected will be prepared in a properly equipped paleontology laboratory to a point ready for curation. Laboratory preparation will include, but not be limited to, the careful removal of excess matrix from fossil remains, stabilizing and repairing specimens, identified to the lowest taxonomic level, analyzed, photographed, and catalogued before they are sent to the local repository for curation and permanent storage. Accompanying notes, maps, and photographs shall also be filed at the repository. The cost of curation is assessed by the repository and is the responsibility of the Project proponent.

GEO-6: At the conclusion of laboratory work and museum curation, a final report of findings will be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report will include a summary of the field and laboratory methods, an overview of the geology and paleontology in the project vicinity, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. If the monitoring efforts produced fossils, then a copy of the report will also be submitted to a designated museum repository.

8 - Greenhouse Gas Emissions

GREENHOUSE EMISSIONS – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Sources: Ganddini Group, Inc., *TTM 38636 Air Quality, Global Climate Change, and Energy Impact Analysis, City of Rancho Mirage* dated October 24, 2023, City of Rancho Mirage 2017 General Plan Update, adopted November 16, 2017 and City of Rancho Mirage Sustainability Action Plan: Leadership in Energy Efficiency, March 2013.

8.1 Setting

The City's Energy Action Plan and Sustainability Plan, adopted in March 2013, is considered the city's Climate Action Plan. Since 2009, the city has partnered with CVAG (Coachella Valley Association of Governments) and other CV cities as a part of CVAG's Desert Cities Energy Partnership. CVAG developed a "green government initiative" to promote energy efficiency, green building, and sustainability, with funding received from SCE and CPUC. This initiative is called the "Green for Life" program. These plans were developed as a part of this program.

The City's Sustainability Plan was created as a framework for the development and implementation of policies and programs to reduce the City's GHG emissions. The Plan includes 82 measures to be implemented over the course of an eight-year period, lasting until 2020, in order to achieve their emission reduction goals. The Plan defines the City's goal of complying with statewide mandates to reduce GHG emissions. Through the City's considered actions, the City anticipates the following outcomes:

- Increase energy efficiency in local government operation and in community activities;
- Create new jobs in the community associated with smart energy management;
- Save money now being spent for energy and explore the establishment of a revolving fund whereby energy savings will be available for municipal and community programs to enhance energy efficiency and continue to reduce GHG emissions;
- Maintain or enhance the comfortable desert lifestyle of residents and visitors alike; and
- Bring the CVAG jurisdictions together for effective regional sustainability and climate action planning

Further, the Energy Action Plan focuses on ways the City can reduce costs at the same time as

enhancing energy efficiency. The Energy Action plan included a City goal of a 10 percent reduction in energy use from 2005 baseline use levels by 2015.

8.2 Discussion of Impacts:

a) IMPACT: Less Than Significant Impact.

The Project allows for the subdivision into nine single-family residential lots. The proposed project is anticipated to generate GHG emissions from area sources, energy usage, mobile sources, waste, water, and construction equipment. The following provides the methodology used to calculate project-related GHG emissions and the project impacts. CalEEMod Version 2022.1.1.20 was used to calculate the GHG emissions from the proposed project. Each source of GHG emissions is described in greater detail below.

Area Sources

Area sources include emissions from consumer products, landscape equipment and architectural coatings. No changes were made to the default area source emissions.

Energy Usage

Energy usage includes emissions from the generation of electricity and natural gas used on-site. No changes were made to the default energy usage parameters.

Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The vehicle trips associated with the proposed project have been analyzed by inputting the project-generated vehicular trips from the ITE Trip Generation Manual 11th Edition (2021) into the CalEEMod Model. The program then applies the emission factors for each trip which is provided by the EMFAC2021 model to determine the vehicular traffic pollutant emissions. The CalEEMod default trip lengths were used in this analysis.

Waste

Waste includes the GHG emissions generated from the processing of waste from the proposed project as well as the GHG emissions from the waste once it is interred into a landfill. No changes were made to the default waste parameters.

Water

Water includes the water used for the interior of the building as well as for landscaping and is based on the GHG emissions associated with the energy used to transport and filter the water. No changes were made to CalEEMod default values for waste generated.

Construction

The construction-related GHG emissions were also included in the analysis and were based on

a 30-year amortization rate as recommended in the SCAQMD GHG Working Group meeting on November 19, 2009. The construction-related GHG emissions were calculated by CalEEMod.

Project Greenhouse Gas Emissions

The GHG emissions have been calculated based on the parameters described above. A summary of the results is shown below in Table 11 and the CalEEMod Model run for the proposed project is provided in Appendix A. Table 11 shows that the total for the proposed project's emissions (without credit for any reductions from sustainable design, and/or regulatory requirements) would be 216.3 MTCO2e per year. According to the thresholds of significance, a cumulative global climate change impact would occur if the GHG emissions created from the on-going operations of the proposed project would exceed the SCAQMD draft threshold of 3,000 MTCO2e per year for all land uses. Therefore, as emissions do not exceed 3,000 MTCO2e per year, operation of the proposed project would not create a significant cumulative impact to global climate change.

Table 7 Project-Related Greenhouse Gas Emissions

Category	Greenhouse Gas Emissions (Metric Tons/Year)					
	Bio-CO_2	NonBio-CO_2	CO_2	CH_4	N_2O	CO_2e
Maximum Annual Operations	0.85	200.00	201.00	0.09	0.01	206.00
Construction[1]	0.00	10.27	10.27	0.00	0.00	10.30
Total Emissions	0.85	210.27	211.27	0.09	0.01	216.30
SCAQMD Draft Screening Threshold						3,000
Exceeds Threshold?						No

Source: CalEEMod Version 2022.1.1.20 for Opening Year 2026.
(1) Construction GHG emissions CO_2e based on a 30-year amortization rate.

b) IMPACT: Less Than Significant Impact.

The proposed Project could have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. As stated previously, the City of Rancho Mirage does not currently have a Climate Action Plan; however, the City's Sustainability Plan and Energy Action Plan were both adopted in March of 2013.

Senate Bill 32 (SB 32)

As stated previously, SCAQMD's tier 3 thresholds used Executive Order S-3-05 goal as the basis for deriving the screening level. The California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following reduction targets:

- 2010: Reduce greenhouse gas emissions to 2000 levels
- 2020: Reduce greenhouse gas emissions to 1990 levels
- 2050: Reduce greenhouse gas emissions to 80 percent below 1990 levels.

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires CARB, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which was phased in starting in 2012.

Therefore, as the Project's emissions meet the threshold for compliance with Executive Order S-3-05, the Project's emissions also comply with the goals of AB 32 and the City of Rancho Mirage's Sustainability Plan and Energy Action Plan. Additionally, as the Project meets the current interim emissions targets/thresholds established by SCAQMD, the Project would also be on track to meet the reduction target of 40 percent below 1990 levels by 2030 mandated by SB-32. Furthermore, the majority of the post 2020 reductions in GHG emissions are addressed via regulatory requirements at the State level and the Project will be required to comply with these regulations as they come into effect.

At a level of 216.3 MTCO2e per year, the Project's GHG emissions do not exceed the SCAQMD draft threshold of 3,000 MTCO2e per year and is in compliance with the goals of the City of Rancho Mirage's Sustainability Plan and Energy Action Plan, AB-32 and SB-32.

Scoping Plan

Emission reductions in California alone would not be able to stabilize the concentration of greenhouse gases in the earth's atmosphere. However, California's actions set an example and drive progress towards a reduction in greenhouse gases elsewhere. If other states and countries were to follow California's emission reduction targets, this could avoid medium or higher ranges of global temperature increases. Thus, severe consequences of climate change could also be avoided.

The CARB Board approved a Climate Change Scoping Plan in December 2008. The Scoping Plan outlines the State's strategy to achieve the 2020 greenhouse gas emissions limit. The Scoping Plan "proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health" (California Air Resources Board 2008). The measures in the Scoping Plan have been in place since 2012.

This Scoping Plan calls for an "ambitious but achievable" reduction in California's greenhouse gas emissions, cutting approximately 30 percent from business-as-usual emission levels projected for 2020, or about 10 percent from today's levels. On a per-capita basis, that means reducing annual emissions of 14 tons of carbon dioxide for every man, woman and child in California down to about 10 tons per person by 2020.

In May 2014, CARB released its *First Update to the Climate Change Scoping Plan* (CARB 2014). This *Update* identifies the next steps for California's leadership on climate change. While California continues on its path to meet the near-term 2020 greenhouse gas limit, it must also set a clear path toward long-term, deep GHG emission reductions. This report highlights California's success to date in reducing its GHG emissions and lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below

1990 levels by 2050. CARB's First Update "lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050," and many of the emission reduction strategies recommended by CARB would serve to reduce the Project's post-2020 emissions level to the extent required by applicable by law.

In November 2017, CARB release the 2017 Scoping Plan. This Scoping Plan incorporates, coordinates, and leverages many existing and ongoing efforts and identifies new policies and actions to accomplish the State's climate goals, and includes a description of a suite of specific actions to meet the State's 2030 GHG limit. In addition, Chapter 4 of the Scoping Plan provides a broader description of the many actions and proposals being explored across the sectors, including the natural resources sector, to achieve the State's mid and long-term climate goals.

Guided by legislative direction, the actions identified in the 2017 Scoping Plan reduce overall GHG emissions in California and deliver policy signals that will continue to drive investment and certainty in a low carbon economy. The 2017 Scoping Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including disadvantaged communities. The Plan includes policies to require direct GHG reductions at some of the State's largest stationary sources and mobile sources. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and-Trade Program, which constrains and reduces emissions at covered sources.

Independent studies confirm CARB's determination that the state's existing and proposed regulatory framework will put the state on a pathway to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050 if additional appropriate reduction measures are adopted. Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies would allow the state to meet the 2050 target.

In November of 2022, the CARB released the 2022 Scoping Plan. The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

As the latest, 2022 Scoping Plan builds upon previous versions, Project consistency with applicable strategies of the 2008, 2017, and 2022 Plan are assessed in Table 8. As shown in Table 8, the Project is consistent with the applicable strategies within the Scoping Plan.

Furthermore, at a level of 216.3 MTCO2e per year, the Project's GHG emissions would be in compliance with the City of Rancho Mirage's Sustainability Plan and Energy Action Plan, AB-32, SB-32, and the CARB Scoping Plan. Furthermore, the Project will comply with applicable Green Building Standards and City of Rancho Mirage's policies regarding sustainability (as dictated by the City's General Plan). Impacts are considered to be less than significant.

Table 8 Project Consistency with CARB Scoping Plan Policies and Measures

2008 Scoping Plan Measures to Reduce Greenhouse Gas Emissions	Project Compliance with Measure
California Light-Duty Vehicle Greenhouse Gas Standards – Implement adopted standards and planned second phase of the program. Align zero- emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	No Conflict. These are CARB enforced standards; vehicles that access the Project (that are required to comply with the standards) will comply with the strategy.
Energy Efficiency – Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	No Conflict. The Project will be compliant with the current Title 24 standards.
Low Carbon Fuel Standard – Develop and adopt the Low Carbon Fuel Standard.	No Conflict. These are CARB enforced standards; vehicles that access the Project (that are required to comply with the standards) will comply with the strategy.
Vehicle Efficiency Measures – Implement light-duty vehicle efficiency measures.	No Conflict. These are CARB enforced standards; vehicles that access the Project (that are required to comply with the standards) will comply with the strategy.
Medium/Heavy-Duty Vehicles – Adopt medium and heavy-duty vehicle efficiency measures.	No Conflict. These are CARB enforced standards; vehicles that access the Project (that are required to comply with the standards) will comply with the strategy.
Green Building Strategy – Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	No Conflict. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2022 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.
High Global Warming Potential Gases – Adopt measures to reduce high global warming potential gases.	No Conflict. CARB identified five measures that reduce HFC emissions from vehicular and commercial refrigeration systems; vehicles that access the Project (that are required to comply with the measures) will comply with the strategy.
Recycling and Waste – Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero- waste.	No Conflict. The state is currently developing a regulation to reduce methane emissions from municipal solid waste landfills. The Project will be required to comply with City programs, such as City's recycling and waste reduction program, which comply with the 75 percent reduction required per AB 341.
Water – Continue efficiency programs and use cleaner energy sources to move and treat water.	No Conflict. The Project will comply with all applicable City ordinances and CALGreen requirements.

2017 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions	Project Compliance with Recommended Action
Implement Mobile Source Strategy: Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations.	No Conflict. These are CARB enforced standards; vehicles that access the Project (that are required to comply with the standards) will comply with the strategy.
Implement Mobile Source Strategy: At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.	No Conflict. These are CARB enforced standards; vehicles that access the Project (that are required to comply with the standards) will comply with the strategy.
Implement Mobile Source Strategy: Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NOX standard.	No Conflict. These are CARB enforced standards; vehicles that access the Project (that are required to comply with the standards) will comply with the strategy.
Implement Mobile Source Strategy: Last Mile Delivery: New regulation that would result in the use of low NOX or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.	No Conflict. These are CARB enforced standards; vehicles that access the Project (that are required to comply with the standards) will comply with the strategy.
Implement SB 350 by 2030: Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.	No Conflict. The Project will be compliant with the current Title 24 standards.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	No Conflict. The Project will be required to comply with City programs, such as City's recycling and waste reduction program, which comply, with the 75 percent reduction required by AB 341.
2022 Scoping Plan Priority Key Actions and Recommendations	**Project Compliance with Recommended Actions**
100 percent of light-duty vehicle sales are ZEVs by 2035.	Not Applicable. This action is in regard to vehicle sales, with an aim to have 100 percent of light-duty vehicle sales be ZEVs by 2035. The proposed Project is a residential use and would not interfere with such policymaking.
VMT per capita reduced 25 percent below 2019 levels by 2030 and 30 percent below 2019 levels by 2045.	No Conflict. The Project screens out of needing a traffic study and, therefore, would not result in an unmitigated impact to VMT. The Project is a residential use in close proximity to existing public transit and existing residential and commercial uses.
All electric appliances in new construction beginning 2026 (residential) and 2029 (commercial).	No Conflict. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2022 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.

For existing residential buildings, 80 percent of appliance sales are electric by 2030, and 100 percent of appliance sales are electric by 2035 (appliances replaced at end of life). For existing commercial buildings, 80 percent of appliance sales are electric by 2030 and 100 percent of appliance sales are electric by 2045 (appliances replaced at end of life)	Not Applicable. This action is in regard to appliance sales and the proposed Project is a residential use and would not interfere with such policymaking. Furthermore, although this action is not necessarily applicable on a project-specific basis, the proposed Project is subject to the California Green Building Standards Code (proposed Part 11, Title 24) which was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2022 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.

CUMULATIVE GREENHOUSE GAS IMPACTS

Although the Project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. Therefore, in the case of global climate change, the proximity of the Project to other GHG emission generating activities is not directly relevant to the determination of a cumulative impact because climate change is a global condition. According to CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non- cumulative GHG emission impacts from a climate change perspective." The resultant consequences of that climate change can cause adverse environmental effects. A Project's GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change.

The state has mandated a goal of reducing statewide emissions to 1990 levels by 2020, even though statewide population and commerce are predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce statewide GHG emissions. Currently, the County of Riverside CAP Update's initial screening procedure is to determine if a project will emit 3,000 MTCO2E per year or more. Projects that do not exceed this threshold require no further climate change analysis. Therefore, consistent with CEQA Guidelines Section 15064h(3), the County, as lead agency, has determined that the Project's contribution to cumulative GHG emissions and global climate change would be less than significant if the Project is consistent with the applicable regulatory plans and policies to reduce GHG emissions.

The Project would be consistent with the goals and objectives of the City of Rancho Mirage's Sustainability Plan and Energy Action Plan and the CARB Scoping Plan. Thus, given the Project's consistency with the City of Rancho Mirage's Sustainability Plan and Energy Action Plan and the CARB Scoping Plan, the Project's incremental contribution to GHG emissions and their effects on climate change would not be cumulatively considerable.

Therefore, the project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. The project would also comply with applicable Green Building Standards and City of Rancho Mirage's policies regarding sustainability (as dictated by the City's General Plan, Sustainability Plan, and

Energy Action Plan). The previous section evaluated the proposed project's GHG emissions. The analysis determined that the GHG emissions would be below the regionally accepted thresholds. The calculated emissions would not exceed the GHG and criteria air pollutant thresholds and therefore would not interfere with the City's efforts to monitor and do its part to address climate change. The proposed project would not involve or require any variance from an adopted plan, policy, or regulation governing GHG emissions. As a result, no potential conflict with an applicable greenhouse gas policy plan, policy, or regulation would occur and the potential impacts are considered to be less than significant.

8.3 Mitigation Measures: None required.

9 - Hazards and Hazardous Materials

HAZARDS AND HAZARDOUS MATERIALS – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized	☐	☐	☐	☒

areas or where residences are intermixed with wildlands?				

Sources: Rancho Mirage General Plan 2017; State of California, Department of Forestry and Fire Protection, Fire Hazard Severity Zone Viewer; State of California, Department of Toxic Substances Control, EnviroStor; State of California, Department of Toxic Substances Control, Hazardous Facilities Subject to Corrective Action; State of California, Department of Transportation, Division of Aeronautics, California Public Use Airports and Federal Airfields; State of California, State Water Resources Control Board, GeoTracker; State of California, State Water Resources Control Board, Sites Identified with Waste Constituents Above Hazardous Waste Levels Outside the Waste Management Unit; and United States Environmental Protection Agency, Household Hazardous Waste.

9.1 Setting

A hazardous material is any substance that, because of its quantity, concentration, or physical or chemical properties, may pose a hazard to human health and the environment. Under Title 22 of the California Code of Regulations (CCR), the term "hazardous substance" refers to both hazardous materials and hazardous wastes. Both of these are classified according to four properties: (1) ignitability; (2) corrosivity; (3) reactivity; and (4) toxicity.

A hazardous material is defined as a substance or combination of substances which may either (1) cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed.

The Project site is located on one developed parcel in a semi-urban area of Rancho Mirage. The site was occupied by one single-family residence and sparse vegetation. Surrounding uses include vacant and developed land to west and south, and residential to the north, east and south of the Project site. The proposed Project would involve the subdivision of 5.04-gross acres into nine residential lots. The Project site is not known to contain hazardous materials.

9.2 Discussion of Impacts***:***

a) IMPACT: Less than Significant Impact.

The Project's development would require the use of diesel fuel to power the construction equipment. The diesel fuel would be properly sealed in tanks and would be transported to the site by truck. Transportation, storage, use and disposal of hazardous materials during construction activities would be required to comply with all applicable federal, state, and local statues and regulations. This includes the preparation of a SWPPP that would outline specific BMPs that would be administered during the construction of the Project in order to prevent the discharge of construction-related pollutants that could contaminate nearby water sources. The Resource Conservation and Recovery Act (RCRA; 42 USC 6901 et seq.) would require businesses with substantial quantities of hazardous materials to adhere to strict requirements in regard to handlings, transportation, and storing of supplies. Furthermore, the Hazardous Materials Transportation Act, 49 U.S.C. § 5101 et seq. protects against the risk to life, property, and the environment that are associated in the transportation of hazardous materials in intrastate, interstate, and foreign commerce. Upon completion of the proposed construction, all hazardous materials would be removed from the Project site. Therefore, with all applicable

regulations in place, impacts associated with routine transport of hazardous substances during construction activities would be less than significant.

b) IMPACT: Less than Significant Impact.

The Project's construction would require the use of diesel fuel to power the construction equipment. The diesel fuel would be properly sealed in tanks and would be transported to the site by truck. Other hazardous materials that would be used on-site during the Project's construction phase include, but are not limited to, gasoline, solvents, architectural coatings, and equipment lubricants. These products are strictly controlled and regulated and in the event of any spill, cleanup activities would be required to adhere to all pertinent protocols. As indicated in Subsection d), the Project site is not listed in either the CalEPA's Cortese List or the Environstor database. As a result, the likelihood of encountering contamination or other environmental concerns during the Project's construction phase is remote. As a result, the impacts would be less than significant.

c) IMPACT: No Impact.

There are no schools located within one-quarter of a mile from the Project site. Rancho Mirage High School is located approximately 3.3 miles northwest of the Project site. Rancho Mirage Elementary School is located approximately 4.7 miles to the southwest of the Project site. The nearest middle school is Nellie Coffman Middle School located approximately 3.8 miles west of the Project site. The proposed residential Project would not create a hazard for any local school. As a result, no impacts are anticipated.

d) IMPACT: No Impact.

According to the California Department of Toxic Substances Control "EnviroStor" Database, the Project site does not contain any parcel included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, the proposed Project would not create a significant hazard to the public or the environment. Nevertheless, future development could require Phase I Environmental Site Assessments and subsequent procedures, if necessary, to eliminate or minimize the potential hazards. No impact would occur.

e) IMPACT: No Impact.

The Project site is not located within an airport land use plan and the site is not located within two miles of a public airport or public use airport. The closest airport to the project site is the Palm Springs International Airport, with associated airport runways located as close as approximately 5.55 miles northwest of the project site. The next nearest airport to the Project site is the Bermuda Dunes Airport is located approximately 11.2 miles southeast of the Project. The Project would not introduce a structure that would interfere with the approach and take off of aircraft utilizing any regional airports. As a result, no impacts related to this issue would occur.

f) IMPACT: Less Than Significant Impact.

The City of Rancho Mirage has a Multi-Hazard Functional Plan that addresses the City's planned response and short-term recovery to extraordinary emergency situation that are associated with natural disasters, technological incidents, and national security emergencies. The Project would adhere to any applicable mitigation strategies listed within

the Emergency Operations Plan (EOP) to ensure that the Project would not physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant.

g) **IMPACT: No Impact.**

According to the City's General Plan Exhibit 27, Fire Threat Map, the Project site is not located within a wildfire hazard zone. No wildlands are located in the vicinity of the Project site. Under existing conditions, the Project site is sparsely vegetated with sandy soils and provides a limited fire fuel source. Based on the urban location of the Project site and lack of wildland in the Project vicinity, the development of the Project would not expose people or structures to wildland fires. No impact would occur.

9.3 Mitigation Measures: None required.

10 - Hydrology and Water Quality

HYDROLOGY AND WATER QUALITY – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would: i) Result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	☐	☐	☒	☐
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
iv) Impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Sources: Rancho Mirage General Plan, 2017; Federal Management Emergency Act Flood Insurance Rate Map No. 06065C1595G, effective August 28, 2008; S.D. Engineering and Associates, *Preliminary*

*Hydrology Study and Hydraulics Report for Tentative Tract Map No. 3863*6 dated April 28, 2023; S.D. Engineering and Associates, *Project Specific Water Quality Management Plan for Tentative Tract Map No. 3863*6 dated April 28, 2023; and Coachella Valley Water District, *2020 Coachella Valley Regional Urban Water Management Plan* dated June 30, 2021.

10.1 Setting

The Coachella Valley climate is characterized as "subtropical desert." Annual rainfall is very low, ranging from 2 to 4 inches per year on the valley floor and averaging 5 to 6 inches in the foothills. In some years, no measurable rainfall has been reported on portions of the valley floor. Most rainfall occurs during the cooler months of November through March, but occasional high-intensity thunderstorms and tropical storms occur in late summer and early fall. Although the ground may be generally dry at the beginning of a storm, sufficient amounts and intensities of rainfall can saturate the surface, substantially reducing percolation and increasing runoff. Summer storms pose a greater threat of localized flooding than winter storms because of their high intensity and short duration. Monsoons and warm winter storms with snowmelt can generate significant runoff over a much larger area.

10.2 Discussion of Impacts:

a) IMPACT: Less Than Significant Impact.

Construction of the Project would be subject to National Pollutant Discharge Elimination System (NPDES) stormwater regulations for construction since there will be a soil disturbance of more than one acre. The Applicant would be required to comply with all rules, regulations and procedures of the NPDES permit for municipal, construction, and industrial activities as outlined by the California State Water Resources Control Board or any of its Regional Water Quality Control Boards (Colorado River Basin – Region 7). A Project specific Water Quality Management Plan (WQMP) must also be prepared to determine and describe the Best Management Practices (BMPs) that would be implemented on the Project site. The Project would be required to meet all applicable water quality standards or waste discharge requirements, thus avoiding any violation of such standards or requirements.

CVWD's domestic water system serving the City of Rancho Mirage includes 57 wells, nine aboveground storage reservoirs (water tanks) and an extensive system of distribution lines ranging in size from 2 to 36 inches in diameter. According to the General Plan, since the 1900's and leading through today, depletion of groundwater basins has been accelerating since the expansion of agricultural activities. Consequently, groundwater demand exceeds available recharge and in turn causing an "overdraft". To ensure water availability, Coachella Valley water agencies contract with Metropolitan Water District of Southern California (MWD) to exchange their water entitlement from the State Water Project for like amounts from the Colorado River. Water is diverted and percolates into the Whitewater Subbasin via MWD's aqueduct that crosses the Whitewater River. The mentioned agreement is intended to assure adequate water supplies through the year 2035. Furthermore, the aforementioned water agencies are required to prepare an Urban Water Management Plan (UWMP) every five years. This plan helps set forth a program to meet water demands during normal, dry, and multiple dry years. The UWMP helps to ensure that water supplies are being planned for and meet future growth. The 2020 UWMP determined that adequate water supplies would be available to serve existing service areas through the year 2040. As such, since the Project

site is within the City's existing service area and has been accounted for within these water projections, the proposed Project would be consistent with the 2020 UWMP and would not substantially decrease groundwater supplies. Therefore, impacts on groundwater supplies would be less than significant.

The Project would connect to a sewer line located beneath Ginger Rogers Road. Wastewater would be transported to and processed at one of CVWD's Wastewater Treatment Plants. CVWD implements all requirements of the Regional Water Quality Control Board which pertain to water quality and wastewater discharge. Adherence to all NPDES regulations would minimize any pollutants associated with urban runoff to a less than significant level. Therefore, with implementation of all applicable NPDES regulations, impacts to water quality standards or waste discharge requirements would be less than significant.

b) IMPACT: Less Than Significant Impact.

The primary source of water in the Coachella Valley is groundwater extracted by deep wells and replenished with Colorado River Water. The CVWD will provide domestic water service to the Project and is a participant in the Coachella Valley Regional Water Management Group that prepared an Integrated Regional Water Management Plan (WMP) in 2018. The 2018 Integrated Regional WMP determined that long-term regional demand for potable water is expected to increase; however, with continued conservation measures and replenishment of groundwater, sufficient supplies would be available to meet the projected demand. As such, Project water demands have already been accounted for within the 2018 Integrated Regional WMP and sufficient water supplies exist to serve the Project.

Water used to control fugitive dust would be transported to the site via truck. No direct ground water extraction would occur. Furthermore, the construction and post-construction BMPs would address contaminants of concern from excess runoff, thereby preventing the contamination of local groundwater. These BMP controls may include, but not be limited to, the following:

- Stabilization practices for all areas disturbed by construction and grading.
- Structural practices for all drainage/discharge locations.
- Stormwater management controls, including measures used to control pollutants occurring in stormwater discharges after construction activities are complete.
- Velocity dissipation devices to provide nonerosive flow conditions from the discharge point along the length of any outfall channel.
- Other controls, including waste disposal practices that prevent discharge of solid materials.

At Project buildout, water would be required to serve the needs of the proposed development of nine single-family homes. The Project site would capture and retain the volume of surface runoff generated during the 100-Year design storm on-site. Storage would be provided in two retention basins adjacent to Ginger Rogers Road to collect runoff from the on-site paved road. No new wells or additional water infrastructure are proposed. The Project would be required to comply with the CVWD's and the City's water-efficiency requirements, such as including the use of drought-tolerant planting materials and limited landscaping irrigation. The Project would also be required to comply with the CVWD's drought restrictions and water reduction

measures as applicable. Therefore, compliance and implementation of CVWD and City requirements would ensure that the Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. Impacts would be less than significant.

c.i) IMPACT: Less than Significant Impact.

The Project would subdivide the land for the future development on nine residential lots. The site would be mass graded, which would change the site's existing ground contours and alter the existing drainage patterns interior to the Project site. Although the Project would alter the subject property's internal drainage patterns, such changes would not result in substantial erosion or siltation on- or off-site. Under post-development conditions, the majority of the site would be covered with impervious surfaces and, therefore, the amount of exposed soils on the Project site would be minimal. Also, the Project would construct an integrated storm drain system on-site with site design BMPs (i.e., retention basins) to minimize the amount of water-borne pollutants carried from the Project site. The implementation of the retention basins and other design features would allow for control of any existing erosion or siltation that is attributed to the undeveloped site. Accordingly, the Project would not result in substantial erosion or siltation onsite or offsite and a less-than-significant impact would occur.

c.ii) IMPACT: Less than Significant Impact.

As described in Section 10(c)(i), above, implementation of the Project would alter the site's existing drainage patterns but would not substantially alter the drainage pattern of the local area.

The site would be required to collect and store 100% of runoff generated during the 100-year storm event. To achieve this each of the lots of the Project site would be required to retain their own stormwater runoff on-site using two retention basins. Runoff from the on-site paved road would be retained on-site as well. All retention basins and storage would be sized to retain the entire storm volume generated on-site during the 10-year design storm.

The Project site would also provide sufficient capacity to contain the runoff volume generated during the 100-year design storm. Collected and stored water would infiltrate into the ground within a maximum 72-hour period. Implementation of the Project would not substantially increase the rate or amount of surface water runoff discharged from the site in a manner that would result in flooding on or offsite.

c.iii) IMPACT: Less than Significant Impact.

As previously stated, the Project's retention basins would be sized and designed to accommodate all of the site's runoff. Accordingly, the Project would not create or contribute runoff which would exceed the capacity of any existing or planned storm water drainage system and impacts would be less than significant.

As discussed under Section 10(a), the proposed Project would be required to comply with a future SWPPP and the Project's WQMP, which identify required BMPs to be incorporated into the Project to ensure that near-term construction activities and long-term post-development activities of the proposed Project would not result in substantial amounts of polluted runoff. Therefore, with mandatory compliance with the Project's SWPPP and WQMP, the

proposed Project would not create or contribute substantial additional sources of polluted runoff, and impacts would be less than significant.

c.iv) IMPACT: No Impact.

According to FEMA FIRM No. 06065C1595G, the Project site is located within Zone X (unshaded), which is an area of minimal flood hazard and not within the 100-year nor 500-year flood plain. Accordingly, the Project site is not expected to be inundated by flood flows during the lifetime of the Project and the Project would not impede flood flows. No impact would occur.

d) IMPACT: No Impact.

The Project site is located within Zone X (unshaded), which is an area of minimal flood hazard and not within the 100-year nor 500-year flood plain. Furthermore, the Project site is not located within the vicinity of a water body. Due to the Project site location being a significant distance from the ocean and from any lakes or dams, there is no possibility of dam failure, tsunami or seiche. No impact would occur.

e) IMPACT: Less Than Significant Impact.

As described in Section 10(b), Project water demand has already been accounted for in the 2018 Integrated Regional WMP and sufficient water supplies exist to serve the Project. The Project would adhere to all applicable water quality standards and will implement a Project specific WQMP approved by the City and the Regional Water Quality Control Board for both construction and operational activities. Tentative Tract Map 38636 meets the hydrologic and hydraulic requirements established by the City of Rancho Mirage. Therefore, the Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Impacts would be less than significant.

10.3 Mitigation Measures: None required.

11 - Land Use and Planning

LAND USE AND PLANNING – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Sources: Rancho Mirage General Plan 2017; Rancho Mirage Municipal Code

11.1 Setting

The Project site is located in an urbanized area of the City of Rancho Mirage. Land uses and development located in the vicinity of the proposed Project site are outlined below:

- North of the Project site: Single-family residential properties. These parcels are designated as Very Low Density Residential (R-L-2).

- East of the Project site: Single-family residential properties. These parcels are designated as Very Low Density Residential (R-L-2).

- South of the Project site: Vacant land and single-family residential properties. These parcels are designated as Very Low Density Residential (R-L-2).

- West of the Project site: Landy Lane, undeveloped land, senior living community and office buildings. These parcels are designated as Office (O) with the following uses: Rancho Mirage Terrace Senior Living Community, Desert Periodontics, Weil Institute of Critical Care Medicine and the Tolerance Education Center.

Under existing conditions, the entire Project site is within R-L-2 (Residential Very Low Density) Zone. The R-L-2 zoning district identifies areas appropriate for large lot single-family uses. The allowable maximum density is two dwelling units per gross acre. The R-L-2 zoning district is intended to provide for single-family parcels ranging from eighteen thousand square feet or larger. The R-L-2 zoning district is consistent with the low density residential land use designation of the General Plan.

The southwestern portion of the project site is occupied by an older single-family residence that is planned for demolition. The project site is located in Section 30.

11.2 Discussion of Impacts:

a) IMPACT: No Impact.

Development of the Project would not physically disrupt or divide the arrangement of an established community. The Project site is located on one parcel in an urbanized area of the City. The Project site is surrounded by Landy Lane and vacant, undeveloped commercially designated land to the west. The properties to the immediate north and east are developed with residential homes. Properties to the south include Ginger Rogers Road, commercial land, vacant land and residential lots. Therefore, the Project would serve as an extension of the existing development patterns in the area. The granting of the requested subdivision and subsequent construction of the proposed residential lots would not result in any expansion of the use beyond the current boundaries. As a result, the project will not lead to any division of an existing established neighborhood. As a result, no impacts would occur.

b) IMPACT: Less Than Significant Impact.

The project site's General Plan and Zoning designation is Very Low Density Residential (R-L-2). The project site is located in Section 30. According to the Rancho Mirage Land Use Element, this designation provides for single-family residential development typically on individual lots of about 0.5-acre. Planned residential developments are also an appropriate form under this designation. Lands with this designation may serve to buffer more dense residential development from estate residential uses.

The applicant has submitted a Major Variance application (VAR24-0002) to be processed concurrently with Tentative Tract Map Case No. TTM23-0001 (TTM 38636). It is a request to modify the minimum lot size specified under Rancho Mirage Municipal Code Section 17.08.020 Residential Districts General Development Standards, Table 2-3 Residential Zones General Development Standards Requirements by Individual Zoning District for R-L-2 from 18,000 square feet to 16,000 square feet. In November 2014, the Rancho Mirage City Council adopted a change to the minimum lots size standards in several residential zoning districts (R-H, R-M, R-L-3, and R-L-2). Specifically, the minimum lot size required under the Very Low Density Residential (R-L-2) zoning designation was changed from 15,000 square feet to 18,000 square feet. Most of the tentative maps in Section 30 were submitted prior to the adoption of the ZTA and therefore were not subject to the revised minimum lot size standards. In an effort to be compatible with the established lot sizes with the immediate area, the applicant is requesting to reduce the minimum lot size to 16,000 square feet for the proposed nine residential lots within Tentative Tract Map No. 38636.

Additionally, the City would review and approve all future architectural plans to ensure the proposed development meets the City's development standards for Very Low Density Residential land use designation. Therefore, the Project would comply with all applicable policies contained in the General Plan as well as all applicable development regulations/development standards contained in the Zoning Ordinance after granting the Major Variance application. Accordingly, implementation of the Project would not conflict with the City's General Plan or Zoning Ordinance. Therefore, implementation of the Project would not cause significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. A less than significant impact would occur.

11.3 Mitigation Measures: None required.

12 - Mineral Resources

MINERAL RESOURCES – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Sources: Rancho Mirage General Plan 2017; Update of Mineral Land Classification Map for Portland Cement Concrete Grade Aggregate in the Palm Springs Production-Consumption Region, Riverside County, California (Special Report 198), California Geological Survey, 2007 and State of California, Department of Conservation, SMARA Generalized Mineral Land Classification Map.

12.1 Setting

In the Coachella Valley, mineral resources are largely limited to aggregates, such as sand, gravel, and crushed stone. These are major components of concrete, plaster, stucco, road base and fill, which are essential to the construction industry. Important regional deposits of these materials are being actively developed. Other mineral deposits in the region are generally limited to rocky outcroppings within the Little San Bernardino and Santa Rosa Mountains and have not been mined. There are currently no mines or extraction sites in Rancho Mirage.

The Surface Mining and Reclamation Act of 1975 (SMARA) has developed mineral land classification maps and reports to assist in the protection and development of mineral resources. According to the SMARA, the following four mineral land use classifications are identified:

● Mineral Resource Zone 1 (MRZ-1): This land use classification refers to areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.

● Mineral Resource Zone 2 (MRZ-2): This land use classification refers to areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.

● Mineral Resource Zone 3 (MRZ-3): This land use classification refers to areas where the significance of mineral deposits cannot be evaluated from the available data. Hilly or mountainous areas underlain by sedimentary, metamorphic, or igneous rock types and lowland

areas underlain by alluvial wash or fan material are often included in this category. Additional information about the quality of material in these areas could either upgrade the classification to MRZ-2 or downgrade it to MRZ-1.

● Mineral Resource Zone 4 (MRZ-4): This land use classification refers to areas where available information is inadequate for assignment to any other mineral resource zone.

12.2 Discussion of Impacts:

a) IMPACT: No Impact.

Per the California Geological Survey's Updated Mineral Land Classification Map, the Project site is located in Mineral Zone 1 (MRZ-1), which indicates that little likelihood exists for the presence of significant mineral resources. The Project site is designated as Very Low Density Residential (R-L-2) under the City's General Plan's Land Use and Zoning Map which does not allow mineral production. No portion of the Project site is designated for mineral land use. Furthermore, if a potential mineral extraction operation were to be located within the Project site, it would be incompatible both with the land use designation and surrounding land uses. Therefore, development of the Project would result in no impact relating to mineral resources.

b) IMPACT: No Impact.

As previously mentioned, no mineral, oil, or energy extraction and/or generation activities are located within the Project site. Moreover, the proposed Project would not interfere with any resource extraction activity. Therefore, no impact would result from the implementation of the proposed Project.

12.3 Mitigation Measures: None required.

13 - Noise

NOISE – Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Sources: Ganddini Group, Inc., *TTM 38636 Noise Impact Analysis, City of Rancho Mirage* dated October 20, 2023; State of California, Department of Transportation, Division of Aeronautics, California Public Use Airports and Federal Airfields; and City of Rancho Mirage 2017 General Plan Update, adopted November 16, 2017.

13.1 Setting

Noise

Noise has been defined as an unwanted sound. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear.

Vibration

According to the Federal Transit Administration (FTA) Transit Noise Impact and Vibration Assessment Manual, vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of

ground-borne vibrations include natural or human made causes. In addition, vibration sources may be continuous, such as factory machinery, or transient, such as explosions.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts on buildings. The human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Vibration decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. More detailed information regarding vibration can be found in the Noise Study (Appendix H) of this document.

Sensitive receptors that may be affected by Project generated noise include the existing single-family residential uses located adjacent to the north and east of the Project site and approximately 566 feet to the southwest, 590 feet to the west, 1,340 feet to the south, and 1,296 feet to the southeast of the Project site. Vehicle traffic associated with Bob Hope Drive is the dominant noise source and ambient noise levels on the Project site are estimated to range between 51 and 54 dBA CNEL.

13.2 Discussion of Impacts:

a) IMPACT: Less Than Significant Impact.

Project Construction Noise (On-Site Equipment)

The Project site is adjacent to existing single family residential land uses to the north and to the east. Construction, alteration, repair, grading or improvement of any building, structure, road, improvement to real property for which a permit has been issued by the city if said construction occurs within the allowable hours set forth in Section 15.04.030 is exempt from the provisions of Section 8.45 of the City's Municipal Code. Therefore, as long as Project construction occurs outside the hours of 7:00 PM to 7:00 AM or on Sundays or holidays, or if written permission of the Building Official is obtained, Project construction will be consistent with the applicable ordinance. The Project is expected to comply with this ordinance and therefore will be consistent with applicable ordinances.

Existing noise levels and Project construction noise levels were modeled at the northern and eastern property lines using the FTA methodology in order to determine the expected increase in noise levels due to Project construction. Existing noise levels along the northern property line are estimated to average 52.5 dBA Leq and existing noise levels along the eastern property line are estimated to be 45.1 dBA Leq. Construction noise levels are estimated to reach 61.6 dBA Leq at the nearest residential property to the north and 66.8 at the nearest residential property to the east. Increases in ambient noise levels due to Project construction will reach up to 9.1 along the northern property line and reach up to 21.7 along the eastern property line.

The following best management practices (BMPs) shall be provided on Project plans and in contract specifications to minimize construction and operational noise emanating from the proposed Project:

1. All stationary construction equipment will be placed so that emitted noise is directed away from the noise sensitive receptors nearest the Project site.

2. As applicable, all equipment shall be shut off when not in use.

3. To the degree possible, equipment staging will be located in acres that create the greatest distance between construction-related noise and vibration sources and existing sensitive receptors.

4. Jackhammers, pneumatic equipment, and all other portable stationary noise sources will be directed away and shielded from existing residences in the vicinity of the Project site. Either one-inch plywood or sound blankets can be utilized for this purpose. They should reach up from the ground and block the line of sight between equipment and existing residences. The shielding should be without holes and cracks.

5. No amplified music and/or voice will be allowed on the Project site.

6. Haul truck deliveries will not occur outside of the hours presented as exempt for construction per City of Rancho Mirage Municipal Code Section 15.04.030.

7. The use of vibratory rollers, or similar vibratory equipment, will be avoided within 20 feet of the residential structures to the north of the Project site.

Project Construction Noise (Off-Site Traffic)

Construction truck trips would occur throughout the construction period. Given the Project site's proximity to Interstate 10 Freeway, it is anticipated that vendor and/or haul truck traffic would take the most direct route to the appropriate freeway ramps.

According to the TTM 38636 *Air Quality, Global Climate Change, and Energy Impact Analysis* (Ganddini Group, Inc., 2023), the greatest number of construction-related vehicle trips per day would be during grading and paving at up to 15 vehicle trips per day (for worker trips). The addition of 15 trips will result in an increase of less than 1 dB. Therefore, vehicle traffic generated during Project construction is nominal relative to existing roadway volumes. The Project impact is less than significant; no mitigation is required.

Project Operational Noise (Project Generated Traffic Noise)

The proposed Project is the development of the approximately 5.04-gross acres/4.37 net-acre Project site with 9 single-family residential lots. Due to the Project's size, it is anticipated that it will screen out and will not require a traffic study. Therefore, based on the Institute of Transportation Engineers (ITE) 11th Edition Trip Generation Manual (2021) rate for single-

family housing (ITE 210), the proposed Project will have trip generation rates of 9.43 trips per dwelling unit per weekday, 9.48 trips per dwelling unit per Saturday, and 8.48 trips per dwelling unit per Sunday. Considering these trip generation rates and that the Project is only 9 dwelling units, the proposed Project would be anticipated to generate up to approximately 85 vehicle trips per day.

Existing noise levels at the Project site were modeled at 54.1 dBA CNEL. Existing plus Project generated vehicle traffic were modeled at 54.2 dBA CNEL and would result in an increase of 0.1 dBA CNEL over existing noise levels. Project generated vehicle traffic would not result in substantial increases in ambient noise levels. The Project impact is less than significant; no mitigation is required.

Future Traffic Noise at the Project Site

Per the City of Rancho Mirage General Plan, noise levels of up to 57.5 dBA CNEL are considered "normally acceptable" and up to 70 dBA CNEL are considered "conditionally acceptable" for single-family residential uses. Per the City, new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Noise levels at the western property line

Future traffic noise levels at the Project site are expected to reach 57.3 at proposed residential lots and will not exceed the City's criteria of normally acceptable (57.5 dBA CNEL). The proposed Project would be consistent with the City's General Plan Noise Element Noise Level and Land Use Compatibility Criteria.

The proposed Project will not expose sensitive receptors to excessive noise levels. As a result, the impacts would be less than significant.

b) IMPACT: Less Than Significant Impact.

The City of Rancho Mirage Municipal Code Section 17.18.080 states that no vibration associated with any use shall be allowed which is discernible beyond the boundary line of the subject property. However, the City has not established thresholds of significance concerning groundborne vibration. In the absence of City-established thresholds, groundborne vibration impacts are based on guidance from the *Transportation and Construction Vibration Guidance Manual* (California Department of Transportation, 2020). Accordingly, the project would result in a significant impact if:

- Groundborne vibration levels generated by the project have the potential to cause architectural damage at nearby buildings by exceeding the following PPV:
  - 0.08 in/sec at extremely fragile historic buildings, ruins, ancient monuments
  - 0.10 in/sec at fragile buildings
  - 0.25 in/sec at historic and some old buildings
  - 0.30 in/sec at older residential structures

- 0.50 in/sec at new residential structures and modern industrial/commercial buildings.

- Groundborne vibration levels generated by the project have the potential to cause severe annoyance to people living or working in nearby buildings by exceeding a PPV of 0.4 in/sec.

Construction-Related Vibration Impacts

Existing structures in the immediate vicinity of the project site include the single-family residential dwelling units located as close as approximately 15 feet to the north and 26 feet to the east of the project site and the commercial building located as close as approximately 195 feet to the southwest of the project site.

The residential threshold of 0.3 PPV in/sec will be exceeded at the residential uses to the north. BMPs prohibiting the use of vibratory rollers, or other similar vibratory equipment, within 20 feet of residential structures to the north will reduce potential architectural damage impacts. With incorporation of the needed best management practice for architectural damage, potential annoyance at the nearest residential uses would be below the 0.4 in/sec PPV threshold. Furthermore, annoyance is expected to be temporary, occurring during the daytime hours and only when vibratory equipment, such as vibratory rollers, are in proximity to a residential structure. Project construction would not result in the exposure of persons to excessive groundborne vibration and impacts would be less than significant with incorporation of BMPs management practices listed above under 13.2 a).

The most substantial sources of groundborne vibration during post-construction project operations will include the movement of passenger vehicles and trucks on paved and generally smooth surfaces. Loaded trucks generally have a PPV of 0.076 at a distance of 25 feet (Caltrans 2020), which is a substantially lower PPV than that of a vibratory roller (0.210 in/sec PPV at 25 feet). Therefore, groundborne vibration levels generated by project operation would not exceed those modeled for project construction. This potential impact is therefore considered less than significant.

The Project will be required to adhere to all pertinent City noise control regulations. The limited duration of construction activities and the City's construction-related noise control requirements will reduce the potential impacts. Additionally, construction equipment would move throughout the entire site and would only be located near the Project boundaries for short periods of time. Thus, vibration levels at the receptors located near the Project boundaries would be less than these maximum levels for a majority of the construction period. Although vibration levels may be perceptible for short periods of time, maximum vibration levels would not exceed FTA thresholds. Therefore, Project construction would not generate excessive ground borne vibration or ground borne noise levels, and impacts would be less than significant. As a result, the impacts would be less than significant.

c) IMPACT: No Impact.

The closest airport to the project site is the Palm Springs International Airport, with associated airport runways located as close as approximately 5.55 miles northwest of the project site. As shown on Map PS-3, Noise Compatibility Contours, of the Riverside County Airport

Land Use Compatibility Plan Policy Document (adopted March 2005) the project site is located well outside the 60 dBA CNEL noise contour of Palm Springs Airport. Therefore, the proposed project would not expose people residing or working in the area to excessive noise levels. There is no impact, and no mitigation is required.

13.3 Mitigation Measures: None required.

14 - Population and Housing

POPULATION AND HOUSING – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

Sources: Rancho Mirage General Plan 2017; State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State, January 2021-2024, with 2020 Benchmark. May 2024.

14.1 Setting

The southwestern portion of the 5.04-acre Project site is occupied by an older single-family residence that is planned for demolition. The only mature trees located within the property are located in the yard areas of this residence. The remainder of the Project site consists of both native and non-native shrubs and grasses. The site is dominated by creosote bush (Larrea tridentata). The proposed Project would subdivide the 5.04 gross acres into nine residential lots.

14.2 Discussion of Impacts:

a) IMPACT: Less Than Significant Impact.

Growth-inducing impacts are generally associated with the provision of urban services to undeveloped or rural areas. Growth-inducing impacts include the following:

- New development in an area presently undeveloped and economic factors which may influence development. The site is currently largely undeveloped (the site is occupied by an older single-family residence) though the site has been disturbed. All land surrounding the property are designated for residential development.
- Extension of roadways and other transportation facilities. Future roadway and infrastructure connections will serve the proposed Project site only.
- Extension of infrastructure and other improvements. The installation of any new utility lines will not lead to subsequent offsite development since these utility connections will serve the site only.
- Major off-site public projects (treatment plants, etc.). The Project's increase in demand for utility services can be accommodated without the construction or expansion of landfills, water treatment plants, or wastewater treatment plants.

- The removal of housing requiring replacement housing elsewhere. The site contains a single older housing unit. As a result, no replacement of housing will be required.
- Additional population growth leading to increased demand for goods and services. The proposed 9-lot Project would potentially result in 17 new residents assuming an average household size of 1.83 persons per unit derived from the most recent California Department of Finance.
- Short-term growth-inducing impacts related to the Project's construction.

The Project will result in temporary employment during the construction phase. The newly established roads and existing utility lines will serve the Project site only and will not extend into undeveloped areas. The proposed Project will not result in any unplanned growth. Therefore, the impacts would be less than significant.

b) IMPACT: Less Than Significant Impact.

The Project site's General Plan and Zoning designation is Very Low Density Residential (R-L-2). The proposed 9-lot Project would potentially result in 17 new residents assuming an average household size of 1.83 persons per unit derived from the most recent California Department of Finance. The existing single-family dwelling located on the property is planned for demolition. Therefore, the impacts would be less than significant.

14.3 Mitigation Measures: None required.

15 - Public Services

PUBLIC SERVICES – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☒	☐
iv) Parks?	☐	☐	☒	☐
v) Other public facilities?	☐	☐	☒	☐

Sources: Rancho Mirage General Plan, 2017; Residential and Commercial/Industrial Development School Fee Justification Study for the Palm Springs Unified School District, dated March 26, 2024; and Palm Springs Unified School District Website, 2024.

15.1 Setting

Fire Protection Services

The Riverside County Fire Department (RCFD) provides fire protection in Rancho Mirage under contract to the California Department of Forestry. A typical response to a fire will place eight personnel, including a battalion chief, on the scene within five minutes. This includes fire fighters and certified paramedics. The Fire Department has 27 sworn, 2 full time non-sworn and 1 part time non-sworn personnel, serving 24.7 square miles and ~18,799 persons.

Police Protection Services

Police protection in Rancho Mirage is provided on a service contract basis by the Riverside County Sheriff's Department (RCSD) that operates out of the Palm Desert Station. Their staff consists of 29 full time officers (24 sworn and 5 non-sworn). The officers have a daily staffing of 7 officers that work in two, 12-hour shifts. Four deputy patrol officers work the day shift, and 3 deputy patrol officers work the night shift. The City currently provides 1.77 officers per 1,000 residents.

Schools

Rancho Mirage is served by two public school districts: Palm Springs Unified School District, which serves the majority of Rancho Mirage, and the Desert Sands Unified School District, which serves the portion of Rancho Mirage that lies south of Frank Sinatra Drive and east of Bob Hope Drive. The Project site is within the boundaries of the Palm Springs Unified School District.

Parks

In 1989, the City prepared a Parks Master Plan that included an assessment of local park needs. Rancho Mirage currently contains six parks, including a mix of mini and local parks.

15.2 Discussion of Impacts:

a.i) IMPACT: Less than Significant Impact.

The Riverside County Fire Department (RCFD), under contract with the City of Rancho Mirage, provides a full range of 24-hour fire protection and emergency medical services to the City. The City's Fire Department is made up of 27 sworn, 2 full time non-sworn and 1 part time nonsworn personnel, serving 24.7 square miles with an estimated service population of 17,504 (Riverside County Fire Department for Rancho Mirage). RCFD maintains two fire stations within the City of Rancho Mirage, Fire Station 50, and Fire Station 69. Fire Station 50 is located at 70-801 Highway 111 and this station covers the southern portion of the City and is equipped with a Medic Engine and Paramedic Ambulance. Five firefighters are staffed at this station daily and three of the five firefighters are paramedics. Fire Station 69 is located at 71-751 Gerald Ford Drive and covers the northern portion of Rancho Mirage and is also staffed with five firefighters daily, with three of the five firefighters being paramedics. The Riverside County Fire Department operates under a Regional Fire Protection Program, which allows all of its fire stations to provide support as needed regardless of jurisdictional boundaries. In addition to the two fire stations located in Rancho Mirage, five other County operated fire stations are located close to Rancho Mirage: Station 71 (Palm Desert), Roy Wilson Fire Station (Thousand Palms), Station 33 (Palm Desert), Fire Station 81 (North Bermuda Dunes), Fire Station 55 (Indian Wells), and Riverside County Fire Department in La Quinta. In the event of a major incident, resources from these stations can be used to assist fire personnel in Rancho Mirage. Fire Station 69 is approximately 0.8 miles southwest of the Project site.

The RCFD currently reviews all new development plans. The proposed Project would be required to conform to all fire protection and prevention requirements, including, but not limited to, building setbacks, emergency access, and fire flow (or the flow rate of water that is available for extinguishing fires). The proposed Project would only place an incremental demand on fire services since the Project includes the installation of fire hydrants and sprinkler systems inside the buildings. Furthermore, the Project will be reviewed by County Fire officials to ensure adequate fire service and safety as a result of project implementation. Development of the proposed Project would result in a minimal increase in demand for fire services. Service calls could place an additional demand for fire personnel, fire apparatus and equipment. The development will be required to pay development mitigation fees for fire services at the time of building permits. Therefore, impacts associated with fire protection services would be less than significant.

a.ii) Less than Significant Impact.
Law enforcement services in the City of Rancho Mirage are provided under a contractual agreement with Riverside County Sheriff's Department (RCSD). The RCSD contract provides for a staff of 30 full time officers (25 sworn and 5 non-sworn). The officers have a daily staffing of 7 officers that work in two, 12-hour shifts. Four deputy patrol officers work the day shift, and 3 deputy patrol officers work the night shift. The City's contract currently provides 1.65 officers per 1,000 residents, which is well above the commonly used and accepted ratio of one officer per 1,000 residents. The Sheriff's department provides 24-hour police law enforcement services and operates a small police substation at the Rancho Mirage Public Library. The main County sheriff's station is located in the City of Palm Desert at 73-705 Gerald Ford Drive. The Palm Desert Station is located approximately 1.2 miles southwest from the Project site.

Emergency response times vary and are dependent on the location of patrol cars. The average response time for priority 1 calls in the City of Rancho Mirage was 5 to 6 minutes. The project site is located in an existing urban area and is currently serviced by the Sheriff's Department. Therefore, the proposed project would not substantially increase the need for new or expanded police facilities and response times are not expected to be impacted. Additionally, all new construction in the City will be required to pay Development Impact Fees to assist in offsetting impacts to police services. As a result, the impacts would be less than significant.

a.iii) Less than Significant Impact.
The nearest high school is Rancho Mirage High School, which is located approximately 3.3 miles to the northwest of the Project site. Rancho Mirage Elementary School is located approximately 4.7 miles to the southwest of the Project site. The nearest middle school is Nellie Coffman Middle School located approximately 3.8 miles west of the Project site. The addition of the future nine single-family residences would not significantly increase the number of students within nearby schools. However, the project would be required to pay School Impact Fees to the Palm Springs Unified School District (PSUSD). Current impact fees effective June 10, 2024 will be $5.17 per residential foot for detached single family homes according to the March 24, 2024 Residential and Commercial/Industrial Development School Fee Justification Study for the PSUSD. Payment of these fees would offset impacts from the increased demand on school services, ensuring that impacts will be less than significant.

a.iv) Less than Significant Impact.
The City of Rancho Mirage provides public parks, open space, and multi-city recreational facilities with various amenities. The proposed project would be required to comply with the City's parkland in lieu fee (Quimby) and other development impact fees requirements. The future residents generated by project implementation may lead to an incremental increase in physical deterioration of City public recreational facilities. The occupancy of the 9 units would not substantially increase the use of existing parks as to accelerate their physical deterioration since the site is relatively small. Additionally, the project will be required to comply with the City's development impact fee requirements. As a result, the impacts would be less than significant.

a.v) Less than Significant Impact.
The Project would result in less-than-significant impacts on other public facilities. It is not

expected that the Project would result in an increase in population that would require the provision of additional public facilities within the City of Rancho Mirage. Access to the Project site is provided by an existing road (Ginger Rogers Road) and would connect to existing utility infrastructure. New public roads or public transportation facilities, or other public facilities, are not required. Therefore, impacts would be less than significant.

15.3 Mitigation Measures: None required.

16 - Recreation

RECREATION – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Source: Rancho Mirage General Plan 2017

16.1 Setting

The City offers a wide variety of recreational opportunities, including golf courses, bikeways, and parkland. In addition, the City is near thousands of acres of National Park and National Monument lands, U.S. Forest Service wilderness lands, and state, regional and tribal parks that contain miles of hiking, biking, and equestrian trails.

The proposed project would involve the subdivision of 5.04-gross acres into nine residential lots. The project site's General Plan and Zoning designation is Very Low Density Residential (R-L-2). The relatively level 5.04-acre site ranges from 325 feet above mean sea level (AMSL) to 330 feet AMSL. The southwestern portion of the project site is occupied by an older single-family residence that is planned for demolition.

16.2 Discussion of Impacts:

a) IMPACT: Less Than Significant Impact.

The project would be required to comply with the City's in-lieu park dedication fee (Quimby Act) and other development impact fees requirements. The future residents generated by project implementation may lead to an incremental increase in physical deterioration of City public recreational facilities. The occupancy of the 9-units would not substantially increase the use of existing parks as to accelerate their physical deterioration since the site is relatively small. Additionally, the project will be required to comply with the City's development impact fee requirements. Therefore, the Project would have a less than significant impact on recreational facilities within the City.

b) IMPACT: Less Than Significant Impact.

As previously indicated, the implementation of the proposed project would not physically impact any existing parks and recreational facilities in the City. No such facilities are located adjacent to the project site. As a result, the impacts would be less than significant.

16.3 Mitigation Measures: None required.

17 - Transportation

TRANSPORTATION – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

Source: Riverside County Transportation Analysis Guidelines, and Rancho Mirage General Plan, 2017.

17.1 Setting

The Project Applicant proposes the subdivision of 5.04-gross acres into nine single-family residential lots. The Project is exempt from preparing either a Traffic Impact Analysis or Vehicle Miles Traveled Screening Analysis because the Project would generate less than 100 peak hour trips and proposes less than 110 single-family housing units per the County of Riverside's Transportation Analysis Guidelines as well as the City of Rancho Mirage's VMT Transportation Analysis Policy adopted on February 18, 2021.

17.2 Discussion of Impacts:

a) IMPACT: Less Than Significant Impact.

Trip generation represents the amount of traffic which is both attracted to and produced by a development. The Project's Air Quality and Greenhouse Gas Report (Appendix A) utilized the trip generation rates for single-family residential dwelling units provided in the Institute of Engineers Trip Generation Manual 11th Edition (2021). As shown in the modeling through use of the ITE trip generation rates, the Project is anticipated to generate approximately 85 average daily vehicle trips. Pursuant to the County's Transportation Analysis Guidelines, projects that generate 100 or less daily trips are not required to prepare a Traffic Impact Analysis that includes Level of Service (LOS) analysis and would therefore not result in substantial adverse effects on the circulation system. Because the Project would generate less

than 100 daily trips, the Project would not conflict with County policy addressing the circulation system and impacts would be less than significant.

b) IMPACT: Less Than Significant Impact.

CEQA Guidelines section 15064.3 sets forth guidelines for implementing Senate Bill 743 (SB 743) for reduction of GHG emissions and development of multimodal transportation networks. SB 743 requires amendments to the CEQA Guidelines to provide for an alternative criterion to the LOS methodology for evaluating transportation impacts. Generally, "vehicle miles travelled" or VMT is considered as the most appropriate measurement of transportation impacts. VMT refers to the amount and distance of automobile travel attributable to a project.

The Project's traffic was evaluated against screening criteria to determine if it could clearly be determined that the Project would not generate substantial VMT and therefore be consistent with CEQA Guidelines Section 15064.3(b), or if additional analysis was needed to determine the significance of Project-related VMT. The screening criteria used in the Project analysis are established in the County's Traffic Impact Analysis Guidelines. Pursuant to the Transportation Analysis Guidelines, single family housing projects less than or equal to 110 dwelling units with a greenhouse gas emissions generation of less than 3,000 MTCO2e are considered to have a less-than-significant impact related to VMT. As noted in Section 8(a), the Project is calculated to generate approximately 216.3 MTCO2e per year, which is well below 3,000 MTCO2e. Because the Project would ultimately develop nine dwelling units and generates less than 3,000 MTCO2e, the Project would result in a less-than-significant impact related to VMT. Accordingly, the Project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3(b).

c) IMPACT: Less Than Significant Impact.

The types of traffic generated from the Project (i.e., passenger cars) would be compatible with the type of traffic observed along roadways within the Project vicinity under existing conditions. In addition, prior to development of the Project site, the City will review and approve the proposed architectural plans to ensure all proposed improvements within the public right-of-way would be installed in conformance with City design standards and that no hazardous transportation design features would be introduced through implementation of the Project. In addition, all proposed Project circulation improvements would be designed and constructed to City standards. Accordingly, the Project would not create or substantially increase safety hazards due to a design feature or incompatible use. Impacts would be less than significant.

d) IMPACT: Less Than Significant Impact.

Fire apparatus access for the nine-lot development would include a private road that meets the Fire Code requirements for width, grade, clearance, dead-end length, and turnarounds. Accordingly, the Project would not create or substantially increase safety hazards due to inadequate emergency access. Impacts would be less than significant.

17.3 Mitigation Measures: None required.

18 - Tribal Cultural Resources

TRIBAL CULTURAL RESOURCES – Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section5020.1(k), or	☐	☒	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Source: ArchaeoPaleo Resource Management, Inc., 2024. *Phase I Archaeological and Paleontological Resources Assessment for the Rancho Mirage 9 Lot Subdivision Project, City of Rancho Mirage, Riverside County, California d*ated January 2024 and City of Rancho Mirage, Tribal Consultation Letters dated July 31, 2024 (Appendix I – Tribal Consultation Letters), Agua Caliente Band of Cahuilla Indians Letters dated August 22, 2024 and September 11, 2024, Augustine Band of Cahuilla Indians Letter dated August 6, 2024 and Morongo Band of Mission Indians Letter dated August 12, 2024.

18.1 Setting

The City of Rancho Mirage in their role as Lead Agency contacted all potentially interested tribes identified by the Native American Heritage Commission (NAHC) pursuant to Assembly Bill 52 (AB 52) for information regarding their knowledge of cultural resources that were within or near the Project area. These groups include the following:

- Agua Caliente Band of Cahuilla Indians
- Augustine Band of Cahuilla Indians
- Cabazon Band of Cahuilla Indians

- Cahuilla Band of Indians
- Los Coyotes Band of Cahuilla and Cupeño Indians
- Morongo Band of Mission Indians
- Quechan Tribe of the Fort Yuma Reservation
- Ramona Band of Cahuilla
- Santa Rosa Band of Cahuilla Indians
- Soboba Band of Luiseno Indians
- Torres-Martinez Desert Cahuilla Indians

Additionally, ArchaeoPaleo Resource Management, Inc. (APRMI) staff requested a Sacred Lands File Search and a Native American Contacts list for the Project from the Native American Heritage Commission (NAHC) on September 14, 2023. The NAHC is the State of California's trustee agency for the protection of "tribal cultural resources," as defined by California Public Resources Code Section 21074 and is tasked with identifying and cataloging properties of Native American cultural value throughout the state. The NAHC's search of the Sacred Lands Files, received on November 15, 2023, provided APRMI with a Native American Contacts list. APRMI contacted the tribes, individuals, and organizations listed by phone on November 17th to ensure that the mailing information is correct and to let them know that an informational package regarding the Project, including a Project description, was being sent to them by mail. The Project informational package along with an accompanying letter was sent to them by regular mail, on November 22, 2023. Any written responses to APRMI's outreach can be viewed in Appendix C.

APRMI was contacted telephonically on November 20, 2023, by Patricia Garcia of the Agua Caliente Band of Cahuilla Indians, who expressed concern over the uncovering of cremations near to the Project site. Another member of the Agua Caliente Band of Cahuilla Indians, Xitaly Madrigal, followed up on December 5, 2023, and requested by email AB 52 consultation and the employment of a tribal monitor during construction activities.

18.2 Discussion of Impacts:

a) IMPACT: Less than Significant with Mitigation Incorporated.

The City currently does not have any sites listed within the City's incorporated boundaries on the National Register of Historic Places (NRHP) and the site is not listed in the California Register of Historic Resources (CRHR). Mitigation Measures CR-1 through CR-8 described in Section 5, Cultural Resources, will be applied to Section 18, Tribal Cultural Resources, to ensure the protection of historical resources. Therefore, with implementation of Mitigation Measures CR-1 through CR-8, impacts would be less than significant.

b) IMPACT: Less than Significant with Mitigation Incorporated.

Three tribes (Agua Caliente Band of Cahuilla Indians, Augustine Band of Cahuilla Indians, and Morongo Band of Mission Indians) provided a response to the AB-52 Consultation Request Letter sent by the City of Rancho Mirage by certified mail on July 31, 2024. The Agua Caliente Band of Cahuilla Indians was the only tribe to request a formal consultation in their letter dated August 22, 2024. They concluded their consultation on September 11, 2024 with the recommendation that a condition of approval be added to the Project.

APRMI has recommended that Mitigation Measures TCR-1 and TCR-2 below to be applied to the Project to reduce any potential impacts to a level of insignificance.

18.3 Mitigation Measures:

TCR-1 If buried cultural materials are discovered during the earth-moving operations, all work in that area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds and, if necessary, develop a treatment pan in consultation with the City of Rancho Mirage and the appropriate Native American tribes. The presence of an archaeologist shall meet the Secretary of the Interior's standards during any ground disturbing activities.

TCR-2 During any ground disturbing activities (including any archaeological testing and surveys) the presence of an approved Agua Caliente Native American Cultural Resource Monitor(s) shall be required. Should buried cultural deposits be encountered, the Monitor shall request that destructive construction halt and the Monitor shall notify a Qualified Archaeologist (Secretary of the Interior's Standards and Guidelines) to investigate and, if necessary, prepare a mitigation plan for submission to the State Historic Preservation Officer and the Agua Caliente Tribal Historic Preservation Office.

19 - Utilities and Service Systems

UTILITIES AND SERVICE SYSTEMS – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers' existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statues and regulations related to solid waste?	☐	☐	☐	☒

Sources: Rancho Mirage General Plan 2017; 2020 Coachella Valley Regional Urban Water Management Plan, June 30, 2021; California Department of Resources Recycling and Recovery (CalRecycle) Estimated Solid Waste Generation Rate, 2006; Cal Recycle Solid Waste Information System, 2019.

19.1 Setting

Domestic Water

Domestic water for the majority of the City is provided by the Coachella Valley Water District (CVWD). Groundwater is the principal source of municipal water supply in the Coachella Valley. The main groundwater source for the entire valley is the Coachella Valley Groundwater Basin, Indio Subbasin, and the Whitewater River Subbasin. The Whitewater River Subbasin underlies a major portion of the valley floor and encompasses approximately 400 square miles.

Wastewater

Most CVWD domestic water customers also receive sewer services from CVWD. Nearly 6.3 billion gallons of wastewater are treated annually. CVWD operates six water reclamation plants and maintains more than 1,000 miles of sewer pipelines and more than 30 lift stations that collect and transport wastewater to the nearest water reclamation facility.

Solid Waste

The City currently contracts with Burrtec to provide solid waste collection and disposal management services. Municipal solid waste generated in the City is taken to the Edom Hill Transfer Station, which has a maximum permitted throughput of 3,500 tons per day and a permitted capacity of 3,500 tons per day for general waste.

19.2 Discussion of Impacts:

a. & b.) IMPACT: Less than Significant Impact.

Domestic Water

CVWD is responsible for supplying potable water to the Project site. As discussed in the 2020 CVWD Urban Water Management Plan, herein incorporated by reference as "UWMP," adequate water supplies are projected to be available to meet CVWD's estimated water demand through 2040 under normal, historic, single-dry, and historic multiple-dry year conditions. CVWD forecasts for projected water demand are based on the population projections of Southern California of Associated Governments (SCAG), which rely on the adopted land use designations contained within the general plans that cover the geographic area within CVWD's service. The water use projections utilized in the 2020 CVWD UWMP were based on the site's existing "Very Low Density Residential" land use designation on the City of Rancho Mirage Land Use Map. Because the Project would be consistent with the existing land use designation, CVWD would have sufficient water supplies available to serve the Project from existing entitlements/resources and no expanded entitlements are needed.

Future single family residences are expected to use less water than existing properties due to the mandated use of high efficiency plumbing fixtures under the CALGreen building standards and reduced landscape water use mandated by CVWD's Landscape Ordinance. Additionally, the Project would be required to implement all water conservation measures imposed by the CVWD under normal as well as drought conditions over the life of the Project. These include requirements of Executive Order B-29-15, mandating reductions in water use by 36% in the Coachella Valley. The Project would tie into the existing domestic water line beneath Ginger Rogers Road. No new wells or additional water infrastructure or entitlements will be required. Therefore, the Project would have a less-than-significant impact.

Stormwater

The City requires on-site detention and/or retention basins for all new developments to manage surface water flows and reduce runoff from sources such as stormwater and landscape irrigation. The Project complies with this requirement by including on-site retention basins to ensure stormwater is retained on-site. Additional measures to address onsite stormwater management are described in Section 3.10, Hydrology and Water Quality. Project-related impacts to stormwater management systems are expected to be less-than-significant.

c) IMPACT: Less than Significant Impact.

Wastewater generated from the Project site would be treated through the CVWD. CVWD's wastewater reclamation system collects and treats approximately 17 million gallons per day (MGD). The wastewater collection system consists of approximately 1,100 miles of collection piping and includes 35 sewer lift stations and associated force mains. Wastewater generated by the Project will be conveyed to CVWD WRP-10 in Palm Desert. The design capacity of the secondary treatment is 18 MGD with a current tertiary treatment capacity of 15 MGD (16,800 AFY). Based on the 2020 UWMP, WRP-10 treated approximately 8 MGD (9,238 AFY) of wastewater in 2020. The Project would generate a minimal increase in wastewater, which has already been accounted for in the City's General Plan. Therefore, the Project would not result in a significant impact.

The Project would tie into the existing sanitary sewer line located beneath Ginger Rogers Road, and wastewater would be transported to Coachella's Wastewater Treatment Plan (WWTP). The WWTP implements all applicable requirements of the Colorado River Basin Regional Water Quality Control Board, and no violations of wastewater treatment requirements are anticipated. Therefore, the Project would have a less-than-significant impact.

d) IMPACT: Less than Significant Impact.

Solid waste disposal and recycling services for the City of Rancho Mirage is provided by Burrtec. Solid waste and recycling collected from the proposed project will be hauled to the Edom Hill Transfer Station. Waste from this transfer station is then sent to a permitted landfill or recycling facility outside of the Coachella Valley. These include Badlands Disposal Site, El Sobrante Sanitary Landfill and Lamb Canyon Disposal Site. Cal-Recycle data indicates the Badlands Disposal site has 15,748,799 cubic yards of remaining capacity, the El Sobrante Landfill has a remaining capacity of 143,977,170 tons of solid waste, and Lamb Canyon Disposal has a remaining solid waste capacity of 19,242,950 cubic yards.

Pursuant to AB 939, at least 50 percent of the Project's solid waste is required to be diverted from landfills; therefore, the project would generate a maximum of 0.05 tons of solid waste per day requiring landfilling.

Non-recyclable solid waste generated during long-term operation of the project would be disposed of at the Edom Hill Transfer Station. As described above, these landfills receive well below their maximum permitted daily disposal volume; thus, waste generated by the Project's operation is not anticipated to cause the landfill to exceed its maximum permitted daily disposal

volume. Because the Project would generate a negligible amount of solid waste per day as compared to the permitted daily capacities at receiving landfills, impacts to regional landfill facilities during the Project's long-term operational activities would be less than significant.

e) IMPACT: No Impact.

The proposed project, like all other developments in Rancho Mirage and Riverside County, would be required to adhere to City and County ordinances with respect to waste reduction and recycling. As a result, no impacts related to State and local statutes governing solid waste are anticipated.

19.3 Mitigation Measures: None required.

20 - Wildfire

WILDFIRE – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Sources: Rancho Mirage General Plan 2017, General Plan Fire Safety Element 2022, and State of California, Department of Forestry and Fire Protection, 2025, Fire Hazard Severity Zone Viewer.

20.1 Setting

The California Department of Forestry and Fire Protection (CAL FIRE) ranks fire hazards of wildland areas in the state using four main criteria: fuels, weather, assets at risk, and level of service. There are no state responsibility areas (SRAs) in the City of Rancho Mirage. As of March 24, 2025, there are no Very High Fire Hazard Severity Zone designations within the City. There are Moderate Fire Hazard Severity Zone designations in the Local Responsibility Area (LRA) within the City in the southern end of the City near the Santa Rosa Mountains, away from

the Project site. Historical record indicates that the wildland fire hazard in Rancho Mirage is relatively low.

20.2 Discussion of Impacts:

a) IMPACT: Less Than Significant Impact.

The Project site is not located within a fire zone classified as either a State Responsibility Area (SRA) or a Very High Fire Hazard Severity Zone. Surface streets that would be improved would serve the project site and adjacent area. Furthermore, the proposed project would not involve the closure or alteration of any existing evacuation routes that would be important in the event of a wildfire. At no time during construction will adjacent streets be completely closed to traffic. All construction staging must occur on-site. As a result, a less than significant impact would occur.

b) IMPACT: Less Than Significant Impact.

The Project site is located in an urbanized area. The Project has a very limited potential to exacerbate wildfire risks by placing new residential buildings in proximity to the mountain slopes. However, all proposed buildings and improvements would be on the low-lying valley floor. Most existing vegetation would be cleared during construction and replaced by structures and paved surfaces. New landscape vegetation would be carefully maintained and watered regularly, limiting the possibility for vegetation fires to ignite and spread. Potentially hazardous and/or combustible materials onsite will be handled, used, and stored in compliance with applicable regulations and guidelines to reduce potential fire hazards (see Section 9, Hazards and Hazardous Materials). The proposed project may be exposed to particulate emissions generated by wildland fires. However, the potential impacts would not be exclusive to the project site since criteria pollutant emissions from wildland fires may affect the entire City as well as the surrounding cities and unincorporated county areas. As a result, a less than significant impact would occur.

c) IMPACT: Less Than Significant Impact.

The project site is not located in an area that is classified as a moderate fire risk severity within a State Responsibility Area (SRA) and therefore will not require the installation of specialized infrastructure such as fire roads, fuel breaks, or emergency water sources. The Project would not result in installation or maintenance of infrastructure that may exacerbate fire risks, such as roads, emergency water sources, or utilities. Utility extensions would be limited to parcel-level improvements. Impacts would be less than significant.

d) IMPACT: Less Than Significant Impact.

The Project is not expected to increase exposure of people or structures to significant fire or fire-related risks, including downslope or downstream flooding or landslides, resulting from runoff, post-fire slope instability, or drainage changes. The City maintains a Local Hazard Mitigation Plan that addresses the planned response to extraordinary emergency situations, including natural and human-caused disasters. In addition, the City of Rancho Mirage participates in the Riverside County Multi-Jurisdictional Local Hazard Mitigation Plan. The Project would not impair the adopted emergency response plan. In conclusion, impacts would be less than significant.

20.3 Mitigation Measures: None required.

21 - Mandatory Findings of Significance

MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

21.1 Discussion of Impacts:

a) IMPACT: Less than Significant with Mitigation Incorporated.

All impacts to the environment, including impacts to habitat for fish and wildlife species, fish and wildlife populations, plant and animal communities, rare and endangered plants and animals, and historical and pre-historical resources were evaluated as part of this IS/MND. Throughout this IS/MND, where impacts were determined to be potentially significant, mitigation measures have been imposed to reduce those impacts to less than significant. Accordingly, with incorporation of the mitigation measures imposed throughout this IS/MND, the Project would not substantially degrade the quality of the environment, substantially reduce

the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. Impacts would be reduced to less than significant levels with mitigation incorporated.

b) IMPACT: No Impact.

The proposed project would not have impacts that are individually limited, but cumulatively considerable. The environmental impacts will not lead to a cumulatively significant impact on any of the issues analyzed herein.

c) Impact: Less than Significant.

The Project's potential to result in environmental effects that could adversely affect human beings, either directly or indirectly, has been discussed throughout this IS/MND. All Project environmental impacts would be less than significant. The Project would therefore not result in environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly.

21.2 Mitigation Measures:

Table 9 Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program			
Mitigation Measure	**Responsible Agency**	**Timing**	**Verification (Date and Initials)**
AESTHETICS			
No mitigation was required.			
AGRICULTURAL RESOURCES			
No mitigation was required.			
AIR QUALITY			
No mitigation was required.			
BIOLOGICAL RESOURCES			
BIO-1 Pre-construction burrowing owl surveys shall be conducted no less than 14 days prior to the start of Project-related activities and within 24 hours prior to ground disturbance, in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012 or most recent version). Pre-construction surveys shall be performed by a qualified biologist following the recommendations and guidelines provided in the Staff Report on Burrowing Owl Mitigation. If the pre-construction surveys confirm occupied burrowing owl habitat, Project activities shall be immediately halted. The qualified biologist shall coordinate with the California Department of Fish & Wildlife (CDFW) and United State Fish & Wildlife Service (USFWS) to	Project Proponent Project Biologist City of Rancho Mirage	Project Proponent shall provide the City with pre-construction surveys prior to the issuance of any permit to allow ground disturbance.	

conduct an impact assessment to develop avoidance and minimization measures to be approved by CDFW prior to commencing Project activities. **BIO-2** Nesting bird surveys shall be performed by a qualified avian biologist no more than (3) days prior to vegetation removal or ground-disturbing activities. Pre-construction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist shall make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the preconstruction nesting bird surveys, a qualified biologist shall establish an appropriate nest buffer to be marked on the ground. Nest buffers are species specific and shall be at least 300 feet for passerines and 500 feet for raptors. A smaller or larger buffer may be determined by the qualified biologist familiar with the nesting phenology of the nesting species and based on nest and buffer monitoring results. Established buffers shall remain on-site until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests and adequacy of the established buffer distance shall be monitored daily by the qualified biologist until the qualified biologist has determined the young have fledged or the Project has been completed. The qualified biologist shall have the authority to stop work if nesting pairs exhibit signs of disturbance.			
BIO-3 Prior to construction and issuance of any grading permit, the City of Rancho Mirage and project applicant shall ensure compliance with the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) and its associated Implementing Agreement, and the City shall ensure the collection of payment of the CVMSHCP Local Development Mitigation Fee.	Project Proponent City of Rancho Mirage Coachella Valley Conservation Commission	Prior to commencement of construction	
CULTURAL RESOURCES			
CR-1 Prior to the start of Project excavation, a qualified archaeologist shall be retained and create a Worker's Environmental Awareness Program (WEAP) pamphlet that will be prepared by the Project Archaeologist and provided as during the training class to Project personnel, so they understand the regulatory requirements for the protection of cultural resources. This training class shall include examples of cultural resources to look	Project Proponent Project Archaeologist City of Rancho Mirage	Prior to commencement of construction and until construction is complete.	

for during project excavation and the protocols to follow if discoveries are made. **CR-2** Archaeological resources monitoring shall be conducted by a professional archaeological resources monitor during Project related earth-disturbing activities, per Office of Historic Preservation (OHP) standards, under the supervision of a qualified Project Archaeologist. Monitoring will entail visual inspection of Project related earth-disturbing activities in native soil. **CR-3** As requested by the Agua Caliente Band of Cahuilla Indians, an approved Native American monitor, with documented ancestral ties to the area consistent with the standards of the Native American Heritage Commission (NAHC), shall be present for all ground disturbing activities that involve excavation of previously undisturbed soil, until the archaeologist and Native American monitor deems that they are no longer in soil that may contain prehistoric and/or historic artifacts, sites, or features. Monitoring will entail visual inspection of all Project-related earth-disturbing activities. **CR-4** If an archaeological resource is encountered during excavation when a monitor is not on site, all excavation shall cease within at least 50 feet of the discovery and the Principal Investigator and Lead Archaeologist must be notified. Work cannot resume in the direct area of the discovery until it is assessed by the Principal Investigator and/or Lead Archaeologist and indicates that excavation can resume. **CR-5** If an archaeological discovery cannot be preserved in situ and requires an excavation team or requires additional time to collect cultural resources, a Discovery and Treatment Plan (DTP) will be developed by the Lead Archaeologist, and the area will be cordoned off and secured so that an archaeological resources excavation team, led by the Principal Investigator and Lead Archaeologist, may recover the cultural resources out of that area. Once the Principal Investigator has determined that the collection process is complete for a given area or locality, construction activity will resume in that localized area. **CR-6** If human remains are encountered, work on			

the project will be suspended and the City of Rancho Mirage will be contacted immediately. The City of Rancho Mirage will contact the Riverside County coroner. If the remains are deemed Native American in origin, the coroner will contact the NAHC, which will identify a most likely descendant in compliance with Public Resources Code Section 5097.98 and California Code of Regulations Section 15064.5. The most likely descendant will have up to 48 hours to visit the site and make recommendations as to the treatment and final deposition of the remains. Work may be resumed at the landowner's discretion but will only commence after consultation and treatment have been concluded to the satisfaction of the lead agency. **CR-7** All significant cultural resources collected by the archaeologist will be prepared in a properly equipped laboratory to a point ready for curation. All significant artifacts collected will be prepared in a properly equipped archaeological laboratory to a point ready for curation. Artifacts will be identified, photographed, catalogued, analyzed, and delivered to an accredited museum repository for permanent curation and storage or to the appropriate Tribe. Accompanying notes, maps, and photographs shall also be filed at the repository. The cost of curation is assessed by the repository and is the responsibility of the Project proponent. **CR-8** At the conclusion of laboratory work but prior to museum curation, a final (negative or positive) findings report will be prepared describing the results of the cultural mitigation monitoring efforts associated with the project. The report will include a summary of the field and laboratory methods, an overview of the cultural background within the project vicinity, a list of cultural resources recovered (if any), an analysis of cultural resources recovered (if any) and their scientific significance, and recommendations. A copy of the report will be prepared for the City of Rancho Mirage, the EIC, and be submitted to the designated museum repository (if applicable).			
GEOLOGY AND SOILS			
GEO-1 Prior to the commencement of grading or excavation activities, the Lead Paleontologist retained for the construction of Rancho Mirage 9 Lot Subdivision Project, shall create a Worker's Environmental Awareness Program (WEAP)	Project Proponent Project Engineer	Prior to commencement of construction and until construction is	

pamphlet that will be prepared and provided by the Project Paleontologist and provided as during the training class to Project personnel, so they understand the regulatory requirements for the protection of paleontological resources. This training class shall include examples of paleontological resources to look for during project excavation and the protocols to follow if discoveries are made. **GEO-2** In the event that a paleontological resource is encountered when a monitor is not on site, all construction shall cease within at least 50 feet of the discovery and the Principal Investigator and/or Lead Paleontologist must be notified immediately. If the monitor is present at the time of discovery, then the monitor will have the authority to temporarily divert the construction equipment around the find and notify the Principal Investigator and/or Lead Paleontologist until it is assessed for scientific significance. Work cannot resume in the direct area of the discovery until it is assessed by the Principal Investigator and/or Lead Paleontologist, and he/she indicates that construction can resume. **GEO-3** In the event that a paleontological resource is encountered, the Lead Paleontologist will implement the Paleontological Management Treatment Plan (PMTP) prepared for Rancho Mirage 9 Lot Subdivision Project. The purpose of the PMTP is to achieve compliance with the California Environmental Quality Act (CEQA), and local governmental agencies concerning the treatment of unexpected paleontological finds which are significant at the federal, state, and/or local level. Based on the sensitivity of the area, APRMI recommends the following monitoring mitigation measures that would comply with the Paleontological Management Treatment Plan and reduce the potential effects to any paleontological resource to a less than significant impact. **GEO-4** If a paleontological discovery requires an excavation team or requires additional time to collect specimens, or the size of the discovery is more than a monitor can collect during standard daily monitoring services, a Discovery and Treatment Plan (DTP) will be developed and the area will be cordoned off and secured so that a paleontological resources excavation team, led by the Principal Investigator and/or Lead Paleontologist, may recover	Project Paleontologist City of Rancho Mirage	complete.	

the fossilized specimens out of that area once the DTP has been approved. Once the Principal Investigator and/or Lead Paleontologist has determined that the collection process is complete for a given area or locality, construction activity will resume in that localized area. **GEO-5** Once construction activities are complete, all significant fossils collected will be prepared in a properly equipped paleontology laboratory to a point ready for curation. Laboratory preparation will include, but not be limited to, the careful removal of excess matrix from fossil remains, stabilizing and repairing specimens, identified to the lowest taxonomic level, analyzed, photographed, and catalogued before they are sent to the local repository for curation and permanent storage. Accompanying notes, maps, and photographs shall also be filed at the repository. The cost of curation is assessed by the repository and is the responsibility of the Project proponent. **GEO-6** At the conclusion of laboratory work and museum curation, a final report of findings will be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report will include a summary of the field and laboratory methods, an overview of the geology and paleontology in the project vicinity, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. If the monitoring efforts produced fossils, then a copy of the report will also be submitted to a designated museum repository.			
GREENHOUSE GAS EMISSIONS			
No mitigation was required.			
HAZARDS AND HAZARDOUS MATERIALS			
No mitigation was required.			
HYDROLOGY AND WATER QUALITY			
No mitigation was required.			
LAND USE AND PLANNING			
No mitigation was required.			
MINERAL RESOURCES			
No mitigation was required.			
NOISE			
No mitigation was required.			
POPULATION AND HOUSING			
No mitigation was required.			
PUBLIC SERVICES			
No mitigation was required.			

RECREATION			
No mitigation was required.			
TRANSPORTATION/TRAFFIC			
No mitigation was required.			
TRIBAL CULTURAL RESOURCES			
TCR-1 If buried cultural materials are discovered during the earth-moving operations, all work in that area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds and, if necessary, develop a treatment pan in consultation with the City of Rancho Mirage and the appropriate Native American tribes. The presence of an archaeologist shall meet the Secretary of the Interior's standards during any ground disturbing activities. **TCR-2** During any ground disturbing activities (including any archaeological testing and surveys) the presence of an approved Agua Caliente Native American Cultural Resource Monitor(s) shall be required. Should buried cultural deposits be encountered, the Monitor shall request that destructive construction halt and the Monitor shall notify a Qualified Archaeologist (Secretary of the Interior's Standards and Guidelines) to investigate and, if necessary, prepare a mitigation plan for submission to the State Historic Preservation Officer and the Agua Caliente Tribal Historic Preservation Office.	Project Proponent City of Rancho Mirage Project Archaeologist	Prior to commencement of construction and until construction is complete.	
UTILITIES AND SERVICE SYSTEMS			
No mitigation was required.			

CHAPTER 3: REFERENCES

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CHAPTER 4: APPENDICES

Appendix A Ganddini Group, Inc., TTM 38636 Air Quality, Global Climate Change, and Energy Impact Analysis, City of Rancho Mirage dated October 24, 2023.

Appendix B Natural Resources Assessment, Inc., General Biological Assessment Single-family Residential Subdivision Tentative Tract Map – TTM 23-0001 (TTM38636) Environmental Assessment – EA23-0003 APN 685-080-002 Rancho Mirage, California dated January 18, 2024.

Appendix C ArchaeoPaleo Resource Management, Inc., Phase I Archaeological and Paleontological Resources Assessment for the Rancho Mirage 9 Lot Subdivision Project, City of Rancho Mirage, Riverside County, California dated January 2024.

Appendix D Sampson and Associates, Preliminary Soils Evaluation (9) New Single-Family Residences on TTM No. 38636 in the City of Rancho Mirage, California dated March 03, 2023.

Appendix E Sampson and Associates, Infiltration Evaluation, New Single-Family Residences on TTM No. 38636 in the City of Rancho Mirage, California dated March 04, 2023.

Appendix F S.D. Engineering and Associates, Preliminary Hydrology Study and Hydraulics Report for Tentative Tract Map No. 38636 dated April 28, 2023.

Appendix G S.D. Engineering and Associates, Project Specific Water Quality Management Plan for Tentative Tract Map No. 38636 dated April 28, 2023.

Appendix H Ganddini Group, Inc., TTM 38636 Noise Impact Analysis, City of Rancho Mirage dated October 20, 2023.

Appendix I Tribal Consultation Letters, City of Rancho Mirage.

Appendix J Agency Comment Letters.

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Appendix A Air Quality, Global Climate Change, and Energy Impact Analysis, dated October 24, 2023

TTM 38636
AIR QUALITY, GLOBAL CLIMATE CHANGE, AND ENERGY IMPACT ANALYSIS

City of Rancho Mirage

October 24, 2023

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

TTM 38636
AIR QUALITY, GLOBAL CLIMATE CHANGE, AND ENERGY IMPACT ANALYSIS

City of Rancho Mirage

October 24, 2023

prepared by
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Project No. 19669

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EXECUTIVE SUMMARY

The purpose of this air quality, global climate change, and energy impact analysis is to provide an assessment of the impacts resulting from development of the proposed TTM 38636 project and to identify measures that may be necessary to reduce potentially significant impacts.

Construction-Source Emissions

Project construction-source emissions would not exceed applicable regional thresholds of significance established by the South Coast Air Quality Management District (SCAQMD). For localized emissions, the project will not exceed applicable Localized Significance Thresholds (LSTs) established by the SCAQMD.

Project construction-source emissions would not conflict with the Basin Air Quality Management Plan (AQMP). As discussed herein, the project will comply with all applicable SCAQMD construction-source emission reduction rules and guidelines. Project construction source emissions would not cause or substantively contribute to violation of the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS).

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less than significant.

Operational-Source Emissions

Project operational-sourced emissions would not exceed applicable regional thresholds of significance established by the SCAQMD. Project operational-source emissions would not result in or cause a significant localized air quality or toxic air contaminant (TAC) impacts as discussed in the Operations-Related Local Air Quality Impacts section of this report. Additionally, project-related trips will not cause or result in CO concentrations exceeding applicable state and/or federal standards (CO "hotspots). The project is residential use and will not be a significant source of TACs. Therefore, project operational-source emissions would not adversely affect sensitive receptors within the vicinity of the project.

Project operational-source emissions would not conflict with the Basin Air Quality Management Plan (AQMP). The project's emissions meet SCAQMD regional thresholds and will not result in a significant cumulative impact. The project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential operational-source odor impacts are therefore considered less than significant.

Greenhouse Gases

Project-related greenhouse gas (GHG) emissions would not exceed the SCAQMD draft screening threshold of 3,000 $MTCO_2e$ per year for all land uses. Furthermore, the project would not conflict with the goals of the City of Rancho Mirage's Sustainability Plan and Energy Action Plan, AB-32, SB-32, or the CARB Scoping Plan; therefore, the project would not conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases and impacts are considered to be less than significant.

Energy

For new developments such as that proposed by the TTM 38636 project, compliance with California Building Standards Code Title 24 energy efficiency requirements (CALGreen), are considered demonstrable evidence

of efficient use of energy. As discussed below, the project would provide for, and promote, energy efficiencies required under other applicable federal and State of California standards and regulations, and in so doing would meet or exceed all California Building Standards Code Title 24 standards. Moreover, energy consumed by the project's operation is calculated to be comparable to, or less than, energy consumed by other residential uses of similar scale and intensity that are constructed and operating in California. On this basis, the project would not result in the inefficient, wasteful, or unnecessary consumption of energy. Impacts are considered to be less than significant.

1. INTRODUCTION

This section describes the purpose of this air quality, global climate change, and energy impact analysis, project location, proposed development, and study area. Figure 1 shows the project location map and Figure 2 illustrates the project site plan.

PURPOSE AND OBJECTIVES

This study was performed to address the possibility of regional/local air quality impacts and global climate change impacts, from project related air emissions. The objectives of the study include:

- documentation of the atmospheric setting
- discussion of criteria pollutants and greenhouse gases
- discussion of the air quality and global climate change regulatory framework
- discussion of the air quality and greenhouse gases thresholds of significance
- analysis of the construction related air quality and greenhouse gas emissions
- analysis of the operations related air quality and greenhouse gas emissions
- analysis of the conformity of the proposed project with the SCAQMD AQMP
- analysis of the project's energy use during construction and operation
- recommendations for mitigation/emissions reduction measures

The City of Rancho Mirage is the lead agency for this air quality, greenhouse gas, and energy analysis, in accordance with the California Environmental Quality Act authorizing legislation. Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with terms unique to air quality and global climate change, a definition of terms has been provided in Appendix A.

PROJECT LOCATION

The 5.04-acre project site is located at the northeast corner of the intersection of Landy Lane and Ginger Rogers Drive in the City of Rancho Mirage, California. The project site is currently vacant. A vicinity map showing the project location is provided on Figure 1.

PROJECT DESCRIPTION

The proposed project involves development of a single-family residential subdivision consisting of nine (9) lots. Figure 2 illustrates the proposed site plan.

PHASING AND TIMING

The project is anticipated to be built in one phase with project construction anticipated to start no sooner than January 2025. However, the duration of construction is unknown at this time. Therefore, CalEEMod default construction timing was utilized in this analysis. Based on CalEEMod defaults, with a start date of January 2025 the project is anticipated to be completed early February 2026 and be operational in 2026. The construction schedule utilized in the analysis represents a "worst-case" analysis scenario even if construction was to occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.[1]

[1] As shown in the California Emissions Estimator Model (CalEEMod) User's Guide Version 2020.4.0, Section 4.3.2 "OFFROAD Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

Sensitive Receptors in Project Vicinity

Those who are sensitive to air pollution include children, the elderly, and persons with preexisting respiratory or cardiovascular illness. For purposes of CEQA, the SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24 hours, such as residences, hospitals, or convalescent facilities (South Coast Air Quality Management District 2008). Commercial and industrial facilities are not included in the definition because employees do not typically remain on-site for 24 hours.

The nearest sensitive receptors to the boundaries of the focus area of the project site are the existing single-family residential uses located adjacent to the north and east of the project site and approximately 566 feet (~172 meters) to the southwest, 590 feet (~180 meters) to the west, 1,340 feet (~408 meters) to the south, and 1,296 feet (~395 meters) to the southeast of the project site. Other air quality sensitive land uses are located further from the project site and would experience lower impacts.

Figure 1
Project Location Map

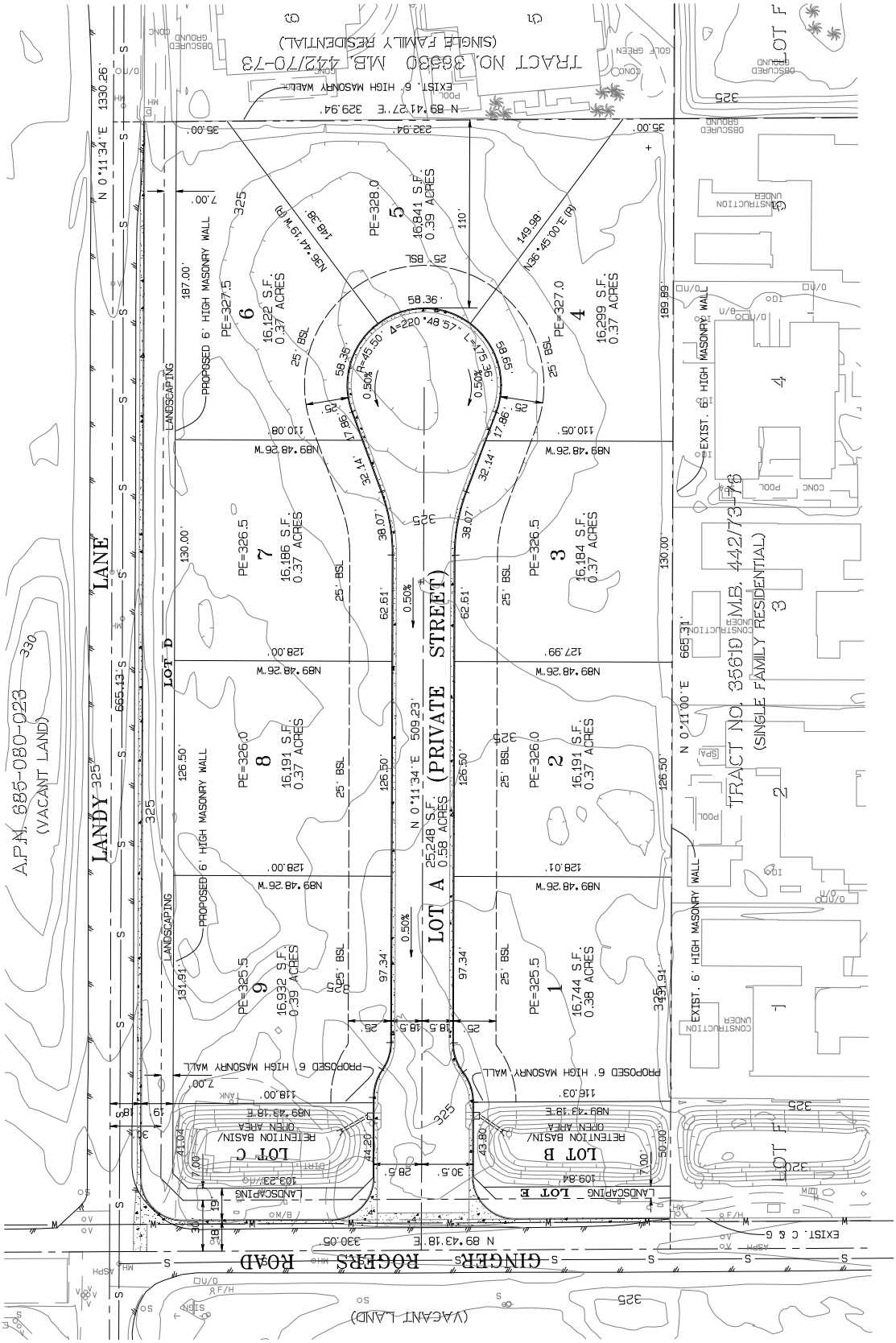

Figure 2
Site Plan

2. AIR QUALITY ANALYSIS

EXISTING AIR QUALITY CONDITIONS

Local Air Quality

The project is located within the City of Rancho Mirage and is within the Salton Sea Air Basin (SSAB). The middle part of Riverside County (between San Gorgonio Pass and Joshua Tree National Monument), belongs in the Salton Sea Air Basin (SSAB), along with Imperial County. Air quality conditions in this portion of the County, although in the SSAB, are also administered by the SCAQMD. The SCAQMD is responsible for the development of the regional Air Quality Management Plan and efforts to regulate pollutant emissions from a variety of sources.

The SSAB portion of Riverside County is separated from the South Coast Air Basin region by the San Jacinto Mountains and from the Mojave Desert Air Basin to the east by the Little San Bernardino Mountains. During the summer, the SSAB is generally influenced by a Pacific Subtropical High Cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The SSAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist and unstable air masses from the south. The SSAB averages between three and seven inches of precipitation per year.

The Coachella Valley is a geographically and meteorologically unique area wholly contained within the Salton Sea Air Basin. The region is currently impacted by significant air pollution levels caused by the transport of pollutants from coastal air basins to the west, primarily ozone, and locally generated PM10. The mountains surrounding the region isolate the Valley from coastal influences and create a hot and dry low-lying desert (see Table 1). As the desert heats up, it draws cooler coastal air through the narrow San Gorgonio Pass, generating strong and sustained winds that cross the fluvial (water caused) and aeolian (wind) erosion zones in the Valley. These strong winds suspend and transport large quantities of sand and dust, reducing visibility, damaging property, and constituting a significant health threat.

The SSAB portion of Riverside County, in relation to other areas in Southern California, has good air quality. In the past few decades, however, noticeable deterioration of air quality has occurred due to increased development and population growth, traffic, construction activity, and various site disturbances. It is apparent that although air pollution is emitted from various sources in the Coachella Valley, substantial degradation of air quality may be attributed primarily to sources outside of the Valley.

Table 1
Local Monthly Climate Data

Descriptor	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg. Max. Temperature	70.6	74	80.6	87.7	95.6	103.4	108	107	101.5	91.1	76	69.8
Avg. Min. Temperature	45.3	48	52.3	57.5	64.4	71	77.3	77.4	71.5	62.4	50.3	44.8
Avg. Total Precipitation (in.)	1.17	1.04	0.52	0.08	0.02	0.03	0.13	0.29	0.21	0.26	0.32	0.92

Notes:
(1) Source: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6635
Data taken from the Palm Springs, CA station (046635).

Pollutants

Pollutants are generally classified as either criteria pollutants or non-criteria pollutants. Federal ambient air quality standards have been established for criteria pollutants, whereas no ambient standards have been established for non-criteria pollutants. For some criteria pollutants, separate standards have been set for different periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions). A summary of federal and state ambient air quality standards is provided in the Regulatory Framework section.

Criteria Pollutants

The criteria pollutants consist of: ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, lead, and particulate matter. These pollutants can harm your health and the environment, and cause property damage. The Environmental Protection Agency (EPA) calls these pollutants "criteria" air pollutants because it regulates them by developing human health-based and/or environmentally-based criteria for setting permissible levels. The following provides descriptions of each of the criteria pollutants.

Nitrogen Dioxides

Nitrogen Oxides (NOx) is the generic term for a group of highly reactive gases which contain nitrogen and oxygen. While most NOx are colorless and odorless, concentrations of nitrogen dioxide (NO_2) can often be seen as a reddish-brown layer over many urban areas. NOx form when fuel is burned at high temperatures, as in a combustion process. The primary manmade sources of NOx are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuel. NOx reacts with other pollutants to form, ground-level ozone, nitrate particles, acid aerosols, as well as NO_2, which cause respiratory problems. NOx and the pollutants formed from NOx can be transported over long distances, following the patterns of prevailing winds. Therefore, controlling NOx is often most effective if done from a regional perspective, rather than focusing on the nearest sources.

Ozone

Ozone (O_3) is not usually emitted directly into the air but at ground-level is created by a chemical reaction between NOx and volatile organic compounds (VOC) in the presence of sunlight. Motor vehicle exhaust, industrial emissions, gasoline vapors, chemical solvents as well as natural sources emit NOx and VOC that help form ozone. Ground-level ozone is the primary constituent of smog. Sunlight and hot weather cause ground-level ozone to form with the greatest concentrations usually occurring downwind from urban areas. Ozone is subsequently considered a regional pollutant. Ground-level ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. Because NOx and VOC are ozone precursors, the health effects associated with ozone are also indirect health effects associated with significant levels of NOx and VOC emissions.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide. In cities, 85 to 95 percent of all CO emissions may come from motor vehicle exhaust. Other sources of CO emissions include industrial processes (such as metals processing and chemical manufacturing), residential wood burning, and natural sources such as forest fires. Woodstoves, gas stoves, cigarette smoke, and unvented gas and kerosene space heaters are indoor sources of CO. The highest levels of CO in the outside air typically occur during the colder months of the year when inversion conditions are more frequent. The air pollution becomes trapped near the ground beneath a layer of warm air. CO is described as having only a local influence because it dissipates quickly. Since CO concentrations are strongly associated with motor vehicle emissions, high CO concentrations generally occur in the immediate vicinity of roadways with high

traffic volumes and traffic congestion, active parking lots, and in automobile tunnels. Areas adjacent to heavily traveled and congested intersections are particularly susceptible to high CO concentrations.

CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream. The health threat from lower levels of CO is most serious for those who suffer from heart disease such as angina, clogged arteries, or congestive heart failure. For a person with heart disease, a single exposure to CO at low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. High levels of CO can affect even healthy people. People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. At extremely high levels, CO is poisonous and can cause death.

Sulfur Dioxide

Sulfur Oxide (SOx) gases (including sulfur dioxide [SO2]) are formed when fuel containing sulfur, such as coal and oil is burned, and from the refining of gasoline. SOx dissolve easily in water vapor to form acid and interacts with other gases and particles in the air to form sulfates and other products that can be harmful to people and the environment.

Lead

Lead (Pb) is a metal found naturally in the environment as well as manufactured products. The major sources of lead emissions have historically been motor vehicles and industrial sources. Due to the phase out of leaded gasoline, metal processing is now the primary source of lead emissions to the air. High levels of lead in the air are typically only found near lead smelters, waste incinerators, utilities, and lead-acid battery manufacturers. Exposure of fetuses, infants and children to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure.

Particulate Matter

Particulate matter (PM) is the term for a mixture of solid particles and liquid droplets found in the air. Particulate matter is made up of a number of components including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health problems. Particles that are less than 10 micrometers in diameter (PM10) are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. Particles that are less than 2.5 micrometers in diameter (PM2.5) have been designated as a subset of PM10 due to their increased negative health impacts and its ability to remain suspended in the air longer and travel further.

Reactive Organic Gases (ROG)

Although not a criteria pollutant, reactive organic gases (ROGs), or VOCs, are defined as any compound of carbon—excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROGs and VOCs, the two terms are often used interchangeably. Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM10 and lower visibility.

Other Pollutants of Concern

Toxic Air Contaminants

In addition to the above-listed criteria pollutants, toxic air contaminants (TACs) are another group of pollutants of concern. Sources of toxic air contaminants include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least forty different toxic air contaminants. The most important of these toxic air contaminants, in terms of health risk, are diesel particulates, benzene, formaldehyde, 1,3-butadiene, and acetaldehyde. Public exposure to toxic air contaminants can result from emissions from normal operations as well as from accidental releases. Health effects of toxic air contaminants include cancer, birth defects, neurological damage, and death.

Toxic air contaminants are less pervasive in the urban atmosphere than criteria air pollutants, however they are linked to short-term (acute) or long-term (chronic or carcinogenic) adverse human health effects. There are hundreds of different types of toxic air contaminants with varying degrees of toxicity. Sources of toxic air contaminants include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), and motor vehicle exhaust.

According to the 2013 California Almanac of Emissions and Air Quality, the majority of the estimated health risk from toxic air contaminants can be attributed to relatively few compounds, the most important of which is diesel particulate matter (DPM). Diesel particulate matter is a subset of PM2.5 because the size of diesel particles are typically 2.5 microns and smaller. The identification of diesel particulate matter as a toxic air contaminant in 1998 led the California Air Resources Board (CARB) to adopt the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles in September 2000. The plan's goals are a 75-percent reduction in diesel particulate matter by 2010 and an 85-percent reduction by 2020 from the 2000 baseline. Diesel engines emit a complex mixture of air pollutants, composed of gaseous and solid material. The visible emissions in diesel exhaust are known as particulate matter or PM, which includes carbon particles or "soot". Diesel exhaust also contains a variety of harmful gases and over 40 other cancer-causing substances. California's identification of diesel particulate matter as a toxic air contaminant was based on its potential to cause cancer, premature deaths, and other health problems. Exposure to diesel particulate matter is a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. Overall, diesel engine emissions are responsible for the majority of California's potential airborne cancer risk from combustion sources.

Asbestos

Asbestos is listed as a TAC by the ARB and as a Hazardous Air Pollutant by the EPA. Asbestos occurs naturally in mineral formations and crushing or breaking these rocks, through construction or other means, can release asbestiform fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. The risk of disease is dependent upon the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma. Naturally occurring asbestos is not present in Riverside County. The nearest likely locations of naturally occurring asbestos, as identified in the General Location Guide for Ultramafic Rocks in California prepared by the California Division of Mines and Geology, is located at Asbestos Mountain in the San Jacinto Valley; approximately 12 miles southwest of the site. Due to the distance to the nearest natural occurrences of asbestos, the project site is not likely to contain asbestos.

REGULATORY SETTING

The proposed project is addressed through the efforts of various international, federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through

legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality are discussed below.

Federal – United States Environmental Protection Agency

The United States Environmental Protection Agency (EPA) is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The National Ambient Air Quality Standards (NAAQS) pollutants were identified using medical evidence and are shown below in Table 2.

The EPA and the CARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the Federal annual PM2.5 standard is met if the three-year average of the annual average PM2.5 concentration is less than or equal to the standard. Attainment status is shown in Table 3.

As part of its enforcement responsibilities, the EPA requires each state with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the national standards. The State Implementation Plan (SIP) must integrate federal, state, and local components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the State Implementation Plan (SIP).

As indicated below in Table 3, the Basin has been designated by the EPA as a non-attainment area for ozone (O_3) and suspended particulates (PM10). Currently, the Basin is in attainment with the ambient air quality standards for carbon monoxide (CO), lead, sulfur dioxide (SO_2), suspended particulate matter (PM-2.5), and nitrogen dioxide (NO_2).

State – California Air Resources Board

The California Air Resources Board (CARB), which is a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets the California Ambient Air Quality Standards (CAAQS), compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the State Implementation Plan (SIP). The California Ambient Air Quality Standards (CAAQS) for criteria pollutants are shown in Table 3. In addition, the CARB establishes emission standards for motor vehicles sold in California, consumer products (e.g., hairspray, aerosol paints, and barbeque lighter fluid), and various types of commercial equipment. Furthermore, the motor vehicle emission standards established by CARB include compliance with the Safer Affordable Fuel-Efficient Vehicles (SAFE) Rule, issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020). The SAFE Rule sets fuel economy and carbon dioxide standards that increase 1.5 percent in stringency each year from model years 2021 through 2026 and apply to both passenger cars and light trucks. CARB also sets fuel specifications to further reduce vehicular emissions.

The Salton Sea Air Basin has been designated by the CARB as a nonattainment area for ozone and PM-10. Currently, the Salton Sea Air Basin is in attainment with the ambient air quality standards for CO, lead, SO_2, NO_2, and sulfates and is unclassified for visibility reducing particles (PM-2.5) and Hydrogen Sulfide.

On June 20, 2002, the CARB revised the PM10 annual average standard to 20 µg/m3 and established an annual average standard for PM2.5 of 12 µg/m^3. These standards were approved by the Office of Administrative Law in June 2003 and are now effective. On September 27, 2007 the CARB approved the South Coast Air Basin and the Coachella Valley 2007 Air Quality Management Plan for Attaining the Federal 8-hour Ozone and PM2.5 Standards. The plan projects attainment for the 8-hour Ozone standard by 2024 and the PM2.5 standard by 2015.

On December 12, 2008 the CARB adopted Resolution 08-43, which limits NOx, PM10 and PM2.5 emissions from on-road diesel truck fleets that operate in California. On October 12, 2009 Executive Order R-09-010 was adopted that codified Resolution 08-43 into Section 2025, Title 13 of the California Code of Regulations. This regulation requires that by the year 2023 all commercial diesel trucks that operate in California shall meet model year 2010 (Tier 4) or latter emission standards. In the interim period, this regulation provides annual interim targets for fleet owners to meet. This regulation also provides a few exemptions including a onetime per year 3-day pass for trucks registered outside of California.

The CARB is also responsible for regulations pertaining to toxic air contaminants. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly) was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. AB 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release into the South Coast Air Basin. The data is ranked by high, intermediate, and low categories, which are determined by: the potency, toxicity, quantity, volume, and proximity of the facility to nearby receptors.

AB 617 Nonvehicular air pollution: criteria air pollutants and toxic air contaminants

This bill requires the CARB to develop a uniform statewide system of annual reporting of emissions of criteria air pollutants and toxic air contaminants for use by certain categories of stationary sources. The bill requires those stationary sources to report their annual emissions of criteria air pollutants and toxic air contaminants, as specified. This bill required the CARB, by October 1, 2018, to prepare a monitoring plan regarding technologies for monitoring criteria air pollutants and toxic air contaminants and the need for and benefits of additional community air monitoring systems, as defined. The bill requires the CARB to select, based on the monitoring plan, the highest priority locations in the state for the deployment of community air monitoring systems. The bill requires an air district containing a selected location, by July 1, 2019, to deploy a system in the selected location. The bill would authorize the air district to require a stationary source that emits air pollutants in, or that materially affect, the selected location to deploy a fence-line monitoring system, as defined, or other specified real-time, on-site monitoring. The bill authorizes the CARB, by January 1, 2020, and annually thereafter, to select additional locations for the deployment of the systems. The bill would require air districts that have deployed a system to provide to the state board air quality data produced by the system. By increasing the duties of air districts, this bill would impose a state-mandated local program. The bill requires the CARB to publish the data on its Internet Web site.

Regional

The SCAQMD is the agency principally responsible for comprehensive air pollution control in the Salton Sea Air Basin. To that end, as a regional agency, the SCAQMD works directly with the Southern California Association of Governments (SCAG), county transportation commissions, and local governments and cooperates actively with all federal and state agencies.

South Coast Air Quality Management District

The SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. The SCAQMD is directly responsible for reducing emissions from stationary, mobile, and indirect sources. It has responded to this requirement by preparing a sequence of AQMPs.

Air Quality Management Plan

On June 30, 2016, the SCAQMD released its Draft 2016 AQMP. The 2016 AQMP is a regional blueprint for achieving the federal air quality standards and healthful air. The 2016 AQMP includes both stationary and mobile source strategies to ensure that rapidly approaching attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the region is not faced with burdensome sanctions if the Plan is not approved or if the NAAQS are not met on time. As with every AQMP, a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures is updated with the latest data and methods. The most significant air quality challenge in the Basin is to reduce nitrogen oxide (NOx) emissions sufficiently to meet the upcoming ozone standard deadlines. On March 23, 2017 the CARB approved the 2016 AQMP. The primary goal of this Air Quality Management Plan is to meet clean air standards and protect public health, including ensuring benefits to environmental justice and disadvantaged communities. Now that the Plan has been approved by the CARB, it has been forwarded to the U.S. EPA for its review. The Plan was approved by the EPA on June 15, 2017.

On June 21, 2002, the SCAQMD adopted the 2002 Coachella Valley PM10 State Implementation Plan (CVSIP). The 2002 CVSIP, which included a request for extension of the PM10 deadline and met all applicable federal Clean Air Act requirements, including a Most Stringent Measures analysis, control measures, and attainment demonstration. U.S. EPA approved the 2002 CVSIP on April 18, 2003. At the time of adoption, the AQMD committed to revising with the 2002 CVSIP with the latest approved mobile source emissions estimates, planning assumptions and fugitive dust source emission estimates, when they became available.

The 2003 CVSIP updates those elements of the 2002 CVSIP; the control strategies and control measure commitments have not been revised and remain the same as in the 2002 CVSIP. The 2003 CVSIP contains updated emissions inventories, emission budgets, and attainment modeling. It requests that U.S. EPA replace the approved transportation conformity budgets in the 2002 CVSIP with those in the 2003 CVSIP. U.S. EPA approved these budgets on March 25, 2004 with an effective date of April 9, 2004.

In May 2022, the SCAQMD completed the 2022 Draft AQMP. The 2022 Draft AQMP is focused on attaining the 2015 8-hour ozone standard (70 ppb) for the South Coast Air Basin and Coachella Valley. The Draft 2022 AQMP builds upon measures already in place from previous AQMPs. It also includes a variety of additional strategies such as regulation, accelerated deployment of available cleaner technologies (e.g., zero emission technologies, when cost-effective and feasible, and low NOx technologies in other applications), best management practices, co-benefits from existing programs (e.g., climate and energy efficiency), incentives, and other CAA measures to achieve the 2015 8-hour ozone standard. The 2022 AQMP was adopted December 2, 2022, by SCAQMD Governing Board. The 2022 AQMP was approved and adopted by CARB on January 26, 2023. The 2022 AQMP strategy includes the following:[2]

- Wide adoption of zero emissions technologies anywhere available.
- Low NOx technologies where zero emissions aren't feasible.
- Federal Action.
- Zero emissions technologies for residential and industrial sources such as water and space heaters in buildings and homes regionwide.
- Incentive funding in environmental justice areas.
- Prioritize benefits on the most disadvantaged communities.

SCAQMD Rules and Regulations

During construction and operation, the project must comply with applicable rules and regulations. The following are rules that the project may be required to comply with, either directly, or indirectly:

[2] SCAQMD 2022 AQMP Infographic. http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/2022-aqmp-infographic

SCAQMD Rule 402

Prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

SCAQMD Rule 403

Governs emissions of fugitive dust during construction and operation activities. Compliance with this rule is achieved through application of standard Best Management Practices, such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.

Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors. Rule 403 measures may include but are not limited to the following:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Water active sites at least three times daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 0.6 meters (2 feet) of freeboard (vertical space between the top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code section 23114.
- Reduce traffic speeds on all unpaved roads to 15 miles per hour (mph) or less.
- Suspension of all grading activities when wind speeds (including instantaneous wind gusts) exceed 25 mph.
- Bumper strips or similar best management practices shall be provided where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site each trip.
- Replanting disturbed areas as soon as practical.
- During all construction activities, construction contractors shall sweep on-site and off-site streets if silt is carried to adjacent public thoroughfares, to reduce the amount of particulate matter on public streets. All sweepers shall be compliant with SCAQMD Rule 1186.1, Less Polluting Sweepers.

SCAQMD Rule 403.1 is supplemental to Rule 403 requirements and shall apply only to fugitive dust sources in the Coachella Valley.

(d) General Requirements of 403.1

(1) Any person who is responsible for any active operation, open storage pile, or disturbed surface area, and who seeks an exemption pursuant to Rule 403, paragraph (g)(2) shall be required to determine when wind speed conditions exceed 25 miles per hour. The wind speed determination shall be based on either District forecasts or through use of an on-site anemometer as described in subdivision (g).

(2) Any person involved in active operations in the Coachella Valley Blowsand Zone shall stabilize new man-made deposits of bulk material within 24 hours of making such bulk material deposits. Stabilization procedures shall include one or more of the following: (A) Application of water to at least 70 percent of the surface area of any bulk material deposits at least 3 times for each day that there

is evidence of wind driven fugitive dust; or (B) Application of chemical stabilizers in sufficient concentration so as to maintain a stabilized surface for a period of at least 6 months; or

(3) Installation of wind breaks of such design so as to reduce maximum wind gusts to less than 25 miles per hour in the area of the bulk material deposits. (3) Any person involved in active operations in the Coachella Valley Blowsand Zone shall stabilize new deposits of bulk material originating from off-site undisturbed natural desert areas within 72 hours.

Stabilization procedures shall include one or more of the following: (A) Application of water to at least 70 percent of the surface area of any bulk material deposits at least 3 times for each day that there is evidence of wind driven fugitive dust; or (B) Application of chemical stabilizers in sufficient concentration so as to maintain a stabilized surface for a period of at least six months.

(4) A person who conducts or authorizes the conducting of an active operation shall implement at least one of the control actions specified in Rule 403, Table 2 for the source category "Inactive Disturbed Surface Areas" to minimize wind driven fugitive dust from disturbed surface areas at such time when active operations have ceased for a period of at least 20 days.

(5) Any person involved in agricultural tilling or soil mulching activities shall cease such activities when wind speeds exceed 25 miles per hour. The wind speed determination shall be based on either District forecasts or through use of an on-site anemometer as described in subdivision (g).

(e) Fugitive Dust Control Plan and Other Requirements for Construction Projects/Earth-Moving Activities

(1) Any person who conducts or authorizes the conducting of an active operation with a disturbed surface area of more than 5,000 square feet shall not initiate any earth-moving activities unless a fugitive dust control plan is prepared and approved by the Executive Officer in accordance with the requirements of subdivision (f) and the Rule 403.1 Implementation Handbook. These provisions shall not apply to active operations exempted by paragraph (i)(4).

(2) Any operator required to submit a fugitive dust control plan under paragraph (e)(1) shall maintain a complete copy of the approved fugitive dust control plan on-site in a conspicuous place at all times and the fugitive dust control plan must be provided upon request.

(3) Any operator required to submit a fugitive dust control plan under paragraph (e)(1) shall install and maintain signage with project contact information that meets the minimum standards of the Rule 403.1 Implementation Handbook prior to initiating any type of earth-moving activities.

(4) Any operator required to submit a fugitive dust control plan under paragraph (e)(1) for a project with a disturbed surface area of 50 or more acres shall have an Dust Control Supervisor that: (A) is employed by or contracted with the property owner or developer; and (B) is on-site or is available to be on-site within 30 minutes of initial contact; and (C) has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule 403 and 403.1 requirements; and (D) has completed the AQMD Coachella Valley Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class.

(5) Failure to comply with any of the provisions of an approved fugitive dust control plan shall be a violation of this rule.

SCAQMD Rule 445

Prohibits permanently installed wood burning devices into any new development. A wood burning device means any fireplace, wood burning heater, or pellet-fueled wood heater, or any similarly enclosed, permanently installed, indoor or outdoor device burning any solid fuel for aesthetic or space-heating purposes, which has a heat input of less than one million British thermal units per hour.

SCAQMD Rule 481

Applies to all spray painting and spray coating operations and equipment. The rule states that a person shall not use or operate any spray painting or spray coating equipment unless one of the following conditions is met:

(1) The spray coating equipment is operated inside a control enclosure, which is approved by the Executive Officer. Any control enclosure for which an application for permit for new construction, alteration, or change of ownership or location is submitted after the date of adoption of this rule shall be exhausted only through filters at a design face velocity not less than 100 feet per minute nor greater than 300 feet per minute, or through a water wash system designed to be equally effective for the purpose of air pollution control.
(2) Coatings are applied with high-volume low-pressure, electrostatic and/or airless spray equipment.
(3) An alternative method of coating application or control is used which has effectiveness equal to or greater than the equipment specified in the rule.

SCAQMD Rule 1108

Governs the sale, use, and manufacturing of asphalt and limits the volatile organic compound (VOC) content in asphalt used in the Air Basin. This rule would regulate the VOC content of asphalt used during construction. Therefore, all asphalt used during construction of the project must comply with SCAQMD Rule 1108.

SCAQMD Rule 1113

Governs the sale, use, and manufacturing of architectural coating and limits the VOC content in paints and paint solvents. This rule regulates the VOC content of paints available during construction. Therefore, all paints and solvents used during construction and operation of the project must comply with SCAQMD Rule 1113.

SCAQMD Rule 1143

Governs the manufacture, sale, and use of paint thinners and solvents used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations by limiting their VOC content. This rule regulates the VOC content of solvents used during construction. Solvents used during the construction phase must comply with this rule.

SCAQMD Rule 1186

Limits the presence of fugitive dust on paved and unpaved roads and sets certification protocols and requirements for street sweepers that are under contract to provide sweeping services to any federal, state, county, agency or special district such as water, air, sanitation, transit, or school district.

SCAQMD Rule 1303

Governs the permitting of re-located or new major emission sources, requiring Best Available Control Measures and setting significance limits for PM_{10} among other pollutants.

SCAQMD Rule 1401

New Source Review of Toxic Air Contaminants, specifies limits for maximum individual cancer risk, cancer burden, and non-cancer acute and chronic hazard index from new permit units, relocations, or modifications to existing permit units, which emit toxic air contaminants.

SCAQMD Rule 1403

Asbestos Emissions from Demolition/Renovation Activities, specifies work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM).

SCAQMD Rule 2202

On-Road Motor Vehicle Mitigation Options, is to provide employers with a menu of options to reduce mobile source emissions generated from employee commutes, to comply with federal and state Clean Air Act requirements, Health & Safety Code Section 40458, and Section 182(d)(1)(B) of the federal Clean Air Act. It applies to any employer who employs 250 or more employees on a full or part-time basis at a worksite for a consecutive six-month period calculated as a monthly average.

SCAQMD Rule 2305

The Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program aims to reduce nitrogen oxide and diesel emissions associated with warehouses, help meet federal standards and improve public health. The WAIRE Program is an indirect source rule that regulates warehouse facilities to reduce emissions from the goods movement industry. Owners and operators of warehouses that have 100,000 square feet or more of indoor floor space in a single building must comply with the WAIRE Program. WAIRE is a menu-based point system in which warehouse operators are required to earn a specific number of points every year. The yearly number of points required is based on the number of trucks trips made to and from the warehouse each year, with larger trucks such as tractors or tractor-trailers multiplied by 2.5. Warehouse operators may be exempt from parts of the rule if they operate less than 50,000 square feet of warehousing activities, if the number of points required is less than 10, or if the WAIRE menu action chosen under performs due to circumstances beyond the operator's control, such as a manufacturer defect. SCAQMD Rule 316 establishes fees to fund Rule 2305 compliance activities.

Air Quality Guidance Documents

SCAQMD CEQA Handbook

Although the SCAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate air quality issues associated with plans and new development projects throughout the Salton Sea portion of the South Coast Air Basin. Instead, this is controlled through local jurisdictions in accordance with the California Environmental Quality Act (CEQA). In order to assist local jurisdictions with air quality compliance issues the CEQA Air Quality Handbook (SCAQMD CEQA Handbook) prepared by the SCAQMD (1993) with the most current updates found at http://www.aqmd.gov/ceqa/hdbk.html, was developed in accordance with the projections and programs of the AQMP. The purpose of the SCAQMD CEQA Handbook is to assist Lead Agencies, as well as consultants, project proponents, and other interested parties in evaluating a proposed project's potential air quality impacts. Specifically, the SCAQMD CEQA Handbook explains the procedures that the SCAQMD recommends be followed for the environmental review process required by CEQA. The SCAQMD CEQA Handbook provides direction on how to evaluate potential air quality impacts, how to determine whether these impacts are significant, and how to mitigate these impacts. SCAQMD is in the process of developing an "Air Quality Analysis Guidance Handbook" to replace the CEQA Air Quality Handbook approved by the AQMD Governing Board in 1993. The 1993 CEQA Air Quality Handbook is still available but not online. In addition, there are sections of the 1993 Handbook that are obsolete. In order to assist the CEQA practitioner in conducting an air quality analysis while the new Handbook is being prepared, supplemental information regarding significance thresholds and analysis, emissions factors, cumulative impacts emissions analysis, and other useful subjects, are available at the SCAQMD website[3]. The SCAQMD CEQA Handbook and supplemental information is used in this analysis.

[3] http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook.

Southern California Association of Governments

The SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG is the Federally designated MPO for the majority of the southern California region and is the largest MPO in the nation. With respect to air quality planning, SCAG has prepared the Regional Transportation Plan and Regional Transportation Improvement Plan (RTIP), which addresses regional development and growth forecasts. These plans form the basis for the land use and transportation components of the AQMP, which are utilized in the preparation of air quality forecasts and in the consistency analysis included in the AQMP. The Regional Transportation Plan, Regional Transportation Improvement Plan, and AQMP are based on projections originating within the City and County General Plans.

On April 7, 2016, SCAG's Regional Council adopted the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS or Plan). The Plan is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. The Plan charts a course for closely integrating land use and transportation – so that the region can grow smartly and sustainably. It outlines more than $556.5 billion in transportation system investments through 2040. The Plan was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura. In June 2016, SCAG received its conformity determination from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) indicating that all air quality conformity requirements for the 2016 RTP/SCS and associated 2015 FTIP Consistency Amendment through Amendment 15-12 have been met.

On September 3, 2020, SCAG's Regional Council unanimously voted to approve and fully adopt Connect SoCal (2020–2045 Regional Transportation Plan/Sustainable Communities Strategy), and the addendum to the Connect SoCal Program Environmental Impact Report. Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. Connect SoCal outlines more than $638 billion in transportation system investments through 2045. It was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura.

Coachella Valley Model Dust Control Ordinance (see also SCAQMD Rule 403.1)

The Coachella Valley Dust Control Ordinance was designed to establish minimum requirements for construction and demolition activities and other specified sources in order to reduce man-made fugitive dust and the corresponding PM10 emissions. The Ordinance establishes following rules associated with reducing the fugitive dust emissions associated with the project:

Section 400 Control Requirements

<u>410. Work Practices – All Fugitive Dust Sources</u>

1. No operator shall conduct any potential dust-generating activity on a site unless the operator utilizes one or more Coachella Valley Best Available Control Measures, as identified in the Coachella Valley Fugitive Dust Control Handbook for each fugitive dust source such that the applicable performance standards are met.

2. Any operator involved in any potential dust-generating activity on a site with a disturbed surface area greater than one acre shall, at a minimum, operate a water application system as identified in the Coachella Valley Fugitive Dust Control Handbook, if watering is the selected control measure.

Performance Standards and Test Methods

3. No person subject to the requirements contained in Section 410.1 shall cause or allow visible fugitive dust emissions to exceed 20 percent opacity, or extend more than 100 feet either horizontally or vertically from the origin of a source, or cross any property line.

420. Construction and Demolition Activities

1. Any operator applying for a grading permit, or a building permit for an activity with a disturbed surface area of more than 5,000 square feet, shall not initiate any earth-moving operations unless a Fugitive Dust Control Plan has been prepared pursuant to the provisions of the Coachella Valley Fugitive Dust Control Handbook and approved by the City (County).

2. A complete copy of the approved Fugitive Dust Control Plan must be kept on-site in a conspicuous place at all times and provided to the City (County) and AQMD upon request.

4. Any operator involved in earth-moving operations shall implement at least one of the following short-term stabilization methods during non-working hours:

   A. maintaining soils in a damp condition as determined by sight or touch; or
   B. establishment of a stabilized surface through watering; or
   C. application of a chemical dust suppressant in sufficient quantities and concentrations to maintain a stabilized surface.

5. Within 10 days of ceasing activity, an operator shall implement at least one of the following long-term stabilization techniques for any disturbed surface area where construction activities are not scheduled to occur for at least 30 days:

   A. revegetation that results in 75 percent ground coverage provided that an active watering system is in place at all times; or
   B. establishment of a stabilized surface through watering with physical access restriction surrounding the area; or
   C. use of chemical stabilizers to establish a stabilized surface with physical access restriction surrounding the area.

6. Any operator shall remove all bulk material track-out from any site access point onto any paved road open to through traffic:

   A. within one hour if such material extends for a cumulative distance of greater than 25 feet from any site access point; and
   B. at the conclusion of each workday.

7. Any operator of a project with a disturbed surface area of five or more acres or of any project that involves the import or export of at least 100 cubic yards of bulk material per day shall install and maintain at least one of the following control measures at the intersection of each site entrance and any paved road open to through traffic with all vehicles exiting the site routed over the selected device(s):

   A. pad consisting of minimum one-inch washed gravel maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long; or
   B. paved surface extending at least 100 feet and at least 20 feet wide; or

C. wheel shaker / wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least three inches tall and at least six inches apart and 20 feet long; or

8. Any operator required to submit a Fugitive Dust Control Plan under Section 420.1 shall install and maintain project contact signage that meets the minimum standards of the Coachella Valley Fugitive Dust Control Handbook, including a 24-hour manned toll-free or local phone number, prior to initiating any type of earth-moving operations.

9. Any operator of a project with a disturbed surface area of 50 or more acres shall have an Environmental Observer on the site or available on-site within 30 minutes of initial contact that:

A. is hired by the property owner or developer; and
B. has dust control as the sole or primary responsibility; and
C. has successfully completed the AQMD Coachella Valley Fugitive Dust Control Class and has been issued a Certificate of Completion for the class; and
D. is identified in the approved Fugitive Dust Control Plan as having the authority to immediately employ sufficient dust mitigation 24-hours per day, seven days a week and to ensure compliance with this ordinance, the approved Fugitive Dust Control Plan, and AQMD regulations.

Performance Standards and Test Methods

10. No operator required to submit a Fugitive Dust Control Plan under Section 420.1 shall cause or allow visible fugitive dust emissions to exceed 20 percent opacity, or extend more than 100 feet either horizontally or vertically from the origin of a source, or cross any property line.

11. Exceedance of the visible emissions prohibition in Section 420.10 occurring due to a high-wind episode shall constitute a violation of Section 420.10, unless the operator demonstrates to City (County) all the following conditions:

A. all Fugitive Dust Control Plan measures or applicable Coachella Valley Best Available Control Measures were implemented and maintained on-site; and
B. the exceedance could not have been prevented by better application, implementation, operation, or maintenance of control measures; and
C. appropriate recordkeeping was compiled and retained in accordance with the requirements in Section 420.12 through 420.15; and
D. documentation of the high-wind episode on the day(s) in question is provided by appropriate records.

Reporting / Recordkeeping

Before Construction

12. The operator of a project with ten acres or more of earth-moving operations shall:

A. forward two copies of a Site-Specific, Stand Alone [8½ by 11 inch] Fugitive Dust Control Plan to the AQMD within ten days after approval by the City (County). [Note: A separate AQMD approval will not be issued]; and
B. notify the City (County) and the AQMD at least 24-hours prior to initiating earth-moving operations.

During Construction

13. Any operator involved in earth-moving operations shall compile, and maintain for a period of not less than three years, daily self-inspection recordkeeping forms in accordance with the guidelines contained in the Coachella Valley Fugitive Dust Control Handbook.

14. Any operator involved in earth-moving operations that utilizes chemical dust suppressants for dust control on a site shall compile records indicating the type of product applied, vendor name, and the method, frequency, concentration, quantity and date(s) of application and shall retain such records for a period of not less than three years.

After Construction

15. Any operator subject to the provisions of Section 420.12 shall notify the City (County) and the AQMD within ten days of the establishment of the finish grade or at the conclusion of the finished grading inspection.

430. Disturbed Vacant Lands / Weed Abatement Activities

1. Owners of property with a disturbed surface area greater than 5,000 square feet shall within 30 days of receiving official notice by the City (County) prevent trespass through physical access restriction as permitted by the City (County).

2. In the event that implementation of Section 430.1 is not effective in establishing a stabilized surface within 45 days of restricting access, the owner shall implement at least one of the following long term stabilization techniques within an additional 15 days, unless the City (County) has determined that the land has been restabilized:

    A. uniformly apply and maintain surface gravel or chemical dust suppressants such that a stabilized surface is formed; or
    B. begin restoring disturbed surfaces such that the vegetative cover and soil characteristics are similar to adjacent or nearby undisturbed native conditions. Such restoration control measure(s) must be maintained and reapplied, if necessary, such that a stabilized surface is formed within 8 months of the initial application.

3. Any operator conducting weed abatement activities on a site that results in a disturbed surface area of 5,000 or more square feet shall:

    A. apply sufficient water before and during weed abatement activities such that the applicable performance standards are met.
    B. ensure that the affected area is a stabilized surface once weed abatement activities have ceased.

<u>Performance Standards and Test Methods</u>

4. No person subject to the provisions of Sections 430.1 through 430.3 shall cause or allow visible fugitive dust emissions to exceed 20 percent opacity, or extend more than 100 feet either horizontally or vertically from a source, or cross any property line, and shall either:

    A. maintain a stabilized surface; or
    B. maintain a threshold friction velocity for disturbed surface areas corrected for non-erodible elements of 100 centimeters per second or higher.

Reporting / Recordkeeping

5. Within 90 days of ordinance adoption, operators of property with disturbed surface area of 5,000 or more square feet shall notify the City (County) of the location of such lands and provide owner contact information.

6. Any person subject to the provisions of Sections 430.1 through 403.3 shall compile, and retain for a period of not less than three years, records indicating the name and contact person of all firms contracted with for dust mitigation, listing of dust control implements used on-site, and invoices from dust suppressant contractors/vendors.

460. Public or Private Paved Roads

1. Any owner of paved roads shall construct, or require to be constructed all new or widened paved roads in accordance with the following standards:

    A. curbing in accordance with the American Association of State Highway and Transportation Officials guidelines or as an alternative, road shoulders paved or treated with chemical dust suppressants or washed gravel in accordance with the performance standards included in Section 440.4 with the following minimum widths:

Average Daily Trips	Minimum Shoulder Width
500 - 3,000	4 feet
3,000 or greater	8 feet

Section 500 Administrative Requirements

1. Any operator preparing a Fugitive Dust Control Plan shall complete the AQMD Coachella Valley Fugitive Dust Control Class and maintain a current valid Certificate of Completion.

2. At least one representative of each construction or demolition general contractor and subcontractor responsible for earth-movement operations shall complete the AQMD Coachella Valley Fugitive Dust Control Class and maintain a current valid Certificate of Completion.

3. All reporting / recordkeeping required by Section 420 shall be provided to the City (County) and AQMD representatives immediately upon request.

4. All reporting / recordkeeping required by Section 430 through Section 460 shall be provided to the City (County) and AQMD representatives within 24-hours of a written request.

Local – City of Rancho Mirage

Local jurisdictions, such as the City of Rancho Mirage, have the authority and responsibility to reduce air pollution through its police power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The City is also responsible for the implementation of transportation control measures as outlined in the 2022 AQMP. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the County assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation.

The City relies on the expertise of the SCAQMD and utilizes the SCAQMD CEQA Air Quality Handbook as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

Chapter 6 Air Quality of the City of Rancho Mirage General Plan assists the City and the region to meet ambient air standards set by the U.S. Environmental Protection Agency and the California Air Resources Board. The air quality related goal and policies in the Air Quality Element that relate to the proposed project include:

Goal AQ-1 Preservation and enhancement of regional air quality for the protection of the health and welfare of the community as a whole.

Policy AQ-1.1 The City shall coordinate and cooperate with CVAG and SCAQMD in the ongoing monitoring and management of major pollutants affecting Rancho Mirage and the region, with particular focus on PM10.

Policy AQ-1.2 The City shall promote the development of pedestrian-oriented retail centers, as well as community wide multi use trails and bike paths, dedicated bike lanes, and other desirable alternatives to motor vehicle traffic.

Policy AQ-1.3 The City shall promote the appropriate and cost-effective development and coordination of mass transit/ shuttle service linking residential, shopping, resort, and commercial centers of Rancho Mirage, and participate with CVAG, the Southern California Association of Governments, and public and private service providers to improve and optimize regional transportation services.

Policy AQ-1.4 The City shall encourage the use of clean alternative energy sources for transportation, heating, and cooling whenever practical.

Policy AQ-1.5 The City shall review all development proposals for potential adverse effects on air quality and require mitigation of any significant impacts.

Policy AQ-1.6 The City shall strive towards achieving a level-of-service C (see Circulation Element) on all roadways to improve traffic flow, minimize idling time, and reduce air emissions.

Table 2
State and Federal Criteria Pollutant Standards

Air Pollutant	Concentration / Averaging Time		Most Relevant Effects
	California Standards	Federal Primary Standards	
Ozone (O_3)	0.09 ppm/1-hour 0.07 ppm/8-hour	0.070 ppm/8-hour	(a) Decline in pulmonary function and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; and (f) Property damage.
Carbon Monoxide (CO)	20.0 ppm/1-hour 9.0 ppm/8-hour	35.0 ppm/1-hour 9.0 ppm/8-hour	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses.
Nitrogen Dioxide (NO_2)	0.18 ppm/1-hour 0.03 ppm/annual	100 ppb/1-hour 0.053 ppm/annual	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (c) Contribution to atmospheric discoloration.
Sulfur Dioxide (SO_2)	0.25 ppm/1-hour 0.04 ppm/24-hour	75 ppb/1-hour 0.14 ppm/annual	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.
Suspended Particulate Matter (PM_{10})	50 µg/m^3/24-hour 20 µg/m^3/annual	150 µg/m^3/24-hour	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; (c) Increased risk of premature death from heart or lung diseases in elderly.
Suspended Particulate Matter ($PM_{2.5}$)	12 µg/m^3 / annual	35 µg/m^3/24-hour 12 µg/m^3/annual	
Sulfates	25 µg/m^3/24-hour	No Federal Standards	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) property damage.
Lead	1.5 µg/m^3/30-day	0.15 µg/m^3/3-month rolling	(a) Learning disabilities; (b) Impairment of blood formation and nerve conduction.
Visibility Reducing Particles	Extinction coefficient of 0.23 per kilometer-visibility of 10 miles or more due to particles when humidity is less than 70 percent.	No Federal Standards	Visibility impairment on days when relative humidity is less than 70 percent.

Notes:

(1) Source: https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf

Table 3
Salton Sea Air Basin Attainment Status

Pollutant	State Status	National Status
Ozone	Nonattainment	Nonattainment
Carbon monoxide	Attainment	Unclassifiable/Attainment
Nitrogen dioxide	Attainment	Unclassifiable/Attainment
Sulfur dioxide	Attainment	Unclassifiable/Attainment
PM10	Nonattainment	Nonattainment
PM2.5	Attainment	Unclassifiable/Attainment

Notes:

(1) Source : Source (Federal and State Status): SCAQMD 2022 Air Quality Management Plan (December 2022) http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/final-2022-aqmp.pdf?sfvrsn=16.

MONITORED AIR QUALITY

The air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air basin. Estimates of the existing emissions in the Basin provided in the Final 2022 Air Quality Management Plan prepared by SCAQMD (December 2022) indicate that collectively, mobile sources account for 46 percent of the VOC, 85 percent of the NOx emissions, 89 percent of the CO emissions and 29 percent of directly emitted PM2.5, with another 18 percent of PM2.5 from road dust.

The EPA and the CARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified". National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the Federal annual PM2.5 standard is met if the three-year average of the annual average PM2.5 concentration is less than or equal to the standard. Attainment status is shown in Table 3.

The SCAQMD has 38 air-monitoring areas with a designated ambient air monitoring station representative of each area. The project is within Source Receptor Area 30, Coachella Valley. SCAQMD operates two air monitoring stations in SRA 30, one in Indio, California, approximately 12.3 miles southeast of the project site, at 46990 Jackson Street, Indio, and the other in Palm Springs, California, approximately 8.75 miles northwest of the project site, at 590 Racquet Club Avenue, Palm Springs. Both monitoring stations were used to collect monitoring data.

Table 4 summarizes 2020 through 2022 published monitoring data, which is the most recent 3-year period available. The data shows that during the past few years, the project area has exceeded the ozone and Particulate Matter (PM10) standards.

Ozone

During the 2020 to 2022 monitoring period, the State 1-hour concentration standard for ozone was exceeded between seven and 10 days each year at the Palm Springs Station. The State 8-hour ozone standard has been exceeded between 38 and 53 days each year over the past three years at the Palm Springs Station. The Federal 8-hour ozone standard was exceeded between 35 and 49 days each year over the past three years at the Palm Springs Station.

Ozone is a secondary pollutant as it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO_2, which occur only in the presence of bright sunlight. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations experienced in the area. Many areas of the SCAQMD contribute to the ozone levels experienced at the monitoring station, with the more significant areas being those directly upwind.

Carbon Monoxide

CO is another important pollutant that is due mainly to motor vehicles. The Palm Springs Station did not record an exceedance of the state or federal 8-hour CO standard for the last three years.

Nitrogen Dioxide

The Palm Springs Station did not record an exceedance of the State or Federal NO_2 standards for the last three years.

Particulate Matter

During the 2020 to 2022 monitoring period, the State 24-hour concentration standards for PM10 was exceeded for only one day in 2022 at the Palm Springs Station. The Federal 24-hour concentration standards have only been exceeded for three days in 2022 over the past three years at the Palm Springs Station.

During the 2020 to 2022 monitoring period, the Federal 24-hour standards for PM2.5 were not exceeded at the Palm Springs Station.

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM10 and PM2.5). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM10 and PM2.5. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths during exercise.

Table 4
Air Quality Monitoring Summary

Pollutant (Standard)[2]		Year		
		2020	2021	2022
Ozone:	Maximum 1-Hour Concentration (ppm)	0.119	0.110	0.106
	Days > CAAQS (0.09 ppm)	9	10	7
	Maximum 8-Hour Concentration (ppm)	0.094	0.093	0.090
	Days > NAAQS (0.070 ppm)	49	35	39
	Days > CAAQS (0.070 ppm)	53	38	43
Carbon Monoxide:	Maximum 8-Hour Concentration (ppm)	*	*	*
	Days > CAAQS (9 ppm)	0	0	0
	Days > NAAQS (9 ppm)	0	0	0
Nitrogen Dioxide:[2]	Maximum 1-Hour Concentration (ppm)	0.047	0.036	0.038
	Days > CAAQS (0.18 ppm)	0	0	0
Inhalable Particulates (PM10):	Maximum 24-Hour Concentration (µg/m^3)	129.8	35.2	159.5
	Days > NAAQS (150 µg/m3)	0	0	1
	Days > CAAQS (50 µg/m3)	0	0	3
	Annual Average (µg/m3)	23.2	18.4	21.1
Ultra-Fine Particulates (PM2.5):	Maximum 24-Hour Concentration (µg/m3)	23.9	13.5	31.2
	Days > NAAQS (35 µg/m3)	0	0	0
	Annual Average (µg/m3)	6.4	6.2	6.3

Notes:

Source: http://www.arb.ca.gov/adam/topfour/topfour1.php. Data from the Palm Springs Monitoring Station unless otherwise noted.

(1) CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million

* Means there was insufficient data available to determine value.

AIR QUALITY STANDARDS

Significance Thresholds

Appendix G of the State CEQA Guidelines

Appendix G of the State CEQA Guidelines states that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make a significance determination. Pursuant to Appendix G, the project would result in a significant impact related to air quality if it would:

- Conflict with or obstruct the implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The CEQA Guidelines Section 15064.7 provides the significance criteria established by the applicable air quality management district or air pollution control district, when available, may be relied upon to make determinations of significance. The potential air quality impacts of the project are, therefore, evaluated according to thresholds developed by SCAQMD in their CEQA Air Quality Handbook, Air Quality Analysis Guidance Handbook, and subsequent guidance, which are listed below.[4] Therefore, the project would result in a potentially significant impact to air quality if it would:

AIR-1: Conflict with or obstruct the implementation of the applicable air quality plan;

AIR-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation as a result of:

- Criteria pollutant emissions during construction (direct and indirect) in excess of the SCAQMD's regional significance thresholds,
- Criteria pollutant emissions during operation (direct and indirect) in excess of the SCAQMD's regional significance thresholds.

AIR-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

AIR-4: Expose sensitive receptors to substantial pollutant concentrations that would:

- Exceed SCAQMD's localized significance thresholds,
- Cause or contribute to the formation of CO hotspots.

AIR-5: Create objectionable odors affecting a substantial number of people.

[4] While the SCAQMD CEQA Air Quality Handbook contains significance thresholds for lead, Project construction and operation would not include sources of lead emissions and would not exceed the established thresholds for lead. Unleaded fuel and unleaded paints have virtually eliminated lead emissions from industrial land use projects such as the Project. As a result, lead emissions are not further evaluated herein.

The SCAQMD is in the process of developing an Air Quality Analysis Guidance Handbook to replace the CEQA Air Quality Handbook. In the interim, supplemental guidance has been adopted by the SCAQMD. The potential air quality impacts of the project are, therefore, evaluated according to numeric indicators developed by the SCAQMD in the CEQA Air Quality Handbook and supplemental guidance from the SCAQMD.[5]

Regional Air Quality

Many air quality impacts that derive from dispersed mobile sources, which are the dominate pollution generators in the basin, often occurs hours later and miles away after photochemical processes have converted primary exhaust pollutants into secondary contaminants such as ozone. The incremental regional air quality impact of an individual project is generally very small and difficult to measure. Therefore, the SCAQMD has developed significance thresholds based on the volume of pollution emitted rather than on actual ambient air quality because the direct air quality impact of a project is not quantifiable on a regional scale. The SCAQMD CEQA Handbook states that any project in the South Coast Air Basin with daily emissions that exceed any of the identified significance thresholds should be considered as having an individually and cumulatively significant air quality impact. For the purposes to this air quality impact analysis, a regional air quality impact would be considered significant if emissions exceed the SCAQMD significance thresholds identified in Table 5.

Local Air Quality

Project-related construction air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. In order to assess local air quality impacts the SCAQMD has developed Localized Significance Thresholds (LSTs) to assess the project-related air emissions in the project vicinity. The SCAQMD has also provided Final Localized Significance Threshold Methodology (LST Methodology), June 2003, which details the methodology to analyze local air emission impacts. The Localized Significance Threshold Methodology found that the primary emissions of concern are NO_2, CO, PM10, and PM2.5.

The significance thresholds for the local emissions of NO_2 and CO are determined by subtracting the highest background concentration from the last three years of these pollutants from Table 4 above, from the most restrictive ambient air quality standards for these pollutants that are outlined in the Localized Significance Thresholds. Table 5 shows the ambient air quality standards for NO_2, CO, and PM10 and PM2.5.

Toxic Air Contaminants

Construction

Temporary TAC emissions associated with DPM emissions from heavy construction equipment would occur during the construction phase of the Project. According to the Office of Environmental Health Hazard Assessment (OEHHA)[6] and the SCAQMD *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (August 2003),[7] health effects from TACs are described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of TACs over a 30-year lifetime will contract cancer based on the use of standard risk-

[5] While the SCAQMD CEQA Air Quality Handbook contains significance thresholds for lead, Project construction and operation would not include sources of lead emissions and would not exceed the established thresholds for lead. Unleaded fuel and unleaded paints have virtually eliminated lead emissions from commercial land use projects such as the Project. As a result, lead emissions are not further evaluated herein.

[6] Office of Environmental Health Hazard Assessment, Air Toxic Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessment, February 2015, https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

[7] South Coast Air Quality Management District, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, August 2003. ,http://www.aqmd.gov/docs/default-source/ceqa/handbook/mobile-source-toxics-analysis.doc?sfvrsn=2.

assessment methodology. Additionally, the SCAQMD CEQA guidance does not require a HRA for short-term construction emissions. Construction activities associated with the project would be sporadic, transitory, and short-term in nature (approximately 13 months). Thus, construction of the project would not result in a substantial, long-term (i.e., 30-year) source of TAC emissions. Nonetheless, a qualitative assessment of TAC emissions associated with short-term construction TAC emissions is provided in the analysis section below.

Operation

The project proposes to develop the site with residential uses. Therefore, the project is not anticipated to be a source of toxic air contaminants and sensitive receptors would not be exposed to toxic sources of air pollution.

Odor Impacts

The SCAQMD CEQA Handbook states that an odor impact would occur if the proposed project creates an odor nuisance pursuant to SCAQMD Rule 402, which states:

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

If the proposed project results in a violation of Rule 402 with regards to odor impacts, then the proposed project would create a significant odor impact.

Table 5
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds[1]		
Pollutant	Construction (lbs/day)	Operation (lbs/day)
NOx	100	55
VOC	75	55
PM10	150	150
PM2.5	55	55
SOx	150	150
CO	550	550
Lead	3	3
Toxic Air Contaminants (TACs), Odor and GHG Thresholds		
TACs (including carginogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index > 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to South Coast AQMD Rule 402	
GHG	10,000 MT/yr CO2e for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants[2]		
NO2 1-hour average annual arithmetic mean	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) & 0.0534 ppm (federal)	
PM10 24-hour average annual average	10.4 µg/m^3 (construction)[3] & 2.5 ug/m^3 (operation) 1.0 ug/m^3	
PM2.5 24-hour average	10.4 µg/m^3 (construction)[3] & 2.5 µg/m^3 (operation)	
SO2 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 µg/m^3 (state)	
CO 1-hour average 8-hour average	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) & 35 ppm (federal) 9 ppm (state/federal)	
Lead 30-day average Rolling 3-month average	1.5 µg/m^3 (state) 0.15 µg/m^3 (federal)	

Notes:
Source: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook
(1) Source: South Coast AQMD CEQA Handbook (South Coast AQMD, 1993)
(2) Ambient air quality thresholds for criteria pollutants based on South Coast AQMD Rule 1303, Table A-2 unless otherwise stated.
(3) Ambient air quality threshold based on South Coast AQMD Rule 403.

SHORT-TERM CONSTRUCTION EMISSIONS

Construction activities associated with the proposed project would have the potential to generate air emissions, toxic air contaminant emissions, and odor impacts. Assumptions for the phasing, duration, and required equipment for the construction of the proposed project were obtained from the project applicant. Construction activities for the proposed project are anticipated to include: demolition of an approximately 1,095 square foot existing single-family dwelling unit; grading of approximately 4.37 net acres; construction of nine single-family residential dwelling units and 0.4 acres of retention basins and landscaping; paving of 0.58 acres of on-site roadways; and application of architectural coatings. Grading of the site is anticipated balance. See Appendix B for more details.

The proposed project is anticipated to start construction no earlier than January 2025. However, the duration of construction is unknown at this time. Therefore, CalEEMod default construction timing was utilized in this analysis. Based on CalEEMod defaults, with a start date of January 2025, the project is anticipated to be completed by early February 2026. The project is anticipated to be operational in 2026.

Methodology

The following provides a discussion of the methodology used to calculate regional construction air emissions and an analysis of the proposed project's short-term construction emissions for the criteria pollutants. The construction-related regional air quality impacts have been analyzed for both criteria pollutants and GHGs.

Emissions are estimated using the CalEEMod (Version 2022.1.1.20) software, which 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 GHG emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California and is recommended by the SCAQMD.[8]

Daily regional emissions during construction are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source and fugitive dust emissions factors. The input values used in this analysis were adjusted to be project-specific for the construction schedule and the equipment used was based on CalEEMod defaults. The CalEEMod program uses the EMFAC2021 computer program to calculate the emission rates specific for the eastern portion of Riverside County for construction-related employee vehicle trips and the OFFROAD2017 computer program to calculate emission rates for heavy truck operations. EMFAC2021 and OFFROAD2017 are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour. Daily truck trips and CalEEMod default trip length data were used to assess roadway emissions from truck exhaust. The maximum daily emissions are estimated values for the worst-case day and do not represent the emissions that would occur for every day of project construction. The maximum daily emissions are compared to the SCAQMD daily regional numeric indicators. Detailed construction equipment lists, construction scheduling, and emission calculations are provided in Appendix B.

The project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rules 403 and 403.1 establish these procedures. Compliance with these rules is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, managing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt

[8] South Coast Air Quality Management District, California Emissions Estimator Model, http://www.aqmd.gov/ caleemod/.

from paved site access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent and stabilizing ground cover on finished sites.

In addition, any operator applying for a grading permit, or a building permit for an activity with a disturbed surface area of more than 5,000 square feet, shall not initiate any earth-moving operations unless a Fugitive Dust Control Plan has been prepared pursuant to the provisions of the Coachella Valley Fugitive Dust Control Handbook and approved by the City. It is anticipated that this project will obtain and prepare the required Fugitive Dust Control Plan.

SCAQMD's Rule 403 and 403.1 minimum requirements require that the application of the best available dust control measures are used for all grading operations and include the application of water or other soil stabilizers in sufficient quantity to prevent the generation of visible dust plumes. Compliance with Rules 403 and 403.1 would require the use of water trucks during all phases where earth moving operations would occur. Compliance with Rule 403 has been included in the CalEEMod modeling for the proposed project.

Per SCAQMD Rule 1113 as amended on June 3, 2011, the architectural coatings that would be applied after January 1, 2014 will be limited to an average of 50 grams per liter or less. CalEEMod defaults have been adjusted accordingly.

The phases of the construction activities which have been analyzed below for each phase are: (1) demolition, (2) grading, (3) building construction, (4) paving, and (5) application of architectural coatings. Building construction, paving and painting phases may overlap during construction. Details pertaining to the project's construction timing and the type of equipment modeled for each construction phase are available in the CalEEMod output in Appendix B.

Construction-Related Regional Impacts

The maximum summer or winter criteria pollutant emissions from the proposed project's construction-related criteria pollutant emissions are shown below in Table 6. Table 6 shows that none of the project's emissions will exceed regional thresholds. Therefore, a less than significant regional air quality impact would occur from construction of the proposed project.

Construction-Related Local Impacts

Construction-related air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Salton Sea portion of the South Coast Air Basin. The proposed project has been analyzed for the potential local air quality impacts created from: construction-related fugitive dust and diesel emissions; from toxic air contaminants; and from construction-related odor impacts.

Local Air Quality Impacts from Construction

The SCAQMD has published a "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds" (South Coast Air Quality Management District 2011b). CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily disturbance activity possible for each piece of equipment. In order to compare CalEEMod reported emissions against the localized significance threshold lookup tables, the CEQA document should contain the following parameters:

(1) The off-road equipment list (including type of equipment, horsepower, and hours of operation) assumed for the day of construction activity with maximum emissions.
(2) The maximum number of acres disturbed on the peak day.
(3) Any emission control devices added onto off-road equipment.
(4) Specific dust suppression techniques used on the day of construction activity with maximum emissions.

The CalEEMod output in Appendix B show the equipment used for this analysis.

As shown in Table 7, the maximum number of acres disturbed in a day would be 2.5 acres during grading. The local air quality emissions from construction were analyzed using the SCAQMD's Mass Rate Localized Significant Threshold Look-up Tables and the methodology described in Localized Significance Threshold Methodology prepared by SCAQMD (revised July 2008). The Look-up Tables were developed by the SCAQMD in order to readily determine if the daily emissions of CO, NOx, PM10, and PM2.5 from the proposed project could result in a significant impact to the local air quality. The emission thresholds were calculated based on the Coachella Valley source receptor area (SRA) 30 and a disturbance value of two acres per day, to be conservative. According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25-meter thresholds. The nearest sensitive receptors are the existing single-family residential uses with property lines located adjacent to the north and east of the project site; therefore, the SCAQMD Look-up Tables for 25 meters was used. Table 8 shows the on-site emissions from the CalEEMod model for the different construction phases and the LST emissions thresholds.

The data provided in Table 8 shows that none of the analyzed criteria pollutants would exceed the local emissions thresholds at the nearest sensitive receptors. Therefore, a less than significant local air quality impact would occur from construction of the proposed project.

Construction-Related Health Impacts

Regarding health effects related to criteria pollutant emissions, the applicable significance thresholds are established for regional compliance with the state and federal ambient air quality standards, which are intended to protect public health from both acute and long-term health impacts, depending on the potential effects of the pollutant. Because regional and local emissions of criteria pollutants during construction of the project would be below the applicable thresholds, it would not contribute to long-term health impacts related to nonattainment of the ambient air quality standards. Therefore, significant adverse acute health impacts as a result of project construction are not anticipated.

Construction-Related Toxic Air Contaminant Impacts

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. According to the Office of Environmental Health Hazard Assessment (OEHHA)[9] and the SCAQMD *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (August 2003),[10] health effects from TACs are described in terms of individual cancer risk based on a lifetime (i.e., 30-year) resident exposure duration. Given the temporary and short-term construction schedule (approximately 13 months), the Project would not result in a long-term (i.e., lifetime or 30-year) exposure as a result of project construction. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds and the nearest sensitive receptors to the project are located adjacent to the north and east of the project site.

The project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than 5 minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds. Therefore, impacts from TACs during construction would be less than significant.

[9] Office of Environmental Health Hazard Assessment, Air Toxic Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessment, February 2015, https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

[10] South Coast Air Quality Management District, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, August 2003. ,http://www.aqmd.gov/docs/default-source/ceqa/handbook/mobile-source-toxics-analysis.doc?sfvrsn=2.

Construction-Related Odor Impacts

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are short-term in nature and the odor emissions are expected cease upon the drying or hardening of the odor producing materials. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the proposed project. Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not reach an objectionable level at the nearest sensitive receptors.

Table 6
Construction-Related Regional Pollutant Emissions

Activity	Pollutant Emissions (pounds/day)					
	ROG	NOx	CO	SO_2	PM10	PM2.5
Maximum Daily Emissions[1,2]	7.73	22.30	23.20	0.04	3.68	2.05
SCAQMD Thresholds	75	100	550	150	150	55
Exceeds Thresholds?	No	No	No	No	No	No

Notes:

Source: CalEEMod Version 2022.1.1.20.

(1) Includes on-site and off-site emissions. On-site demolition and grading PM-10 and PM-2.5 emissions show compliance with SCAQMD Rule 403 for fugitive dust.

(2) Construction, painting and paving phases may overlap.

Table 7
Maximum Number of Acres Disturbed Per Day

Activity	Equipment	Number	Acres/8hr-day	Total Acres
Demolition	Rubber Tired Dozers	2	0.5	1
	Total for Phase	**-**	**-**	**1**
Grading	Rubber Tired Dozers	1	0.5	0.5
	Graders	1	0.5	0.5
	Crawler Tractors[1]	3	0.5	1.5
	Total for Phase	**-**	**-**	**2.5**

Notes:

Source: South Coast AQMD, Fact Sheet for Applying CalEEMod to Localized Significance Thresholds, 2011b.

(1) Tractor/loader/backhoe is a suitable surrogate for a crawler tractor per SCAQMD staff.

Table 8
Local Construction Emissions at the Nearest Receptors

Activity	On-Site Pollutant Emissions (pounds/day)			
	NOx	CO	PM10	PM2.5
Demolition	22.20	19.90	0.96	0.85
Grading	16.30	17.90	3.48	2.00
Building Construction	10.40	13.00	0.43	0.40
Paving	6.52	8.84	0.29	0.26
Architectural Coating	0.86	1.13	0.02	0.02
SCAQMD Thresholds[1]	191	1,299	7	5
Exceeds Threshold?	No	No	No	No

Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for 2 acres, to be conservative, at a distance of 25 m in SRA 30 Coachella Valley.

(1) The nearest sensitive receptors to the project are the existing single-family residential uses with property lines located adjacent to the north and east of the project site; therefore, the 25 meter threshold was used.

Note: The proposed project will disturb up to a maximum of 2.5 acre per day during grading (see Table 7).

LONG-TERM OPERATIONAL EMISSIONS

The on-going operation of the proposed project would result in a long-term increase in air quality emissions. This increase would be due to emissions from the project-generated vehicle trips and through operational emissions from the on-going use of the proposed project. The following section provides an analysis of potential long-term air quality impacts due to: regional air quality and local air quality impacts with the on-going operations of the proposed project.

Operations-Related Regional Air Quality Impacts

The potential operations-related air emissions have been analyzed below for the criteria pollutants and cumulative impacts.

Operations-Related Criteria Pollutants Analysis

The operations-related criteria air quality impacts created by the proposed project have been analyzed through the use of the CalEEMod model. The operating emissions were based on the year 2026, which is the anticipated opening year for the proposed project. The operations daily emissions printouts from the CalEEMod model are provided in Appendix B. The CalEEMod analyzes operational emissions from area sources, energy usage, and mobile sources, which are discussed below.

Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. Per the project applicant, the project is to screen out of the requirement of a traffic study. Therefore, the vehicle trips associated with the proposed project have been analyzed by inputting the project-generated vehicular trips from the Institute of Transportation Engineers (ITE) 11th Edition Trip Generation Manual (2021) into the CalEEMod Model. Per the ITE rate for single-family housing (ITE 210) the proposed project will have trip generation rates of 9.43 trips per dwelling unit per weekday, 9.48 trips per dwelling unit per Saturday, and 8.48 trips per dwelling unit per Sunday. The program then applies the emission factors for each trip which is provided by the EMFAC2021 model to determine the vehicular traffic pollutant emissions.

Area Sources

Per the CAPCOA Appendix A Calculation Details for CalEEMod, area sources include emissions from consumer products, landscape equipment and architectural coatings. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. As specifics were not known about the landscaping equipment fleet, CalEEMod defaults were used to estimate emissions from landscaping equipment. No changes were made to the default area source parameters.

Energy Usage

Energy usage includes emissions from the generation of electricity and natural gas used on-site. No changes were made to the default energy usage parameters.

Project Impacts

The maximum daily pollutant emissions created from the proposed project's long-term operations have been calculated and are shown below in Table 9. Table 9 shows that none of the analyzed criteria pollutants would exceed the regional emissions thresholds. Therefore, a less than significant regional air quality impact would occur from operation of the proposed project.

Operations-Related Local Air Quality Impacts

Project-related air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Salton Sea Air Basin. The proposed project has been analyzed for the potential local CO emission impacts from the project-generated vehicular trips and from the potential local air quality impacts from on-site operations. The following analysis analyzes the vehicular CO emissions, local impacts from on-site operations per SCAQMD LST methodology, and odor impacts.

Local CO Emission Impacts from Project-Generated Vehicular Trips

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential local air quality impacts. Local air quality impacts can be assessed by comparing future without and with project CO levels to the State and Federal CO standards which were presented above in Section 2.

To determine if the proposed project could cause emission levels in excess of the CO standards discussed above in Section 2, a sensitivity analysis is typically conducted to determine the potential for CO "hot spots" at a number of intersections in the general project vicinity. Because of reduced speeds and vehicle queuing, "hot spots" potentially can occur at high traffic volume intersections with a Level of Service E or worse.

The analysis prepared for CO attainment in the South Coast Air Basin by the SCAQMD can be used to assist in evaluating the potential for CO exceedances in the South Coast Air Basin. CO attainment was thoroughly analyzed as part of the SCAQMD's 2003 Air Quality Management Plan (2003 AQMP) and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan). As discussed in the 1992 CO Plan, peak carbon monoxide concentrations in the South Coast Air Basin are due to unusual meteorological and topographical conditions, and not due to the impact of particular intersections. Considering the region's unique meteorological conditions and the increasingly stringent CO emissions standards, CO modeling was performed as part of 1992 CO Plan and subsequent plan updates and air quality management plans. In the 1992 CO Plan, a CO hot spot analysis was conducted for four busy intersections in Los Angeles at the peak morning and afternoon time periods. The intersections evaluated included: South Long Beach Boulevard and Imperial Highway (Lynwood); Wilshire Boulevard and Veteran Avenue (Westwood); Sunset Boulevard and Highland Avenue (Hollywood); and La Cienega Boulevard and Century Boulevard (Inglewood). These analyses did not predict a violation of CO standards. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vehicles per day. The Los Angeles County Metropolitan Transportation Authority[11] evaluated the Level of Service in the vicinity of the Wilshire Boulevard/Veteran Avenue intersection and found it to be Level of Service E during the morning peak hour and Level of Service F during the afternoon peak hour.

The proposed project consists of nine single-family dwelling units and screened out of requiring a project specific traffic study. The 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan) showed that an intersection which has a daily traffic volume of approximately 100,000 vehicles per day would not violate the CO standard. Therefore, based on the size of the project, no CO "hot spot" modeling was performed and no significant long-term air quality impact is anticipated to local air quality due to the on-going use of the proposed project.

Local Air Quality Impacts from On-Site Operations

Project-related air emissions from on-site sources such as architectural coatings, landscaping equipment, on-site usage of natural gas appliances as well as the operation of vehicles on-site may have the potential to

[11] Metropolitan Transportation Authority, *2004 Congestion Management Plan for Los Angeles County*, Adopted July 22, 2004.

exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Salton Sea portion of the South Coast Air Basin. The nearest sensitive receptors to the project include the existing single-family residential uses with property lines located adjacent to the north and east of the project site.

According to SCAQMD LST methodology, LSTs would apply to the operational phase of a project, if the project includes stationary sources, or attracts mobile sources (such as heavy-duty trucks) that may spend long periods queuing and idling at the site, such as industrial warehouse/transfer facilities. The proposed project is the development of the site with residential uses and does not include such uses. Therefore, due to the lack of stationary source emissions, no long-term localized significance threshold analysis is warranted.

Operations-Related Health Impacts

Regarding health effects related to criteria pollutant emissions, the applicable significance thresholds are established for regional compliance with the state and federal ambient air quality standards, which are intended to protect public health from both acute and long-term health impacts, depending on the potential effects of the pollutant. Because regional and local emissions of criteria pollutants during operation of the project would be below the applicable thresholds, it would not contribute to long-term health impacts related to nonattainment of the ambient air quality standards. Therefore, significant adverse acute health impacts as a result of project operation are not anticipated.

Operations-Related Odor Impacts

Potential sources that may emit odors during the on-going operations of the proposed project would include odor emissions from diesel vehicle emissions and trash storage areas. The project consists of a hotel and amphitheater and will not attract a significant amount of heavy-duty truck traffic. Due to the distance of the nearest receptors from the project site and through compliance with SCAQMD's Rule 402 no significant impact related to odors would occur during the on-going operations of the proposed project.

Table 9
Regional Operational Pollutant Emissions

Activity	Pollutant Emissions (pounds/day)					
	ROG	NOx	CO	SO2	PM10	PM2.5
Maximum Daily Emissions	0.82	0.66	4.80	0.01	0.87	0.24
SCAQMD Thresholds	55	55	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Notes:

Source: CalEEMod Version 2022.1.1.20; the higher of either summer or winter emissions.

CUMULATIVE AIR QUALITY IMPACTS

There are a number of cumulative projects in the project area that have not yet been built or are currently under construction. Since the timing or sequencing of the cumulative projects is unknown, any quantitative analysis to ascertain daily construction emissions that assumes multiple, concurrent construction projects would be speculative. Further, cumulative projects include local development as well as general growth within the project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered would cover an even larger area. The SCAQMD recommends using two different methodologies: (1) that project-specific air quality impacts be used to determine the potential cumulative impacts to regional air quality;[12] and (2) that a project's consistency with the current AQMP be used to determine its potential cumulative impacts.

Project Specific Impacts

The project area is out of attainment for ozone and PM10. Construction and operation of cumulative projects will further degrade the local air quality, as well as the air quality of the Salton Sea portion of the South Coast Air Basin. The greatest cumulative impact on the quality of regional air cell will be the incremental addition of pollutants mainly from increased traffic volumes from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with the construction of these projects. Air quality will be temporarily degraded during construction activities that occur separately or simultaneously. However, in accordance with the SCAQMD methodology, projects that do not exceed the SCAQMD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact. This applies to TACs as well, as the SCAQMD does not have any cumulative TAC thresholds; therefore, projects that do not exceed the SCAQMD TAC threshold criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact. A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant.

Project operations would generate emissions of NOx, ROG, CO, PM10, and PM2.5, which would not exceed the SCAQMD regional or local thresholds and would not be expected to result in ground level concentrations that exceed the NAAQS or CAAQS. The project will not be a source of significant TACs and will not cause significant cancer or non-cancer-related health risks. Since the project would not introduce any substantial stationary sources of emissions, CO is the benchmark pollutant for assessing local area air quality impacts from post-construction motor vehicle operations. As indicated earlier, no violations of the state and federal CO standards are projected to occur for the project, based on the magnitude of traffic the project is anticipated to create.

Therefore, operation of the project would not result in a cumulatively considerable net increase for non-attainment of criteria pollutants or ozone precursors, or TACs. As a result, the project would result in a less than significant cumulative impact for operational emissions.

Air Quality Compliance

The California Environmental Quality Act (CEQA) requires a discussion of any inconsistencies between a proposed project and applicable General Plans and Regional Plans (CEQA Guidelines Section 15125). The regional plan that applies to the proposed project includes the SCAQMD Air Quality Management Plan (AQMP). Therefore, this section discusses any potential inconsistencies of the proposed project with the AQMP.

[12] South Coast Air Quality Management District, Potential Control Strategies to Address Cumulative Impacts from Air Pollution White Paper, 1993, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook.

The purpose of this discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the proposed project would interfere with the region's ability to comply with Federal and State air quality standards. If the decision-makers determine that the proposed project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

The SCAQMD CEQA Handbook states that "New or amended General Plan Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP". Strict consistency with all aspects of the plan is usually not required. A proposed project should be considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The SCAQMD CEQA Handbook identifies two key indicators of consistency:

(1) Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
(2) Whether the project will exceed the assumptions in the AQMP in 2022 or increments based on the year of project buildout and phase.

Both of these criteria are evaluated in the following sections.

Criteria 1 – Increase in the Frequency or Severity of Violations

Based on the air quality modeling analysis contained in this Air Analysis, short-term construction impacts will not result in significant impacts based on the SCAQMD regional and local thresholds of significance. This Air Analysis also found that long-term operations impacts will not result in significant impacts based on the SCAQMD local and regional thresholds of significance.

Therefore, the proposed project is not projected to contribute to the exceedance of any air pollutant concentration standards and is found to be consistent with the AQMP for the first criterion.

Criteria 2 – Exceed Assumptions in the AQMP?

Consistency with the AQMP assumptions is determined by performing an analysis of the proposed project with the assumptions in the AQMP. The emphasis of this criterion is to ensure that the analyses conducted for the proposed project are based on the same forecasts as the AQMP. The 2020-2045 Regional Transportation/Sustainable Communities Strategy prepared by SCAG (2020) includes chapters on: the challenges in a changing region, creating a plan for our future, and the road to greater mobility and sustainable growth. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA. For this project, the City of Rancho Mirage Land Use Plan defines the assumptions that are represented in the AQMP.

The project site is currently designated as Residential (R-L-2) on the City of Rancho Mirage General Plan Land Use Map. The proposed project includes development of the approximately 5.04-acre project site with nine single-family dwelling units. Therefore, the proposed project would not result in an inconsistency with the current land use designation in the City's General Plan. Therefore, the proposed project is not anticipated to exceed the AQMP assumptions for the project site and is found to be consistent with the AQMP for the second criterion.

Based on the above, the proposed project will not result in an inconsistency with the SCAQMD AQMP. Therefore, a less than significant impact will occur.

3. GLOBAL CLIMATE CHANGE ANALYSIS

EXISTING GREENHOUSE GAS ENVIRONMENT

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHG), play a critical role in the Earth's radiation amount by trapping infrared radiation emitted from the Earth's surface, which otherwise would have escaped to space. Prominent greenhouse gases contributing to this process include carbon dioxide (CO_2), methane (CH_4), ozone, water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these greenhouse gases in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Transportation is responsible for 41 percent of the State's greenhouse gas emissions, followed by electricity generation. Emissions of CO_2 and nitrous oxide (NOx) are byproducts of fossil fuel combustion. Methane, a potent greenhouse gas, results from off-gassing associated with agricultural practices and landfills. Sinks of CO_2, where CO_2 is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean. The following provides a description of each of the greenhouse gases and their global warming potential.

Water Vapor

Water vapor is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to "hold" more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop". The extent to which this positive feedback loop will continue is unknown as there is also dynamics that put the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth's surface and heat it up).

Carbon Dioxide (CO_2)

The natural production and absorption of CO_2 is achieved through the terrestrial biosphere and the ocean. However, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid-1700s. Each of these activities has increased in scale and distribution. CO_2 was the first GHG demonstrated to be increasing in atmospheric concentration with the first conclusive measurements being made in the last half of the 20th century. Prior to the industrial revolution, concentrations were fairly stable at 280 parts per million (ppm). The International Panel on Climate Change (IPCC Fifth Assessment Report, 2014) Emissions of CO_2 from fossil fuel combustion and industrial processes contributed about 78% of the total GHG emissions increase from 1970 to 2010, with a similar percentage contribution for the increase during the period 2000 to 2010. Globally, economic and population growth continued to be the most important drivers of increases in CO_2 emissions from fossil fuel combustion. The contribution of population growth between 2000 and 2010 remained roughly identical to the previous three decades, while the contribution of economic growth has risen sharply.

Methane (CH_4)

CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than that of CO_2. Its lifetime in the atmosphere is brief (10 to 12 years), compared to some other GHGs (such as CO_2, N_2O, and Chlorofluorocarbons (CFCs). CH_4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropocentric sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide (N_2O)

Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration of this GHG was documented at 314 parts per billion (ppb). N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is also commonly used as an aerosol spray propellant, (i.e., in whipped cream bottles, in potato chip bags to keep chips fresh, and in rocket engines and in race cars).

Chlorofluorocarbons (CFC)

CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source, but were first synthesized in 1928. It was used for refrigerants, aerosol propellants, and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and in 1989 the European Community agreed to ban CFCs by 2000 and subsequent treaties banned CFCs worldwide by 2010. This effort was extremely successful, and the levels of the major CFCs are now remaining level or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons (HFC)

HFCs are synthetic man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF_3), HFC-134a (CF_3CH_2F), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were HFC-23. HFC-134a use is increasing due to its use as a refrigerant. Concentrations of HFC-23 and HFC-134a in the atmosphere are now about 10 parts per trillion (ppt) each. Concentrations of HFC-152a are about 1 ppt. HFCs are manmade for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons (PFC)

PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). Concentrations of CF_4 in the atmosphere are over 70 ppt. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.

Sulfur Hexafluoride (SF_6)

SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 has the highest global warming potential of any gas evaluated; 23,900 times that of CO_2. Concentrations of SF_6 in the 1990s were about 4 ppt. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Aerosols

Aerosols are particles emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols. Sulfate aerosols are emitted when fuel containing sulfur is burned. Black carbon (or soot) is emitted during biomass burning due to the incomplete combustion of fossil fuels. Particulate matter regulation has been lowering aerosol concentrations in the United States; however, global concentrations are likely increasing.

Global Warming Potential

The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO_2). The larger the GWP, the more that a given gas warms the Earth compared to CO_2 over that time period. The time period usually used for GWPs is 100 years. GWPs provide a common unit of measure, which allows analysts to add up emissions estimates of different gases (e.g., to compile a national GHG inventory), and allows policymakers to compare emissions reduction opportunities across sectors and gases. A summary of the atmospheric lifetime and the global warming potential of selected gases are summarized in Table 10. As shown in Table 10, the global warming potential of GHGs ranges from 1 to 22,800.

Table 10
Global Warming Potentials and Atmospheric Lifetimes

Gas	Atmospheric Lifetime	Global Warming Potential[1] (100 Year Horizon)
Carbon Dioxide (CO_2)	–[2]	1
Methane (CH_4)	12	28-36
Nitrous Oxide (NO)	114	298
Hydrofluorocarbons (HFCs)	1-270	12-14,800
Perfluorocarbons (PFCs)	2,600-50,000	7,390-12,200
Nitrogen trifluoride (NF_3)	740	17,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Notes:

Source: http://www3.epa.gov/climatechange/ghgemissions/gases.html

(1) Compared to the same quantity of CO_2 emissions.

(2) Carbon dioxide's lifetime is poorly defined because the gas is not destroyed over time, but instead moves among different parts of the ocean–atmosphere–land system. Some of the excess carbon dioxide will be absorbed quickly (for example, by the ocean surface), but some will remain in the atmosphere for thousands of years, due in part to the very slow process by which carbon is transferred to ocean sediments.

GREENHOUSE GAS STANDARDS AND REGULATION

International

Montreal Protocol

In 1988, the United Nations established the Intergovernmental Panel on Climate Change (IPCC) to evaluate the impacts of global climate change and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the world in signing the United Nations' Framework Convention on Climate Change (UNFCCC) agreement with the goal of controlling GHG emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan consists of more than 50 voluntary programs.

Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete ozone in the stratosphere—CFCs, halons, carbon tetrachloride, and methyl chloroform—were to be phased out, with the first three by the year 2000 and methyl chloroform by 2005.

The Paris Agreement

The Paris Agreement became effective on November 4, 2016. Thirty days after this date at least 55 Parties to the United Nations Framework Convention on Climate Change (Convention), accounting in total for at least an estimated 55 % of the total global greenhouse gas emissions, had deposited their instruments of ratification, acceptance, approval or accession with the Depositary.

The Paris Agreement built upon the Convention and – for the first time – attempted to bring all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort.

The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives. The Agreement also provides for enhanced transparency of action and support through a more robust transparency framework.

Federal

The United States Environmental Protection Agency (USEPA) is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

In Massachusetts v. Environmental Protection Agency (Docket No. 05–1120), argued November 29, 2006 and decided April 2, 2007, the U.S. Supreme Court held that not only did the EPA have authority to regulate greenhouse gases, but the EPA's reasons for not regulating this area did not fit the statutory requirements. As

such, the U.S. Supreme Court ruled that the EPA should be required to regulate CO_2 and other greenhouse gases as pollutants under the federal Clean Air Act (CAA).

In response to the FY2008 Consolidations Appropriations Act (H.R. 2764; Public Law 110-161), EPA proposed a rule on March 10, 2009 that requires mandatory reporting of GHG emissions from large sources in the United States. On September 22, 2009, the Final Mandatory Reporting of GHG Rule was signed and published in the Federal Register on October 30, 2009. The rule became effective on December 29, 2009. This rule requires suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to EPA.

On December 7, 2009, the EPA Administrator signed two distinct findings under section 202(a) of the Clean Air Act. One is an endangerment finding that finds concentrations of the six GHGs in the atmosphere threaten the public health and welfare of current and future generations. The other is a cause or contribute finding, that finds emissions from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare. These actions will not themselves impose any requirements on industry or other entities. However, it is a prerequisite to finalizing the EPA's proposed GHG emission standards for light-duty vehicles, which were jointly proposed by the EPA and Department of Transportation on September 15, 2009.

Clean Air Act

In Massachusetts v. Environmental Protection Agency (Docket No. 05–1120), the U.S. Supreme Court held in April of 2007 that the USEPA has statutory authority under Section 202 of the federal Clean Air Act (CAA) to regulate GHGs. The court did not hold that the USEPA was required to regulate GHG emissions; however, it indicated that the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare. On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA. The USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO2, CH4, N2O, HFCs, PFCs, and SF6) on December 7, 2009. The Endangerment Finding is required before USEPA can regulate GHG emissions under Section 202(a)(1) of the CAA consistently with the United States Supreme Court decision. The USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. These findings do not, by themselves, impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

Energy Independence Security Act

The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;
- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and
- While superseded by the USEPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of green jobs.[13]

Executive Order 13432

In response to the Massachusetts v. Environmental Protection Agency ruling, the President signed Executive Order 13432 on May 14, 2007, directing the USEPA, along with the Departments of Transportation, Energy, and Agriculture, to initiate a regulatory process that responds to the Supreme Court's decision. Executive Order 13432 was codified into law by the 2009 Omnibus Appropriations Law signed on February 17, 2009. The order sets goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, sustainable buildings, electronics stewardship, fleets, and water conservation. Light-Duty Vehicle Greenhouse Gas and Corporate Average Fuel Economy Standards.

On May 19, 2009, President Obama announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy standards (CAFE)[14] and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO2 per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO2 per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle.[15] In 2017, the USEPA recommended no change to the GHG standards for light-duty vehicles for model years 2022-2025.

Issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020), the Safer Affordable Fuel-Efficient Vehicles Rule would maintain the CAFE and CO2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO2 standards for model year 2020 are 43.7 mpg and 204 grams of CO2 per mile for passenger cars and 31.3 mpg and 284 grams of CO2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. This Rule also excludes CO2- equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020.[16]

On May 12, 2021, the National Highway Traffic Safety Administration (NHTSA) published a notice of proposed rulemaking in the Federal Register, proposing to repeal "The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program," published Sept. 27, 2019 (SAFE I Rule), in which NHTSA codified regulatory text and made additional pronouncements regarding the preemption of state and local laws related to fuel economy standards. Specifically, this document proposes to fully repeal the regulatory text and appendices promulgated in the SAFE I Rule. In addition, this document proposes to repeal and withdraw the interpretative statements made by the Agency in the SAFE I Rule preamble, including those

[13] A green job, as defined by the United States Department of Labor, is a job in business that produces goods or provides services that benefit the environment or conserve natural resources.

[14] The Corporate Average Fuel Economy standards are regulations in the United States, first enacted by Congress in 1975, to improve the average fuel economy of cars and light trucks. The U.S Department of Transportation has delegated the National Highway Traffic Safety Administration as the regulatory agency for the Corporate Average Fuel Economy standards.

[15] United States Environmental Protection Agency, EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks, August 2012, https://nepis.epa.gov/Exe/ZyPDF.cgi/P100EZ7C.PDF?Dockey=P100EZ7C.PDF.

[16] National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: https://www.gpo.gov/fdsys/pkg/FR-2018-08-24/pdf/2018-16820.pdf.

regarding the preemption of particular state Greenhouse Gas (GHG) Emissions standards or Zero Emissions Vehicle (ZEV) mandates. As such, this document proposes to establish a clean slate with respect to NHTSA's regulations and interpretations concerning preemption under the Energy Policy and Conservation Act (EPCA).[17]

State of California

California Air Resources Board

CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards [CAAQS]), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

In 2004, the California Air Resources Board (CARB) adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other toxic air contaminants (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure generally does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given location with certain exemptions for equipment in which idling is a necessary function such as concrete trucks. While this measure primarily targets diesel particulate matter emissions, it has co-benefits of minimizing GHG emissions from unnecessary truck idling.

In 2008, CARB approved the Truck and Bus regulation to reduce particulate matter and nitrogen oxide emissions from existing diesel vehicles operating in California (13 CCR, Section 2025, subsection (h)). CARB has also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation, adopted by the CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. While these regulations primarily target reductions in criteria air pollutant emission, they have co-benefits of minimizing GHG emissions due to improved engine efficiencies.

The State currently has no regulations that establish ambient air quality standards for GHGs. However, the State has passed laws directing CARB to develop actions to reduce GHG emissions, which are listed below.

Assembly Bill 1493

California Assembly Bill 1493 enacted on July 22, 2002, required the CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2005, the CARB submitted a "waiver" request to the EPA from a portion of the federal Clean Air Act in order to allow the State to set more stringent tailpipe emission standards for CO_2 and other GHG emissions from passenger vehicles and light duty trucks. On December 19, 2007 the EPA announced that it denied the "waiver" request. On January 21, 2009, CARB submitted a letter to the EPA administrator regarding the State's request to reconsider the waiver denial. The EPA approved the waiver on June 30, 2009. After adopting these initial greenhouse gas standards for passenger vehicles, CARB adopted continuing standards for future model years.

[17] https://www.federalregister.gov/documents/2021/05/12/2021-08758/corporate-average-fuel-economy-cafe-preemption

Executive Order S-3-05

The California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following reduction targets:

- 2010: Reduce greenhouse gas emissions to 2000 levels
- 2020: Reduce greenhouse gas emissions to 1990 levels
- 2050: Reduce greenhouse gas emissions to 80 percent below 1990 levels.

The Executive Order directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. To comply with the Executive Order, the secretary of CalEPA created the California Climate Action Team (CAT), made up of members from various state agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of businesses, local governments, and communities and through State incentive and regulatory programs.

Assembly Bill 32 (California Health and Safety Code, Division 25.5 – California Global Warming Solutions Act of 2006)

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 (codified in the California Health and Safety Code [HSC], Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines GHGs as CO2, CH4, N2O, HFCs, PFCs, and SF6 and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing state actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020.

Senate Bill 32 and Assembly Bill 197

In 2016, the California State Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197, and both were signed by Governor Brown. SB 32 and AB 197 amends HSC Division 25.5 and establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and includes provisions to ensure the benefits of state climate policies reach into disadvantaged communities.

Climate Change Scoping Plan (2008)

A specific requirement of AB 32 was to prepare a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (Health and Safety Code section 38561 (h)). CARB developed an AB 32 Scoping Plan that contains strategies to achieve the 2020 emissions cap. The initial Scoping Plan was approved in 2008 and contains a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives.

As required by HSC Division 25.5, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was originally set at 427 $MMTCO_2e$ using the GWP values from the IPCC SAR. CARB also projected the state's 2020 GHG emissions under no-action-taken (NAT) conditions – that is, emissions that would occur without any plans, policies, or regulations to reduce GHG emissions. CARB originally used an average of the state's GHG emissions from 2002 through 2004 and

projected the 2020 levels at approximately 596 $MMTCO_2e$ (using GWP values from the IPCC SAR). Therefore, under the original projections, the state must reduce its 2020 NAT emissions by 28.4 percent in order to meet the 1990 target of 427 $MMTCO_2e$.

First Update to the Climate Change Scoping Plan (2014)

The First Update to the Scoping Plan was approved by CARB in May 2014 and builds upon the initial Scoping Plan with new strategies and recommendations. In 2014, CARB revised the target using the GWP values from the IPCC AR4 and determined that the 1990 GHG emissions inventory and 2020 GHG emissions limit is 431 $MMTCO_2e$. CARB also updated the State's 2020 NAT emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions required by regulation that were recently adopted for motor vehicles and renewable energy. CARB's projected statewide 2020 emissions estimate using the GWP values from the IPCC AR4 is 509.4 $MMTCO_2e$.

2017 Climate Change Scoping Plan

In response to the 2030 GHG reduction target, CARB adopted the 2017 Climate Change Scoping Plan at a public meeting held in December 2017. The 2017 Scoping Plan outlines the strategies the State will implement to achieve the 2030 GHG reduction target of 40 percent below 1990 levels. The 2017 Scoping Plan also addresses GHG emissions from natural and working lands of California, including the agriculture and forestry sectors. The 2017 Scoping Plan considered the Scoping Plan Scenario and four alternatives for achieving the required GHG reductions but ultimately selected the Scoping Plan Scenario.

CARB states that the Scoping Plan Scenario "is the best choice to achieve the State's climate and clean air goals."[18] Under the Scoping Plan Scenario, the majority of the reductions would result from the continuation of the Cap-and-Trade regulation. Additional reductions are achieved from electricity sector standards (i.e., utility providers to supply at least 50 percent renewable electricity by 2030), doubling the energy efficiency savings at end uses, additional reductions from the LCFS, implementing the short-lived GHG strategy (e.g., hydrofluorocarbons), and implementing the mobile source strategy and sustainable freight action plan. The alternatives were designed to consider various combinations of these programs, as well as consideration of a carbon tax in the event the Cap-and-Trade regulation is not continued. However, in July 2017, the California Legislature voted to extend the Cap-and-Trade regulation to 2030. Implementing this Scoping Plan will ensure that California's climate actions continue to promote innovation, drive the generation of new jobs, and achieve continued reductions of smog and air toxics. The ambitious approach draws on a decade of successful programs that address the major sources of climate-changing gases in every sector of the economy:

- More Clean Cars and Trucks: The plan sets out far-reaching programs to incentivize the sale of millions of zero-emission vehicles, drive the deployment of zero-emission trucks, and shift to a cleaner system of handling freight statewide.
- Increased Renewable Energy: California's electric utilities are ahead of schedule meeting the requirement that 33 percent of electricity come from renewable sources by 2020. The Scoping Plan guides utilities to 50 percent renewables, as required under SB 350.
- Slashing Super-Pollutants: The plan calls for a significant cut in super-pollutants such as methane and HFC refrigerants, which are responsible for as much as 40 percent of global warming.
- Cleaner Industry and Electricity: California's renewed cap-and-trade program extends the declining cap on emissions from utilities and industries and the carbon allowance auctions. The auctions will continue to fund investments in clean energy and efficiency, particularly in disadvantaged communities.
- Cleaner Fuels: The Low Carbon Fuel Standard will drive further development of cleaner, renewable transportation fuels to replace fossil fuels.

[18] California Air Resources Board, California's 2017 Climate Change Scoping Plan, November 2017, https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf

- Smart Community Planning: Local communities will continue developing plans which will further link transportation and housing policies to create sustainable communities.
- Improved Agriculture and Forests: The Scoping Plan also outlines innovative programs to account for and reduce emissions from agriculture, as well as forests and other natural lands.

The 2017 Scoping Plan also evaluates reductions of smog-causing pollutants through California's climate programs.

2022 Climate Change Scoping Plan

CARB adopted the 2022 Scoping Plan for Achieving Carbon Neutrality on November 16, 2022. The 2022 Scoping Plan lays out the sector-by-sector roadmap for California, the world's fifth largest economy, to achieve carbon neutrality by 2045 or earlier, outlining a technologically feasible, cost-effective, and equity-focused path to achieve the state's climate target. The Plan addresses recent legislation and direction from Governor Newsom and extends and expands upon earlier plans with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045. The plan also takes the unprecedented step of adding carbon neutrality as a science-based guide and touchstone for California's climate work. Specifically, this plan:

- Identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030.
- Identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 and a reduction in anthropogenic emissions by 85 percent below 1990 levels.
- Focuses on strategies for reducing California's dependency on petroleum to provide consumers with clean energy options that address climate change, improve air quality, and support economic growth and clean sector jobs.
- Integrates equity and protecting California's most impacted communities as driving principles throughout the document.
- Incorporates the contribution of natural and working lands (NWL) to the state's GHG emissions, as well as their role in achieving carbon neutrality.
- Relies on the most up-to-date science, including the need to deploy all viable tools to address the existential threat that climate change presents, including carbon capture and sequestration, as well as direct air capture.
- Evaluates the substantial health and economic benefits of taking action.
- Identifies key implementation actions to ensure success.

SB 32, Pavley. California Global Warming Solutions Act of 2006

(1) The California Global Warming Solutions Act of 2006 designates the State Air Resources Board as the state agency charged with monitoring and regulating sources of emissions of greenhouse gases. The state board is required to approve a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions level in 1990 to be achieved by 2020 and to adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective greenhouse gas emissions reductions. This bill would require the state board to ensure that statewide greenhouse gas emissions are reduced to 40% below the 1990 level by 2030.
(2) This bill would become operative only if AB 197 of the 2015–16 Regular Session is enacted and becomes effective on or before January 1, 2017. AB 197 requires that the California Air Resources Board, which directs implementation of emission-reduction programs, should target direct reductions at both stationary and mobile sources. AB 197 of the 2015-2016 Regular Session was approved on September 8, 2016.

Senate Bill 1368

Senate Bill 1368 (SB 1368) is the companion Bill of AB 32 and was adopted September, 2006. SB 1368 requires the California Public Utilities Commission (CPUC) to establish a performance standard for baseload

generation of GHG emissions by investor-owned utilities by February 1, 2007, and for local publicly owned utilities by June 30, 2007. These standards could not exceed the GHG emissions rate from a baseload combined-cycle, natural gas-fired plant. Furthermore, the legislation states that all electricity provided to the State, including imported electricity, must be generated by plants that meet the standards set by California Public Utilities Commission (CPUC) and California Energy Commission (CEC).

Executive Order S-1-07

Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs the CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard and began implementation on January 1, 2011. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. CARB approved some amendments to the LCFS in December 2011, which were implemented on January 1, 2013. In September 2015, the Board approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. In 2018, the Board approved amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector.

The LCFS is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than during the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

Senate Bill 97

Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to the CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Natural Resources Agency was required to certify and adopt those guidelines by January 1, 2010.

Pursuant to the requirements of SB 97 as stated above, on December 30, 2009, the Natural Resources Agency adopted amendments to the state CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed 14 sections of the CEQA Guidelines and incorporate GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance were provided and no specific mitigation

measures were identified. The GHG emission reduction amendments went into effect on March 18, 2010, and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation".
- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.
- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

Senate Bill 100

Senate Bill 100 (SB 100) requires 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include Senate Bill 1078 (SB 1078), which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) which changed the target date to 2010. Executive Order S-14-08, which was signed on November 2008 and expanded the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed the CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

Senate Bill 375

Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). The CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. The CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the Southern California Association of Governments (SCAG) jurisdiction, which has authority to develop the SCS or APS. For the SCAG region, the targets set by the CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 19 percent below 2005 per capita GHG emissions levels by 2035. These reduction targets became effective October 2018.

Senate Bill X7-7

Senate Bill X7-7 (SB X7-7), enacted on November 9, 2009, mandates water conservation targets and efficiency improvements for urban and agricultural water suppliers. SB X7-7 requires the Department of Water Resources (DWR) to develop a task force and technical panel to develop alternative best management practices for the water sector. In addition, SB X7-7 required the DWR to develop criteria for baseline uses for residential, commercial, and industrial uses for both indoor and landscaped area uses. The DWR was also required to develop targets and regulations that achieve a statewide 20 percent reduction in water usage.

Assembly Bill 939 and Senate Bill 1374

Assembly Bill 939 (AB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004, suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills.

California Code of Regulations (CCR) Title 24, Part 6

CCR Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008, and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. CalEEMod modeling defaults to 2008 standards. 2013 Standards were approved and have been effective since July 1, 2014. 2016 Standards were adopted January 1, 2017. 2019 standards were published July 1, 2019 and became effective January 1, 2020. The 2016 residential standards were estimated to be approximately 28 percent more efficient than the 2013 standards, whereas the 2019 residential standards are estimated to be approximately 7 percent more efficient than the 2016 standards. Furthermore, once rooftop solar electricity generation is factored in, 2019 residential standards are estimated to be approximately 53 percent more efficient than the 2016 standards. Under the 2019 standards, nonresidential buildings are estimated to be approximately 30 percent more efficient than the 2016 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

Per Section 100 Scope, the 2019 Title 24, Part 6 Building Code now requires healthcare facilities, such as assisted living facilities, hospitals, and nursing homes, to meet documentation requirements of Title 24, Part 1 Chapter 7 – Safety Standards for Health Facilities. A healthcare facility is defined as any building or portion thereof licensed pursuant to California Health and Safety Code Division 2, Chapter 1, Section 1204 or Chapter 2, Section 1250.

Section 120.1 Ventilation and Indoor Air Quality included both additions and revisions in the 2019 Code. This section now requires nonresidential and hotel/motel buildings to have air filtration systems that use forced air ducts to supply air to occupiable spaces to have air filters. Further, the air filter efficiency must be either MERV 13 or use a particle size efficiency rating specific in the Energy Code AND be equipped with air filters with a minimum 2-inch depth or minimum 1-inch depth if sized according to the equation 120.1-A. If natural ventilation is to be used the space must also use mechanical unless ventilation openings are either permanently open or controlled to stay open during occupied times. The 2019 version of the Code also completely revised the minimum ventilation requirements including DVC airflow rates within Section 120.1 Table 120.1–A. Table

120.1-A now includes air classification and recirculation limitations, these are based on either the number of occupants or the CFM/ft^2 (cubic feet per minute per square foot), whichever is greater.

Section 120.1 Ventilation and Indoor Air Quality also included additions for high-rise residential buildings. Requirements include that mechanical systems must provide air filters that and that air filters must be MERV 13 or use a particle size efficiency rating specified in the Energy Code. Window operation is no longer a method allowed to meet ventilation requirements, continuous operation of central forced air system handlers used in central fan integrated ventilation system is not a permissible method of providing the dwelling unit ventilation airflow, and central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow to each dwelling unit. In addition, requirements for kitchen range hoods were also provided in the updated Section 120.1.

Per Section 120.1(a) healthcare facilities must be ventilated in accordance with Chapter 4 of the California Mechanical Code and are NOT required to meet the ventilations requirements of Title 24, Part 6.

Section 140.4 Space Conditioning Systems included both additions and revisions within the 2019 Code. The changes provided new requirements for cooling tower efficiency, new chilled water-cooling system requirements, as well as new formulas for calculating allowed fan power. Section 140.4(n) also provide a new exception for mechanical system shut-offs for high-rise multifamily dwelling units, while Section 140.4(o) added new requirements for conditioned supply air being delivered to space with mechanical exhaust.

Section 120.6 Covered Processes added information in regards to adiabatic chiller requirements that included that all condenser fans for air-cooled converseness, evaporative-cooled condensers, adiabatic condensers, gas coolers, air or water fluid coolers or cooling towers must be continuously variable speed, with the speed of all fans serving a common condenser high side controlled in unison .Further, the mid-condensing setpoint must be 70 degrees Fahrenheit for all of the above mentioned systems.

New regulations were also adopted under Section 130.1 Indoor Lighting Controls. These included new exceptions being added for restrooms, the exception for classrooms being removed, as well as exceptions in regard to sunlight provided through skylights and overhangs.

Section 130.2 Outdoor Lighting Controls and Equipment added automatic scheduling controls which included that outdoor lighting power must be reduced by 50 to 90 percent, turn the lighting off during unoccupied times and have at least two scheduling options for each luminaire independent from each other and with a 2-hour override function. Furthermore, motion sensing controls must have the ability to reduce power within 15 minutes of area being vacant and be able to come back on again when occupied. An exception allows for lighting subject to a health or life safety statute, ordinance, or regulation may have a minimum time-out period longer than 15 minutes or a minimum dimming level above 50% when necessary to comply with the applicable law.

The 2022 Building Energy Efficiency Standards became effective on January 1, 2023.[19] All buildings for which an application for a building permit is submitted on or after January 1, 2023 must follow the 2022 standards. The core focus of the building standards has been efficiency, but the 2019 Energy Code ventured into onsite generation by requiring solar PV on new homes, providing significant GHG savings. The 2022 update builds off this progress with expanded solar standards and the move to onsite energy storage that will help Californians save on utility bills while bolstering the grid. The 2022 Energy Code update focuses on four key areas in new construction of homes and businesses:

- Encouraging electric heat pump technology and use, which consumes less energy and produces fewer emissions than traditional HVACs and water heaters.

[19] California Energy Commission (CEC). 2022. Building Energy Efficiency Standards. https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency.

- Establishing electric-ready requirements when natural gas is installed, which positions owners to use cleaner electric heating, cooking and electric vehicle (EV) charging options whenever they choose to adopt those technologies.
- Expanding solar photovoltaic (PV) system and battery storage standards to make clean energy available onsite and complement the state's progress toward a 100 percent clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

The 2022 Energy Code affects homes by establishing energy budgets based on efficient heat pumps for space or water heating to encourage builders to install heat pumps over gas-fueled HVAC units; requiring homes to be electric-ready, with dedicated 240-volt outlets and space (with plumbing for water heaters) so electric appliances can eventually replace installed gas appliances; increasing minimum kitchen ventilation requirements so that fans over cooktops have higher airflow or capture efficiency to better exhaust pollution from gas cooking and improve indoor air quality; and allowing exceptions to existing solar PV standards when roof area is not available (such as for smaller homes). In addition, the effect on businesses includes establishing combined solar PV and battery standards for select businesses with systems being sized to maximize onsite use of solar energy and avoid electricity demand during times when the grid must use gas-powered plants; establishing new efficiency standards for commercial greenhouses (primarily cannabis growing); and improving efficiency standards for building envelope, various internal systems, and grid integration equipment, such as demand-responsive controls to buoy grid stability.[20,21]

California Code of Regulations (CCR) Title 24, Part 11

On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The 2016 version of the California Green Building Standards became effective January 1, 2017.

2016 CALGreen Code: The 2016 residential standards were estimated to be approximately 28 percent more efficient than the 2013 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions. During the 2016-2017 fiscal year, the Department of Housing and Community Development (HCD) updated CALGreen through the 2015 Triennial Code Adoption Cycle.

HCD also increased the required construction waste reduction from 50 percent to 65 percent of the total building site waste. This increase aids in meeting CalRecycle's statewide solid waste recycling goal of 75 percent for 2020 as stated in Chapter 476, Statutes of 2011 (AB 341). HCD adopted new regulations requiring recycling areas for multifamily projects of five or more dwelling units. This regulation requires developers to provide readily accessible areas adequate in size to accommodate containers for depositing, storage and collection of non-hazardous materials (including organic waste) for recycling. This requirement assists businesses that were required as of April 1, 2016, to meet the requirements of Chapter 727, Statutes of 2014 (AB 1826).

HCD adopted new regulations to require information on photovoltaic systems and electric vehicle chargers to be included in operation and maintenance manuals. Currently, CALGreen section 4.410.1 Item 2(a) requires operation and maintenance instructions for equipment and appliances. Photovoltaic systems and electric vehicle chargers are systems that play an important role in many households in California, and their importance is increasing every day. HCD incorporated these two terms in the existing language in order to provide clarity to code users as to additional systems requiring operation and maintenance instructions.

[20] https://www.lightnowblog.com/2021/08/california-energy-commission-adopts-2022-building-energy-efficiency-standards/

[21] State of California Energy Commission. 2022 Building Energy Efficiency Standards Summary. https://www.energy.ca.gov/sites/default/files/2021-08/CEC_2022_EnergyCodeUpdateSummary_ADA.pdf

HCD updated the reference to Clean Air Standards of the United States Environmental Protection Agency applicable to woodstoves and pellet stoves. HCD also adopted a new requirement for woodstoves and pellet stoves to have a permanent label indicating they are certified to meet the emission limits. This requirement provides clarity to the code user and is consistent with the United States Environmental Protection Agency's New Source Performance Standards. HCD updated the list of standards which can be used for verification of compliance for exterior grade composite wood products. This list now includes four standards from the Canadian Standards Association (CSA): CSA O121, CSA O151, CSA O153 and CSA O325. HCD updated heating and air-conditioning system design references to the ANSI/ACCA 2 Manual J, ANSI/ACCA 1 Manual D, and ANSI/ACCA 3 Manual S to the most recent versions approved by ANSI. HCD adopted a new elective measure for hot water recirculation systems for water conservation. The United States Department of Energy estimates that 3,600 to 12,000 gallons of water per year can be saved by the typical household (with four points of hot water use) if a hot water recirculation system is installed.

2019 CALGreen Code: During the 2019-2020 fiscal year, the Department of Housing and Community Development (HCD) updated CALGreen through the 2019 Triennial Code Adoption Cycle. The 2019 version of the California Green Building Standards became effective January 1, 2020.

HCD modified the best management practices for stormwater pollution prevention adding Section 5.106.2 for projects that disturb one or more acres of land. This section requires projects that disturb one acre or more of land or less than one acre of land but are part of a larger common plan of development or sale must comply with the postconstruction requirement detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board. The NPDES permits require postconstruction runoff (post-project hydrology) to match the preconstruction runoff pre-project hydrology) with installation of postconstruction stormwater management measures.

HCD added sections 5.106.4.1.3 and 5.106.4.1.5 in regard to bicycle parking. Section 5.106.4.1.3 requires new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility. In addition, Section 5.106.4.1.5 states that acceptable bicycle parking facility for Sections 5.106.4.1.2 through 5.106.4.1.4 shall be convenient from the street and shall meeting one of the following: (1) covered, lockable enclosures with permanently anchored racks for bicycles; (2) lockable bicycle rooms with permanently anchored racks; or (3) lockable, permanently anchored bicycle lockers.

HCD amended section 5.106.5.3.5 allowing future charging spaces to qualify as designated parking for clean air vehicles.

HCD updated section 5.303.3.3 in regard to showerhead flow rates. This update reduced the flow rate to 1.8 GPM.

HCD amended section 5.304.1 for outdoor potable water use in landscape areas and repealed sections 5.304.2 and 5.304.3. The update requires nonresidential developments to comply with a local water efficient landscape ordinance or the current California Department of Water Resource's' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. Some updates were also made in regard to the outdoor potable water use in landscape areas for public schools and community colleges.

HCD updated Section 5.504.5.3 in regard to the use of MERV filters in mechanically ventilated buildings. This update changed the filter use from MERV 8 to MERV 13. MERV 13 filters are to be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

The 2022 California Green Building Standards Code became effective on January 1, 2023.[22]

In the 2022 Code, HCD amended Section 5.106.5.3 in regard to increasing the EV capable space percentages and adding a new requirement for installed Level 2 DCFC chargers.

HCD under Section 5.106.5.4 added new regulation for electric vehicle charging readiness requirements for new construction of warehouse, grocery stores, and retail stores with planned off-street loading spaces. [23]

Executive Order B-30-15

On April 29, 2015, Governor Brown issued Executive Order B-30-15. Therein, the Governor directed the following:

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

Executive Order B-29-15

Executive Order B-29-15, mandates a statewide 25 percent reduction in potable water usage. EO B-29-15 signed into law on April 1, 2015.

Executive Order B-37-16

Executive Order B-37-16, continuing the State's adopted water reductions, was signed into law on May 9, 2016. The water reductions build off the mandatory 25 percent reduction called for in EO B-29-15.

Executive Order N-79-20

Executive Order N-79-20 Signed in September 2020, Executive Order N-79-20 establishes as a goal that where feasible, all new passenger cars and trucks, as well as all drayage/cargo trucks and off-road vehicles and equipment, sold in California, will be zero-emission by 2035. The executive order sets a similar goal requiring that all medium and heavy-duty vehicles will be zero-emission by 2045 where feasible. It also directs CARB to develop and propose rulemaking for passenger vehicles and trucks, medium-and heavy-duty fleets where feasible, drayage trucks, and off-road vehicles and equipment "requiring increasing volumes" of new zero emission vehicles (ZEVs) "towards the target of 100 percent." The executive order directs the California Environmental Protection Agency, the California Geologic Energy Management Division (CalGEM), and the California Natural Resources Agency to transition and repurpose oil production facilities with a goal toward meeting carbon neutrality by 2045. Executive Order N-79-20 builds upon the CARB Advanced Clean Trucks regulation, which was adopted by CARB in July 2020.

SBX1 2

Signed into law in April 2011, SBX1 2, requires one-third of the State's electricity to come from renewable sources. The legislation increases California's current 20 percent renewables portfolio standard target in 2010 to a 33 percent renewables portfolio standard by December 31, 2020.

[22] California Building Standards Commission (CBSC). 2022. California Green Building Standards. Website: https://codes.iccsafe.org/content/CAGBC2022P1.

[23] https://www.dgs.ca.gov/BSC/Resources/2022-Title-24-California-Code-Changes

Senate Bill 350

Signed into law October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and the greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs). These IRPs will detail how each entity will meet their customers resource needs, reduce greenhouse gas emissions and ramp up the deployment of clean energy resources.

Energy Sector and CEQA Guidelines Appendix F

The CEC first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically (typically every three years) to allow for the consideration and inclusion of new energy efficiency technologies and methods. The 2016 update to the Energy Efficiency Standards for Residential and Nonresidential Buildings focuses on several key areas to improve the energy efficiency of renovations and addition to existing buildings as well as newly constructed buildings and renovations and additions to existing buildings. The major efficiency improvements to the residential Standards involve improvements for attics, walls, water heating, and lighting, whereas the major efficiency improvements to the nonresidential Standards include alignment with the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1-2013 national standards. Furthermore, the 2016 update requires that enforcement agencies determine compliance with CCR, Title 24, Part 6 before issuing building permits for any construction.[24]

Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality."25 As of January 1, 2011, the CALGreen Code is mandatory for all new buildings constructed in the state. The CALGreen Code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The CALGreen Code was most recently updated in 2022 to include new mandatory measures for residential and nonresidential uses; the new measures took effect on January 1, 2023.

Regional – South Coast Air Quality Management District

The project is within the Salton Sea portion of the South Coast Air Basin, which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

SCAQMD Regulation XXVII, Climate Change

SCAQMD Regulation XXVII currently includes three rules:

[24] California Energy Commission, 2016 Building Energy Efficiency Standards, June 2015, http://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037-CMF.pdf

[25] California Building Standards Commission, 2010 California Green Building Standards Code, (2010).

- The purpose of Rule 2700 is to define terms and post global warming potentials.
- The purpose of Rule 2701, SoCal Climate Solutions Exchange, is to establish a voluntary program to encourage, quantify, and certify voluntary, high quality certified greenhouse gas emission reductions in the SCAQMD.
- Rule 2702, Greenhouse Gas Reduction Program, was adopted on February 6, 2009. The purpose of this rule is to create a Greenhouse Gas Reduction Program for greenhouse gas emission reductions in the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

A variety of agencies have developed greenhouse gas emission thresholds and/or have made recommendations for how to identify a threshold. However, the thresholds for projects in the jurisdiction of the SCAQMD remain in flux. The California Air Pollution Control Officers Association explored a variety of threshold approaches, but did not recommend one approach (2008). The ARB recommended approaches for setting interim significance thresholds (California Air Resources Board 2008b), in which a draft industrial project threshold suggests that non-transportation related emissions under 7,000 $MTCO_2e$ per year would be less than significant; however, the ARB has not approved those thresholds and has not published anything since then. The SCAQMD is in the process of developing thresholds, as discussed below.

SCAQMD Threshold Development

On December 5, 2008, the SCAQMD Governing Board adopted an interim greenhouse gas significance threshold for stationary sources, rules, and plans where the SCAQMD is lead agency (SCAQMD permit threshold). The SCAQMD permit threshold consists of five tiers. However, the SCAQMD is not the lead agency for this project. Therefore, the five permit threshold tiers do not apply to the proposed project.

The SCAQMD is in the process of preparing recommended significance thresholds for greenhouse gases for local lead agency consideration ("SCAQMD draft local agency threshold"); however, the SCAQMD Board has not approved the thresholds as of the date of the Notice of Preparation. The current draft thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a greenhouse gas reduction plan. If a project is consistent with a qualifying local greenhouse gas reduction plan, it does not have significant greenhouse gas emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to a project's operational emissions. If a project's emissions are under one of the following screening thresholds, then the project is less than significant:
    - All land use types: 3,000 $MTCO_2e$ per year
    - Based on land use type: residential: 3,500 $MTCO_2e$ per year; commercial: 1,400 $MTCO_2e$ per year; or mixed use: 3,000 $MTCO_2e$ per year.
    - Based on land type: Industrial (where SCAQMD is the lead agency), 10,000 $MTCO_2e$ per year.
- Tier 4 has the following options:
    - Option 1: Reduce emissions from business as usual (BAU) by a certain percentage; this percentage is currently undefined.
    - Option 2: Early implementation of applicable AB 32 Scoping Plan measures.
    - Option 3, 2020 target for service populations (SP), which includes residents and employees: 4.8 $MTCO_2e$/SP/year for projects and 6.6 $MTCO_2e$/SP/year for plans;
    - Option 3, 2035 target: 3.0 $MTCO_2e$/SP/year for projects and 4.1 $MTCO_2e$/SP/year for plans.
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's draft threshold uses the Executive Order S-3-05 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap carbon dioxide concentrations at 450 ppm, thus stabilizing global climate. Specifically, the Tier 3 screening level for stationary sources is based on an emission capture rate of 90 percent for all new or modified projects. A 90 percent emission capture rate means that 90 percent of total emissions from all new or modified stationary source projects would be subject to a CEQA analysis, including a negative declaration, a mitigated negative declaration, or an environmental impact report, which includes analyzing feasible alternatives and imposing feasible mitigation measures. A GHG significance threshold based on a 90 percent emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement GHG reduction measures. Further, a 90 percent emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This assertion is based on the fact that staff estimates that these GHG emissions would account for slightly less than one percent of future 2050 statewide GHG emissions target (85 MMTCO2eq/year). In addition, these small projects may be subject to future applicable GHG control regulations that would further reduce their overall future contribution to the statewide GHG inventory. Finally, these small sources are already subject to BACT for criteria pollutants and are more likely to be single-permit facilities, so they are more likely to have few opportunities readily available to reduce GHG emissions from other parts of their facility.

SCAQMD Working Group

Since neither the CARB nor the OPR has developed GHG emissions threshold, the SCAQMD formed a Working Group to develop significance thresholds related to GHG emissions. At the September 28, 2010 Working Group meeting, the SCAQMD released its most current version of the draft GHG emissions thresholds, which recommends a tiered approach that provides a quantitative annual threshold of 10,000 MTCO2e for industrial uses.

In order to assist local agencies with direction on GHG emissions, the SCAQMD organized a working group and adopted Rules 2700, 2701, 2702, and 3002 which are described below.

SCAQMD Rules 2700 and 2701

The SCAQMD adopted Rules 2700 and 2701 on December 5, 2008, which establishes the administrative structure for a voluntary program designed to quantify GHG emission reductions. Rule 2700 establishes definitions for the various terms used in Regulation XXVII – Global Climate Change. Rule 2701 provides specific protocols for private parties to follow to generate certified GHG emission reductions for projects within the district. Approved protocols include forest projects, urban tree planting, and manure management. The SCAQMD is currently developing additional protocols for other reduction measures. For a GHG emission reduction project to qualify, it must be verified and certified by the SCAQMD Executive Officer, who has 60 days to approve or deny the Plan to reduce GHG emissions. Upon approval of the Plan, the Executive Officer issues required to issue a certified receipt of the GHG emission reductions within 90 days.

SCAQMD Rule 2702

The SCAQMD adopted Rule 2702 on February 6, 2009, which establishes a voluntary air quality investment program from which SCAQMD can collect funds from parties that desire certified GHG emission reductions, pool those funds, and use them to purchase or fund GHG emission reduction projects within two years, unless extended by the Governing Board. Priority will be given to projects that result in co-benefit emission reductions of GHG emissions and criteria or toxic air pollutants within environmental justice areas. Further, this voluntary program may compete with the cap-and-trade program identified for implementation in CARB's Scoping Plan, or a Federal cap and trade program.

SCAQMD Rule 3002

The SCAQMD amended Rule 3002 on November 5, 2010 to include facilities that emit greater than 100,000 tons per year of CO_2e are required to apply for a Title V permit by July 1, 2011. A Title V permit is for facilities that are considered major sources of emissions.

Local – City of Rancho Mirage

The City of Rancho Mirage does not currently have a Climate Action Plan; however, the City's Sustainability Plan and Energy Action Plan were both adopted in March of 2013. The City's Sustainability Plan was created as a framework for the development and implementation of policies and programs to reduce the City's GHG emissions. The Plan includes 82 measures to be implemented over the course of an eight-year period, lasting until 2020, in order to achieve their emission reduction goals. The Plan defines the City's goal of complying with statewide mandates to reduce GHG emissions. Through the City's consider actions the City anticipates the following outcomes:

- Increase energy efficiency in local government operation and in community activities;
- Create new jobs in the community associated with smart energy management;
- Save money now being spent for energy and explore the establishment of a revolving fund whereby energy savings will be available for municipal and community programs to enhance energy efficiency and continue to reduce GHG emissions;
- Maintain or enhance the comfortable desert lifestyle of residents and visitors alike; and
- Bring the CVAG jurisdictions together for effective regional sustainability and climate action planning

Further, the Energy Action Plan focuses on ways the City can reduce costs at the same time as enhancing energy efficiency. The Energy Action plan included a City goal of a 10 percent reduction in energy use from 2005 baseline use levels by 2015.

SIGNIFICANCE THRESHOLDS

Appendix G of State CEQA Guidelines

The CEQA Guidelines recommend that a lead agency consider the following when assessing the significance of impacts from GHG emissions on the environment:

- The extent to which the project may increase (or reduce) GHG emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;
- The extent to which the project complies with regulations or requirements adopted to implement an adopted statewide, regional, or local plan for the reduction or mitigation of GHG emissions[26].

Thresholds of Significance for this Project

To determine whether the project's GHG emissions are significant, this analysis uses the SCAQMD screening threshold of 3,000 $MTCO_2e$ per year for all land uses.

[26] The Governor's Office of Planning and Research recommendations include a requirement that such a plan must be adopted through a public review process and include specific requirements that reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable, notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

METHODOLOGY

The proposed project is anticipated to generate GHG emissions from area sources, energy usage, mobile sources, waste, water, and construction equipment. The following provides the methodology used to calculate the project-related GHG emissions and the project impacts.

CalEEMod Version 2022.1.1.20 was used to calculate the GHG emissions from the proposed project. The CalEEMod Output for year 2026 is available in Appendix B. Each source of GHG emissions is described in greater detail below.

Area Sources

Area sources include emissions from consumer products, landscape equipment and architectural coatings. No changes were made to the default area source emissions.

Energy Usage

Energy usage includes emissions from the generation of electricity and natural gas used on-site. No changes were made to the default energy usage parameters.

Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The vehicle trips associated with the proposed project have been analyzed by inputting the project-generated vehicular trips from the ITE Trip Generation Manual 11th Edition (2021) into the CalEEMod Model. The program then applies the emission factors for each trip which is provided by the EMFAC2021 model to determine the vehicular traffic pollutant emissions. The CalEEMod default trip lengths were used in this analysis. See Section 2 for details.

Waste

Waste includes the GHG emissions generated from the processing of waste from the proposed project as well as the GHG emissions from the waste once it is interred into a landfill. No changes were made to the default waste parameters.

Water

Water includes the water used for the interior of the building as well as for landscaping and is based on the GHG emissions associated with the energy used to transport and filter the water. No changes were made to CalEEMod default values for waste generated.

Construction

The construction-related GHG emissions were also included in the analysis and were based on a 30-year amortization rate as recommended in the SCAQMD GHG Working Group meeting on November 19, 2009. The construction-related GHG emissions were calculated by CalEEMod and in the manner detailed above in Section 2.

PROJECT GREENHOUSE GAS EMISSIONS

The GHG emissions have been calculated based on the parameters described above. A summary of the results is shown below in Table 11 and the CalEEMod Model run for the proposed project is provided in Appendix B. Table 11 shows that the total for the proposed project's emissions (without credit for any reductions from sustainable design, and/or regulatory requirements) would be 216.3 MTCO2e per year. According to the

thresholds of significance established above, a cumulative global climate change impact would occur if the GHG emissions created from the on-going operations of the proposed project would exceed the SCAQMD draft threshold of 3,000 $MTCO_2e$ per year for all land uses. Therefore, as emissions do not exceed 3,000 MTCO2e per year, operation of the proposed project would not create a significant cumulative impact to global climate change.

Table 11
Project-Related Greenhouse Gas Emissions

Category	Greenhouse Gas Emissions (Metric Tons/Year)					
	Bio-CO2	NonBio-CO_2	CO_2	CH_4	N_2O	CO_2e
Maximum Annual Operations	0.85	200.00	201.00	0.09	0.01	206.00
Construction[1]	0.00	10.27	10.27	0.00	0.00	10.30
Total Emissions	0.85	210.27	211.27	0.09	0.01	216.30
SCAQMD Draft Screening Threshold						3,000
Exceeds Threshold?						No

Notes:

Source: CalEEMod Version 2022.1.1.20 for Opening Year 2026.

(1) Construction GHG emissions CO2e based on a 30-year amortization rate.

CONSISTENCY WITH APPLICABLE GREENHOUSE GAS REDUCTION PLANS AND POLICIES

The proposed project could have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. As stated previously, the City of Rancho Mirage does not currently have a Climate Action Plan; however, the City's Sustainability Plan and Energy Action Plan were both adopted in March of 2013.

SB-32

As stated previously, the SCAQMD's tier 3 thresholds used Executive Order S-3-05 goal as the basis for deriving the screening level. The California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following reduction targets:

- 2010: Reduce greenhouse gas emissions to 2000 levels
- 2020: Reduce greenhouse gas emissions to 1990 levels
- 2050: Reduce greenhouse gas emissions to 80 percent below 1990 levels.

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires CARB, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which was phased in starting in 2012.

Therefore, as the project's emissions meet the threshold for compliance with Executive Order S-3-05, the project's emissions also comply with the goals of AB 32 and the City of Rancho Mirage's Sustainability Plan and Energy Action Plan. Additionally, as the project meets the current interim emissions targets/thresholds established by SCAQMD, the project would also be on track to meet the reduction target of 40 percent below 1990 levels by 2030 mandated by SB-32. Furthermore, the majority of the post 2020 reductions in GHG emissions are addressed via regulatory requirements at the State level and the project will be required to comply with these regulations as they come into effect.

At a level of 216.3 MTCO2e per year, the project's GHG emissions do not exceed the SCAQMD draft threshold of 3,000 $MTCO_2e$ per year and is in compliance with the goals of the City of Rancho Mirage's Sustainability Plan and Energy Action Plan, AB-32 and SB-32.

Scoping Plan

Emission reductions in California alone would not be able to stabilize the concentration of greenhouse gases in the earth's atmosphere. However, California's actions set an example and drive progress towards a reduction in greenhouse gases elsewhere. If other states and countries were to follow California's emission reduction targets, this could avoid medium or higher ranges of global temperature increases. Thus, severe consequences of climate change could also be avoided.

The CARB Board approved a Climate Change Scoping Plan in December 2008. The Scoping Plan outlines the State's strategy to achieve the 2020 greenhouse gas emissions limit. The Scoping Plan "proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health" (California Air Resources Board 2008). The measures in the Scoping Plan have been in place since 2012.

This Scoping Plan calls for an "ambitious but achievable" reduction in California's greenhouse gas emissions, cutting approximately 30 percent from business-as-usual emission levels projected for 2020, or about 10 percent from today's levels. On a per-capita basis, that means reducing annual emissions of 14 tons of carbon dioxide for every man, woman and child in California down to about 10 tons per person by 2020.

In May 2014, CARB released its *First Update to the Climate Change Scoping Plan* (CARB 2014). This *Update* identifies the next steps for California's leadership on climate change. While California continues on its path to meet the near-term 2020 greenhouse gas limit, it must also set a clear path toward long-term, deep GHG emission reductions. This report highlights California's success to date in reducing its GHG emissions and lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050. CARB's First Update "lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050," and many of the emission reduction strategies recommended by CARB would serve to reduce the Project's post-2020 emissions level to the extent required by applicable by law.

In November 2017, CARB release the 2017 Scoping Plan. This Scoping Plan incorporates, coordinates, and leverages many existing and ongoing efforts and identifies new policies and actions to accomplish the State's climate goals, and includes a description of a suite of specific actions to meet the State's 2030 GHG limit. In addition, Chapter 4 of the Scoping Plan provides a broader description of the many actions and proposals being explored across the sectors, including the natural resources sector, to achieve the State's mid and long-term climate goals.

Guided by legislative direction, the actions identified in the 2017 Scoping Plan reduce overall GHG emissions in California and deliver policy signals that will continue to drive investment and certainty in a low carbon economy. The 2017 Scoping Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Plan includes policies to require direct GHG reductions at some of the State's largest stationary sources and mobile sources. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and Trade Program, which constrains and reduces emissions at covered sources.

Independent studies confirm CARB's determination that the state's existing and proposed regulatory framework will put the state on a pathway to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050 if additional appropriate reduction measures are adopted.[27] Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies would allow the state to meet the 2050 target.

In November of 2022, the CARB released the 2022 Scoping Plan. The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

[27] Energy and Environmental Economics (E3). "Summary of the California State Agencies' PATHWAYS Project: Long-term Greenhouse Gas Reduction Scenarios" (April 2015); Greenblatt, Jeffrey, Energy Policy, "Modeling California Impacts on Greenhouse Gas Emissions" (Vol. 78, pp. 158–172). The California Air Resources Board, California Energy Commission, California Public Utilities Commission, and the California Independent System Operator engaged E3 to evaluate the feasibility and cost of a range of potential 2030 targets along the way to the state's goal of reducing GHG emissions to 80 percent below 1990 levels by 2050. With input from the agencies, E3 developed scenarios that explore the potential pace at which emission reductions can be achieved, as well as the mix of technologies and practices deployed. E3 conducted the analysis using its California PATHWAYS model. Enhanced specifically for this study, the model encompasses the entire California economy with detailed representations of the buildings, industry, transportation and electricity sectors. https://www.ethree.com/wp-content/uploads/2017/02/E3_Project_Overview_20150406.pdf

As the latest, 2022 Scoping Plan builds upon previous versions, project consistency with applicable strategies of the 2008, 2017, and 2022 Plan are assessed in Table 12. As shown in Table 12, the project is consistent with the applicable strategies within the Scoping Plan.

Furthermore. at a level of 216.3 $MTCO_2e$ per year, the project's GHG emissions would be in compliance with the City of Rancho Mirage's Sustainability Plan and Energy Action Plan, AB-32, SB-32, and the CARB Scoping Plan. Furthermore, the project will comply with applicable Green Building Standards and City of Rancho Mirage's policies regarding sustainability (as dictated by the City's General Plan). Impacts are considered to be less than significant.

Table 12 (1 of 2)
Project Consistency with CARB Scoping Plan Policies and Meaures

2008 Scoping Plan Measures to Reduce Greenhouse Gas Emissions	Project Compliance with Measure
California Light-Duty Vehicle Greenhouse Gas Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy.
Energy Efficiency – Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	No Conflict. The project will be compliant with the current Title 24 standards.
Low Carbon Fuel Standard – Develop and adopt the Low Carbon Fuel Standard.	No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy.
Vehicle Efficiency Measures – Implement light-duty vehicle efficiency measures.	No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy.
Medium/Heavy-Duty Vehicles – Adopt medium and heavy-duty vehicle efficiency measures.	No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy.
Green Building Strategy – Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	No Conflict. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2022 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.
High Global Warming Potential Gases – Adopt measures to reduce high global warming potential gases.	No Conflict. CARB identified five measures that reduce HFC emissions from vehicular and commercial refrigeration systems; vehicles that access the project (that are required to comply with the measures) will comply with the strategy.
Recycling and Waste – Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	No Conflict. The state is currently developing a regulation to reduce methane emissions from municipal solid waste landfills. The project will be required to comply with City programs, such as City's recycling and waste reduction program, which comply with the 75 percent reduction required per AB 341.
Water – Continue efficiency programs and use cleaner energy sources to move and treat water.	No Conflict. The project will comply with all applicable City ordinances and CALGreen requirements.

2017 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions	Project Compliance with Recommended Action
Implement Mobile Source Strategy: Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations.	No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy.
Implement Mobile Source Strategy: At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.	No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy.
Implement Mobile Source Strategy: Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NOX standard.	No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy.

Table 12 (2 of 2)
Project Consistency with CARB Scoping Plan Policies and Meaures

Implement Mobile Source Strategy: Last Mile Delivery: New regulation that would result in the use of low NOX or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.	No Conflict. These are CARB enforced standards; vehicles that access the project (that are required to comply with the standards) will comply with the strategy.
Implement SB 350 by 2030: Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.	No Conflict. The project will be compliant with the current Title 24 standards.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	No Conflict. The project will be required to comply with City programs, such as City's recycling and waste reduction program, which comply, with the 75 percent reduction required by AB 341.

2022 Scoping Plan Priority Key Actions and Recommendations	Project Compliance with Recommended Actions
100 percent of light-duty vehicle sales are ZEVs by 2035.	Not Applicable. This action is in regard to vehicle sales, with an aim to have 100 percent of light-duty vehicle sales be ZEVs by 2035. The proposed project is a residential use and would not interfere with such policymaking.
VMT per capita reduced 25 percent below 2019 levels by 2030 and 30 percent below 2019 levels by 2045.	No Conflict. The Project screens out of needing a trafic study and, therefore, would not result in an unmitigated impact to VMT. The Project is a residential use in close proximity to existing public transit and existing residential and commercial uses.
All electric appliances in new construction beginning 2026 (residential) and 2029 (commercial).	No Conflict. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2022 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.
For existing residential buildings, 80 percent of appliance sales are electric by 2030 and 100 percent of appliance sales are electric by 2035 (appliances replaced at end of life). For existing commercial buildings, 80 percent of appliance sales are electric by 2030 and 100 percent of appliance sales are electric by 2045 (appliances replaced at end of life)	Not Applicable. This action is in regard to appliance sales and the proposed project is a residential use and would not interfere with such policymaking. Furthermore, although this action is not necessarily applicable on a project-specific basis, the proposed project is subject to the California Green Building Standards Code (proposed Part 11, Title 24) which was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2022 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.

Notes:

(1) Source: CARB Scoping Plan (2008, 2017, and 2022)

CUMULATIVE GREENHOUSE GAS IMPACTS

Although the project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. Therefore, in the case of global climate change, the proximity of the project to other GHG emission generating activities is not directly relevant to the determination of a cumulative impact because climate change is a global condition. According to CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective."[28] The resultant consequences of that climate change can cause adverse environmental effects. A project's GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change.

The state has mandated a goal of reducing statewide emissions to 1990 levels by 2020, even though statewide population and commerce are predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce statewide GHG emissions. Currently, the County of Riverside CAP Update's initial screening procedure is to determine if a project will emit 3,000 MTCO2E per year or more. Projects that do not exceed this threshold require no further climate change analysis. Therefore, consistent with CEQA Guidelines Section 15064h(3),[29] the County, as lead agency, has determined that the project's contribution to cumulative GHG emissions and global climate change would be less than significant if the project is consistent with the applicable regulatory plans and policies to reduce GHG emissions.

As discussed in the Consistency With Applicable GHG Reduction Plans and Policies section above, the project would be consistent with the goals and objectives of the City of Rancho Mirage's Sustainability Plan and Energy Action Plan and the CARB Scoping Plan. Thus, given the project's consistency with the City of Rancho Mirage's Sustainability Plan and Energy Action Plan and the CARB Scoping Plan, the project's incremental contribution to GHG emissions and their effects on climate change would not be cumulatively considerable.

[28] Source: California Air Pollution Control Officers Association, CEQA & Climate change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, (2008).

[29] The State CEQA Guidelines were amended in response to SB 97. In particular, the State CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction program renders a cumulative impact insignificant. Per State CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project will comply with an approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such a plan or program must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, [and] plans or regulations for the reduction of greenhouse gas emissions."

4. ENERGY ANALYSIS

EXISTING CONDITIONS

This section provides an overview of the existing energy conditions in the project area and region.

Overview

California's estimated annual energy use as of 2021 included:

- Approximately 277,764 gigawatt hours of electricity;[30]
- Approximately 2,092,612 million cubic feet of natural gas per year;[31] and
- Approximately 23.2 billion gallons of transportation fuel (for the year 2015).[32]

As of 2020, the year of most recent data currently available by the United States Energy Information Administration (EIA), energy use in California by demand sector was:

- Approximately 34 percent transportation;
- Approximately 24.6 percent industrial;
- Approximately 21.8 percent residential; and
- Approximately 19.6 percent commercial.[33]

California's electricity in-state generation system generates approximately 194,127 gigawatt-hours each year. In 2021, California produced approximately 70 percent of the electricity it uses; the rest was imported from the Pacific Northwest (approximately 12 percent) and the U.S. Southwest (approximately 18 percent). Natural gas is the main source for electricity generation at approximately 50.2 percent of the total in-state electric generation system power as shown in Table 13.

A summary of and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below:

- California was the seventh-largest producer of crude oil among the 50 states in 2021, and, as of January 2021, it ranked third in oil refining capacity.
- California is the largest consumer of jet fuel and second-largest consumer of motor gasoline among the 50 states and accounted for fifteen percent of the nation's jet fuel consumption and ten percent of motor gasoline consumption in 2020.
- In 2019, California was the second-largest total energy consumer among the states, but its per capita energy consumption was less than in all other states except Rhode Island, due in part to its mild climate and its energy efficiency programs
- In 2021, California was the nation's top producer of electricity from solar, geothermal, and biomass energy. The state was fourth in the nation in conventional hydroelectric power generation, down from second in 2019, in part because of drought and increased water demand

[30] California Energy Commission. Energy Almanac. Total Electric Generation. [Online] 2021. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2020-total-system-electric-generation.

[31] Natural Gas Consumption by End Use. U.S. Energy Information Administration. [Online] 2021. https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm.

[32] California Energy Commission. Revised Transportation Energy Demand Forecast 2018-2030. [Online] 2021. https://www.energy.ca.gov/data-reports/planning-and-forecasting

[33] U.S. Energy Information Administration. California Energy Consumption by End-Use Sector, 2020. California State Profile Overview.[Online] December 20, 2022 https://www.eia.gov/state/?sid=CA#tabs-2

- In 2021, California was the fourth-largest electricity producer in the nation, but the state was also the nation's second-largest consumer of electricity, and in 2020, it received about 30% of its electricity supply from generating facilities outside of California, including imports from Mexico.[34]

As indicated above, California is one of the nation's leading energy-producing states, and California per capita energy use is among the nation's most efficient. Given the nature of the proposed project, the remainder of this discussion will focus on the three sources of energy that are most relevant to the project—namely, electricity and natural gas for building uses, and transportation fuel for vehicle trips associated with the proposed project.

Electricity

Electricity would be provided to the project by Imperial Irrigation District (IID). IID provides electric power to more than 158,000-plus customers in the Imperial Valley and parts of Riverside and San Diego counties.[35]

Table 14 identifies IID's specific proportional shares of electricity sources in 2021. As shown in Table 14, the 2021 IID Power Mix has renewable energy at 40 percent of the overall energy resources, of which biomass and waste is at 8.8 percent, geothermal is at 12.1 percent, eligible hydroelectric is at 6.9 percent, and solar energy is at 12.3 percent; other energy sources include large hydroelectric at 4.8 percent, natural gas at 35.6 percent, nuclear at 3.5 percent, and unspecified sources at 16.1 percent.

Natural Gas

Natural gas would be provided to the project by Southern California Gas (SoCalGas). The following summary of natural gas resources and service providers, delivery systems, and associated regulation is excerpted from information provided by the California Public Utilities Commission (CPUC).

The CPUC regulates natural gas utility service for approximately 11 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller investor-owned natural gas utilities. The CPUC also regulates independent storage operators Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.

The vast majority of California's natural gas customers are residential and small commercial customers, referred to as "core" customers. Larger volume gas customers, like electric generators and industrial customers, are called "noncore" customers. Although very small in number relative to core customers, noncore customers consume about 65% of the natural gas delivered by the state's natural gas utilities, while core customers consume about 35%.

The PUC regulates the California utilities' natural gas rates and natural gas services, including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing.

Most of the natural gas used in California comes from out-of-state natural gas basins. In 2017, for example, California utility customers received 38% of their natural gas supply from basins located in the U.S. Southwest, 27% from Canada, 27% from the U.S. Rocky Mountain area, and 8% from production located in California."[36]

[34] State Profile Overview. [Online] [Cited: March 17, 2022.] https://www.eia.gov/state/?sid=CA#tabs-2

[35] https://www.iid.com/energy/about-iid-energy

[36] California Public Utilities Commission. Natural Gas and California. http://www.cpuc.ca.gov/natural_gas/

Transportation Energy Resources

The project would attract additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. Gasoline (and other vehicle fuels) are commercially-provided commodities and would be available to the project patrons and employees via commercial outlets.

The most recent data available shows the transportation sector emits 38 percent of the total greenhouse gases in the state and about 84 percent of smog-forming oxides of nitrogen (NOx).[37,38] About 28 percent of total United States energy consumption in 2021 was for transporting people and goods from one place to another. In 2021, petroleum comprised about 77 percent of all transportation energy use, excluding fuel consumed for aviation and most marine vessels.[39] In 2021, about 134.83 billion gallons (or about 3.21 billion barrels) of finished motor gasoline were consumed in the United States, an average of about 369 million gallons (or about 8.8 million barrels) per day.[40]

Regulatory Background

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, the PUC and the California Energy Commissions (CEC) are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below.

Federal Regulations

Corporate Average Fuel Economy (CAFE) Standards

First established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA) jointly administer the CAFE standards. The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.[41]

Issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020), the Safer Affordable Fuel-Efficient Vehicles Rule would maintain the CAFE and CO2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO2 standards for model year 2020 are 43.7 mpg and 204 grams of CO2 per mile for passenger cars and 31.3 mpg and 284 grams of CO2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012.[42]

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[37] CARB. California Greenhouse Gas Emissions Inventory – 2022 Edition. https://www.arb.ca.gov/cc/inventory/data/data.htm

[38] CARB. 2016 SIP Emission Projection Data. https://www.arb.ca.gov/app/emsinv/2017/emseic1_query.php?F_DIV=-4&F_YR=2012&F_SEASON=A&SP=SIP105ADJ&F_AREA=CA

[39] US Energy Information Administration. Use of Energy in the United States Explained: Energy Use for Transportation. https://www.eia.gov/energyexplained/?page=us_energy_transportation

[40] https://www.eia.gov/tools/faqs/faq.php?id=23&t=10

[41] https://www.nhtsa.gov/lawsregulations/corporate-average-fuel-economy.

[42] National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/safer-affordable-fuel-efficient-safe-vehicles-final-rule.

Intermodal Surface transportation Efficiency Act of 1991 (ISTEA)

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

The Transportation Equity Act of the 21st Century (TEA-21)

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

State Regulations

Integrated Energy Policy Report (IEPR)

Senate Bill 1389 requires the California Energy Commission (CEC) to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the State's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. The Energy Commission prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2019 Integrated Energy Policy Report (2019 IEPR) was adopted February 20, 2020, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2019 IEPR focuses on a variety of topics such as decarbonizing buildings, integrating renewables, energy efficiency, energy equity, integrating renewable energy, updates on Southern California electricity reliability, climate adaptation activities for the energy sector, natural gas assessment, transportation energy demand forecast, and the California Energy Demand Forecast.[43]

State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

[43] California Energy Commission. Final 2019 Integrated Energy Policy Report. February 20, 2020. https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report

California Building Standards Code (Title 24)

The California Building Standards Code Title 24 was previously discussed in Section 3 of this report.

California Building Energy Efficiency Standards (Title 24, Part 6)

The California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were adopted to ensure that building construction and system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The current California Building Energy Efficiency Standards (Title 24 standards) are the 2019 Title 24 standards, which became effective on January 1, 2020. The 2019 Title 24 standards include efficiency improvements to the lighting and efficiency improvements to the non-residential standards include alignment with the American Society of Heating and Air-Conditioning Engineers. For example, window operation is no longer a method allowed to meet ventilation requirements, continuous operation of central forced air system handlers used in central fan integrated ventilation system is not a permissible method of providing the dwelling unit ventilation airflow, and central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow to each dwelling unit. In addition, requirements for kitchen range hoods were also provided in the updated Section 120.1. Ventilation and Indoor Air Quality included both additions and revisions in the 2019 Code. This section now requires nonresidential and hotel/motel buildings to have air filtration systems that use forced air ducts to supply air to occupiable spaces to have air filters. Further, the air filter efficiency must be either MERV 13 or use a particle size efficiency rating specific in the Energy Code AND be equipped with air filters with a minimum 2-inch depth or minimum 1-inch depth if sized according to the equation 120.1-A. If natural ventilation is to be used the space must also use mechanical unless ventilation openings are either permanently open or controlled to stay open during occupied times.

New regulations were also adopted under Section 130.1 Indoor Lighting Controls. These included new exceptions being added for restrooms, the exception for classrooms being removed, as well as exceptions in regard to sunlight provided through skylights and overhangs.

All buildings for which an application for a building permit is submitted on or after January 1, 2020 must follow the 2019 standards. The 2016 residential standards were estimated to be approximately 28 percent more efficient than the 2013 standards, whereas the 2019 residential standards are estimated to be approximately 7 percent more efficient than the 2016 standards. Furthermore, once rooftop solar electricity generation is factored in, 2019 residential standards are estimated to be approximately 53 percent more efficient than the 2016 standards. Under the 2019 standards, nonresidential buildings are estimated to be approximately 30 percent more efficient than the 2016 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

The 2022 Building Energy Efficiency Standards became effective on January 1, 2023. [44] The core focus of the building standards has been efficiency, but the 2019 Energy Code ventured into onsite generation by requiring solar PV on new homes, providing significant GHG savings. The 2022 update builds off this progress with expanded solar standards and the move to onsite energy storage that will help Californians save on utility bills while bolstering the grid. The 2022 Energy Code update focuses on four key areas in new construction of homes and businesses:

- Encouraging electric heat pump technology and use, which consumes less energy and produces fewer emissions than traditional HVACs and water heaters.

[44] California Energy Commission (CEC). 2022. Building Energy Efficiency Standards. https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency.

- Establishing electric-ready requirements when natural gas is installed, which positions owners to use cleaner electric heating, cooking and electric vehicle (EV) charging options whenever they choose to adopt those technologies.
- Expanding solar photovoltaic (PV) system and battery storage standards to make clean energy available onsite and complement the state's progress toward a 100 percent clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

The 2022 Energy Code affects homes by establishing energy budgets based on efficient heat pumps for space or water heating to encourage builders to install heat pumps over gas-fueled HVAC units; requiring homes to be electric-ready, with dedicated 240-volt outlets and space (with plumbing for water heaters) so electric appliances can eventually replace installed gas appliances; increasing minimum kitchen ventilation requirements so that fans over cooktops have higher airflow or capture efficiency to better exhaust pollution from gas cooking and improve indoor air quality; and allowing exceptions to existing solar PV standards when roof area is not available (such as for smaller homes). In addition, the effect on businesses includes establishing combined solar PV and battery standards for select businesses with systems being sized to maximize onsite use of solar energy and avoid electricity demand during times when the grid must use gas-powered plants; establishing new efficiency standards for commercial greenhouses (primarily cannabis growing); and improving efficiency standards for building envelope, various internal systems, and grid integration equipment, such as demand-responsive controls to buoy grid stability.[45,46]

California Building Energy Efficiency Standards (Title 24, Part 11)

The 2019 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, went into effect on January 1, 2020. The 2019 CALGreen Code includes mandatory measures for non-residential development related to site development; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality.

As previously discussed in Section 3 of this report, the Department of Housing and Community Development (HCD) updated CALGreen through the 2019 Triennial Code Adoption Cycle. HCD modified the best management practices for stormwater pollution prevention adding Section 5.106.2 for projects that disturb one or more acres of land. This section requires projects that disturb one acre or more of land or less than one acre of land but are part of a larger common plan of development or sale must comply with the postconstruction requirement detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board. The NPDES permits require postconstruction runoff (post-project hydrology) to match the preconstruction runoff pre-project hydrology) with installation of postconstruction stormwater management measures.

HCD added sections 5.106.4.1.3 and 5.106.4.1.5 in regard to bicycle parking. Section 5.106.4.1.3 requires new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility. In addition, Section 5.106.4.1.5 states that acceptable bicycle parking facility for Sections 5.106.4.1.2 through 5.106.4.1.4 shall be convenient from the street and shall meeting one of the following: (1) covered, lockable enclosures with permanently anchored racks for bicycles; (2) lockable bicycle rooms with permanently anchored racks; or (3) lockable, permanently anchored bicycle lockers.

HCD amended section 5.106.5.3.5 allowing future charging spaces to qualify as designated parking for clean air vehicles.

[45] https://www.lightnowblog.com/2021/08/california-energy-commission-adopts-2022-building-energy-efficiency-standards/

[46] State of California Energy Commission. 2022 Building Energy Efficiency Standards Summary. https://www.energy.ca.gov/sites/default/files/2021-08/CEC_2022_EnergyCodeUpdateSummary_ADA.pdf

HCD updated section 5.303.3.3 in regard to showerhead flow rates. This update reduced the flow rate to 1.8 GPM.

HCD amended section 5.304.1 for outdoor potable water use in landscape areas and repealed sections 5.304.2 and 5.304.3. The update requires nonresidential developments to comply with a local water efficient landscape ordinance or the current California Department of Water Resource's' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. Some updates were also made in regard to the outdoor potable water use in landscape areas for public schools and community colleges.

HCD updated Section 5.504.5.3 in regard to the use of MERV filters in mechanically ventilated buildings. This update changed the filter use from MERV 8 to MERV 13. MERV 13 filters are to be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

The 2022 California Green Building Standards Code became effective on January 1, 2023.[47]

In the 2022 Code, HCD amended Section 5.106.5.3 in regard to increasing the EV capable space percentages and adding a new requirement for installed Level 2 DCFC chargers.

HCD under Section 5.106.5.4 added new regulation for electric vehicle charging readiness requirements for new construction of warehouse, grocery stores, and retail stores with planned off-street loading spaces. [48]

Senate Bill 100

Senate Bill 100 (SB 100) requires 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include Senate Bill 1078 (SB 1078), which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) which changed the target date to 2010. Executive Order S-14-08, which was signed on November 2008 and expanded the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed the CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

Senate Bill 350

As previously discussed in Section 3 of this report, Senate Bill 350 (SB 350) was signed into law October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and the greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs). These IRPs will detail how each entity will meet their customers resource needs, reduce greenhouse gas emissions and ramp up the deployment of clean energy resources.

[47] California Building Standards Commission (CBSC). 2022. California Green Building Standards. Website: https://codes.iccsafe.org/content/CAGBC2022P1.

[48] https://www.dgs.ca.gov/BSC/Resources/2022-Title-24-California-Code-Changes

Assembly Bill 32

As discussed in Section 3 of this report, in 2006 the California State Legislature adopted Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006. AB 32 requires CARB, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which will be phased in starting in 2012. Emission reductions shall include carbon sequestration projects that would remove carbon from the atmosphere and best management practices that are technologically feasible and cost effective. Please see Section 43 for further detail on AB 32.

Assembly Bill 1493/Pavley Regulations

As discussed in Section 3 of this report, California Assembly Bill 1493 enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2005, the CARB submitted a "waiver" request to the EPA from a portion of the federal Clean Air Act in order to allow the State to set more stringent tailpipe emission standards for CO_2 and other GHG emissions from passenger vehicles and light duty trucks. On December 19, 2007 the EPA announced that it denied the "waiver" request. On January 21, 2009, CARB submitted a letter to the EPA administrator regarding the State's request to reconsider the waiver denial. The EPA approved the waiver on June 30, 2009.

Executive Order S-1-07/Low Carbon Fuel Standard

As discussed in Section 3 of this report, Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. The low carbon fuel standard is designed to provide a framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet each year beginning in 2011. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than during the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

<u>California Air Resources Board</u>

CARB's Advanced Clean Cars Program

Closely associated with the Pavley regulations, the Advanced Clean Cars emissions control program was approved by CARB in 2012. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of zero-emission vehicles for model years 2015–2025. The components of the Advanced Clean Cars program include the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and

GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.[49]

Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

The Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling (Title 13, California Code of Regulations, Division 3, Chapter 10, Section 2435) was adopted to reduce public exposure to diesel particulate matter and other air contaminants by limiting the idling of diesel-fueled commercial motor vehicles. This section applies to diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds that are or must be licensed for operation on highways. Reducing idling of diesel-fueled commercial motor vehicles reduces the amount of petroleum-based fuel used by the vehicle.

Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen, and other Criteria Pollutants, form In-Use Heavy-Duty Diesel-Fueled Vehicles

The Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles (Title 13, California Code of Regulations, Division 3, Chapter 1, Section 2025) was adopted to reduce emissions of diesel particulate matter, oxides of nitrogen (NO_X) and other criteria pollutants from in-use diesel-fueled vehicles. This regulation is phased, with full implementation by 2023. The regulation aims to reduce emissions by requiring the installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. The newer emission-controlled models would use petroleum-based fuel in a more efficient manner.

Sustainable Communities Strategy

The Sustainable Communities and Climate Protection Act of 2008, or Senate Bill 375 (SB 375), coordinates land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction mandates established in AB 32.

As previously stated in Section 3 of this report, Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the Southern California Association of Governments (SCAG) jurisdiction, which has authority to develop the SCS or APS. For the SCAG region, the targets set by CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 19 percent below 2005 per capita GHG emissions levels by 2035. These reduction targets became effective October 2018.

[49] California Air Resources Board, California's Advanced Clean Cars Program, January 18, 2017. www.arb.ca.gov/msprog/acc/acc.htm.

PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES

Evaluation Criteria

In compliance with Appendix G of the State CEQA Guidelines, this report analyzes the project's anticipated energy use to determine if the project would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

In addition, Appendix F of the State CEQA Guidelines states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

Methodology

Information from the CalEEMod 2022.1.1.20 Output contained in Appendix B, utilized for air quality and greenhouse gas analyses in Sections 2 and 3 of this report, were also utilized for this analysis. The CalEEMod outputs detail project related construction equipment, transportation energy demands, and facility energy demands.

Construction Energy Demands

The construction of the project is anticipated to occur between the beginning of January 2025 and the beginning of February 2026, and be completed in one phase. Staging of construction vehicles and equipment will occur on-site. The approximately thirteen-month schedule is relatively short, and the project site is approximately 4.37 net acres.

Construction Equipment Electricity Usage Estimates

As stated previously, electrical service will be provided by Imperial Irrigation District. The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the proposed project. Based on the 2021 National Construction Estimator, Richard Pray (2021)[50], the typical power cost per 1,000 square feet of building construction per month is estimated to be $2.37. The project plans to develop the site with nine single-family residential lots, which per CalEEMod defaults would total approximately 17,550 square feet. Based on Table 15, the total power cost of the on-site electricity usage during the construction of the proposed project is estimated to be approximately $540.72. Furthermore, IID's General Service rate is approximately $0.12 per kWh of electricity.[51] As shown in Table 15, the total electricity usage from project construction related activities is estimated to be approximately 4,625 kWh.

[50] Pray, Richard. 2021 National Construction Estimator. Carlsbad: Craftsman Book Company, 2021.

[51] Assumes the project will be under the Schedule D - Residential Service rate under IID. https://www.iid.com/energy/rates-regulations/rates

Construction Equipment Fuel Estimates

Fuel consumed by construction equipment would be the primary energy resource expended over the course of project construction. Fuel consumed by construction equipment was evaluated with the following assumptions:

- Construction schedule of 13 months
- All construction equipment was assumed to run on diesel fuel
- Typical daily use of 8 hours, with some equipment operating from ~6-7 hours
- Aggregate fuel consumption rate for all equipment was estimated at 18.5 hp-hr/gallon (from CARB's 2017 Emissions Factors Tables and fuel consumption rate factors as shown in Table D-21 of the Moyer Guidelines: (https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf).
- Diesel fuel would be the responsibility of the equipment operators/contractors and would be sources within the region.
- Project construction represents a "single-event" for diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources during long term operation.

Using the CalEEMod data input for the air quality and greenhouse gas analyses (Sections 2 and 3 of this report), the project's construction phase would consume electricity and fossil fuels as a single energy demand, that is, once construction is completed their use would cease. CARB's 2017 Emissions Factors Tables show that on average aggregate fuel consumption (gasoline and diesel fuel) would be approximately 18.5 hp-hr-gal. Table 16 shows the results of the analysis of construction equipment.

As presented in Table 16, project construction activities would consume an estimated 30,759 gallons of diesel fuel. As stated previously, project construction would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

Construction Worker Fuel Estimates

It is assumed that construction worker trips are from light duty autos (LDA), light duty truck 1 (LDT1), and light duty truck 2 (LDT2) at a mix of 25 percent/50 percent/25 percent, respectively, along area roadways.[52] With respect to estimated VMT, the construction worker trips would generate an estimated 28,433 VMT. Data regarding project related construction worker trips were based on CalEEMod 2022.1.1.20 model defaults.

Vehicle fuel efficiencies for construction workers were estimated in the air quality and greenhouse gas analyses (Sections 2 and 3 of this report) using information generated using CARB's 2021 EMFAC model. An aggregate fuel efficiency of 26 miles per gallon (mpg) was used to calculate vehicle miles traveled for construction worker trips. Table 17 shows that an estimated 1,069 gallons of fuel would be consumed for construction worker trips.

Construction Vendor/Hauling Fuel Estimates

Tables 18 and 19 show the estimated fuel consumption for vendor and hauling during building construction and grading. With respect to estimated VMT, the vendor and hauling trips would generate an estimated 2,512 VMT. Data regarding project related construction worker trips were based on CalEEMod 2022.1.1.20 model defaults.

For the architectural coatings it is assumed that the contractors would be responsible for bringing coatings and equipment with them in their light duty vehicles. Therefore, vendors delivering construction material or

[52] CalEEMod User's Guide Appendix C (April 2022) states that construction work trips are made by a fleet consisting of 25 percent light-duty auto (or passenger car), 50 percent light-duty truck type 1 (LDT1), and 25 percent light duty truck type 2 (LDT2).

hauling debris from the site during building construction would use medium to heavy duty vehicles with an average fuel consumption of 7.87 mpg for medium heavy-duty trucks and 6.15 mpg for heavy heavy-duty trucks (see Appendix B for details).[53] Tables 18 and 19 show that an estimated 364 gallons of fuel would be consumed for vendor and hauling trips.

Construction Energy Efficiency/Conservation Measures

Construction equipment used over the approximately thirteen-month construction phase would conform to CARB regulations and California emissions standards and is evidence of related fuel efficiencies. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

The project would utilize construction contractors which practice compliance with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with these measures would result in a more efficient use of construction-related energy and would minimize or eliminate wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additionally, as required by California Code of Regulations Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby minimizing or eliminating unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Therefore, as the project's construction is required to comply with CARB regulations and does not include the need of construction processes that would require the use of equipment that is more energy efficient, the proposed project annual construction related fuel consumption would not be considered significant.

Operational Energy Demands

Energy consumption in support of or related to project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

Transportation Fuel Consumption

Using the CalEEMod output from the air quality and greenhouse gas analyses (Sections 2 and 3 of this report), it is assumed that an average trip for autos was assumed to be 8.46 miles and light, medium and 3- 4-axle trucks were assumed to travel an average of 28.25 miles.[54] As the project includes the development of the site with residential uses, which are frequently utilized on weekends, and in order to present a worst-case scenario, it was assumed that vehicles would operate 365 days per year. Table 20 shows the estimated annual fuel consumption for all classes of vehicles from autos to heavy-heavy trucks.[55]

[53] CalEEMod User's Guide Appendix C (April 2022) states that vendor trips are made by a fleet consisting of 50 percent medium trucks (MHDT) and 50 percent heavy trucks (HHDT) and that hauling and onsite truck trips are made by a fleet consisting of 100 percent HHDT.

[54] CalEEMod default distance for H-W (home-work) is 28.25 miles; 8.46 miles for H-S (home-shop); and 7.47 miles for H-O (home-other).

[55] Average fuel economy based on aggregate mileage calculated in EMFAC 2021 for opening year (2026). See Appendix B for EMFAC output.

The proposed project would generate approximately 85 trips per weekday.[56] The vehicle fleet mix was used from the CalEEMod output. Table 20 shows that an estimated 21,638 gallons of fuel would be consumed per year for the operation of the proposed project.

As shown in the trip generation provided by ITE, the trip generation generated by the proposed project is consistent with other similar residential uses of similar scale and configuration as reflected respectively in either the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) and/or surveys, etc. That is, the proposed project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor associated excess and wasteful vehicle energy consumption. Furthermore, the state of California consumed approximately 4.2 billion gallons of diesel and 15.1 billion gallons of gasoline in 2015.[57,58] Therefore, the increase in fuel consumption from the proposed project is insignificant in comparison to the State's demand. Therefore, project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Facility Energy Demands (Electricity and Natural Gas)

Building operation and site maintenance (including landscape maintenance) would result in the consumption of electricity (provided by Imperial Irrigation District) and natural gas (provided by Southern California Gas Company). The annual natural gas and electricity demands were provided per the CalEEMod output from the air quality and greenhouse gas analyses (Sections 2 and 3 of this report) and are provided in Table 21.

As shown in Table 21, the estimated electricity demand for the proposed project is approximately 84,053 kWh per year. In 2022, the residential sector of the County of Riverside consumed approximately 9,061 million kWh of electricity.[59] In addition, the estimated natural gas consumption for the proposed project is approximately 320,079 kBTU per year. In 2022, the residential sector of the County of Riverside consumed approximately 284 million therms of gas.[60,61] Therefore, the increase in both electricity and natural gas demand from the proposed project is insignificant compared to the County's 2022 residential a sector demand.

Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as in plug-in appliances. In California, the California Building Standards Code Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. Non-building energy use, or "plug-in" energy use can be further subdivided by specific end-use (refrigeration, cooking, appliances, etc.). The proposed project would be required to comply with Title 24 standards.

Furthermore, the proposed project energy demands in total would be comparable to other residential projects of similar scale and configuration. Therefore, the project facilities energy demands, and energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Renewable Energy and Energy Efficiency Plan Consistency

Regarding federal transportation regulations, the project site is located in an already developed area. Access to/from the project site is from existing roads. These roads are already in place so the project would not

[56] As the proposed project is to screen out from requiring a project specific traffic study, the Institute of Transportation Engineers (ITE) 11th Edition Trip Generation Manual (2021) rates for single-family housing (ITE 210) were utilized to model the proposed project. Per the use of the ITE trip generation rates and as shown in the CalEEMod output provided in Appendix B of this report, the project is anticipated to generate 85 vehicle trips per weekday.

[57] https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-gasoline-data-facts-and-statistics

[58] https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/diesel-fuel-data-facts-and-statistics

[59] California Energy Commission, Electricity Consumption by County. https://ecdms.energy.ca.gov/elecbycounty.aspx

[60] California Energy Commission, Gas Consumption by County. http://ecdms.energy.ca.gov/gasbycounty.aspx

[61] 1 kBTU = 1,000 BTU and 1 therm = 100,000 BTU; therefore, 1 therm = 100 kBTU.

interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be proposed pursuant to the ISTEA because SCAG is not planning for intermodal facilities in the project area.

Regarding the State's Energy Plan and compliance with Title 24 CCR energy efficiency standards, the applicant is required to comply with the California Green Building Standard Code requirements for energy efficient buildings and appliances as well as utility energy efficiency programs implemented by Imperial Irrigation District and Southern California Gas Company.

Regarding Pavley (AB 1493) regulations, an individual project does not have the ability to comply or conflict with these regulations because they are intended for agencies and their adoption of procedures and protocols for reporting and certifying GHG emission reductions from mobile sources. However, the vehicles associated with the proposed project would be required to comply with federal and state fuel efficiency standards.

Regarding the State's Renewable Energy Portfolio Standards, the project would be required to meet or exceed the energy standards established in the California Green Building Standards Code, Title 24, Part 11 (CALGreen). CAL Green Standards require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials.

As shown in Section 3 above, the proposed project would be consistent with the goals of the City's Sustainability Plan and Energy Action Plan and the CARB Scoping Plan.

CONCLUSIONS

As supported by the preceding analyses, project construction and operations would not result in the inefficient, wasteful or unnecessary consumption of energy. The proposed project does not include any unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities and is a residential project that is not proposing any additional features that would require a larger energy demand than other residential projects of similar scale and configuration. The energy demands of the project are anticipated to be accommodated within the context of available resources and energy delivery systems. The project would therefore not cause or result in the need for additional energy producing or transmission facilities. The project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California. Notwithstanding, the project proposes residential uses and will not have any long-term effects on an energy provider's future energy development or future energy conservation strategies.

Table 13
Total Electricity System Power (California 2021)

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total Imports (GWh)	Percent of Imports	Total California Energy Mix (GWh)	Total California Power Mix
Coal	303	0.20%	181	7,788	7,969	9.50%	8,272	3.00%
Natural Gas	97,431	50.20%	45	7,880	7,925	9.50%	105,356	37.90%
Oil	37	0.00%	-	-	-	0.00%	37	0.00%
Other (Waste Heat/Petroleum Coke)	382	0.20%	68	15	83	0.10%	465	0.20%
Nuclear	16,477	8.50%	524	8756	9281	11.10%	25,758	9.30%
Large Hydro	12,036	6.20%	12,042	1,578	13,620	16.30%	25,656	9.20%
Unspecified Sources of Power	-	0.00%	8,156	10,731	18,887	22.60%	18,887	6.80%
Renewables	67,461	34.80%	11,555	14,317	25,872	30.90%	93,333	33.60%
Biomass	5,381	2.80%	864	26	890	1.10%	6,271	2.30%
Geothermal	11,116	5.70%	192	1,906	2,098	2.50%	13,214	4.80%
Small Hydro	2,531	1.30%	304	1	304	0.40%	2,835	1.00%
Solar	33,260	17.10%	220	5,979	6,199	7.40%	39,458	14.20%
Wind	15,173	7.80%	9,976	6,405	16,381	19.60%	31,555	11.40%
Total	194,127	100%	32,572	51,064	83,636	100%	277,764	100%

Notes:

(1) Source: California Energy Commission. 2021 Total System Electric Generation. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2021-total-system-electric-generation

Table 14
IID 2021 Power Content Mix

Energy Resources	2021 SCE Power Mix
Eligible Renewable	40.0%
Biomass & Biowaste	*8.8%*
Geothermal	*12.1%*
Eligible Hydroelectric	*6.9%*
Solar	*12.3%*
Wind	*0.0%*
Coal	0.0%
Large Hydroelectric	4.8%
Natural Gas	35.6%
Nuclear	3.5%
Other	0.0%
Unspecified Sources of power*	16.1%
Total	100%

Notes:

(1) https://www.iid.com/energy/renewable-energy/power-content-label

* Unspecified sources of power means electricity from transactions that are not traceable to specific generation sources.

Table 15
Project Construction Power Cost and Electricity Usage

Power Cost (per 1,000 square foot of building per month of construction)	Total Building Size (1,000 Square Foot)[1]	Construction Duration (months)	Total Project Construction Power Cost
$2.37	17.550	13	$540.72

Cost per kWh[2]	Total Project Construction Electricity Usage (kWh)
$0.12	4,625

Notes:

(1) CalEEMod default square footage for the project is 17,550 square feet.

(2) Assumes the project will be under the Schedule D - Residential Service rate under IID. https://www.iid.com/energy/rates-regulations/rates

Table 16
Construction Equipment Fuel Consumption Estimates

Phase	Number of Days	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	HP hrs/day	Total Fuel Consumption (gal diesel fuel)[1]
Demolition	20	Concrete/Industrial Saw	1	8	33	0.73	193	208
	20	Excavators	3	8	36	0.38	328	355
	20	Rubber Tired Dozers	2	8	367	0.4	2,349	2,539
Grading	8	Excavators	1	8	36	0.38	109	47
	8	Graders	1	8	148	0.41	485	210
	8	Rubber Tired Dozers	1	8	367	0.4	1,174	508
	8	Tractors/Loaders/Backhoes	3	8	84	0.37	746	323
Building Construction	230	Cranes	1	7	367	0.29	745	9,262
	230	Forklifts	3	8	82	0.2	394	4,893
	230	Generator Sets	1	8	14	0.74	83	1,030
	230	Tractors/Loaders/Backhoes	3	7	84	0.37	653	8,114
	230	Welders	1	8	46	0.45	166	2,059
Paving	18	Cement and Mortar Mixers	2	6	10	0.56	67	65
	18	Pavers	1	8	81	0.42	272	265
	18	Paving Equipment	2	6	89	0.36	384	374
	18	Rollers	2	6	36	0.38	164	160
	18	Tractors/Loaders/Backhoes	1	8	84	0.37	249	242
Architectural Coating	18	Air Compressors	1	6	37	0.48	107	104
CONSTRUCTION FUEL DEMAND (gallons of diesel fuel)								30,759

Notes:

(1) Using Carl Moyer Guidelines Table D-21 Fuel consumption rate factors (bhp-hr/gal) for engines less than 750 hp. (Source: https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf)

Table 17
Construction Worker Fuel Consumption Estimates

Phase	Number of Days	Worker Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Demolition	20	15	18.5	5550	26.6	209
Grading	8	15	18.5	2,220	26.6	84
Building Construction	230	3.24	18.5	13,786	26.6	519
Paving	18	20	18.5	6,660	26.6	251
Architectural Coating	18	0.65	18.5	216	26.6	8
Total Construction Worker Fuel Consumption						1,069

Notes:

(1) Assumptions for the worker trip length and vehicle miles traveled are consistent with CalEEMod 2022.1.1.20 defaults.

(2) Per CalEEMod User's Guide Appendix C (April 2022), CalEEMod assumes that construction work trips are made by a fleet consisting of 25 percent light-duty auto (or passenger car), 50 percent light-duty truck type 1 (LDT1), and 25 percent light duty truck type 2 (LDT2).

Table 18
Construction Vendor Fuel Consumption Estimates (MHD & HHD Trucks)

Phase	Number of Days	Vendor Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Demolition	20	0	10.2	0	7.0	0
Grading	8	0	10.2	0	7.0	0
Building Construction	230	0.96	10.2	2,252	7.0	321
Paving	18	0	10.2	0	7.0	0
Architectural Coating	18	0	10.2	0	7.0	0
Total Construction Vendor Fuel Consumption						321

Notes:

(1) Assumptions for the vendor trip length and vehicle miles traveled are consistent with CalEEMod 2022.1.1.20 defaults.

(2) Per CalEEMod User's Guide Appendix C (April 2022), CalEEMod assumes vendor trips are made by a fleet consisting of 50 percent medium trucks (MHDT) and 50 percent heavy trucks (HHDT).

Table 19
Construction Hauling Fuel Consumption Estimates (HHD Trucks)

Phase	Number of Days	Hauling Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Demolition	20	0.65	20	260	6.2	42
Grading	8	0	20	0	6.2	0
Building Construction	230	0	20	0	6.2	0
Paving	18	0	20	0	6.2	0
Architectural Coating	18	0	20	0	6.2	0
Total Construction Hauling Fuel Consumption						42

Notes:

(1) Assumptions for the hauling trip length and vehicle miles traveled are consistent with CalEEMod 2022.1.1.20 defaults.

Table 20
Estimated Vehicle Operations Fuel Consumption

Vehicle Type	Vehicle Mix	Number of Vehicles	Average Trip (miles)[1]	Daily VMT	Average Fuel Economy (mpg)[2]	Total Gallons per Day	Total Annual Fuel Consumption (gallons)
Light Auto	Automobile	40	8.46	338	33.51	10.10	3,686
Light Truck	Automobile	3	28.25	85	25.58	3.31	1,209
Light Truck	Automobile	20	28.25	565	25.64	22.04	8,043
Light Heavy Truck	2-Axle Truck	2	28.25	57	16.47	3.43	1,252
Light Heavy Truck 10,000 lbs +	2-Axle Truck	1	28.25	28	15.61	1.81	661
Motorcycle	Automobile	2	8.46	17	41.79	0.40	148
Medium Truck	Automobile	14	8.46	118	21.01	5.64	2,058
Motor Home	--	0	8.46	0	5.78	0.00	0
Medium Heavy Truck	3-Axle Truck	1	28.25	28	8.01	3.53	1,287
Other Bus	--	0	8.46	0	6.29	0.00	0
School Bus	--	0	8.46	0	6.55	0.00	0
Urban Bus	--	0	8.46	0	3.53	0.00	0
Heavy Heavy Truck	4-Axle Truck	2	28.25	57	6.26	9.03	3,294
Total		85	--	1,293	-	59.28	--
Total Annual Fuel Consumption							21,638

Notes:

(1) Based on the size of the site and relative location, trips were assumed to be local rather than regional.

(2) Based on EMFAC2021 emission rates for opening year of 2026.

Table 21
Project Annual Operational Energy Demand Summary

Natural Gas Demand	kBTU/year
Single-Family Residential	320,079
Total	320,079

Electricity Demand	kWh/year
Single-Family Residential	84,053
Total	84,053

Notes:

(1) Taken from the CalEEMod 2022.1.1.20 output (Appendix B of this report).

6. EMISSION REDUCTION MEASURES

CONSTRUCTION MEASURES

Adherence to SCAQMD Rules 403 and 403.1 is required and the project will be required to obtain and prepare a Fugitive Dust Control Plan.

No construction mitigation is required.

OPERATIONAL MEASURES

No operational mitigation is required.

7. REFERENCES

California Air Resources Board

2008 Resolution 08-43

2008 Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act

2008 Climate Change Scoping Plan, a framework for change.

2011 Supplement to the AB 32 Scoping Plan Functional Equivalent Document

2013 Almanac of Emissions and Air Quality.
Source: https://www.arb.ca.gov/aqd/almanac/almanac13/almanac13.htm

2014 First Update to the Climate Change Scoping Plan, Building on the Framework Pursuant to AB32, the California Global Warming Solutions Act of 2006. May.

2017 California's 2017 Climate Change Scoping Plan. November.

2022 2022 Scoping Plan for Achieving Carbon Neutrality. November 16.

2023 Historical Air Quality, Top 4 Summary

City of Rancho Mirage

2017 City Rancho Mirage General Plan 2017 Update. November.

2013 Rancho Mirage Sustainability Plan. March.

2013 Rancho Mirage Energy Action Plan. March.

Governor's Office of Planning and Research

2008 CEQA and Climate: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review

2018 CEQA Guideline Sections to be Added or Amended

Intergovernmental Panel on Climate Change (IPCC)

2014 IPCC Fifth Assessment Report, Climate Change 2014: Synthesis Report

Office of Environmental Health Hazard Assessment

2015 Air Toxics Hot Spots Program Risk Assessment Guidelines

South Coast Air Quality Management District

1993 CEQA Air Quality Handbook

2005 Rule 403 Fugitive Dust

2007 2007 Air Quality Management Plan

2008 Final Localized Significance Threshold Methodology, Revised

2012 Final 2012 Air Quality Management Plan

2016 2016 Air Quality Management Plan

2022 2022 Air Quality Management Plan. December 2.

Southern California Association of Governments

2020 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy

U.S. Environmental Protection Agency (EPA)

2017 Understanding Global Warming Potentials
(Source: https://www.epa.gov/ghgemissions/understanding-global-warming-potentials)

U.S. Geological Survey

2011 Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California

APPENDICES

Appendix A Glossary

Appendix B CalEEMod Model Detailed Report and EMFAC Data

APPENDIX A

GLOSSARY

AQMP	Air Quality Management Plan
BACT	Best Available Control Technologies
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CH_4	Methane
CNG	Compressed natural gas
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DPM	Diesel particulate matter
EPA	U.S. Environmental Protection Agency
GHG	Greenhouse gas
GWP	Global warming potential
HIDPM	Hazard Index Diesel Particulate Matter
HFCs	Hydrofluorocarbons
IPCC	International Panel on Climate Change
LCFS	Low Carbon Fuel Standard
LST	Localized Significant Thresholds
$MTCO_2e$	Metric tons of carbon dioxide equivalent
$MMTCO_2e$	Million metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NOx	Nitrogen Oxides
NO_2	Nitrogen dioxide
N_2O	Nitrous oxide
O_3	Ozone
OPR	Governor's Office of Planning and Research
PFCs	Perfluorocarbons
PM	Particle matter
PM10	Particles that are less than 10 micrometers in diameter
PM2.5	Particles that are less than 2.5 micrometers in diameter
PMI	Point of maximum impact
PPM	Parts per million
PPB	Parts per billion
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
SANBAG	San Bernardino Association of Governments
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SSAB	Salton Sea Air Basin
SF_6	Sulfur hexafluoride
SIP	State Implementation Plan
SOx	Sulfur Oxides
TAC	Toxic air contaminants
VOC	Volatile organic compounds

APPENDIX B

CALEEMOD MODEL DETAILED REPORT AND EMFAC DATA

19669 TTM38636 Detailed Report

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5.18.2. Sequestration

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	19669 TTM38636
Construction Start Date	1/1/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.30
Precipitation (days)	0.80
Location	33.79543523571104, -116.40397992086233
County	Riverside-Salton Sea
City	Rancho Mirage
Air District	South Coast AQMD
Air Basin	Salton Sea
TAZ	5671
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.20

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Single Family Housing	9.00	Dwelling Unit	3.38	17,550	105,416	—	29.0	9 residential lots over 3.38 acres.
Other Asphalt Surfaces	0.58	Acre	0.58	0.00	0.00	—	—	Private Street, Lot A, totals 0.58 acres.
Other Non-Asphalt Surfaces	0.40	Acre	0.40	0.00	0.00	—	—	Retention Basins Lots B-D total 0.4 acres.

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.37	1.15	10.5	13.4	0.02	0.43	0.05	0.48	0.40	0.01	0.41	—	2,476	2,476	0.10	0.03	0.25	2,486
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.93	7.73	22.3	23.2	0.04	0.92	2.96	3.68	0.84	1.38	2.05	—	4,072	4,072	0.17	0.05	0.03	4,090
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.09	0.91	8.32	10.1	0.02	0.34	0.12	0.46	0.32	0.04	0.36	—	1,860	1,860	0.07	0.02	0.10	1,868
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.20	0.17	1.52	1.85	< 0.005	0.06	0.02	0.08	0.06	0.01	0.07	—	308	308	0.01	< 0.005	0.02	309

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.37	1.15	10.5	13.4	0.02	0.43	0.05	0.48	0.40	0.01	0.41	—	2,476	2,476	0.10	0.03	0.25	2,486
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.93	2.46	22.3	23.2	0.04	0.92	2.96	3.68	0.84	1.38	2.05	—	4,072	4,072	0.17	0.05	0.03	4,090
2026	1.05	7.73	7.20	11.0	0.01	0.28	0.27	0.55	0.26	0.06	0.32	—	1,739	1,739	0.06	0.02	0.02	1,747
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.09	0.91	8.32	10.1	0.02	0.34	0.12	0.46	0.32	0.04	0.36	—	1,860	1,860	0.07	0.02	0.10	1,868
2026	0.03	0.36	0.22	0.33	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	51.2	51.2	< 0.005	< 0.005	0.01	51.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.20	0.17	1.52	1.85	< 0.005	0.06	0.02	0.08	0.06	0.01	0.07	—	308	308	0.01	< 0.005	0.02	309
2026	0.01	0.07	0.04	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.48	8.48	< 0.005	< 0.005	< 0.005	8.52

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.46	0.82	0.63	4.80	0.01	0.02	0.85	0.87	0.02	0.21	0.24	5.13	1,459	1,464	0.57	0.05	3.36	1,496
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.35	0.71	0.66	2.87	0.01	0.02	0.85	0.87	0.02	0.21	0.24	5.13	1,340	1,345	0.57	0.05	0.21	1,374
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.37	0.74	0.51	3.45	0.01	0.01	0.83	0.85	0.01	0.21	0.22	5.13	1,210	1,215	0.57	0.05	1.49	1,245
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.07	0.13	0.09	0.63	< 0.005	< 0.005	0.15	0.15	< 0.005	0.04	0.04	0.85	200	201	0.09	0.01	0.25	206

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.39	0.35	0.41	4.20	0.01	0.01	0.85	0.85	0.01	0.21	0.22	—	1,048	1,048	0.03	0.04	3.23	1,065
Area	0.06	0.47	0.14	0.57	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	172	172	< 0.005	< 0.005	—	172
Energy	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	225	225	0.02	< 0.005	—	226
Water	—	—	—	—	—	—	—	—	—	—	—	0.70	13.9	14.6	0.07	< 0.005	—	16.9
Waste	—	—	—	—	—	—	—	—	—	—	—	4.43	0.00	4.43	0.44	0.00	—	15.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	0.46	0.82	0.63	4.80	0.01	0.02	0.85	0.87	0.02	0.21	0.24	5.13	1,459	1,464	0.57	0.05	3.36	1,496
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.32	0.29	0.44	2.78	0.01	0.01	0.85	0.85	0.01	0.21	0.22	—	931	931	0.04	0.05	0.08	945
Area	0.02	0.42	0.13	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	171	171	< 0.005	< 0.005	—	171
Energy	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	225	225	0.02	< 0.005	—	226
Water	—	—	—	—	—	—	—	—	—	—	—	0.70	13.9	14.6	0.07	< 0.005	—	16.9
Waste	—	—	—	—	—	—	—	—	—	—	—	4.43	0.00	4.43	0.44	0.00	—	15.5

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	0.35	0.71	0.66	2.87	0.01	0.02	0.85	0.87	0.02	0.21	0.24	5.13	1,340	1,345	0.57	0.05	0.21	1,374
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.33	0.30	0.42	3.16	0.01	0.01	0.83	0.84	0.01	0.21	0.22	—	959	959	0.03	0.04	1.37	974
Area	0.02	0.44	0.01	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	12.4	12.4	< 0.005	< 0.005	—	12.4
Energy	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	225	225	0.02	< 0.005	—	226
Water	—	—	—	—	—	—	—	—	—	—	—	0.70	13.9	14.6	0.07	< 0.005	—	16.9
Waste	—	—	—	—	—	—	—	—	—	—	—	4.43	0.00	4.43	0.44	0.00	—	15.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	0.37	0.74	0.51	3.45	0.01	0.01	0.83	0.85	0.01	0.21	0.22	5.13	1,210	1,215	0.57	0.05	1.49	1,245
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.06	0.05	0.08	0.58	< 0.005	< 0.005	0.15	0.15	< 0.005	0.04	0.04	—	159	159	0.01	0.01	0.23	161
Area	< 0.005	0.08	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.05	2.05	< 0.005	< 0.005	—	2.05
Energy	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	37.3	37.3	< 0.005	< 0.005	—	37.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.12	2.30	2.41	0.01	< 0.005	—	2.80
Waste	—	—	—	—	—	—	—	—	—	—	—	0.73	0.00	0.73	0.07	0.00	—	2.57
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	0.07	0.13	0.09	0.63	< 0.005	< 0.005	0.15	0.15	< 0.005	0.04	0.04	0.85	200	201	0.09	0.01	0.25	206

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.09	< 0.005	0.05	—	0.05	0.05	—	0.05	—	188	188	0.01	< 0.005	—	188
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.07	0.06	0.08	0.81	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	190	190	0.01	0.01	0.02	192
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.3	44.3	< 0.005	0.01	< 0.005	46.4
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	0.02	11.2
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.43	2.43	< 0.005	< 0.005	< 0.005	2.54
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.84	1.84	< 0.005	< 0.005	< 0.005	1.86
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.40	0.40	< 0.005	< 0.005	< 0.005	0.42

3.3. Grading (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.07	1.74	16.3	17.9	0.03	0.72	—	0.72	0.66	—	0.66	—	2,959	2,959	0.12	0.02	—	2,970
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.39	< 0.005	0.02	—	0.02	0.01	—	0.01	—	64.9	64.9	< 0.005	< 0.005	—	65.1
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.81	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	190	190	0.01	0.01	0.02	192
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.44	4.44	< 0.005	< 0.005	0.01	4.50
Vendor	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	0.00

Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.74	0.74	< 0.005	< 0.005	< 0.005	0.74
Vendor	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	0.00
Hauling	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	0.00

3.5. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.85	0.71	6.58	8.22	0.01	0.27	—	0.27	0.25	—	0.25	—	1,511	1,511	0.06	0.01	—	1,516
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.15	0.13	1.20	1.50	< 0.005	0.05	—	0.05	0.05	—	0.05	—	250	250	0.01	< 0.005	—	251
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.31	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	48.1	48.1	< 0.005	< 0.005	0.17	48.8
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.4	30.4	< 0.005	< 0.005	0.08	31.8
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.18	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	40.9	40.9	< 0.005	< 0.005	< 0.005	41.5
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.5	30.5	< 0.005	< 0.005	< 0.005	31.7
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	27.6	27.6	< 0.005	< 0.005	0.05	27.9
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.2	19.2	< 0.005	< 0.005	0.02	20.0
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.57	4.57	< 0.005	< 0.005	0.01	4.63
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.18	3.18	< 0.005	< 0.005	< 0.005	3.31
Hauling	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	0.00

3.7. Paving (2025) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.85	0.71	6.52	8.84	0.01	0.29	—	0.29	0.26	—	0.26	—	1,351	1,351	0.05	0.01	—	1,355
Paving	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.13	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.4	26.4	< 0.005	< 0.005	—	26.5
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.38	4.38	< 0.005	< 0.005	—	4.39
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.11	1.08	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	253	253	0.01	0.01	0.03	256

Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.29	5.29	< 0.005	< 0.005	0.01	5.36
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.88	0.88	< 0.005	< 0.005	< 0.005	0.89
Vendor	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	0.00
Hauling	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	0.00

3.9. Paving (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.81	0.68	6.23	8.81	0.01	0.26	—	0.26	0.24	—	0.24	—	1,350	1,350	0.05	0.01	—	1,355
Paving	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.17	0.24	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.0	37.0	< 0.005	< 0.005	—	37.1
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.12	6.12	< 0.005	< 0.005	—	6.14
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.10	1.00	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	248	248	< 0.005	0.01	0.02	251
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.25	7.25	< 0.005	< 0.005	0.01	7.34
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.20	1.20	< 0.005	< 0.005	< 0.005	1.22
Vendor	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	0.00
Hauling	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	0.00

3.11. Architectural Coating (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	6.76	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.58	6.58	< 0.005	< 0.005	—	6.61
Architectural Coatings	—	0.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.09	1.09	< 0.005	< 0.005	—	1.09
Architectural Coatings	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.02	8.02	< 0.005	< 0.005	< 0.005	8.12
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.42	0.42	< 0.005	< 0.005	< 0.005	0.43
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.07	0.07	< 0.005	< 0.005	< 0.005	0.07
Vendor	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	0.00
Hauling	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	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.39	0.35	0.41	4.20	0.01	0.01	0.85	0.85	0.01	0.21	0.22	—	1,048	1,048	0.03	0.04	3.23	1,065
Other Asphalt Surfaces	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	0.00
Other Non-Asphalt Surfaces	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	0.00
Total	0.39	0.35	0.41	4.20	0.01	0.01	0.85	0.85	0.01	0.21	0.22	—	1,048	1,048	0.03	0.04	3.23	1,065
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.32	0.29	0.44	2.78	0.01	0.01	0.85	0.85	0.01	0.21	0.22	—	931	931	0.04	0.05	0.08	945
Other Asphalt Surfaces	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	0.00
Other Non-Asphalt Surfaces	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	0.00
Total	0.32	0.29	0.44	2.78	0.01	0.01	0.85	0.85	0.01	0.21	0.22	—	931	931	0.04	0.05	0.08	945
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.05	0.08	0.58	< 0.005	< 0.005	0.15	0.15	< 0.005	0.04	0.04	—	159	159	0.01	0.01	0.23	161
Other Asphalt Surfaces	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	0.00
Other Non-Asphalt Surfaces	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	0.00

Total	0.06	0.05	0.08	0.58	< 0.005	< 0.005	0.15	0.15	< 0.005	0.04	0.04	—	159	159	0.01	0.01	0.23	161

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	123	123	0.01	< 0.005	—	123
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	123	123	0.01	< 0.005	—	123
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	123	123	0.01	< 0.005	—	123
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	123	123	0.01	< 0.005	—	123

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	20.3	20.3	< 0.005	< 0.005	—	20.4
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	20.3	20.3	< 0.005	< 0.005	—	20.4

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	103	103	0.01	< 0.005	—	103
Other Asphalt Surfaces	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
Other Non-Asphalt Surfaces	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
Total	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	103	103	0.01	< 0.005	—	103
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	103	103	0.01	< 0.005	—	103
Other Asphalt Surfaces	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
Other Non-Asphalt Surfaces	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
Total	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	103	103	0.01	< 0.005	—	103
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.0	17.0	< 0.005	< 0.005	—	17.0
Other Asphalt Surfaces	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
Other Non-Asphalt Surfaces	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
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.0	17.0	< 0.005	< 0.005	—	17.0

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.02	0.01	0.13	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	171	171	< 0.005	< 0.005	—	171

Consumer Products	—	0.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.05	0.05	< 0.005	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.37	1.37	< 0.005	< 0.005	—	1.37
Total	0.06	0.47	0.14	0.57	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	172	172	< 0.005	< 0.005	—	172
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.02	0.01	0.13	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	171	171	< 0.005	< 0.005	—	171
Consumer Products	—	0.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.02	0.42	0.13	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	171	171	< 0.005	< 0.005	—	171
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.93	1.93	< 0.005	< 0.005	—	1.94
Consumer Products	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.11	0.11	< 0.005	< 0.005	—	0.11
Total	< 0.005	0.08	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.05	2.05	< 0.005	< 0.005	—	2.05

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.70	13.9	14.6	0.07	< 0.005	—	16.9
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.70	13.9	14.6	0.07	< 0.005	—	16.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.70	13.9	14.6	0.07	< 0.005	—	16.9
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.70	13.9	14.6	0.07	< 0.005	—	16.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.12	2.30	2.41	0.01	< 0.005	—	2.80
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.12	2.30	2.41	0.01	< 0.005	—	2.80

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	4.43	0.00	4.43	0.44	0.00	—	15.5
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.43	0.00	4.43	0.44	0.00	—	15.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	4.43	0.00	4.43	0.44	0.00	—	15.5
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.43	0.00	4.43	0.44	0.00	—	15.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.73	0.00	0.73	0.07	0.00	—	2.57
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.73	0.00	0.73	0.07	0.00	—	2.57

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2025	1/29/2025	5.00	20.0	—
Grading	Grading	1/30/2025	2/10/2025	5.00	8.00	—
Building Construction	Building Construction	2/11/2025	12/29/2025	5.00	230	—
Paving	Paving	12/22/2025	1/14/2026	5.00	18.0	—
Architectural Coating	Architectural Coating	1/7/2026	2/01/2026	5.00	18.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Demolition	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	0.65	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	3.24	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.96	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.65	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	35,539	11,846	0.00	0.00	2,561

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	1,095	—
Grading	—	—	8.00	0.00	—
Paving	0.00	0.00	0.00	0.00	1.08

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt

Single Family Housing	0.10	0%
Other Asphalt Surfaces	0.58	100%
Other Non-Asphalt Surfaces	0.40	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	84.9	85.3	76.3	30,555	1,193	1,199	1,073	429,430
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—

Wood Fireplaces	0
Gas Fireplaces	8
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	1
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
35538.75	11,846	0.00	0.00	2,561

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	84,053	532	0.0330	0.0040	320,079
Other Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00

Other Non-Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	366,064	2,417,795
Other Asphalt Surfaces	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	8.22	—
Other Asphalt Surfaces	0.00	—
Other Non-Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	23.4	annual days of extreme heat
Extreme Precipitation	0.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score

Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

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

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	88.7
AQ-PM	7.34
AQ-DPM	43.4
Drinking Water	45.4
Lead Risk Housing	1.31
Pesticides	0.00
Toxic Releases	3.08
Traffic	64.6
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	43.3
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	20.9
Cardio-vascular	16.5
Low Birth Weights	20.3
Socioeconomic Factor Indicators	—

Education	25.9
Housing	86.8
Linguistic	7.38
Poverty	21.5
Unemployment	4.23

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	47.56833055
Employed	15.56525087
Median HI	74.56691903
Education	—
Bachelor's or higher	65.96945977
High school enrollment	100
Preschool enrollment	48.45374054
Transportation	—
Auto Access	37.4566919
Active commuting	25.81804183
Social	—
2-parent households	97.56191454
Voting	86.88566662
Neighborhood	—
Alcohol availability	82.80508148
Park access	2.194276915
Retail density	35.17259079

Supermarket access	45.92583087
Tree canopy	17.8108559
Housing	—
Homeownership	83.62633132
Housing habitability	22.35339407
Low-inc homeowner severe housing cost burden	25.38175286
Low-inc renter severe housing cost burden	6.274862056
Uncrowded housing	70.21686129
Health Outcomes	—
Insured adults	97.45925831
Arthritis	0.0
Asthma ER Admissions	80.6
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	94.6
Cognitively Disabled	39.7
Physically Disabled	49.3
Heart Attack ER Admissions	64.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0

Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	79.8
Elderly	0.9
English Speaking	70.5
Foreign-born	10.7
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	47.2
Traffic Density	47.5
Traffic Access	23.0
Other Indices	—
Hardship	34.9
Other Decision Support	—
2016 Voting	92.5

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	7.00
Healthy Places Index Score for Project Location (b)	56.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No

Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	4.37 net acre site with 9 residential lots totaling 3.38 acres, retention basins (lots B-D) total 0.4 acres, & private street (lot A) totals 0.58 acres.
Construction: Construction Phases	Construction assumed to begin no earlier than January 2025. Demo of one single-family house ~1,095 sf, but no site prep as site is vacant other than the home. As construction duration is unknown at this time, utilized CalEEMod default number of days per phase, but adjusted dates to account for potential overlap of construction phases. Site anticipated to balance.
Operations: Vehicle Data	Per the ITE rate for single-family housing (ITE 210) the proposed project will have trip generation rates of 9.43 trips per dwelling unit on weekdays, 9.48 trips per dwelling unit on Saturdays, and 8.48 trips per dwelling unit on Sundays.
Operations: Hearths	SCAQMD Rule 445 prohibts the installation of wood burning devices in new developments.

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: Air Basin
Region: South Coast
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Trips	Energy Consumption	Fuel Consumption	Fuel Consumption	Total Fuel Consumptior	Total VMT	Total VMT	Miles Per Gallon	Vehicle Class
South Coast	2025	HHDT	Aggregate	Aggregate	Gasoline	54.83401411	1097.118954	0	0.915660885	915.6608849	2033428.223	3783.739566	12499201.56	**6.15**	**HHDT**
South Coast	2025	HHDT	Aggregate	Aggregate	Diesel	95337.36817	1459640.636	0	1919.938673	1919938.673		11745346.31			
South Coast	2025	HHDT	Aggregate	Aggregate	Electricity	647.565363	8586.113967	125035.0292	0	0		69780.1703			
South Coast	2025	HHDT	Aggregate	Aggregate	Natural Gas	10701.05249	68656.35135	0	112.5738892	112573.8892		680291.3416			
South Coast	2025	LDA	Aggregate	Aggregate	Gasoline	5244723.652	24385315.28	0	7108.358927	7108358.927	7245907.135	210339700.5	233546247.7	**32.23**	**LDA**
South Coast	2025	LDA	Aggregate	Aggregate	Diesel	13504.15254	56096.65324	0	9.832104986	9832.104986		408222.3366			
South Coast	2025	LDA	Aggregate	Aggregate	Electricity	314906.6469	1568075.372	5911352.826	0	0		15311111.74			
South Coast	2025	LDA	Aggregate	Aggregate	Plug-in Hybrid	159860.278	661022.2496	1174382.35	127.7161032	127716.1032		7487213.196			
South Coast	2025	LDT1	Aggregate	Aggregate	Gasoline	483367.514	2127610.282	0	708.9359688	708935.9688	709884.4736	17503198.77	17626287.18	**24.83**	**LDT1**
South Coast	2025	LDT1	Aggregate	Aggregate	Diesel	161.5260868	453.3891137	0	0.127085477	127.0854768		2967.035899			
South Coast	2025	LDT1	Aggregate	Aggregate	Electricity	1505.26458	7236.189381	25889.93818	0	0		67058.04036			
South Coast	2025	LDT1	Aggregate	Aggregate	Plug-in Hybrid	1033.948372	4275.376518	9086.363765	0.821419376	821.4193759		53063.32883			
South Coast	2025	LDT2	Aggregate	Aggregate	Gasoline	2528171.942	11891190.15	0	4341.426391	4341426.391	4373117.135	104543301.5	106927231	**24.45**	**LDT2**
South Coast	2025	LDT2	Aggregate	Aggregate	Diesel	8518.978579	40955.39339	0	11.53683826	11536.83826		366939.3838			
South Coast	2025	LDT2	Aggregate	Aggregate	Electricity	21565.05505	109850.7805	300027.449	0	0		777107.023			
South Coast	2025	LDT2	Aggregate	Aggregate	Plug-in Hybrid	25221.81395	104292.2007	204751.9727	20.15390552	20153.90552		1239883.058			
South Coast	2025	LHDT1	Aggregate	Aggregate	Gasoline	199655.4178	2974568.238	0	565.7929114	565792.9114	785253.6339	7899242.311	12579982.86	**16.02**	**LHDT1**
South Coast	2025	LHDT1	Aggregate	Aggregate	Diesel	107539.0383	1352705.817	0	219.4607225	219460.7225		4531936.528			
South Coast	2025	LHDT1	Aggregate	Aggregate	Electricity	2131.529069	29802.51665	83294.25907	0	0		148804.02			
South Coast	2025	LHDT2	Aggregate	Aggregate	Gasoline	30849.1838	459606.8733	0	93.96299335	93962.99335	208962.5987	1145449.689	3183322.084	**15.23**	**LHDT2**
South Coast	2025	LHDT2	Aggregate	Aggregate	Diesel	48016.98656	603993.2855	0	114.9996053	114999.6053		2001431.485			
South Coast	2025	LHDT2	Aggregate	Aggregate	Electricity	549.452873	7286.296511	20413.74678	0	0		36440.90994			
South Coast	2025	MCY	Aggregate	Aggregate	Gasoline	246317.3152	492634.6304	0	37.82728892	37827.28892	37827.28892	1575969.655	1575969.655	**41.66**	**MCY**
South Coast	2025	MDV	Aggregate	Aggregate	Gasoline	1582911.671	7327873.919	0	3124.528435	3124528.435	3169334.086	61244218.19	63579746.09	**20.06**	**MDV**
South Coast	2025	MDV	Aggregate	Aggregate	Diesel	19966.30161	93386.67778	0	32.96063764	32960.63764		783550.3632			
South Coast	2025	MDV	Aggregate	Aggregate	Electricity	23405.95686	119202.2123	325389.6809	0	0		842798.2408			
South Coast	2025	MDV	Aggregate	Aggregate	Plug-in Hybrid	15515.87163	64158.1292	115605.1765	11.8450132	11845.0132		709179.3041			
South Coast	2025	MH	Aggregate	Aggregate	Gasoline	28222.75742	2823.404652	0	55.89330175	55893.30175	67478.95091	271714.048	388622.5468	**5.76**	**MH**
South Coast	2025	MH	Aggregate	Aggregate	Diesel	11853.97154	1185.397154	0	11.58564916	11585.64916		116908.4988			
South Coast	2025	MHDT	Aggregate	Aggregate	Gasoline	24266.37368	485521.6046	0	246.6220886	246622.0886	803911.5702	1285729.87	6330495.207	**7.87**	**MHDT**
South Coast	2025	MHDT	Aggregate	Aggregate	Diesel	117076.634	1440705.231	0	548.3413637	548341.3637		4914316.485			
South Coast	2025	MHDT	Aggregate	Aggregate	Electricity	1030.710845	13697.48889	58527.95377	0	0		55891.50984			
South Coast	2025	MHDT	Aggregate	Aggregate	Natural Gas	1586.964447	14102.34275	0	8.94811801	8948.11801		74557.34189			
South Coast	2025	OBUS	Aggregate	Aggregate	Gasoline	5130.782804	102656.7023	0	38.98709136	38987.09136	75404.10956	199581.2481	465625.8692	**6.18**	**OBUS**
South Coast	2025	OBUS	Aggregate	Aggregate	Diesel	3078.572652	39272.27543	0	33.03961652	33039.61652		233905.0145			
South Coast	2025	OBUS	Aggregate	Aggregate	Electricity	29.09533983	582.1395594	2258.641236	0	0		2147.933443			
South Coast	2025	OBUS	Aggregate	Aggregate	Natural Gas	505.1478218	4495.815614	0	3.377401677	3377.401677		29991.67319			
South Coast	2025	SBUS	Aggregate	Aggregate	Gasoline	2812.998756	11251.99503	0	13.81627409	13816.27409	41147.02398	123623.802	268314.9981	**6.52**	**SBUS**
South Coast	2025	SBUS	Aggregate	Aggregate	Diesel	3181.542446	46068.73461	0	8.734797087	8734.797087		64276.54474			
South Coast	2025	SBUS	Aggregate	Aggregate	Electricity	47.38132065	537.5923668	1681.228052	0	0		1453.97051			
South Coast	2025	SBUS	Aggregate	Aggregate	Natural Gas	3209.535885	46474.07961	0	18.59595281	18595.95281		78960.68088			
South Coast	2025	UBUS	Aggregate	Aggregate	Gasoline	892.063682	3568.254728	0	13.80114714	13801.14714	198998.2045	96751.77026	697627.2588	**3.51**	**UBUS**
South Coast	2025	UBUS	Aggregate	Aggregate	Diesel	11.19759793	44.79039173	0	0.207460052	207.4600516		1417.05095			
South Coast	2025	UBUS	Aggregate	Aggregate	Electricity	163.9010308	655.6041234	34521.6162	0	0		16501.94536			
South Coast	2025	UBUS	Aggregate	Aggregate	Natural Gas	4881.393278	19525.57311	0	184.9895973	184989.5973		582956.4922			

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Air Basin
Region: South Coast
Calendar Year: 2026
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Trips	Energy Consumption	Fuel Consumption	Fuel Consumption	Total Fuel Consumption	Total VMT	Total VMT	Miles Per Gallon	Vehicle Class
South Coast	2026	HHDT	Aggregate	Aggregate	Gasoline	45.28727755	906.1078492	0	0.826439263	826.4392634	2040037.147	3515.176047	12762260.29	**6.26**	**HHDT**
South Coast	2026	HHDT	Aggregate	Aggregate	Diesel	97738.13703	1499287.564	0	1924.425077	1924425.077		11935536.65			
South Coast	2026	HHDT	Aggregate	Aggregate	Electricity	1127.803815	15012.08067	218857.8017	0	0		122141.2963			
South Coast	2026	HHDT	Aggregate	Aggregate	Natural Gas	11136.92104	71605.89185	0	114.7856315	114785.6315		701067.1645			
South Coast	2026	LDA	Aggregate	Aggregate	Gasoline	5195643.708	24143840.26	0	6782.676882	6782676.882	6921645.961	207389418.9	231955554.2	**33.51**	**LDA**
South Coast	2026	LDA	Aggregate	Aggregate	Diesel	12287.58157	51140.44532	0	8.767517115	8767.517115		370075.1174			
South Coast	2026	LDA	Aggregate	Aggregate	Electricity	344157.5263	1706165.237	6342137.443	0	0		16426895.48			
South Coast	2026	LDA	Aggregate	Aggregate	Plug-in Hybrid	168809.5326	698027.4173	1240278.612	130.201561	130201.561		7769164.725			
South Coast	2026	LDT1	Aggregate	Aggregate	Gasoline	476323.5206	2097590.987	0	678.0887347	678088.7347	679239.9851	17216273.05	17371977.47	**25.58**	**LDT1**
South Coast	2026	LDT1	Aggregate	Aggregate	Diesel	134.4367276	372.1645155	0	0.103697527	103.6975272		2435.198128			
South Coast	2026	LDT1	Aggregate	Aggregate	Electricity	1851.074177	8991.774052	32640.99575	0	0		84544.08793			
South Coast	2026	LDT1	Aggregate	Aggregate	Plug-in Hybrid	1363.558276	5638.31347	11920.71238	1.047552876	1047.552876		68725.12561			
South Coast	2026	LDT2	Aggregate	Aggregate	Gasoline	2579520.408	12130525.5	0	4213.67897	4213678.97	4247377.404	106163830	108886311.7	**25.64**	**LDT2**
South Coast	2026	LDT2	Aggregate	Aggregate	Diesel	8867.858357	42507.35427	0	11.36067539	11360.67539		377428.6943			
South Coast	2026	LDT2	Aggregate	Aggregate	Electricity	26735.86194	135545.3315	365644.5096	0	0		947063.0678			
South Coast	2026	LDT2	Aggregate	Aggregate	Plug-in Hybrid	29040.30722	120081.6703	234335.4931	22.33775891	22337.75891		1397989.883			
South Coast	2026	LHDT1	Aggregate	Aggregate	Gasoline	199218.1798	2968054.043	0	554.0943882	554094.3882	778318.8766	7895647.304	12817307.83	**16.47**	**LHDT1**
South Coast	2026	LHDT1	Aggregate	Aggregate	Diesel	110824.2702	1394029.902	0	224.2244884	224224.4884		4651442.085			
South Coast	2026	LHDT1	Aggregate	Aggregate	Electricity	4055.383124	56705.54919	151287.7363	0	0		270218.4372			
South Coast	2026	LHDT2	Aggregate	Aggregate	Gasoline	30610.65521	456053.1528	0	91.39194251	91391.94251	209308.2006	1134530.272	3267042.154	**15.61**	**LHDT2**
South Coast	2026	LHDT2	Aggregate	Aggregate	Diesel	49935.33556	628123.7026	0	117.9162581	117916.2581		2066139.273			
South Coast	2026	LHDT2	Aggregate	Aggregate	Electricity	1047.275343	13892.53274	37187.32905	0	0		66372.60862			
South Coast	2026	MCY	Aggregate	Aggregate	Gasoline	250487.6045	500975.209	0	38.18100333	38181.00333	38181.00333	1595492.078	1595492.078	**41.79**	**MCY**
South Coast	2026	MDV	Aggregate	Aggregate	Gasoline	1596136.553	7392706.354	0	3011.039477	3011039.477	3055964.697	61598198.2	64209958.05	**21.01**	**MDV**
South Coast	2026	MDV	Aggregate	Aggregate	Diesel	20066.48661	93545.30034	0	31.64015543	31640.15543		778197.9806			
South Coast	2026	MDV	Aggregate	Aggregate	Electricity	28847.6688	146197.0743	394020.0271	0	0		1020559.056			
South Coast	2026	MDV	Aggregate	Aggregate	Plug-in Hybrid	18049.49416	74634.65834	135075.7859	13.28506472	13285.06472		813002.8095			
South Coast	2026	MH	Aggregate	Aggregate	Gasoline	27278.64846	2728.955991	0	54.52892025	54528.92025	66225.52092	265063.4305	382974.6262	**5.78**	**MH**
South Coast	2026	MH	Aggregate	Aggregate	Diesel	11990.57298	1199.057298	0	11.69660067	11696.60067		117911.1957			
South Coast	2026	MHDT	Aggregate	Aggregate	Gasoline	23709.92089	474388.0972	0	236.9518121	236951.8121	795432.9677	1246845.641	6369185.402	**8.01**	**MHDT**
South Coast	2026	MHDT	Aggregate	Aggregate	Diesel	119147.669	1467301.162	0	549.2177252	549217.7252		4943659.689			
South Coast	2026	MHDT	Aggregate	Aggregate	Electricity	1897.982484	25122.25889	106245.4113	0	0		101446.1358			
South Coast	2026	MHDT	Aggregate	Aggregate	Natural Gas	1676.42244	14874.65576	0	9.263430478	9263.430478		77233.93662			
South Coast	2026	OBUS	Aggregate	Aggregate	Gasoline	4985.01682	99740.21654	0	36.8023149	36802.3149	73013.96337	190323.4224	458958.6555	**6.29**	**OBUS**
South Coast	2026	OBUS	Aggregate	Aggregate	Diesel	3150.254377	40409.07405	0	32.78261169	32782.61169		234257.9808			
South Coast	2026	OBUS	Aggregate	Aggregate	Electricity	48.73252846	975.0404293	3712.22292	0	0		3530.286569			
South Coast	2026	OBUS	Aggregate	Aggregate	Natural Gas	527.7646575	4697.105452	0	3.429036786	3429.036786		30846.96566			
South Coast	2026	SBUS	Aggregate	Aggregate	Gasoline	2859.470681	11437.88272	0	13.96502478	13965.02478	41288.84431	125429.044	270519.1537	**6.55**	**SBUS**
South Coast	2026	SBUS	Aggregate	Aggregate	Diesel	3069.620153	44448.09982	0	8.356963071	8356.963071		61684.67939			
South Coast	2026	SBUS	Aggregate	Aggregate	Electricity	80.42870332	920.4792925	2842.019937	0	0		2457.85405			
South Coast	2026	SBUS	Aggregate	Aggregate	Natural Gas	3324.894418	48144.47117	0	18.96685646	18966.85646		80947.57625			
South Coast	2026	UBUS	Aggregate	Aggregate	Gasoline	893.8375958	3575.350383	0	13.78048566	13780.48566	197989.9042	96943.51406	699028.0473	**3.53**	**UBUS**
South Coast	2026	UBUS	Aggregate	Aggregate	Diesel	11.14254485	44.57017938	0	0.207035957	207.0359572		1412.946963			
South Coast	2026	UBUS	Aggregate	Aggregate	Electricity	188.9556535	755.822614	40048.57494	0	0		19186.0799			
South Coast	2026	UBUS	Aggregate	Aggregate	Natural Gas	4866.60233	19466.40932	0	184.0023825	184002.3825		581485.5063			

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Appendix B General Biological Assessment dated January 18, 2024

NATURAL RESOURCES ASSESSMENT, INC.

General Biological Assessment
Single-family Residential Subdivision
Tentative Tract Map - TTM 23-0001 (TTM38636)
Environmental Assessment – EA 23-0003
APN 685-080-002
Rancho Mirage, California

Prepared for:

72094 Ginger Rogers LLC
c/o Farhad Zomorodi
PO Box 10544
Beverly Hills, CA 90213

Prepared by:

Natural Resources Assessment, Inc.
3415 Valencia Hill Drive
Riverside, California 92507

January 18, 2024

Project Number: FAZ23-10

3415 Valencia Hill Drive, Riverside, California 92507 Telephone 951 686 4483 Fax 951 686 8418

www.naturalresourcesassessment.com

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Appendices

1.0 Introduction

72094 Ginger Rogers LLC, contracted with Natural Resources Assessment, Inc. (NRAI) to conduct a biological assessment for a project in the City of Rancho Mirage, California**.** The assessment was needed to fulfill the requirements of the California Environmental Quality Act (CEQA) for project processing.

2.0 Site Location and Project Description

The property is located on the southeast corner of Ginger Rogers Street and Landy Lane in Rancho Mirage (Figures 1 and 2). The project is a 9-lot single-family residential subdivision (Tentative Tract Map 23-0001 [TTM 38636]) on 5.04 gross acres (APN 685-080-002) (Figure 3).

3.0 Methods

3.1 Data Review

NRAI conducted a data search for information on plant and wildlife species known occurrences within the vicinity of the project. This review included biological texts on general and specific biological resources, and those resources considered to be sensitive by various wildlife agencies, local governmental agencies and interest groups. Information sources included but are not limited to the following:

- Information provided by the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) for the project site.
- Data from Calflora, California Native Plant Society (CNPS) Inventory; the California Consortium of Herbaria; the Information, Planning, and Conservation System (IPaC); the Biogeographic Information & Observation System (BIOS); and the California Natural Diversity Data Base (CNDDB).
- U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (Corps), Santa Ana Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) regulations on sensitive biological resources and jurisdictional waters.
- Other texts relevant to this area of Riverside County and information from regional experts and previous studies for this area.

NRAI used the information as part of our field survey. Please see Section 6.0 for a complete listing of documents reviewed.

3.2 Field Surveys

Ms. Karen Kirtland of NRAI and Mr. Ricardo Montijo (subcontractor to NRAI) conducted the field survey on 12 October 2023. The field team surveyed on foot following standard survey techniques for biological assessment work, walking transects across the site from north to south and searching for evidence of sensitive resources.

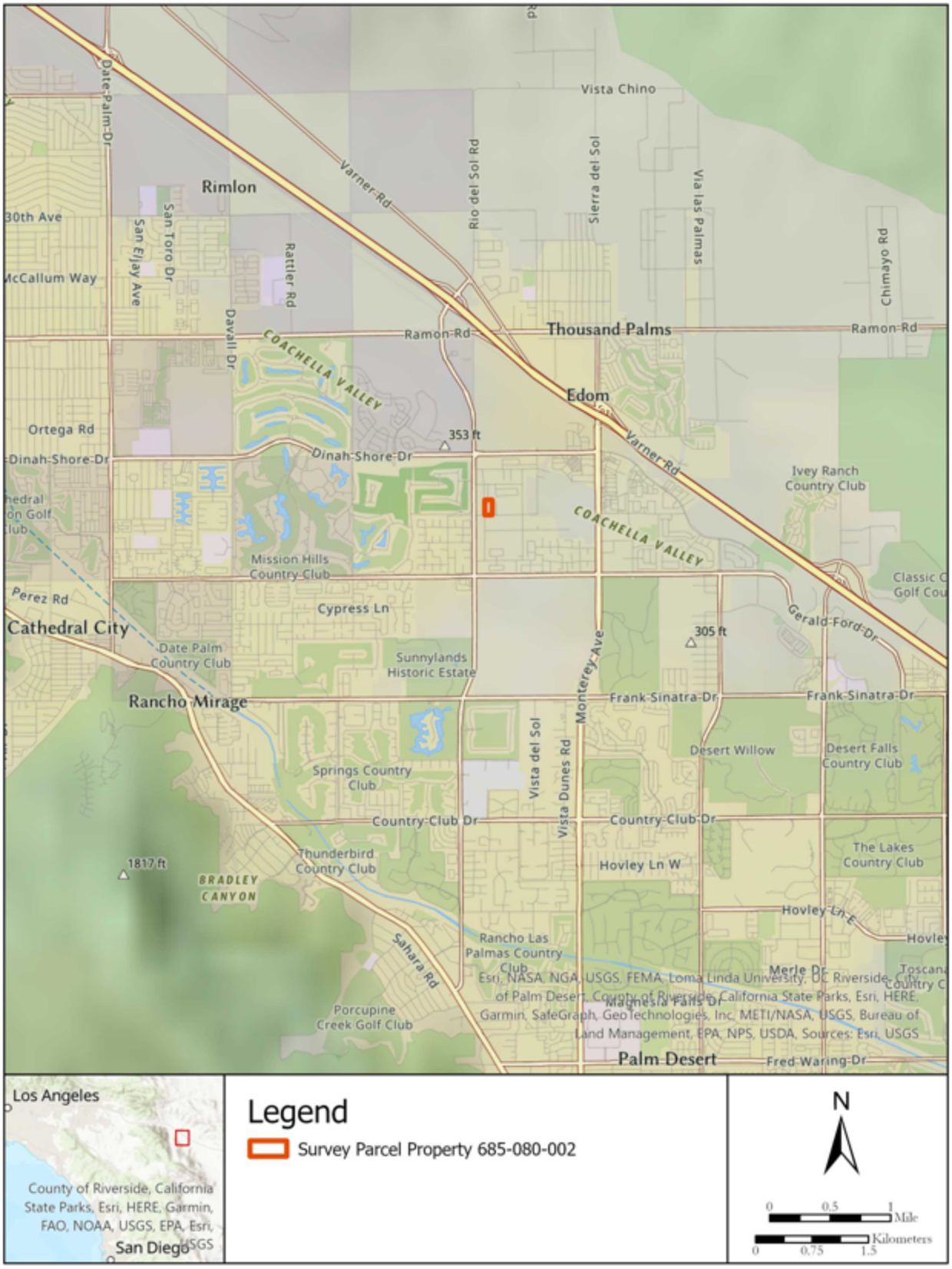

Figure 1. Regional Project Location.

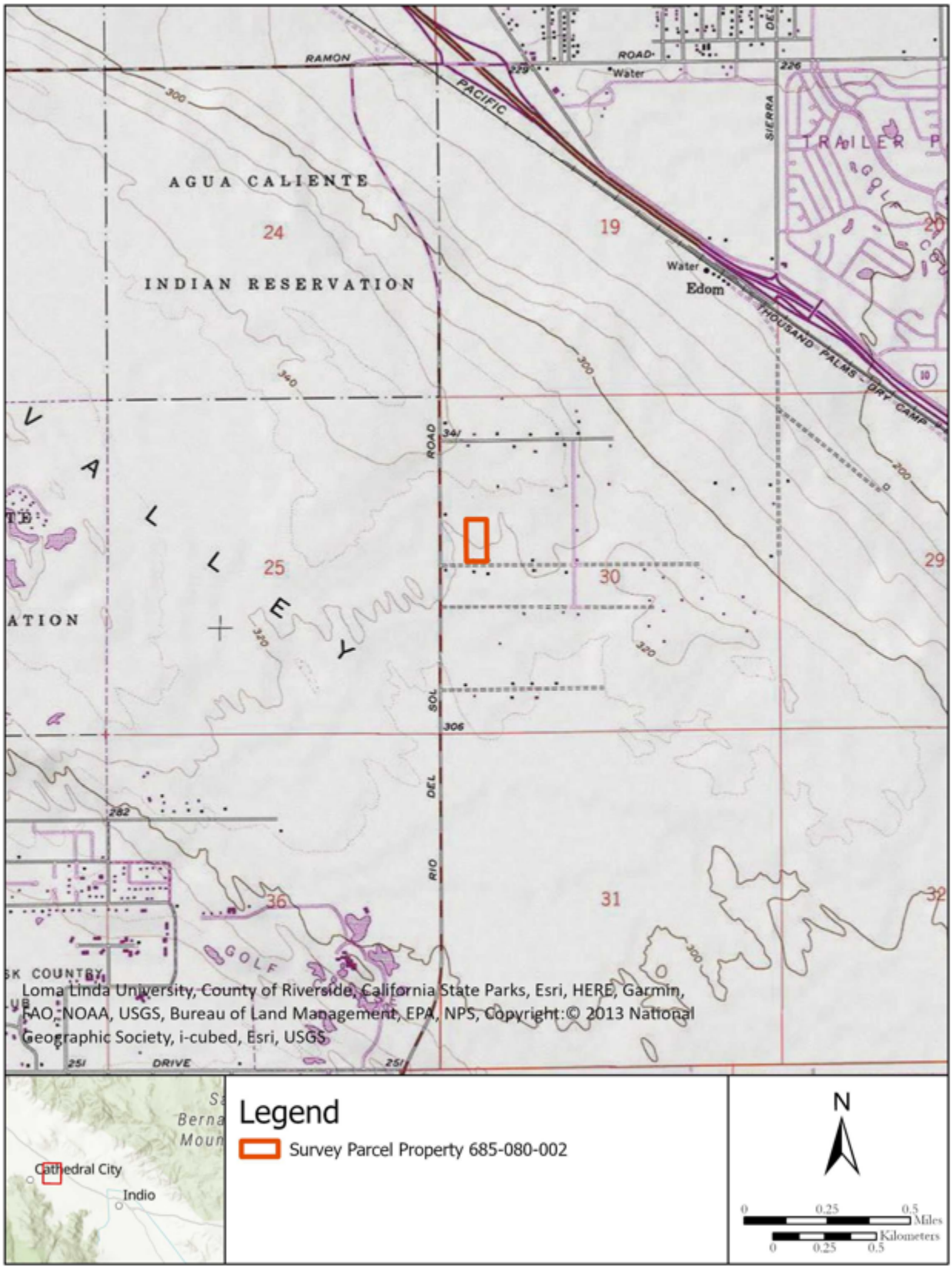

Figure 2. Regional Project Topography.

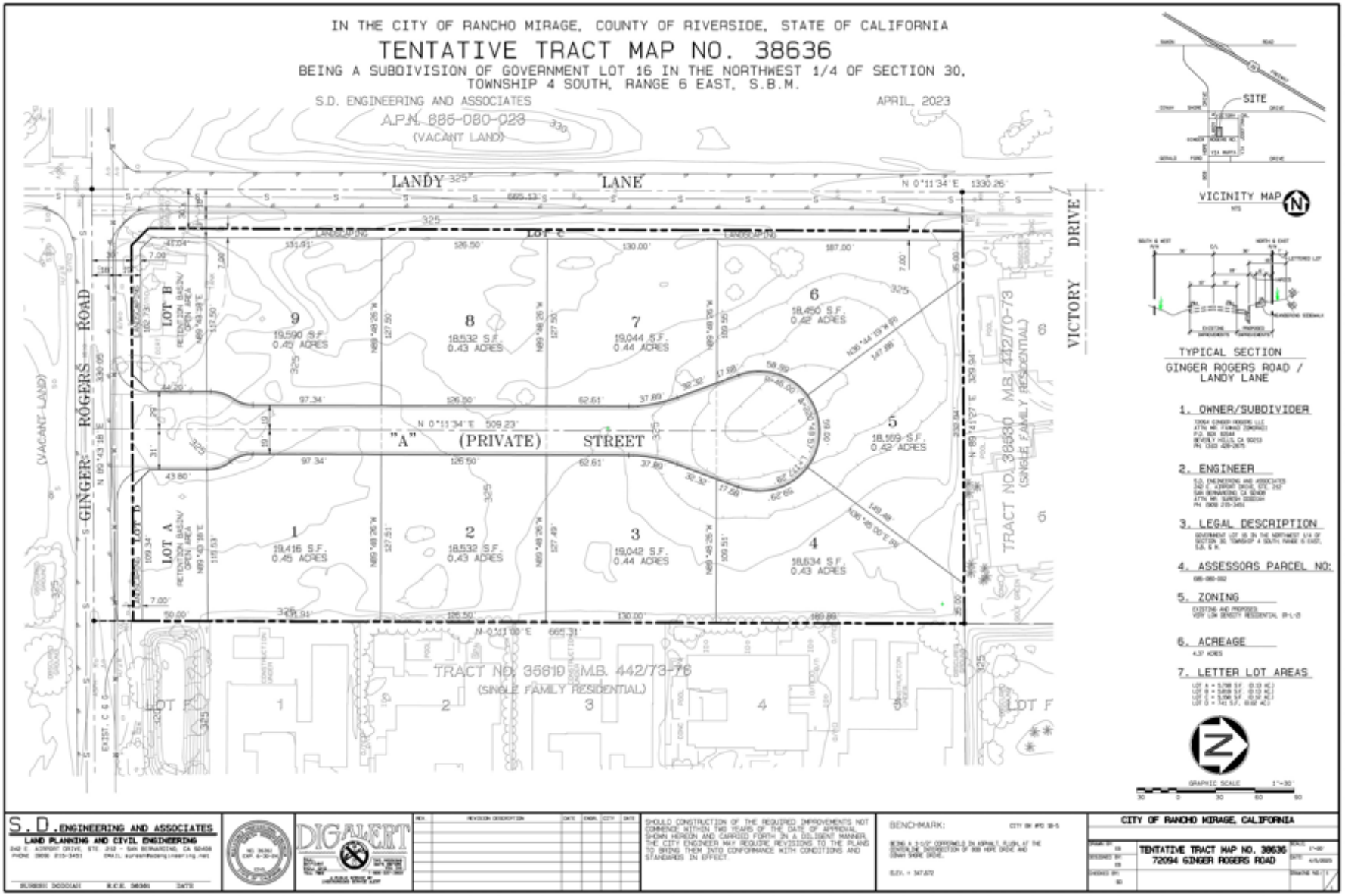

Figure 3. Project Layout

The team took notes of soil conditions, plant cover, species mix, and species sighted. Sign surveyed for included nests, tracks, scat, burrows, skeletal remains, whitewash (bird scat), and visual sightings. Field surveyors used binoculars to aid in the identification of wildlife. All species identified by sight, call or sign (burrows, scat, tracks, etc.) were recorded.

4.0 Results

4.1 Weather, Topography and Soils

The temperature at the beginning of the survey was 76 degrees Fahrenheit. The skies were clear with six mile per hour (mph) winds from the west northwest. At the end of the survey, the temperature was 78 degrees Fahrenheit, with clear skies and six mph winds from the northeast.

The site topography is sandy soils with some minor dune formation (Figure 4, Photos 1 and 2).

There is one soil on site (Figure 5). Myoma fine sand (MaB) is a fine sand that occurs on 0 to 5 percent slopes on alluvial fans. This soil is formed from windy blown sand alluvium. Myoma fine sand is a somewhat excessively drained soil that is non-hydric. It never floods or ponds.

4.2 Disturbances

Disturbances in the survey area include occasional hikers and trash dumping. The trash on site includes windblown material. There is one dwelling on site that was occupied at the time of the survey (Photo 3).

4.3 Plant Communities

The dominant plant community is a very sparse creosote bush scrub, dominated by creosote bush (*Larrea tridentata*) (Photo 3 and 4). Other shrub species include Emory's indigo bush (*Psorothamnus emoryi*) and desert globemallow (*Sphaeralcea ambigua*). Annual flowering species observed include fanleaf crinklemat (*Tiquiila plicata*), Booth's desert primrose (*Eremothera boothii*), desert lantern (*Oenothera deltoides*) and desert needlegrass (*Pallafoxia arida* var. *arida*).

Non-native species included a mix of weedy plant species such as Sahara mustard (*Brassica tournefortii*) and Mediterranean grass (*Schismus barbatus*) found scattered throughout the site. Landscape species such as oleander (*Nerium oleander*) and European olive (*Oleo europea*) grow along the margins of the property and are self-seeded individuals from adjacent development.

A list of plant species observed is provided in Appendix A.

4.4 Wildlife

No amphibians or reptiles were observed during the survey. Bird species were observed during the field surveys included horned lark (*Eremophila alpestris*) and common raven (*Corvus corax*).

No mammal sign was observed except for some small mammal burrows that were not definitive as to species.

Figure 4. Project Site Aerial

Photo 1. Soils on the project site. Looking southwest from the center of the property.

Photo 2. Sandy soils and scrub cover. Looking west toward the San Jacinto Mountains.

Figure 5. Soils.

Photo 3. Occupied residence, southwest corner.

Photo 4. Creosote bush scrub. Looking south from the northern border of the property.

Photo 5. Scrub cover. Looking west from the northeast corner.

4.5 Sensitive Biological Resources

The Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) has already identified the areas of concern in the Coachella Valley and has established the locations and boundaries of these areas. The nearest Conservation Areas to the project are the Thousand Palms Conservation Area to the north and the Santa Rosa and San Jacinto Mountain Conservation Area to the south.

The Thousand Palms Conservation Area was created to protect the following resources (Figure 6):

- Mecca aster (*Xylorhiza cognata*)
- Coachella Valley milkvetch (*Astragalus lentiginosus* var. *coachellae*)
- Coachella Valley fringe-toed lizard (*Uma inornata*)
- Flat-tailed horned lizard (*Phrynosoma mcallii*),
- Burrowing Owl (*Athene cunicularia*)
- Le Conte's thrasher (*Toxostoma lecontei*)
- Palm Springs round-tailed ground squirrel (*Spermophilus tereticaudus chlorus*),
- Palm Springs pocket mouse (*Perognathus longimembris bangsi*),
- Coachella Valley giant sand treader cricket (*Macrobaenetes valgum*)

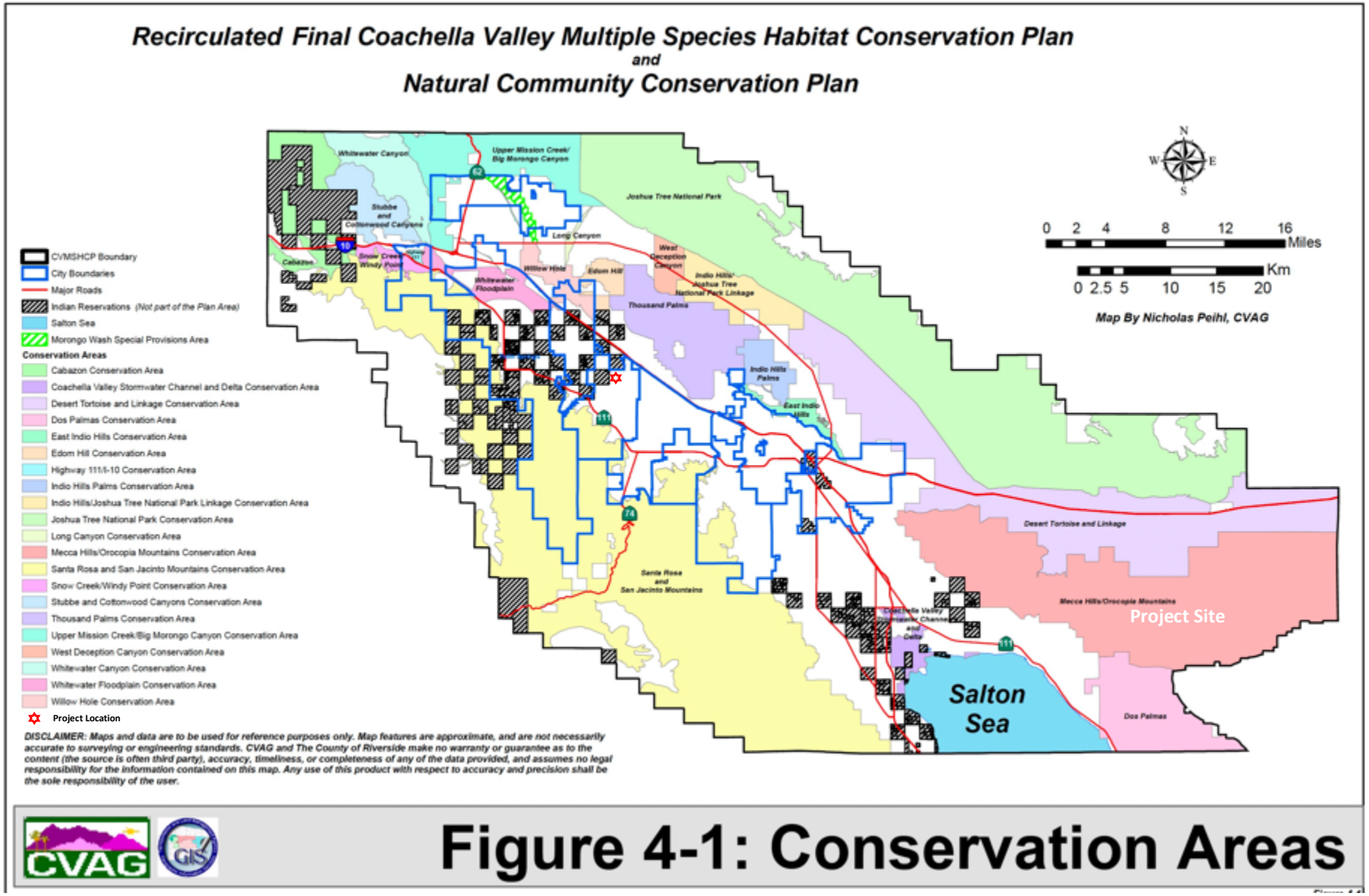

Figure 6. Coachella Valley Multiple Species Habitat Conservation Area in relation to the project site.

The Santa Rosa and San Jacinto Mountains Conservation Area was created to protect the following resources:

- Le Conte's thrasher (*Toxostoma lecontei*)
- Gray vireo (*Vireo vicinior*)
- Peninsular bighorn sheep (*Ovis canadensis nelsoni*, Distinct Population Segment)

The project is outside the boundaries of the two conservation areas and does not have any CVMSHCP linkages. NRAI's assessment included an evaluation of the habitats on site and in surrounding areas to determine whether there are other sensitive resources of concern in this area of Rancho Mirage that may be present on site.

In addition to those resources identified by the CVMSHCP, the field team focused on evaluating habitat for these sensitive resources potentially both on and in the surrounding area (Photos 5 and 6), including but not limited to those listed, or candidates for listing by the USFWS, California Department of Fish and Wildlife (CDFW) and California Native Plant Society (CNPS).

4.5.1 Thousand Palms Conservation Area Species

4.5.1.1 Coachella Valley Milkvetch

The Coachella Valley milkvetch (*Astragalus lentiginosus* var. *coachellae*) is a winter annual and sometimes short-lived biennial found only in the Coachella Valley. It is found in sandy places, such as sand dunes and sand sheets, below 1200 feet in elevation. It grows in creosote bush scrub, desert wash and sand dune communities.

The historical distribution of this species included most of the Coachella Valley and parts of the Imperial Valley. Its distribution has been severely restricted due to agricultural developments in Imperial County and residential and commercial development in the Coachella Valley south of Interstate 10.

The milkvetch is currently listed as endangered by the USFWS and as a List 1B.2 plant by the California Native Plant Society. The CDFW does not currently list this species.

IPaC lists the Coachella Valley milkvetch as one of the species of concern that are expected to be present in the vicinity of the project (Appendix C). BIOS does not identify habitat for this species in the vicinity of the project.

The sand sheets and sand dunes (minor) preferred by the Coachella Valley milkvetch exist on site and in the surrounding areas. This species could be present in and around the property. The CVMSHCP has not identified the project area as required for protection of this species and no mitigation for impacts is required.

4.5.1.2 Mecca Aster

Mecca aster (*Xylorhiza cognata*) is a perennial subshrub native to California. it is found only in the Coachella Valley. It preferentially grows on bajadas and alluvial fans in arid canyons below 1300 feet. Mecca aster grows in creosote bush scrub communities, flowering from January through June.

Photo 6. Open habitat in the surrounding area to the west (beyond the road).

Photo 7. Open habitat surrounding area to the south (beyond the road,

Historically, Mecca aster was known from Baja California (Munz 1974). Those populations have apparently been extirpated or found to belong to a different genus. The current distribution of Mecca aster is limited to California.

The Mecca aster is currently listed as a List 1B.2 plant by the California Native Plant Society. The CDFW and the USFWS do not currently list this species.

IPaC does not list the Mecca aster as one of the species of concern for the project. BIOS does not identify any habitat for this species in the vicinity of the project.

The bajadas and alluvial fans preferred by the Mecca aster do not exist on the project site or in the immediate vicinity. This species is not present. The CVMSHCP has not identified the project area as required for protection of this species.

4.5.1.3 Coachella Valley Fringe-toed Lizard

The Coachella Valley fringe-toed lizard (*Uma inornata*) is restricted to fine, wind-blown sand of dunes, flats, riverbanks and washes in the Coachella Valley. This species is found in creosote bush scrub and other sparse scrub habitats with suitable sandy soils. They occur from near sea level up to 1600 feet elevation in suitable habitat. This species is active at temperatures between 95° to 110° F.

The Coachella Valley fringe-toed lizard is especially adapted to live in sand dunes. It has fringes on the rear toes that enable it to move easily and swiftly on loose sand. In addition, the Coachella Valley fringe-toed lizard hides from predators by "swimming" or rapidly digging down and through loose sand to bury itself. It has a countersunk jaw to prevent sand from entering its mouth when it burrows.

This historical distribution of this species includes the former sand dunes in the Coachella Valley. This distribution has been contracted due to residential and commercial development in the Valley areas below the Pass. This species is now found only in the non-developed sand dunes of the upper Coachella Valley south of Interstate 10, and sand dunes north of the Interstate 10 freeway.

Loss of habitat to development and fragmentation of large dune areas have severely restricted the range and population numbers of this species. The Coachella Valley fringe-toed lizard is listed as threatened by the USFWS and endangered by the CDFW.

IPaC lists the Coachella Valley fringe-toed lizard as one of the species of concern for the project. BIOS shows the project as within the predicted habitat (high probability) for this species, but not within Critical Habitat.

The sand sheets and sand dunes (minor) preferred by the Coachella Valley fringe-toed lizard occur on the property and in the vicinity. This species may be present on site. The CVMSHCP has not identified the project area as required for protection of this species and does not require mitigation for any impacts.

4.5.1.4 Flat-tailed Horned Lizard

Flat-tailed horned lizard (*Phrynosoma mcallii*) is restricted to windblown sand. It is found only on dunes and sandy flats in the lower deserts, from the Coachella Valley south to the head of the Gulf of California

and into extreme northeastern Baja and southeastern Arizona. The flat-tailed horned lizard is described as being found from below sea level up to around 600 feet elevation.

The flat-tailed horned lizard prefers fine sand areas with sparse vegetation cover in desert washes and desert flats. The habitats of the flat-tailed horned lizard and the Coachella Valley fringe toed lizard frequently overlap, although the flat-tailed horned lizard has a wider distribution.

This historical range of this species extended from central Riverside County to San Diego and Imperial counties. This habitat has become restricted, mostly in the Imperial and Riverside County areas. Substantial populations now are found primarily in undeveloped areas north of Interstate 10, eastern San Diego County and Imperial County outside of agricultural areas.

Impacts to this species include agricultural, residential, and commercial development, as well as recreational uses. The flat-tailed lizard is listed as a Species of Special Concern (SSC) by the CDFW. It is not listed by the USFWS.

IPaC does not list the flat-tailed horned lizard as one of the species of concern for the project. BIOS identifies the project as within the predicted habitat for this species.

Minor sand dunes and sandy soil occur on site and in the surrounding area. However, xthinner windblown sand and sandy flats are absent, and shrub cover is almost non-existent. Based on the lack of habitat complexity on site, it is unlikely the flat-tailed horned lizard occurs on the property. This species may be present in the vicinity. The CVMSHCP has not identified the project area as required for protection of this species and does not require mitigation for any impacts.

4.5.1.5 Desert Tortoise

The desert tortoise is a desert-dwelling reptile that occurs throughout the Mojave and Sonoran deserts (Stebbins 1985, Berry 1984). It is found in California, Nevada and Utah, occurring in almost every type of habitat except dry lakes or playas, sand dunes, sand sheets and rocky slopes (German, et. al 1994).

Tortoises construct underground deep burrows as living quarters where they can avoid adverse weather. They also excavate temporary and smaller shelters for various purposes. These include small excavations under shrubs or into the side of a dirt bank to provide temporary shade during hot periods for their head and shoulders, shallow burrows that are sufficient to provide temporary escape from heat or cold during the day when the individual animal is not near deeper burrows, burrows of other animals such as coyote dens, and even naturally created caves that develop when there is differential erosion in desert soils.

For example, calcite (the most stable polymorph of calcium carbonate) has an unusual characteristic called retrograde solubility, becoming less soluble in water as the temperature increases. Under suitable conditions, calcite forms mineral coatings that cement the existing rock grains together. Softer soils below the calcite layer erode away, leaving openings that can sometimes mimic burrows used by various wildlife.

Because of these distinct types of shelter, all openings used or potentially usable by the desert tortoise are now classified as “coversites”.

Tortoises emerge to forage in the early spring (February and March) and usually remain active above ground during the day until early June, when they retreat to their deeper burrows for most of the summer, fall and winter months. They will emerge and be active during the fall months of September and October, depending upon late summer weather conditions. Although they stay underground for most of the year, tortoises can be found active above ground at all times of the year (Stebbins 1954 and 1985).

Tortoises forage on spring annual wildflowers and grasses (Luckenbach 1982). During the foraging season, they also breed and lay eggs in buried nests. Young tortoise hatch and emerge from the buried nest in the fall (September to October) to find deep burrows for shelter through the winter.

The desert tortoise hibernates or estivates underground for much of the year as an adaptation to the extreme temperature changes characteristic of desert winters and summers. As a result, determining whether desert tortoises are present in a particular area is generally restricted to locating sign, or evidence, of recent activity (Germano et. al 1994).

The tortoise has been undergoing a decline in population due to a number of factors. These include loss or destruction of habitat, killing or harming of animals in the wild, collection of individual animals, raven predation and disease (Luckenbach 1982).

The CDFW listed the tortoise as threatened on June 22, 1989. The tortoise was emergency listed as endangered by the USFWS on August 4, 1989. The USFWS listing was later changed to threatened. Both listings were made based on populations declining due to the factors listed above. The discovery that the tortoise was rapidly disappearing throughout its range as a result of a disease known as Upper Respiratory Disease Syndrome (URDS) was a critical part of the listing decisions.

IPaC lists the desert tortoise as one of the species of concern for the project. BIOS shows the project as within the predicted habitat (low probability) for this species, but not within Critical Habitat.

No burrows, scat or other sign of desert tortoise was observed. The lack of sign and habitat within the project area would indicate that desert tortoises were not resident in the area or the surrounding areas at the time of the survey.

4.5.1.6 Burrowing Owl

The Burrowing Owl is a resident species in lowland areas of southern California (Garrett & Dunn 1981). It prefers open areas for foraging and burrowing and is found widely scattered in open desert scrub. This species is scarce in coastal areas, being found mainly in agricultural and grassland habitats. The largest remaining numbers are in the Imperial Valley, where it is common in suitable habitat adjacent to the agricultural fields.

The Burrowing Owl prefers large flat open areas for nesting and hunting (Garrett & Dunn 1981). This species lives in burrows mostly constructed by other ground-dwelling species in grassy or sparse shrubby habitat. Burrowing Owls also take over other types of burrows, including manufactured objects such as pipes. This species forages low over the ground surface for insect prey, and seldom flies high in the air.

The CDFW has designated the Burrowing Owl as a Special Animal (SA). These species are so designated because "declining population levels, limited ranges and/or continuing threats have made them vulnerable to extinction." (CDFW 2019).

IPaC does not list the Burrowing Owl as one of the species of concern for the project. BIOS shows the project and the surrounding area as within the predicted habitat (high probability) for this species, but not within Critical Habitat. BIOS also identifies the property and the vicinity as providing patchy connectivity and linkages for the Burrowing Owl.

No sign of active Burrowing Owl use was observed (burrows, feathers, whitewash, etc.), but suitable nesting habitat exists. NRAI recommends that the project proponent conduct a take avoidance survey no less than 14 days prior to initiating construction1 on the project area to determine if Burrowing Owl are nesting on site (California Department of Fish and Game 2012).

If Burrowing Owls are found nesting on site, the following measures shall be implemented:

- Occupied burrows will not be disturbed unless a qualified biologist approved by the CDFW verifies through non-invasive methods that either (a) the adult birds have not begun egg-laying and incubation; or (b) the juveniles from the occupied burrows are foraging independently and are capable of independent survival.
- If the biologist is not able to verify one of the above conditions, then no disturbance shall occur within 500 meters of a Burrowing Owl nest during the breeding season to avoid abandonment of the young (California Department of Fish and Wildlife 2012).

If Burrowing Owls are observed during the preconstruction survey, CDFW will be contacted to discuss protective measures.

4.5.1.7 Palm Springs Round-tailed Ground Squirrel

The Palm Springs round-tailed ground squirrel (*Spermophilus tereticaudus chlorus*) prefers sandy arid sites in low flat desert areas (Hall 1981). This animal is often found on sand dunes and will also dig into fine sand collected on banks and around shrubs. Typical habitat sites include floodplains and alluvial fans.

The Palm Springs round-tailed ground squirrel is found in creosote bush scrub, mesquite shrub, saltbush scrub and palo verde wherever sandy soils accumulate. It is typically found along floodplains and alluvial fans (Zeiner et al. 1990).

Impacts to the Palm Springs round-tailed ground squirrel are primarily residential and commercial development of its preferred habitat. Most of the populations south of Interstate 10 have been affected by

[1] "Construction" includes selection of staging areas, demolition, tree, trash and debris removal, placement of equipment and machinery on to the site preparatory to grading, and any other project-related activity that increases noise and human activity on the project site beyond existing levels. Emergency measures are exempt from this definition.

the increase in growth of the Coachella Valley area. The ground squirrel is currently listed as a candidate species by the USFWS and as an SSC by the CDFW.

IPaC does not list the Palm Springs round-tailed ground squirrel as one of the species of concern for the project. BIOS does not identify the property or the surrounding area as habitat for the Palm Springs round-tailed ground squirrel.

The site and surrounding area support the sand dunes found in Palm Springs ground squirrel habitat but lacks the flats and sandy mounds also preferred by this species. No ground squirrel burrows or other sign were observed on site. Based on the lack of habitat complexity (no flats or sandy mounds) and the lack of sign, the Palm Springs ground squirrel does not appear to be present on site. It may be present in the surrounding area.

The CVMSHCP has not identified the project area as required for protection of this species and does not require mitigation for any impacts.

4.5.1.8 Palm Springs Pocket Mouse

The Palm Springs pocket mouse (*Perognathus longimembris bangsi*) prefers dense sandy soil formed into mounds for burrowing. It is found in creosote bush scrub and Joshua tree woodland (Hall 1981). This species occurs throughout the upper Coachella Valley in suitable habitat. This species is active primarily at night from late spring to late summer.

The Palm Springs pocket mouse is part of the little pocket mouse (*Perognathus longimembris*) subspecies complex (Zeiner et. al 1990). All the member subspecies seem to prefer open, sandy areas with sparse vegetative cover. This historical range of the Palm Springs pocket mouse is confined to the Coachella Valley area.

Impacts to the Palm Springs pocket mouse include residential and commercial development of its preferred habitat, as well as increasing recreational use. Most of the populations south of Interstate 10 have been affected by the increase in growth and development of the Coachella Valley area. The Palm Springs pocket mouse is currently listed as an SSC by the CDFW.

IPaC does not list the Palm Springs pocket mouse as one of the species of concern for the project. BIOS does not identify the property or the surrounding area as habitat for this species.

No burrows belonging to a pocket mouse species were observed, and suitably sandy soil mounds are not present. This species is not expected to be present on site.

The site and surrounding area support loose sand dunes, not the dense sandy soil that forms mounds necessary for excavating burrows by the Palm Springs pocket mouse. Based on the lack of suitable somewhat stabilized sandy soil mounds, habitat complexity and the lack of sign, the Palm Springs pocket mouse does not appear to be present on site. It may be present in the surrounding area.

The CVMSHCP has not identified the project area as required for protection of this species and does not require mitigation for any impacts.

4.5.1.9 Coachella Valley Giant Sand Treader Cricket

The Coachella Valley giant sand treader cricket (*Macrobaenetes valgum*) is known from sand dune ridges in the Coachella Valley. The population size is regulated by the amount of rainfall. The habitat requirements for this species seem to include areas where springs dampen the sand year-round.

Impacts to this species include the loss of habitat from development and destruction of habitat from recreational use. This species is not currently listed by the CDFW or the USFWS.

IPaC does not list the Coachella Valley giant sand treader cricket as one of the species of concern for the project. BIOS does not identify the property or the surrounding area as habitat for this species.

Although sandy soils and sand dunes are present on site and in the surrounding area, they do not form the more stable dune ridges required by the Coachella Valley giant sand treader cricket, and the property lacks springs or other areas that dampen the spring year-round. This species is not expected to be present on site.

The CVMSHCP has not identified the project area as required for protection of this species and does not require mitigation for any impacts.

4.5.2 Santa Rosa and San Jacinto Mountains Conservation Area Species

4.5.2.1 Least Bell's Vireo

The Least Bell's Vireo (*Vireo bellii pusillus*) prefers riparian forest and willows thickets. In the U.S. it is restricted to southwestern California where it breeds and nests from April through September. This species winters in Baja California, where documented animals have been found in a variety of habitats, including mesquite scrub within arroyos, palm groves, and hedgerows along agricultural and residential areas.

The Least Bell's Vireo used to be a common to locally abundant species in its lowland riparian habitat, and was known to occupy suitable areas from coastal southern California through the Sacramento and San Joaquin Valleys, with populations found as far north as Red Bluff in Tehama County. Some populations were found in the foothill streams Nevada and Coast Ranges, and in Owens Valley, Death Valley, and scattered locations in the Mojave Desert.

Least Bell's Vireo has since been extirpated from the majority of its historic range. Due to extensive conservation efforts, it has slowly been expanding back into its historic range.

Impacts are due almost entirely to the loss of riparian habitats throughout California and the encroachment of non-native riparian species such as tamarisk (*Tamarix* spp.) into waterways.

The USFWS and the CDFW both list the Least Bell's Vireo as endangered.

IPaC does not list the Least Bell's Vireo as one of the species of concern for the project. BIOS shows the project and the surrounding area as within the predicted habitat (high probability) and range (also high probability) for this species. BIOS also identifies the property and the vicinity as providing patchy connectivity and linkages for the Least Bell's Vireo.

The site and surrounding area do not have any riparian habitat and this species is not expected to be use the property or the surrounding areas. The CVMSHCP has not identified the project area as required for protection of this species and does not require mitigation for any impacts

4.5.2.2 Gray Vireo

The Gray Vireo (*Vireo vicinior*) occupies a wide variety of habitats. Adults inhabit desert habitats such as creosote bush and mesquite scrub. This species also inhabits oak scrub, chaparral, chamise and pinyon pine–juniper, up to approximately 7800 feet elevation. Migrants and wintering birds also occupy these habitats, as well as desert streambeds.

Gray Vireos eat mostly insects gleaned from leaves and twigs in dense vegetation. Foraging takes place anywhere from near the ground up to twelve feet and sometimes higher. Mexican populations have been recorded eating fruits. Nesting takes place in dense scrub or brush from near ground level to about six feet.

The range of the Gray Vireo extends from the desert portions of the Mojave, Sonoran and Chihuahuan Deserts, including into Mexico. Destruction, degradation and removal of desert scrub habitat is the major threat for this species. It is not currently listed by the USFWS or the CDFW.

IPaC does not list the Gray Vireo as one of the species of concern for the project. BIOS does not identify the property as providing habitat.

There is no scrubby shrub habitat on site, only isolated individual scrub species. This species is not expected to occupy or use the property or the surrounding areas. The CVMSHCP has not identified the project area as required for protection of the Gray Vireo and does not require mitigation for any impacts.

4.5.2.3 Peninsular Bighorn Sheep

Peninsular bighorn sheep are classified as a Distinct Population Segment of the Nelson's bighorn sheep (*Ovis canadensis nelsoni*). They have the same habitat requirements as the Nelson's bighorn sheep, but they are limited to the desert slopes of the Peninsular Ranges in San Diego, Riverside, and Imperial Counties and the southern extension of those ranges into Mexico.

Bighorn sheep prefer rugged terrain. Their hooves are elastic and uniquely shaped to allow them to climb the steep, rocky terrain of the desert mountains, and use their agility and climbing ability to escape predators.

Both males and females develop horns, and horn growth continues more or less their entire life span. Both genders use their horns as offensive and defensive weapons. The young are born in lambing areas on steep, rugged slopes and in canyons.

Bighorn sheep forage primarily on green grasses and forbs. Feeding generally takes place in open areas with low-growing vegetation, located near rocky, steep terrain. The presence of surface water, natural or manufactured, is critical for survival.

Bighorn sheep are active during the day. Diurnal movement occurs in response to daily temperature shifts as well as the presence of predators (including humans). On hot days they stay close to water sources. They are less active at night, spending the night in bedding areas.

There is also seasonal movement to upper or lower elevations depending upon the time of year and the weather. Generally, migration shifts between summer ranges at the higher elevations to lower elevations in winter. During the hottest summer months, bighorn sheep stay near water sources. In cooler periods, they disperse over a wider area.

The historical range of the species *O. canadensis* extended throughout the southwestern U.S. east to Texas, as well as in the Canadian Rockies. The Nelson's subspecies is found in desert ranges from the White Mountains south to Mexico. They are also in the San Bernardino Mountains, and there is an isolated population in the San Gabriel Mountains.

The Distinct Population Segment of the Peninsular bighorn sheep are listed as endangered by the USFWS. The Nelson's bighorn sheep (including local populations) is listed as threatened by the CDFW, and the subspecies is also a California Fully Protected Species (CFP).

IPaC lists the Peninsular bighorn sheep population as one of the species of concern for the project. BIOS identifies patches of bighorn sheep range on the adjacent properties, but not the subject property. BIOS does identify the general area including the property as providing habitat (moderate probability), but no connectivity areas.

The property is composed of sandy soils and dunes without any rocky terrain. It is physically isolated from open terrain that may be used by bighorn sheep in seasonal migration. The Peninsular bighorn sheep population is not expected to occupy, cross or use the property or the surrounding areas. The CVMSHCP has not identified the project area as required for protection of the Peninsular bighorn sheep population and does not require mitigation for any impacts.

4.5.2.4 Other Species and Resources

IPaC, CNDDB and other research sources list a variety of species of concern for which habitat does not exist on site. The IPaC report identifies the following specific migratory bird species as of concern: Clark's Grebe, Western Grebe, Costa's hummingbird, Lawrence's goldfinch, and Monarch's butterfly as all species of concern for the property. The IPaC report does not identify bald and golden eagles as of concern for this project but recommends these species be considered in the findings.

Migratory birds and raptors, including the two eagle species, are discussed under Section 4.7. Specific information on the species identified by IPaC, as well as other sensitive resources, is provided in Table 1 in Appendix B.

There are no CVMSHCP linkages that will be affected or occupied by project development.

4.6 Jurisdictional Drainages and Wetlands

4.6.1 Army Corps of Engineers

The Corps regulates discharges of dredged or fill material into waters of the United States. These waters include wetlands and non-wetland bodies of water that meet specific criteria. The lateral limit of Corps jurisdiction extends to the Ordinary High-Water Mark (OHWM) and to any wetland areas extending beyond the OHWM; thus, the maximum jurisdictional area is represented by the OHWM or wetland limit, whichever is greater.

Corps regulatory jurisdiction pursuant to Section 404 of the Clean Water Act is founded on a connection or nexus between the water body in question and interstate (waterway) commerce. This connection may be direct, through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce, or may be indirect, through a nexus identified in the Corps regulations.

4.6.2 State Water Resources Control Board

The Corps has delegated the authority for use of 404 permits to each individual state. The use of a 404 permit in California is regulated by the State Water Resources Control Board (SWRCB) under Section 401 of the Clean Water Act regulations. The Board has authority to issue a 401 permit that allows the use of a 404 permit in the state, with the authority in the state being vested in regional offices known as Regional Water Quality Control Boards (RWQCB).

Under the Porter-Cologne Act of 2003, the SWRCB has extended its responsibilities to include impacts to water quality from non-point source pollution. In addition, the SWRCB has the responsibility to require that projects address ground water and water quality issues, which would be evaluated as part of the geotechnical and hydrology studies. Their authority extends to all waters of the State (of California).

4.6.3 California Department of Fish and Wildlife

The CDFW through provisions of the State of California Administrative Code is empowered to issue agreements for any alteration of a river, stream or lake where fish or wildlife resources may adversely be affected. Streams (and rivers) are defined by the presence of a channel bed and banks, and at least an intermittent flow of water. Lateral limits of jurisdiction are not clearly defined, but generally include any riparian resources associated with a stream or lake, CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream or lake as defined by CDFW.

Findings

The site lacks evidence of hydrological flow such as debris lines, soil deposits, defined erosion, evidence of and restricted or confined flow. There is no riparian vegetation typical of desert washes, drainages or other confined channels such as can be found along some alluvial fans. 'The soils do not show typical color changes representative of deposition of exotic (not found in the local area) soil material.

In the professional judgment of NRAI, the project site does not support jurisdictional waters for any of the three jurisdictional agencies.

4.7 Raptors, Migratory Birds, and Habitat

Most of the raptor species (eagles, hawks, falcons and owls) are experiencing population declines because of habitat loss. Some, such as the peregrine falcon, have also experienced population losses because of environmental toxins affecting reproductive success, animals destroyed as pests or collected for falconry, and other direct impacts on individuals. Only a few species, such as the red-tailed hawk and barn owl, have expanded their range despite or a result of human modifications to the environment. As a group, raptors are of concern to state and federal agencies.

Raptors and all migratory bird species, whether listed or not, also receive protection under the Migratory Bird Treaty Act (MBTA) of 1918[2]. The MBTA prohibits individuals to kill, take, possess or sell any migratory bird, bird parts (including nests and eggs) except per regulations prescribed by the Secretary of the Department (16 U. S. Code 70[3]).

Additional protection is provided to all bald and golden eagles under the Bald and Golden Eagle Protection Act of 1940, as amended[4]. State protection is extended to all birds of prey by the California Fish and Game Code, Section 2503.5[5]. No take is allowed under these provisions except through the approval of the agencies or their designated representatives.

At the time of the survey, the parcel had nesting habitat for ground-nesting bird species, and suitable scrub habitat in the surrounding neighborhood. A breeding bird survey following the recommended guidelines of the MBTA will be required to determine if nesting is occurring in this area.

1. A qualified biologist shall conduct a breeding bird survey no more than three days prior to the start of construction to determine if nesting is occurring. "Construction' includes selection of staging areas, demolition, tree, trash and debris removal, placement of equipment and machinery on to the site preparatory to grading, and any other project-related activity that increases noise and human activity on the project site beyond existing levels. Emergency measures are exempt from this definition.
2. If occupied nests are found, they shall not be disturbed unless the qualified biologist verifies through non-invasive methods that either (a) the adult birds have not begun egg-laying and incubation; or (b) the juveniles from the occupied nests are capable of independent survival. The biologist will ensure their survey work does not disrupt nesting or nesting attempts.
3. If the biologist is not able to verify one of the above conditions, then no disturbance shall occur within a distance specified by the qualified biologist for each nest or nesting site. The qualified biologist will determine the appropriate distance in consultation with the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service.

2 https://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php

3 https://www.fws.gov/le/USStatutes/MBTA.pdf

4 https://www.fws.gov/le/USStatutes/BEPA.pdf

5 https://law.justia.com/codes/california/2015/code-fgc/division-4/part-2/chapter-1/section-3513

4. All established buffer areas around nest will be monitored on a weekly basis until nesting by all species is complete.
5. The biologist retains the authority to direct construction activity, including stopping the project.

4.8 Protected Desert Native Plant Species

The California Desert Native Plants Act regulates the taking of plant species for commercial purposes. It also regulates the permitting process for the taking of desert plant species, making it unlawful for "any Person to destroy, dig up, mutilate or harvest any living native plant, or the living or dead parts of any native plant, except its fruit, without obtaining written permission from the landowner and a permit . . .." (State of California 1982, Division 23, Chapter 5, Section 80111[6]). This Section states:

"This division does not prevent any of the following: The clearing or removal of native plants from a canal, lateral ditch, survey line, **building site [emphasis added]** or road or other right-of-way **by the landowner or his or her agent, [emphasis added]** if the native plants **are not to be transported from the land or [emphasis added] offered for sale** [emphasis added] **and if the commissioner is given at least 10 days' notice of any such activity [emphasis added]."**

Findings

No protected desert native plant species were found.

4.9 Raven Control

Ravens follow human activity in that they are drawn to human-occupied areas for food and nesting sources. Ravens have always been present in the desert, but the extension of several types of development and the accompanying increase of food sources into previous open space areas has resulted in a rapid increase in raven populations. When ravens forage for food, they prey on whatever is available. Construction activity and permanent commercial buildings with food production or preparation facilities can attract ravens if food scraps and other trash are made available by workers.

Increasing the local population of birds by providing attractants such as garbage cans and other waste facilities could impact local wildlife populations.

Findings

Ravens were observed during the survey. The following measures will be implemented during construction and for the life of the facility in order to reduce raven predation on surrounding wildlife populations:

- Control of trash during construction by placing all trash, garbage and other debris into closed waste containers.
- Regular emptying of waste containers to avoid full containers that may spill or blow into the surrounding area and encouraging increased foraging by ravens.

6 https://www.wildlife.ca.gov/Conservation/Plants/CA-Desert-Plant-Act

4.10 Worker Education Awareness Program

A Worker Education Awareness Program (WEAP) shall be prepared that includes the following:

- General behavior and ecology of all sensitive that may be present, including the identification of animals, burrows, nest sites and other evidence of wildlife occupation.
- Regional distribution of the species of concern
- Sensitivity to human activities
- Status under state and federal regulations
- Basis for protection requirements and the need to avoid harming species and habitats
- Restrictions on activity in areas occupied by the sensitive resources
- Clear identification of all work areas including location and storage of equipment and supplies to avoid impacts to species and habitat
- Information to control trash, contamination, landscape materials and other physical materials and activities through implementation of standard measures to protect species, habitat and prevent the introduction of opportunistic or invasive species.
- Penalties and fines for failure to abide by the regulations and requirements
- Reporting requirements
- Project protective mitigation measures

The WEAP training will be given by a qualified biologist. Non-English speakers will be provided with appropriate translations. WEAP training will be provided as appropriate at every safety meeting to reinforce the information and so that new workers will be trained.

5.0 Local Development Mitigation Fee

Prior to construction and issuance of any grading permit, the City of Rancho Mirage shall ensure compliance with the CVMSHCP and its associated Implementing Agreement. The City shall also ensure that payment of the CVMSHCP Local Development Mitigation Fee for the proposed Project is remitted to the Coachella Valley Conservation Commission.

6.0 References

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Appendix A. Plant and Wildlife Species Observed

PLANTS	
SCIENTIFIC NAME	**COMMON NAME**
DICOTYLEDONS	**EUDICOTS**
AMARANTHACEAE	**Amaranth Family**
Amaranthus albus	Tumbleweed*
APOCYNACEAE	**Dogbane Family**
Nerium oleander	Oleander*
ASTERACEAE	**Sunflower Family**
Pallafoxia arida var. *arida*	Desert Needle
BRASSICACEAE	**Mustard Family**
Brassica tournefortii	Saharan Mustard*
CHENOPODIACEAE	**Goosefoot Family**
Salsola tragus	Russian Thistle*
EHRETIACEAE	**Coldenia Family**
Tiquilia plicata	Plicate Coldenia
EUPHORBIACEAE	**Euphorb Family**
Croton californicus	Desert Croton
FABACEAE	**Pea Family**
Psorothamnus emoryi	Emory's Indigo Bush
NYCTAGINACEAE	**Four O'clock Family**
Abronia villosa	Hairy Sand Verbena
OLEACEAE	**Olive Family**
Olea europea	European Olive*
ONAGRACEAE	**Willowherb Family**
Chylismia claviformis ssp. *aurantiaca*	Pinnate Leaved Primrose
Oenothera deltoides	Desert Lantern
ZYGOPHYLLACEAE	**Caltrop Family**
Larrea tridentata	Creosotebush
MONOCOTYLEDONS	**MONOCOTS**
POACEAE	**Grass Family**
Pennisetum setaceum	Fountaingrass*
Schismus barbatus	Old Han Schismus*

*non-native species

WiLDLIFE	
SCIENTIFIC NAME	**COMMON NAME**
AVES	**BIRDS**
ALAUDIDAE	**LARKS**
Eremophila alpestris	Horned Lark
CORVIDAE	**CROWS and JAYS**
Corvus corax	Common Raven
FRINGILLIDAE	**FINCHES, EUPHONIAS, AND ALLIES**
Haemorhous mexicanus	House Finch

WiLDLIFE	
SCIENTIFIC NAME	**COMMON NAME**
TROCHILIDAE	**HUMMINGBIRDS**
Calypte costae	Costa's Hummingbird
TYRANNIDAE	**TYRANT FLYCATCHERS**
Sayornis nigricans	Black Phoebe

Appendix B. IPaC Report

IPaC Information for Planning and Consultation

U.S. Fish & Wildlife Service

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Riverside County, California

Local office

Carlsbad Fish And Wildlife Office

(760) 431-9440
(760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Peninsular Bighorn Sheep Ovis canadensis nelsoni There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4970	Endangered

Birds

NAME	STATUS
Least Bell's Vireo Vireo bellii pusillus Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5945	Endangered

Reptiles

NAME	STATUS
Coachella Valley Fringe-toed Lizard Uma inornata Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2069	Threatened
Desert Tortoise Gopherus agassizii There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4481	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Coachella Valley Milk-vetch Astragalus lentiginosus var. coachellae Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7426	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

There are no documented cases of eagles being present at this location. However, if you believe eagles may be using your site, please reach out to the local Fish and Wildlife Service office.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Clark's Grebe Aechmophorus clarkii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
Costa's Hummingbird Calypte costae This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9470	Breeds Jan 15 to Jun 10
Lawrence's Goldfinch Carduelis lawrencei This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Western Grebe aechmophorus occidentalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▥)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▥)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

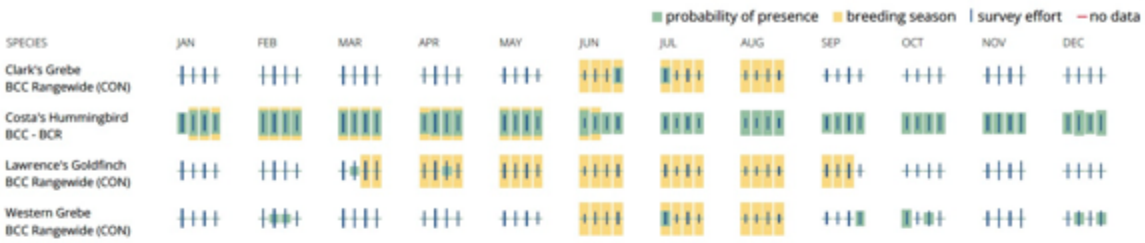
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix C. Sensitive Biological Resources

Table 1. Sensitive Biological Resources Potentially Present

Resource	Habitat And Distribution	Activity Period	Status Designation	Occurrence Probability
Plants				
Singlewhorl burrobrush *Ambrosia monogyra*	Perennial shrub. Found on sandy soils in chaparral and Sonoran desert scrub. Elevation range is from 30 feet to 330 feet. Known from California, Arizona, New Mexico, Nevada and Texas, Baja California and Sonora, Mexico	Aug - Nov flowering period	FED: ND STATE: ND CNPS: 2B.2	None. Species is a shrub and would have been present at the time of the survey,
Deep Canyon snapdragon *Pseudorontium cyathiferum*	Annual herb. Washes and rocky slopes in Sonoran desert scrub. Known only from Riverside, primarily around the Deep Canyon area.	Feb - Apr flowering period	FED: ND STATE: ND CNPS: 2B.3	None. Suitable habitat not present in the project area.
Coachella Valley milk vetch *Astragalus lentiginosus* var. *coachellae*	Annual. Sandy places below 1200 feet. Creosote bush scrub. Coachella Valley, Riverside County.	February - May	FED: END STATE: ND CNPS: 1B.2	High. Site has suitable sandy habitat.
Triple-ribbed milkvetch *Astragalus tricarinatus*	Perennial. Occurs on gravelly soils in creosote bush scrub and Joshua tree woodland plant communities. Historical distribution extends from the head of the Coachella Valley to the Orocopia Mountains. It occurs on exposed, rocky slopes and canyon walls from 450 to 550 meters (1400 to 4000 feet) in elevation.	February - May flowering period	FED: END STATE: ND CNPS: 1B.2	None. Project site lacks exposed rocky slopes and steep canyon habitats occupied by this species.
Ayenia *Ayenia compacta*	Perennial herb. Mojave Desert scrub, Sonoran Desert scrub. rocky and gravelly washes in dry desert canyons. 150 to 1095 meters elevation	March – April flowering period	FED: ND STATE: ND CNPS: 2B.3	None. Project site lacks rocky and gravelly washes found in desert canyons.
Arizona spurge *Euphorbia arizonica*	Perennial herb from a taproot. Found in Sonoran desert scrub on sandy, gravelly soils on alluvial fans. 150 to 4000(?) feet.	March to April	FED: ND STATE: ND CNPS: 2B.3	None. Project site lacks alluvial fan habitat close to mountains All recorded locations are south or east of the project site.
Flat-seeded spurge *Euphorbia platysperma*	Rare annual. On sand dunes and deep sandy soils in desert scrub. North Palms Springs (sand dunes) in Coachella Valley to eastern San Bernardino County and southwest Arizona.	Feb - Sep	FED: C2* STATE: ND CNPS: 1B.2	Unknown. Suitable sandy soils are present on the project site, but site lacks scrub habitats.
White-bracted spineflower *Chorizanthe xanti* var. *leucotheca*	Annual herb. Desert scrub, pinyon juniper woodlands. 300 to 1200 meters in elevation. Variety *leucotheca* is infrequent and localized in the eastern San Bernardino Mountains of San Bernardino County and on the eastern slopes of the San Jacinto Mountains in Riverside County.	April – June	FED: ND STATE: ND CNPS: 1B.2	None. Site does not contain suitable slope habitat for this species.

Table 1. Sensitive Biological Resources Potentially Present

Resource	Habitat And Distribution	Activity Period	Status Designation	Occurrence Probability
Slender-horned spineflower *Dodecahema leptoceras*	Sandy and gravelly soils on alluvial fans and old floodplains, chaparral communities, pine-oak woodlands; 500 to 2000 ft. elevation. Los Angeles, Riverside, and San Bernardino Counties.	May - Jun	FED: END STATE: END CNPS: 1B.1	None. This species does not occur in desert habitats. The record for Desert Hot Springs is incorrect.
California ditaxis *Ditaxis serrata* var. *californica*	Sandy washes and alluvial fans of the foothills and lower desert slopes. 30 to 910 meters elevation. Sonoran desert scrub. Riverside and San Diego counties.	Jan - Feb flowering period	FED: C2* STATE: ND CNPS: 3.2	None. Site does not contain suitable foothill and lower desert slopes. All recorded populations are south and east of the project site.
Glandular ditaxis *Ditaxis claryana*	Perennial herb. Dry washes and on rocky hillsides, in sandy soils and sandy flats. Sonoran Desert. 0 to 2500 feet.	April - Sep	FED: ND STATE: ND CNPS: 2B .2	None. All recorded localities are in deep sandy soil habitats in San Bernardino County.
Harwood's eriastrum *Eriastrum harwoodii*	Annual herb. Sand dunes in creosote-bush scrub. Sonoran Desert below 3000 feet.	March - June	FED: ND STATE: ND CNPS: 1B.2	Unknown. Suitable sandy soils are present on the project site, but site lacks scrub habitats.
Cliff spurge *Euphorbia misera*	Shrub. Occasional on sea-bluffs in coastal sage scrub. From Corona del Mar south to San Diego, San Clemente and Santa Catalina Islands. Also found in creosote bush scrub at Whitewater, Riverside County	January – August flowering period	FED: ND STATE: ND CNPS: 2B.2	None. Only recorded inland location is a ecological isolate at Whitewater. Project site lacks bluff or cliff habitat.
Little San Bernardino Mountains linanthus *Linanthus maculatus*	Minute annual. Desert scrub, Joshua tree woodland. Desert dunes, light-colored quartz sand, often in washes or bajadas. Only recoded from sandy places in Riverside and San Bernardino Counties. 500 - 4000 feet. Microhabitat difficult to pin down.	April - May	FED: C2* STATE: ND CNPS: 1B.2	Unknown. Suitable sandy soils are present on the project site, but site lacks scrub habitats.
Parish's desert-thorn *Lycium parishii*	Perennial shrub. Sandy to rocky slopes and canyons below 2000 feet. Possibly coastal sage scrub, definitely In creosote bush scrub. San Bernardino Valley and western Colorado Desert.	March - April flowering period	FED: ND STATE: ND CNPS: 2B.3	None. As a shrub it would have been observable during the survey.
Spiny hair blazing star *Mentzelia tridentata*	Annual. Creosote bush scrub. On talus slopes of mesas and canyons. San Bernardino, Kern and Inyo counties.	March – May	FED: ND STATE: ND CNPS: 2B.1	None. There are no localities recorded in the various databases for Riverside County. It is not clear why this species is included in the Desert Hot Springs quadrangle records. No talus slopes are present in the project site area.

Table 1. Sensitive Biological Resources Potentially Present

Resource	Habitat And Distribution	Activity Period	Status Designation	Occurrence Probability
Slender cottonheads *Nemacaulis denudata* var. *gracilis*	Annual species found in dunes or sand from 0 to 560 meters elevation (0 to 1840 feet). Coastal dunes, desert dunes in Sonoran desert scrub. In California, recoded only from San Diego and Riverside counties.	April - May	FED: ND STATE: ND CNPS: 2B.2	High. Sand dune habitat found on the project site.
Desert spike-moss *Selaginella eremophila*	Lycophyte (perennial herb). Gravelly, rocky soils Desert scrub and chaparral	(May)Jun(July)	FED: ND STATE: ND CNPS: 2B.2	None. Site lacks gravelly rocky soils.
Purple stemodia *Stemodia durantifolia*	Perennial herb. Mesic locations/wetland/riparian in sandy soils. Sonoran desert scrub habitat. Elevation 180 – 300 meters (500 to 650 feet).	(Jan)April - Dec	FED: ND STATE: ND CNPS: 2B.1	None. Project site lacks mesic/wetland/riparian habitats.
Jackass-clover *Wislizenia refracta* ssp. *refracta*	Playas, desert dunes, Mojave desert scrub, Sonoran desert scrub. Microhabitat is dunes and playas, alkaline flats. Found from 130 – 800 meters (400 –2500 feet) elevation.	April – November	FED: ND STATE: ND CNPS: 2B.2	None. site lacks suitable alkali sink habitats.
Mecca aster *Xylorhiza cognata*	Species is perennial, found in Sonoran desert scrub on steep canyon slopes. Occurs primarily on sandstone and clay slopes. Known mostly from Indio Hills and Mecca Hills. Endemic to Riverside County. Elevation range 60 to 1000 feet.	Jan - Jun flowering period	FED: C2* STATE: ND CNPS: 1B.2	None. Plant is perennial and would have been observed during the survey. site lacks sandstone and clay slopes.
Fish				
Amphibians				
Reptiles				
Desert tortoise *Gopherus agassizii*	Historically found throughout the Mojave and Sonoran Deserts into Arizona, Nevada, and Utah. Occurs throughout the Mojave Desert in scattered populations. Found in creosote bush scrub, saltbush scrub, thornscrub (in Mexico), and Joshua tree woodland. Found in the open desert as well as in oases, riverbanks, washes, dunes, and occasionally rocky slopes.	February - June, all deserts Aug - Sep primarily eastern deserts. Can be present throughout year	FED: THR STATE: THR	None. No sign was observed during the survey.
Coachella Valley fringe-toed lizard *Uma inornata*	Restricted to fine, windblown sand of dunes, flats, riverbanks and washes in the Coachella Valley. Creosote bush scrub, other sparse scrub habitats with suitable soils. Near sea level to 1600 feet.	Active year round at temperatures 95° to 110° F.	FED: THR STATE: END	Low. Site has deep sandy habitats suitable for this species, but is isolated by development.

Table 1. Sensitive Biological Resources Potentially Present

Resource	Habitat And Distribution	Activity Period	Status Designation	Occurrence Probability
Flat-tailed horned lizard *Phrynosoma mcallii*	Restricted to windblown sand. Dunes and sandy flats of low desert, from Coachella Valley to head of the Gulf of California, extreme ne. Baja to se. Arizona. Below sea level to around 600 feet.	Active year round	FED: ND STATE: SSC	Unknown. Site lacks windblown sandy habitats suitable for this species.
Northern red-diamond rattlesnake *Crotalus exsul*	Occurs in rocky areas & dense vegetation. Needs rodent burrows cracks in rocks or other surface material. Chaparral, woodland, grassland and desert areas. Coastal San Diego County to the eastern slopes of the mountains.	Year round	FED: C2* STATE: SSC	None. Site lacks rocky habitats with dense vegetation cover.
Birds				
Clark's grebe *Aechmophorus clarkii*	Found on open water. Forages on fish. Nest is a floating platform on water.	Present in open sea during the non-breeding season. Inland on large water bodies during breeding season.	FED: ND STATE: BCC	None. No suitable open water habitat present.
Western grebe	Found on large freshwater lakes and marshes with reeds and rushes. After the annual molt found in migrate to saltwater or brackish habitat. Smaller groups winter inland on lakes and rivers.	Year round, but seasonal movement from freshwater to saltwater.	FED: ND STATE: BCC	None. No suitable open water habitat present
Great blue heron *Ardea herodias*	Fairly common resident in most of southern California, becoming more numerous in warmer areas in winter. Found in a variety of aquatic habitats. Peak abundance in coastal estuaries. In the desert, mostly seen during migrations; winters locally in suitable habitats.	Year round	FED: ND STATE: ND	None. Aquatic habitats lacking on site. May cross over site in flight
Great egret *Casmerodius albus*	Fairly common winter visitor along the coast, commonly resident and a breeder at the Salton Sea and the Colorado River. An uncommon transient in the rest of southern California.	Year round in the desert; seasonal in other areas.	FED: ND STATE: ND	None. Aquatic habitats lacking on site. May cross over site in flight
Snowy egret *Egretta thula*	Common winter visitor along the coast, occasionally remaining throughout the summer. Common resident at the Salton Sea and the Colorado River. Uncommon transient elsewhere in southern California.	Year round in the desert; seasonal in other areas	FED: ND STATE: ND	None. Aquatic habitats lacking on site. May cross over site in flight.
Black-crowned night heron *Nycticorax nicticorax*	Common but local resident along the coastal and the Salton Sea. Uncommon transient and rare winter visitor in the desert.	Year round on the coast and along the Salton Sea. Winters in the desert.		None. Aquatic habitats lacking on site. May cross over site in flight.

Table 1. Sensitive Biological Resources Potentially Present

Resource	Habitat And Distribution	Activity Period	Status Designation	Occurrence Probability
White-faced ibis *Plegadis chihi*	Fairly common transient and summer visitor at the Salton Sea. Irregular and local breeder. Uncommon in winter. Primarily transient throughout the rest of southern California, as well as a local visitor along the coast.	Most spring and summer in the desert; winter along the coast	FED: ND STATE: WL	None. Aquatic habitats lacking on site. May cross over site in flight
Brown pelican *Pelecanus occidentalis*	Common along the coast, with breeding colonies on Anacapa, Santa Barbara and Santa Cruz Islands. Regular post-breeding visitor to the Salton Sea, sometimes in numbers. Rare elsewhere in the interior areas of California.	Year-round coast; summer inland	FED: END STATE: END (nesting colonies), CFP	None. Aquatic habitats lacking on site. May cross over site in flight
Aleutian Canada goose *Branta canadensis leucoparaeia*	The Canada goose is a common winter visitant throughout southern California; the Aleutian is recoded only from the Salton Sea area.	Winter	FED: THR	None. Aquatic habitats lacking on site. May cross over site in flight.
Northern harrier *Circus cyaneus*	Grassland and marshy habitats in Southern California. Uncommon in open desert and brushlands.	Year round	FED: ND STATE: SSC	Low. May fly over site, but no nesting habitat exists on site.
Cooper's hawk *Accipiter cooperiii*	Woodland and semi-open habitats, riparian groves and mountain canyons. Uncommon permanent resident in coastal, mountains, and deserts of Southern California. Transients are fairly common on coast in fall.	Year round; predominant in summer	FED: ND STATE: WL	Low. May forage over site, but no nesting habitat exists on site.
Golden eagle *Aquila chrysaetos*	Grasslands, brushlands, deserts, oak savannas, open coniferous forests and montane valleys. Nesting primarily in rugged mountainous country. Uncommon resident in Southern California.	Year round diurnal	FED: ND STATE: SSC (nesting and wintering). CFP	Low. Not observed during the surveys. Foraging habitat for this species exists over the entire property. No suitable nesting habitat occurs on site.
Ferruginous hawk *Buteo regalis*	Fairly common in winter in open grassland and agricultural regions in the interior, as well as some valleys along the coast.Rare and uncommon along the coast and in the desert.	Winter	FED: C2* STATE: WL	Low. Not observed during the surveys. Poor quality foraging habitat for this species exists on site. No suitable nesting habitat occurs on site.
Merlin *Falco columbarius*	Frequents several habitats including coastal sage scrub and annual grassland. Forages along the coast, and in montane valleys and open deserts with scattered clumps of trees. Rare fall migrant and winter visitor to Southern California.	Fall & winter	FED: ND STATE: SSC	Low. Not observed during the surveys. Can be expected to forage over the site during migration and in winter. They are expected to use the area very infrequently.

Table 1. Sensitive Biological Resources Potentially Present

Resource	Habitat And Distribution	Activity Period	Status Designation	Occurrence Probability
Prairie falcon *Falco mexicanus*	Nest in cliffs or rocky outcrops; forage in open arid valleys, agricultural fields. Throughout the desert and arid interior portions of coastal counties. Uncommon resident in Southern California.	Year round diurnal	FED: ND STATE: SSC	Low. Not observed during the surveys. Foraging habitat exists for this species over the property and surrounding areas, but there is no suitable nesting habitat.
Western snowy plover *Charadrius alexandrinus nivosus*	Nests on sandy beaches along the coast and gravelly beaches at the Salton Sea. Also nests on sinks, playas, and old shorelines in the desert. Forages on alkali flats. Nesting sites need protection.	Year round	FED: THR (coastal populations) STATE: SSC	Low. Not observed during the surveys. Foraging habitat exists for this species over the property, but there is no suitable nesting habitat.
Gull-billed tern *Sterna nilotica*	Fairly common summer resident at the Salton Sea. Unknown away from the Salton Sea.	Summer; rarely in fall and early winter	FED: ND STATE: SSC	Low. Not observed during the surveys. May fly over the property, but there is no suitable nesting habitat.
Black skimmer *Rynchops niger*	Fairly common summer resident at the Salton Sea. Sporadic visitor to the coast; some resident at the San Diego Bay.	Summer; possibly resident in San Diego Bay	FED: ND STATE: SSC	Low. Not observed during the surveys. May fly over the property, but there is no suitable nesting habitat.
Burrowing owl *Athene cunicularia hypugea*	Grasslands and rangelands, usually occupying ground squirrel burrows. Resident over most of Southern California. Found in agricultural areas.	Year round	FED: ND STATE: SSC	Unknown. No sign was observed on site.
Long-eared owl *Asio otus*	Rare resident in coastal Southern California and uncommon resident in desert areas. Dense willow-riparian woodland and oak woodland. Breeds from valley foothill hardwood up to ponderosa pine habitat.	Nocturnal year round	FED: ND STATE: SSC	Unknown. Foraging habitat may exist on the property, but no nesting habitat.
Short-eared owl *Asio flammenus*	Primarily a rare and local winter visitant to the coast, and a rare fall transient and winter visitant in the desert, including the Salton Sea and the Colorado River. Also recorded at Mystic Lake in the San Jacinto Valley, Riverside County, in summer 1992, and Harper Dry Lake, San Bernardino County, summer 1993.	Fall - Winter	FED: ND STATE: SSC	Unknown. Available information states that short-eared owls are rare fall transients in the desert and, therefore, may forage on the property. No nesting habitat present.
Vermilion flycatcher *Pyrocephalus rubinus*	Rare and local resident along Colorado River and Morongo Valley. Rare fall and winter visitor to lowlands in the coast and desert areas, including the Salton Sea. Breeds near water in both riparian groves and mesquite thickets.	April to May breeding	FED: ND STATE: ND	None. No suitable nesting or foraging habitat exists on site.

Table 1. Sensitive Biological Resources Potentially Present

Resource	Habitat And Distribution	Activity Period	Status Designation	Occurrence Probability
Brown-crested flycatcher *Myiarchus tyrannulus*	Occurs in riparian woodland and adjacent desert scrub. Fairly common summer resident along the Colorado River. Breeds in Morongo Valley. Unrecorded west of the deserts.	April to May breeding	FED: ND STATE: ND	None. No suitable nesting or foraging habitat exists on site.
Costa's hummingbird *Calypte costa*	Common in coastal sage scrub and desert scrub, mostly away from the coast in more arid regions.	Year-round Jan 15 to Jun 10 breeding period.	FED: BCC in particular Bird Conservation Regions. STATE: ND	None. No suitable scrub foraging habitat present.
Coastal cactus wren *Campylorhynchus brunneicapillus couesi*	Tall *Opuntia* required for nesting and roosting. Coastal sage scrub. Southern California.	Year round	FED: ND STATE: SSC	None. No tall opuntia present on site. The property is outside the range of the coastal population of the cactus wren.
Black-tailed gnatcatcher *Polioptila melanura*	Resident in wooded desert wash and desert scrub habitats. Nests in desert wash with mesquite, paloverde, ironwood, and acacia species; absent from areas with salt cedar. Fairly common resident on the Colorado Desert; extending into the eastern Mojave Desert.	Year round	FED: ND STATE: ND	None. site lacks wooded desert wash and adjacent desert scrub habitats.
Crissal thrasher *Toxostoma crissale*	Resident in the southeastern deserts in desert riparian and wash habitats. Nests in dense vegetation along streams and washes. Plant species found in the preferred habitat include mesquite, screwbean mesquite, ironwood, catclaw, acacia, arrowweed and willow. A common resident along the river, somewhat uncommon to the west. Resident in the higher northern deserts of eastern San Bernardino and southeastern Inyo counties.	Year round	FED: ND STATE: SSC	None. Site lacks desert riparian and wash habitats. Project site outside known range.
Le Conte's thrasher *Toxostoma lecontei*	Uncommon and local resident in low desert scrub throughout most of the Mojave Desert, extending up into the southwestern corner of the San Joaquin Valley. Breeding range extends from these areas into eastern Mojave, north into the Owens Valley and south into the lower Colorado Desert, and eastern Mojave. Also recorded from southern Nevada and Utah, as well as western Arizona and New Mexico.	Year round	FED: ND STATE: SSC	Low. No suitable nesting or foraging habitat present on site.

Table 1. Sensitive Biological Resources Potentially Present

Resource	Habitat And Distribution	Activity Period	Status Designation	Occurrence Probability
Lawrence's goldfinch *Spinus lawrencei*	Dry woodlands and brushy areas near areas with some water and riparian habitats.	Year-round Mar 20 to Sep 20 breeding period	FED: BCC throughout its range STATE: ND	None. No suitable habitat.
Mammals				
California leaf-nosed bat *Macrotus californicus*	In California, these bats primarily occupy low-lying desert areas, where they roost in caves, mines, and old buildings. Historic records extend west to near Chatsworth, Los Angeles County, but most populations from the California coastal basins are believed to have disappeared. Occurs from northern Nevada, Southern California, and western Arizona south to southern Baja California and Sonora.	Year round nocturnal	FED: ND STATE: SSC	Low. Because there are no suitable roost sites in the property limits this species does not roost on the property. However, it may forage over the property if there are roosting sites such as caves in the nearby mountains.
Townsend's big-eared bat *Corynorhinus townsendii*	Requires caves, mines, tunnels, buildings or other similar structures for roosting. May use separate sites for night, day, hibernation or maternity roosts. Found in all but subalpine and alpine habitats throughout California.	Year round Nocturnal	FED: ND STATE: SSC	Low. Because there are no suitable roost sites in the property limits, this species does not roost on the property. However, it may forage over the property if there are roosting sites such as caves in the nearby mountains
Pallid bat *Antrozous pallidus*	Day roosts in caves, crevices, mines and occasionally hollow trees and buildings. Night roosts may be more open sites, such as porches and open buildings. Hibernation sites are probably rock crevices. Grasslands, shrublands, woodlands and forest from sea level through to mixed conifer. Throughout Southern California.	Spring, Summer, Fall Nocturnal Hibernates in Winters	FED: ND STATE: SSC	Low. Because there are no suitable roost sites in the property limits, this species does not roost on the property. However, it may forage over the property if there are roosting sites such as caves in the nearby mountains.
Spotted bat *Euderma maculatum*	Found in the western North America from southern British Columbia to the Mexican border, at a small number of widely scattered localities. Habitats range from arid deserts and grasslands through mixed conifer forest up to 10,600 feet elevation. Prefers rock crevices in cliffs, also uses caves and buildings.	Spring, Summer, Fall Nocturnal Hibernates in Winters	FED: ND STATE: SSC	Low. Because there are no suitable roost sites in the property limits, this species does not roost on the property. However, it may forage over the property if there are roosting sites such as caves in the nearby mountains.
Western yellow bat *Lasiurus xanthinus*	Found in valley foothill riparian, desert riparian, desert palm oasis and desert wash. Roosts in trees, particularly palms. This species forages over water and among trees.	Spring, Summer, Fall Nocturnal Hibernates in Winters	FED: ND STATE: ND	None. Foraging and nesting habitat not present.

Table 1. Sensitive Biological Resources Potentially Present

Resource	**Habitat And Distribution**	**Activity Period**	**Status Designation**	**Occurrence Probability**
California mastiff bat *Eumops perotis californicus*	Historically from north-central California south to northern Baja California, eastward across the southwestern United States, and northwestern Mexico to west Texas and Coahuila (Hall, 1981; Williams, 1986). In California, most records are from rocky areas at low elevations where roosting occurs primarily in crevices.	Spring, Summer, Fall Nocturnal Hibernates in Winters	FED: ND STATE: SSC	Low. Because there are no suitable roost sites in the property limits, this species does not roost on the property. However, it may forage over the property if there are roosting sites such as caves in the nearby mountains.
Pocketed free-tailed bat *Nyctinomops femorasaccus*	Spotty distribution in California, ranging from Southern California south to the Baja Peninsula, and through southwestern Arizona to at least central Mexico (Williams, 1986). In California, pocketed free-tailed bats are typically found in rocky, desert areas with relatively high cliffs.	Warmer months. Nocturnal	FED: ND STATE: SSC	Low. Because there are no suitable roost sites in the property limits, this species does not roost on the property. However, it may forage over the property if there are roosting sites such as crevices in the nearby mountains.
Big free-tailed bat *Nyctinomops macrotis*	Found from northern South America and the Caribbean Islands northward to the western United States (Williams, 1986). In the southwestern U.S., populations appear to be scattered. Recoded breeding localities are in parts of Arizona, New Mexico, and Texas. Prefers rocky, rugged terrain. Roosts in crevices in high cliffs or rocky outcrops. Ranges up to 8000 feet elevation.	Nocturnal spring - fall Hibernates in Winters	FED: ND STATE: SSC	Low. Because there are no suitable roost sites in the property limits, this species does not roost on the property. However, it may forage over the property if there are roosting sites such as crevices in the nearby mountains.
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	Variety of habitats including herbaceous and desert scrub areas, early stages of open forest and chaparral. Most common in relatively open habitats. Restricted to the cismontane areas of Southern California, extending from the coast to the Santa Monica, San Gabriel, San Bernardino and Santa Rosa mountain ranges.	Year round, diurnal and Crepuscular activity	FED: ND STATE: SSC	None. Jackrabbits were observed during the field surveys, but the geographic location of the property indicates that the individuals observed belonged to the desert race, and not the coastal race.
American badger *Taxidea taxus*	Most abundant in drier, open stages of most shrub, forest and herbaceous habitats. Friable soil for digging, food for foraging and uncultivated ground.	More active in spring and summer	FED: ND STATE: SSC	None. No sign was observed.

Table 1. Sensitive Biological Resources Potentially Present

Resource	Habitat And Distribution	Activity Period	Status Designation	Occurrence Probability
Palm Springs round-tailed ground squirrel *Spermophilus tereticaudus chlorus*	Prefers sandy arid sites, in low flat desert areas. Often found on sand dune, and will dig in fine sand on banks and around shrubs. Creosote bush scrub, mesquite shrub, saltbush scrub and palo verde, typical floodplain and alluvial fan species.	Year round	FED: C STATE: SSC	None. Suitable sandy mound and open flat habitats not present
Palm Springs pocket mouse *Perognathus longimembris bangsi*	Prefers sandy soil for burrowing. Found in creosote bush scrub, Joshua tree woodland. Coachella Valley.	Nocturnal; active late spring to early fall.	FED: ND STATE: SSC	None. Sandy mounded soils do exist on site, and no pocket mouse burrows were seen.
Pallid San Diego pocket mouse *Chaetodipus fallax pallidus*	Desert border areas in western Riverside County and eastern San Diego County. Desert wash, desert scrub, desert succulent scrub, pinyon juniper, etc. Sandy herbaceous areas, usually in association with rocks or coarse gravel.	Nocturnal; active year-round	FED: ND STATE: SSC	None. This species is found only in the desert slopes and washes. Suitable washes, fans and other areas not found on site.
San Diego desert woodrat *Neotoma lepida intermedia*	Moderate to dense canopies, particularly in rocky areas. Coastal sage scrub and chaparral. Coastal southern California.	Nocturnal; active year-round	FED: ND STATE: SSC	None. Site lacks suitable coastal sage scrub and chaparral habitats.
Grasshopper mouse *Onychomys torridus ramona*	In the more arid regions of southern California. Especially prefer sandy areas of the Mojave and Sonoran deserts, especially friable soils for digging. Prefers low to moderate shrub cover. Feeds almost exclusively on arthropods, especially scorpions and orthopteran insects.	Year round	FED: ND STATE: SSC	None. While sandy habitats are present, the site lacks shrub cover.
Peninsular (Nelson's) bighorn sheep *Ovis canadensis nelsoni*	Prefers rugged terrain and can be found from near the valley floor to the tops of desert mountain ranges. This particular race is found in desert ranges from the White Mountains south to Mexico. They are also in the San Bernardino Mtns., and there is an isolated population in the San Gabriel Mountains.	Year round, seasonal elevation movement.	FED: END, DPS* STATE: THR. CFP *A Distinct Population Segment in the Santa Rosa and San Jacinto Mtns.	None. Local bighorn sheep from the north or from the Santa Rosa and San Jacinto Mountains are not expected to move through the site on a regular basis due to human activity in the local area.
Invertebrates				
Coachella Valley sand treader cricket *Macrobaenetes valgum*	Known from sand dunes ridges in the vicinity of the Coachella Valley. The population size is regulated by the amount of rainfall; some areas favor permanent habitation where springs dampen the sand year-round.	Year round?	FED: ND STATE: ND	None. Sand dune ridges and sand dune habitats are not present.

Table 1. Sensitive Biological Resources Potentially Present

Resource	**Habitat And Distribution**	**Activity Period**	**Status Designation**	**Occurrence Probability**
Coachella Valley Jerusalem cricket *Stenopelmatus cahuilaensis*	Known from a small segment of the sand and dune areas of the Coachella Valley, in the vicinity of Palm Springs. Found in large, undulating dunes piled up at the north base of the San Jacinto Mountains.	Year round?	FED: ND STATE: ND	None. Sand dune ridges and suitable sand dune habitat are not present. Project site is outside the recorded range.
Sensitive Habitats and Plant Communities				
Mesquite Bosque	Present primarily in built-up, stabilized sand dunes.	Year round	Declining habitat	None. Mesquite bosques are not present on site.
Desert fan palm oasis woodland	Found where springs occur or water table is very shallow.	Year round	FED: ND STATE: ND	None. Not present on site.
Joshua tree woodland	Most of the Mojave Desert and parts of the Colorado Desert.	Year round	Protected by local ordinance	None. No Joshua trees or woodlands present on site.

Legend

FED: Federal Classifications

END	Taxa listed as endangered
THR	Taxa listed as threatened
PE	Taxa proposed to be listed as endangered
PT	Taxa proposed to be listed as threatened
C2*	The U.S. Fish and Wildlife Service (USFWS) revised its classifications of candidate taxa (species, subspecies, and other taxonomic designations). Species formerly designated as "Category 1 Candidate for listing" are now known simply as "Candidate". The former designation of "Category 2 Candidate for listing" has been discontinued. The USFWS will continue to assess the need for protection of these taxa and may, in the future, designate such taxa as Candidates. NRAI has noted the change in species status by marking with an asterisk (*) those C2 candidates that were removed from the list.
C	Candidate for listing. Refers to taxa for which the USFWS has sufficient information to support a proposal to list as Endangered or Threatened and issuance of the proposal is anticipated but precluded at this time.
BCC	Bird of Conservation Concern due to declines in populations from habitat degradation, destruction and negative human interactions (illegal collection, accidental injury or kill, unintentional entrapment in fishing or hunting gear).
ND	Not designated as a sensitive species

STATE: State Classifications

END	Taxa listed as endangered
THR	Taxa listed as threatened
CE	Candidate for endangered listing
CT	Candidate for threatened listing
CFP	California Fully Protected. Species legally protected under special legislation enacted prior to the California Endangered Species Act.
SSC	Species of Special Concern. Taxa with populations declining seriously or that are otherwise highly vulnerable to human development.
SA	Special Animal. Taxa of concern to the California Natural Diversity Data Base regardless of their current legal or protected status.
WL	Watch list.
ND	Not designated as a sensitive species

CNPS: California Native Plant Society Classifications

1A	Plants presumed by CNPS to be extinct in California
1B	Plants considered by CNPS to be rare or endangered in California and elsewhere
2B	Plants considered by CNPS to be rare, threatened or endangered in California, but which are more common elsewhere.
3	Review list of plants suggested by CNPS for consideration as endangered but about which more information is needed.
4	Watch list of plants of limited distribution whose status should be monitored

CNPS: Threat Codes (new as of 2006)

.1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2 Fairly endangered in California (20-80% occurrences threatened)

.3 Not very endangered in California (<20% of occurrences threatened, or no current threats known)

Occurrence Probabilities

Occurs	Observed on the site during this study or recorded on site by other qualified biologists.
Expected	Not observed or recorded on site, but likely to be present at least during a portion of the year.
High	Known to occur in the vicinity of the project site. Suitable habitat exists on site.
Moderate	Known to occur in the vicinity of the project site. Small areas or marginally suitable habitat exist on site.
Low	No reported sightings within the vicinity of the project. Available habitat limited and rarely used.
None	Focused surveys did not locate the species, or suitable habitat does not exist on site.
Unknown	No data is available on whether species is on or in the vicinity of the site, and information about the species is insufficient to make an accurate assessment of probability occurrence.

Appendix C Phase I Archaeological and Paleontological Resources Assessment dated January 2024

ArchaeoPaleo Resource Management, Inc.
A full-service Archaeology and Paleontology company
SBE/WBE/WOSB/DBE/UDBE/EBE/LBE/SLBE/CBE/VSBE/MicroBE Certified

Phase I Archaeological and Paleontological Resources Assessment for the Rancho Mirage 9 Lot Subdivision Project, City of Rancho Mirage, Riverside County, California

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Date: January 2024

Key Word(s): CEQA, City of Rancho Mirage, Riverside County, Single Family Homes, Archaeological Resource Assessment, USGS 7.5' Topographic Quadrangle: Cathedral City, CA 2023

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EXECUTIVE SUMMARY

ArchaeoPaleo Resource Management, Inc. (APRMI) was contracted by 72094 Ginger Rogers Road LLC to perform a Phase I Archaeological and Paleontological Assessment of the Tentative Tract Map (TTM) 23-001 (TTM 38636) Rancho Mirage 9 Lot Subdivision Project. The Project proponents plan to subdivide 5.04 acres into nine lots, plus a private road, for the development of single-family homes located on the north side of Ginger Rogers Road and east side of Landy Lane within the City of Rancho Mirage, Riverside County. Township and Range address for the Project location is Township 4 South, Range 6 East, Section 30, as denoted on the 7.5' United States Geological Survey Topographic Map of the Cathedral City Quadrangle. Currently, the Project site is vacant, excepting one existing single-family home along Ginger Rogers Road. The Project is located on loose fine sand, which has been blown by prevailing winds over the older alluvial gravel and sand. These geologic sediments date back to the Pleistocene Epoch during the most recent Ice Age.

APRMI requested a paleontological records check on September 14, 2023, from the Western Science Center located in the City of Hemet, California. This records check is intended to identify any subsurface paleontological deposits that have been previously recorded directly on the Project site or surrounding area. APRMI received the records check results on December 28, 2023, and the Collections Manager for the Western Science Center has determined the sedimentary units as loose fine sands from the Holocene Epoch. Deeper excavation in the early Holocene and Pleistocene Epochs could contain fossil remains, but shallow excavation in the site would unlikely contain fossil materials. No known fossil localities were identified within the immediate Project area or a 1-mile radius from the site.

On September 14, 2023, APRMI requested a cultural records search by the Eastern Information Center to identify the presence of any previously recorded cultural resources within the Project area or within a one-mile radius. APRMI received the results of the cultural records search on November 27, 2023. The records indicate that there are no previously known cultural resources within the Project area, but multiple historic and prehistoric sites, including two cremations, are present within a 1-mile radius of the Project area.

In accordance with Assembly Bill 52 APRMI staff also requested a Sacred Lands File Search and a Native American Contacts list for the proposed Project from the Native American Heritage Commission (NAHC) on September 14, 2023 (see Regulatory Setting). The NAHC's search of the Sacred Lands File and a Native American Contacts list was received by APRMI on November 17, 2023. APRMI contacted the relevant tribes and interested parties telephonically the same day and mailed letters with details of the Project on November 22, 2023. APRMI was contacted telephonically on November 20, 2023, by Patricia Garcia of the Agua Caliente Band of Cahuilla Indians, who expressed concern over the uncovering of cremations near to the Project site. Another member of the Agua Caliente Band of Cahuilla Indians, Xitaly Madrigal, followed up on December 5, 2023, and requested by email AB 52 consultation and the employment of a tribal monitor during construction activities.

A field reconnaissance survey was conducted on September 28, 2023, to identify the presence of any surficial archaeological or paleontological resources on the site of the Project and assist in determining if the Project will have any significant adverse effects on such resources. The Project site consists of sparse vegetation and loose fine sand over quaternary alluvium. A pre-existing

single-family home was present on the site. Once on site, APRMI surveyors noted evidence that the undeveloped land appeared to have previously been utilized as an illegal refuse dump. Some of the material observed appears to be of historic value. No paleontological resources were observed during the survey.

Because to the high sensitivity for the uncovering of cultural and/or tribal resources during ground-disturbing activities, including human remains, APRMI recommends that in addition to the tribal monitor requested by the Agua Caliente Band of Cahuilla Indians, a qualified archaeologist is present on-site during any ground-disturbing activities. Because of the relatively low paleontological sensitivity of the Project excavation for tract housing, APRMI recommends that a qualified paleontologist be retained to conduct a Worker's Environmental Awareness Program training session so that Project personnel can recognize paleontological resources if they are uncovered during construction. A full list of recommendations can be viewed in Section 9.0.

ACRONYMS

AB	Assembly Bill
AF	Artificial Fill
AMSL	Above Mean Sea Level
APRMI	ArchaeoPaleo Resource Management, Inc.
BCE	Before Common Era
BP	Before Present
bgs	Below Ground Surface
CCR	California Code of Regulations
CE	Common Era
CEQA	California Environmental Quality Act
CHL	California Historic Landmarks
CHRIS	California Historical Resources Information System
CPHI	California Points of Historical Interest
CRHR	California Register of Historical Resources
CRM	Cultural Resource Management
CPR	Common Pool Resource
GIS	Geographic Information Systems
GBCBP	Great Basin Concave Base Point
HCM	Historic Cultural Monument
HRI	Historic Resources Inventory
HSC	California Health and Safety Code
HTMC	Historic Topographic Map Collection
IP	Invertebrate Paleontology
MM-CR	Mitigation Measure-Cultural Resource
MM-PAL	Mitigation Measure-Paleontology
mya	Million Years Ago
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NHMLA	Natural History Museum of Los Angeles County
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
Qa	Quaternary Alluvium
PMTP	Paleontological Management Treatment Plan
PRC	Public Resources Code
RPA	Registered Professional Archaeologist
SOI	Secretary of the Interior
EIC	Eastern Information Center
SVP	Society for Vertebrate Paleontology
USGS	United States Geologic Service
VP	Vertebrate Paleontology

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1.0 INTRODUCTION

1.1 Project Description

The Tentative Tract Map (TTM) 23-001 (TTM 38636 Rancho Mirage 9 Lot Subdivision project (Project) proposes to develop a predominately vacant 5.04-acre plot within the City of Rancho Mirage, Riverside County, California, into nine individual lots with a private road and landscaping along road frontage. These individual lots range from 0.42 to 0.45 acres and will be used for the construction of single-family homes. Currently, the Project area is zoned as R-L-2, which under the 2017 City of Rancho Mirage General Plan is designated Very Low Density Residential, intended for individual lots of approximately 0.5 acres.

The Project owner, 72094 Ginger Rogers Road LLC, contracted ArchaeoPaleo Resource Management, Inc. (APRMI) to perform a Phase 1 Archaeological and Paleontological Resources Assessment of the Project area. The purpose of this assessment is to determine the archaeological and paleontological sensitivity within the Project area. As part of this assessment, APRMI conducted a pedestrian field survey to identify the presence of any paleontological, archaeological, and/or tribal resources that may be within the Project boundaries. Other data collection methods included a paleontological records check, a cultural resource record search, a Scared Lands File records check, additional research, and Native American correspondence. This Phase 1 Archaeological and Paleontological Assessment report outlines the methods, results, and mitigation recommendations in further detail in the following sections.

1.2 Project Location

The Project site is located on the north side of Ginger Rogers Road and east side of Landy Lane within the City of Rancho Mirage, Riverside County (see Figures 1-3). Township and Range address for the Project location is Township 4 South, Range 6 East, Section 30, as denoted on the 7.5' United States Geological Society Topographic Map of the Cathedral City Quadrangle.

1.3 Natural Setting

The City of Rancho Mirage is located on the floor of the Coachella Valley to the east of the San Jacinto Mountains, the west of Joshua Tree National Park, and northwest of the Salton Sea. The city is largely built on either the alluvial sand and gravel of the valley floor, or the loose fine sand which had been blown over the valley by prevailing winds, although much of the city southwestern portion is next to the foothills of the San Jacinto Mountains and is part of the Magnesia Springs Ecological Reserve. Whitewater River's channel, which has been altered by a concrete structure by the Army Corps of Engineers, passes through the middle of the city. Native flora largely consists of cacti and shrubs, with mesquite, Creosote bushes, and Palo Verde being common plants. Native fauna include Peninsular Bighorn sheep, the Southwestern Willow Flycatcher, Prairie Falcon, Antelope Ground Squirrel, Roadrunners, the Desert Tortoise, and a variety of reptiles and insects. Desert Iguanas and evidence of ground squirrel activity were observed at the site during APRMI's field reconnaissance
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1.4 Project Personnel

Robin Turner, M.A. is the Principal Investigator and President for APRMI. She holds a Master of Arts degree in Anthropology, with an emphasis on Public Archaeology, from California State University, Northridge. Ms. Turner has over 30 years of experience in the Cultural Resource Management (CRM) and the paleontological fields and has conducted major field and technical investigations throughout southern California. She meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology and is a qualified professional paleontologist per the Society of Vertebrate Paleontology's guidelines. Ms. Turner is a Research Associate at the Natural History Museum of Los Angeles County and at the George C. Page Museum of La Brea Discoveries, as well as a Scientific Advisor to the Buena Vista Museum of Natural History and Sciences in Bakersfield. She is also a past Planning Commissioner for the City of Culver City and is a past museum chair for the Culver City Historical Society. Ms. Turner served as the Principal Investigator for this project and is the final editor of this report.

Sam Parekh, B.A., is a Staff Historian for APRMI. He has a Bachelor of Arts in History and a second B.A. in Government & Politics from the University of Maryland, College Park, and a commission from the California Army National Guard. He has four years of experience cataloguing and inventorying artifacts for both the Wende Museum in Culver City, California and the Garstang Museum in Liverpool, England, and has assisted in conducting site surveys and testing for APRMI. He is experienced with historical research, computer data entry and formatting, and the preparation of OHP/DPR forms. Sam Parekh performed field reconnaissance and contributed to the writing for this report.

Skyland Dallal Rice, B.A. is a Staff Archeologist for APRMI. He holds a Bachelor of Arts in Anthropology from Reed College where he worked as research assistant for Professor Betsey Brada, for the Reed College Library assisting in the organization of Cultural Resources and wrote his senior thesis about Arab Jewish Identity in the US. He has since worked as a researcher for the HBO documentary, *Hostages* and worked on several other documentaries. Skyland has extensive experience conducting historical and anthropological research, writing, computer data entry and formatting. Skyland Dallal Rice performed field reconnaissance and contributed to the writing for this report.

Figure 1. Topographic regional overview of the Project area that is marked in red. Source: Esri, 2013 United States Geological Survey, National Geographic

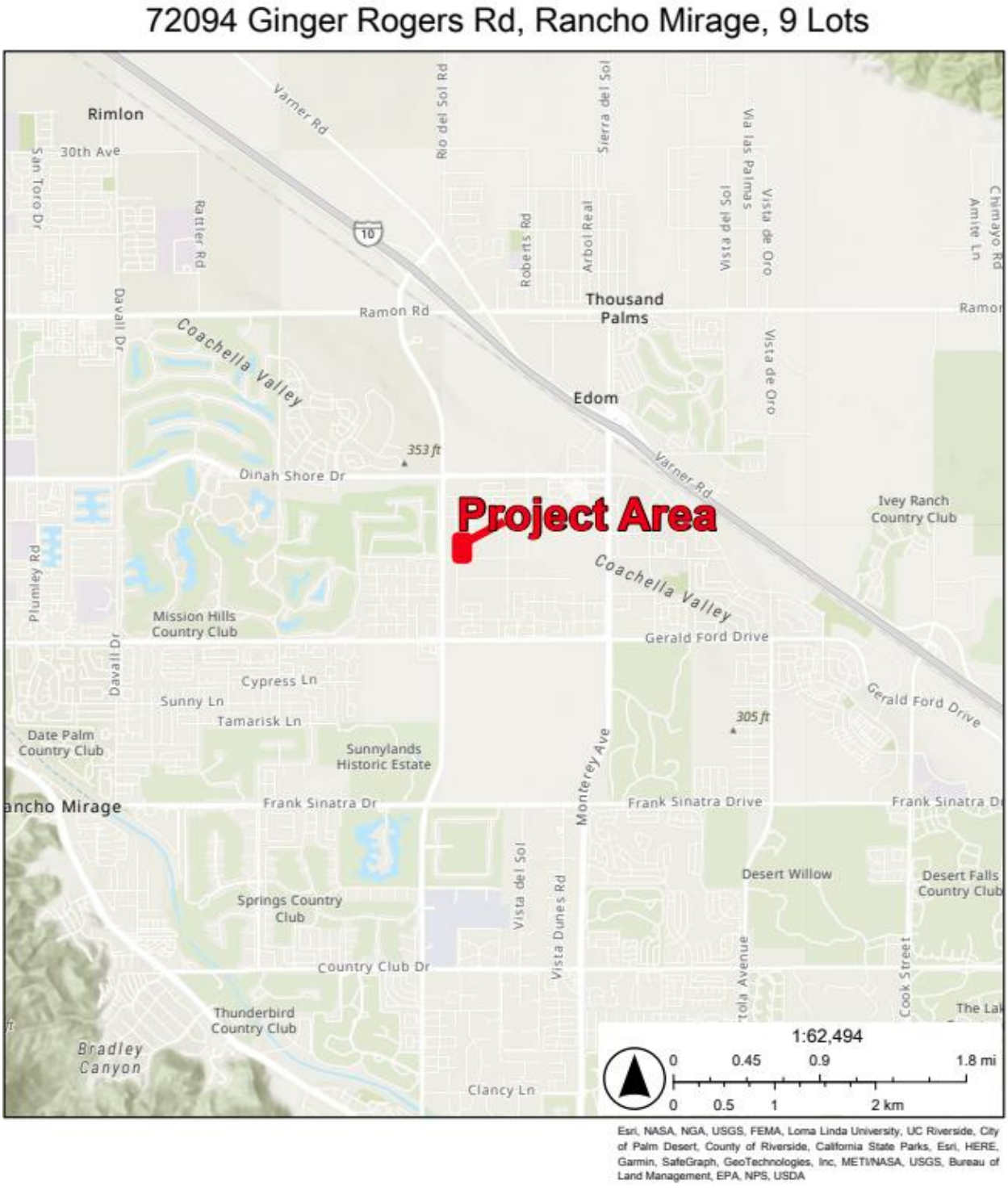

Figure 2. Topographic overview of the Project area that is highlighted in red. Source: Esri, 2013 United States Geological Survey, National Geographic

Figure 3. Satellite overview of Project area that is highlighted in red. Source: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

2.0 REGULATORY SETTING

While many of the stated Federal laws below do not apply to this Project, we have added them for continuity in Cultural Resources laws, as well as in case the City of Rancho Mirage deems them to be required at a later date if the Project requirements change prior to or during construction.

2.1 Federal Laws

2.1.1 Antiquities Act of 1906

The Antiquities Act of 1906 (16 USC § 431 *et seq*.) provides for the establishment and preservation of national monuments, historic landmarks, and historic or prehistoric structures, or other items of interest on federally owned lands. Additionally, Section 433 of this act prohibits the purposeful taking, excavation, damage, and destruction of historic or prehistoric ruins, monuments, or other objects of antiquity on federally owned lands. Other "objects of antiquity" are interpreted to include paleontological remains.

2.1.2 National Environmental Policy Act of 1969

The National Environmental Policy Act (NEPA) of 1969, specifically P.L. 91-190, 83 Stat. 852, 42 USC §§ 4321-4327, mandates the preservation of "important historic, cultural, and natural aspects of our national heritage" (§101.b4). In addition, NEPA is interpreted as providing for the protection and preservation of paleontological remains.

2.1.3 Section 106 of the National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) mandates the following:

> The head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure or object that is included in or eligible for inclusion in the National Register [of Historic Places (NRHP)]. The head of any such Federal agency shall afford the Advisory Council on Historic Preservation [The Council], established under Title II of this Act, reasonable opportunity to comment with regard to such an undertaking. [16 U.S.C. § 470f]

An effect, or "adverse effect," as defined by 36 CFR § 800.5 (a)(1), occurs

> when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register [NRHP] in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

To further clarify the meaning of what constitutes an adverse effect, 36 CFR § 800.5 (a)(2) identifies the following: physical destruction, alteration that is not in keeping with the *Secretary of the Interiors Standards for the Treatment of Historic Properties* per 36 CFR §68, removal, change of use, alteration of property setting, relocation, application of intrusive elements, neglect, and change

of ownership (federal to non-federal).

The NHPA (16 U.S.C. § *et seq.*) defines a historic resource as significant if eligible for inclusion in the NRHP as defined by one of four eligibility criteria set forth in 36 CFR § 60.4A. Determination of historic resource significance is carried out via implementation of the Section 106 process of the NHPA, as set forth by the Council per 36 CFR § 800 "Protection of Historic Properties." Such significant historic resources can include archaeological sites of pre-historic or historic context, historic buildings, structures, or objects of state, local, or federal importance that retain integrity of location, design, setting, feeling, association, material, and/or workmanship and

(A) Are associated with events which have made a significant contribution to the broad patterns of our history, or
(B) Are associated with the lives of persons significant in our past, or
(C) Embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value, or are representative of significant and distinguishable entity of which the component may lack individual distinction, or
(D) Yield, or are likely to yield, data important to our understanding of prehistory and/or history.

2.1.4 Native American Graves Protection and Repatriation Act (25 USC Section 3001 et seq.)

The discovery of human remains is always a possibility during construction-related disturbances. The Native American Graves Protection and Repatriation Act, or NAGPRA, was enacted November 16, 1990. It states that the "ownership or control of Native American cultural items," which include human remains, funerary objects, sacred objects, and objects of cultural patrimony, that are "excavated or discovered on Federal or tribal lands" after the law went into effect is held by the lineal descendants of the Native American (or Hawaiian) to whom the objects originally belonged. If the lineal descendants cannot be found then their ownership is conferred to the "Indian" tribe or Native Hawaiian organization on whose land the objects or remains were discovered or that has the closest cultural affiliation.

2.2 State Laws

2.2.1 California Register of Historical Resources (PRC §5024.1)

The California State Historical Resources Commission enacted Public Resources Code §5024.1, which established the California Register of Historical Resources (CRHR). The statute encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance. The register itself is a listing of all properties considered to be significant historical resources in the state. Resources are considered significant (and thus eligible for the register) if they retain integrity and meet one of the following criteria:

1) Associated with events which have made a significant contribution to the broad patterns of California's history and historical heritage
2) Associated with the lives of persons significant in California's past
3) Embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value, or
4) Yield, or are likely to yield, information important in prehistory or history.

The California Register specifically provides that historical resources listed, determined eligible for listing on the California Register by the State Historical Resources Commission, or resources that meet the California Register criteria are resources, which must be given consideration under CEQA (see below). Other resources, such as resources listed on local registers or in local surveys, may be listed if they are determined by the State Historic Resources Commission to be significant in accordance with criteria and procedures to be adopted by the Commission and are nominated; their listing in the California Register is not automatic.

According to the federal laws to which the State of California defers when its own laws do not apply to a situation, historical resources are evaluated if they are 50 years or older, unless they are exceptional according to a set of criteria considerations. The Instructions for Recording Historical Resources (California Office of Historic Preservation [OHP] 1995:2) states that "[a]ny physical evidence of human activities over 45 years old may be recorded for purposes of inclusion in the OHP's filing system." This five-year difference is to compensate for the amount of time that usually occurs between a resource's discovery and its official documentation as well as the implementation of any mitigation procedures.

2.2.2 California Environmental Quality Act

The California Environmental Quality Act (CEQA) is a statute that requires state and local agencies to identify significant environmental impacts of their actions, including damages to cultural or historical resources, in order to avoid or mitigate those adverse impacts or changes. §5020.1 of CEQA establishes "substantial adverse change" as the "demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired" (see below for the definition of *historical resource*). The "threshold of significance" is the level at which a lead agency finds the effects of a Project to be significant.

The destruction of unique, non-renewable cultural resources is a significant impact on the environment that requires mitigation of the impact. Construction excavation in archaeologically sensitive deposits that underlie a Project Area is a significant impact that could be prevented, minimized, or mitigated through the development of project alternatives (e.g., avoidance of the cultural resource) or mitigation measures for the purpose of recovering data that might otherwise be destroyed (e.g. archaeological excavation prior to construction excavation and archaeological monitoring of construction excavation of a known site; or archaeological monitoring of construction excavation of an archaeologically sensitive area). Even if a historical resource, an archaeological site, or human remains cannot be identified within a project area before project implementation (i.e., if the resources are not visible on the surface during a Phase I survey, or if Extended Phase II testing does not reveal subsurface archaeological material), the area may still be archaeologically sensitive, based on the characteristics of the environmental background of the area or its current environmental setting, and that said resources are predicted to exist within the project area/remains could be present within the project area. Mitigation measures to avoid project impacts to as-yet undiscovered historical resources or human remains may be employed by the Lead Agency, even if these resources have not been identified within or adjacent to the project area. A study must consider a project's current baseline environmental setting and physical conditions so that the lead agency can determine whether project impacts would cause a significant change to that environment.

§15091(a) and (d) of the CEQA Guidelines require the Lead Agency to adopt a program for

reporting on or monitoring the changes—that it has either required for the project or has made a condition of approval—in order to avoid or substantially lessen significant environmental effects. A Mitigation Monitoring and Reporting Program (MMRP) provides for the monitoring of mitigation measures that may be required by a project's Environmental Impact Report (EIR), if the EIR identifies potentially significant adverse impacts and mitigation measures to reduce those impacts to a less-than-significant level. An archaeological resources/built environment data recovery or monitoring plan may be part of an MMRP if archaeological resources/built environment will be affected.

A significant historical resource, as defined by CEQA, is referred to as a "Historical Resource." Such Historical Resources have been determined eligible for inclusion in the CRHR per Title 14, California Code of Regulations (CCR), §15064.5(a)(3), and include historic properties eligible for inclusion on the National Register of Historic Places (NRHP) per PRC §5024.1, or are historically significant at a local level, such as a city, town, community, or county.

Paleontological resources are protected by Appendix G (Part V) of CEQA, which indicates that the destruction of unique, non-renewable paleontological resources is a significant impact on the environment that requires mitigation of the impact. It specifically asks whether a project would "directly or indirectly destroy a unique paleontological resource or site or unique geological feature." Excavations in paleontologically sensitive deposits that underlie a project area is a significant impact that can be mitigated via the salvage and identification of excavated fossils from the deposit.

2.2.3 California Administrative Code

Title 14, Section 4307 of the California Administrative Code states that "no person shall remove, injure, deface, or destroy any object of paleontological, archaeological, or historical interest or value."

2.2.4 Public Resources Code

Section 5097.5 and Section 30244. of the California Public Resources Code (PRC) protects both cultural and paleontological resources. Section 5097.5 states that

> "a person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands."

Section 5097.5 also states that "a violation of this section is a misdemeanor, punishable by a fine not exceeding ten thousand dollars ($10,000), or by imprisonment in a county jail not to exceed one year, or by both that fine and imprisonment." This section defines public lands as "lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof."

Section 30244 states that "where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable

mitigation measures shall be required."

2.2.5 Native American Heritage Act

The Native American Heritage Act, passed by California in 1976, established the Native American Heritage Commission (NAHC) for the purpose of protecting Native American religious values on state property (PRC §5097.9). The NAHC not only protects the heritage of California Native Americans, but also ensures their participation in matters concerning heritage sites. The commission's duty is to assist both federal and state agencies in protecting Native American sacred places and provide recommendations concerning Native American heritage in accordance with environmental law and policy. As required by Government Codes §65352.3 and §65562.5, for purposes of consultation with California Native American Tribes, the NAHC maintains a list of California Native American Tribes with whom local governments and public agencies must consult.

The act also protects burials from disturbance, vandalism, and accidental destruction. It stipulates what specific procedures, laid out in the California Health and Safety Code (HSC), must be implemented if a Native American burial is uncovered during project construction or archaeological data recovery.

2.2.6 Assembly Bill 52

Assembly Bill (AB) 52, was approved and passed on September 25, 2014, by California State Governor Gerry "Jerry" Brown, Jr. The act has amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3, relating to California's Native American populations. Assembly Bill 52 applies to projects in which a Notice of Preparation (NOP) or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) would be filed on or after July 1, 2015. This bill recognizes California Native American tribes' expertise regarding cultural resources and provides a method for agencies to incorporate tribal knowledge into their CEQA environmental review and decision-making processes. California Native American tribes can now establish a standing request to consult with a lead agency regarding any proposed project subject to CEQA in the geographic area with which the tribe is traditionally and culturally affiliated. The definition of tribal cultural resources, as per PRC Section 21074(a)(1) and (2), are considered as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" that are included or determined to be eligible for inclusion in the California Register or included in a local register of historical resources. A tribal cultural resource may also be determined by a lead agency, in its discretion and supported by substantial evidence. PRC section 21080.3.1(a-e) outlines and defines the initial consultation process required from the lead agency as follows:

21080.3.1(a): The Legislature finds and declares that California Native American tribes traditionally and culturally affiliated with a geographic area have expertise concerning their tribal cultural resources.

21080.3.1(b): Prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, the lead agency shall begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if:

(1) The California Native American tribe requested to the lead agency, in writing, to be

informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and

(2) The California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation. When responding to the lead agency, the California Native American tribe shall designate a lead contact person. If the California Native American tribe does not designate a lead contact person, or designates multiple lead contact people, the lead agency shall defer to the individual listed on the contact list maintained by the Native American Heritage Commission for the purposes of Chapter 905 of the Statutes of 2004. For purposes of this section and Section 21080.3.2, "consultation" shall have the same meaning as provided in Section 65352.4 of the Government Code.

21080.3.1(c): To expedite the requirements of this section, the Native American Heritage Commission shall assist the lead agency in identifying the California Native American tribes that are traditionally and culturally affiliated with the project area.

21080.3.1(d): Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

21080.3.1(e): The lead agency shall begin the consultation process within 30 days of receiving a California Native American tribe's request for consultation.

Under PRC section 21080.3.2 (a) the following topics are potential consultation discussions:

- The type of environmental review necessary
- The significance of tribal cultural resources
- The significance of the project's impacts on the tribal cultural resources
- Project alternatives
- Appropriate measures for preservation
- Mitigation measures

Consultation is considered complete if the parties agree to measure(s) to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource, or if a party acting in good faith and after reasonable effort, concludes that a mutual agreement cannot be reached (PRC 2108.3.2(b) (1-2)). This section does not limit the ability of a California Native American tribe or the public to submit information to the lead agency regarding the significance of the tribal cultural resources, the significance of the project's impact on tribal cultural resources, or any appropriate measures to mitigate the impact. This section also does not limit the ability of the lead agency or project proponent to incorporate changes and additions to the project as a result of the consultation, even if not legally required. If the project proponent or its consultants participate in the consultation, those parties shall respect the principles set forth in this section.

PRC section 21082.3(a)(b) requires any mitigation measures agreed upon in the consultation conducted pursuant to PRC section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact of tribal cultural resources. If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following: (1) Whether the proposed project has a significant impact on an identified tribal cultural resource. (2) Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource.

Any information including, but not limited to, the location, description, and the use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public (PRC section 21082.3(c). If a California Native American tribe has requested consultation pursuant to PRC section 21080.3.1 and has failed to provide comments to the lead agency, failed to engage in the consultation process, or if the lead agency has complied with PRC section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an Environmental Impact Report or adopt a Mitigated Negative Declaration.

Suggested mitigation measures after lead agencies determine that a project may cause a substantial adverse change to tribal cultural resources are outlined under PRC section 21084.3 as follows:

- Avoidance and preservation of the resources in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
- Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
- Protecting the cultural character and integrity of the resource.
- Protecting the traditional use of the resource.
- Protecting the confidentiality of the resource.
- Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
- Protecting the resource.

2.2.7 California Health and Safety Code

Section 7050.5 of the HSC states that if human remains are found, construction and/or excavation must cease within the general vicinity, and the remains must be inspected by the county coroner. If the coroner determines that they are Native American in origin, then the coroner must contact the NAHC. The NAHC will then determine and notify a Most Likely Descendant (MLD). The MLD

must complete inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Sections 8010-8011 of the HSC establish a state repatriation policy that is consistent with and facilitates implementation of NAGPRA. NAGPRA was passed in 1990 and required that museums and federal agencies document all Native American human remains within their collections, or uncovered on projects, as well as their cultural ties. These agencies must then notify any tribe that may be affiliated with the remains and provide the opportunity for their repatriation along with any associated cultural items (grave goods). The California state version (Cal NAGPRA) mandates publicly funded agencies (state and local government agencies) and museums to repatriate human remains and associated cultural items to California Native American Tribes, not just federally recognized tribes within California, and establishes penalties for noncompliance.

2.3 Local Laws

2.3.1 City of Rancho Mirage General Plan

The City is obligated to assure that every reasonable effort is made to locate, identify, and evaluate archaeological, historical, and cultural sites within its jurisdiction. As time passes and the community continues to develop, opportunities for documenting and preserving archaeological and historic sites and artifacts will decrease. The City must determine what actions or development activities have the potential to adversely affect known or suspected sites of historic or cultural significance. The City should encourage research, documentation, and recordation to register appropriate sites and structures in the community and vicinity.

GOAL COS 8 The preservation, maintenance, continuity, and enhancement of cultural heritage and resources in Rancho Mirage, including historic and prehistoric sites, objects, landscapes, and structures.

POLICY COS 8.1 The City shall exercise its responsibility to preserve archaeological, historical, and cultural sites.

PROGRAM COS 8.1A Establish and maintain an archaeological and historical resources database.

PROGRAM COS 8.1B Maintain a preservation ordinance to provide for the designation and protection of historic resources.

PROGRAM COS 8.1C Continue to promote historic preservation incentives, such as enabling the use of Mills Act contracts to lower property taxes on designated resources.

PROGRAM COS 8.1D Develop an education program to familiarize residents and visitors alike with the city’s architectural and historical heritage.

POLICY COS 8.2 Development or land use proposals that have the potential to disturb or destroy sensitive cultural resources shall be evaluated by a qualified professional and appropriate mitigation measures shall be incorporated into project approvals, if necessary.

PROGRAM COS 8.2A Encourage in-place preservation or the recovery and preservation of materials for later study and display when reviewing development proposals and cultural surveys that identify sensitive resources.

PROGRAM COS 8.2B Perform an annual records search in the Native American Heritage Commission and California Historic Resources Information System databases to determine the presence of potential cultural resources in the boundaries of the city and the SOI.

PROGRAM COS 8.2C Continue to adhere to the requirements of SB 18 of 2004 and AB 52 of 2014, as applicable, by consulting with local Native American tribes on potential disturbance, recovery, and preservation of tribal cultural resources.

POLICY COS 8.3 The City shall ensure the protection of sensitive archaeological and historic resources from vandalism and illegal collection.

PROGRAM COS 8.3A Maintain mapping information and similar location oriented resources in a confidential manner and assure that only those with appropriate professional and organizational ties are provided access to these sensitive records.

POLICY COS 8.4 The City shall support the listing of eligible properties, structures, or sites as potential historic landmarks and their inclusion in the National Register of Historic Places.

PROGRAM COS 8.4A Periodically review the historical and archaeological resources of the area in cooperation with local historical associations for possible application for status as a historical landmark or inclusion in the National Register of Historic Places.

PROGRAM COS 8.4B Conduct meetings with City staff and elected officials to prioritize and propose action on the preservation and registration of important archaeological and historical resources in the community and vicinity.

3.0 CULTURAL SETTING

3.1 Pre-History (circa 6000 B.C. to 1774 A.D.)

Prehistoric period divisions are generally taken from Warren's "The Desert Region" in *California Archaeology* (1984).

3.1.1 Archaic Period (circa 6000 B.C. to circa 800 A.D.)

The earliest evidence of human occupation of the Colorado Desert comes from the San Dieguito period and is typified by cleared circles on desert pavement surfaces and the tops of mesas and terraces. This identification is highly tentative, however, and precise dating is virtually impossible, although it is generally agreed to have been in excess of 6000 B.C. The first solid date of human activity at 2080 ± 100 B.C. comes from the radiocarbon dating of an inhumation found at the Indian Hill Rockshelter (Schaefer 1994). This places it squarely during the transition from the Pinto Period to the Gypsum Period. The Pinto Period is typically dated by its projectile point types, which are characterized by indented or bifurcate bases and robust basal ears, and were manufactured through soft hammer percussion of bifaces, slabs, and flake blanks followed by varying degrees pressure

flaking (Justice 2002, 126). Some examples possess either horizontal or downwards-projecting shoulders, but continual resharpening often wore these away either completely or into a variety of other forms (Justice 2002). Population density during this period was extremely low, and the small groups present in the area likely practiced a residential foraging strategy (Schaefer 1994). The Gypsum Period is also typically dated by its projectile points, although in the Colorado Desert specifically these are likely not Gypsum points, but Elko Eared points (Warren 1984). These are corner-notched points made from trianguloid pre-forms, an indented or concave base, and basal ears. They often have wide shoulders and were manufactured through an initial percussion shaping followed by substantial amounts of pressure flaking (Justice 2002, 298-9). The Colorado Desert during the Gypsum Period saw a moderate population increase and the adoption of a more mobile and flexible hunting and gathering strategy, including the adoption of seed- and mesquite-pod processing techniques and the use of the bow and arrow (Warren 1984). Notably, the Indian Hill Rockshelter site does show evidence of at least semi-permanent occupation (Schaefer 1994).

3.1.2 Late Prehistoric Period (circa 800 A.D. to circa 1200 A.D.)

While in the wider Southwest the Late Prehistoric or Saratoga Springs Period is generally considered as beginning in 500 A.D., the techniques of creating pottery (of the Lower Colorado Buff and Tizon Brown types) and the Cottonwood Triangular and Desert Side-Notched points reached the Colorado Desert only in circa 800 A.D (Warren 1984). Cottonwood Triangulars are small, unnotched, lightweight, triangular points intended for use on arrows. There is a wide variety within this type of point, and it is possible that some "Cottonwood Triangulars" are merely Desert Side-Notched pre-forms which were left unfinished (Justice 2002, 367). As may be inferred by this fact, Desert Side-Notched points are similar to Cottonwood Triangulars, with the addition of two typically narrow and deep side notches which are placed towards the basal edge of the blade, leaving angular ears. The pre-forms are manufactured through percussion, and then finished with extensive pressure flaking (Justice 2002, 379). Lower Colorado Buff Ware is a broad category, with five or more subtypes, and is characterized by its light color and the use of paddle-and-anvil shaping and sedimentary clays. Tizon Brown Ware is an even broader category, with up to 16 subtypes, and is characterized by its brown color and use of paddle-and-anvil shaping (Society for California Archaeology 2023). Whether several specific subtypes (including Salton Ware, which is most likely possible to find within a Rancho Mirage site) should be classified as either Lower Colorado Buff or Tizon Brown is an object of contention within the archaeological community. Lake Cahuilla was once fed by the Colorado River and was likely filled from approximately 900 A.D. to 1200 A.D., although the exact dates for this, and whether or not it was interrupted by dry periods, is still under debate (Rockwell et al. 2022) It is during this period that the ancestors of the Cahuilla people can first be definitively identified as living in the area. They adapted their lifeways from the Hakataya (also known as the Patayan) culture on the Colorado River to the shores of Lake Cahuilla, which included dispersed seasonal settlements, stone food caches, lacustrine and riparian food sources, and perhaps a limited reliance on agriculture (Schaeffer 1994). The old shoreline of Lake Cahuilla, which extended approximately 35 kilometers to northwest of the current Salton Sea, has been found to have a high concentration of artifacts and village sites due to the availability of fresh water and lacustrine food sources. The Rancho Mirage site is approximately 10 kilometers further northwest. Notably, adoption of Hakataya lifeways did not include complete language or cultural replacement, as the Cahuilla still speak a Takic language and share elements of their cosmology and myths with other Takic groups (Bean 1978).

3.1.3 Protohistoric Period (circa 1200 A.D. to 1774 A.D.)

Material culture remained largely unchanged between the Late Prehistoric and Protohistoric Periods, although an increase in the frequency of trade led to some Hohokam art forms being introduced to the area from the east, along with greater production from the turquoise mines which lie to the north of the Colorado Desert (Warren 1998). Lake Cahuilla filled again for portions of this period, although dry spells were frequent, and the final desiccation occurred circa 1600 A.D (Schaeffer 1998). The Cahuilla people continued to largely live in seasonal settlements, adjusting the frequency and length of their visits to the environmental conditions, though the young, the weak, and the old likely were left behind in a clan's permanent village year-round (see Figure 4). During dry periods, or when fresh water was not available on the surface, the Cahuilla would utilize walk-in wells, tunnels into the earth where the water-table was relatively high, often with steps at the bottom into the pool (James 1960). From the desert floor, Cahuilla gathered or grew cacti, palm, mesquite pods, Mohave yucca, screwbean, catsclaw, Mariposa lily, desert lily, ephedra, corn, beans, squash, and melons, and hunted deer, rabbits, antelopes, mice, rats, mountain sheep, reptiles, insects, fish, quail, doves, ducks, and roadrunners. From the desert foothills, they gathered or grew cacti, agave, mushrooms, yucca, oak acorns, juniper, manzanita, sugar bush, tule, various grass seeds, chia, cat-tails, wild onion, and wild roses. They hunted the same animals as on the desert floor, with the exception of antelopes, which were not present in that location. In the lower reaches of the mountains themselves, they gathered oak acorns, elderberries, service berries, manzanita, wild cherries, yucca, tule, various grass seeds, chia, and cat-tail, and hunted mountain sheep, deer, pack rats, squirrels, mice, chipmunks, and fish (Bean, 1978, 576). Houses were constructed of arrow weed, willow, or palm, and were generally squatly conical, built over a depression in the ground with a hole in the center of the roof to let smoke escape (James 1960). Raised granaries, sweat houses, and meeting buildings, constructed of the same materials, were established within the permanent villages. The largest Cahuilla political unit was a clan, which was generally composed of three to ten familial lineages, controlled a permanent village site, and was led by a *Nét*, a leadership position generally inherited under a primogeniture system, although if the eldest son was deemed unfit to be a leader other sons could be chosen (Strong 1929). Second to the *Nét* was the *páxa?,* who arranged the details of rituals and punished those who failed to obey the ritual strictures. This office was also generally inherited, under the same rules (Bean 1978). Various rituals, including mourning ceremonies, eagle ceremonies, rites of passage, and consecration of resources, provided much of the social structure for Cahuilla people.

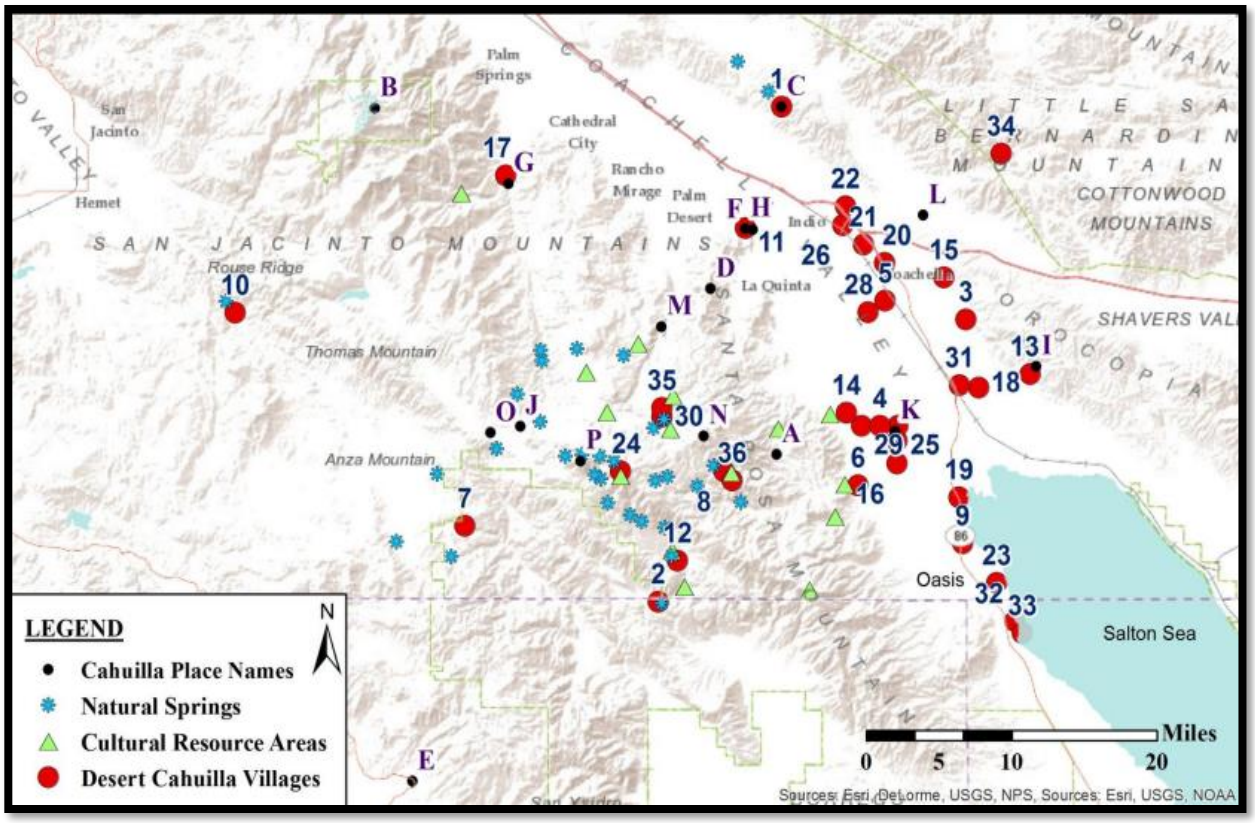

Figure 4. A map of Cahuilla villages and other landmarks in the area. From "The Desert Cahuilla: A Study of Cultural Landscapes and Historic Settlements" by Laurea Lewis.

3.2 Historic Period (1774 A.D. to 1973 A.D.)

3.2.1 Cahuilla Interactions with the Spanish and Mexicans (1774 A.D. to 1848 A.D.)

The Cahuilla's first known direct contact with Europeans resulted from the 1774 Juan Bautista de Anza expedition, although word of Spanish activities in Mexico had likely reached them long before then (Bean 1978). They reacted hostilely to the intrusion on the land, and in combination with the revolt of the Yuma to south which precluded land travel from Mexico and the relatively inhospitable nature of their territory in comparison to the Californian coast, kept Spanish presence in the area at a minimum. While the Cahuilla did adopt cattle ranching as a supplement to their other sources of food and began constructing square buildings, sometimes made out of adobe, there was relatively little disruption to their lifeways, although some Cahuilla did work seasonally for Spanish or Mexican employers (James 1960). Notably, Native American refugees from areas conquered by the Spanish often chose to flee to Cahuilla territory, and this period likely saw the adoption of some of the loanwords and cultural markers from coastal California tribes which are still visible in Cahuilla today (James 1960). As settlement of California continued, certain clans of the Cahuilla became more closely tied with Mexican elites, and sometimes served in conflicts against other Native American tribes as auxiliary units (Lech 2004). The Cahuilla often adopted Spanish names during this period

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3.2.2 American Invasion and Settlement (1848 A.D. to 1900 A.D.)

The Treaty of Guadelupe Hidalgo formally transferred control of California from Mexico to the United States in 1848, although the first formal interaction between the Cahuilla and American government (a treaty which went unratified) only occurred in 1851. By this point, the Cahuilla were one of the few Native American tribes in California which had survived the years of Spanish and Mexican rule largely unscathed. Throughout most of the period immediately following the accession of California into the Union, while governmental surveys in order to determine the suitability of lands for railroad placement and colonization were carried out, actual governmental action was relatively limited due to the distraction of the upcoming Civil War (Lech 2004). A combination of the Cahuilla's strength and the relative undesirability of their territory again served to keep their lands and social structure largely intact from "wildcat" settlers until 1863, when a devastating smallpox epidemic swept through many of the tribes, killing two-thirds or more of its population (Bean 1978). This was likely brought to them by miners from Los Angeles who were traveling southwards through the valley in order to reach the gold mines in La Paz, Arizona (Lech 2004). This route, known as Bradshaw's Road, also brought the first permanent white settlement to the Coachella Valley, with the establishment of two small ranches and water stations in order to supply those traveling the route. Non-indigenous men continued to pass through the valley, rather than settle there, until 1876, with the construction of the Southern Pacific Railroad. The American government incentivized the construction of railroads with the grant of twenty square miles of land for every one mile of track laid. In order to fulfill this grant, the Cahuilla were relegated to a reservation in 1876, constructed out of a checkerboard of one square-mile plots, interspersed with railroad land (Lech 2004). Even these plots were slowly reduced in size over time through the later allotment system, eventually making it impossible to feasibly use the land for subsistence agriculture or hunting purposes (Nuttall 2019; Bean 1978). The first large-scale settlement project in the Coachella Valley began with the purchase of land in what is now Palm Springs by John McCallum, a Bay Area lawyer who had moved to the area for the beneficial properties the arid desert air was supposed to provide to his son who had contracted tuberculosis (Lech 2004). He, in concert with other investors, built a canal from the Whitewater River to area in order to irrigate various fruit orchards, then auctioned off plots to investors and settlers in 1887. This proved profitable enough for a time that two other settlement ventures, named Palmdale and the Garden of Eden, began in the same area, but a flood in 1893 severely damaged the canal and was then immediately followed by a drought. This, along with a revocation of the Garden of Eden's water rights in favor of the Cahuilla Native Americans, completely ended the latter two settlements and caused an exodus from Palm Springs (Lech 2004). The town of Indio began in 1876 as a station and temporary terminus for the Southern Pacific Railway, and at first grew slowly. The passage of the 1885 Desert Lands Act, which opened the land around Indio for homesteading, did little to encourage settlement. Until the 20th century, much of the town's population was still temporary railroad employees (Lech 2004). The towns now known today as Coachella and Mecca similarly began as railroad stations, and were called Walters and Woodspur, respectively. The discovery of a highly productive artesian well in Mecca in 1894 spurred the further development of railroad infrastructure, and a limited amount of agriculture in the surrounding areas (Lech 2004), but again population remained fairly limited.

3.2.3 "People of the Right Kind" – The Coachella Valley as a Desert Resort (1900 to 1973 A.D.)

While much of the Coachella Valley was originally settled for agricultural or infrastructure purposes, tourism has long been its primary industry. Palm Springs was the first city in the Coachella Valley to actively bill itself as a desert resort town, an effort that formally began in 1920

with the publication of the promotional book *Our Araby: Palm Springs and the Garden of the Sun* by J. Smeaton Chase. Chase made it clear that Palm Springs was intended only for wealthy whites, calling it "a region that is meant for… people of the right kind… the discerning few" (Chase 1920, 7). Newly wealthy Hollywood personalities provided much of the clientele. Desert resorts and country clubs sprang up across the valley, including in the area that would later be incorporated as Rancho Mirage. This area provided the location for the Coachella Valley's first 18-hole golf course. The construction of the Sunnylands Estate in 1966 by businessman and diplomat Walter Annenberg attracted numerous United States Presidents and dignitaries to the area, and Sunnylands provided a venue for several high-level summits between world leaders (Sunnylands Trust). The Cahuilla Native Americans continued to be driven off their land into the 1960s, when the City of Palm Springs took issue to them living on a plot of reservation land located in the city's downtown area referred to as Section 14. Prior to 1955, the federal government restricted Native Americans from leasing areas of the reservation to five or ten years, a short enough period it discouraged outside commercial development. In 1959, with the passage of the Indian Leasing Act, the maximum lease was extended to 99 years, making the Cahuilla land in downtown Palm Springs much more valuable (Nuttal 2019). When many of the Native American and black residents who had built houses there refused to move, the City of Palm Springs condemned the houses as unsafe due to lack of public utilities and usually bulldozed or burned them down the same day a condemnation was issued, without waiting the 30 days required by law. Notably, connections to public utilities had previously been repeatedly requested by Section 14's residents and refused by the City on the basis that its residents did not pay property taxes, which was in fact untrue (Nuttal 2019). This dispersed minority groups to the edge of the city, or out of the Coachella Valley altogether, as was consciously intended by the city elite (Kray 2004). The regular presence of wealthy Hollywood tourists in the valley, and their desire for convenience and privacy, also spurred the development of a significant healthcare industry, including several drug rehabilitation centers.

3.3 Current Period (1973 A.D. to Present)

The Coachella Valley economy continues to be primarily tourism-based, producing approximately $8 billion annually, with some significant agricultural production as well (CVEP 2022). Large events, including the famous Coachella Valley Music and Arts Festival, bring in much of this money. The opening of the Agua Caliente Casino Resort in 2001 provided a further boost to the tourism and hospitality business. New construction of residences and land sales also form a large part of the economy. The original city boosters' vision of a playground and vacation residence location for wealthy white tourists continues to hold true for much of the area, with an average income well above the national average in several cities, and whites forming as much as 88% of the population in Indian Wells and 79% in Rancho Mirage. These are primarily vacation and retirement residences. Cities with the least-white populations, such as Cathedral City and Indio, are also the poorest (CVEP 2022). These are primarily the residences of Hispanic workers employed by the hospitality and construction industries within the valley. Palm Springs is primarily notable for becoming a center of LGBT life in recent decades, with 40-50% of the population identifying as LGBT (Rae 2022).

4.0 GEOLOGIC SETTING

4.1 Geologic Time

Stratigraphic divisions found in rock sequences reflect geologic changes, and thus have provided the basis for determining geologic time scales. Geologic eons are divided into eras, which are divided into periods, which are divided into series or epochs. Table 2 outlines the geologic eras, periods, and series discussed in this report and is based on a table created by the U.S. Geological Survey (USGS) Geologic Names Committee (2018). Geologic eras occurring before those discussed in this report are not included in the table.

Table 1. Divisions of Recent Geologic Time, *Changes to time scale since 2007 (USGS Names Committee 2018).

EONOTHEM / EON	ERATHEM / ERA	SYSTEM,SUBSYSTEM / PERIOD,SUBPERIOD		SERIES / EPOCH	Age estimates of boundaries in mega-annum (Ma) unless otherwise noted
Phanerozoic	Cenozoic (Cz)	Quaternary (Q)		Holocene	11,700 ±99 yr*
				Pleistocene	2.588*
		Tertiary (T)	Neogene (N)	Pliocene	5.332 ±0.005
				Miocene	23.03 ±0.05
			Paleogene (Pg)	Oligocene	33.9 ±0.1
				Eocene	55.8 ±0.2
				Paleocene	65.5 ±0.3

4.2 Regional Geology

The Project site is located within the City of Rancho Mirage, within the Coachella Valley, which lies between the Peninsular Range to the west and the Indio Hills to the east. The Peninsular Ranges consist of various mountains including the Santa Ana Mountains, Temescal Mountains, the San

Jacinto Mountains. This group of mountains stretches approximately 900-miles-long extending north-south from Southern California to Baja California in Mexico. The bedrock in this region includes predominantly granitic and related sediments that are part of the southern and lower California batholith and smaller amounts of Paleozoic and Mesozoic metamorphic materials. In some areas of the Peninsular Ranges, thin sedimentary and volcanic units cover the crystalline materials. Paleontological evidence suggests these thin sediments date back to the Pliocene (Woodford et al 1971).

As most of the granite and metamorphic rocks erode, the valleys and basins are comprised of these eroded deposits carried by streams or other forms of erosion. Some of these valleys and basins consist of thick layers of these sedimentary deposits reaching almost 22,000 feet with sediments dating back to the Cretaceous period (Jahns 1954). Geologic faulting heavily influences this area since it is bounded by the San Jacinto Fault, the Elsinore Fault, Chino Fault zone, and the Cucamonga Fault zone. This faulting activity causes rapid erosion to continue to feed the valley and basins with sedimentary deposits.

4.3 Project Area Geology

The Project site, excepting a few small areas around the existing family home, is covered by Holocene eolian sand eroded from the neighboring Peninsular Range and blown by prevailing winds into the valley. It is primarily clean to slightly silty, fine to medium sand (City of Rancho Mirage 2019). This overlays the quaternary alluvium, composed of Holocene and possibly Pleistocene sand and gravel (Dibblee 1954).

5.0 METHODOLOGY

5.1 Archival Research

Archival research was conducted through different inventory databases, including the National Geologic Map Database, and/or historic societies to acquire more information or knowledge of the history of the Coachella Valley. In addition to resources publicly available online, and in the libraries of the University of Maryland and the University of California, Los Angeles, APRMI personnel viewed material located within the Special Collections of the Young Research Library at the University of California, Los Angeles.

5.2 Paleontological Record Search

On September 14, 2023, APRMI requested a paleontological resource records search from the Western Science Center (WSC) in Hemet, California, to identify any known paleontological resources on or near the Project site.

5.3 Cultural Records Search

On September 14, 2023, APRMI requested a cultural resource records search from the Eastern Information Center (EIC) in Riverside, California to identify any known cultural resources on or near the Project site. In accordance with Assembly Bill 52, APRMI also requested a sacred lands file

and Native American contact list request with Native American Heritage Commission (NAHC) in West Sacramento, California on September 14, 2023.

5.4 Field Reconnaissance

On September 28, 2023, Ms. Robin Turner, Mr. Sam Parekh, and Mr. Skyland Rice conducted a field reconnaissance of the Project area to evaluate the presence of any archaeological or paleontological resources to determine if the development of the Project might have significant direct or indirect adverse impacts on such resources. The survey began near the southeastern most boundary of the Project area on Ginger Rogers Road and towards the northeastern boundary of the project area for further evaluation. Pedestrian survey methods were conducted on undeveloped areas with clear brush access and high ground visibility. The Project area was surveyed in transects approximately 10 feet (3 m) apart towards an east direction. Vegetation, topography, and fauna observations were photographed and noted. All photos, and field notes are stored in the APRMI office.

6.0 RESULTS OF RECORDS SEARCHES

6.1 Paleontological Resources Records Check

The results of the paleontological resources records search, conducted by Collections Manager Brittney Stoneburg of the Western Science Center (see Appendix A), states that there are no known vertebrate fossil localities within one mile of the Project area. The geologic unit underlying the Project area consists of relatively modern loose fine sand dating to the Holocene epoch, and such sedimentary units are unlikely to contain fossils. However, if excavation disturbs deeper sedimentary units dating to the earliest Holocene or Pleistocene epochs, there would be high paleontological sensitivity.

6.2 Cultural Resources Records Search Results

Results of the cultural records search were received on November 27, 2023. These results are discussed in full detail below (see Sections 6.2.1-3) and referenced as catalog numbers assigned by the EIC. National, State, and local designation criterion requirements may be viewed in 2.0 Regulatory Setting section. The results provided by the EIC include primary records such as Department of Parks and Recreation (DPR) forms, assessment reports, and maps. Letter request and results can be viewed in Appendix B.

6.2.1 Prehistoric Sites and Isolate(s)

Four prehistoric sites and one prehistoric isolate have been recorded with primary record forms within a 1-mile radius of the Project site. Of particular note are the two cremations, which indicate a higher possibility for the discovery of human remains during ground-disturbing activities. Multiple other prehistoric isolates were recorded by survey reports provided to APRMI by the EIC (see Section 6.2.3).

Table 2. Evaluated Prehistoric Sites and Isolates in Project Area or 1-Mile Radius

Primary Number	Resource Type	Description	Recorder(s) and Year(s)	NRHP/CRHR Status	Location
33-17007	Site	Two metates, two handstones	Beth Padon, Keith Hamm, Doug McIntosh, 2007	Not Evaluated	Within 1-mile radius
33-17009	Site	Cremation	Beth Padon, Keith Hamm, Doug McIntosh, 2007	Not Evaluated	Within 1-mile radius
33-17010	Site	Cremations and stone artifacts	Beth Padon, Keith Hamm, Doug McIntosh, 2007	Not Evaluated	Within 1-mile radius
33-17011	Site	Temporary processing site, 3-4 stone tools	Beth Padon, Keith Hamm, Doug McIntosh, 2007	Not Evaluated	Within 1-mile radius
33-17012	Isolate	Pottery sherd	Beth Padon, Keith Hamm, Doug McIntosh, 2007	Not Evaluated	Within 1-mile radius

6.2.2 Historic Sites and Isolate(s)

Six historic sites and four historic isolates have been recorded with primary record forms within a 1-mile radius of the Project site. These primarily consist of historic refuse dating to late 1800s to early 1900s. As the field survey discovered, historic refuse is present on the Project property.

Table 3. Evaluated Historic Sites and Isolates in Project Area or 1-Mile Radius

Primary Number	Resource Type	Description	Recorder(s) and Year(s)	NRHP/CRHR Status	Location
33-003440	Site	Remains of railroad siding station and historic refuse	R.M. Apple, T. Wahoff, K. Norwood, 1988; Brooke Arkush, 1990; S. Ashkar, E. Prendergast, 1999; Daniel Ballester, 2017	Not Evaluated	Within 1-mile radius
33-009498	Site	Railroad line	S. Ashkar, 1999; Christeen Taniguchi, 2005; S. Wilson, K. Chimel, 2009; Scott Kremkau, 2012; T. Baurley, J.M. Sanka, 2015; Carrie Chasteen, 2003; Daneil Leonard, 2016; P. Moloney, R. Elder, W. Blodgett, 2017	Not Evaluated	Within 1-mile radius

33-009748	Site	Road and historic refuse	Beth Padon, 2007; J. Underwood, 2004; David Ferraro, 2000	Not Evaluated	Within 1-mile radius
33-10953	Isolate	Two historic cans	T. Wahoff, J. Dellert, S. Diaz, B. Fitzsimmons, 2000	Not Evaluated	Within 1-mile radius
33-10954	Isolate	Historic can	T. Wahoff, J. Dellert, S. Diaz, B. Fitzsimmons, 2000	Not Evaluated	Within 1-mile radius
33-10955	Isolate	Historic can	T. Wahoff, J. Dellert, S. Diaz, B. Fitzsimmons, 2000	Not Evaluated	Within 1-mile radius
33-10956	Isolate	Historic can	T. Wahoff, J. Dellert, S. Diaz, B. Fitzsimmons, 2000	Not Evaluated	Within 1-mile radius
33-17005	Site	Burnt slag and charcoal, metal pieces	Beth Padon, Keith Hamm, Doug McIntosh, 2007	Not Evaluated	Within 1-mile radius
33-017008	Site	Remains of a shed	Beth Padon, Keith Hamm, Doug McIntosh, 2007; Daniel Ballester, 2017	Not Evaluated	Within 1-mile radius
33-26824	Site	Historic refuse	Daniel Ballester, Ben Kerridge, 2017	Not Evaluated	Within 1-mile radius

6.2.3 Previous Cultural Reports and Studies

27 previous cultural reports have been conducted within a 1-mile radius. One survey recorded prehistoric isolates not reported elsewhere.

Table 4. List of EIC Cultural Reports and Studies Identified Within a ½ Mile Radius

Report Number	Author(s)	Year	Title	Affiliation	Location	Artifacts Found
RI-1122	Christopher Drover	1981	Environmental Impact Evaluation: Archaeological Assessment of the Proposed Extensions of Monterey and 34th Avenues Near Thousand Palms, California	Riverside County Road Department	Within a 1-mile radius	None
RI-1271	James Swenson	1981	Environmental Impact Evaluation: An Archaeological Assessment of a Portion of the N ½ of Section 29, T4S R6E, SBBM, Coachella Valley, Riverside County,	Archaeological Research Unit University of California Riverside	Within a 1-mile radius	None

			California			
RI-1871	Beth Padon	1984	Archaeological Resource Assessment 130-Acre Parcel Along Bob Hope Drive Riverside County, California	LSA, Inc.	Within a 1-mile radius	None
RI-2350	Rebecca McCorkle Apple and Jan Wooley	1988	MCI Rialto to El Paso Fiber Optics Project Intensive Cultural Resource Survey San Bernardino and Riverside Counties, California	Dames & Moore	Within a 1-mile radius	Historic site (33-003440)
RI-2765	Brooke Arkush	1990	Environmental Impact Evaluation: An Archaeological Assessment of the Proposed Mid-Valley Stormwater Channel Located in the Coachella Valley of Central Riverside County, California	Archaeological Research Unit University of California Riverside	Within a 1-mile radius	Historic site (33-003440)
RI-3284	John Torres, Joan Schneider, Bruce Love	1991	Cultural Resources Assessment Tentative Tract 26763 (APN 618-540-014, -015) Thousand Palms Area of Riverside County, California	Archaeological Research Unit University of California Riverside	Within a 1-mile radius	None
RI-4117	Roger Mason, Philippe Lapin, Brant Brechbiel	1998	Cultural Resources Records Search and Survey Report for a Pacific Bell Mobile Services Telecommunications Facility: CM 204-02 in the City of Rancho Mirage, California	Chambers Group, Inc.	Within a 1-mile radius	None
RI-4547	Joan Brown	2001	A Cultural Resources Reconnaissance for the Widening of Bob Hope and Dinah Shore Drives, Located in Riverside County, California	RMW Paleo Associates, Inc.	Within a 1-mile radius	None
RI-5329	Adrianna Jackson	2001	Records Search Results for Sprint PCS Facility RV35XC091T (Miss Flo Site), Rancho Mirage, Riverside County, California	Michael Brandman Associates	Within a 1-mile radius	None
RI-5374	Bruce Love, Bai “Tom” Tang, Michael	2001	Identification and Evaluation of Historic Properties Relocation of Five Outdoor Advertising	CRM Tech	Within a 1-mile radius	None

	Hogan, Daniel Ballester		Signboards on Bob Hope Drive, City of Rancho Mirage, Riverside County, California			
RI-6372	Bai Tang, Michael Hogan, Matthew Wetherbee, Daniel Ballester, Laura Hensley Shaker	2005	Historical/Archaeological Resources Survey Report Annenberg Center Project, City of Rancho Mirage, Riverside County, California	CRM Tech	Within a 1-mile radius	None
RI-6854	Joan Brown	2000	A Cultural Resources Reconnaissance for the Widening of Bob Hope Drive, Located in Riverside County, California	RMW Paleo Associates, Inc.	Within a 1-mile radius	None
RI-7004	Tanya Wahoff and Rebecca Apple	2001	Cultural Resource Survey for the Proposed Golden Ridge Resort and Spa Project Riverside County, California	EDAW, Inc.	Within a 1-mile radius	Multiple previously recorded historic sites and isolates
RI-7304	Wayne Bonner	2006	Cultural Resource Records Search and Site Visit Results for Sprint Nextel Telecommunications Facility Candidate CA5319B (U.U.), 72425 Via Vail, Rancho Mirage, Riverside County, California	Michael Brandman Associates	Within a 1-mile radius	None
RI-11067	Bai "Tom" Tang, Michael Hogan	2017	Phase I Historical/Archaeological Resources Survey Key Largo Project, Assessor's Parcel Nos. 685-010-004 and -005, City of Palm Desert, Riverside County, California	CRM Tech	Within a 1-mile radius	None
RI-7720	Beth Padon	2007	Cultural Resources Assessment for the Section 19 Specific Plan Area (268 Acres) City of Rancho Mirage, Riverside County, California	Discovery Works, Inc.	Within a 1-mile radius	Multiple previously recorded prehistoric sites
RI-7756	Joan George	2008	Phase-I Cultural Resources Survey, Well 4615-1 Project, Rancho Mirage,	Applied EarthWorks, Inc.	Within a 1-mile radius	None

			California			
RI-9016	Bai "Tom" Tang	2013	Historic Property Survey Report	CRM Tech	Within a 1-mile radius	Multiple historic properties
RI-9366	Bai "Tom" Tang, Michael Hogan	2015	Phase I Historical/Archaeological Resources Survey, Rancho Mirage Dog Park Project, City of Rancho Mirage, California	CRM Tech	Within a 1-mile radius	None
RI-9382	Bai "Tom" Tang	2015	Update to Historical/Archaeological Resources Survey Sunnylands Expansion Project, APN 674-610-005, City of Rancho Mirage, Riverside County, California	CRM Tech	Within a 1-mile radius	None
RI-9870	Bai "Tom" Tang, Michael Hogan	2016	Phase I Historical/Archaeological Resources Survey, Assessor's Parcel Numbers 694-130-016 and -021, City of Palm Desert, Riverside County, California	CRM Tech	Within a 1-mile radius	None
RI-9874	Bai "Tom" Tang, Michael Hogan	2016	Phase I Historical/Archaeological Resources Survey Monterey Medical Center Project, Tentative Tract Map No. 37003, City of Rancho Mirage, Riverside County, California	CRM Tech	Within a 1-mile radius	None
RI-10248	Curt Duke	2016	Historic Property Survey Report, Rancho Mirage Resignalization Project, Highway 111/Bob Hope Drive, Country Club Drive	Duke Cultural Resources Management	Within a 1-mile radius	None
RI-10249	Nicolas Hearth	2017	Archaeological Survey Report, Rancho Mirage Resignalization Project, Highway 111/Bob Hope Drive/Country Club Drive	Duke Cultural Resources Management	Within a 1-mile radius	Multiple prehistoric sites – not within radius
RI-10299	Bai "Tom" Tang, Michael Hogan	2015	Identification and Evaluation of Historic Properties, Chromium-6 Water Treatment Facilities Project, Coachella Valley, Riverside County, California	CRM Tech	Within a 1-mile radius	Multiple historic sites

RI-10550	Bai "Tom" Tang, Michael Hogan, Terri Jacqueman	2018	Attachment B Archaeological Survey Report/Historical Resources Evaluation Report, Congestion Mitigation and Sand Fence Project Ramon Road and Dinah Shore Drive	CRM Tech	Within a 1-mile radius	None
RI-10551	Michael Hogan, Terri Jacqueman	2018	Attachment E Post-Review Discovery and Monitoring Plan, Congestion Mitigation and Sand Fence Project, Ramon Road and Dinah Shore Drive	CRM Tech	Within a 1-mile radius	Multiple prehistoric isolates

6.3 Archival Research

Resources at the libraries of University of California, Los Angeles, the University of Maryland, College Park, and the National Geographic Database were consulted by APRMI staff. A building is recorded as standing on the Project site on the 1958 USGS Topographic map, which likely represents the single-family home still standing on Project site today.

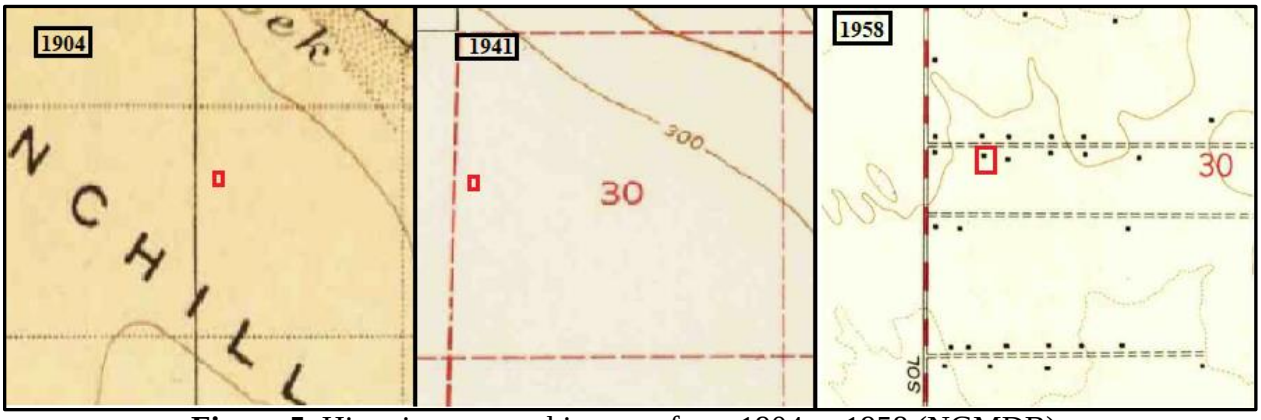

Figure 5. Historic topographic maps from 1904 to 1958 (NGMDB).

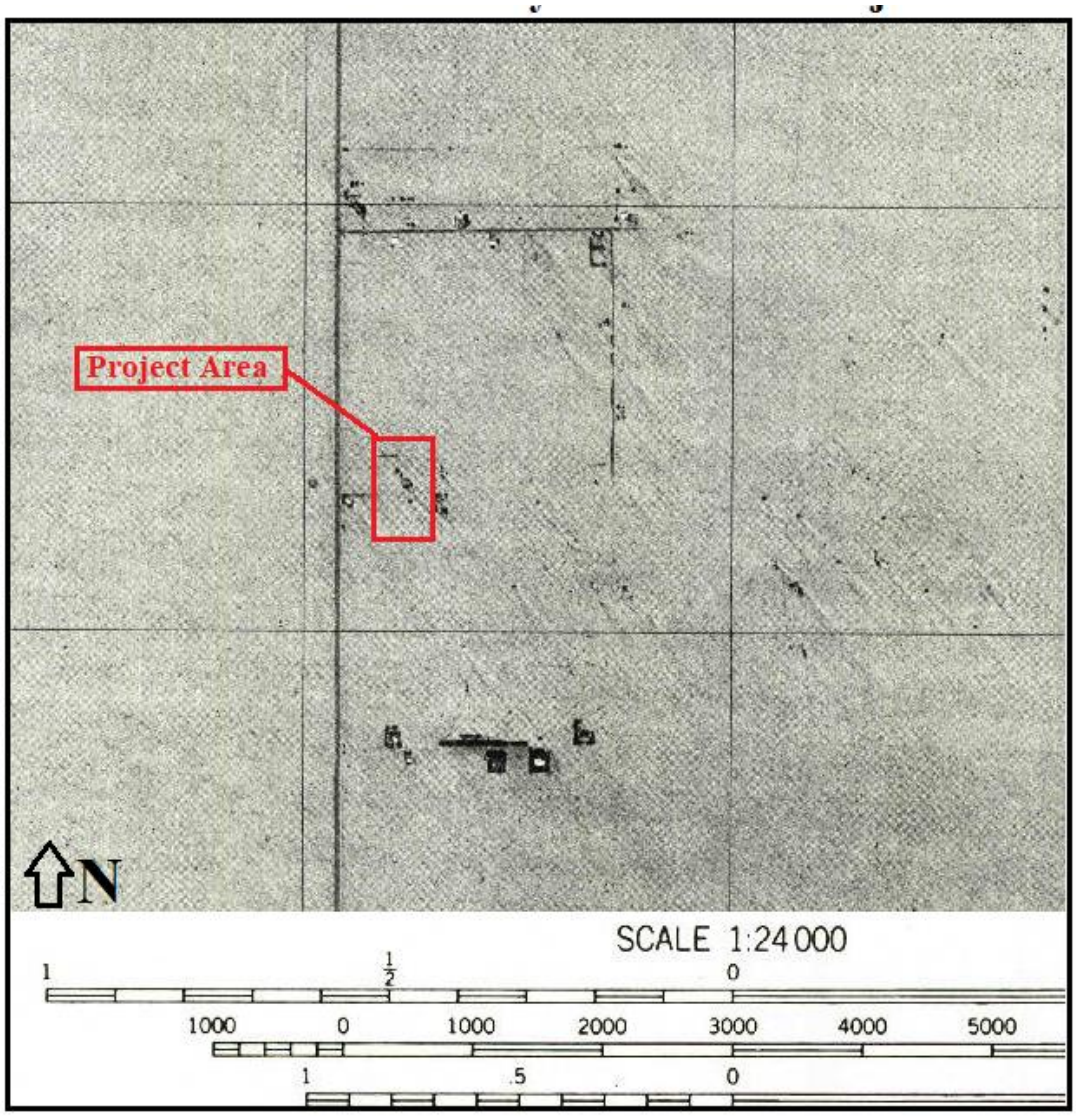

Figure 6. Aerial survey photo from 1975 (USGS).

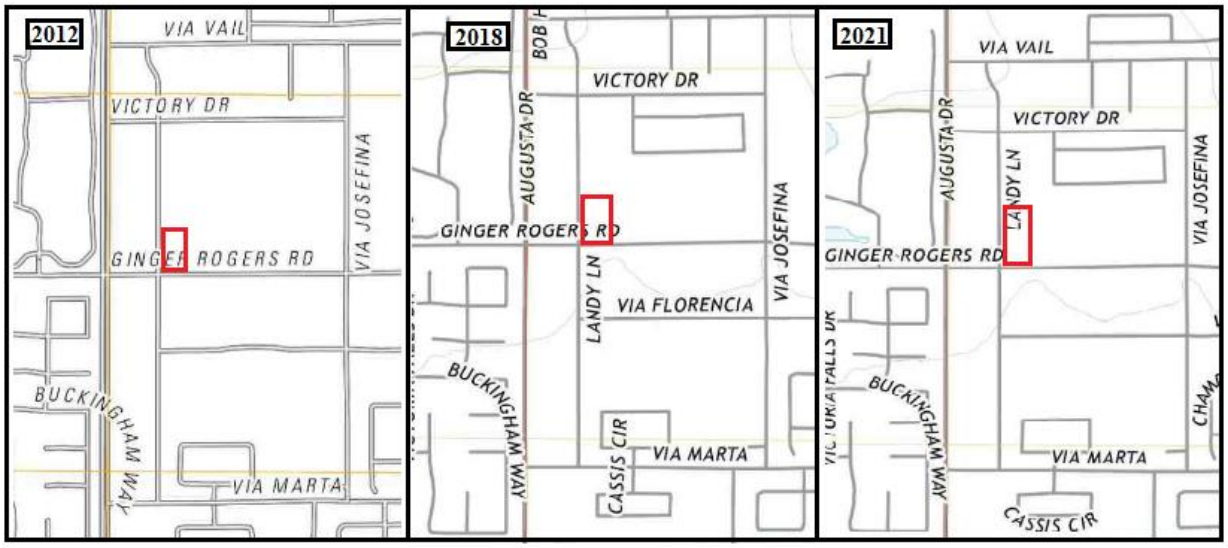

Figure 7. Topographic maps from 2012 to 2021 (NGMDB).

7.0 RESULTS OF FIELD RECONNAISSANCE

The field reconnaissance has determined the area to be relatively flat terrain with sparse vegetation and trees. The Project area was accessible and observable, excepting the area surrounding the existing single-family home. Project site ground surface was primarily loose fine sand, which has been blown by prevailing winds over the older alluvial gravel and sand, although in areas around the single-family home a concrete pad and mulch were observed, and hay was observed in the south-east corner (see Figure 5). Evidence that the Project area has also previously been used as an illegal dumping site was observed during the field reconnaissance. It is possible that some of the material possesses historic informational value. No known paleontological sites were located during the field reconnaissance process.

Figure 8. View of Site facing north from the south-east corner.

Figure 9. View of Site facing northwest from the south-east corner.

Figure 10. View of site facing west from the south-east corner.

Figure 11. View of north-west corner of site facing north.

Figure 12. Potentially historic machine parts observed in the south-center of the site.

Figure 13. Potentially historic oil or gas canister observed in the south-center of the site.

8.0 NATIVE AMERICAN CONTACT

APRMI staff requested a Sacred Lands File Search and a Native American Contacts list for the Project from the Native American Heritage Commission (NAHC) on September 14, 2023. The NAHC's search of the Sacred Lands Files, received on November 15, 2023, provided APRMI with a Native American Contacts list. APRMI contacted the tribes, individuals, and organizations listed by phone on November 17th to ensure that the mailing information is correct and to let them know that an informational package regarding the Project, including a Project description, was being sent to them by mail. The Project informational package along with an accompanying letter was sent to them by regular mail, on November 22, 2023. Any written responses to APRMI's outreach can be viewed in Appendix C.

On November 20, 2023, Director of Historic Preservation Patricia Garcia for the Agua Caliente Band of Cahuilla Indians, responded to APRMI through email and telephonic communication and stated that the proposed Project falls within a medium to high sensitivity area due to the previous discovery of Native American burials and cremations just to the north of the Project.

On December 5, 2023, Cultural Resources Analyst Xitlaly Madrigal of the Agua Caliente Band of Cahuilla Indians requested in an email communication to APRMI that a cultural resources inventory of the Project area by qualified archaeologist prior to any construction, a copy of any cultural resource documentation generated in connection to this project, a copy of the Information Center records search requested by APRMI, and the presence of an archaeologist and an Agua Caliente-approved Native American Cultural Resource Monitor during any ground-disturbing activities.

A full list of communications from APRMI to Native American tribes can be seen in Table 5.

Table 5. APRMI Communication with Native Americans

Personal Contact	Tribal Affiliation	Communication from APRMI	Responses
Patricia Garcia	Agua Caliente Band of Cahuilla Indians	Physical letter, Telephone	Telephone, email
Xitaly Madrigal	Agua Caliente Band of Cahuilla Indians	None – Letter forwarded by Patricia Garcia	Email letter
Amanda Vance	Augustine Band of Cahuilla Mission Indians	Physical letter, Telephone	No response
Doug Welmas	Cabazon Band of Mission Indians	Physical letter, Telephone	No response
BobbyRay Esaprza	Cahuilla Band of Indians	Physical letter, Telephone	No response
Anthony Madrigal	Cahuilla Band of Indians	Physical letter, Telephone	No response
Daniel Salgado	Cahuilla Band of Indians	Physical letter, Telephone	No response
Ray Chapparosa	Quechan Tribe of the Fort Yuma Reservation	Physical letter, Telephone	No response
Robert Martin	Morongo Band of Mission Indians	Physical letter, Telephone	No response
Ann Brierty	Morongo Band of	Physical letter,	No response

	Mission Indians	Telephone	
Jordan Joaquin	Quechan Tribe of the Fort Yuma Reservation	Physical letter, Telephone	No response
Jill McCormick	Quechan Tribe of the Fort Yuma Reservation	Physical letter, Telephone	No response
Manfred Scott	Quechan Tribe of the Fort Yuma Reservation	Physical letter, Telephone	No response
John Gomez	Ramona Band of Cahuilla	Physical letter, Telephone	No response
Lovina Redner	Santa Rosa Band of Cahuilla Indians	Physical letter, Telephone, Email	No response
Joseph Ontiveros	Soboba Band of Luiseno Indians	Physical letter, Telephone, Email	No response
Alesia Reed	Torres-Martinez Desert Cahuilla Indians	Physical letter, Telephone, Email	No response
Mary Belardo	Torres-Martinez Desert Cahuilla Indians	Physical letter, Telephone, Email	No response
Thomas Tortez	Torres-Martinez Desert Cahuilla Indians	Physical letter, Telephone, Email	No response
Gary Resvaloso	Torres-Martinez Desert Cahuilla Indians	Physical letter, Telephone, Email	No response
Abraham Becerra	Torres-Martinez Desert Cahuilla Indians	Physical letter, Telephone, Email	No response

9.0 RECOMMENDATIONS

Due to the high sensitivity of the Project area for cultural and tribal resources, and at the request of the Agua Caliente Band of Cahuilla Indians, APRMI recommends that both a tribal monitor and a qualified archaeologist be present on site to monitor any ground-disturbing activities. A full list of Mitigation Measures for Cultural and Paleontological Resources can be viewed below.

MM-CR-1. Prior to the start of Project excavation, a qualified archaeologist shall be retained and create a Worker's Environmental Awareness Program (WEAP) pamphlet that will be prepared by the Project Archaeologist and provided as during the training class to Project personnel, so they understand the regulatory requirements for the protection of cultural resources. This training class shall include examples of cultural resources to look for during project excavation and the protocols to follow if discoveries are made.

MM-CR-2: Archaeological resources monitoring shall be conducted by a professional archaeological resources monitor during Project related earth-disturbing activities, per OHP standards, under the supervision of a qualified Project Archaeologist. Monitoring

will entail visual inspection of Project related earth-disturbing activities in native soil.

MM-CR-3: As requested by the Agua Caliente Band of Cahuilla Indians, an approved Native American monitor, with documented ancestral ties to the area consistent with the standards of the Native American Heritage Commission (NAHC), shall be present for all ground disturbing activities that involve excavation of previously undisturbed soil, until the archaeologist and Native American monitor deems that they are no longer in soil that may contain prehistoric and/or historic artifacts, sites, or features. Monitoring will entail visual inspection of all Project-related earth-disturbing activities.

MM-CR-4: If an archaeological resource is encountered during excavation when a monitor is not on site, all excavation shall cease within at least 50 feet of the discovery and the Principal Investigator and Lead Archaeologist must be notified. Work cannot resume in the direct area of the discovery until it is assessed by the Principal Investigator and/or Lead Archaeologist and indicates that excavation can resume.

MM-CR-5A: If an archaeological discovery cannot be preserved in situ and requires an excavation team or requires additional time to collect cultural resources, a Discovery and Treatment Plan (DTP) will be developed by the Lead Archaeologist, and the area will be cordoned off and secured so that an archaeological resources excavation team, led by the Principal Investigator and Lead Archaeologist, may recover the cultural resources out of that area. Once the Principal Investigator has determined that the collection process is complete for a given area or locality, construction activity will resume in that localized area.

MM-CR-5B: If human remains are encountered, work on the project will be suspended and the City of Rancho Mirage will be contacted immediately. The City of Rancho Mirage will contact the Riverside County coroner. If the remains are deemed Native American in origin, the coroner will contact the NAHC, which will identify a most likely descendant in compliance with Public Resources Code Section 5097.98 and California Code of Regulations Section 15064.5. The most likely descendant will have up to 48 hours to visit the site and make recommendations as to the treatment and final deposition of the remains. Work may be resumed at the landowner's discretion but will only commence after consultation and treatment have been concluded to the satisfaction of the lead agency.

MM-CR-6: All significant cultural resources collected by the archaeologist will be prepared in a properly equipped laboratory to a point ready for curation. All significant artifacts collected will be prepared in a properly equipped archaeological laboratory to a point ready for curation. Artifacts will be identified, photographed, catalogued, analyzed, and delivered to an accredited museum repository for permanent curation and storage or to the appropriate Tribe. Accompanying notes, maps, and photographs shall also be filed at the repository. The cost of curation is assessed by the repository and is the responsibility of the Project proponent.

MM-CR-7: At the conclusion of laboratory work but prior to museum curation, a final (negative

or positive) findings report will be prepared describing the results of the cultural mitigation monitoring efforts associated with the project. The report will include a summary of the field and laboratory methods, an overview of the cultural background within the project vicinity, a list of cultural resources recovered (if any), an analysis of cultural resources recovered (if any) and their scientific significance, and recommendations. A copy of the report will be prepared for the City of Rancho Mirage, the EIC, and be submitted to the designated museum repository (if applicable).

MM PAL-1: Prior to the commencement of grading or excavation activities, the Lead Paleontologist retained for the construction of Rancho Mirage 9 Lot Subdivision Project, shall create a Worker's Environmental Awareness Program (WEAP) pamphlet that will be prepared and provided by the Project Paleontologist and provided as during the training class to Project personnel, so they understand the regulatory requirements for the protection of paleontological resources. This training class shall include examples of paleontological resources to look for during project excavation and the protocols to follow if discoveries are made.

MM PAL-2: In the event that a paleontological resource is encountered when a monitor is not on site, all construction shall cease within at least 50 feet of the discovery and the Principal Investigator and/or Lead Paleontologist must be notified immediately. If the monitor is present at the time of discovery, then the monitor will have the authority to temporarily divert the construction equipment around the find and notify the Principal Investigator and/or Lead Paleontologist until it is assessed for scientific significance. Work cannot resume in the direct area of the discovery until it is assessed by the Principal Investigator and/or Lead Paleontologist and he/she indicates that construction can resume.

MM PAL-3: In the event that a paleontological resource is encountered, the Lead Paleontologist will implement the Paleontological Management Treatment Plan (PMTP) prepared for Rancho Mirage 9 Lot Subdivision Project. The purpose of the PMTP is to achieve compliance with the California Environmental Quality Act (CEQA), and local governmental agencies concerning the treatment of unexpected paleontological finds which are significant at the federal, state, and/or local level. Based on the sensitivity of the area, APRMI recommends the following monitoring mitigation measures that would comply with the Paleontological Management Treatment Plan and reduce the potential affects to any paleontological resource to a less than significant impact.

MM PAL-4: If a paleontological discovery requires an excavation team or requires additional time to collect specimens, or the size of the discovery is more than a monitor can collect during standard daily monitoring services, a Discovery and Treatment Plan (DTP) will be developed and the area will be cordoned off and secured so that a paleontological resources excavation team, led by the Principal Investigator and/or Lead Paleontologist, may recover the fossilized specimens out of that area once the DTP has been approved. Once the Principal Investigator and/or Lead Paleontologist has determined that the collection process is complete for a given area or locality, construction activity will resume in that localized area.

MM PAL-5: Once construction activities are complete, all significant fossils collected will be prepared in a properly equipped paleontology laboratory to a point ready for curation. Laboratory preparation will include, but not be limited to, the careful removal of excess matrix from fossil remains, stabilizing and repairing specimens, identified to the lowest taxonomic level, analyzed, photographed, and catalogued before they are sent to the local repository for curation and permanent storage. Accompanying notes, maps, and photographs shall also be filed at the repository. The cost of curation is assessed by the repository and is the responsibility of the Project proponent.

MM PAL-6: At the conclusion of laboratory work and museum curation, a final report of findings will be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report will include a summary of the field and laboratory methods, an overview of the geology and paleontology in the project vicinity, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. If the monitoring efforts produced fossils, then a copy of the report will also be submitted to a designated museum repository.

1531 Pontius Ave., Suite 200
Los Angeles, CA 90025

Office: (424) 246-3316
Fax: (424) 248-3417

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APPENDIX A
NHM Paleontological Resources Report

WESTERN SCIENCE CENTER

December 28th, 2023

ArchaeoPaleo Resource Management, Inc.
Robin Turner
1531 Pontius Ave., Suite 200
Los Angeles, CA 90025

Hello,

This letter presents the results of a record search conducted for Rancho Mirage 9 Lots Project located in the City of Rancho Mirage, Riverside County, CA. The project is located at 72094 Ginger Rogers Rd., on Township 4 South, Range 6 East, Section 30 on the *Cathedral City, CA* U.S. Geological Survey 7.5' quadrangle.

The geologic units underlying this project are mapped as units of loose fine sand from the Holocene epoch (Dibblee and Minch 2008). Holocene alluvial units are considered to be of high preservation value, but material found is unlikely to be fossil material due to the relatively modern associated dates of the deposits. The Western Science Center does not have localities within the project area or within a 1 mile radius.

While the presence of any fossil material is unlikely, if excavation activity disturbs deeper sediment dating to the earliest parts of the Holocene or Late Pleistocene periods, the material would be scientifically significant. Excavation activity associated with the development of the project area is unlikely to be paleontologically sensitive, but caution during development should be observed.

If you have any questions, or would like further information, please feel free to contact me at bstoneburg@westerncentermuseum.org.

Sincerely,

Brittney Elizabeth Stoneburg, MSc
Collections Manager

2345 Searl Parkway ♦ Hemet, CA 92543 ♦ phone 951.791.0033 ♦ fax 951.791.0032 ♦ WesternScienceCenter.org

APPENDIX B
EIC Cultural Resources Report

EASTERN INFORMATION CENTER

California Historical Resources Information System
Department of Anthropology, University of California, Riverside, CA 92521-0418
(951) 827-5745 - eickw@ucr.edu
Inyo, Mono, and Riverside Counties

November 20, 2023
CHRIS Access and Use Agreement No.: 107
ST-RIV-7268

Robin Turner
ArchaeoPaleo Resources Management Inc.
1531 Pontius Avenue #200
Los Angeles, CA 90025

Re: Cultural Resources Records Search for the Rancho Mirage 9 Lots Project

Dear Robin Turner:

We received your request on August 21, 2023 for a cultural resources records search for the Rancho Mirage 9 Lots project located in Section 30, T.4S, R 6E, SBBM, in the South Eastern off the Agua Caliente Indian Reservation area in Riverside County. We have reviewed our site records, maps, and manuscripts against the location map you provided.

Our records indicate that 27 cultural resources studies have been conducted within a one-mile radius of your project area. None of these studies involved the project area. PDF copies of these reports are included for your reference. All of these reports are listed on the attachment entitled "Eastern Information Center Report Listing".

Our records indicate that 15 cultural resources properties have been recorded within a one-mile radius of your project area. None of these properties involved the project area. PDF copies of the records are included for your reference. All of these resources are listed on the attachment entitled "Eastern Information Center Resource Detail".

The above information is reflected on the enclosed maps. Areas that have been surveyed are highlighted in yellow. Numbers marked in blue ink refer to the report number (RI#). Cultural resources properties are marked in red; numbers in black refer to Trinomial designations, those in green to Primary Number designations. National Register properties are indicated in light blue.

Additional sources of information consulted are identified below.

National Register of Historic Places: no listed properties are located within the boundaries of the project area.

Office of Historic Preservation (OHP), Archaeological Resource Directory (ARD): One property (P-33-009498 [CA-RIV-006381]) is listed and is determined eligible for inclusion on the National Register of Historic Places. Two properties ((P-33-009498 [CA-RIV-006381] and P-33-017008 [CA-RIV-

008855]) are listed and are ineligible for inclusion on the National Register of Historic Places. The applicable portion of this directory is enclosed for your study needs.

Note: not all properties in the California Historical Resources Information System are listed in the OHP ARD and BERD; the ARD and BERD comprise lists of properties submitted to the OHP for review.

A copy of the relevant portions of the 1904 USGS Indio 7.5' Minute Series, 1944 USGS Edom 15' Minute Series, 1956 USGS Santa Ana 30' Minute Series, 1958 USGS Cathedral City 7.5' Minute Series, 1958 Thousand Palms 15' Minute Series, 1965 USGS Santa Ana 30' Minute Series topographic maps are included for your reference.

As the Information Center for Riverside, Inyo, and Mono Counties, it is necessary that we receive a copy of all cultural resources reports and site information pertaining to these counties in order to maintain our map and manuscript files. Confidential information provided with this records search regarding the location of cultural resources outside the boundaries of your project area should not be included in reports addressing the project area.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the California Historical Resources Information System (CHRIS) Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by the IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

Sincerely,

Kenedy Jacome
Information Officer

Enclosures

APPENDIX C
NAHC Sacred Lands Search

Responses by Native American Tribes

ArchaeoPaleo Resource Management, Inc.
A full-service Archaeology and Paleontology company
SBE/WBE/WOSB/DBE/UDBE/EBE/LBE/SLBE/CBE/VSBE/MicroBE Certified

September 14, 2023

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95501
(916) 373-3710
nahc@nahc.ca.gov

I would like to request a sacred lands file and Native American contacts list for the Rancho Mirage 9 Lots (Project) listed below. The proposed Project will be located at Assessor Parcel No. 685080002. The project is located at 72094 Ginger Rogers Rd, Ranch Mirage, CA 92270, within the County of Riverside. This lot is approximately 5.04 acres and is located in Township 4 S, Range 6 E, Section 30 within the Cathedral City, CA Quadrangle. There project area is currently occupied by a small single-story house and vacant lot. The land will be used to develop a 9 lot subdivision. Please let me know if you need additional information.

Thanks,

Robin Turner, President/CEO
ArchaeoPaleo Resource Management, Inc.
1531 Pontius Ave., Suite 200
Los Angeles, CA 90025

(424) 248-3316 ph.
(424) 248-3417 fax
rturner@archaeopaleo.com

STATE OF CALIFORNIA — Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

November 15, 2023

Robin Turner
ArchaeoPaleo Resource Management

Via Email to: rturner@archaeopaleo.com

Re: Rancho Mirage 9 Lots Project, Riverside County

Dear Ms. Turner:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

AGUA CALIENTE BAND OF CAHUILLA INDIANS

TRIBAL HISTORIC PRESERVATION

03-008-2023-008

December 05, 2023

[VIA EMAIL TO:aprmi@archaeopaleo.com]
ArchaeoPaleo Resource Management Inc.
Robin Turner
1531 Pontius Ave., Suite 200
Los Angeles, CA 90025

Re: 72094 Ginger Rogers Rd

Dear Robin Turner,

The Agua Caliente Band of Cahuilla Indians (ACBCI) appreciates your efforts to include the Tribal Historic Preservation Office (THPO) in the 72094 Ginger Rogers Rd project. The project area is not located within the boundaries of the ACBCI Reservation. However, it is within the Tribe's Traditional Use Area. For this reason, the ACBCI THPO requests the following:

*A cultural resources inventory of the project area by a qualified archaeologist prior to any development activities in this area.

*Copies of any cultural resource documentation (report and site records) generated in connection with this project.

*A copy of the records search with associated survey reports and site records from the information center.

*The presence of an archaeologist that meets the Secretary of Interior's standards during any ground disturbing activities.

*The presence of an approved Agua Caliente Native American Cultural Resource Monitor(s) during any ground disturbing activities (including archaeological testing and surveys). Should buried cultural deposits be encountered, the Monitor may request that destructive construction halt and the Monitor shall notify a Qualified Archaeologist (Secretary of the Interior's Standards and Guidelines) to investigate and, if necessary, prepare a mitigation plan for submission to the State Historic Preservation Officer and the Agua Caliente Tribal Historic Preservation Office.

Again, the Agua Caliente appreciates your interest in our cultural heritage. If you have questions or require additional information, please call me at (760) 423-3485. You may also email me at ACBCI-THPO@aguacaliente.net.

Cordially,

5401 DINAH SHORE DRIVE, PALM SPRINGS, CA 92264
T 760/699/6800 F 760/699/6924 WWW.AGUACALIENTE-NSN.GOV

AGUA CALIENTE BAND OF CAHUILLA INDIANS

TRIBAL HISTORIC PRESERVATION

Xitlaly Madrigal
Cultural Resources Analyst
Tribal Historic Preservation Office
AGUA CALIENTE BAND
OF CAHUILLA INDIANS

5401 DINAH SHORE DRIVE, PALM SPRINGS, CA 92264
T 760/699/6800 F 760/699/6924 WWW.AGUACALIENTE-NSN.GOV

Appendix D Preliminary Soils Evaluation dated March 3, 2023

SAMPSON and ASSOCIATES

CONSULTING ENGINEERS

Geotechnical, Structure, Environmental

Project No.: 23-0102S
March 03, 2023

TO: **Mr. Farhad Zomorodi**
9165 Alcott, #203
Los Angeles, Ca.

SUBJECT: Preliminary Soils Evaluation, (9) New Single-Family Residences On TTM NO. 38636 In The City of Rancho Mirage, California.

INTRODUCTION:

We sincerely appreciate the opportunity to be of service to you on this project. The primary purpose of this study was to evaluate the soils conditions as they impact the proposed development and to provide engineering recommendations. Our study has demonstrated that the proposed development is feasible from soils engineering point of view and that no un-mitigatable conditions have been disclosed by our studies provided that our recommendation provided in this report are incorporated fully in the design of the project.

This report presents the findings of our data review, subsurface exploration, laboratory testing, engineering analysis and evaluation, and our conclusions and recommendations.

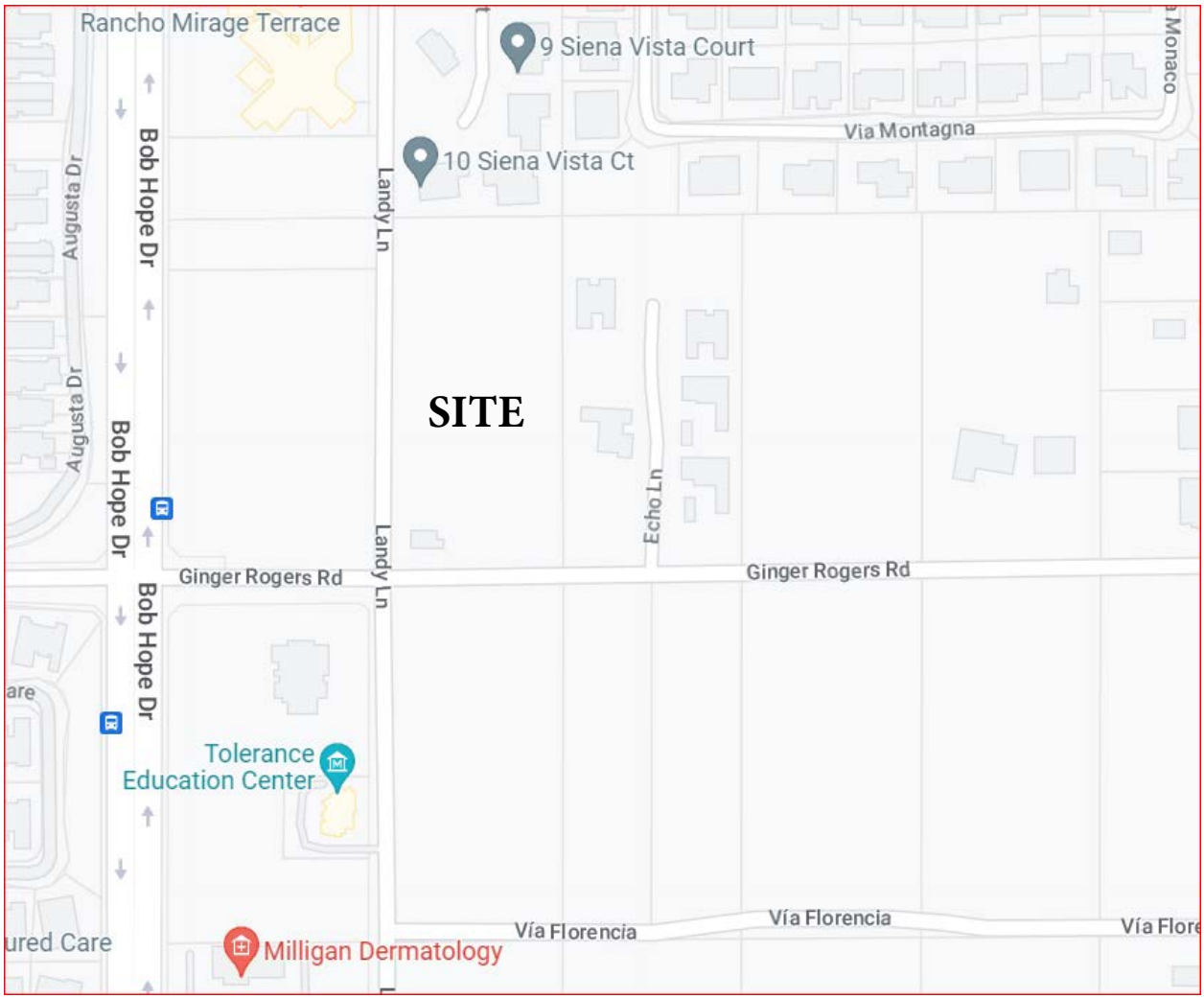
If you have any questions regarding this report please do not hesitate to contact this office at your convenience. We appreciate the opportunity to be of service on this project.

Respectfully Submitted;
SAMPSON and ASSOCIATES

Mohammad. E. Samiee MS, RCE 46172
MS/db
Distribution: (4) Addressee

REGISTERED PROFESSIONAL ENGINEER
M. E. SAMIEE
C46172
Exp. 12/31/24
CIVIL
STATE OF CALIFORNIA

P. O. Box 834, San Dimas, California 91773 Tel.: (909) 522-7067
E-Mail: sampsongeotechnical@gmail.com



Index Map

Of

TTM NO. 38636

N/E Corner Of Landy Lane and

Ginger Rogers Road

City of Rancho Mirage,

California

SCOPE OF STUDY:

The purposes of this study are to identify on-site, near-surface soil conditions that may affect the proposed developments and provide soils engineering recommendations for site preparation, temporary excavations, foundation design, slabs-on-grade, and drainage recommendations.

1. Site visit and review of pertinent documents.
2. Excavation, logging, and sampling of (5) exploratory Boring to a maximum depth of (7) feet for foundation evaluation. Boring locations were covered with asphalt and we had to saw-cut the locations to drill and sample the soils.
3. Laboratory testing of selected samples to determine the engineering characteristics of onsite soils.
4. Engineering analysis of collected data and information obtained from our field study, laboratory testing, and literature review.
5. Development of soils engineering recommendations for site preparation, grading, and Soils engineering design criteria for building foundations, slab-on grade construction, underground utility trenches, temporary excavations, retaining walls, and drainage.
6. Preparation of this report presenting our findings, conclusions, and recommendations Including maps and illustrations.

ACCOMPANYING MAPS, ILLUSTRATIONS, and APPENDICES:

SITE LOCATION, PROPOSED DEVELOPMENT, and CONDITION:

The proposed development consists of (9) single-family residences with associated parking spaces located on north-east corner of Landy Lane and Ginger Rogers Road, TTM NO. 38636 in the City of Rancho Mirage, California. Access to the site is available via improved Ginger Rodgers Road. The site is occupied with a small residence located on south side of the lot which is proposed to be completely demolished becoming part of new development.

The subject site is flat regular rectangular shape lot bounded by Ginger Rodgers Road on south, by Landy Lane on west, and by developed residential properties on east and north.

Project is covered with native weeds and large bushes. Drainage onsite is uncontrolled by sheet flow towards south.

This office must review the Foundation Plans prior to permit issue. Although building loads were not provided, we would expect the loads to be typical of residential construction. The building will be supported on shallow continuous footings and slab-on-grade. The remaining of the property will be landscaped or paved.

SUBSURFACE INVESTIGATION:

To evaluate the subsurface condition of the subject sites, Five (5) exploratory Borings were drilled to maximum depths of (7) feet as shown on Plate-1. The excavations were then backfilled. The test Pits were logged and sampled. Bulk and relatively undisturbed samples were collected for proper laboratory testing.

SUBSURFACE CONDITIONS:

Soil materials encountered in our borings consisted loose fine sand deposit deposited by prevailing winds, sand and gravel of the valley area. The approximately 24 inches of loose to very loose and dry light greyish alluvial sand with fine silt and gravel of major creeks and stream washes material underlain by loose and dry light greyish sandy fine silt soils to dense and moist sandy silty soils within the depth of our borings.

Field observation, probing, and testing of the subsurface material indicates that approximately upper approximately 4± feet of the onsite soils appears to be loose, dry, and collapsible under proposed structural load.

GROUND WATER:

No Ground water or any perched ground water was observed at our (4) exploratory borings onsite during the course of our investigation.

LABORATORY TEST RESULTS:

Laboratory tests were performed to identify the engineering characteristics of the onsite soils with respect to the proposed development at the site. A description of these test procedures is presented in Appendix "C", along with the results of these tests.

Laboratory testing included in-place moisture/density, maximum dry density/optimum moisture content, and direct shear.

A summary of the test results is presented below:

Based on our visual inspection and testing, the onsite soils are expected to have a very low potential for expansion.

Maximum dry density and Optimum moisture of representative onsite native soils is 125 pcf and 7.0 percent respectively.
The maximum dry density and optimum moisture content of typical onsite soils are determined by ASTM Test Method D1557.

Shear strength test was performed on representative samples for undisturbed conditions. Direct shear test results on native soil sample indicates a cohesion and frictional strength of 50 psf and 28 degrees, respectively.

Soluble sulfates test result is included in Appendix “C”, however, soluble sulfate test must be verified after completion of grading.

CONCLUSIONS and RECOMMENDATIONS

Based on the field, laboratory data, and our analysis, it is our opinion that the proposed developments are feasible, provided that the recommendations in this report are incorporated fully in the design and construction stages of the projects.

FAULTING and SEISMICITY:

The Southern California region is considered to be tectonically active because of its historically high seismic activity. As with most of southern California, the site can be expected to experience moderate to severe ground shaking during the design life.
The effects of seismic shaking can be mitigated through consideration of the parameters and by design in accordance with the latest Uniform Building Code and the Structural Engineers Association.

Seismic Coefficients Per 2022 CBC Code are as follow:

Site Longitude: W **116.4044733**
Site Latitude: N **33.7944302**
Site Class: "D"
Fy: 1.0
Fv: null -See Section 11.4.8

LIQUEFACTION ANALYSIS:

There are some number of factors which affect the liquefaction characteristics of any given sand. It is now recognized that these include: relative density, grain structure or fabric, length of time the sand is subjected to sustain pressures, the value of the lateral earth pressure, coefficient, and prior seismic or other shear strains to which the sand may have been subjected. According to our site visit, soil classification, and, our soils evaluation and laboratory testing for in-place moisture/densities, the onsite soils are primarily dens silty sand/sandy silt. It is our professional opinion that based on the under-laying dense to hard sandy silt/silty sand soils and considering the deep groundwater below grade, the potential for liquefaction is remote.

USGS web services were down for some period of time and as a result this tool wasn't operational, resulting in *timeout* error.
USGS web services are now operational so this tool should work as expected.

Landy Ln & Ginger Rogers Rd, Rancho Mirage, CA 92270, USA

Latitude, Longitude: 33.7944302, -116.4044733

Date	5/29/2024, 5:25:11 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Stiff Soil

Type	Value	Description
S_S	1.78	MCE_R ground motion. (for 0.2 second period)
S_1	0.739	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.78	Site-modified spectral acceleration value
S_{M1}	null -See Section 11.4.8	Site-modified spectral acceleration value
S_{DS}	1.187	Numeric seismic design value at 0.2 second SA
S_{D1}	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null -See Section 11.4.8	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	null -See Section 11.4.8	Site amplification factor at 1.0 second
PGA	0.773	MCE_G peak ground acceleration
F_{PGA}	1.1	Site amplification factor at PGA
PGA_M	0.851	Site modified peak ground acceleration
T_L	8	Long-period transition period in seconds
SsRT	2.097	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	2.343	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.78	Factored deterministic acceleration value. (0.2 second)
S1RT	0.823	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.935	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.739	Factored deterministic acceleration value. (1.0 second)
PGAd	0.773	Factored deterministic acceleration value. (Peak Ground Acceleration)
PGA_{UH}	0.917	Uniform-hazard (2% probability of exceedance in 50 years) Peak Ground Acceleration
C_{RS}	0.895	Mapped value of the risk coefficient at short periods
C_{R1}	0.88	Mapped value of the risk coefficient at a period of 1 s
C_V	1.456	Vertical coefficient

RECOMMENDATION

General Site Grading:

All grading shall be performed in accordance with the Local Standards and General-Earthwork/Grading Specifications on this report (Appendix "D") except as modified in the text of this report.

The following soils engineering recommendations for site preparation, foundation, and slabs-on-grade should be incorporated into final design and construction stages of the project and should be in conformance with local governmental regulations contained herein, whichever is more restrictive. All such work and design, and slabs-on-grade should be incorporated into final design and construction practice.

SITE PREPARATION and GRADING:

Removal and Re-Compaction:

Prior to any grading operations, the site must be cleared of all surface and subsurface obstructions including uncertified fill, any existing structure, grass, weeds, large and small tree stumps, debris, trash, and residual topsoil. Any underground obstruction encountered must be located, removed, and backfilled with clean soils under supervision and testing of the soils engineer.

Based on our site observation, testing, and evaluation, the subsurface material at present condition (building area) are damp to moist, loose/soft, and compressible within the upper (4+) feet below existing grade. Following clearing and stripping, grading of the site shall be initiated by removals of upper 4+ feet and scarification of approximate (12) inches within building area and 5 feet beyond footprints. Bottom of all excavations to receive fill must be inspected by the soils engineer, scarified 12 inches, moisture-conditioned as-necessary to satisfaction of soils engineer (flooded), and re-compacted to a minimum 90% of relative dry density under supervision and testing of the soils engineer.

After removal of deleterious material and debris, the exposed bottom of building area shall be inspected by the soils engineer to verify the above findings. If conditions differs from those encountered, our conclusions and recommendations may be re-evaluated.

PRELIMINARY FOUNDATION RECOMMENDATIONS:

It is our opinion that the proposed project may be supported on continuous footings. All footings must be designed by structural engineer founded in native or approved compacted certified soils provided by the above recommended over-excavation and re-compaction.
No foundation plan was available to us at the time of our investigation, therefore, the proposed footings shall be designed by the structural engineer and shall be reviewed by this office prior to construction.
Following parameters are preliminary recommendations in design of foundations and are based on a low expansion potential.

CONTINUOUS FOOTINGS:

All foundation system for this project must be designed by the structural engineer. Final foundation design should be reviewed by this office prior to construction.
Following soils parameters may be used in design criteria of the project.

Allowable Bearing Pressure:	1900 psf	Approved Fill or Native
Coefficient of Friction:	0.28	Approved Fill or Native
Passive Lateral Pressure:	250 pcf	Approved Fill or Native

Single-Story:

Footing Depth Min.:	18-Inch Into Approved Soils-To Be Designed By The Structural Engineer- Min 1- #4 rebar @ Top and 1- #4 Rebar @ Bottom
Footing Width Min.:	15-Inch- To Be Designed By The Structural Engineer

Two-Story:

Footing Depth Min.:	24-Inch Into Approved Soils-To Be Designed By The Structural Engineer- Min 2- #4 rebar @ Top and 2- #4 Rebar @ Bottom
Footing Width Min.:	18-Inch- To Be Designed By The Structural Engineer

No Lateral Pressure increase is allowed.
The above foundation parameters shall be superseded by more restrictive design requirements from the architect, structural engineer, and/or governing agency.
For design, resistance to lateral loads can be assumed to be provided by friction along the base of the foundation and by passive earth pressures on the side of the foundation. An allowable friction coefficient of 0.28 may be used with the vertical dead loads, and an allowable lateral passive pressure.
The friction value is for the total of dead and frequently applied live loads and may be increased by one third for short duration loading, which includes the effects of wind or seismic forces.
Resistance to lateral loading may be provided by passive earth pressure within the layer below the base of the excavation.

RETAINING WALL:

Retaining walls should be designed for the following active lateral soil pressure:

Equivalent Fluid Pressure: 35 pcf - Level Backfill
45 pcf - 2:1 Sloping Backfill
70 pcf - At Rest

Any additional surcharge pressure behind the wall should be added to these values. If import soil is used for backfill, other lateral soil pressures may apply and shall be determined by inspection and/or testing. For lateral restraint, the following soil design parameters may be used when all the foundation recommendations are followed:

Passive Lateral Pressure (EFP): 250 pcf
Coefficient-Of- Friction:0.28
Bearing Pressure: Approved Soils 2000 psf
Lateral Soil pressure increase due to
additional width or depth to Max. 1800 psf : 250 psf/1 foot
Minimum Depth of Footing In Approved Soils: 12 Inches

All footings must be embedded in approved soils certified by the soils engineer.

An adequate sub-drain system shall be constructed behind the retaining walls at base to allow adequate drainage and to prevent building of excessive hydrostatic pressures. Typical sub-drains may include weep holes with gravel pockets, perforated pipes surrounded by filter rock**,** or other approved methods. Outlets should pass below the base of the wall at a minimum 2 percent gradient. Backfill directly behind retaining walls may consist of self compacting 3/4" maximum gravel or clean sand water jetted into place to obtain proper compaction. If other types of soil are used for backfill, mechanical compaction method will be necessary to achieve a relative compaction of at least 90% of maximum dry density. Backfill directly behind retaining walls shall not be compacted by wheel track or other rolling method unless the wall is designed for the surcharge loading from the compaction equipment.

If gravel, clean sand, or other imported granular backfill is used behind the retaining wall, the upper 18 inches of backfill shall consist of typical on-site soil to prevent the influx of surface runoff into the granular backfill and into sub-drain system.

All excavations shall be stabilized within 30 days of initial excavation. Water should not be allowed to pond on top of the excavations nor to flow toward it. No vehicular surcharge shall be allowed within 3 feet of the top of the cut. Any fill which is placed shall be approved, tested and verified by registered soils engineer.

Footing excavations shall be inspected by soils engineer prior to the placement of reinforcing steel and concrete to ensure that competent bearing materials have been encountered. The exact required footing depths are not known at this time and will have to be verified by means of a footing inspection.
It should be noted that a large portion of the anticipated settlement will occur during and soon after the actual construction of the structure. However, additional differential settlement will occur over a period of time. For footings thus designed and constructed, total and differential settlement with the above requirements are anticipated to be negligible provided our recommendations are followed.

Contractors should be informed that the use of heavy compaction equipment in close proximity to retaining walls can cause excessive wall movement and/or earth pressure in excess of design values.
For excavations made during dry seasons where rain is not expected, the excavations shall be cut back 1/2:1 (horizontal to vertical). If unseasonal rainfall is encountered excavation shall be cut back to 3/4:1 (horizontal to vertical) and the open cut shall be adequately protected from saturation or erosion.

Footings adjacent to a descending slope which is steeper than 3:1 in gradient shall be located a distance away from the face of the slope as required by Slope Setback Requirements of the latest Uniform Building Code. Where more restrictive, the safety requirements of OSHA regulations shall be followed.

If you have any questions regarding this report please do not hesitate to contact this office at your convenience. We appreciate the opportunity to be of service on this project.

SETBACKS:

All setbacks required by governing agency must be followed.

TEMPORARY EXCAVATION:

Temporary construction excavation shall be made vertically without shoring to a depth of maximum 5 feet below adjacent surrounding grade. For deeper cuts, the slopes should be properly shored or sloped back to at least a 1:1 (horizontal:vertical) ratio or flatter.

SLAB-ON-GRADE:

Concrete floor slabs (if any) should have a minimum thickness of (4) inches and be reinforced with No. 3 bars spaced 18 inches on center, both ways. All slab reinforcement should be supported on chairs or brick to ensure the desired placement near mid depth placed at mid-height in the slab. If moisture sensitive floor covering is to be placed, we recommend that a 6-mil visqueen barrier be placed beneath slabs. A 2-inch sand layer between the slab and barrier is recommended to protect the barrier and aid in concrete curing.

Prior to placing sand and Visqueen, the slab sub-grade shall be moisture-conditioned to a depth of 18 inches to 5 percent above optimum moisture content as approved by the soils engineer.

All slabs intended to carry any concentrated loads should be designed by a structural engineer. Weakened plane joints shall be provided to reduce the probability of cracks.

Additional or heavier reinforcement shall be necessary for structural considerations as determined by the project architect or structural engineer.

Final recommendations for slab and foundation shall be made on the basis of observation and testing of the soils at pad grade upon completion of grading.

FILL PLACEMENT and COMPACTION:

The voids generated from removals of any underground obstructions and any utilities may be backfilled with onsite soils once free of organic material, debris, boulder and rocks larger than 6 inches in size. Bottom of excavation should be inspected by qualified soils engineer, scarified one foot, flooded uniformly, and re-compacted to a minimum 90% of relative dry density.
If the proposed finished grades are established at or above the existing grades, import soils would be required to accomplish the grading work. All import soils must be granular coarse material free of organic and rocks larger than 6 inches in diameter and should be approved by soils engineer prior to import.
All fill soils should be placed in layers not exceeding 6 to 8 inches in loose thickness approved by the soils engineer, and compacted to at least 90 percent of the maximum dry unit weight as determined by ASTM Designation D1557-91 Compaction Method.
In-Place density tests should be made by the required degree of compaction and the proper moisture content. Where compaction of less than 90 percent is indicated, additional compactive effort should be made with adjustment of the moisture content or layer thickness, as necessary, until at least 90 percent compaction is obtained.

SURFACE DRAINAGE:

Surface drainage should be directed away from foundations and slopes toward the streets or approved drainage devices. Ponding of water adjacent to the foundations and retaining walls must be avoided. Planters which are located within the residence should be sealed or sloped away from the structure to drain to a safe point of collection. Planters located adjacent to a raised floor structure should be sealed to the depth of the footings. A program for maintenance of drainage devices should be developed by the owner.

TRENCH BACKFILL:

Trench excavations for utility pipes shall be backfilled with granular soils under the observation of the soils engineer. After the utility pipe has been laid, the space under and around the pipe shall be backfilled with clean, granular soil having a sand equivalent of 30 or greater to a depth of at least one foot over the top of the pipe before the controlled backfilled is placed. The soils material approved by the soils engineer shall be moisture - conditioned and mixed, as necessary, prior to placement in lifts over the sand backfill. The controlled backfill shall be compacted by mechanical methods to a minimum relative compaction of 90 percent of their relative maximum density.
Field density tests and inspection of the backfill procedures shall be made by this firm during backfilling to ensure that proper moisture content and uniform compaction is being maintained.

PRE-JOB CONFERENCE:

It is imperative that no clearing and/or grading operations be performed without the presence of a representative of this firm. An on-site, pre-job meeting with the inspector, developer, contractor, and the soils engineer should occur prior to all grading related operations.

It would be stressed that operations undertaken at the site without the presence of the soils engineer may result in exclusions of affected areas from the final compaction report for the project.

OBSERVATION and TESTING:

The recommendations provided in this report are based on preliminary design information and subsurface conditions as interpreted from limited excavations at the site. Our investigation consisted of a field exploration, laboratory testing of typical soil types, a review of the information obtained in this exploration and testing phases, and preparation of this report.

The conclusions and recommendations presented in this report have been prepared in accordance with generally accepted engineering principals and practices, and have incorporated federal, state and local laws, codes, ordinances and regulations which in our professional opinion are applicable at the time of preparation of this report. The logs show subsurface conditions at the dates and locations indicated, and may not be representative of subsurface conditions at other locations and times. Should soil conditions be encountered during construction that appear different from those shown in this report, this office shall be notified immediately so that our recommendations may be re-evaluated.
Our preliminary conclusions and recommendations shall be reviewed and verified during the site grading, and revised accordingly if exposed condition vary from our preliminary findings and interpretations.
The engineering consultant shall provide observation and testing during grading of the subject site. The consultant shall prepare a final as-graded report summarizing the conditions countered and any field modification to the recommendations provided herein. It is recommended that a representative of this office be present when the excavation is first exposed. Modifications to our recommendations may be necessary if significant variation in the soil conditions are encountered.
It shall be noted that the recommendations presented herein is for use in design and for cost estimating purposes prior to construction. The contractor is solely responsible for safety during construction.
This report is issued and made for sole use and benefit of the client, is not transferable and is valid as of the exploration date.

ADDITIONAL OBSERVATION and TESTING MUST BE PROVIDED:

* After completion of site clearing, prior to grading.

* During removal of any existing underground obstructions (if any).

* After removal of unsuitable soils for bottom inspection and during placement of any fill material for laboratory testing of onsite soil, import soils, and compaction testing.

* After footing excavation, prior to placement of steel and pouring concrete.

* After pre-saturation of the slab sub-grade prior to placement of sand and Visqueen.

* During any additional fill placement and compaction.

* When any unusual conditions are encountered

Any unusual condition encountered during site development not discussed in this report shall be brought to our immediate attention.

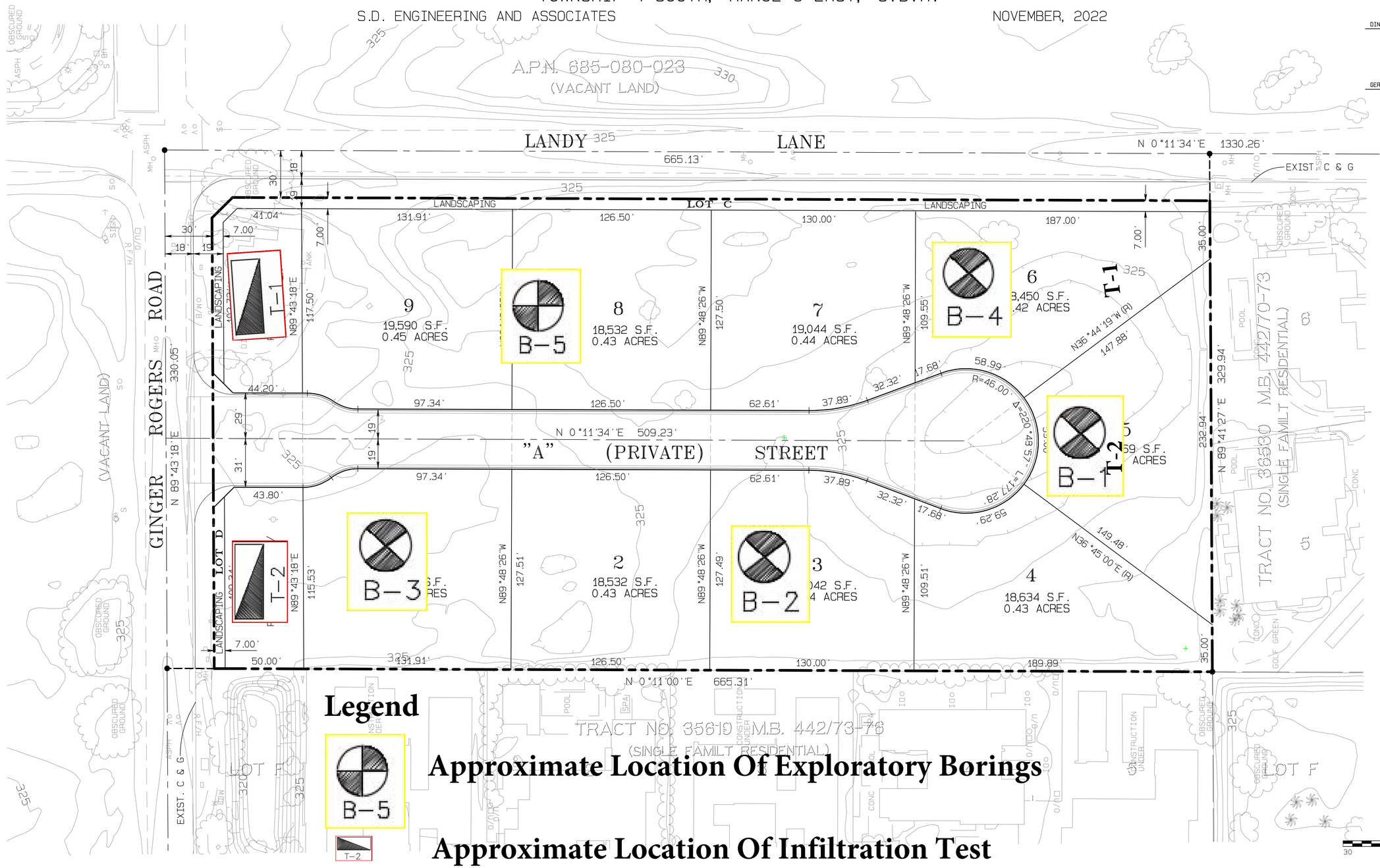
IN THE CITY OF RANCHO MIRAGE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

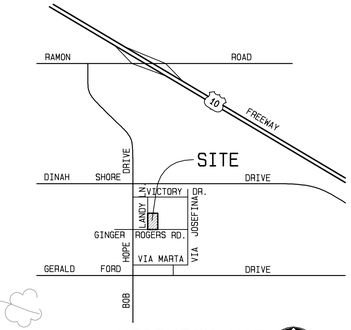
TENTATIVE TRACT MAP NO. 38636

BEING A SUBDIVISION OF GOVERNMENT LOT 16 IN THE NORTHWEST 1/4 OF SECTION 30, TOWNSHIP 4 SOUTH, RANGE 6 EAST, S.B.M.

S.D. ENGINEERING AND ASSOCIATES — NOVEMBER, 2022

Plate-1





Legend

B-5 — Approximate Location Of Exploratory Borings

T-2 — Approximate Location Of Infiltration Test

1. OWNER/SUBDIVIDER

72094 GINGER ROGERS LLC
ATTN: MR. FARHAD ZOMORADI
P.O. BOX 10544
BEVERLY HILLS, CA 90213
PH: (310) 428-2875

2. ENGINEER

S.D. ENGINEERING AND ASSOCIATES
242 E. AIRPORT DRIVE, STE. 212
SAN BERNARDINO, CA 92408
ATTN: MR. SURESH DODDIAH
PH: (909) 215-3451

3. LEGAL DESCRIPTION

GOVERNMENT LOT 16 IN THE NORTHWEST 1/4 OF SECTION 30, TOWNSHIP 4 SOUTH, RANGE 6 EAST, S.B. & M.

4. ASSESSORS PARCEL NO:

685-080-002

5. ZONING

EXISTING AND PROPOSED:
VERY LOW DENSITY RESIDENTIAL (R-L-2)

6. ACREAGE

4.37 ACRES

7. LETTER LOT AREAS

LOT A = 5,758 S.F. (0.13 AC.)
LOT B = 5,818 S.F. (0.13 AC.)
LOT C = 5,158 S.F. (0.12 AC.)
LOT D = 741 S.F. (0.02 AC.)

GRAPHIC SCALE 1"=30'
30 0 30 60 90

S.D. ENGINEERING AND ASSOCIATES
LAND PLANNING AND CIVIL ENGINEERING
242 E. AIRPORT DRIVE, STE. 212 - SAN BERNARDINO, CA 92408
PHONE (909) 215-3451 EMAIL: suresh@sdengineering.net

SURESH DODDIAH R.C.E. 36361 DATE

REGISTERED PROFESSIONAL ENGINEERS — SURESH DODDIAH — NO. 36361 EXP. 6-30-24 — CIVIL — STATE OF CALIFORNIA

DIG ALERT — DIAL BEFORE YOU DIG TOLL FREE 1-800-227-2600 — TWO WORKING DAYS BEFORE YOU DIG — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

REV.	REVISION DESCRIPTION	DATE	ENGR.	CITY	DATE

SHOULD CONSTRUCTION OF THE REQUIRED IMPROVEMENTS NOT COMMENCE WITHIN TWO YEARS OF THE DATE OF APPROVAL SHOWN HEREON AND CARRIED FORTH IN A DILIGENT MANNER, THE CITY ENGINEER MAY REQUIRE REVISIONS TO THE PLANS TO BRING THEM INTO CONFORMANCE WITH CONDITIONS AND STANDARDS IN EFFECT.

BENCHMARK: CITY BM #PD 18-5

BEING A 1-1/2" COPPERWELD IN ASPHALT, FLUSH, AT THE CENTERLINE INTERSECTION OF BOB HOPE DRIVE AND DINAH SHORE DRIVE.

ELEV. = 347.672

CITY OF RANCHO MIRAGE, CALIFORNIA

DRAWN BY: EB	TENTATIVE TRACT MAP NO. 38636	SCALE: 1"=20'
DESIGNED BY: EB	72094 GINGER ROGERS ROAD	DATE: 12/5/2022
CHECKED BY: SD		DRAWING NO.: 1 / 1

Project No.: 23-0102S
March 03, 2023

A P P E N D I X "A"

REFERENCES

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2. **Bolt, B.A., June 1973**, Duration of Strong ground motion, Proc. fifth world conference on earthquake engineering, Rome, paper No .292, PP. 1304-1313.

3. **Campbell, K.W., and Y. Bozorgia**, 1994, "Near-Source Attenuation of Peak Horizontal Acceleration from Worldwide Accelerograms Recorded from 1957 to 1993," Proceedings of the 5th U.S. National Conference on Earthquake Engineering, 1994, Chicago, Illinois, Earthquake Engineering Research Institute, V.3, pg. 283-292.

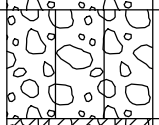
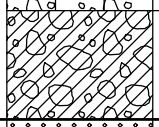
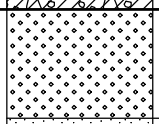
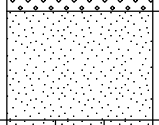
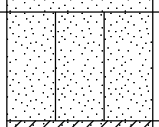
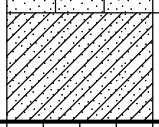
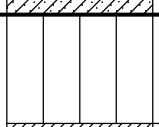
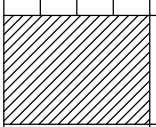
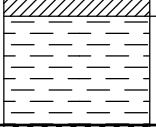
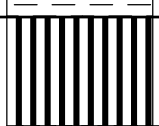
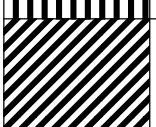
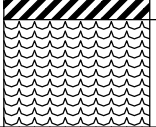
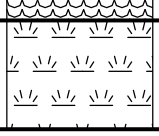
4. **Dibblee, T.W.,** 1989, "Geologic Map of the Los Angeles Quadrangle, Los Angeles County, California," map scale 1:24,000.

5. **Seed Bolton, Whitman, Robert**, 1970, Design of earth retaining structures for dynamic loads: ASCE Specialty Conference, lateral stresses in the ground and design of earth retaining structures, P. 103-147.

6. **Terzaghi, K.** (1943), Theoretical Soil Mechanics, J. Wiley and sons, Inc. New York.

A P P E N D I X "B"

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

Project No.: 23-0101S

BORING LOG
B-1

Sheet 1 of 1

Project: Rancho Mirage

Date 03/01/2023

EQUIPMENT: HOLLOW STEM

Elevation Top of Hole See Plate 1

DEPTH (ft.)	Graphic Symbole	Sample No.	Dry Density (pcf)	Moisture Content (%)	Soil Classification (U.S.C.S.)		Geotechnical Description
							Sampled By MS/TS Logged By MS
0		[1] @ 1'–4'	—	3.2	SM	TOP–SOILS	0–2' DRY WEEDS MIXED WITH SANDY SILT/SILTY FINE SAND WITH TRASH, LOOSE, VERY DRY.
5		(1) @ 4'	DISTURBED	5.3			
		(2) 5'	112.2	5.3	SM	ALLUVIAL	2'–4' SILTY FINE SAND TO SANDY SILT, LOOSE TO DENSE, DRY TO MOD MOIST, LIGHT GREYISH, FINE SANDY, DENSE WITH DEPTH, MORE MOIST.
10							4'–7' BECOMES MORE DENSE, LIGHT GREY SANDY SILTY, FINE, MORE MOIST WITH DEPTH.
15							
20							7'– MORE DENSE WITH DEPTH, DIFFICULT TO EXCAVATE.
25							TOTAL DEPTH = 7 FEET NO GROUND WATER SLIGHT CAVING ON UPPER 4 FEET
30							[1] INDICATE BULK SAMPLE COLLECTED (2) INDICATE UNDISTURBED SAMPLE COLLECTED

Project No.: 23-0101S

BORING LOG
B-2

Sheet 1 of 1

Project: Rancho Mirage

Date 03/01/2023

EQUIPMENT: HOLLOW STEM

Elevation Top of Hole See Plate 1

DEPTH (ft.)	Graphic Symbole	Sample No.	Dry Density (pcf)	Moisture Content (%)	Soil Classification (U.S.C.S.)	
0					SM	TOP-SOILS
5					SM	ALLUVIAL
10						
15						
20						
25						
30						

Geotechnical Description

Sampled By MS/TS

Logged By MS

0-2' DRY WEEDS MIXED WITH SANDY SILT/SILTY FINE SAND WITH TRASH, LOOSE, VERY DRY.

2'-4' SILTY FINE SAND TO SANDY SILT, LOOSE TO DENSE, DRY TO MOD MOIST, LIGHT GREYISH, FINE SANDY, DENSE WITH DEPTH, MORE MOIST.

4'-7' BECOMES MORE DENSE, LIGHT GREY SANDY SILTY, FINE, MORE MOIST WITH DEPTH.

7'- MORE DENSE WITH DEPTH, DIFFICULT TO EXCAVATE.

TOTAL DEPTH = 7 FEET

NO GROUND WATER

SLIGHT CAVING ON UPPER 4 FEET

Project No.: 23-0101S

BORING LOG
B-3

Sheet 1 of 1

Project: Rancho Mirage

Date 03/01/2023

EQUIPMENT: HOLLOW STEM

Elevation Top of Hole See Plate 1

DEPTH (ft.)	Graphic Symbole	Sample No.	Dry Density (pcf)	Moisture Content (%)	Soil Classification (U.S.C.S.)	
0					SM	TOP-SOILS
5					SM	ALLUVIAL
10						
15						
20						
25						
30						

Geotechnical Description

Sampled By MS/TS

Logged By MS

0-2' DRY WEEDS MIXED WITH SANDY SILT/SILTY FINE SAND WITH TRASH, LOOSE, VERY DRY.

2'-4' SILTY FINE SAND TO SANDY SILT, LOOSE TO DENSE, DRY TO MOD MOIST, LIGHT GREYISH, FINE SANDY, DENSE WITH DEPTH, MORE MOIST.

4'-7' BECOMES MORE DENSE, LIGHT GREY SANDY SILTY, FINE, MORE MOIST WITH DEPTH.

7'- MORE DENSE WITH DEPTH, DIFFICULT TO EXCAVATE.

TOTAL DEPTH = 7 FEET

NO GROUND WATER

SLIGHT CAVING ON UPPER 4 FEET

Project No.: 23-0101S

BORING LOG
B-4

Sheet 1 of 1

Project: Rancho Mirage

Date 03/01/2023

EQUIPMENT: HOLLOW STEM

Elevation Top of Hole See Plate 1

DEPTH (ft.)	Graphic Symbole	Sample No.	Dry Density (pcf)	Moisture Content (%)	Soil Classification (U.S.C.S.)	
0					SM	TOP-SOILS
5					SM	ALLUVIAL
10						
15						
20						
25						
30						

Geotechnical Description

Sampled By MS/TS

Logged By MS

0-2' DRY WEEDS MIXED WITH SANDY SILT/SILTY FINE SAND WITH TRASH, LOOSE, VERY DRY.

2'-4' SILTY FINE SAND TO SANDY SILT, LOOSE TO DENSE, DRY TO MOD MOIST, LIGHT GREYISH, FINE SANDY, DENSE WITH DEPTH, MORE MOIST.

4'-7' BECOMES MORE DENSE, LIGHT GREY SANDY SILTY, FINE, MORE MOIST WITH DEPTH.

7'- MORE DENSE WITH DEPTH, DIFFICULT TO EXCAVATE.

TOTAL DEPTH = 7 FEET

NO GROUND WATER

SLIGHT CAVING ON UPPER 4 FEET

Project No.: 23-0101S

BORING LOG
B-5

Sheet 1 of 1

Project: Rancho Mirage

Date 03/01/2023

EQUIPMENT: HOLLOW STEM

Elevation Top of Hole See Plate 1

DEPTH (ft.)	Graphic Symbole	Sample No.	Dry Density (pcf)	Moisture Content (%)	Soil Classification (U.S.C.S.)	
0					SM	TOP-SOILS
5					SM	ALLUVIAL
10						
15						
20						
25						
30						

Geotechnical Description

Sampled By MS/TS

Logged By MS

0-2' DRY WEEDS MIXED WITH SANDY SILT/SILTY FINE SAND WITH TRASH, LOOSE, VERY DRY.

2'-4' SILTY FINE SAND TO SANDY SILT, LOOSE TO DENSE, DRY TO MOD MOIST, LIGHT GREYISH, FINE SANDY, DENSE WITH DEPTH, MORE MOIST.

4'-7' BECOMES MORE DENSE, LIGHT GREY SANDY SILTY, FINE, MORE MOIST WITH DEPTH.

7'- MORE DENSE WITH DEPTH, DIFFICULT TO EXCAVATE.

TOTAL DEPTH = 7 FEET

NO GROUND WATER

SLIGHT CAVING ON UPPER 4 FEET

SAMPLING PROCEDURES

Undisturbed Samples:

Samples of the subsurface materials were obtained from the exploratory borings and/or trenches in a relatively undisturbed condition. The depth at which each "undisturbed" sample was obtained is shown on the boring and/or trench logs.

The sampler used to obtain "undisturbed" samples is generally a split-barrel sampler, or a thin-wall sampler (Shelby tube).

The split-core barrel drive sampler:

The sampler, with an external diameter of 3.0 inches, is lined with 1-inch long thin brass rings with an inside diameter of 2.41 inches. The sample barrel is driven into the ground with an effective weight of the Kelly bar of the boring machine. The Kelly bar is permitted to free-fall. The approximate length of the fall, the weight of the bar, and the number of blows per foot of driving are noted and recorded on the boring logs. Blow counts have been noted in the log of borings as an index to the relative resistance of the sampled materials. The samples are removed from the sample barrel in the brass rings, sealed, and transported to the laboratory for testing.

Shelby Tube:

The tube, with an external diameter of 3.0 inches and a length of 2 to 3 feet, is a seamless thin-walled steel tube commonly known as a Shelby tube and has a beveled butting edge at the lower end. The tube is connected to the drill rod and pushed by a static force into the bottom of the hole. When the tube is almost full (avoid over-penetration), it is withdrawn from the hole, removed from the drill rod, sealed at both ends with paraffin, and carefully shipped to the laboratory for testing.

The Standard Penetration Test Spoon:
The spoon is driven into the ground for 18 inches with a 140-pound hammer free-falling from a height of 30 inches. The blow counts are recorded for every 6 inches of penetration. (The reported blow counts are the blow counts for the last 12 inches of penetration.) The soil samples are examined and carefully removed from the spoon, bagged, and sealed and transported to the laboratory for testing.
Disturbed Samples:
Bulk samples of representative materials were also obtained from the borings and/or trenches, bagged and transported to the laboratory for testing.

A P P E N D I X "C"

MAXIMUM DRY DENSITY/OPTIMUM MOISTURE TEST RESULTS

****

Soil Type or Location	Soil Description	Optimum Moisture (%)	Max. Dry Density (Pcf)
B-1 at 2'-4'	Silty Sand/Sandy Silt	7.0	125.0

EXPANSION INDEX TEST RESULTS

****

Soil Type or Location	Expansion Index	Potential Expansion
B-1 @ 2'-4'	7	Very Low

Soluble Sulfate

****

Soil Type or Location	Soil Description	Sulfate % By Weight
B-1 @ 2'-4'	Silty Sand/Sandy Silt	0.0880

LABORATORY TESTING PROCEDURES

Moisture and Density Tests: Moisture content and dry density determinations were performed on relatively undisturbed samples obtained from the test borings and/or trenches. The results of these tests are presented in the boring and/or trench logs. Where applicable, only moisture content was determined from "undisturbed" or disturbed samples.

Classification Tests: Typical materials were subjected to mechanical grain-size analysis by wet sieving from U.S. Standard brass screens (ASTM D422). Hydrometer analyses were performed where appreciable quantities of fines were encountered. The data was evaluated in determining the classification of the materials. The grain-size distribution curves are presented in the test data and the Unified Soil Classification is presented in both the test data and the boring and/or trench logs.

Atterberg Limits: The Atterberg Limits were determined in accordance with ASTM D423 and ASTM D424 for engineering classification of the fine-grained materials.

Direct Shear Tests: Direct Shear Tests were performed on selected remolded and/or undisturbed samples which were socked for a minimum of 24 hours under a surcharge equal to the applied normal force during testing. After transfer of the sample to the shear box, and reloading the sample, pore pressures set up in the sample due to the transfer were allowed to dissipate for a period of approximately 1 hour prior to application of shearing force. The samples were tested under various normal loads, a different specimen being used for each normal load. The samples were sheared in a motor-driven, strain-controlled, direct shear testing apparatus at a strain rate of 0.05 inches per minute. After a travel of 0.300 inches of the direct shear machine, the motor was stopped and the sample was allowed to "relax" and "peak" shear values were recorded. It is anticipated that, in a majority of samples tested, the 15 minutes relaxing of the sample is sufficient to allow dissipation of pore pressures set up in the samples due to application of shearing force. The relaxed values are therefore, judged to be a good estimation of effective strength parameters. The test results were plotted on the "Direct Shear Summary".

For residual direct shear test, the samples were sheared, as described in the preceding paragraph, with the rate of shearing of 0.001 inches per minutes. The upper portion of the specimen was pulled back to the original position and the shearing process was repeated until no further decrease in shear strength was observed with continued shearing (at least three times re-sheared). There are two methods to obtain the shear values: (a) the shearing process was repeated for each normal load applied and the shear value for each normal load was recorded. One or more than one specimen can be used in this method; (b) only one specimen was needed, and a very high normal load (approximately 9000 psf) was applied from the beginning of the shearing process. After the equilibrium state was reached (after "relaxed", the shear value for that normal load was recorded. The normal loads were then reduced gradually without shearing the sample (the motor was stopped). The shear values were recorded for different normal loads after they were reduced and the sample was "relaxed".

Maximum Density Test: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM D1557-91 (five layers). The results of these tests are presented in the test data.

Expansion Index Tests: The expansion potential of selected materials was evaluated by the Expansion Index Test, U.B.C. Standard No. 29-2. Specimens are molded under a given compactive energy to approximately the optimum moisture and approximately 50% saturation or approximately 90% relative compaction. The prepared 1-inch thick by 4-inch diameter specimens are loaded to an equivalent 144 psf surcharge and are inundated with tap water until volumetric equilibrium is reached. The results of these tests are presented in the test data.

Consolidation Tests: Consolidation tests were performed on selected, relatively undisturbed samples recovered from the sampler. Samples were placed in a consolidometer and loads were applied in geometric progression. The percent consolidation for each load cycle was recorded as the ratio of the amount of vertical compression to the original 1-inch height. The consolidation pressure curves are presented in the test data. Where applicable, time-rates of consolidation were also recorded. A plot of these rates can be used to estimate time of consolidation.

Soluble Sulfates: The soluble sulfate contents of selected samples were determined by the California Materials Method No. 417.

"R"-Value: The resistance "R"-Value was determined by the California Materials Method No. 301 for base, sub-base, and basement soils. Three samples were prepared and exudation pressure and "R"-Value determined on each one. The graphically determined "R"-Value at exudation pressure of 300 psi is reported.

Triaxial Compression Tests: Triaxial compression tests were performed on selected remolded and/or undisturbed samples according to ASTM 2166 (Unconfined) and ASTM 2850 (Confined).

A P P E N D I X “D”

GENERAL EARTHWORK and GRADING SPECIFICATIONS:

1.0 General Intent

These specifications present general procedures and requirements for grading and earthwork as shown on the approved grading plans, including preparation of areas to be filled, placement of fill, installation of sub-drains, and excavations. The recommendations contained in the geotechnical report are a part of the earthwork and grading specifications and shall supersede the provisions contained hereinafter in case of conflict Evaluations performed by the consultant during the course of grading may result in new recommendations which could supersede these specifications or the recommendations of the geotechnical report.

2.0 Earthwork Observation and Testing

Prior to the commencement of grading, a qualified geotechnical consultant (soils engineer and engineering geologist, and their representatives) shall be employed for the purpose of observing earthwork procedures and testing the fills for conformance with the recommendations of the geotechnical report and these specifications. It will be necessary that the consultant provide adequate testing and observation so that he may determine that the work was accomplished as specified. It shall be the responsibility of the contractor to assist the consultant and keep him apprised of work schedules and change so that he may schedule his personnel accordingly.

It shall be the sole responsibility of the contractor to provide adequate equipment and methods to accomplish the work in accordance with applicable grading codes or agency ordinances, these specifications and the approved grading plans. If, in the opinion of the consultant, unsatisfactory conditions, such as questionable soil, poor moisture condition, inadequate compaction, adverse weather, etc., are resulting in a quality of work less than required in these specifications, the consultant will be empowered to reject the work and recommend that construction be stopped until the conditions are rectified.

Maximum dry density tests used to determine the degree of compaction will be performed in accordance with the American Society for Testing and Materials test method ASTM D1557-91.

3.0 Preparation of Areas to be Filled

3.1 Clearing and Grubbing:

All brush, vegetation, and debris shall be removed or piled and otherwise disposed of.

3.2 Processing:

The existing ground which is determined to be satisfactory for support of fill shall be scarified to a minimum depth of 6 inches. Existing ground which is not satisfactory shall be over-excavated as specified in the following section. Scarification shall continue until the soils are broken down and free of large clay lumps or clods and until the working surface is reasonably uniform and free of uneven features which would inhibit uniform compaction.

3.3 **Over-excavation:**

Soft, dry, spongy, highly fractured or otherwise unsuitable ground, extending to such a depth that surface processing cannot be adequately improve the condition, shall be over-excavated down to firm ground and approved by the consultant.

3.4 **Moisture Conditioning:**

Over-excavated and processed soils shall be watered, dried-back, blended, and/or mixed, as required to attain a uniform moisture content near optimum.

3.5 **Recompaction:**

Overexcavated and processed soils which have been properly mixed and moisture-conditioned shall be recompacted to a minimum relative compaction of 90 percent.

3.6 **Benching:**

Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), the ground shall be steeped or benched. The lowest bench shall be a minimum of 15 feet wide, shall be at least 2 feet deep, shall expose firm material, and shall be approved by the consultant. Other benches shall be excavated in firm material for a minimum width of 4 feet. Ground sloping flatter than 5:1 shall be benched or otherwise over-excavated when considered necessary by the consultant.

3.7 **Approval:**

All areas to receive fill, including processed areas, removal areas and toe-of-fill benches shall be approved by the consultant prior to fill placement.

4.0 Fill Material

4.1 **General:**

Material to be placed as fill shall be free of organic matter and other deleterious substances, and shall be approved by the consultant. Soils of poor graduation, expansion, or strength characteristics shall be placed in areas designated by the consultant or shall be mixed with other soils to serve as satisfactory fill material.

4.2 **Oversize:**

Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 12 inches, shall not be buried or placed in fills, unless the location, materials, and disposal methods are specifically approved by the consultant. Oversize disposal operations shall be such that nesting of oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 feet vertically of finish grade or within the range of future utilities or underground construction, unless specifically approved by the consultant.

4.3 **Import:**

If importing of fill material is required for grading, the import material shall meet the requirements of Section 4.1.

5.0 Fill Placement and Compaction

5.1 **Fill Lifts:**

Approved fill material shall be placed in areas prepared to receive fill in near-horizontal layers not exceeding 6 inches in compacted thickness. The consultant may approve thicker lifts if testing indicates the grading procedures are such that adequate compaction is being achieved with lifts of greater thickness. Each layer shall be spread evenly and shall be thoroughly mixed during spreading to attain uniformity of material and moisture in each layer.

5.2 **Fill Moisture:**

Fill layers at a moisture content less than optimum shall be watered and mixed, and wet fill layers shall be aerated by scarification or shall be blended with drier material. Moisture-conditioning and mixing of fill layers shall continue until the fill material is at a uniform moisture content at or near optimum.

5.3 **Compaction of Fill:**

After each layer has been evenly spread, moisture-conditioned, and mixed, it shall be uniformly compacted to not less than 90 percent of maximum dry density. Compaction equipment shall be adequately sized and shall be either specifically designed for soil compaction or of proven reliability, to efficiently achieve degree of compaction.

5.4 **Fill Slopes:**

Compacting of slopes shall be accomplished, in addition to normal compacting procedures, by backrolling of slopes with sheepsfoot rollers at frequent increments of 2 to 3 feet in fill elevation gain, or by other methods producing satisfactory results. At the completion of grading, the relative compaction of the slope out to the slope face shall be at least 90 percent.

5.5 **Compaction Testing:**

Field tests to check the fill moisture and degree of compaction will be performed by the consultant. The location and frequency of tests shall be at the consultant's discretion. In general, the tests will be taken at an interval not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of embankment.

6.0 **Subdrain Installation**

Subdrain systems, if required, shall be installed in approved ground to conform to the approximate alignment and details shown on the plans or herein. The subdrain location or materials shall not be changed or modified without the approval of the consultant. The consultant, however, may recommend and upon approval, direct changes in subdrain line, grade or material. All subdrains should be surveyed for line and grade after installation and sufficient time shall be allowed for the surveys, prior to commencement of filling over the subdrains.

7.0 **Excavation**

Excavations and cut slopes will be examined during grading. If directed by the consultant, further excavation or over-excavation and refilling of cut areas shall be performed, and/or remedial grading of cut slopes shall be performed. Where fill-over-cut slopes are to be graded, unless otherwise approved, the cut portion of the slope shall be made and approved by the consultant prior to placement of materials for construction of the fill portion of the slope.

Appendix E Infiltration Evaluation, dated March 04, 2023

Project No. 23-0102-Inf
March 04, 2023

Sampson and Associates

CONSULTING ENGINEERS
Soil, Geology, Environmental

TO: **Mr. Farhad Zomorodi**
9165 Alcott, #203
Los Angeles, Ca.

SUBJECT: Infiltration Evaluation, New Single-Family Residences On TTM No. 38636 In The City of Rancho Mirage, California.

INTRODUCTION:

We sincerely appreciate the opportunity to be of service to you on this project. The primary objective of this study was to evaluate an infiltration rate of the onsite subsurface soils for the design of the infiltration drainage system to be constructed at designated area for the above subject site.

If you have any questions regarding this report please do not hesitate to contact this office at your convenience. We appreciate the opportunity to be of service on this project.

Respectfully Submitted;
Sampson and Associates

M. E. Samiee MS, Calif. RCE 46172
MS/db
Distribution: (4) Addressee

REGISTERED PROFESSIONAL ENGINEER
M. E. SAMIEE
C46172
Exp. 12/31/24
CIVIL
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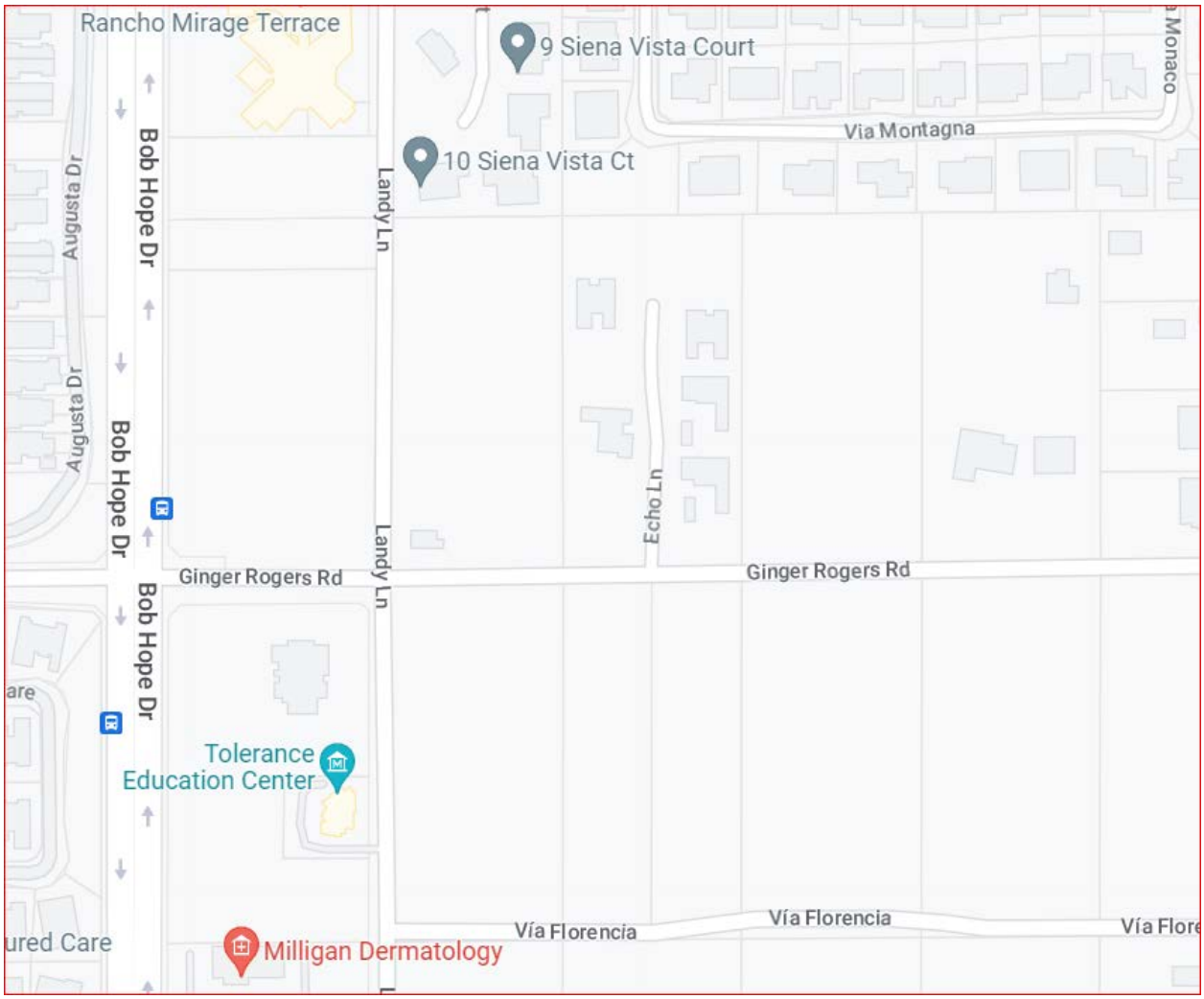
P. O. Box 834, San Dimas, California 91773 Tel.: (909) 522-7067
E-Mail: sampsongeotechnical@gmail.com

Project No. 23-0102-Inf
March 04, 2023



Index Map

Of

TTM No.: 3863
City of Rancho Mirage, California

ACCOMPANYING MAPS & ILLUSTRATIONS,:

Index Map - Page 2
Plate 1 - Site Plan and Approximate Location of Infiltration Tests
Appendix "A" - Field Test Logs

SITE LOCATION, PROPOSED DEVELOPMENT, and CONDITION:

The proposed development consists of (5) single-family residences with associated parking spaces located on north-east corner of Landy Lane and Ginger Rogers Road, TTM No. 3863 in the City of Rancho Mirage, California. Access to the site is available via improved Ginger Rodgers Road. The site is occupied with a small residence located on south side of the lot which is proposed to be completely demolished becoming part of new development.

The subject site is flat regular rectangular shape lot bounded by Ginger Rodgers Road on south, by Landy Lane on west, and by developed residential properties on east and north.

Project is covered with native weeds and large bushes. Drainage onsite is uncontrolled by sheet flow towards south.

SUBSURFACE INVESTIGATION:

To evaluate the subsurface condition of the subject sites, Five (5) exploratory Borings were drilled to maximum depths of (7) feet as shown on Plate-1. The excavations were then backfilled. The test Pits were logged and sampled. Bulk and relatively undisturbed samples were collected for proper laboratory testing.

SUBSURFACE CONDITIONS:

Soil materials encountered in our borings consisted loose fine sand deposit deposited by prevailing winds, sand and gravel of the valley area. The approximately 24 inches of loose to very loose and dry light greyish alluvial sand with fine silt and gravel of major creeks and stream washes material underlain by loose and dry light greyish sandy fine silt soils to dense and moist sandy silty soils within the depth of our borings.

GROUND WATER:

No ground water or any perched ground water was observed at our test locations onsite during the course of our investigation.

DOUBLE RING INFILTRATION TEST:

One (I) excavation was dug by hand, to a depth of about one (4) foot below existing grade at the approximate locations of the proposed infiltration drainage system of the site in the area identified by the project civil engineer as being the area to be used for infiltration purposes. Infiltration testing was completed using a double ring infiltrometer device into the ground, water was supplied with a constant falling head condition to a fixed point. A representative from our firm conducted the actual infiltration testing to record how much of water infiltrates into the soil over a given time period.

The incremental infiltration velocity within the inner test cylinder is equivalent to the infiltration rate (in/hr). The slowest/most conservative infiltration rate of **4.5 inches per hour** was measured for the test hole, after the infiltration rate had generally stabilized. The testing was completed in general conformance with ASTM D 3385.

FACTOR OF SAFETY:

The infiltration rates presented are based on field test results, the rates presented are measured field rates and should not be considered design infiltration rates. The designer should consider possible site variability in their design. Application of an appropriate safety factor may be required by the authorizing agency. The design engineer must use the factor of safety with the lowest average measured infiltration rate to achieve the design value as needed. The infiltration rate is approximately 4.5 in/hr.

RECOMMENDATIONS:

Bases on the result of the tests, the site is suitable for the storm-water infiltration system from a geotechnical viewpoint. Recommendations are provided as follows:

- Based on our testing water infiltration at the site is feasible. Filter fabric should be used whenever aggregate are placed against native soils. The infiltration rates are as follow:
  Test # 1 Infiltration Rate @ 4 feet depth = 6.43 in/hr.
  Test # 2 Infiltration Rate @ 4 feet depth = 6.26 in/hr.
  Test # 3 Infiltration Rate @ 6 feet depth = 4.5 in/hr. ← Use This Rate

- Infiltration water should not be allowed to saturate pavement and concrete structure sub-grade soils.
- The planned infiltration system should extend vertically into native soils. The designer should review the attached geotechnical Log for soils classification.
- The soils in infiltration area should not be subject to compaction during construction.
- The proposed system designed by Civil Engineer should be constructed and maintained in accordance with manufacture guidelines.
- Infiltration facilities must not be blocked by heavy equipment by using the infiltration area as a sediment trap.

- Infiltration facilities should be constructed late in the site development after soils has been stabilized or should be protected by flagging until work is completed.
- A minimum distance of 10 feet in any directions shall be provided from the building foundation to the proposed stormwater infiltration system.
- The potential for creating perched water conditions that may adversely affect the proposed and existing structures is nil due to the onsite permeable soils.
- The subsurface soil will not exhibit instability as a result of implementing the proposed BMP's.
- There will be no geotechnical hazards posed to the proposed and existing structures on and adjacent to the site, if a minimum distance of 10 feet in any directions provided from the building foundations to the proposed stormwater infiltration system.
- It must be noted that over the lifetime of the disposal area the infiltration rate may be affected by sediment build ups and biological activities as well as local variation in soils subsurface condition.
- Ferrous metal pipes should be protected from potential corrosion by bituminous coating, etc. We recommend that all utility pipes be nonmetallic and/or corrosion resistance. Recommendation should be verified by soluble sulfate and corrosion testing of soils samples obtained from specific locations during construction.

LIMITATONS:

Based on our visual observation it appears that the soils condition to be the same throughout the site however; soils material may vary in character between excavations and natural outcrops or conditions exposed during construction. Should soil conditions be encountered during construction that appear different this office must be notified immediately so that our recommendations may be re-evaluated.

Project No. 23-0102-Inf
March 04, 2023

A P P E N D I X “A”

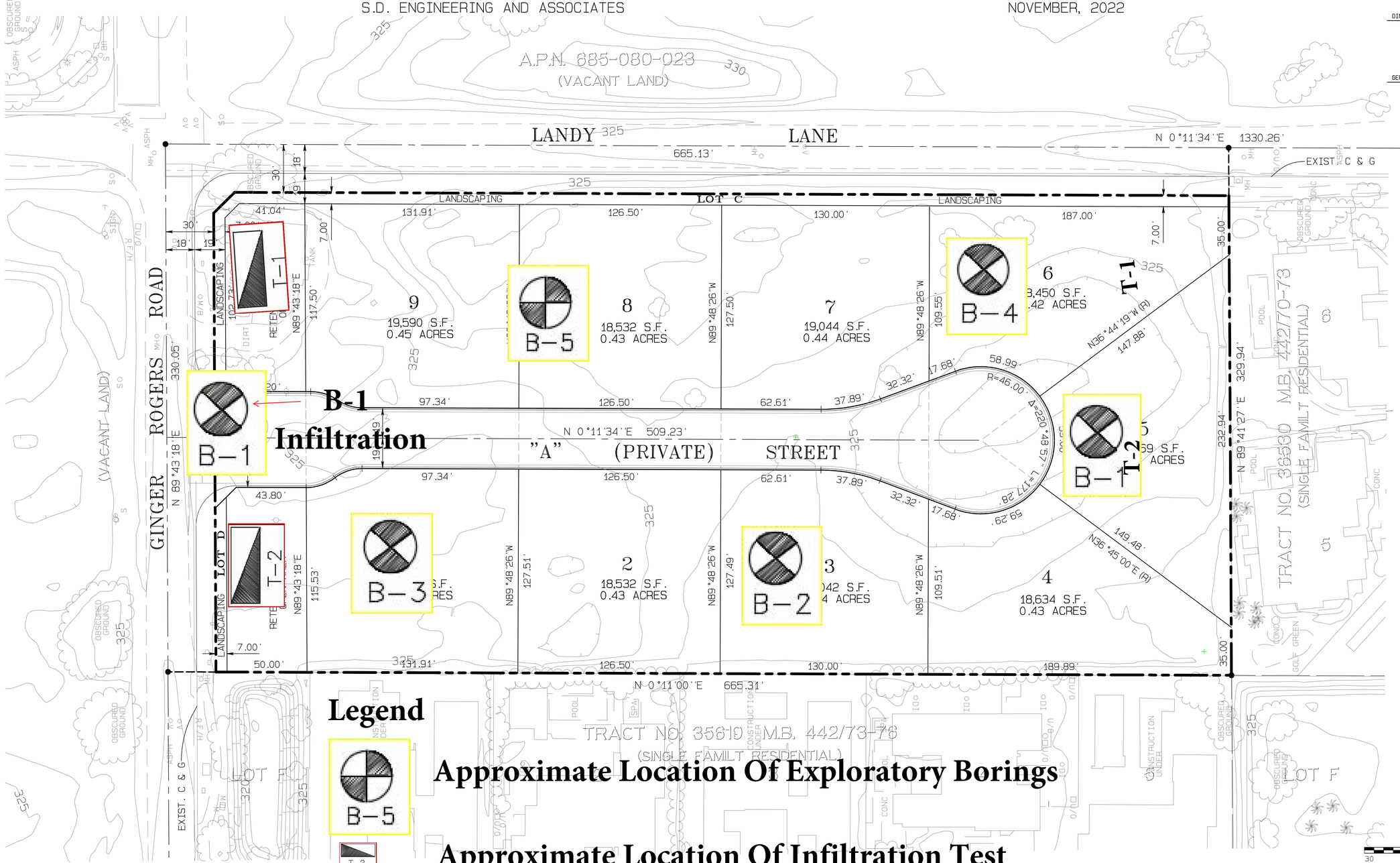
IN THE CITY OF RANCHO MIRAGE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

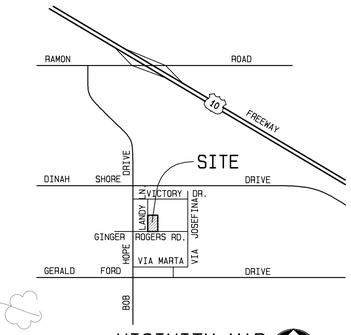
TENTATIVE TRACT MAP NO. 38636

BEING A SUBDIVISION OF GOVERNMENT LOT 16 IN THE NORTHWEST 1/4 OF SECTION 30, TOWNSHIP 4 SOUTH, RANGE 6 EAST, S.B.M.

S.D. ENGINEERING AND ASSOCIATES — NOVEMBER, 2022

Plate-1





Legend

Approximate Location Of Exploratory Borings

Approximate Location Of Infiltration Test

1. OWNER/SUBDIVIDER

72094 GINGER ROGERS LLC
ATTN: MR. FARHAD ZOMORADI
P.O. BOX 10544
BEVERLY HILLS, CA 90213
PH: (310) 428-2875

2. ENGINEER

S.D. ENGINEERING AND ASSOCIATES
242 E. AIRPORT DRIVE, STE. 212
SAN BERNARDINO, CA 92408
ATTN: MR. SURESH DODDIAH
PH: (909) 215-3451

3. LEGAL DESCRIPTION

GOVERNMENT LOT 16 IN THE NORTHWEST 1/4 OF SECTION 30, TOWNSHIP 4 SOUTH, RANGE 6 EAST, S.B. & M.

4. ASSESSORS PARCEL NO:

685-080-002

5. ZONING

EXISTING AND PROPOSED:
VERY LOW DENSITY RESIDENTIAL (R-L-2)

6. ACREAGE

4.37 ACRES

7. LETTER LOT AREAS

LOT A = 5,758 S.F. (0.13 AC.)
LOT B = 5,818 S.F. (0.13 AC.)
LOT C = 5,158 S.F. (0.12 AC.)
LOT D = 741 S.F. (0.02 AC.)

GRAPHIC SCALE 1"=30'
30 0 30 60 90

S.D. ENGINEERING AND ASSOCIATES
LAND PLANNING AND CIVIL ENGINEERING
242 E. AIRPORT DRIVE, STE. 212 - SAN BERNARDINO, CA 92408
PHONE (909) 215-3451 EMAIL: suresh@sdengineering.net

SURESH DODDIAH R.C.E. 36361 DATE

REGISTERED PROFESSIONAL ENGINEER — SURESH DODDIAH — NO. 36361 EXP. 6-30-24 — CIVIL — STATE OF CALIFORNIA

DIGALERT — DIAL BEFORE YOU DIG TOLL FREE 1-800-227-2600 — TWO WORKING DAYS BEFORE YOU DIG — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

REV.	REVISION DESCRIPTION	DATE	ENGR.	CITY	DATE

SHOULD CONSTRUCTION OF THE REQUIRED IMPROVEMENTS NOT COMMENCE WITHIN TWO YEARS OF THE DATE OF APPROVAL SHOWN HEREON AND CARRIED FORTH IN A DILIGENT MANNER, THE CITY ENGINEER MAY REQUIRE REVISIONS TO THE PLANS TO BRING THEM INTO CONFORMANCE WITH CONDITIONS AND STANDARDS IN EFFECT.

BENCHMARK: CITY BM #PD 18-5

BEING A 1-1/2" COPPERWELD IN ASPHALT, FLUSH, AT THE CENTERLINE INTERSECTION OF BOB HOPE DRIVE AND DINAH SHORE DRIVE.

ELEV. = 347.672

CITY OF RANCHO MIRAGE, CALIFORNIA

DRAWN BY: EB	TENTATIVE TRACT MAP NO. 38636	SCALE: 1"=20'
DESIGNED BY: EB	72094 GINGER ROGERS ROAD	DATE: 12/5/2022
CHECKED BY: SD		DRAWING NO: 1 / 1

DOUBLE RING INFILTROMETER TEST DATA

Project Name and Test Location:				Constants-	Ring Data		Liquid Containers	
Rancho Mirage					Area, A_r (in^2)	Depth of Liquid (in)	No.	Vol., V_r (in3/in)
				Inner Ring:	113	4	1	78.54
Test By:	FDC	USCS Class:	SM	Annular Space:	339	4.1	2	176.7
Water Table Depth:	50'	Penetration of Rings into Soil (in.):			Inner:	3 Inch	Outer:	7 Inch
Date of Test:	3/01/23	Liquid Used:	Water	pH: 7.3	Ground Temp (°F):	61	at Depth:	4'
Liquid Level Maintained by using:	( ) Flow Valve ( ) Float Valve ( ) Marriotte Tube ( ) Other:							
Additional Comments:	Depth Below Surface = 4'							

Time interval	Time (hr:min)	Dt (min) & Total	Inner Ring Elev., H (In)	Inner Ring ΔH (in) &	Annular Ring Elev., H (In)	Annular Ring ΔH (in) &	Liquid Temp °F	Infiltration Rate, I** Inner in/hr	Infiltration Rate, I** Outer in/hr	Remarks
1 - Start	7:15	5	2.00	2.25	1.00	3.25	57.00	18.77	20.22	
End	7:20	5	4.25	176.72	4.25	574.28	57.00			
2 - Start	7:20	10	4.25	4.00	4.25	5.50	57.00	16.68	17.20	
End	7:30	15	8.25	314.16	9.75	971.85	57.00			
3 - Start	7:30	15	8.25	3.75	9.75	5.25	57.00	10.43	19.95	
End	7:45	30	12.0	294.53	15.00	927.68	57.00			
4 - Start	7:45	30	1.0	7.0	1.00	5.50	58.00	9.73	5.73	Refilled Tube
End	8:15	60	8.0	549.76	6.50	971.85	60.00			
5 - Start	8:15	30	1.0	6.0	6.50	8.00	60.00	8.34	8,34	Refilled Tube
End	9:15	90	7.00	471.24	14.50	1413.60	61.00			
6 - Start	9:15	60	1.0	11.0	1.00	11.00	61.00	7.65	5.73	Refilled Tube
End	10:15	150	12.00	863.94	12.00	1943.70	62.00			
7 - Start	10:15	60	0.50	10.50	1.00	11.00	62.--	7.30	5.73	Refilled Tube
End	11:15	180	11.0	824.67	12.00	1943.70	63.00			
8 - Start	11:15	60	1.0	9.25	1.00	10.26	63.00	6.43	5.34	Refilled Tube
End	12:15	240	10.25	726.50	11.25	1811.18	63.00			
9 - Start	12:15	60	1.00	9.25	1.00	10.00	64.00	6.43	5.21	Refilled Tube
End	1:15	300	10.25	726.50	11.00	1767.00	64.00			
10 - Start	1:15	60	1.00	9.25	1.00	10.00	64.00	6.43	5.21	Refilled Tube
End	2:15	360	10.25	726.50	11.0	1767.00	64.00			
11 - Start								Use 4.5 In/hr		
End										
12 - Start										
End										
13 - Start										
End										
14 - Start										
End										
15 - Start										
End										

*Flow, Qf = ΔH x Vr **Infiltration Rate, I = (Qf/Ar)/Δt

Table 3 – Sample Test Data Form for Double Ring Infiltrometer Test

B-Bbbbbbb1

Project No. 23-0102-Inf
March 04, 2023

DOUBLE RING INFILTROMETER TEST DATA

Project Name & Test Location: Rancho Mirage

Infiltration

Constants	Ring Data: Area, Ar (in2)	Ring Data: Depth of Liquid (in)	Liquid Containers: No.	Liquid Containers: Vol., Vr (in3/in)
Inner Ring :	113	4	1	78.54
Annular Ring :	339	4.1	2	176.7

Test By:	FDC	USCS Class:							
Water Table Depth:		50 ft.	Penetration of Rings into Soil (in.):			Inner:	3 in	Outter:	7 in
Date of Test:	3/1/23	Liquid Use	Water	pH:	7.5	Gound Temp (˚F):	58	at Depth:	4'
Liquid Level Maintained by using:		( ) Flow Valve ( ) Float Valve (X) Marriotte Tube ( ) Other:							
Additional Comments:		Depth Below Surface = 4'							

Time Interval	Time (hr:min)	Δt (min) & Total	Inner Ring: Elev., H (in)	Inner Ring: ΔH (in) &	Annular Ring: Elev., H (in)	Annular Ring: ΔH (in) &	Liquid Temp ˚F	Infiltration Rate, I**: inner in/hr	Infiltration Rate, I**: Outer in/hr	Remarks
1 - Start	14:00	5	0.75	2.00	1.00	2.75	58.00	16.68	17.20	
End	14:05	5	2.75	157.08	3.75	485.93	58.00			
2 - Start	14:05	10	2.75	3.75	3.75	5.25	59.00	15.64	16.42	
End	14:15	15	6.50	294.53	9.00	927.68	59.00			
3 - Start	14:15	15	6.50	5.25	9.00	7.00	60.00	14.60	14.59	
End	14:30	30	11.75	412.34	16.00	1236.90	60.00			
4 - Start	14:30	30	2.00	9.00	1.50	12.25	60.00	12.51	12.77	
End	15:00	60	11.00	706.86	13.75	2164.58	60.00			Refilled Tubes
5 - Start	15:00	30	1.00	8.75	2.00	12.25	60.00	12.16	12.77	
End	15:30	90	9.75	687.23	14.25	2164.58	61.00			Refilled Tubes
6 - Start	15:30	30	0.50	8.00	1.50	11.75	61.00	11.12	12.25	
End	16:00	120	8.50	628.32	13.25	2076.23	62.00			Refilled Tubes
7 - Start	16:00	30	8.50	6.50	1.00	10.00	62.00	9.04	10.42	
End	16:30	150	15.00	510.51	11.00	1767.00	63.00			
8 - Start	16:30	30	1.00	6.25	0.00	8.50	63.00	8.69	8.86	
End	16:30	180	7.25	490.88	8.50	1501.95	63.00			Refilled Tubes
9 - Start	16:30	30	7.25	5.75	8.50	7.50	63.00	7.99	7.82	
End	17:00	210	13.00	451.61	16.00	1325.25	64.00			
10 - Start	17:00	30	1.00	4.75	1.00	6.75	64.00	6.60	7.04	
End	17:30	240	5.75	373.07	7.75	1192.73	64.00			Refilled Tubes
11 - Start	17:30	30	5.75	4.50	7.75	6.25	65.00	6.26	6.52	
End	18:00	270	10.25	353.43	14.00	1104.38	65.00			
12 - Start	18:00	30	1.00	4.50	2.50	6.50	64.00	6.26	6.78	
End	18:30	300	5.50	353.43	9.00	1148.55	64.00			Refilled Tubes
13 - Start	18:30	30	5.50	4.50	9.00	6.50	63.00	6.26	6.78	
End	19:00	330	10.00	353.43	15.50	1148.55	63.00			
14 - Start								Use 4.5 in/hr		
End										
15 - Start										
End										

Project No. 23-0102-Inf
March 04, 2023

INFILTRATION TESTING FIELD LOG

Boring/Excavation Percolation Testing Field Log Date: 03/01/23

Project Location Rancho Mirage
Earth Description: Silty Gravelly Fine Sand w/cobbles
Tested by: TB/MS

Liquid Description: Tap Water

Boring/test Number: B-1
Diameter of Boring: 8-inch
Depth of Boring: 4' below grade
Depth to Invert of BMP's: 4' below grade
Depth to Water Table: ~~>50'~~

Time Interval Standard:

Start Date for Pre-Soak: 3/01/2023
Start Time for Standard: 11:00

Water Remaining In Boring (Y/N): Yes
Standard Time Interval Between Readings: 30 Minutes

Measurement Method: Measuring Tape
Depth to initial water Depth(d1): 96"

Reading Number	Time Start/End (hh:mm)	Elapsed Time △Time (mins)	Water Drop During Standard Time Interval △D (inches)	Percolation Rate for Reading (in/hr)	Soil Description/Notes/Comments
1	11:00 11:30	30	5.75	11.50	Medium to Coarse, Silty Gravelly Fine Sand
2	12:00 12:30	30	4.25	8.50	
3	13:00 13:30	30	4.0	8.0	
4	14:00 14:30	30	2.25	4.50	
5	15:00 15:305	30	2.25	4.50	
			Infiltration Rate	4.50 In/Hr.	**Use 4.5 In/Hr.**

Appendix F Preliminary Hydrology Study and Hydraulics Report dated April 28, 2023

PRELIMINARY
HYDROLOGY STUDY

AND

HYDRAULICS REPORT

FOR

TENTATIVE TRACT MAP 38636
CITY OF RANCHO MIRAGE

PREPARED BY:

S.D. ENGINEERING AND ASSOCIATES
242 E. Airport Drive, Ste 212
San Bernardino, Ca. 92408
(909) 884-7090
Email: suresh@sdengineering.com

INTRODUCTION

STUDY LOCATION:

This study area consists of approximately 5.04 acres of land with a single Family residential house located at the northeast corner of Ginger Rogers Road and Landy Lane in the City of Rancho Mirage. The proposed project is a 9-lot Tract Homes Subdivision. The site may be accessed via Bob Hope Drive south from from Freeway 10, thence east on Ginger Rogers Road to the project site.

REPORT OBJECTIVE:

The entire area of this project will be developed as a 9-lot Tract Homes. The objective of this report is to determine the basic hydrologic response of the proposed development to both onsite and offsite storm runoff and to establish storm drain facility design criteria for this localized unit for review by the City of Rancho Mirage. The project is in a Very Low Density Residential Zoning

HYDROLOGY METHODOLOGY:

The rational method hydrology system and the unit hydrograph method system of the Riverside County Flood Control and Water Conservation District Hydrology Manual dated April, 1978 will be used in the analysis of the subject site to satisfy the requirements of the City of Rancho Mirage.

SUMMARY:

The project study area is approximately 5.04 acres of land with an existing single family residential house to be demolished and to be replaced with 9-lots Tract Homes. The project is small enough to be classified as a small project . The existing terrain has a drainage pattern from the northeast to the southwest. The drainage pattern will remain the same for the post development condition.
The project site is surrounded on the west by Landy Lane and will be improved with sidewalk, curb and gutter and therefore it will not have significant impact to the project.
On the south side is Ginger Rogers Road and will be improved with sidewalk, curb and gutter, and therefore it will not have significant impact to the project.
To the east and north sides are existing tract homes development with their own drainage system and separated by block walls, therefore they will not have significant impact to the project site.

There will be a short onsite private road that runs north and south and drains from north to south, There is a proposed retention/infiltration basin at the south end of the proposed road to treat runoff before draining to the City storm drain system to satisfy the WQMP requirements. This basin also used to mitigate any increase of runoff from predevelopment to post development conditions if there are any.

The site is in Soil Group inside Riverside-East Soil Group Map.

Onsite storm runoff are calculated before and after development conditions for 10-year and 100-year frequencies to ensure that the site is not flooded during the 100-year storm.

Frequency	Predevlopement Flow (cfs)	Post Development Flow (cfs)	Increase of flow (cfs)	Predevelopment Volume, Ac-Ft	Post Development Volume, Ac-Ft
Q10	1.14	4.22	0.08		
Q100	9.90	11.30	1.40	0.7520	0.5484

Based on the Unit Hydrograph method, the 100-year predevelopment volume is 0.7520 Ac-Ft. and the post development generated volume is 0.5484 Ac-Ft. with a decrease of 0.2036 Ac-Ft., therefore no further mitigation is necessary.

The Infiltration basin has a total capacity of 5,161 cf with a required volume of 1,685 c.f.

WQMP RETENTION VOLUME

Volume Required (cf)	Volume Provided (cf)
1,685	5,161

The proposed 16” drain line has a capacity of 11.67 cfs which is more than the calculated flow of 11.30 cfs.

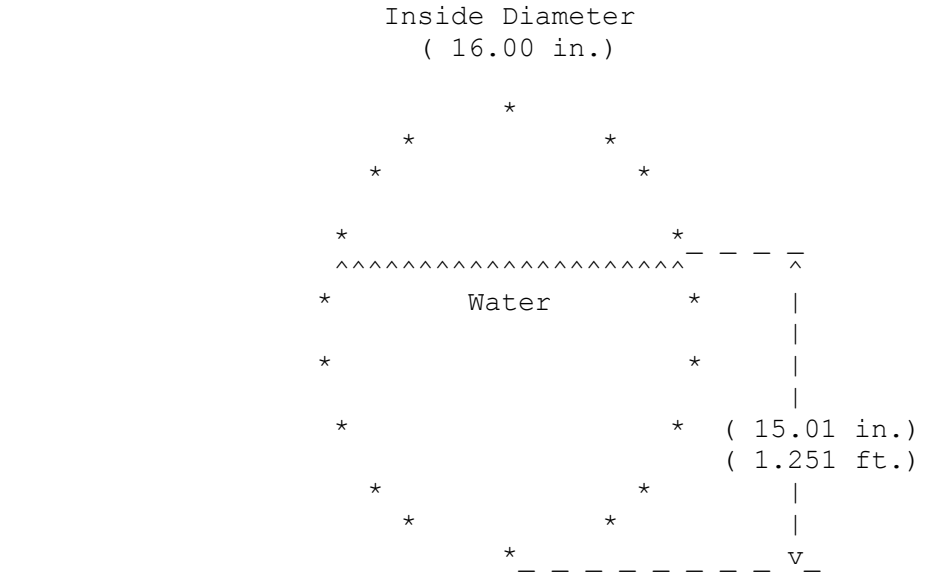
Street depth calculations for the proposed private street show that the street section can adequately handle the expected flow of 11.30 cfs.

The proposed street catch basin inlet opening of 4’ wide is more than adequate to handle the calculated street flow.

CONCLUSION:

This Preliminary Hydrology and Hydraulics Report concludes that the proposed project is safe and feasible from Hydrology and Drainage standpoint.

CAPACITY OF PROPOSED 16” DRAIN LINE



Circular Channel Section

Flowrate	11.673	CFS >11.30 CFS OK
Velocity	8.581	fps
Pipe Diameter	16.000	inches
Depth of Flow	15.008	inches
Depth of Flow	1.251	feet
Critical Depth	1.262	feet
Depth/Diameter (D/d)	0.938	
Slope of Pipe	2.000	%
X-Sectional Area	1.360	sq. ft.

```
           Riverside County Rational Hydrology Program
CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2005 Version 7.1
     Rational Hydrology Study        Date: 04/28/23  File:MIRAGE1.out
------------------------------------------------------------------------
10-YEAR, PREDEVELOPMENT
TTM 38636
------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********
 English (in-lb) Units used in input data file
------------------------------------------------------------------------
Program License Serial Number 6260
------------------------------------------------------------------------
Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual
Storm event (year) =   10.00 Antecedent Moisture Condition = 2
Standard intensity-duration curves data (Plate D-4.1)
For the [ Cathedral City ] area used.
10 year storm 10 minute intensity =  2.770(In/Hr)
10 year storm 60 minute intensity =  0.980(In/Hr)
100 year storm 10 minute intensity =  4.520(In/Hr)
100 year storm 60 minute intensity =  1.600(In/Hr)
Storm event year =  10.0
Calculated rainfall intensity data:
1 hour intensity =  0.980(In/Hr)
Slope of intensity duration curve = 0.5800
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        1.000 to Point/Station        2.000
**** INITIAL AREA  EVALUATION
Initial area flow distance =   686.000(Ft.)
Top (of initial area) elevation =   328.800(Ft.)
Bottom (of initial area) elevation =   323.000(Ft.)
Difference in elevation =     5.800(Ft.)
Slope =    0.00845  s(percent)=       0.85
TC = k(0.480)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   16.996 min.
Rainfall intensity =      2.037(In/Hr) for a    10.0 year storm
SINGLE FAMILY (1 Acre Lot)
Runoff Coefficient = 0.481
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  32.00
Pervious area fraction =  0.800; Impervious fraction =  0.200
Initial subarea runoff =      4.135(CFS)
Total initial stream area =        4.220(Ac.)
Pervious area fraction = 0.800
End of computations, total study area =            4.22 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.800
Area averaged RI index number =  32.0
```

```
           Riverside County Rational Hydrology Program
CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2005 Version 7.1
     Rational Hydrology Study        Date: 04/28/23  File:MIRAGE2.out
------------------------------------------------------------------------
100-YEAR, PREVELOPMENT
TTM 38636
------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********
 English (in-lb) Units used in input data file
------------------------------------------------------------------------
Program License Serial Number 6260
------------------------------------------------------------------------
Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual
Storm event (year) =  100.00 Antecedent Moisture Condition = 3
Standard intensity-duration curves data (Plate D-4.1)
For the [ Cathedral City ] area used.
10 year storm 10 minute intensity =  2.770(In/Hr)
10 year storm 60 minute intensity =  0.980(In/Hr)
100 year storm 10 minute intensity =  4.520(In/Hr)
100 year storm 60 minute intensity =  1.600(In/Hr)
Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity =  1.600(In/Hr)
Slope of intensity duration curve = 0.5800
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        1.000 to Point/Station        2.000
**** INITIAL AREA EVALUATION ****
Initial area flow distance =   686.000(Ft.)
Top (of initial area) elevation =   328.800(Ft.)
Bottom (of initial area) elevation =   323.000(Ft.)
Difference in elevation =     5.800(Ft.)
Slope =    0.00845  s(percent)=       0.85
TC = k(0.480)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   16.996 min.
Rainfall intensity =      3.325(In/Hr) for a   100.0 year storm
SINGLE FAMILY (1 Acre Lot)
Runoff Coefficient = 0.706
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  52.00
Pervious area fraction =  0.800; Impervious fraction =  0.200
Initial subarea runoff =      9.900(CFS)
Total initial stream area =        4.220(Ac.)
Pervious area fraction = 0.800
End of computations, total study area =            4.22 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.800
Area averaged RI index number =  32.0
```

```
           Riverside County Rational Hydrology Program
CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2005 Version 7.1
     Rational Hydrology Study        Date: 04/28/23  File:MIRAGE3.out
------------------------------------------------------------------------
10-YEAR, POST DEVELOPMENT
TTM 38636
------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********
 English (in-lb) Units used in input data file
------------------------------------------------------------------------
Program License Serial Number 6260
------------------------------------------------------------------------
Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual
Storm event (year) =   10.00 Antecedent Moisture Condition = 2
Standard intensity-duration curves data (Plate D-4.1)
For the [ Cathedral City ] area used.
10 year storm 10 minute intensity =  2.770(In/Hr)
10 year storm 60 minute intensity =  0.980(In/Hr)
100 year storm 10 minute intensity =  4.520(In/Hr)
100 year storm 60 minute intensity =  1.600(In/Hr)
Storm event year =  10.0
Calculated rainfall intensity data:
1 hour intensity =  0.980(In/Hr)
Slope of intensity duration curve = 0.5800
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        1.000 to Point/Station        2.000
**** INITIAL AREA EVALUATION ****
Initial area flow distance =   682.000(Ft.)
Top (of initial area) elevation =   328.800(Ft.)
Bottom (of initial area) elevation =   324.000(Ft.)
Difference in elevation =     4.800(Ft.)
Slope =    0.00704  s(percent)=       0.70
TC = k(0.420)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   15.391 min.
Rainfall intensity =      2.157(In/Hr) for a    10.0 year storm
SINGLE FAMILY (1/2 Acre Lot)
Runoff Coefficient = 0.593
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  32.00
Pervious area fraction =  0.600; Impervious fraction =  0.400
Initial subarea runoff =      5.403(CFS)
Total initial stream area =        4.220(Ac.)
Pervious area fraction = 0.600
End of computations, total study area =            4.22 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.600
Area averaged RI index number =  32.0
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           Riverside County Rational Hydrology Program
CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2005 Version 7.1
     Rational Hydrology Study        Date: 04/28/23  File:MIRAGE4.out
------------------------------------------------------------------------
100-YEAR, POST DEVELOPMENT
TTM 38636
------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********
 English (in-lb) Units used in input data file
------------------------------------------------------------------------
Program License Serial Number 6260
------------------------------------------------------------------------
Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual
Storm event (year) =  100.00 Antecedent Moisture Condition = 3
Standard intensity-duration curves data (Plate D-4.1)
For the [ Cathedral City ] area used.
10 year storm 10 minute intensity =  2.770(In/Hr)
10 year storm 60 minute intensity =  0.980(In/Hr)
100 year storm 10 minute intensity =  4.520(In/Hr)
100 year storm 60 minute intensity =  1.600(In/Hr)
Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity =  1.600(In/Hr)
Slope of intensity duration curve = 0.5800
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        1.000 to Point/Station        2.000
**** INITIAL AREA EVALUATION ****
Initial area flow distance =   682.000(Ft.)
Top (of initial area) elevation =   328.800(Ft.)
Bottom (of initial area) elevation =   324.000(Ft.)
Difference in elevation =     4.800(Ft.)
Slope =    0.00704  s(percent)=       0.70
TC = k(0.420)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   15.391 min.
Rainfall intensity =      3.522(In/Hr) for a   100.0 year storm
SINGLE FAMILY (1/2 Acre Lot)
Runoff Coefficient = 0.760
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  52.00
Pervious area fraction =  0.600; Impervious fraction =  0.400
Initial subarea runoff =     11.299(CFS)
Total initial stream area =        4.220(Ac.)
Pervious area fraction = 0.600
End of computations, total study area =            4.22 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.600
Area averaged RI index number =  32.0
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      U n i t   H y d r o g r a p h   A n a l y s i s
      Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
           Study date  05/02/23 File: MIRAGE824100.out
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
------------------------------------------------------------------------
Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6260

------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

------------------------------------------------------------------------
UNIT HYDROGRAPH
100-YEAR POST DEVELOPMENT
TTM 38636
RANCHO MIRAGE
------------------------------------------------------------------------
Drainage Area =       4.22(Ac.)  =      0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.22(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse =     682.00(Ft.)
Length along longest watercourse measured to centroid =     250.00(Ft.)
Length along longest watercourse =      0.129 Mi.
Length along longest watercourse measured to centroid =      0.047 Mi.
Difference in elevation =       4.80(Ft.)
Slope along watercourse =     37.1613 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.026 Hr.
Lag time =     1.57 Min.
25% of lag time =     0.39 Min.
40% of lag time =     0.63 Min.
Unit time =     5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.22             1.21                  5.11

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.22             4.73                 19.96

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    1.210(In)
Area Averaged 100-Year Rainfall =    4.730(In)
```

Point rain (area averaged) = 4.730(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.730(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.220	32.00	0.280

Total Area Entered = 4.22(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
32.0	52.0	0.552	0.280	0.413	1.000	0.413
					Sum (F) =	0.413

Area averaged mean soil loss (F) (In/Hr) = 0.413
Minimum soil loss rate ((In/Hr)) = 0.206
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.680

U n i t H y d r o g r a p h
DESERT S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %		Unit Hydrograph (CFS)
1	0.083	319.139	58.131		2.472
2	0.167	638.278	37.534		1.596
3	0.250	957.417	4.335		0.184
			Sum = 100.000	Sum=	4.253

The following loss rate calculations reflect use of the minimum calculated loss
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.038	(0.731)	0.026	0.012
2	0.17	0.07	0.038	(0.729)	0.026	0.012
3	0.25	0.07	0.038	(0.726)	0.026	0.012
4	0.33	0.10	0.057	(0.723)	0.039	0.018
5	0.42	0.10	0.057	(0.720)	0.039	0.018
6	0.50	0.10	0.057	(0.717)	0.039	0.018
7	0.58	0.10	0.057	(0.715)	0.039	0.018
8	0.67	0.10	0.057	(0.712)	0.039	0.018
9	0.75	0.10	0.057	(0.709)	0.039	0.018
10	0.83	0.13	0.076	(0.706)	0.051	0.024
11	0.92	0.13	0.076	(0.703)	0.051	0.024

12	1.00	0.13	0.076	(0.701)	0.051	0.024
13	1.08	0.10	0.057	(0.698)	0.039	0.018
14	1.17	0.10	0.057	(0.695)	0.039	0.018
15	1.25	0.10	0.057	(0.692)	0.039	0.018
16	1.33	0.10	0.057	(0.690)	0.039	0.018
17	1.42	0.10	0.057	(0.687)	0.039	0.018
18	1.50	0.10	0.057	(0.684)	0.039	0.018
19	1.58	0.10	0.057	(0.681)	0.039	0.018
20	1.67	0.10	0.057	(0.679)	0.039	0.018
21	1.75	0.10	0.057	(0.676)	0.039	0.018
22	1.83	0.13	0.076	(0.673)	0.051	0.024
23	1.92	0.13	0.076	(0.670)	0.051	0.024
24	2.00	0.13	0.076	(0.668)	0.051	0.024
25	2.08	0.13	0.076	(0.665)	0.051	0.024
26	2.17	0.13	0.076	(0.662)	0.051	0.024
27	2.25	0.13	0.076	(0.660)	0.051	0.024
28	2.33	0.13	0.076	(0.657)	0.051	0.024
29	2.42	0.13	0.076	(0.654)	0.051	0.024
30	2.50	0.13	0.076	(0.652)	0.051	0.024
31	2.58	0.17	0.095	(0.649)	0.064	0.030
32	2.67	0.17	0.095	(0.646)	0.064	0.030
33	2.75	0.17	0.095	(0.644)	0.064	0.030
34	2.83	0.17	0.095	(0.641)	0.064	0.030
35	2.92	0.17	0.095	(0.638)	0.064	0.030
36	3.00	0.17	0.095	(0.636)	0.064	0.030
37	3.08	0.17	0.095	(0.633)	0.064	0.030
38	3.17	0.17	0.095	(0.630)	0.064	0.030
39	3.25	0.17	0.095	(0.628)	0.064	0.030
40	3.33	0.17	0.095	(0.625)	0.064	0.030
41	3.42	0.17	0.095	(0.623)	0.064	0.030
42	3.50	0.17	0.095	(0.620)	0.064	0.030
43	3.58	0.17	0.095	(0.617)	0.064	0.030
44	3.67	0.17	0.095	(0.615)	0.064	0.030
45	3.75	0.17	0.095	(0.612)	0.064	0.030
46	3.83	0.20	0.114	(0.610)	0.077	0.036
47	3.92	0.20	0.114	(0.607)	0.077	0.036
48	4.00	0.20	0.114	(0.604)	0.077	0.036
49	4.08	0.20	0.114	(0.602)	0.077	0.036
50	4.17	0.20	0.114	(0.599)	0.077	0.036
51	4.25	0.20	0.114	(0.597)	0.077	0.036
52	4.33	0.23	0.132	(0.594)	0.090	0.042
53	4.42	0.23	0.132	(0.592)	0.090	0.042
54	4.50	0.23	0.132	(0.589)	0.090	0.042
55	4.58	0.23	0.132	(0.587)	0.090	0.042
56	4.67	0.23	0.132	(0.584)	0.090	0.042
57	4.75	0.23	0.132	(0.582)	0.090	0.042
58	4.83	0.27	0.151	(0.579)	0.103	0.048
59	4.92	0.27	0.151	(0.577)	0.103	0.048
60	5.00	0.27	0.151	(0.574)	0.103	0.048
61	5.08	0.20	0.114	(0.572)	0.077	0.036
62	5.17	0.20	0.114	(0.569)	0.077	0.036
63	5.25	0.20	0.114	(0.567)	0.077	0.036
64	5.33	0.23	0.132	(0.564)	0.090	0.042
65	5.42	0.23	0.132	(0.562)	0.090	0.042

66	5.50	0.23	0.132	(0.559)	0.090	0.042
67	5.58	0.27	0.151	(0.557)	0.103	0.048
68	5.67	0.27	0.151	(0.554)	0.103	0.048
69	5.75	0.27	0.151	(0.552)	0.103	0.048
70	5.83	0.27	0.151	(0.549)	0.103	0.048
71	5.92	0.27	0.151	(0.547)	0.103	0.048
72	6.00	0.27	0.151	(0.545)	0.103	0.048
73	6.08	0.30	0.170	(0.542)	0.116	0.054
74	6.17	0.30	0.170	(0.540)	0.116	0.054
75	6.25	0.30	0.170	(0.537)	0.116	0.054
76	6.33	0.30	0.170	(0.535)	0.116	0.054
77	6.42	0.30	0.170	(0.533)	0.116	0.054
78	6.50	0.30	0.170	(0.530)	0.116	0.054
79	6.58	0.33	0.189	(0.528)	0.129	0.061
80	6.67	0.33	0.189	(0.525)	0.129	0.061
81	6.75	0.33	0.189	(0.523)	0.129	0.061
82	6.83	0.33	0.189	(0.521)	0.129	0.061
83	6.92	0.33	0.189	(0.518)	0.129	0.061
84	7.00	0.33	0.189	(0.516)	0.129	0.061
85	7.08	0.33	0.189	(0.514)	0.129	0.061
86	7.17	0.33	0.189	(0.511)	0.129	0.061
87	7.25	0.33	0.189	(0.509)	0.129	0.061
88	7.33	0.37	0.208	(0.507)	0.142	0.067
89	7.42	0.37	0.208	(0.504)	0.142	0.067
90	7.50	0.37	0.208	(0.502)	0.142	0.067
91	7.58	0.40	0.227	(0.500)	0.154	0.073
92	7.67	0.40	0.227	(0.497)	0.154	0.073
93	7.75	0.40	0.227	(0.495)	0.154	0.073
94	7.83	0.43	0.246	(0.493)	0.167	0.079
95	7.92	0.43	0.246	(0.491)	0.167	0.079
96	8.00	0.43	0.246	(0.488)	0.167	0.079
97	8.08	0.50	0.284	(0.486)	0.193	0.091
98	8.17	0.50	0.284	(0.484)	0.193	0.091
99	8.25	0.50	0.284	(0.482)	0.193	0.091
100	8.33	0.50	0.284	(0.479)	0.193	0.091
101	8.42	0.50	0.284	(0.477)	0.193	0.091
102	8.50	0.50	0.284	(0.475)	0.193	0.091
103	8.58	0.53	0.303	(0.473)	0.206	0.097
104	8.67	0.53	0.303	(0.470)	0.206	0.097
105	8.75	0.53	0.303	(0.468)	0.206	0.097
106	8.83	0.57	0.322	(0.466)	0.219	0.103
107	8.92	0.57	0.322	(0.464)	0.219	0.103
108	9.00	0.57	0.322	(0.462)	0.219	0.103
109	9.08	0.63	0.359	(0.459)	0.244	0.115
110	9.17	0.63	0.359	(0.457)	0.244	0.115
111	9.25	0.63	0.359	(0.455)	0.244	0.115
112	9.33	0.67	0.378	(0.453)	0.257	0.121
113	9.42	0.67	0.378	(0.451)	0.257	0.121
114	9.50	0.67	0.378	(0.448)	0.257	0.121
115	9.58	0.70	0.397	(0.446)	0.270	0.127
116	9.67	0.70	0.397	(0.444)	0.270	0.127
117	9.75	0.70	0.397	(0.442)	0.270	0.127
118	9.83	0.73	0.416	(0.440)	0.283	0.133
119	9.92	0.73	0.416	(0.438)	0.283	0.133

120	10.00	0.73	0.416	(0.436)	0.283	0.133
121	10.08	0.50	0.284	(0.434)	0.193	0.091
122	10.17	0.50	0.284	(0.431)	0.193	0.091
123	10.25	0.50	0.284	(0.429)	0.193	0.091
124	10.33	0.50	0.284	(0.427)	0.193	0.091
125	10.42	0.50	0.284	(0.425)	0.193	0.091
126	10.50	0.50	0.284	(0.423)	0.193	0.091
127	10.58	0.67	0.378	(0.421)	0.257	0.121
128	10.67	0.67	0.378	(0.419)	0.257	0.121
129	10.75	0.67	0.378	(0.417)	0.257	0.121
130	10.83	0.67	0.378	(0.415)	0.257	0.121
131	10.92	0.67	0.378	(0.413)	0.257	0.121
132	11.00	0.67	0.378	(0.411)	0.257	0.121
133	11.08	0.63	0.359	(0.409)	0.244	0.115
134	11.17	0.63	0.359	(0.407)	0.244	0.115
135	11.25	0.63	0.359	(0.405)	0.244	0.115
136	11.33	0.63	0.359	(0.403)	0.244	0.115
137	11.42	0.63	0.359	(0.401)	0.244	0.115
138	11.50	0.63	0.359	(0.399)	0.244	0.115
139	11.58	0.57	0.322	(0.397)	0.219	0.103
140	11.67	0.57	0.322	(0.395)	0.219	0.103
141	11.75	0.57	0.322	(0.393)	0.219	0.103
142	11.83	0.60	0.341	(0.391)	0.232	0.109
143	11.92	0.60	0.341	(0.389)	0.232	0.109
144	12.00	0.60	0.341	(0.387)	0.232	0.109
145	12.08	0.83	0.473	(0.385)	0.322	0.151
146	12.17	0.83	0.473	(0.383)	0.322	0.151
147	12.25	0.83	0.473	(0.381)	0.322	0.151
148	12.33	0.87	0.492	(0.379)	0.335	0.157
149	12.42	0.87	0.492	(0.377)	0.335	0.157
150	12.50	0.87	0.492	(0.376)	0.335	0.157
151	12.58	0.93	0.530	(0.374)	0.360	0.170
152	12.67	0.93	0.530	(0.372)	0.360	0.170
153	12.75	0.93	0.530	(0.370)	0.360	0.170
154	12.83	0.97	0.549	0.368	(0.373)	0.181
155	12.92	0.97	0.549	0.366	(0.373)	0.182
156	13.00	0.97	0.549	0.364	(0.373)	0.184
157	13.08	1.13	0.643	0.363	(0.437)	0.281
158	13.17	1.13	0.643	0.361	(0.437)	0.283
159	13.25	1.13	0.643	0.359	(0.437)	0.284
160	13.33	1.13	0.643	0.357	(0.437)	0.286
161	13.42	1.13	0.643	0.355	(0.437)	0.288
162	13.50	1.13	0.643	0.353	(0.437)	0.290
163	13.58	0.77	0.435	(0.352)	0.296	0.139
164	13.67	0.77	0.435	(0.350)	0.296	0.139
165	13.75	0.77	0.435	(0.348)	0.296	0.139
166	13.83	0.77	0.435	(0.346)	0.296	0.139
167	13.92	0.77	0.435	(0.344)	0.296	0.139
168	14.00	0.77	0.435	(0.343)	0.296	0.139
169	14.08	0.90	0.511	0.341	(0.347)	0.170
170	14.17	0.90	0.511	0.339	(0.347)	0.172
171	14.25	0.90	0.511	0.337	(0.347)	0.173
172	14.33	0.87	0.492	(0.336)	0.335	0.157
173	14.42	0.87	0.492	0.334	(0.335)	0.158

174	14.50	0.87	0.492	0.332	(0.335)	0.160
175	14.58	0.87	0.492	0.331	(0.335)	0.161
176	14.67	0.87	0.492	0.329	(0.335)	0.163
177	14.75	0.87	0.492	0.327	(0.335)	0.165
178	14.83	0.83	0.473	(0.326)	0.322	0.151
179	14.92	0.83	0.473	(0.324)	0.322	0.151
180	15.00	0.83	0.473	(0.322)	0.322	0.151
181	15.08	0.80	0.454	(0.321)	0.309	0.145
182	15.17	0.80	0.454	(0.319)	0.309	0.145
183	15.25	0.80	0.454	(0.317)	0.309	0.145
184	15.33	0.77	0.435	(0.316)	0.296	0.139
185	15.42	0.77	0.435	(0.314)	0.296	0.139
186	15.50	0.77	0.435	(0.312)	0.296	0.139
187	15.58	0.63	0.359	(0.311)	0.244	0.115
188	15.67	0.63	0.359	(0.309)	0.244	0.115
189	15.75	0.63	0.359	(0.308)	0.244	0.115
190	15.83	0.63	0.359	(0.306)	0.244	0.115
191	15.92	0.63	0.359	(0.305)	0.244	0.115
192	16.00	0.63	0.359	(0.303)	0.244	0.115
193	16.08	0.13	0.076	(0.301)	0.051	0.024
194	16.17	0.13	0.076	(0.300)	0.051	0.024
195	16.25	0.13	0.076	(0.298)	0.051	0.024
196	16.33	0.13	0.076	(0.297)	0.051	0.024
197	16.42	0.13	0.076	(0.295)	0.051	0.024
198	16.50	0.13	0.076	(0.294)	0.051	0.024
199	16.58	0.10	0.057	(0.292)	0.039	0.018
200	16.67	0.10	0.057	(0.291)	0.039	0.018
201	16.75	0.10	0.057	(0.289)	0.039	0.018
202	16.83	0.10	0.057	(0.288)	0.039	0.018
203	16.92	0.10	0.057	(0.286)	0.039	0.018
204	17.00	0.10	0.057	(0.285)	0.039	0.018
205	17.08	0.17	0.095	(0.284)	0.064	0.030
206	17.17	0.17	0.095	(0.282)	0.064	0.030
207	17.25	0.17	0.095	(0.281)	0.064	0.030
208	17.33	0.17	0.095	(0.279)	0.064	0.030
209	17.42	0.17	0.095	(0.278)	0.064	0.030
210	17.50	0.17	0.095	(0.277)	0.064	0.030
211	17.58	0.17	0.095	(0.275)	0.064	0.030
212	17.67	0.17	0.095	(0.274)	0.064	0.030
213	17.75	0.17	0.095	(0.272)	0.064	0.030
214	17.83	0.13	0.076	(0.271)	0.051	0.024
215	17.92	0.13	0.076	(0.270)	0.051	0.024
216	18.00	0.13	0.076	(0.268)	0.051	0.024
217	18.08	0.13	0.076	(0.267)	0.051	0.024
218	18.17	0.13	0.076	(0.266)	0.051	0.024
219	18.25	0.13	0.076	(0.264)	0.051	0.024
220	18.33	0.13	0.076	(0.263)	0.051	0.024
221	18.42	0.13	0.076	(0.262)	0.051	0.024
222	18.50	0.13	0.076	(0.261)	0.051	0.024
223	18.58	0.10	0.057	(0.259)	0.039	0.018
224	18.67	0.10	0.057	(0.258)	0.039	0.018
225	18.75	0.10	0.057	(0.257)	0.039	0.018
226	18.83	0.07	0.038	(0.256)	0.026	0.012
227	18.92	0.07	0.038	(0.254)	0.026	0.012

228	19.00	0.07	0.038	(0.253)	0.026	0.012
229	19.08	0.10	0.057	(0.252)	0.039	0.018
230	19.17	0.10	0.057	(0.251)	0.039	0.018
231	19.25	0.10	0.057	(0.250)	0.039	0.018
232	19.33	0.13	0.076	(0.248)	0.051	0.024
233	19.42	0.13	0.076	(0.247)	0.051	0.024
234	19.50	0.13	0.076	(0.246)	0.051	0.024
235	19.58	0.10	0.057	(0.245)	0.039	0.018
236	19.67	0.10	0.057	(0.244)	0.039	0.018
237	19.75	0.10	0.057	(0.243)	0.039	0.018
238	19.83	0.07	0.038	(0.242)	0.026	0.012
239	19.92	0.07	0.038	(0.241)	0.026	0.012
240	20.00	0.07	0.038	(0.240)	0.026	0.012
241	20.08	0.10	0.057	(0.239)	0.039	0.018
242	20.17	0.10	0.057	(0.237)	0.039	0.018
243	20.25	0.10	0.057	(0.236)	0.039	0.018
244	20.33	0.10	0.057	(0.235)	0.039	0.018
245	20.42	0.10	0.057	(0.234)	0.039	0.018
246	20.50	0.10	0.057	(0.233)	0.039	0.018
247	20.58	0.10	0.057	(0.232)	0.039	0.018
248	20.67	0.10	0.057	(0.231)	0.039	0.018
249	20.75	0.10	0.057	(0.231)	0.039	0.018
250	20.83	0.07	0.038	(0.230)	0.026	0.012
251	20.92	0.07	0.038	(0.229)	0.026	0.012
252	21.00	0.07	0.038	(0.228)	0.026	0.012
253	21.08	0.10	0.057	(0.227)	0.039	0.018
254	21.17	0.10	0.057	(0.226)	0.039	0.018
255	21.25	0.10	0.057	(0.225)	0.039	0.018
256	21.33	0.07	0.038	(0.224)	0.026	0.012
257	21.42	0.07	0.038	(0.223)	0.026	0.012
258	21.50	0.07	0.038	(0.223)	0.026	0.012
259	21.58	0.10	0.057	(0.222)	0.039	0.018
260	21.67	0.10	0.057	(0.221)	0.039	0.018
261	21.75	0.10	0.057	(0.220)	0.039	0.018
262	21.83	0.07	0.038	(0.219)	0.026	0.012
263	21.92	0.07	0.038	(0.219)	0.026	0.012
264	22.00	0.07	0.038	(0.218)	0.026	0.012
265	22.08	0.10	0.057	(0.217)	0.039	0.018
266	22.17	0.10	0.057	(0.216)	0.039	0.018
267	22.25	0.10	0.057	(0.216)	0.039	0.018
268	22.33	0.07	0.038	(0.215)	0.026	0.012
269	22.42	0.07	0.038	(0.214)	0.026	0.012
270	22.50	0.07	0.038	(0.214)	0.026	0.012
271	22.58	0.07	0.038	(0.213)	0.026	0.012
272	22.67	0.07	0.038	(0.213)	0.026	0.012
273	22.75	0.07	0.038	(0.212)	0.026	0.012
274	22.83	0.07	0.038	(0.211)	0.026	0.012
275	22.92	0.07	0.038	(0.211)	0.026	0.012
276	23.00	0.07	0.038	(0.210)	0.026	0.012
277	23.08	0.07	0.038	(0.210)	0.026	0.012
278	23.17	0.07	0.038	(0.209)	0.026	0.012
279	23.25	0.07	0.038	(0.209)	0.026	0.012
280	23.33	0.07	0.038	(0.209)	0.026	0.012
281	23.42	0.07	0.038	(0.208)	0.026	0.012

282	23.50	0.07	0.038	(0.208)	0.026	0.012
283	23.58	0.07	0.038	(0.207)	0.026	0.012
284	23.67	0.07	0.038	(0.207)	0.026	0.012
285	23.75	0.07	0.038	(0.207)	0.026	0.012
286	23.83	0.07	0.038	(0.207)	0.026	0.012
287	23.92	0.07	0.038	(0.206)	0.026	0.012
288	24.00	0.07	0.038	(0.206)	0.026	0.012

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.7

Flood volume = Effective rainfall 1.56(In)
times area 4.2(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 3.17(In)
Total soil loss = 1.115(Ac.Ft)
Total rainfall = 4.73(In)
Flood volume = 23877.0 Cubic Feet
Total soil loss = 48579.4 Cubic Feet

Peak flow rate of this hydrograph = 1.230(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q				
0+10	0.0005	0.05	Q				
0+15	0.0009	0.05	Q				
0+20	0.0014	0.07	Q				
0+25	0.0019	0.08	Q				
0+30	0.0024	0.08	Q				
0+35	0.0029	0.08	Q				
0+40	0.0035	0.08	Q				
0+45	0.0040	0.08	Q				
0+50	0.0046	0.09	Q				
0+55	0.0053	0.10	Q				
1+ 0	0.0061	0.10	Q				
1+ 5	0.0067	0.09	Q				
1+10	0.0072	0.08	Q				
1+15	0.0077	0.08	Q				
1+20	0.0083	0.08	Q				
1+25	0.0088	0.08	Q				
1+30	0.0093	0.08	Q				
1+35	0.0099	0.08	Q				
1+40	0.0104	0.08	Q				
1+45	0.0109	0.08	Q				
1+50	0.0116	0.09	Q				
1+55	0.0123	0.10	Q				
2+ 0	0.0130	0.10	Q				
2+ 5	0.0137	0.10	Q				
2+10	0.0144	0.10	QV				

2+15	0.0151	0.10	QV	|	|	|	|
2+20	0.0158	0.10	QV	|	|	|	|
2+25	0.0165	0.10	QV	|	|	|	|
2+30	0.0172	0.10	QV	|	|	|	|
2+35	0.0181	0.12	QV	|	|	|	|
2+40	0.0189	0.13	QV	|	|	|	|
2+45	0.0198	0.13	QV	|	|	|	|
2+50	0.0207	0.13	QV	|	|	|	|
2+55	0.0216	0.13	QV	|	|	|	|
3+ 0	0.0225	0.13	QV	|	|	|	|
3+ 5	0.0234	0.13	QV	|	|	|	|
3+10	0.0243	0.13	QV	|	|	|	|
3+15	0.0251	0.13	QV	|	|	|	|
3+20	0.0260	0.13	QV	|	|	|	|
3+25	0.0269	0.13	QV	|	|	|	|
3+30	0.0278	0.13	Q V	|	|	|	|
3+35	0.0287	0.13	Q V	|	|	|	|
3+40	0.0296	0.13	Q V	|	|	|	|
3+45	0.0305	0.13	Q V	|	|	|	|
3+50	0.0315	0.14	Q V	|	|	|	|
3+55	0.0325	0.15	Q V	|	|	|	|
4+ 0	0.0336	0.15	Q V	|	|	|	|
4+ 5	0.0346	0.15	Q V	|	|	|	|
4+10	0.0357	0.15	Q V	|	|	|	|
4+15	0.0368	0.15	Q V	|	|	|	|
4+20	0.0379	0.17	Q V	|	|	|	|
4+25	0.0392	0.18	Q V	|	|	|	|
4+30	0.0404	0.18	Q V	|	|	|	|
4+35	0.0417	0.18	Q V	|	|	|	|
4+40	0.0429	0.18	Q V	|	|	|	|
4+45	0.0441	0.18	Q V	|	|	|	|
4+50	0.0455	0.20	Q V	|	|	|	|
4+55	0.0469	0.20	Q V	|	|	|	|
5+ 0	0.0483	0.21	Q V	|	|	|	|
5+ 5	0.0495	0.18	Q V	|	|	|	|
5+10	0.0506	0.16	Q V	|	|	|	|
5+15	0.0517	0.15	Q V	|	|	|	|
5+20	0.0528	0.17	Q V	|	|	|	|
5+25	0.0541	0.18	Q V	|	|	|	|
5+30	0.0553	0.18	Q V	|	|	|	|
5+35	0.0567	0.20	Q V	|	|	|	|
5+40	0.0581	0.20	Q V	|	|	|	|
5+45	0.0595	0.21	Q V	|	|	|	|
5+50	0.0609	0.21	Q V	|	|	|	|
5+55	0.0623	0.21	Q V	|	|	|	|
6+ 0	0.0637	0.21	Q V	|	|	|	|
6+ 5	0.0653	0.22	Q V	|	|	|	|
6+10	0.0669	0.23	Q V	|	|	|	|
6+15	0.0685	0.23	Q V	|	|	|	|
6+20	0.0701	0.23	Q V	|	|	|	|
6+25	0.0717	0.23	Q V	|	|	|	|
6+30	0.0732	0.23	Q V	|	|	|	|
6+35	0.0749	0.25	Q V	|	|	|	|
6+40	0.0767	0.26	|Q V	|	|	|	|

6+45	0.0785	0.26	Q V				
6+50	0.0803	0.26	Q V				
6+55	0.0820	0.26	Q V				
7+ 0	0.0838	0.26	Q V				
7+ 5	0.0856	0.26	Q V				
7+10	0.0874	0.26	Q V				
7+15	0.0891	0.26	Q V				
7+20	0.0910	0.27	Q V				
7+25	0.0930	0.28	Q V				
7+30	0.0949	0.28	Q V				
7+35	0.0970	0.30	Q V				
7+40	0.0991	0.31	Q V				
7+45	0.1012	0.31	Q V				
7+50	0.1034	0.32	Q V				
7+55	0.1057	0.33	Q V				
8+ 0	0.1081	0.33	Q V				
8+ 5	0.1106	0.36	Q V				
8+10	0.1132	0.38	Q V				
8+15	0.1159	0.39	Q V				
8+20	0.1185	0.39	Q V				
8+25	0.1212	0.39	Q V				
8+30	0.1239	0.39	Q V				
8+35	0.1266	0.40	Q V				
8+40	0.1295	0.41	Q V				
8+45	0.1323	0.41	Q V				
8+50	0.1352	0.43	Q V				
8+55	0.1382	0.44	Q V				
9+ 0	0.1413	0.44	Q V				
9+ 5	0.1445	0.47	Q V				
9+10	0.1478	0.49	Q V				
9+15	0.1512	0.49	Q V				
9+20	0.1547	0.50	Q V				
9+25	0.1582	0.51	Q V				
9+30	0.1618	0.52	Q V				
9+35	0.1654	0.53	Q V				
9+40	0.1691	0.54	Q V				
9+45	0.1729	0.54	Q V				
9+50	0.1767	0.56	Q V				
9+55	0.1806	0.57	Q V				
10+ 0	0.1845	0.57	Q V				
10+ 5	0.1877	0.46	Q V				
10+10	0.1904	0.39	Q V				
10+15	0.1931	0.39	Q V				
10+20	0.1957	0.39	Q V				
10+25	0.1984	0.39	Q V				
10+30	0.2010	0.39	Q V				
10+35	0.2042	0.46	Q V				
10+40	0.2077	0.51	Q V				
10+45	0.2113	0.52	Q V				
10+50	0.2148	0.52	Q V				
10+55	0.2184	0.52	Q V				
11+ 0	0.2219	0.52	Q V				
11+ 5	0.2254	0.50	Q V				
11+10	0.2287	0.49	Q V				

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11+15       0.2321      0.49  |Q        |     V   |         |         |
11+20       0.2355      0.49  |Q        |      V  |         |         |
11+25       0.2389      0.49  |Q        |      V  |         |         |
11+30       0.2422      0.49  |Q        |      V  |         |         |
11+35       0.2454      0.46  |Q        |      V  |         |         |
11+40       0.2484      0.44  |Q        |       V |         |         |
11+45       0.2514      0.44  |Q        |       V |         |         |
11+50       0.2546      0.45  |Q        |       V |         |         |
11+55       0.2577      0.46  |Q        |       V |         |         |
12+ 0       0.2609      0.46  |Q        |        V|         |         |
12+ 5       0.2649      0.57  | Q       |        V|         |         |
12+10       0.2692      0.64  | Q       |        V|         |         |
12+15       0.2737      0.64  | Q       |        V|         |         |
12+20       0.2782      0.66  | Q       |         V         |         |
12+25       0.2828      0.67  | Q       |         V         |         |
12+30       0.2874      0.67  | Q       |         V         |         |
12+35       0.2922      0.70  | Q       |          |V       |         |
12+40       0.2972      0.72  | Q       |          |V       |         |
12+45       0.3022      0.72  | Q       |          | V       |         |
12+50       0.3073      0.75  | Q       |          | V       |         |
12+55       0.3126      0.77  |  Q      |          | V       |         |
13+ 0       0.3180      0.78  |  Q      |          |  V      |         |
13+ 5       0.3251      1.02  |   Q     |          |  V      |         |
13+10       0.3332      1.18  |   Q     |          |   V     |         |
13+15       0.3415      1.21  |   Q     |          |   V     |         |
13+20       0.3499      1.21  |   Q     |          |    V    |         |
13+25       0.3583      1.22  |   Q     |          |     V   |         |
13+30       0.3668      1.23  |   Q     |          |     V   |         |
13+35       0.3727      0.86  |  Q      |          |      V  |         |
13+40       0.3770      0.62  | Q       |          |      V  |         |
13+45       0.3810      0.59  | Q       |          |      V  |         |
13+50       0.3851      0.59  | Q       |          |       V |         |
13+55       0.3892      0.59  | Q       |          |       V |         |
14+ 0       0.3933      0.59  | Q       |          |       V |         |
14+ 5       0.3979      0.67  | Q       |          |        V|         |
14+10       0.4028      0.72  | Q       |          |        V|         |
14+15       0.4079      0.73  | Q       |          |        V|         |
14+20       0.4127      0.70  | Q       |          |         V         |
14+25       0.4174      0.67  | Q       |          |         V         |
14+30       0.4220      0.68  | Q       |          |         V         |
14+35       0.4267      0.68  | Q       |          |          |V       |
14+40       0.4315      0.69  | Q       |          |          |V       |
14+45       0.4363      0.70  | Q       |          |          |V       |
14+50       0.4409      0.67  | Q       |          |          | V      |
14+55       0.4453      0.65  | Q       |          |          | V      |
15+ 0       0.4497      0.64  | Q       |          |          | V      |
15+ 5       0.4541      0.63  | Q       |          |          |  V     |
15+10       0.4583      0.62  | Q       |          |          |  V     |
15+15       0.4626      0.62  | Q       |          |          |  V     |
15+20       0.4668      0.60  | Q       |          |          |   V    |
15+25       0.4708      0.59  | Q       |          |          |   V    |
15+30       0.4749      0.59  | Q       |          |          |   V    |
15+35       0.4786      0.53  | Q       |          |          |   V    |
15+40       0.4820      0.49  |Q        |          |          |    V   |
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15+45	0.4854	0.49	|Q	|	|	|	V |
15+50	0.4887	0.49	|Q	|	|	|	V |
15+55	0.4921	0.49	|Q	|	|	|	V |
16+ 0	0.4955	0.49	|Q	|	|	|	V |
16+ 5	0.4973	0.26	|Q	|	|	|	V |
16+10	0.4981	0.12	Q	|	|	|	V |
16+15	0.4988	0.10	Q	|	|	|	V |
16+20	0.4996	0.10	Q	|	|	|	V |
16+25	0.5003	0.10	Q	|	|	|	V |
16+30	0.5010	0.10	Q	|	|	|	V |
16+35	0.5016	0.09	Q	|	|	|	V |
16+40	0.5021	0.08	Q	|	|	|	V |
16+45	0.5027	0.08	Q	|	|	|	V |
16+50	0.5032	0.08	Q	|	|	|	V |
16+55	0.5037	0.08	Q	|	|	|	V |
17+ 0	0.5042	0.08	Q	|	|	|	V |
17+ 5	0.5050	0.11	Q	|	|	|	V |
17+10	0.5059	0.13	Q	|	|	|	V |
17+15	0.5067	0.13	Q	|	|	|	V |
17+20	0.5076	0.13	Q	|	|	|	V |
17+25	0.5085	0.13	Q	|	|	|	V |
17+30	0.5094	0.13	Q	|	|	|	V |
17+35	0.5103	0.13	Q	|	|	|	V |
17+40	0.5112	0.13	Q	|	|	|	V |
17+45	0.5121	0.13	Q	|	|	|	V |
17+50	0.5129	0.11	Q	|	|	|	V |
17+55	0.5136	0.10	Q	|	|	|	V |
18+ 0	0.5143	0.10	Q	|	|	|	V |
18+ 5	0.5150	0.10	Q	|	|	|	V |
18+10	0.5157	0.10	Q	|	|	|	V |
18+15	0.5164	0.10	Q	|	|	|	V |
18+20	0.5171	0.10	Q	|	|	|	V |
18+25	0.5178	0.10	Q	|	|	|	V |
18+30	0.5185	0.10	Q	|	|	|	V |
18+35	0.5191	0.09	Q	|	|	|	V |
18+40	0.5197	0.08	Q	|	|	|	V |
18+45	0.5202	0.08	Q	|	|	|	V |
18+50	0.5206	0.06	Q	|	|	|	V |
18+55	0.5210	0.05	Q	|	|	|	V |
19+ 0	0.5214	0.05	Q	|	|	|	V |
19+ 5	0.5218	0.07	Q	|	|	|	V |
19+10	0.5223	0.08	Q	|	|	|	V |
19+15	0.5229	0.08	Q	|	|	|	V |
19+20	0.5235	0.09	Q	|	|	|	V |
19+25	0.5242	0.10	Q	|	|	|	V |
19+30	0.5249	0.10	Q	|	|	|	V |
19+35	0.5255	0.09	Q	|	|	|	V |
19+40	0.5261	0.08	Q	|	|	|	V |
19+45	0.5266	0.08	Q	|	|	|	V |
19+50	0.5270	0.06	Q	|	|	|	V |
19+55	0.5274	0.05	Q	|	|	|	V |
20+ 0	0.5278	0.05	Q	|	|	|	V |
20+ 5	0.5282	0.07	Q	|	|	|	V |
20+10	0.5287	0.08	Q	|	|	|	V |

20+15	0.5293	0.08	Q	|	|	|	V |
20+20	0.5298	0.08	Q	|	|	|	V |
20+25	0.5303	0.08	Q	|	|	|	V |
20+30	0.5309	0.08	Q	|	|	|	V |
20+35	0.5314	0.08	Q	|	|	|	V |
20+40	0.5319	0.08	Q	|	|	|	V |
20+45	0.5325	0.08	Q	|	|	|	V |
20+50	0.5329	0.06	Q	|	|	|	V |
20+55	0.5333	0.05	Q	|	|	|	V |
21+ 0	0.5336	0.05	Q	|	|	|	V |
21+ 5	0.5341	0.07	Q	|	|	|	V |
21+10	0.5346	0.08	Q	|	|	|	V|
21+15	0.5351	0.08	Q	|	|	|	V|
21+20	0.5355	0.06	Q	|	|	|	V|
21+25	0.5359	0.05	Q	|	|	|	V|
21+30	0.5363	0.05	Q	|	|	|	V|
21+35	0.5367	0.07	Q	|	|	|	V|
21+40	0.5372	0.08	Q	|	|	|	V|
21+45	0.5378	0.08	Q	|	|	|	V|
21+50	0.5382	0.06	Q	|	|	|	V|
21+55	0.5386	0.05	Q	|	|	|	V|
22+ 0	0.5389	0.05	Q	|	|	|	V|
22+ 5	0.5394	0.07	Q	|	|	|	V|
22+10	0.5399	0.08	Q	|	|	|	V|
22+15	0.5404	0.08	Q	|	|	|	V|
22+20	0.5409	0.06	Q	|	|	|	V|
22+25	0.5412	0.05	Q	|	|	|	V|
22+30	0.5416	0.05	Q	|	|	|	V|
22+35	0.5419	0.05	Q	|	|	|	V|
22+40	0.5423	0.05	Q	|	|	|	V|
22+45	0.5427	0.05	Q	|	|	|	V|
22+50	0.5430	0.05	Q	|	|	|	V|
22+55	0.5434	0.05	Q	|	|	|	V|
23+ 0	0.5437	0.05	Q	|	|	|	V|
23+ 5	0.5441	0.05	Q	|	|	|	V|
23+10	0.5444	0.05	Q	|	|	|	V|
23+15	0.5448	0.05	Q	|	|	|	V|
23+20	0.5451	0.05	Q	|	|	|	V|
23+25	0.5455	0.05	Q	|	|	|	V|
23+30	0.5458	0.05	Q	|	|	|	V|
23+35	0.5462	0.05	Q	|	|	|	V|
23+40	0.5466	0.05	Q	|	|	|	V|
23+45	0.5469	0.05	Q	|	|	|	V|
23+50	0.5473	0.05	Q	|	|	|	V|
23+55	0.5476	0.05	Q	|	|	|	V|
24+ 0	0.5480	0.05	Q	|	|	|	V|
24+ 5	0.5481	0.02	Q	|	|	|	V|
24+10	0.5481	0.00	Q	|	|	|	V

```
      U n i t   H y d r o g r a p h   A n a l y s i s
      Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
           Study date  05/02/23 File: MIRAGE824100.out
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
------------------------------------------------------------------------
Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6260

------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

------------------------------------------------------------------------
UNIT HYDROGRAPH
100-YEAR POST DEVELOPMENT
TTM 38636
RANCHO MIRAGE
------------------------------------------------------------------------
Drainage Area =       4.22(Ac.)  =      0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.22(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse =     682.00(Ft.)
Length along longest watercourse measured to centroid =     250.00(Ft.)
Length along longest watercourse =      0.129 Mi.
Length along longest watercourse measured to centroid =      0.047 Mi.
Difference in elevation =       4.80(Ft.)
Slope along watercourse =     37.1613 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.026 Hr.
Lag time =     1.57 Min.
25% of lag time =     0.39 Min.
40% of lag time =     0.63 Min.
Unit time =     5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.22             1.21                  5.11

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.22             4.73                 19.96

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    1.210(In)
Area Averaged 100-Year Rainfall =    4.730(In)
```

Point rain (area averaged) = 4.730(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.730(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.220	32.00	0.280

Total Area Entered = 4.22(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
32.0	52.0	0.552	0.280	0.413	1.000	0.413
					Sum (F) =	0.413

Area averaged mean soil loss (F) (In/Hr) = 0.413
Minimum soil loss rate ((In/Hr)) = 0.206
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.680

U n i t H y d r o g r a p h
DESERT S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %		Unit Hydrograph (CFS)
1	0.083	319.139	58.131		2.472
2	0.167	638.278	37.534		1.596
3	0.250	957.417	4.335		0.184
			Sum = 100.000	Sum=	4.253

The following loss rate calculations reflect use of the minimum calculated loss
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.038	(0.731)	0.026	0.012
2	0.17	0.07	0.038	(0.729)	0.026	0.012
3	0.25	0.07	0.038	(0.726)	0.026	0.012
4	0.33	0.10	0.057	(0.723)	0.039	0.018
5	0.42	0.10	0.057	(0.720)	0.039	0.018
6	0.50	0.10	0.057	(0.717)	0.039	0.018
7	0.58	0.10	0.057	(0.715)	0.039	0.018
8	0.67	0.10	0.057	(0.712)	0.039	0.018
9	0.75	0.10	0.057	(0.709)	0.039	0.018
10	0.83	0.13	0.076	(0.706)	0.051	0.024
11	0.92	0.13	0.076	(0.703)	0.051	0.024

12	1.00	0.13	0.076	(0.701)	0.051	0.024
13	1.08	0.10	0.057	(0.698)	0.039	0.018
14	1.17	0.10	0.057	(0.695)	0.039	0.018
15	1.25	0.10	0.057	(0.692)	0.039	0.018
16	1.33	0.10	0.057	(0.690)	0.039	0.018
17	1.42	0.10	0.057	(0.687)	0.039	0.018
18	1.50	0.10	0.057	(0.684)	0.039	0.018
19	1.58	0.10	0.057	(0.681)	0.039	0.018
20	1.67	0.10	0.057	(0.679)	0.039	0.018
21	1.75	0.10	0.057	(0.676)	0.039	0.018
22	1.83	0.13	0.076	(0.673)	0.051	0.024
23	1.92	0.13	0.076	(0.670)	0.051	0.024
24	2.00	0.13	0.076	(0.668)	0.051	0.024
25	2.08	0.13	0.076	(0.665)	0.051	0.024
26	2.17	0.13	0.076	(0.662)	0.051	0.024
27	2.25	0.13	0.076	(0.660)	0.051	0.024
28	2.33	0.13	0.076	(0.657)	0.051	0.024
29	2.42	0.13	0.076	(0.654)	0.051	0.024
30	2.50	0.13	0.076	(0.652)	0.051	0.024
31	2.58	0.17	0.095	(0.649)	0.064	0.030
32	2.67	0.17	0.095	(0.646)	0.064	0.030
33	2.75	0.17	0.095	(0.644)	0.064	0.030
34	2.83	0.17	0.095	(0.641)	0.064	0.030
35	2.92	0.17	0.095	(0.638)	0.064	0.030
36	3.00	0.17	0.095	(0.636)	0.064	0.030
37	3.08	0.17	0.095	(0.633)	0.064	0.030
38	3.17	0.17	0.095	(0.630)	0.064	0.030
39	3.25	0.17	0.095	(0.628)	0.064	0.030
40	3.33	0.17	0.095	(0.625)	0.064	0.030
41	3.42	0.17	0.095	(0.623)	0.064	0.030
42	3.50	0.17	0.095	(0.620)	0.064	0.030
43	3.58	0.17	0.095	(0.617)	0.064	0.030
44	3.67	0.17	0.095	(0.615)	0.064	0.030
45	3.75	0.17	0.095	(0.612)	0.064	0.030
46	3.83	0.20	0.114	(0.610)	0.077	0.036
47	3.92	0.20	0.114	(0.607)	0.077	0.036
48	4.00	0.20	0.114	(0.604)	0.077	0.036
49	4.08	0.20	0.114	(0.602)	0.077	0.036
50	4.17	0.20	0.114	(0.599)	0.077	0.036
51	4.25	0.20	0.114	(0.597)	0.077	0.036
52	4.33	0.23	0.132	(0.594)	0.090	0.042
53	4.42	0.23	0.132	(0.592)	0.090	0.042
54	4.50	0.23	0.132	(0.589)	0.090	0.042
55	4.58	0.23	0.132	(0.587)	0.090	0.042
56	4.67	0.23	0.132	(0.584)	0.090	0.042
57	4.75	0.23	0.132	(0.582)	0.090	0.042
58	4.83	0.27	0.151	(0.579)	0.103	0.048
59	4.92	0.27	0.151	(0.577)	0.103	0.048
60	5.00	0.27	0.151	(0.574)	0.103	0.048
61	5.08	0.20	0.114	(0.572)	0.077	0.036
62	5.17	0.20	0.114	(0.569)	0.077	0.036
63	5.25	0.20	0.114	(0.567)	0.077	0.036
64	5.33	0.23	0.132	(0.564)	0.090	0.042
65	5.42	0.23	0.132	(0.562)	0.090	0.042

66	5.50	0.23	0.132	(0.559)	0.090	0.042
67	5.58	0.27	0.151	(0.557)	0.103	0.048
68	5.67	0.27	0.151	(0.554)	0.103	0.048
69	5.75	0.27	0.151	(0.552)	0.103	0.048
70	5.83	0.27	0.151	(0.549)	0.103	0.048
71	5.92	0.27	0.151	(0.547)	0.103	0.048
72	6.00	0.27	0.151	(0.545)	0.103	0.048
73	6.08	0.30	0.170	(0.542)	0.116	0.054
74	6.17	0.30	0.170	(0.540)	0.116	0.054
75	6.25	0.30	0.170	(0.537)	0.116	0.054
76	6.33	0.30	0.170	(0.535)	0.116	0.054
77	6.42	0.30	0.170	(0.533)	0.116	0.054
78	6.50	0.30	0.170	(0.530)	0.116	0.054
79	6.58	0.33	0.189	(0.528)	0.129	0.061
80	6.67	0.33	0.189	(0.525)	0.129	0.061
81	6.75	0.33	0.189	(0.523)	0.129	0.061
82	6.83	0.33	0.189	(0.521)	0.129	0.061
83	6.92	0.33	0.189	(0.518)	0.129	0.061
84	7.00	0.33	0.189	(0.516)	0.129	0.061
85	7.08	0.33	0.189	(0.514)	0.129	0.061
86	7.17	0.33	0.189	(0.511)	0.129	0.061
87	7.25	0.33	0.189	(0.509)	0.129	0.061
88	7.33	0.37	0.208	(0.507)	0.142	0.067
89	7.42	0.37	0.208	(0.504)	0.142	0.067
90	7.50	0.37	0.208	(0.502)	0.142	0.067
91	7.58	0.40	0.227	(0.500)	0.154	0.073
92	7.67	0.40	0.227	(0.497)	0.154	0.073
93	7.75	0.40	0.227	(0.495)	0.154	0.073
94	7.83	0.43	0.246	(0.493)	0.167	0.079
95	7.92	0.43	0.246	(0.491)	0.167	0.079
96	8.00	0.43	0.246	(0.488)	0.167	0.079
97	8.08	0.50	0.284	(0.486)	0.193	0.091
98	8.17	0.50	0.284	(0.484)	0.193	0.091
99	8.25	0.50	0.284	(0.482)	0.193	0.091
100	8.33	0.50	0.284	(0.479)	0.193	0.091
101	8.42	0.50	0.284	(0.477)	0.193	0.091
102	8.50	0.50	0.284	(0.475)	0.193	0.091
103	8.58	0.53	0.303	(0.473)	0.206	0.097
104	8.67	0.53	0.303	(0.470)	0.206	0.097
105	8.75	0.53	0.303	(0.468)	0.206	0.097
106	8.83	0.57	0.322	(0.466)	0.219	0.103
107	8.92	0.57	0.322	(0.464)	0.219	0.103
108	9.00	0.57	0.322	(0.462)	0.219	0.103
109	9.08	0.63	0.359	(0.459)	0.244	0.115
110	9.17	0.63	0.359	(0.457)	0.244	0.115
111	9.25	0.63	0.359	(0.455)	0.244	0.115
112	9.33	0.67	0.378	(0.453)	0.257	0.121
113	9.42	0.67	0.378	(0.451)	0.257	0.121
114	9.50	0.67	0.378	(0.448)	0.257	0.121
115	9.58	0.70	0.397	(0.446)	0.270	0.127
116	9.67	0.70	0.397	(0.444)	0.270	0.127
117	9.75	0.70	0.397	(0.442)	0.270	0.127
118	9.83	0.73	0.416	(0.440)	0.283	0.133
119	9.92	0.73	0.416	(0.438)	0.283	0.133

120	10.00	0.73	0.416	(0.436)	0.283	0.133
121	10.08	0.50	0.284	(0.434)	0.193	0.091
122	10.17	0.50	0.284	(0.431)	0.193	0.091
123	10.25	0.50	0.284	(0.429)	0.193	0.091
124	10.33	0.50	0.284	(0.427)	0.193	0.091
125	10.42	0.50	0.284	(0.425)	0.193	0.091
126	10.50	0.50	0.284	(0.423)	0.193	0.091
127	10.58	0.67	0.378	(0.421)	0.257	0.121
128	10.67	0.67	0.378	(0.419)	0.257	0.121
129	10.75	0.67	0.378	(0.417)	0.257	0.121
130	10.83	0.67	0.378	(0.415)	0.257	0.121
131	10.92	0.67	0.378	(0.413)	0.257	0.121
132	11.00	0.67	0.378	(0.411)	0.257	0.121
133	11.08	0.63	0.359	(0.409)	0.244	0.115
134	11.17	0.63	0.359	(0.407)	0.244	0.115
135	11.25	0.63	0.359	(0.405)	0.244	0.115
136	11.33	0.63	0.359	(0.403)	0.244	0.115
137	11.42	0.63	0.359	(0.401)	0.244	0.115
138	11.50	0.63	0.359	(0.399)	0.244	0.115
139	11.58	0.57	0.322	(0.397)	0.219	0.103
140	11.67	0.57	0.322	(0.395)	0.219	0.103
141	11.75	0.57	0.322	(0.393)	0.219	0.103
142	11.83	0.60	0.341	(0.391)	0.232	0.109
143	11.92	0.60	0.341	(0.389)	0.232	0.109
144	12.00	0.60	0.341	(0.387)	0.232	0.109
145	12.08	0.83	0.473	(0.385)	0.322	0.151
146	12.17	0.83	0.473	(0.383)	0.322	0.151
147	12.25	0.83	0.473	(0.381)	0.322	0.151
148	12.33	0.87	0.492	(0.379)	0.335	0.157
149	12.42	0.87	0.492	(0.377)	0.335	0.157
150	12.50	0.87	0.492	(0.376)	0.335	0.157
151	12.58	0.93	0.530	(0.374)	0.360	0.170
152	12.67	0.93	0.530	(0.372)	0.360	0.170
153	12.75	0.93	0.530	(0.370)	0.360	0.170
154	12.83	0.97	0.549	0.368	(0.373)	0.181
155	12.92	0.97	0.549	0.366	(0.373)	0.182
156	13.00	0.97	0.549	0.364	(0.373)	0.184
157	13.08	1.13	0.643	0.363	(0.437)	0.281
158	13.17	1.13	0.643	0.361	(0.437)	0.283
159	13.25	1.13	0.643	0.359	(0.437)	0.284
160	13.33	1.13	0.643	0.357	(0.437)	0.286
161	13.42	1.13	0.643	0.355	(0.437)	0.288
162	13.50	1.13	0.643	0.353	(0.437)	0.290
163	13.58	0.77	0.435	(0.352)	0.296	0.139
164	13.67	0.77	0.435	(0.350)	0.296	0.139
165	13.75	0.77	0.435	(0.348)	0.296	0.139
166	13.83	0.77	0.435	(0.346)	0.296	0.139
167	13.92	0.77	0.435	(0.344)	0.296	0.139
168	14.00	0.77	0.435	(0.343)	0.296	0.139
169	14.08	0.90	0.511	0.341	(0.347)	0.170
170	14.17	0.90	0.511	0.339	(0.347)	0.172
171	14.25	0.90	0.511	0.337	(0.347)	0.173
172	14.33	0.87	0.492	(0.336)	0.335	0.157
173	14.42	0.87	0.492	0.334	(0.335)	0.158

174	14.50	0.87	0.492	0.332	(0.335)	0.160
175	14.58	0.87	0.492	0.331	(0.335)	0.161
176	14.67	0.87	0.492	0.329	(0.335)	0.163
177	14.75	0.87	0.492	0.327	(0.335)	0.165
178	14.83	0.83	0.473	(0.326)	0.322	0.151
179	14.92	0.83	0.473	(0.324)	0.322	0.151
180	15.00	0.83	0.473	(0.322)	0.322	0.151
181	15.08	0.80	0.454	(0.321)	0.309	0.145
182	15.17	0.80	0.454	(0.319)	0.309	0.145
183	15.25	0.80	0.454	(0.317)	0.309	0.145
184	15.33	0.77	0.435	(0.316)	0.296	0.139
185	15.42	0.77	0.435	(0.314)	0.296	0.139
186	15.50	0.77	0.435	(0.312)	0.296	0.139
187	15.58	0.63	0.359	(0.311)	0.244	0.115
188	15.67	0.63	0.359	(0.309)	0.244	0.115
189	15.75	0.63	0.359	(0.308)	0.244	0.115
190	15.83	0.63	0.359	(0.306)	0.244	0.115
191	15.92	0.63	0.359	(0.305)	0.244	0.115
192	16.00	0.63	0.359	(0.303)	0.244	0.115
193	16.08	0.13	0.076	(0.301)	0.051	0.024
194	16.17	0.13	0.076	(0.300)	0.051	0.024
195	16.25	0.13	0.076	(0.298)	0.051	0.024
196	16.33	0.13	0.076	(0.297)	0.051	0.024
197	16.42	0.13	0.076	(0.295)	0.051	0.024
198	16.50	0.13	0.076	(0.294)	0.051	0.024
199	16.58	0.10	0.057	(0.292)	0.039	0.018
200	16.67	0.10	0.057	(0.291)	0.039	0.018
201	16.75	0.10	0.057	(0.289)	0.039	0.018
202	16.83	0.10	0.057	(0.288)	0.039	0.018
203	16.92	0.10	0.057	(0.286)	0.039	0.018
204	17.00	0.10	0.057	(0.285)	0.039	0.018
205	17.08	0.17	0.095	(0.284)	0.064	0.030
206	17.17	0.17	0.095	(0.282)	0.064	0.030
207	17.25	0.17	0.095	(0.281)	0.064	0.030
208	17.33	0.17	0.095	(0.279)	0.064	0.030
209	17.42	0.17	0.095	(0.278)	0.064	0.030
210	17.50	0.17	0.095	(0.277)	0.064	0.030
211	17.58	0.17	0.095	(0.275)	0.064	0.030
212	17.67	0.17	0.095	(0.274)	0.064	0.030
213	17.75	0.17	0.095	(0.272)	0.064	0.030
214	17.83	0.13	0.076	(0.271)	0.051	0.024
215	17.92	0.13	0.076	(0.270)	0.051	0.024
216	18.00	0.13	0.076	(0.268)	0.051	0.024
217	18.08	0.13	0.076	(0.267)	0.051	0.024
218	18.17	0.13	0.076	(0.266)	0.051	0.024
219	18.25	0.13	0.076	(0.264)	0.051	0.024
220	18.33	0.13	0.076	(0.263)	0.051	0.024
221	18.42	0.13	0.076	(0.262)	0.051	0.024
222	18.50	0.13	0.076	(0.261)	0.051	0.024
223	18.58	0.10	0.057	(0.259)	0.039	0.018
224	18.67	0.10	0.057	(0.258)	0.039	0.018
225	18.75	0.10	0.057	(0.257)	0.039	0.018
226	18.83	0.07	0.038	(0.256)	0.026	0.012
227	18.92	0.07	0.038	(0.254)	0.026	0.012

228	19.00	0.07	0.038	(0.253)	0.026	0.012
229	19.08	0.10	0.057	(0.252)	0.039	0.018
230	19.17	0.10	0.057	(0.251)	0.039	0.018
231	19.25	0.10	0.057	(0.250)	0.039	0.018
232	19.33	0.13	0.076	(0.248)	0.051	0.024
233	19.42	0.13	0.076	(0.247)	0.051	0.024
234	19.50	0.13	0.076	(0.246)	0.051	0.024
235	19.58	0.10	0.057	(0.245)	0.039	0.018
236	19.67	0.10	0.057	(0.244)	0.039	0.018
237	19.75	0.10	0.057	(0.243)	0.039	0.018
238	19.83	0.07	0.038	(0.242)	0.026	0.012
239	19.92	0.07	0.038	(0.241)	0.026	0.012
240	20.00	0.07	0.038	(0.240)	0.026	0.012
241	20.08	0.10	0.057	(0.239)	0.039	0.018
242	20.17	0.10	0.057	(0.237)	0.039	0.018
243	20.25	0.10	0.057	(0.236)	0.039	0.018
244	20.33	0.10	0.057	(0.235)	0.039	0.018
245	20.42	0.10	0.057	(0.234)	0.039	0.018
246	20.50	0.10	0.057	(0.233)	0.039	0.018
247	20.58	0.10	0.057	(0.232)	0.039	0.018
248	20.67	0.10	0.057	(0.231)	0.039	0.018
249	20.75	0.10	0.057	(0.231)	0.039	0.018
250	20.83	0.07	0.038	(0.230)	0.026	0.012
251	20.92	0.07	0.038	(0.229)	0.026	0.012
252	21.00	0.07	0.038	(0.228)	0.026	0.012
253	21.08	0.10	0.057	(0.227)	0.039	0.018
254	21.17	0.10	0.057	(0.226)	0.039	0.018
255	21.25	0.10	0.057	(0.225)	0.039	0.018
256	21.33	0.07	0.038	(0.224)	0.026	0.012
257	21.42	0.07	0.038	(0.223)	0.026	0.012
258	21.50	0.07	0.038	(0.223)	0.026	0.012
259	21.58	0.10	0.057	(0.222)	0.039	0.018
260	21.67	0.10	0.057	(0.221)	0.039	0.018
261	21.75	0.10	0.057	(0.220)	0.039	0.018
262	21.83	0.07	0.038	(0.219)	0.026	0.012
263	21.92	0.07	0.038	(0.219)	0.026	0.012
264	22.00	0.07	0.038	(0.218)	0.026	0.012
265	22.08	0.10	0.057	(0.217)	0.039	0.018
266	22.17	0.10	0.057	(0.216)	0.039	0.018
267	22.25	0.10	0.057	(0.216)	0.039	0.018
268	22.33	0.07	0.038	(0.215)	0.026	0.012
269	22.42	0.07	0.038	(0.214)	0.026	0.012
270	22.50	0.07	0.038	(0.214)	0.026	0.012
271	22.58	0.07	0.038	(0.213)	0.026	0.012
272	22.67	0.07	0.038	(0.213)	0.026	0.012
273	22.75	0.07	0.038	(0.212)	0.026	0.012
274	22.83	0.07	0.038	(0.211)	0.026	0.012
275	22.92	0.07	0.038	(0.211)	0.026	0.012
276	23.00	0.07	0.038	(0.210)	0.026	0.012
277	23.08	0.07	0.038	(0.210)	0.026	0.012
278	23.17	0.07	0.038	(0.209)	0.026	0.012
279	23.25	0.07	0.038	(0.209)	0.026	0.012
280	23.33	0.07	0.038	(0.209)	0.026	0.012
281	23.42	0.07	0.038	(0.208)	0.026	0.012

282	23.50	0.07	0.038	(0.208)	0.026	0.012
283	23.58	0.07	0.038	(0.207)	0.026	0.012
284	23.67	0.07	0.038	(0.207)	0.026	0.012
285	23.75	0.07	0.038	(0.207)	0.026	0.012
286	23.83	0.07	0.038	(0.207)	0.026	0.012
287	23.92	0.07	0.038	(0.206)	0.026	0.012
288	24.00	0.07	0.038	(0.206)	0.026	0.012

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.7

Flood volume = Effective rainfall 1.56(In)
times area 4.2(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 3.17(In)
Total soil loss = 1.115(Ac.Ft)
Total rainfall = 4.73(In)
Flood volume = 23877.0 Cubic Feet
Total soil loss = 48579.4 Cubic Feet

Peak flow rate of this hydrograph = 1.230(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q	|	|	|	|
0+10	0.0005	0.05	Q	|	|	|	|
0+15	0.0009	0.05	Q	|	|	|	|
0+20	0.0014	0.07	Q	|	|	|	|
0+25	0.0019	0.08	Q	|	|	|	|
0+30	0.0024	0.08	Q	|	|	|	|
0+35	0.0029	0.08	Q	|	|	|	|
0+40	0.0035	0.08	Q	|	|	|	|
0+45	0.0040	0.08	Q	|	|	|	|
0+50	0.0046	0.09	Q	|	|	|	|
0+55	0.0053	0.10	Q	|	|	|	|
1+ 0	0.0061	0.10	Q	|	|	|	|
1+ 5	0.0067	0.09	Q	|	|	|	|
1+10	0.0072	0.08	Q	|	|	|	|
1+15	0.0077	0.08	Q	|	|	|	|
1+20	0.0083	0.08	Q	|	|	|	|
1+25	0.0088	0.08	Q	|	|	|	|
1+30	0.0093	0.08	Q	|	|	|	|
1+35	0.0099	0.08	Q	|	|	|	|
1+40	0.0104	0.08	Q	|	|	|	|
1+45	0.0109	0.08	Q	|	|	|	|
1+50	0.0116	0.09	Q	|	|	|	|
1+55	0.0123	0.10	Q	|	|	|	|
2+ 0	0.0130	0.10	Q	|	|	|	|
2+ 5	0.0137	0.10	Q	|	|	|	|
2+10	0.0144	0.10	QV	|	|	|	|

2+15	0.0151	0.10	QV	|	|	|	|
2+20	0.0158	0.10	QV	|	|	|	|
2+25	0.0165	0.10	QV	|	|	|	|
2+30	0.0172	0.10	QV	|	|	|	|
2+35	0.0181	0.12	QV	|	|	|	|
2+40	0.0189	0.13	QV	|	|	|	|
2+45	0.0198	0.13	QV	|	|	|	|
2+50	0.0207	0.13	QV	|	|	|	|
2+55	0.0216	0.13	QV	|	|	|	|
3+ 0	0.0225	0.13	QV	|	|	|	|
3+ 5	0.0234	0.13	QV	|	|	|	|
3+10	0.0243	0.13	QV	|	|	|	|
3+15	0.0251	0.13	QV	|	|	|	|
3+20	0.0260	0.13	QV	|	|	|	|
3+25	0.0269	0.13	QV	|	|	|	|
3+30	0.0278	0.13	Q V	|	|	|	|
3+35	0.0287	0.13	Q V	|	|	|	|
3+40	0.0296	0.13	Q V	|	|	|	|
3+45	0.0305	0.13	Q V	|	|	|	|
3+50	0.0315	0.14	Q V	|	|	|	|
3+55	0.0325	0.15	Q V	|	|	|	|
4+ 0	0.0336	0.15	Q V	|	|	|	|
4+ 5	0.0346	0.15	Q V	|	|	|	|
4+10	0.0357	0.15	Q V	|	|	|	|
4+15	0.0368	0.15	Q V	|	|	|	|
4+20	0.0379	0.17	Q V	|	|	|	|
4+25	0.0392	0.18	Q V	|	|	|	|
4+30	0.0404	0.18	Q V	|	|	|	|
4+35	0.0417	0.18	Q V	|	|	|	|
4+40	0.0429	0.18	Q V	|	|	|	|
4+45	0.0441	0.18	Q V	|	|	|	|
4+50	0.0455	0.20	Q V	|	|	|	|
4+55	0.0469	0.20	Q V	|	|	|	|
5+ 0	0.0483	0.21	Q V	|	|	|	|
5+ 5	0.0495	0.18	Q V	|	|	|	|
5+10	0.0506	0.16	Q V	|	|	|	|
5+15	0.0517	0.15	Q V	|	|	|	|
5+20	0.0528	0.17	Q V	|	|	|	|
5+25	0.0541	0.18	Q V	|	|	|	|
5+30	0.0553	0.18	Q V	|	|	|	|
5+35	0.0567	0.20	Q V	|	|	|	|
5+40	0.0581	0.20	Q V	|	|	|	|
5+45	0.0595	0.21	Q V	|	|	|	|
5+50	0.0609	0.21	Q V	|	|	|	|
5+55	0.0623	0.21	Q V	|	|	|	|
6+ 0	0.0637	0.21	Q V	|	|	|	|
6+ 5	0.0653	0.22	Q V	|	|	|	|
6+10	0.0669	0.23	Q V	|	|	|	|
6+15	0.0685	0.23	Q V	|	|	|	|
6+20	0.0701	0.23	Q V	|	|	|	|
6+25	0.0717	0.23	Q V	|	|	|	|
6+30	0.0732	0.23	Q V	|	|	|	|
6+35	0.0749	0.25	Q V	|	|	|	|
6+40	0.0767	0.26	|Q V	|	|	|	|

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 6+45       0.0785      0.26  |Q   V    |          |          |          |
 6+50       0.0803      0.26  |Q   V    |          |          |          |
 6+55       0.0820      0.26  |Q   V    |          |          |          |
 7+ 0       0.0838      0.26  |Q    V   |          |          |          |
 7+ 5       0.0856      0.26  |Q    V   |          |          |          |
 7+10       0.0874      0.26  |Q    V   |          |          |          |
 7+15       0.0891      0.26  |Q    V   |          |          |          |
 7+20       0.0910      0.27  |Q    V   |          |          |          |
 7+25       0.0930      0.28  |Q    V   |          |          |          |
 7+30       0.0949      0.28  |Q    V   |          |          |          |
 7+35       0.0970      0.30  |Q     V  |          |          |          |
 7+40       0.0991      0.31  |Q     V  |          |          |          |
 7+45       0.1012      0.31  |Q     V  |          |          |          |
 7+50       0.1034      0.32  |Q     V  |          |          |          |
 7+55       0.1057      0.33  |Q     V  |          |          |          |
 8+ 0       0.1081      0.33  |Q     V  |          |          |          |
 8+ 5       0.1106      0.36  |Q      V |          |          |          |
 8+10       0.1132      0.38  |Q      V |          |          |          |
 8+15       0.1159      0.39  |Q      V |          |          |          |
 8+20       0.1185      0.39  |Q      V |          |          |          |
 8+25       0.1212      0.39  |Q      V |          |          |          |
 8+30       0.1239      0.39  |Q       V|          |          |          |
 8+35       0.1266      0.40  |Q       V|          |          |          |
 8+40       0.1295      0.41  |Q       V|          |          |          |
 8+45       0.1323      0.41  |Q       V|          |          |          |
 8+50       0.1352      0.43  |Q       V|          |          |          |
 8+55       0.1382      0.44  |Q        V          |          |          |
 9+ 0       0.1413      0.44  |Q        V          |          |          |
 9+ 5       0.1445      0.47  |Q        V          |          |          |
 9+10       0.1478      0.49  |Q        V          |          |          |
 9+15       0.1512      0.49  |Q         |V         |          |          |
 9+20       0.1547      0.50  | Q        |V         |          |          |
 9+25       0.1582      0.51  | Q        |V         |          |          |
 9+30       0.1618      0.52  | Q        |V         |          |          |
 9+35       0.1654      0.53  | Q        | V        |          |          |
 9+40       0.1691      0.54  | Q        | V        |          |          |
 9+45       0.1729      0.54  | Q        | V        |          |          |
 9+50       0.1767      0.56  | Q        | V        |          |          |
 9+55       0.1806      0.57  | Q        |  V       |          |          |
10+ 0       0.1845      0.57  | Q        |  V       |          |          |
10+ 5       0.1877      0.46  |Q         |  V       |          |          |
10+10       0.1904      0.39  |Q         |  V       |          |          |
10+15       0.1931      0.39  |Q         |   V      |          |          |
10+20       0.1957      0.39  |Q         |   V      |          |          |
10+25       0.1984      0.39  |Q         |   V      |          |          |
10+30       0.2010      0.39  |Q         |   V      |          |          |
10+35       0.2042      0.46  |Q         |   V      |          |          |
10+40       0.2077      0.51  | Q        |    V     |          |          |
10+45       0.2113      0.52  | Q        |    V     |          |          |
10+50       0.2148      0.52  | Q        |    V     |          |          |
10+55       0.2184      0.52  | Q        |    V     |          |          |
11+ 0       0.2219      0.52  | Q        |     V    |          |          |
11+ 5       0.2254      0.50  | Q        |     V    |          |          |
11+10       0.2287      0.49  |Q         |     V    |          |          |
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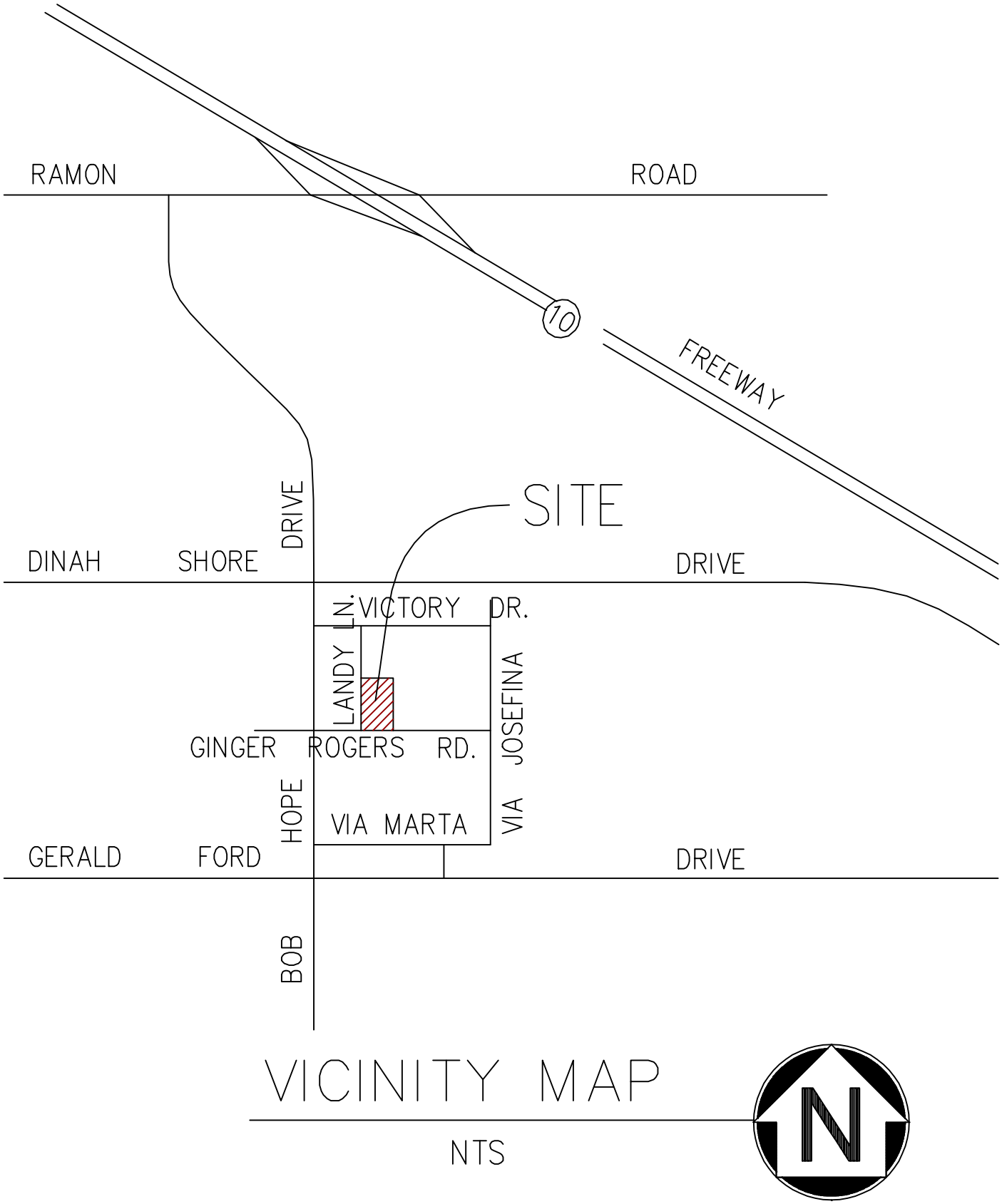
11+15	0.2321	0.49	Q		V		
11+20	0.2355	0.49	Q		V		
11+25	0.2389	0.49	Q		V		
11+30	0.2422	0.49	Q		V		
11+35	0.2454	0.46	Q		V		
11+40	0.2484	0.44	Q		V		
11+45	0.2514	0.44	Q		V		
11+50	0.2546	0.45	Q		V		
11+55	0.2577	0.46	Q		V		
12+ 0	0.2609	0.46	Q		V		
12+ 5	0.2649	0.57	Q		V		
12+10	0.2692	0.64	Q		V		
12+15	0.2737	0.64	Q		V		
12+20	0.2782	0.66	Q		V		
12+25	0.2828	0.67	Q		V		
12+30	0.2874	0.67	Q		V		
12+35	0.2922	0.70	Q		V		
12+40	0.2972	0.72	Q		V		
12+45	0.3022	0.72	Q		V		
12+50	0.3073	0.75	Q		V		
12+55	0.3126	0.77	Q		V		
13+ 0	0.3180	0.78	Q		V		
13+ 5	0.3251	1.02	Q		V		
13+10	0.3332	1.18	Q		V		
13+15	0.3415	1.21	Q		V		
13+20	0.3499	1.21	Q		V		
13+25	0.3583	1.22	Q		V		
13+30	0.3668	1.23	Q		V		
13+35	0.3727	0.86	Q		V		
13+40	0.3770	0.62	Q		V		
13+45	0.3810	0.59	Q		V		
13+50	0.3851	0.59	Q		V		
13+55	0.3892	0.59	Q		V		
14+ 0	0.3933	0.59	Q		V		
14+ 5	0.3979	0.67	Q		V		
14+10	0.4028	0.72	Q		V		
14+15	0.4079	0.73	Q		V		
14+20	0.4127	0.70	Q		V		
14+25	0.4174	0.67	Q		V		
14+30	0.4220	0.68	Q		V		
14+35	0.4267	0.68	Q		V		
14+40	0.4315	0.69	Q		V		
14+45	0.4363	0.70	Q		V		
14+50	0.4409	0.67	Q		V		
14+55	0.4453	0.65	Q		V		
15+ 0	0.4497	0.64	Q		V		
15+ 5	0.4541	0.63	Q		V		
15+10	0.4583	0.62	Q		V		
15+15	0.4626	0.62	Q		V		
15+20	0.4668	0.60	Q		V		
15+25	0.4708	0.59	Q		V		
15+30	0.4749	0.59	Q		V		
15+35	0.4786	0.53	Q		V		
15+40	0.4820	0.49	Q		V		

15+45	0.4854	0.49	|Q	|	|	|	V |
15+50	0.4887	0.49	|Q	|	|	|	V |
15+55	0.4921	0.49	|Q	|	|	|	V |
16+ 0	0.4955	0.49	|Q	|	|	|	V |
16+ 5	0.4973	0.26	|Q	|	|	|	V |
16+10	0.4981	0.12	Q	|	|	|	V |
16+15	0.4988	0.10	Q	|	|	|	V |
16+20	0.4996	0.10	Q	|	|	|	V |
16+25	0.5003	0.10	Q	|	|	|	V |
16+30	0.5010	0.10	Q	|	|	|	V |
16+35	0.5016	0.09	Q	|	|	|	V |
16+40	0.5021	0.08	Q	|	|	|	V |
16+45	0.5027	0.08	Q	|	|	|	V |
16+50	0.5032	0.08	Q	|	|	|	V |
16+55	0.5037	0.08	Q	|	|	|	V |
17+ 0	0.5042	0.08	Q	|	|	|	V |
17+ 5	0.5050	0.11	Q	|	|	|	V |
17+10	0.5059	0.13	Q	|	|	|	V |
17+15	0.5067	0.13	Q	|	|	|	V |
17+20	0.5076	0.13	Q	|	|	|	V |
17+25	0.5085	0.13	Q	|	|	|	V |
17+30	0.5094	0.13	Q	|	|	|	V |
17+35	0.5103	0.13	Q	|	|	|	V |
17+40	0.5112	0.13	Q	|	|	|	V |
17+45	0.5121	0.13	Q	|	|	|	V |
17+50	0.5129	0.11	Q	|	|	|	V |
17+55	0.5136	0.10	Q	|	|	|	V |
18+ 0	0.5143	0.10	Q	|	|	|	V |
18+ 5	0.5150	0.10	Q	|	|	|	V |
18+10	0.5157	0.10	Q	|	|	|	V |
18+15	0.5164	0.10	Q	|	|	|	V |
18+20	0.5171	0.10	Q	|	|	|	V |
18+25	0.5178	0.10	Q	|	|	|	V |
18+30	0.5185	0.10	Q	|	|	|	V |
18+35	0.5191	0.09	Q	|	|	|	V |
18+40	0.5197	0.08	Q	|	|	|	V |
18+45	0.5202	0.08	Q	|	|	|	V |
18+50	0.5206	0.06	Q	|	|	|	V |
18+55	0.5210	0.05	Q	|	|	|	V |
19+ 0	0.5214	0.05	Q	|	|	|	V |
19+ 5	0.5218	0.07	Q	|	|	|	V |
19+10	0.5223	0.08	Q	|	|	|	V |
19+15	0.5229	0.08	Q	|	|	|	V |
19+20	0.5235	0.09	Q	|	|	|	V |
19+25	0.5242	0.10	Q	|	|	|	V |
19+30	0.5249	0.10	Q	|	|	|	V |
19+35	0.5255	0.09	Q	|	|	|	V |
19+40	0.5261	0.08	Q	|	|	|	V |
19+45	0.5266	0.08	Q	|	|	|	V |
19+50	0.5270	0.06	Q	|	|	|	V |
19+55	0.5274	0.05	Q	|	|	|	V |
20+ 0	0.5278	0.05	Q	|	|	|	V |
20+ 5	0.5282	0.07	Q	|	|	|	V |
20+10	0.5287	0.08	Q	|	|	|	V |

20+15	0.5293	0.08	Q	|	|	|	V |
20+20	0.5298	0.08	Q	|	|	|	V |
20+25	0.5303	0.08	Q	|	|	|	V |
20+30	0.5309	0.08	Q	|	|	|	V |
20+35	0.5314	0.08	Q	|	|	|	V |
20+40	0.5319	0.08	Q	|	|	|	V |
20+45	0.5325	0.08	Q	|	|	|	V |
20+50	0.5329	0.06	Q	|	|	|	V |
20+55	0.5333	0.05	Q	|	|	|	V |
21+ 0	0.5336	0.05	Q	|	|	|	V |
21+ 5	0.5341	0.07	Q	|	|	|	V |
21+10	0.5346	0.08	Q	|	|	|	V|
21+15	0.5351	0.08	Q	|	|	|	V|
21+20	0.5355	0.06	Q	|	|	|	V|
21+25	0.5359	0.05	Q	|	|	|	V|
21+30	0.5363	0.05	Q	|	|	|	V|
21+35	0.5367	0.07	Q	|	|	|	V|
21+40	0.5372	0.08	Q	|	|	|	V|
21+45	0.5378	0.08	Q	|	|	|	V|
21+50	0.5382	0.06	Q	|	|	|	V|
21+55	0.5386	0.05	Q	|	|	|	V|
22+ 0	0.5389	0.05	Q	|	|	|	V|
22+ 5	0.5394	0.07	Q	|	|	|	V|
22+10	0.5399	0.08	Q	|	|	|	V|
22+15	0.5404	0.08	Q	|	|	|	V|
22+20	0.5409	0.06	Q	|	|	|	V|
22+25	0.5412	0.05	Q	|	|	|	V|
22+30	0.5416	0.05	Q	|	|	|	V|
22+35	0.5419	0.05	Q	|	|	|	V|
22+40	0.5423	0.05	Q	|	|	|	V|
22+45	0.5427	0.05	Q	|	|	|	V|
22+50	0.5430	0.05	Q	|	|	|	V|
22+55	0.5434	0.05	Q	|	|	|	V|
23+ 0	0.5437	0.05	Q	|	|	|	V|
23+ 5	0.5441	0.05	Q	|	|	|	V|
23+10	0.5444	0.05	Q	|	|	|	V|
23+15	0.5448	0.05	Q	|	|	|	V|
23+20	0.5451	0.05	Q	|	|	|	V|
23+25	0.5455	0.05	Q	|	|	|	V|
23+30	0.5458	0.05	Q	|	|	|	V|
23+35	0.5462	0.05	Q	|	|	|	V|
23+40	0.5466	0.05	Q	|	|	|	V|
23+45	0.5469	0.05	Q	|	|	|	V|
23+50	0.5473	0.05	Q	|	|	|	V|
23+55	0.5476	0.05	Q	|	|	|	V|
24+ 0	0.5480	0.05	Q	|	|	|	V|
24+ 5	0.5481	0.02	Q	|	|	|	V|
24+10	0.5481	0.00	Q	|	|	|	V

```
  CIVILCADD/CIVILDESIGN  Engineering Software, (c) 2004   Version 7.0
------------------------------------------------------------------------
CURB INLET CAPACITY
TTM 38636
RANCHO MIRAGE

------------------------------------------------------------------------
Program License Serial Number 6260

------------------------------------------------------------------------
           *** Street Flow +Inlet Analysis ***

      Upstream (headworks) Elevation =    326.510(Ft.)
      Downstream (outlet) Elevation =    324.000(Ft.)
      Runoff/Flow Distance =    502.000(Ft.)
      Maximum flow rate in channel(s) =     11.300(CFS)
------------------------------------------------------------------------


Top of street segment elevation =    326.510(Ft.)
End of street segment elevation =    324.000(Ft.)
Length of street segment  =   502.000(Ft.)
Height of curb above gutter flowline  =    6.0(In.)
Width of half street (curb to crown)  =  18.000(Ft.)
Distance from crown to crossfall grade break  =  16.500(Ft.)
Slope from gutter to grade break (v/hz) =   0.086
Slope from grade break to crown (v/hz)  =   0.020
Street flow is on [2] side(s) of the street
Distance from curb to property line  =  12.000(Ft.)
Slope from curb to property line (v/hz) =   0.020
Gutter width =   1.500(Ft.)
Gutter hike from flowline =  1.500(In.)
 Manning's N in gutter =  0.0150
 Manning's N from gutter to grade break =  0.0130
 Manning's N from grade break to crown =  0.0150

Half street cross section data points:
   X-coordinate (Ft.)   Y-coordinate (Ft.)
            0.0000               0.7400 right of way
           12.0000               0.5000 top of curb
           12.0000               0.0000 flow line
           13.5000               0.1250 gutter end
           13.5000               0.1250 grade break
           30.0000               0.4550 crown



CURB INLET TYPE STREET DRAIN, Opening Height =      8.000(In.)

Street Inlet Calculations:
Street flow in street inlet depression =     11.300(CFS)
 Gutter depression depth =      4.000(In.)
 Gutter depression width =      1.500(Ft.)
Depth of flow =   0.735(Ft.)
```

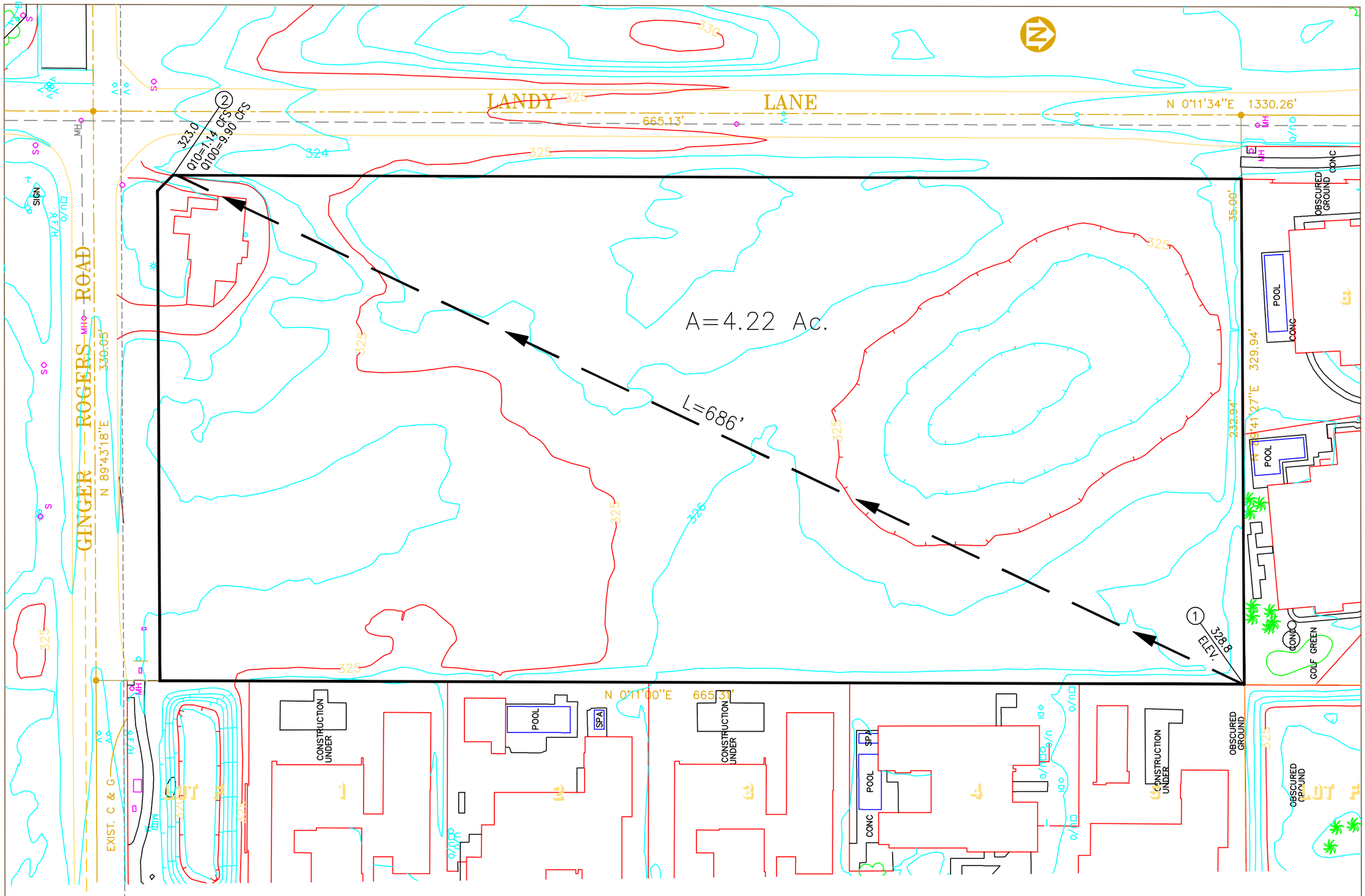
```
Average velocity =   2.113(Ft/s)
Total flow rate in 1/2 street =   5.650(CFS)
U.S. DOT Hydraulic Engineering Circular No. 12 inlet calculations:
 Street flow half width at start of inlet =     15.339(Ft.)
 Flow rate in gutter section of street = Qw =      2.339(CFS)
 Given inlet length  L =      4.000(Ft.)
 Ratio of frontal flow to total flow = E0 =  0.4140
Street slope is less than 0.5% ,
Depth of flow indicates an orifice flow
condition exists for an opening height of    8.00(In.)
Using equation Qi = .67hL(2gd0)^.5
Maximum inlet flow capacity =     18.177(CFS)

Half street cross section data points through curb inlet:
            X-coordinate (Ft.)   Y-coordinate (Ft.)
             0.0000               1.0733 right of way
            12.0000               0.8333 top of curb
            12.0000               0.0000 flow line
            13.5000               0.4583 gutter/depression end
            13.5000               0.4583 grade break
            30.0000               0.7883 crown
Note: Street inlet capacity is greater than existing flow in street.

Remaining flow in street below inlets =      0.000(CFS)
Zero flow remaining in street
```



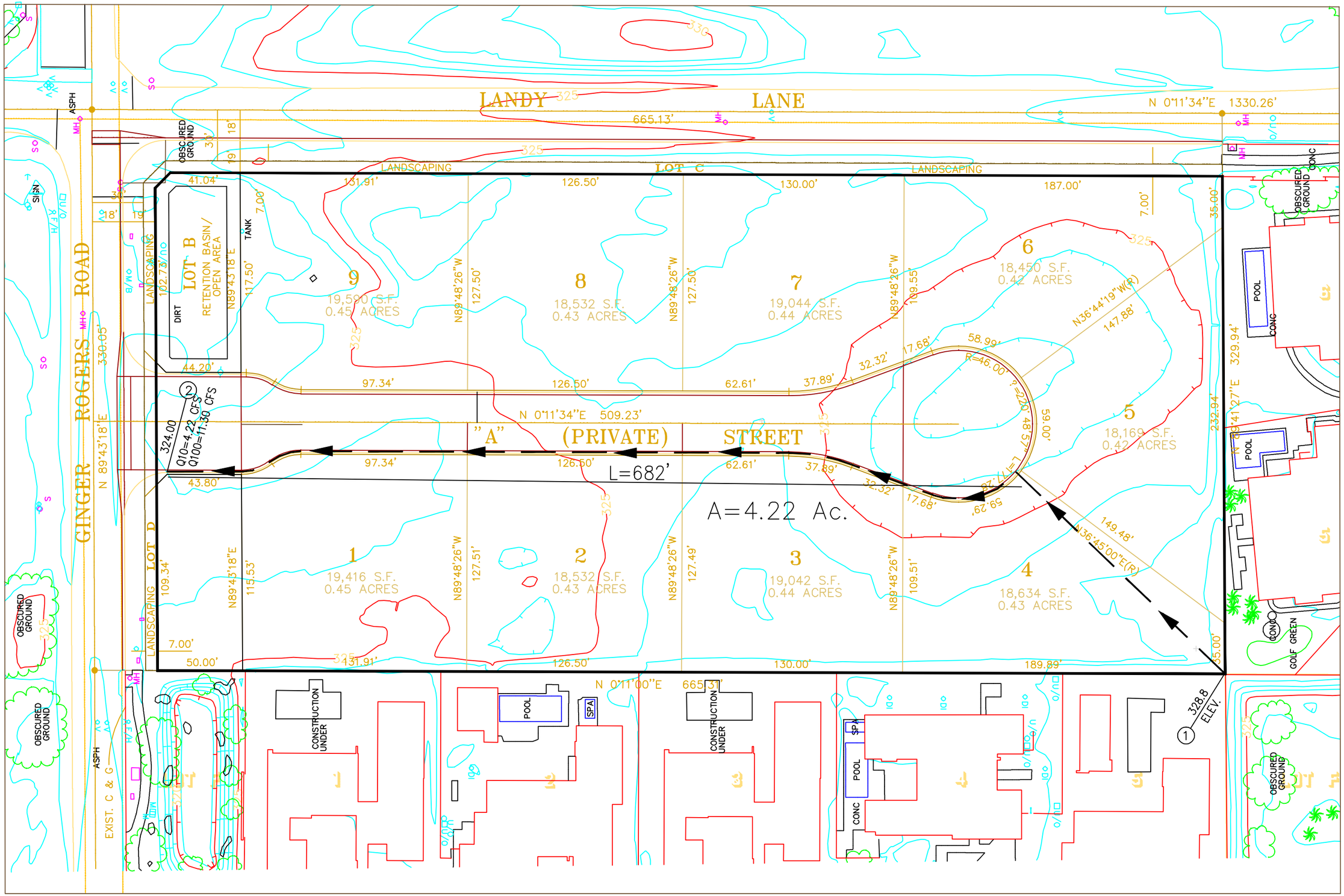
VICINITY MAP

NTS

HYDROLOGY MAP
PREDEVELOPMENT



HYDROLOGY MAP
POST DEVELOPMENT



NOAA Atlas 14, Volume 6, Version 2
Location name: Rancho Mirage, California, USA*
Latitude: 33.7948°, Longitude: -116.4041°
Elevation: m/ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.061** (0.050-0.073)	**0.094** (0.078-0.114)	**0.145** (0.120-0.176)	**0.193** (0.159-0.236)	**0.269** (0.214-0.342)	**0.338** (0.263-0.438)	**0.418** (0.318-0.556)	**0.513** (0.379-0.702)	**0.666** (0.471-0.951)	**0.841** (0.575-1.24)
10-min	**0.087** (0.072-0.105)	**0.134** (0.112-0.163)	**0.208** (0.172-0.253)	**0.276** (0.227-0.339)	**0.386** (0.307-0.490)	**0.484** (0.377-0.628)	**0.599** (0.455-0.797)	**0.735** (0.543-1.01)	**0.955** (0.676-1.36)	**1.21** (0.824-1.78)
15-min	**0.105** (0.088-0.127)	**0.163** (0.135-0.197)	**0.251** (0.208-0.305)	**0.334** (0.275-0.410)	**0.466** (0.371-0.592)	**0.586** (0.456-0.760)	**0.725** (0.551-0.964)	**0.889** (0.656-1.22)	**1.16** (0.817-1.65)	**1.46** (0.996-2.16)
30-min	**0.164** (0.136-0.198)	**0.253** (0.211-0.307)	**0.391** (0.325-0.476)	**0.521** (0.428-0.639)	**0.727** (0.578-0.923)	**0.913** (0.711-1.18)	**1.13** (0.858-1.50)	**1.39** (1.02-1.90)	**1.80** (1.27-2.57)	**2.27** (1.55-3.36)
60-min	**0.239** (0.199-0.289)	**0.370** (0.308-0.448)	**0.571** (0.474-0.694)	**0.759** (0.625-0.932)	**1.06** (0.844-1.35)	**1.33** (1.04-1.73)	**1.65** (1.25-2.19)	**2.02** (1.49-2.77)	**2.63** (1.86-3.75)	**3.32** (2.27-4.90)
2-hr	**0.340** (0.283-0.411)	**0.515** (0.429-0.625)	**0.776** (0.644-0.945)	**1.01** (0.836-1.25)	**1.38** (1.10-1.76)	**1.71** (1.33-2.21)	**2.07** (1.57-2.75)	**2.49** (1.84-3.40)	**3.13** (2.21-4.47)	**3.71** (2.53-5.48)
3-hr	**0.409** (0.341-0.495)	**0.616** (0.512-0.747)	**0.920** (0.764-1.12)	**1.20** (0.984-1.47)	**1.62** (1.29-2.05)	**1.98** (1.54-2.56)	**2.38** (1.81-3.17)	**2.84** (2.10-3.89)	**3.53** (2.50-5.04)	**4.14** (2.83-6.13)
6-hr	**0.557** (0.464-0.675)	**0.837** (0.697-1.02)	**1.24** (1.03-1.51)	**1.61** (1.32-1.97)	**2.15** (1.71-2.73)	**2.62** (2.04-3.39)	**3.13** (2.38-4.16)	**3.70** (2.73-5.07)	**4.57** (3.23-6.52)	**5.30** (3.62-7.84)
12-hr	**0.667** (0.556-0.809)	**1.02** (0.846-1.23)	**1.52** (1.26-1.85)	**1.98** (1.63-2.42)	**2.65** (2.11-3.37)	**3.23** (2.52-4.19)	**3.87** (2.94-5.15)	**4.59** (3.39-6.28)	**5.66** (4.00-8.08)	**6.58** (4.49-9.73)
24-hr	**0.779** (0.690-0.898)	**1.21** (1.07-1.40)	**1.83** (1.62-2.12)	**2.39** (2.09-2.79)	**3.23** (2.74-3.89)	**3.94** (3.27-4.85)	**4.73** (3.84-5.96)	**5.62** (4.44-7.27)	**6.96** (5.28-9.36)	**8.11** (5.95-11.3)
2-day	**0.862** (0.763-0.994)	**1.35** (1.20-1.56)	**2.06** (1.82-2.39)	**2.69** (2.35-3.14)	**3.63** (3.08-4.37)	**4.42** (3.67-5.44)	**5.30** (4.30-6.66)	**6.27** (4.95-8.11)	**7.73** (5.86-10.4)	**8.97** (6.58-12.5)
3-day	**0.903** (0.799-1.04)	**1.42** (1.26-1.64)	**2.17** (1.92-2.52)	**2.84** (2.48-3.31)	**3.83** (3.24-4.61)	**4.66** (3.87-5.73)	**5.58** (4.52-7.02)	**6.60** (5.21-8.53)	**8.12** (6.15-10.9)	**9.41** (6.90-13.1)
4-day	**0.930** (0.823-1.07)	**1.47** (1.30-1.70)	**2.25** (1.99-2.61)	**2.94** (2.57-3.43)	**3.97** (3.36-4.78)	**4.83** (4.01-5.94)	**5.78** (4.69-7.27)	**6.83** (5.39-8.83)	**8.40** (6.37-11.3)	**9.72** (7.13-13.5)
7-day	**0.992** (0.878-1.14)	**1.58** (1.40-1.83)	**2.43** (2.15-2.82)	**3.19** (2.79-3.72)	**4.30** (3.64-5.18)	**5.24** (4.35-6.43)	**6.26** (5.07-7.87)	**7.39** (5.83-9.55)	**9.06** (6.87-12.2)	**10.5** (7.68-14.6)
10-day	**1.04** (0.922-1.20)	**1.67** (1.48-1.93)	**2.57** (2.27-2.98)	**3.37** (2.95-3.93)	**4.56** (3.86-5.49)	**5.55** (4.61-6.82)	**6.64** (5.38-8.35)	**7.84** (6.19-10.1)	**9.61** (7.29-12.9)	**11.1** (8.14-15.4)
20-day	**1.13** (1.00-1.30)	**1.83** (1.61-2.11)	**2.84** (2.50-3.28)	**3.73** (3.26-4.35)	**5.07** (4.29-6.10)	**6.19** (5.14-7.60)	**7.41** (6.01-9.33)	**8.77** (6.92-11.3)	**10.8** (8.16-14.5)	**12.4** (9.12-17.3)
30-day	**1.26** (1.11-1.45)	**2.04** (1.80-2.35)	**3.18** (2.80-3.68)	**4.19** (3.67-4.89)	**5.72** (4.84-6.88)	**7.00** (5.81-8.60)	**8.40** (6.81-10.6)	**9.95** (7.85-12.9)	**12.2** (9.27-16.5)	**14.1** (10.4-19.7)
45-day	**1.37** (1.21-1.57)	**2.22** (1.96-2.56)	**3.48** (3.07-4.03)	**4.61** (4.04-5.38)	**6.32** (5.36-7.61)	**7.77** (6.45-9.55)	**9.35** (7.59-11.8)	**11.1** (8.77-14.4)	**13.7** (10.4-18.4)	**15.8** (11.6-22.0)
60-day	**1.49** (1.32-1.71)	**2.42** (2.14-2.79)	**3.80** (3.35-4.39)	**5.04** (4.41-5.88)	**6.93** (5.87-8.34)	**8.54** (7.09-10.5)	**10.3** (8.36-13.0)	**12.3** (9.67-15.8)	**15.1** (11.5-20.4)	**17.6** (12.9-24.4)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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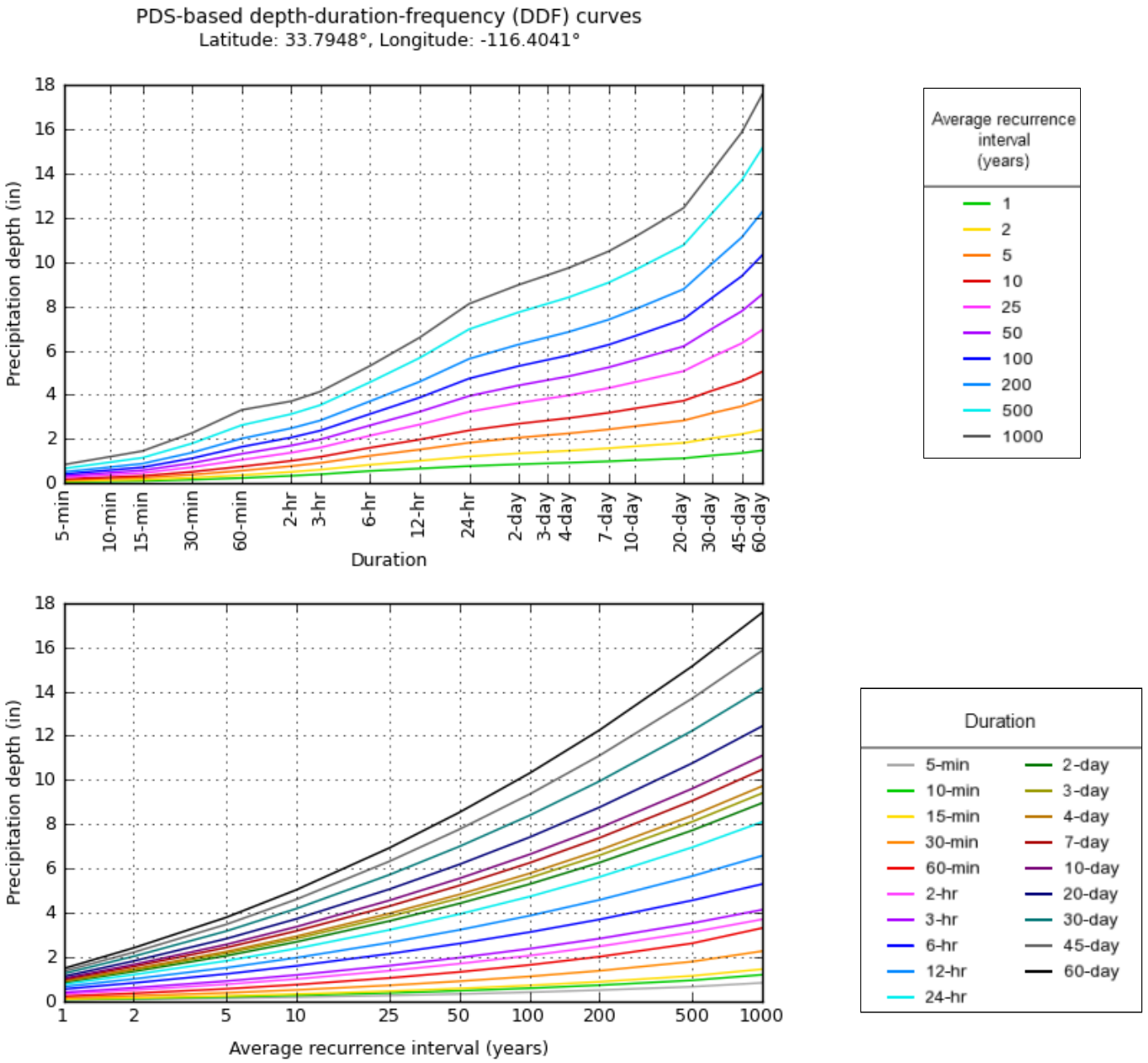
PF graphical



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Created (GMT): Wed May 3 13:39:02 2023

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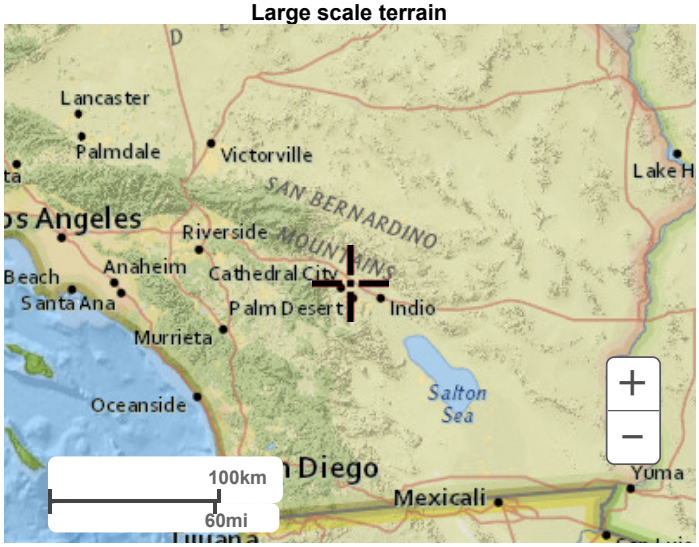
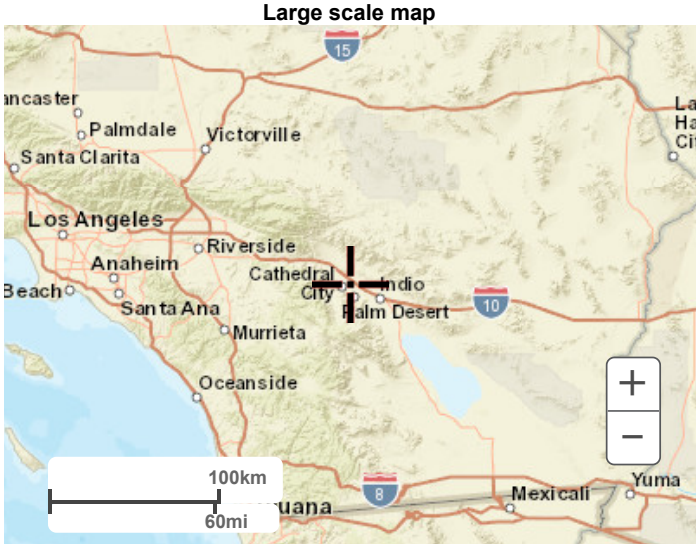
Maps & aerials

Small scale terrain

Large scale terrain



Large scale map



Large scale aerial

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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Whitewater Watershed

BMP Design Volume, V_{BMP} (Rev. 06-2014)

Legend: Required Entries / Calculated Cells

Company Name	SD Engineering ans Associates	Date	4/28/2023
Designed by	Suresh	County/City Case No	
Company Project Number/Name	TTM 38636		
Drainage Area Number/Name	DA 1		

Enter the Area Tributary to this Feature (A_{TRIB}) A_{TRIB} = 4.22 acres

Determine the Impervious Area Ratio

Determine the Impervious Area within A_{TRIB} (A_{IMP}) A_{IMP} = 1.68 acres

Calculate Impervious Area Ratio (I_f) I_f = 0.40

$I_f = A_{IMP}/A_{TRIB}$

Calculate the composite Runoff Coefficient, C for the BMP Tributary Area

Use the following equation based on the WEF/ASCE Method

$C_{BMP} = 0.858I_f^3 - 0.78I_f^2 + 0.774I_f + 0.04$ C_{BMP} = 0.28

Determine Design Storage Volume, V_{BMP}

Calculate V_U, the 80% Unit Storage Volume $V_U = 0.40 \times C_{BMP}$ V_u = 0.11 (in*ac)/ac

Calculate the design storage volume of the BMP, V_{BMP}.

$$V_{BMP}\ (ft^3) = \frac{V_U\ (in\text{-}ac/ac) \times A_T\ (ac) \times 43{,}560\ (ft^2/ac)}{12\ (in/ft)}$$

V_{BMP} = 1,685 ft^3

Notes:

Infiltration Basin - Design Procedure (Rev. 03-2012)	BMP ID	Legend:	Required Entries / Calculated Cells

Company Name: 72094 Ginger Rogers Lane — Date: 4/28/2023

Designed by: — County/City Case No.: Rancho Mirag

Design Volume

a) Tributary area (BMP subarea)	A_T =	4.22	acres
b) Enter V_{BMP} determined from Section 2.1 of this Handbook	V_{BMP}=	1,685	ft^3

Maximum Depth

a) Infiltration rate	I =	4.5	in/hr
b) Factor of Safety (See Table 1, Appendix A: "Infiltration Testing" from this BMP Handbook)	FS =	2	
c) Calculate D_1 $D_1 = \frac{I\ (in/hr) \times 72\ hrs}{12\ (in/ft) \times FS}$	D_1 =	13.5	ft
d) Enter the depth of freeboard (at least 1 ft)		1	ft
e) Enter depth to historic high ground water (measured from **top** of basin)		200	ft
f) Enter depth to top of bedrock or impermeable layer (measured from **top** of basin)		70	ft
g) D_2 is the smaller of: Depth to groundwater - (10 ft + freeboard) and Depth to impermeable layer - (5 ft + freeboard)	D_2 =	64.0	ft
h) D_{MAX} is the smaller value of D_1 and D_2 but shall not exceed 5 feet	D_{MAX} =	13.5	ft

Basin Geometry

a) Basin side slopes (no steeper than 4:1)	z =	4	:1
b) Proposed basin depth (excluding freeboard)	d_B =	1.5	ft
c) Minimum bottom surface area of basin ($A_S = V_{BMP}/d_B$)	A_S =	1123	ft^2
d) Proposed Design Surface Area	A_D =	3441	ft^2

Forebay

a) Forebay volume (minimum 0.5% V_{BMP})	Volume =	8	ft^3
b) Forebay depth (height of berm/splashwall. 1 foot min.)	Depth =	1	ft
c) Forebay surface area (minimum)	Area =	8	ft^2
d) Full height notch-type weir	Width (W) =	12.0	in

Notes:

Appendix G Project Specific Water Quality Management Plan dated April 28, 2023

Project Specific
Water Quality Management Plan

For: Tentative Tract Map 38636

City of Rancho Mirage

DEVELOPMENT NO. TENTATIVE TRACT MAP 38636
DESIGN REVIEW NO. ENTITLEMENT APPLICATION

Prepared for:

72094 Ginger Rogers LLC
Att'n: Farhad Zomoradi
P.O. Box 10544
Beverly Hills, Ca. 90213
Telephone: 310-428-2875

Prepared by:

SD Engineering and Associates
242 E. Airport Drive, Ste. 212
San Bernardino, CA. 92408
(909) 215-3451

Original Date Prepared: April 28, 2023

Revision Date(s): Date

OWNER'S CERTIFICATION

This project-specific Water Quality Management Plan (WQMP) has been prepared for:

72094 Ginger Rogers LLC
P.O. Box 10544, Beverly Hills, Ca. 90213
for the project known as Tentative Parcel Map 38636, in the City of Rancho Mirage

This WQMP is intended to comply with the requirements of **City of Rancho Mirage** for Tentative Tract Map 38636 which includes the requirement for the preparation and implementation of a project-specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation of this WQMP and will ensure that this WQMP is amended as

appropriate to reflect up-to-date conditions on the site. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity.

The undersigned is authorized to certify and to approve implementation of this WQMP. The undersigned is aware that implementation of this WQMP is enforceable under **City of Rancho Mirage** Water Quality Ordinance (Municipal Code Section).

If the undersigned transfers its interest in the subject property/project, the undersigned shall notify the successor in interest of its responsibility to implement this WQMP.

"I, the undersigned, certify under penalty of law that I am the owner of the property that is the subject of this WQMP, and that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

_____
Owner's Signature

Farhad Zomoradi
Owner's Printed Name

Owner
Owner's Title/Position

_____
Date

P.O. Box 10544
Beverly Hills, Ca. 90213
310 428-2875

ATTEST

_____
Notary Signature

_____
Printed Name

_____
Title/Position

_____
Date

THIS FORM SHALL BE NOTARIZED BEFORE ACCEPTANCE OF THE
FINAL PROJECT SPECIFIC WQMP

TO BE INCLUDED IN FINAL WQMPs (AFTER FINAL PLAN CHECK)

Contents

TABLES

APPENDICES

I. Project Description

Project Owner: 72094 Ginger Rogers LLC
P.O. Box 10544
Beverly Hills, Ca. 90213
310 428-2875

WQMP Preparer: SD Engineering and Associates
242 E. Airport Drive, Ste. 212
San Bernardino, Ca. 82408
909 215-3451

Project Site Address:	72094 Ginger Rogers Road Rancho Mirage, Ca.
Planning Area/ Community Name/ Development Name:	City of Rancho Mirage Tentative Tract Map 38636
APN Number(s):	685-080-002
Latitude & Longitude:	33.794783, -116.404113
Receiving Water:	Whitewater River
Project Site Size:	4.22 Acres

Standard Industrial Classification (SIC) Code: 1521

Formation of Home Owners' Association (HOA)
or Property Owners Association (POA): Y ☒ N ☐

Additional Permits/Approvals required for the Project:

AGENCY	Permit required
State Department of Fish and Wildlife, Fish and Game Code §1602 Streambed Alteration Agreement	Y ☐ N☒
State Water Resources Control Board, Clean Water Act (CWA) Section 401 Water Quality Certification	Y ☐ N☒
US Army Corps of Engineers, CWA Section 404 permit	Y ☐ N☒
US Fish and Wildlife, Endangered Species Act Section 7 biological opinion	Y ☐ N☒
Statewide Construction General Permit Coverage	Y ☒ N☐
Statewide Industrial General Permit Coverage	Y ☐ N☒
Other *(please list in the space below as required)*	

Describe project here.

Appendix A of this project-specific WQMP includes a complete copy of the final Conditions of Approval. Appendix B of this project-specific WQMP includes:

a. A Vicinity Map identifying the project site and surrounding planning areas in sufficient detail; and

b. A Site Plan for the project. The Site Plan included as part of Appendix B depicts the following project features:

- Location and identification of all structural BMPs, including Source Control, LID/Site Design and Treatment Control BMPs.
- Landscaped areas.
- Paved areas and intended uses (i.e., parking, outdoor work area, outdoor material storage area, sidewalks, patios, tennis courts, etc.).
- Number and type of structures and intended uses (i.e., buildings, tenant spaces, dwelling units, community facilities such as pools, recreation facilities, tot lots, etc.).
- Infrastructure (i.e., streets, storm drains, etc.) that will revert to public agency ownership and operation.
- Location of existing and proposed public and private storm drainage facilities (i.e., storm drains, channels, basins, etc.), including catch basins and other inlets/outlet structures. Existing and proposed drainage facilities should be clearly differentiated.
- Location(s) of Receiving Waters to which the project directly or indirectly discharges.
- Location of points where onsite (or tributary offsite) flows exit the property/project site.
- Delineation of proposed drainage area boundaries, including tributary offsite areas, for each location where flows exit the project site and existing site (where existing site flows are required to be addressed). Each tributary area should be clearly denoted.
- Pre- and post-project topography.

Appendix I is a one page form that summarizes pertinent information relative to this project-specific WQMP.

II. Site Characterization

Land Use Designation or Zoning:	R-L-2, Very Low Density Residential
Current Property Use:	Residential
Proposed Property Use:	Residential
Availability of Soils Report:	Y ☒ N ☐ *Note: A soils report is required if infiltration BMPs are utilized. Attach report in Appendix E.*
Phase 1 Site Assessment:	Y ☐ N ☒ *Note: If prepared, attached remediation summary and use restrictions in Appendix H.*

Receiving Waters for Urban Runoff from Site

Receiving Waters	EPA Approved 303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use Designated Receiving Waters
Whitewater River	NONE	MUN, AGR, GWR, RECI, REC II, COLD, WILD, POW	N/A, 2 miles

III. Pollutants of Concern

Table 1. Pollutant of Concern Summary

Pollutant Category	Potential for Project and/or Existing Site	Causing Receiving Water Impairment
Bacteria/Virus	Potential	Coachella Valley SWC
Heavy Metals	None	
Nutrients	Potential	Coachella Valley SWC
Toxic Organic Compounds	None	
Sediment/Turbidity	Potential	Coachella Valley SWC
Trash & Debris	Potential	
Oil & Grease	Potential	
Pesticides	Potential	Coachella Valley SWC
Other (specify pollutant):		

IV. Hydrologic Conditions of Concern

Local Jurisdiction Requires On-Site Retention of Urban Runoff:

Yes ☒ The project will be required to retain urban runoff onsite in conformance with local ordinance (See Table 6 of the WQMP Guidance document, "Local Land use Authorities Requiring Onsite Retention of Stormwater"). This section does not need to be completed; however, retention facility design details and sizing calculations must be included in Appendix F.

No ☐ This section must be completed.

This Project meets the following condition:

☒ **Condition A**: 1) Runoff from the Project is discharged directly to a publicly-owned, operated and maintained MS4 or engineered and maintained channel, 2) the discharge is in full compliance with local land use authority requirements for connections and discharges to the MS4 (including both quality and quantity requirements), 3) the discharge would not significantly impact stream habitat in proximate Receiving Waters, **and** 4) the discharge is authorized by the local land use authority.

☐ **Condition B**: The project disturbs less than 1 acre and is not part of a larger common plan of development that exceeds 1 acre of disturbance. The disturbed area calculation must include all disturbances associated with larger plans of development.

☐ **Condition C**: The project's runoff flow rate, volume, velocity and duration for the post-development condition do not exceed the pre-development condition for the 2-year, 24-hour and 10-year 24-hour rainfall events. This condition can be achieved by, where applicable, complying with the local land use authority's on-site retention ordinance, or minimizing impervious area on a site and incorporating other Site-Design BMP concepts and LID/Site Design BMPs that assure non-exceedance of pre-development conditions. This condition must be substantiated by hydrologic modeling methods acceptable to the local land use authority.

☐ **None:** Refer to Section 3.4 of the Whitewater River Region WQMP Guidance document for additional requirements.

Supporting engineering studies, calculations, and reports are included in Appendix C.

	2 year – 24 hour		10 year – 24 hour	
	Precondition	**Post-condition**	**Precondition**	**Post-condition**
Discharge (cfs)				
Velocity (fps)				
Volume (cubic feet)				
Duration (minutes)				

V. Best Management Practices

This project implements Best Management Practices (BMPs) to address the Pollutants of Concern that may potentially be generated from the use of the Underground Infiltration Chambers. These BMPs have been selected and implemented to comply with Section 3.5 of the WQMP Guidance document, and consist of Site Design BMP concepts, Source Control, LID/Site Design and, if/where necessary, Treatment Control BMPs as described herein.

V.1 Site Design BMP Concepts, LID/Site Design and Treatment Control BMPs

Local Jurisdiction Requires On-Site Retention of Urban Runoff:

Yes ☒ The project will be required to retain Urban Runoff onsite in conformance with local ordinance (See Table 6 of the WQMP Guidance document, "Local Land use Authorities Requiring Onsite Retention of Stormwater). **The LID/Site Design measurable goal has thus been met (100%), and Sections V.1.A and V.1.B do not need to be completed**; however, retention facility design details and sizing calculations must be included in Appendix F, and '100%' should be entered into Column 3 of Table 6 below.

No ☐ Section V.1 must be completed.

This section of the Project-Specific WQMP documents the LID/Site Design BMPs and, if/where necessary, the Treatment Control BMPs that will be implemented on the project to meet the requirements detailed within Section 3.5.1 of the WQMP Guidance document. Section 3.5.1 includes requirements to implement Site Design Concepts and BMPs, and includes requirements to address Pollutants of Concern with BMPs. Further, sub-section 3.5.1.1 specifically requires that Pollutants of Concern be addressed with LID/Site Design BMPs to the extent feasible.

LID/Site Design BMPs are those BMPs listed within Table 2 below which promote retention and/or feature a natural treatment mechanism; off-site and regionally-based BMPs are also LID/Site Design BMPs, and therefore count towards the measurable goal, if they fit these criteria. This project incorporates LID/Site Design BMPs to fully address the Treatment Control BMP requirement where and to the extent feasible. If and where it has been acceptably demonstrated to the local land use authority that it is infeasible to fully meet this requirement with LID/Site Design BMPs, Section V.1.B (below) includes a description of the conventional Treatment Control BMPs that will be substituted to meet the same requirements.

In addressing Pollutants of Concern, BMPs are selected using Table 2 below.

Table 2. BMP Selection Matrix Based Upon Pollutant of Concern Removal Efficiency [(1)]

(Sources: Riverside County Flood Control & Water Conservation District Design Handbook for Low Impact Development Best Management Practices, dated September 2011, the Orange County Technical Guidance Document for Water Quality Management Plans, dated May 19, 2011, and the Caltrans Treatment BMP Technology Report, dated April 2010 and April 2008)

Pollutant of Concern	Landscape Swale[2, 3]	Landscape Strip[2, 3]	Biofiltration (with underdrain)[2, 3]	Extended Detention Basin[2]	Sand Filter Basin[2]	Infiltration Basin[2]	Infiltration Trench[2]	Permeable Pavement[2]	Bioretention (w/o underdrain)[2, 3]	Other BMPs Including Proprietary BMPs[4, 6]
Sediment & Turbidity	M	M	H	M	H	H	H	H	H	Varies by Product[5]
Nutrients	L/M	L/M	M	L/M	L/M	H	H	H	H	
Toxic Organic Compounds	M/H	M/H	M/H	L	L/M	H	H	H	H	
Trash & Debris	L	L	H	H	H	H	H	L	H	
Bacteria & Viruses (also: Pathogens)	L	M	H	L	M	H	H	H	H	
Oil & Grease	M	M	H	M	H	H	H	H	H	
Heavy Metals	M	M/H	M/H	L/M	M	H	H	H	H	

Abbreviations:
L: Low removal efficiency M: Medium removal efficiency H: High removal efficiency

Notes:

(1) Periodic performance assessment and updating of the guidance provided by this table may be necessary.

(2) Expected performance when designed in accordance with the most current edition of the document, "Riverside County, Whitewater River Region Stormwater Quality Best Management Practice Design Handbook".

(3) Performance dependent upon design which includes implementation of thick vegetative cover. Local water conservation and/or landscaping requirements should be considered; approval is based on the discretion of the local land use authority.

(4) Includes proprietary stormwater treatment devices as listed in the CASQA Stormwater Best Management Practices Handbooks, other stormwater treatment BMPs not specifically listed in this WQMP (including proprietary filters, hydrodynamic separators, inserts, etc.), or newly developed/emerging stormwater treatment technologies.

(5) Expected performance should be based on evaluation of unit processes provided by BMP and available testing data. Approval is based on the discretion of the local land use authority.

(6) When used for primary treatment as opposed to pre-treatment, requires site-specific approval by the local land use authority.

V.1.A SITE DESIGN BMP CONCEPTS AND LID/SITE DESIGN BMPS

This section documents the Site Design BMP concepts and LID/Site Design BMPs that will be implemented on this project to comply with the requirements detailed in Section 3.5.1 of the WQMP Guidance document.

- Table 3 herein documents the implementation of the Site Design BMP Concepts described in sub-sections 3.5.1.3 and 3.5.1.4.
- Table 4 herein documents the extent to which this project has implemented the LID/Site Design goals described in sub-section 3.5.1.1.

Table 3. Implementation of Site Design BMP Concepts

Design Concept	Technique	Specific BMP	Included			Brief Reason for BMPs Indicated as No or N/A
			Yes	No	N/A	
Site Design BMP Concept 1	**Minimize Urban Runoff, Minimize Impervious Footprint, and Conserve Natural Areas** **(See WQMP Section 3.5.1.3)**	Conserve natural areas by concentrating or clustering development on the least environmentally sensitive portions of a site while leaving the remaining land in a natural, undisturbed condition.	☐	☐	☒	The project is a "Small Development" and the whole site is being developed in compliance with City Land Use Regulations
		Conserve natural areas by incorporating the goals of the Multi-Species Habitat Conservation Plan or other natural resource plans.	☐	☐	☒	The project is a "Small Development" and the whole site is being developed in compliance with City Land Use Regulations
		Preserve natural drainage features and natural depressional storage areas on the site.	☐	☐	☒	There are no existing drainage features and natural depressional storage areas on the site.
		Maximize canopy interception and water conservation by preserving existing native trees and shrubs, and planting additional native or drought tolerant trees and large shrubs.	☐	☐	☒	There are no existing native trees to preserve, however drought-tolerant species will be planted.
		Use natural drainage systems.	☒	☐	☐	An underground infiltration chamber system is proposed
		Where applicable, incorporate Self-Treating Areas	☒	☐	☐	
		Where applicable, incorporate Self-Retaining Areas	☐	☐	☒	Incorporated infiltration chamber enough to treat generated runoff.
		Increase the building floor to area ratio (i.e., number of stories above or below ground).	☐	☐	☒	
		Construct streets, sidewalks and parking lot aisles to minimum widths necessary, provided that public safety and a walkable environment for pedestrians are not compromised.	☐	☐	☒	Existing Street Section.
		Reduce widths of streets where off-street parking is available.	☐	☐	☒	Existing Street Section.
		Minimize the use of impervious surfaces, such as decorative concrete, in the landscape design.	☐	☐	☒	Incorporated Infiltration Basin BMP that is approved by the City
		Other comparable and equally effective Site Design BMP concept(s) as approved by the local land use authority (Note: Additional narrative required to describe BMP and how it addresses site design concept).	☐	☐	☒	Incorporated Underground Infiltration Chamber BMP that is approved by the City

Table 3. Site Design BMP Concepts (continued)

Design Concept	Technique	Specific BMP	Included: Yes	Included: No	Included: N/A	Brief Reason for Each BMP Indicated as No or N/A
Site Design BMP Concept 2	**Minimize Directly Connected Impervious Area (See WQMP Section 3.5.1.4)**	Design residential and commercial sites to contain and infiltrate roof runoff, or direct roof runoff to landscaped swales or buffer areas.	☒	☐	☐	
		Drain impervious sidewalks, walkways, trails, and patios into adjacent landscaping.	☒	☐	☐	
		Incorporate landscaped buffer areas between sidewalks and streets.	☐	☐	☒	Existing Street Section
		Use natural or landscaped drainage swales in lieu of underground piping or imperviously lined swales.	☐	☒	☐	Incorporated Infiltration Basin
		Where soil conditions are suitable, use perforated pipe or gravel filtration pits for low flow infiltration.	☐	☒	☐	Incorporated Infiltration Basin
		Maximize the permeable area by constructing walkways, trails, patios, overflow parking, alleys, driveways, low-traffic streets, and other low-traffic areas with open-jointed paving materials or permeable surfaces such as pervious concrete, porous asphalt, unit pavers, and granular materials.	☐	☒	☐	Incorporated Infiltration Basin
		Use one or more of the following:				
		Rural swale system: street sheet flows to landscaped swale or gravel shoulder, curbs used at street corners, and culverts used under driveways and street crossings.	☐	☐	☒	Existing Street Section
		Urban curb/swale system: street slopes to curb; periodic swale inlets drain to landscaped swale or biofilter.	☐	☐	☒	Existing Street Section
		Dual drainage system: first flush captured in street catch basins and discharged to adjacent vegetated swale or gravel shoulder; high flows connect directly to MS4s.	☐	☐	☒	Existing Street Section
		Other comparable and equally effective Site Design BMP concept(s) as approved by the local land use authority (Note: Additional narrative required to describe BMP and how it addresses site design concept).	☐	☐	☒	Incorporated Infiltration Basin BMP that is approved by the City
		Use one or more of the following for design of driveways and private residential parking areas:				
		Design driveways with shared access, flared (single lane at street), or wheel strips (paving only under the tires).	☐	☒	☐	Incorporated Infiltration Basin
		Uncovered temporary or guest parking on residential lots paved with a permeable surface, or designed to drain into landscaping.	☐	☒	☐	Incorporated Infiltration Basin

Table 3. Site Design BMP Concepts (continued)

Design Concept	Technique	Specific BMP	Included			Brief Reason for Each BMP Indicated as No or N/A
			Yes	No	N/A	
Site Design BMP Concept 2 (cont'd)	**Minimize Directly Connected Impervious Area (See WQMP Section 3.5.1.4)**	Other comparable and equally effective Site Design BMP concept(s) as approved by the local land use authority (Note: Additional narrative required to describe BMP and how it addresses site design concept).	☒	☐	☐	Incorporated Infiltration Basin
		Use one or more of the following for design of parking areas:				
		Where landscaping is proposed in parking areas, incorporate parking area landscaping into the drainage design.	☐	☒	☐	Incorporated Infiltration Basin
		Overflow parking (parking stalls provided in excess of the Permittee's minimum parking requirements) may be constructed with permeable pavement.	☐	☒	☐	No overflow Parking
		Other comparable and equally effective Site Design BMP (or BMPs) as approved by the local land use authority (Note: Additional narrative required describing BMP and how it addresses site design concept).	☐	☐	☒	Incorporated Infiltration Basin

Project Site Design BMP Concepts:

Incorporated Infiltration Basin for 100% capture volume.

Alternative Project Site Design BMP Concepts:

N/A

Table 4. LID/Site Design BMPs Meeting the LID/Site Design Measurable Goal

(1) DRAINAGE SUB-AREA ID OR NO.	(2) LID/SITE DESIGN BMP TYPE* (See Table 2)	(3) POTENTIAL POLLUTANTS OF CONCERN WITHIN DRAINAGE SUB-AREA (Refer to Table 1)	(4) POTENTIAL POLLUTANTS WITHIN SUB-AREA CAUSING RECEIVING WATER IMPAIRMENTS (Refer to Table 1)	(5) EFFECTIVENESS OF LID/SITE DESIGN BMP AT ADDRESSING IDENTIFIED POTENTIAL POLLUTANTS (U, L, M, H/M, H; see Table 2)	(6) BMP MEETS WHICH DESIGN CRITERIA? (Identify as V_{BMP} OR Q_{BMP})	(7) TOTAL AREA WITHIN DRAINAGE SUB-AREA (Nearest 0.1 acre)
DA 1	INFILTRATION BASIN	PATHOGENS	PATHOGENS	H/M	Vbmp	4.2
TOTAL PROJECT AREA TREATED WITH LID/SITE DESIGN BMPs (NEAREST 0.1 ACRE)						

*** LID/Site Design BMPs listed in this table are those that <u>completely</u> address the 'Treatment Control BMP requirement' for their drainage sub-area.**

Justification of infeasibility for sub-areas not addressed with LID/Site Design BMPs

N/A

V.1.B TREATMENT CONTROL BMPS

Conventional Treatment Control BMPs shall be implemented to address the project's Pollutants of Concern as required in WQMP Section 3.5.1 where, and to the extent that, Section V.1.A has demonstrated that it is infeasible to meet these requirements through implementation of LID/Site Design BMPs.

☒ The LID/Site Design BMPs described in Section V.1.A of this project-specific WQMP completely address the 'Treatment Control BMP requirement' for the entire project site (and where applicable, entire existing site) as required in Section 3.5.1.1 of the WQMP Guidance document. Supporting documentation for the sizing of these LID/Site Design BMPs is included in Appendix F. ***Section V.1.B does not need to be completed**.

☐ The LID/Site Design BMPs described in Section V.1.A of this project-specific WQMP do **NOT** completely address the 'Treatment Control BMP requirement' for the entire project site (or where applicable, entire existing site) as required in Section 3.5.1.1 of the WQMP. ***Section V.1.B must be completed.**

The Treatment Control BMPs identified in this section are selected, sized and implemented to treat the design criteria of V_{BMP} and/or Q_{BMP} for all project (and if required, existing site) drainage sub-areas which were not fully addressed using LID/Site Design BMPs. Supporting documentation for the sizing of these Treatment Control BMPs is included in Appendix F.

Table 5: Treatment Control BMP Summary

(1) DRAINAGE SUB-AREA ID OR NO.	(2) TREATMENT CONTROL BMP TYPE* (See Table 2)	(3) POTENTIAL POLLUTANTS OF CONCERN WITHIN DRAINAGE SUB-AREA (Refer to Table 1)	(4) POTENTIAL POLLUTANTS WITHIN SUB-AREA CAUSING RECEIVING WATER IMPAIRMENTS (Refer to Table 1)	(5) EFFECTIVENESS OF TREATMENT CONTROL BMP AT ADDRESSING IDENTIFIED POTENTIAL POLLUTANTS (U, L, M, H/M, H; see Table 2)	(6) BMP MEETS WHICH DESIGN CRITERIA? (Identify as V_{BMP} OR Q_{BMP})	(7) TOTAL AREA WITHIN DRAINAGE SUB-AREA (Nearest 0.1 acre)
DA 1	INFILTRATION BASIN	PATHOGENS	PATHOGENS	H/M	Vbmp	1.36
	TOTAL PROJECT AREA TREATED WITH TREATMENT CONTROL BMPs (NEAREST 0.1 ACRE)					

V.1.C MEASURABLE GOAL SUMMARY

This section documents the extent to which this project has met the measurable goal described in WQMP Section 3.5.1.1 of addressing 100% of the project's 'Treatment Control BMP requirement' with LID/Site Design BMPs. Projects required to retain Urban Runoff onsite in conformance with local ordinance are considered to have met the measurable goal; for these instances, '100%' is entered into Column 3 of the Table.

Table 6: Measurable Goal Summary

(1) **Total Area Treated with <u>LID/Site Design</u> BMPs** **(Last row of Table 4)**	(2) **Total Area Treated with <u>Treatment Control</u> BMPs** **(Last row of Table 5)**	(3) **% of Treatment Control BMP Requirement addressed with LID/Site Design BMPs**
4.2	4.2	100

V.2 SOURCE CONTROL BMPS

This section identifies and describes the Source Control BMPs applicable and implemented on this project.

Table 7. Source Control BMPs

BMP Name	Check One		If not applicable, state brief reason
	Included	Not Applicable	
Non-Structural Source Control BMPs			
Education for Property Owners, Operators, Tenants, Occupants, or Employees	☒	☐	
Activity Restrictions	☒	☐	
Irrigation System and Landscape Maintenance	☒	☐	
Common Area Litter Control	☒	☐	
Street Sweeping Private Streets and Parking Lots	☒	☐	
Drainage Facility Inspection and Maintenance	☒	☐	
Structural Source Control BMPs			
Storm Drain Inlet Stenciling and Signage	☒	☐	
Landscape and Irrigation System Design	☒	☐	
Protect Slopes and Channels	☐	☒	No Slopes and channels
Provide Community Car Wash Racks	☐	☒	No Community Car Wash Racks
Properly Design*:			
Fueling Areas	☐	☒	Not a project feature
Air/Water Supply Area Drainage	☐	☒	Not a project feature
Trash Storage Areas	☒	☐	
Loading Docks	☐	☒	Not a project feature
Maintenance Bays	☐	☒	Not a project feature
Vehicle and Equipment Wash Areas	☐	☒	Not a project feature
Outdoor Material Storage Areas	☐	☒	Not a project feature
Outdoor Work Areas or Processing Areas	☐	☒	Not a project feature
Provide Wash Water Controls for Food Preparation Areas	☐	☒	Not a project feature

*Details demonstrating proper design must be included in Appendix F.

BMP	IMPLEMENTATION
Education Materials	Each employee will initially be provided with a copy of the included handouts.
Stenciling	The catch basins will be stenciled (prior to acceptance by city) with "NO DUMPING: DRAINS TO RIVER)
Landscape and irrigation design	Initial landscape design will include drought-tolerant species requiring limited irrigation. Irrigation systems will be designated as water-conservation type.
Common Area Litter Control	Standard on-going maintenance will control litter
Street Sweeping Private Streets and Parking Lots	Quarterly , driveways and parking lot sweeping will be implemented as needed
Drainage Facility Inspection and Maintenance	The drainage facilities will be inspected and maintained as part of standard landscaping maintenance

Appendix D includes copies of the educational materials (described in Section 3.5.2.1 of the WQMP Guidance document) that will be used in implementing this project-specific WQMP.

V.3 EQUIVALENT TREATMENT CONTROL BMP ALTERNATIVES

N/A

V.4 REGIONALLY-BASED BMPS

N/a

VI. Operation and Maintenance Responsibility for BMPs

Appendix G of this project-specific WQMP includes copies of CC&Rs, Covenant and Agreements, BMP Maintenance Agreement and/or other mechanisms used to ensure the ongoing operation, maintenance, funding, transfer and implementation of the project-specific WQMP requirements.

Operation and Maintenance:

Site Design BMPs	Action	Startup Date	Frequency
Conserve natural areas by concentrating or cluster development on the least environmentally sensitive portions of a site while leaving the remaining land in a natural, undisturbed condition.	Routine landscape maintenance, including trash and debris removal, mowing (keep grass +/-6" high), and repair of irrigation system as needed	Upon installation of landscaping	Monthly
Maximize canopy interception and water conservation by preserving existing native trees and shrubs, and planting additional native or drought tolerant trees and large shrubs.	Routine landscape maintenance, including trash and debris removal, mowing (keep grass +/-6" high), and repair of irrigation system as needed	Upon installation of landscaping	Monthly
Use natural drainage systems.	Routine landscape maintenance, including trash and debris removal, mowing (keep grass +/-6" high), and repair of irrigation system as needed	Upon installation of landscaping	Monthly
Construct streets, sidewalks and parking lot aisles to minimum widths necessary, provided that public safety and a walkable environment for pedestrians is not compromised.	Routine landscape maintenance, including trash and debris removal	Upon installation of pavement and hardscape	Monthly
Minimize the use of impervious surfaces, such as decorative concrete, in the landscape design.	Routine landscape maintenance, including trash and debris removal	Upon installation of pavement and	Monthly

		hardscape	
Commercial sites must be designed to contain and infiltrate roof runoff, or direct roof runoff to vegetative swales or buffer areas.	Inspect drainage around buildings and redirect as necessary to landscaped areas and vegetative swales.	Upon installation of landscaping	Monthly
Drain impervious sidewalks, walkways, trails, and patios into adjacent landscaping.	Inspect drainage around hardscape and redirect as necessary to landscaped areas and vegetative swales.	Upon installation of landscaping	Monthly
Incorporate landscaped buffer areas between sidewalks and streets.	Routine landscape maintenance, including trash and debris removal, mowing (keep grass +/-6" high), and repair of irrigation system as needed	Upon installation of landscaping	Monthly
Construct onsite ponding areas or detention facilities to increase opportunities for infiltration consistent with vector control objectives.	Routine landscape maintenance, including trash and debris removal, mowing (keep grass +/-6" high), and repair of irrigation system as needed	Upon installation of landscaping	Monthly
Incorporate tree well filters, flow-through planters, and/or bioretention areas into landscaping and drainage plans.	Routine landscape maintenance, including trash and debris removal, mowing (keep grass +/-6" high), and repair of irrigation system as needed	Upon installation of landscaping	Monthly
Source Control BMPs	Action		Frequency
Education of property owners/staff	Provide educational materials (see copies herein)	Upon site opening	Initial hire
Landscaping & protection of slopes and channels.	Standard landscaping maintenance activities, including trash removal, proper replacement of landscaping as needed, and regular trimming (see handouts in Attachment E)	Upon installation of landscaping	Monthly

Efficient irrigation	Standard maintenance activities (ensure no over-watering, minimize watering on hardscape)	Upon installation of landscaping	Monthly

Litter control and street sweeping	Standard landscape maintenance	Upon installation of pavement and hardscape	Weekly*
Trash storage areas	Standard landscape maintenance	Upon installation of trash area	Weekly*
Drainage Facility Inspection and Maintenance	Standard landscape maintenance	Upon installation of drain system	Quarterly*
Storm Drain Stenciling	Inspect all catch basins and inlets to ensure stenciling is legible.	Upon installation of drain system	Annually*
Treatment Control BMPs			
Infiltration Basin	Inspection and Maintenance activities shall include periodic mowing, weed control, watering during drought conditions, reseeding of bare areas, and clearing of debris and blockages. Accumulated sediment should be removed manually. The application of fertilizers and pesticides should be minimal. Operation and maintenance shall commence immediately after obtaining building occupancy	Upon installation of landscaping	Twice a year

VII. Funding

Funding for the on-going operation and maintenance of the project WQ BMPs will be incorporated into standard site landscaping maintenance paid by owners of private areas.

Funding source for the operation and maintenance of each BMP within the WQMP is listed below:
FARHAD ZOMORADI
P.O. BOX 10544
BEVERLY HILLS, CA. 91208
(310) 428-2875

Appendix A

Conditions of Approval

TO BE INCLUDED IN FINAL WQMPs

Planning Commission Resolution N/A

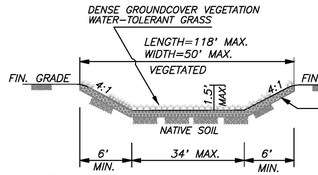
Appendix B

Vicinity Map, WQMP Site Plan, and Receiving Waters Map

LEGEND:

- DENOTES CONCRETE AREA
- DENOTES PERVIOUS AREA
- DENOTES FUTURE BUILDING AREA
- DENOTES ASPHALT PAVING

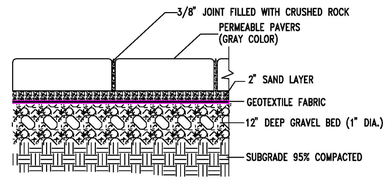
⑦ STORM DRAIN INLET STENCIL
N.T.S. SD-13



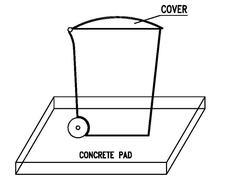
① INFILTRATION BASIN *(NOT TO SCALE)*
CAPACITY = 5,161 C.F.

BMP NOTES

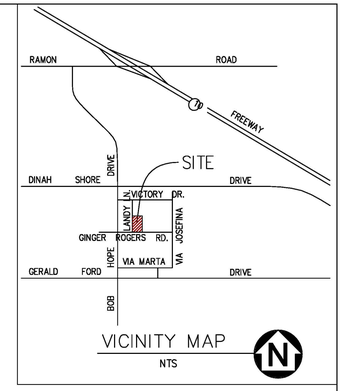
1. *TC-11, INFILTRATION BASIN*
2. *SD-12, EFFICIENT IRRIGATION*
3. *SD-10, SITE DESIGN AND LANDSCAPE PLANNING*
4. *SD-11, SPASH PAD, ROOF RUNOFF CONTROL*
5. *SD-21, ALTERNATIVE BUILDING MATERIALS*
6. *SD-32, TRASH STORAGE AREA*
7. *SD-13, STORM DRAIN SIGNAGE*
8. *MP-52, CATCH BASIN INSERT FILTER*



④ POROUS PAVER DETAIL, SD-11
ROOF RUNOFF SPLASH PAD (2'X3')

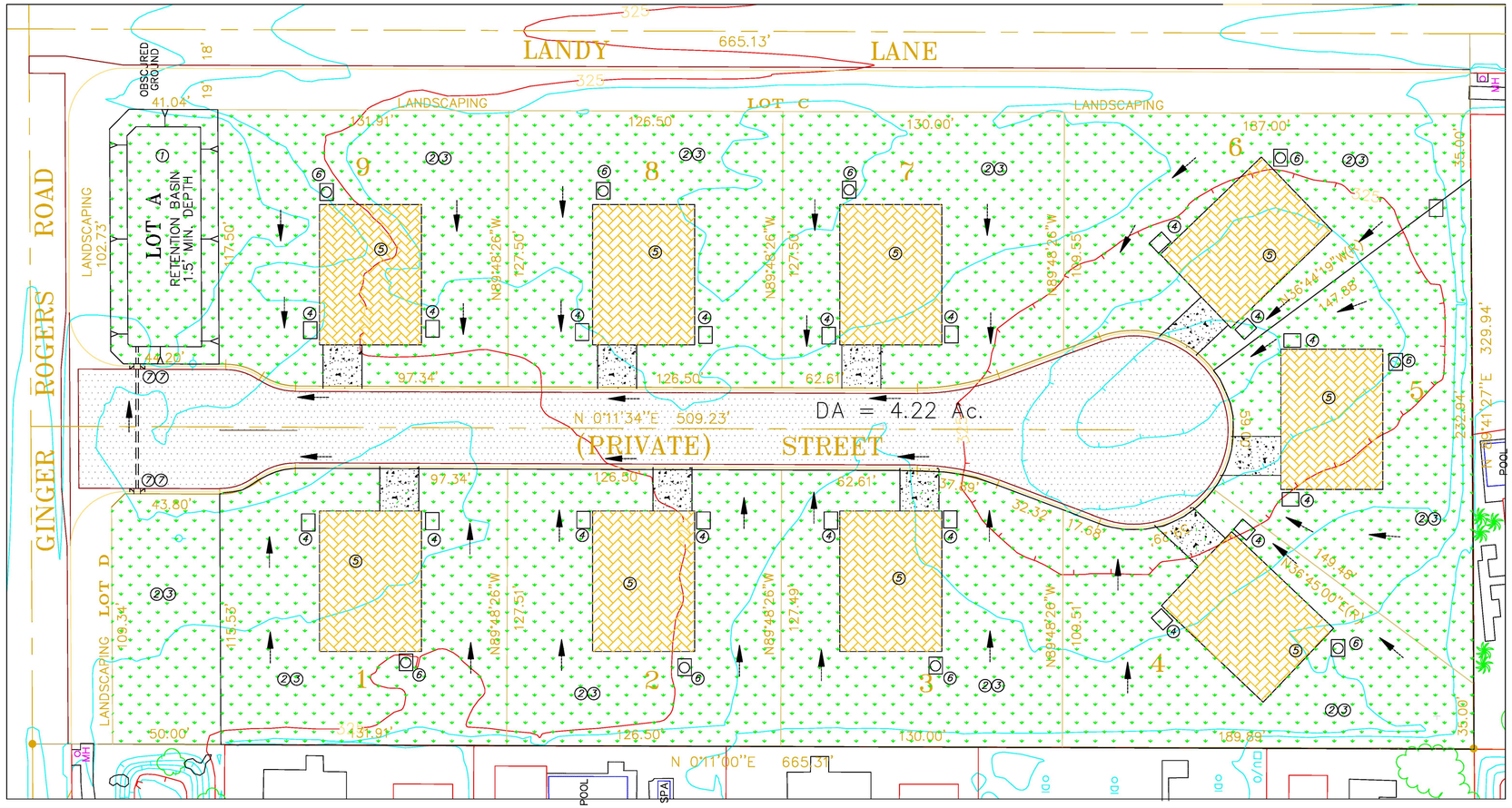


④ RESIDENTIAL TRASH STORAGE, SD-32
ON 3.5'X3.5' PCC PAD N.T.S.



VICINITY MAP
NTS

⑧ BIO-CLEAN CONNECTOR PIPE SCREEN
N.T.S.



GRAPHIC SCALE 1"=30'
30 0 30 60 90

S.D. ENGINEERING AND ASSOCIATES
LAND PLANNING AND CIVIL ENGINEERING
242 E. AIRPORT DRIVE, STE. 212 – SAN BERNARDINO, CA 92408
PHONE (909) 215-3451 EMAIL: suresh@sdengineering.net

SURESH DODDIAH R.C.E. 36361 DATE

REGISTERED PROFESSIONAL ENGINEER
SURESH DODDIAH
NO. 36361
EXP. 6-30-24
CIVIL
STATE OF CALIFORNIA

DIGALERT
DIAL BEFORE YOU DIG TOLL FREE 1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

REV.	REVISION DESCRIPTION	DATE	ENGR.	CITY	DATE

SHOULD CONSTRUCTION OF THE REQUIRED IMPROVEMENTS NOT COMMENCE WITHIN TWO YEARS OF THE DATE OF APPROVAL SHOWN HEREON AND CARRIED FORTH IN A DILIGENT MANNER, THE CITY ENGINEER MAY REQUIRE REVISIONS TO THE PLANS TO BRING THEM INTO CONFORMANCE WITH CONDITIONS AND STANDARDS IN EFFECT.

BENCHMARK: CITY BM #PD 18-5

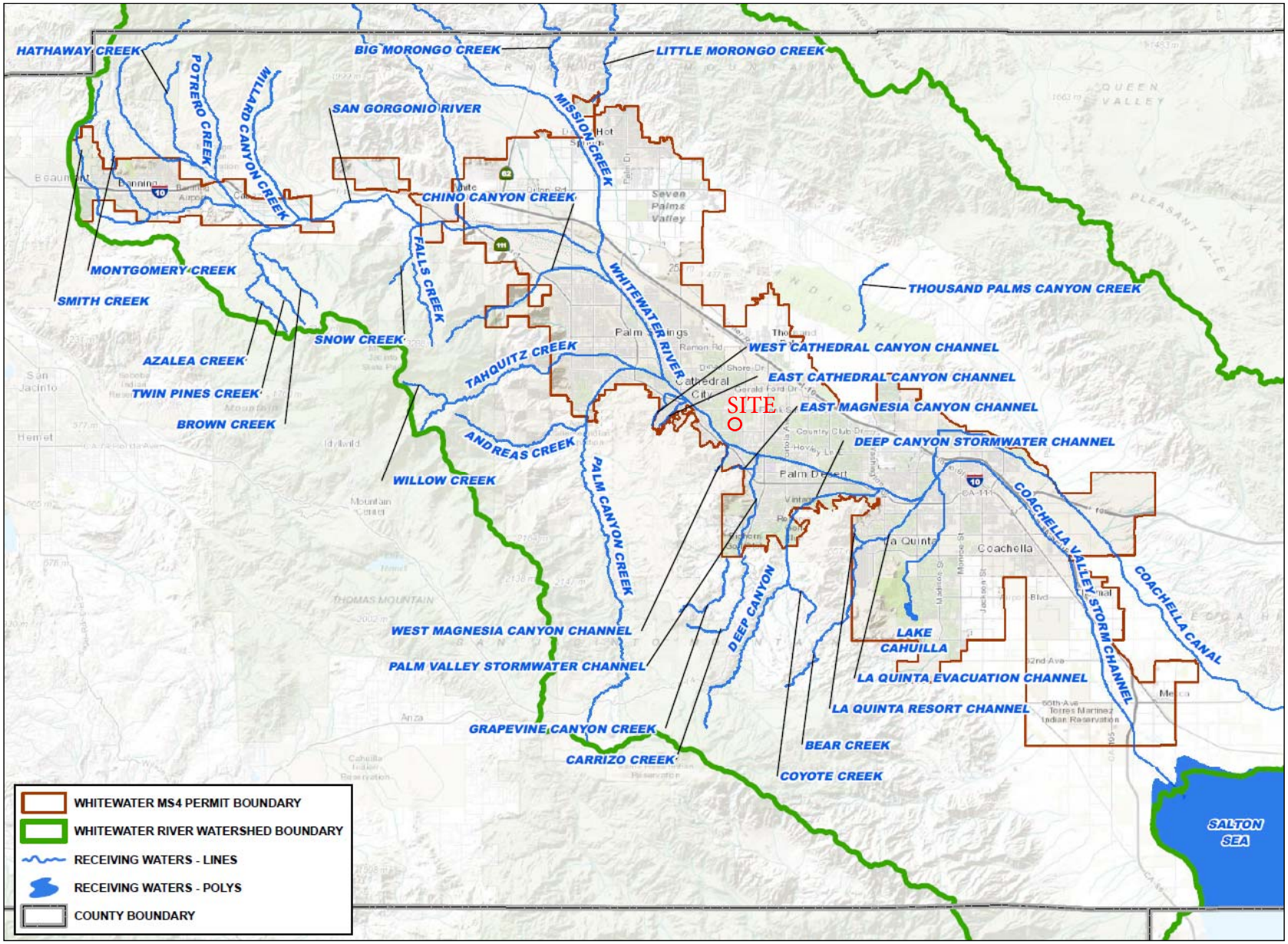
BEING A 1-1/2" COPPERWELD IN ASPHALT, FLUSH, AT THE CENTERLINE INTERSECTION OF BOB HOPE DRIVE AND DINAH SHORE DRIVE.

ELEV. = 347.672

CITY OF RANCHO MIRAGE, CALIFORNIA
PRELIMINARY WQMP SITE MAP

DRAWN BY: EB	TENTATIVE TRACT MAP NO. 38636	SCALE: 1"=20'
DESIGNED BY: EB	72094 GINGER ROGERS ROAD	DATE: 4/28/23
CHECKED BY: SD		DRAWING NO.: 1 / 1

Figure 2. Whitewater River Region Receiving Waters Map



Appendix C

Supporting Detail Related to Hydrologic Conditions of Concern

Not Applicable

Appendix D

Educational Materials

TO BE INCLUDED IN FINAL WQMPs

Appendix E

Soils Report

Project No. 23-0102-Inf
March 04, 2023

Sampson and Associates

CONSULTING ENGINEERS
Soil, Geology, Environmental

TO: **Mr. Farhad Zomorodi**
9165 Alcott, #203
Los Angeles, Ca.

SUBJECT: Infiltration Evaluation, New Single-Family Residences On TTM No. 38636 In The City of Rancho Mirage, California.

INTRODUCTION:

We sincerely appreciate the opportunity to be of service to you on this project. The primary objective of this study was to evaluate an infiltration rate of the onsite subsurface soils for the design of the infiltration drainage system to be constructed at designated area for the above subject site.

If you have any questions regarding this report please do not hesitate to contact this office at your convenience. We appreciate the opportunity to be of service on this project.

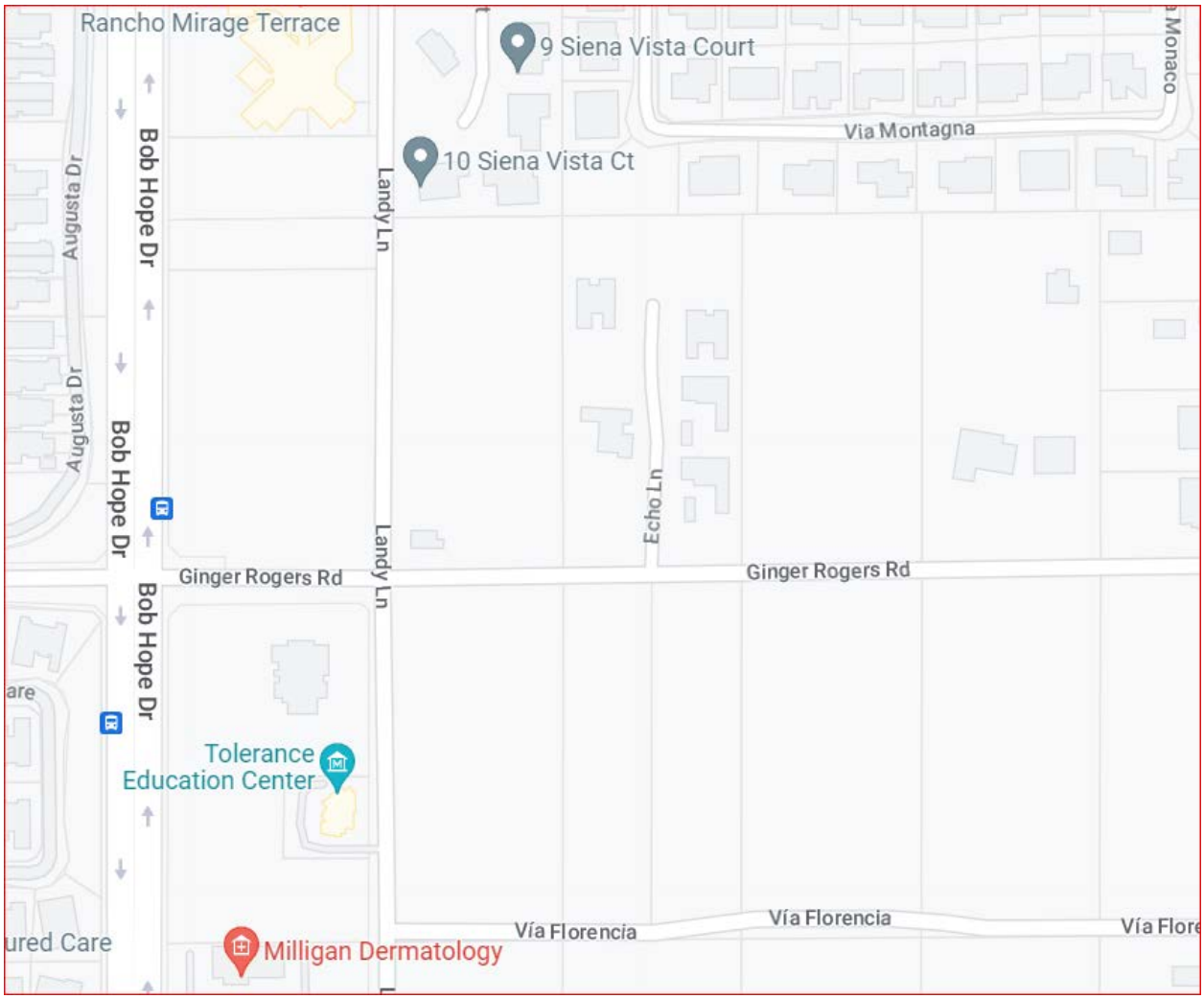
Respectfully Submitted;
Sampson and Associates

M. E. Samiee MS, Calif. RCE 46172
MS/db
Distribution: (4) Addressee

REGISTERED PROFESSIONAL ENGINEER
M. E. SAMIEE
C46172
Exp. 12/31/24
CIVIL
STATE OF CALIFORNIA

P. O. Box 834, San Dimas, California 91773 Tel.: (909) 522-7067
E-Mail: sampsongeotechnical@gmail.com

Project No. 23-0102-Inf
March 04, 2023



Index Map

Of

TTM No.: 3863
City of Rancho Mirage, California

ACCOMPANYING MAPS & ILLUSTRATIONS,:

Index Map - Page 2
Plate 1 - Site Plan and Approximate Location of Infiltration Tests
Appendix "A" - Field Test Logs

SITE LOCATION, PROPOSED DEVELOPMENT, and CONDITION:

The proposed development consists of (5) single-family residences with associated parking spaces located on north-east corner of Landy Lane and Ginger Rogers Road, TTM No. 3863 in the City of Rancho Mirage, California. Access to the site is available via improved Ginger Rodgers Road. The site is occupied with a small residence located on south side of the lot which is proposed to be completely demolished becoming part of new development.

The subject site is flat regular rectangular shape lot bounded by Ginger Rodgers Road on south, by Landy Lane on west, and by developed residential properties on east and north.

Project is covered with native weeds and large bushes. Drainage onsite is uncontrolled by sheet flow towards south.

SUBSURFACE INVESTIGATION:

To evaluate the subsurface condition of the subject sites, Five (5) exploratory Borings were drilled to maximum depths of (7) feet as shown on Plate-1. The excavations were then backfilled. The test Pits were logged and sampled. Bulk and relatively undisturbed samples were collected for proper laboratory testing.

SUBSURFACE CONDITIONS:

Soil materials encountered in our borings consisted loose fine sand deposit deposited by prevailing winds, sand and gravel of the valley area. The approximately 24 inches of loose to very loose and dry light greyish alluvial sand with fine silt and gravel of major creeks and stream washes material underlain by loose and dry light greyish sandy fine silt soils to dense and moist sandy silty soils within the depth of our borings.

GROUND WATER:

No ground water or any perched ground water was observed at our test locations onsite during the course of our investigation.

DOUBLE RING INFILTRATION TEST:

One (I) excavation was dug by hand, to a depth of about one (4) foot below existing grade at the approximate locations of the proposed infiltration drainage system of the site in the area identified by the project civil engineer as being the area to be used for infiltration purposes. Infiltration testing was completed using a double ring infiltrometer device into the ground, water was supplied with a constant falling head condition to a fixed point. A representative from our firm conducted the actual infiltration testing to record how much of water infiltrates into the soil over a given time period.

The incremental infiltration velocity within the inner test cylinder is equivalent to the infiltration rate (in/hr). The slowest/most conservative infiltration rate of **4.5 inches per hour** was measured for the test hole, after the infiltration rate had generally stabilized. The testing was completed in general conformance with ASTM D 3385.

FACTOR OF SAFETY:

The infiltration rates presented are based on field test results, the rates presented are measured field rates and should not be considered design infiltration rates. The designer should consider possible site variability in their design. Application of an appropriate safety factor may be required by the authorizing agency. The design engineer must use the factor of safety with the lowest average measured infiltration rate to achieve the design value as needed. The infiltration rate is approximately 4.5 in/hr.

RECOMMENDATIONS:

Bases on the result of the tests, the site is suitable for the storm-water infiltration system from a geotechnical viewpoint. Recommendations are provided as follows:

- Based on our testing water infiltration at the site is feasible. Filter fabric should be used whenever aggregate are placed against native soils. The infiltration rates are as follow:
  Test # 1 Infiltration Rate @ 4 feet depth = 6.43 in/hr.
  Test # 2 Infiltration Rate @ 4 feet depth = 6.26 in/hr.
  Test # 3 Infiltration Rate @ 6 feet depth = 4.5 in/hr. ← Use This Rate

- Infiltration water should not be allowed to saturate pavement and concrete structure sub-grade soils.
- The planned infiltration system should extend vertically into native soils. The designer should review the attached geotechnical Log for soils classification.
- The soils in infiltration area should not be subject to compaction during construction.
- The proposed system designed by Civil Engineer should be constructed and maintained in accordance with manufacture guidelines.
- Infiltration facilities must not be blocked by heavy equipment by using the infiltration area as a sediment trap.

- Infiltration facilities should be constructed late in the site development after soils has been stabilized or should be protected by flagging until work is completed.
- A minimum distance of 10 feet in any directions shall be provided from the building foundation to the proposed stormwater infiltration system.
- The potential for creating perched water conditions that may adversely affect the proposed and existing structures is nil due to the onsite permeable soils.
- The subsurface soil will not exhibit instability as a result of implementing the proposed BMP's.
- There will be no geotechnical hazards posed to the proposed and existing structures on and adjacent to the site, if a minimum distance of 10 feet in any directions provided from the building foundations to the proposed stormwater infiltration system.
- It must be noted that over the lifetime of the disposal area the infiltration rate may be affected by sediment build ups and biological activities as well as local variation in soils subsurface condition.
- Ferrous metal pipes should be protected from potential corrosion by bituminous coating, etc. We recommend that all utility pipes be nonmetallic and/or corrosion resistance. Recommendation should be verified by soluble sulfate and corrosion testing of soils samples obtained from specific locations during construction.

LIMITATONS:

Based on our visual observation it appears that the soils condition to be the same throughout the site however; soils material may vary in character between excavations and natural outcrops or conditions exposed during construction. Should soil conditions be encountered during construction that appear different this office must be notified immediately so that our recommendations may be re-evaluated.

Project No. 23-0102-Inf
March 04, 2023

A P P E N D I X “A”

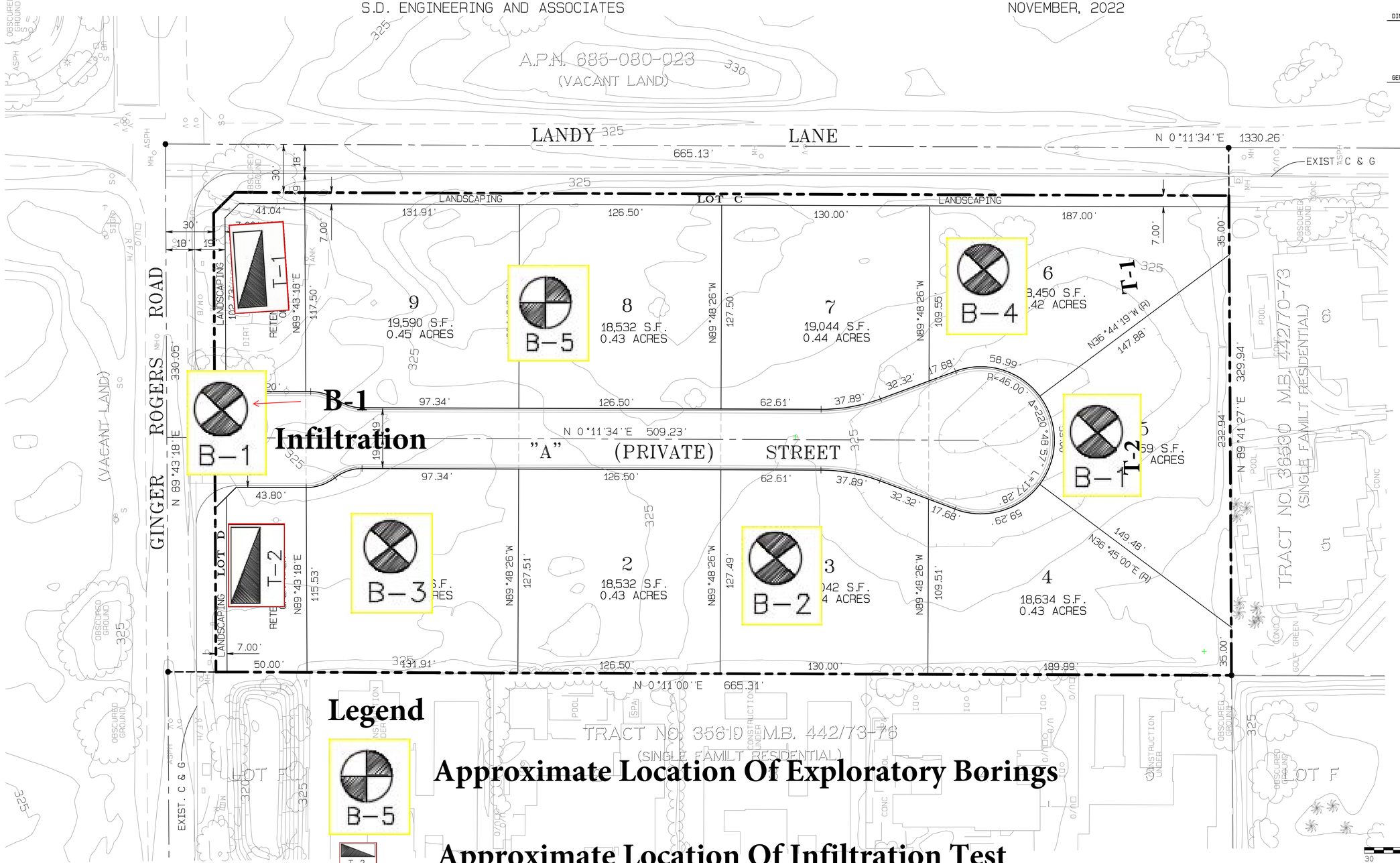
IN THE CITY OF RANCHO MIRAGE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

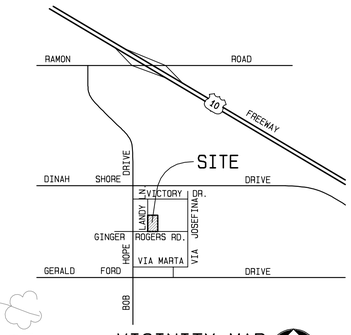
TENTATIVE TRACT MAP NO. 38636

BEING A SUBDIVISION OF GOVERNMENT LOT 16 IN THE NORTHWEST 1/4 OF SECTION 30, TOWNSHIP 4 SOUTH, RANGE 6 EAST, S.B.M.

S.D. ENGINEERING AND ASSOCIATES — NOVEMBER, 2022

Plate-1





Legend

Approximate Location Of Exploratory Borings

Approximate Location Of Infiltration Test

1. OWNER/SUBDIVIDER

72094 GINGER ROGERS LLC
ATTN: MR. FARHAD ZOMORADI
P.O. BOX 10544
BEVERLY HILLS, CA 90213
PH: (310) 428-2875

2. ENGINEER

S.D. ENGINEERING AND ASSOCIATES
242 E. AIRPORT DRIVE, STE. 212
SAN BERNARDINO, CA 92408
ATTN: MR. SURESH DODDIAH
PH: (909) 215-3451

3. LEGAL DESCRIPTION

GOVERNMENT LOT 16 IN THE NORTHWEST 1/4 OF SECTION 30, TOWNSHIP 4 SOUTH, RANGE 6 EAST, S.B. & M.

4. ASSESSORS PARCEL NO:

685-080-002

5. ZONING

EXISTING AND PROPOSED:
VERY LOW DENSITY RESIDENTIAL (R-L-2)

6. ACREAGE

4.37 ACRES

7. LETTER LOT AREAS

LOT A = 5,758 S.F. (0.13 AC.)
LOT B = 5,818 S.F. (0.13 AC.)
LOT C = 5,158 S.F. (0.12 AC.)
LOT D = 741 S.F. (0.02 AC.)

GRAPHIC SCALE 1"=30'
30 0 30 60 90

S.D. ENGINEERING AND ASSOCIATES
LAND PLANNING AND CIVIL ENGINEERING
242 E. AIRPORT DRIVE, STE. 212 - SAN BERNARDINO, CA 92408
PHONE (909) 215-3451 EMAIL: suresh@sdengineering.net

SURESH DODDIAH R.C.E. 36361 DATE

REGISTERED PROFESSIONAL ENGINEER — SURESH DODDIAH — NO. 36361 EXP. 6-30-24 — CIVIL — STATE OF CALIFORNIA

DIGALERT — DIAL BEFORE YOU DIG TOLL FREE 1-800-227-2600 — TWO WORKING DAYS BEFORE YOU DIG — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

REV.	REVISION DESCRIPTION	DATE	ENGR.	CITY	DATE

SHOULD CONSTRUCTION OF THE REQUIRED IMPROVEMENTS NOT COMMENCE WITHIN TWO YEARS OF THE DATE OF APPROVAL SHOWN HEREON AND CARRIED FORTH IN A DILIGENT MANNER, THE CITY ENGINEER MAY REQUIRE REVISIONS TO THE PLANS TO BRING THEM INTO CONFORMANCE WITH CONDITIONS AND STANDARDS IN EFFECT.

BENCHMARK: CITY BM #PD 18-5

BEING A 1-1/2" COPPERWELD IN ASPHALT, FLUSH, AT THE CENTERLINE INTERSECTION OF BOB HOPE DRIVE AND DINAH SHORE DRIVE.

ELEV. = 347.672

CITY OF RANCHO MIRAGE, CALIFORNIA

DRAWN BY: EB	TENTATIVE TRACT MAP NO. 38636	SCALE: 1"=20'
DESIGNED BY: EB	72094 GINGER ROGERS ROAD	DATE: 12/5/2022
CHECKED BY: SD		DRAWING NO: 1 / 1

DOUBLE RING INFILTROMETER TEST DATA

Project Name and Test Location:				Constants-	Ring Data		Liquid Containers	
Rancho Mirage					Area, A_r (in^2)	Depth of Liquid (in)	No.	Vol., V_r (in3/in)
				Inner Ring:	113	4	1	78.54
Test By:	FDC	USCS Class:	SM	Annular Space:	339	4.1	2	176.7
Water Table Depth:	50'	Penetration of Rings into Soil (in.):			Inner:	3 Inch	Outer:	7 Inch
Date of Test:	3/01/23	Liquid Used:	Water	pH: 7.3	Ground Temp (°F):	61	at Depth:	4'
Liquid Level Maintained by using:	( ) Flow Valve ( ) Float Valve ( ) Marriotte Tube ( ) Other:							
Additional Comments:	Depth Below Surface = 4'							

Time interval	Time (hr:min)	Dt (min) & Total	Inner Ring Elev., H (In)	Inner Ring ΔH (in) &	Annular Ring Elev., H (In)	Annular Ring ΔH (in) &	Liquid Temp °F	Infiltration Rate, I** Inner in/hr	Infiltration Rate, I** Outer in/hr	Remarks
1 - Start	7:15	5	2.00	2.25	1.00	3.25	57.00	18.77	20.22	
End	7:20	5	4.25	176.72	4.25	574.28	57.00			
2 - Start	7:20	10	4.25	4.00	4.25	5.50	57.00	16.68	17.20	
End	7:30	15	8.25	314.16	9.75	971.85	57.00			
3 - Start	7:30	15	8.25	3.75	9.75	5.25	57.00	10.43	19.95	
End	7:45	30	12.0	294.53	15.00	927.68	57.00			
4 - Start	7:45	30	1.0	7.0	1.00	5.50	58.00	9.73	5.73	Refilled Tube
End	8:15	60	8.0	549.76	6.50	971.85	60.00			
5 - Start	8:15	30	1.0	6.0	6.50	8.00	60.00	8.34	8,34	Refilled Tube
End	9:15	90	7.00	471.24	14.50	1413.60	61.00			
6 - Start	9:15	60	1.0	11.0	1.00	11.00	61.00	7.65	5.73	Refilled Tube
End	10:15	150	12.00	863.94	12.00	1943.70	62.00			
7 - Start	10:15	60	0.50	10.50	1.00	11.00	62.--	7.30	5.73	Refilled Tube
End	11:15	180	11.0	824.67	12.00	1943.70	63.00			
8 - Start	11:15	60	1.0	9.25	1.00	10.26	63.00	6.43	5.34	Refilled Tube
End	12:15	240	10.25	726.50	11.25	1811.18	63.00			
9 - Start	12:15	60	1.00	9.25	1.00	10.00	64.00	6.43	5.21	Refilled Tube
End	1:15	300	10.25	726.50	11.00	1767.00	64.00			
10 - Start	1:15	60	1.00	9.25	1.00	10.00	64.00	6.43	5.21	Refilled Tube
End	2:15	360	10.25	726.50	11.0	1767.00	64.00			
11 - Start								Use 4.5 In/hr		
End										
12 - Start										
End										
13 - Start										
End										
14 - Start										
End										
15 - Start										
End										

*Flow, Qf = ΔH x Vr **Infiltration Rate, I = (Qf/Ar)/Δt

Table 3 – Sample Test Data Form for Double Ring Infiltrometer Test

B-Bbbbbbb1

Project No. 23-0102-Inf
March 04, 2023

DOUBLE RING INFILTROMETER TEST DATA

Project Name & Test Location: Rancho Mirage

Infiltration

Constants	Ring Data: Area, Ar (in2)	Ring Data: Depth of Liquid (in)	Liquid Containers: No.	Liquid Containers: Vol., Vr (in3/in)
Inner Ring :	113	4	1	78.54
Annular Ring :	339	4.1	2	176.7

Test By:	FDC	USCS Class:							
Water Table Depth:		50 ft.	Penetration of Rings into Soil (in.):			Inner:	3 in	Outter:	7 in
Date of Test:	3/1/23	Liquid Use	Water	pH:	7.5	Gound Temp (˚F):	58	at Depth:	4'
Liquid Level Maintained by using:		( ) Flow Valve ( ) Float Valve (X) Marriotte Tube ( ) Other:							
Additional Comments:		Depth Below Surface = 4'							

Time Interval	Time (hr:min)	Δt (min) & Total	Inner Ring: Elev., H (in)	Inner Ring: ΔH (in) &	Annular Ring: Elev., H (in)	Annular Ring: ΔH (in) &	Liquid Temp ˚F	Infiltration Rate, I**: inner in/hr	Infiltration Rate, I**: Outer in/hr	Remarks
1 - Start	14:00	5	0.75	2.00	1.00	2.75	58.00	16.68	17.20	
End	14:05	5	2.75	157.08	3.75	485.93	58.00			
2 - Start	14:05	10	2.75	3.75	3.75	5.25	59.00	15.64	16.42	
End	14:15	15	6.50	294.53	9.00	927.68	59.00			
3 - Start	14:15	15	6.50	5.25	9.00	7.00	60.00	14.60	14.59	
End	14:30	30	11.75	412.34	16.00	1236.90	60.00			
4 - Start	14:30	30	2.00	9.00	1.50	12.25	60.00	12.51	12.77	
End	15:00	60	11.00	706.86	13.75	2164.58	60.00			Refilled Tubes
5 - Start	15:00	30	1.00	8.75	2.00	12.25	60.00	12.16	12.77	
End	15:30	90	9.75	687.23	14.25	2164.58	61.00			Refilled Tubes
6 - Start	15:30	30	0.50	8.00	1.50	11.75	61.00	11.12	12.25	
End	16:00	120	8.50	628.32	13.25	2076.23	62.00			Refilled Tubes
7 - Start	16:00	30	8.50	6.50	1.00	10.00	62.00	9.04	10.42	
End	16:30	150	15.00	510.51	11.00	1767.00	63.00			
8 - Start	16:30	30	1.00	6.25	0.00	8.50	63.00	8.69	8.86	
End	16:30	180	7.25	490.88	8.50	1501.95	63.00			Refilled Tubes
9 - Start	16:30	30	7.25	5.75	8.50	7.50	63.00	7.99	7.82	
End	17:00	210	13.00	451.61	16.00	1325.25	64.00			
10 - Start	17:00	30	1.00	4.75	1.00	6.75	64.00	6.60	7.04	
End	17:30	240	5.75	373.07	7.75	1192.73	64.00			Refilled Tubes
11 - Start	17:30	30	5.75	4.50	7.75	6.25	65.00	6.26	6.52	
End	18:00	270	10.25	353.43	14.00	1104.38	65.00			
12 - Start	18:00	30	1.00	4.50	2.50	6.50	64.00	6.26	6.78	
End	18:30	300	5.50	353.43	9.00	1148.55	64.00			Refilled Tubes
13 - Start	18:30	30	5.50	4.50	9.00	6.50	63.00	6.26	6.78	
End	19:00	330	10.00	353.43	15.50	1148.55	63.00			
14 - Start								Use 4.5 in/hr		
End										
15 - Start										
End										

Project No. 23-0102-Inf
March 04, 2023

INFILTRATION TESTING FIELD LOG

Boring/Excavation Percolation Testing Field Log Date: 03/01/23

Project Location Rancho Mirage
Earth Description: Silty Gravelly Fine Sand w/cobbles
Tested by: TB/MS

Liquid Description: Tap Water

Boring/test Number: B-1
Diameter of Boring: 8-inch
Depth of Boring: 4' below grade
Depth to Invert of BMP's: 4' below grade
Depth to Water Table: ~~>50'~~

Time Interval Standard:

Start Date for Pre-Soak: 3/01/2023
Start Time for Standard: 11:00

Water Remaining In Boring (Y/N): Yes
Standard Time Interval Between Readings: 30 Minutes

Measurement Method: Measuring Tape
Depth to initial water Depth(d1): 96"

Reading Number	Time Start/End (hh:mm)	Elapsed Time △Time (mins)	Water Drop During Standard Time Interval △D (inches)	Percolation Rate for Reading (in/hr)	Soil Description/Notes/Comments
1	11:00 11:30	30	5.75	11.50	Medium to Coarse, Silty Gravelly Fine Sand
2	12:00 12:30	30	4.25	8.50	
3	13:00 13:30	30	4.0	8.0	
4	14:00 14:30	30	2.25	4.50	
5	15:00 15:305	30	2.25	4.50	
			Infiltration Rate	4.50 In/Hr.	**Use 4.5 In/Hr.**

Appendix F

Structural BMP and/or Retention Facility Sizing Calculations and Design Details

Whitewater Watershed

BMP Design Volume, V_{BMP} (Rev. 06-2014)

Legend: Required Entries / Calculated Cells

Company Name	SD Engineering ans Associates	Date	4/28/2023
Designed by	Suresh	County/City Case No	
Company Project Number/Name	TTM 38636		
Drainage Area Number/Name	DA 1		

Enter the Area Tributary to this Feature (A_{TRIB}) A_{TRIB} = 4.22 acres

Determine the Impervious Area Ratio

Determine the Impervious Area within A_{TRIB} (A_{IMP}) A_{IMP} = 1.68 acres

Calculate Impervious Area Ratio (I_f) I_f = 0.40

$I_f = A_{IMP}/A_{TRIB}$

Calculate the composite Runoff Coefficient, C for the BMP Tributary Area

Use the following equation based on the WEF/ASCE Method

$C_{BMP} = 0.858I_f^3 - 0.78I_f^2 + 0.774I_f + 0.04$ C_{BMP} = 0.28

Determine Design Storage Volume, V_{BMP}

Calculate V_U, the 80% Unit Storage Volume $V_U = 0.40 \times C_{BMP}$ V_u = 0.11 (in*ac)/ac

Calculate the design storage volume of the BMP, V_{BMP}.

$$V_{BMP}\ (ft^3) = \frac{V_U\ (in\text{-}ac/ac) \times A_T\ (ac) \times 43{,}560\ (ft^2/ac)}{12\ (in/ft)}$$

V_{BMP} = 1,685 ft^3

Notes:

Infiltration Basin - Design Procedure (Rev. 03-2012)	BMP ID	Legend:	Required Entries / Calculated Cells

Company Name: 72094 Ginger Rogers Lane — Date: 4/28/2023

Designed by: — County/City Case No.: Rancho Mirag

Design Volume

a) Tributary area (BMP subarea)	A_T =	4.22	acres
b) Enter V_{BMP} determined from Section 2.1 of this Handbook	V_{BMP}=	1,685	ft^3

Maximum Depth

a) Infiltration rate	I =	4.5	in/hr
b) Factor of Safety (See Table 1, Appendix A: "Infiltration Testing" from this BMP Handbook)	FS =	2	
c) Calculate D_1 $D_1 = \frac{I\ (in/hr) \times 72\ hrs}{12\ (in/ft) \times FS}$	D_1 =	13.5	ft
d) Enter the depth of freeboard (at least 1 ft)		1	ft
e) Enter depth to historic high ground water (measured from **top** of basin)		200	ft
f) Enter depth to top of bedrock or impermeable layer (measured from **top** of basin)		70	ft
g) D_2 is the smaller of: Depth to groundwater - (10 ft + freeboard) and Depth to impermeable layer - (5 ft + freeboard)	D_2 =	64.0	ft
h) D_{MAX} is the smaller value of D_1 and D_2 but shall not exceed 5 feet	D_{MAX} =	13.5	ft

Basin Geometry

a) Basin side slopes (no steeper than 4:1)	z =	4	:1
b) Proposed basin depth (excluding freeboard)	d_B =	1.5	ft
c) Minimum bottom surface area of basin ($A_S = V_{BMP}/d_B$)	A_S =	1123	ft^2
d) Proposed Design Surface Area	A_D =	3441	ft^2

Forebay

a) Forebay volume (minimum 0.5% V_{BMP})	Volume =	8	ft^3
b) Forebay depth (height of berm/splashwall. 1 foot min.)	Depth =	1	ft
c) Forebay surface area (minimum)	Area =	8	ft^2
d) Full height notch-type weir	Width (W) =	12.0	in

Notes:

NOAA Atlas 14, Volume 6, Version 2
Location name: Rancho Mirage, California, USA*
Latitude: 33.7948°, Longitude: -116.4041°
Elevation: m/ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.061** (0.050-0.073)	**0.094** (0.078-0.114)	**0.145** (0.120-0.176)	**0.193** (0.159-0.236)	**0.269** (0.214-0.342)	**0.338** (0.263-0.438)	**0.418** (0.318-0.556)	**0.513** (0.379-0.702)	**0.666** (0.471-0.951)	**0.841** (0.575-1.24)
10-min	**0.087** (0.072-0.105)	**0.134** (0.112-0.163)	**0.208** (0.172-0.253)	**0.276** (0.227-0.339)	**0.386** (0.307-0.490)	**0.484** (0.377-0.628)	**0.599** (0.455-0.797)	**0.735** (0.543-1.01)	**0.955** (0.676-1.36)	**1.21** (0.824-1.78)
15-min	**0.105** (0.088-0.127)	**0.163** (0.135-0.197)	**0.251** (0.208-0.305)	**0.334** (0.275-0.410)	**0.466** (0.371-0.592)	**0.586** (0.456-0.760)	**0.725** (0.551-0.964)	**0.889** (0.656-1.22)	**1.16** (0.817-1.65)	**1.46** (0.996-2.16)
30-min	**0.164** (0.136-0.198)	**0.253** (0.211-0.307)	**0.391** (0.325-0.476)	**0.521** (0.428-0.639)	**0.727** (0.578-0.923)	**0.913** (0.711-1.18)	**1.13** (0.858-1.50)	**1.39** (1.02-1.90)	**1.80** (1.27-2.57)	**2.27** (1.55-3.36)
60-min	**0.239** (0.199-0.289)	**0.370** (0.308-0.448)	**0.571** (0.474-0.694)	**0.759** (0.625-0.932)	**1.06** (0.844-1.35)	**1.33** (1.04-1.73)	**1.65** (1.25-2.19)	**2.02** (1.49-2.77)	**2.63** (1.86-3.75)	**3.32** (2.27-4.90)
2-hr	**0.340** (0.283-0.411)	**0.515** (0.429-0.625)	**0.776** (0.644-0.945)	**1.01** (0.836-1.25)	**1.38** (1.10-1.76)	**1.71** (1.33-2.21)	**2.07** (1.57-2.75)	**2.49** (1.84-3.40)	**3.13** (2.21-4.47)	**3.71** (2.53-5.48)
3-hr	**0.409** (0.341-0.495)	**0.616** (0.512-0.747)	**0.920** (0.764-1.12)	**1.20** (0.984-1.47)	**1.62** (1.29-2.05)	**1.98** (1.54-2.56)	**2.38** (1.81-3.17)	**2.84** (2.10-3.89)	**3.53** (2.50-5.04)	**4.14** (2.83-6.13)
6-hr	**0.557** (0.464-0.675)	**0.837** (0.697-1.02)	**1.24** (1.03-1.51)	**1.61** (1.32-1.97)	**2.15** (1.71-2.73)	**2.62** (2.04-3.39)	**3.13** (2.38-4.16)	**3.70** (2.73-5.07)	**4.57** (3.23-6.52)	**5.30** (3.62-7.84)
12-hr	**0.667** (0.556-0.809)	**1.02** (0.846-1.23)	**1.52** (1.26-1.85)	**1.98** (1.63-2.42)	**2.65** (2.11-3.37)	**3.23** (2.52-4.19)	**3.87** (2.94-5.15)	**4.59** (3.39-6.28)	**5.66** (4.00-8.08)	**6.58** (4.49-9.73)
24-hr	**0.779** (0.690-0.898)	**1.21** (1.07-1.40)	**1.83** (1.62-2.12)	**2.39** (2.09-2.79)	**3.23** (2.74-3.89)	**3.94** (3.27-4.85)	**4.73** (3.84-5.96)	**5.62** (4.44-7.27)	**6.96** (5.28-9.36)	**8.11** (5.95-11.3)
2-day	**0.862** (0.763-0.994)	**1.35** (1.20-1.56)	**2.06** (1.82-2.39)	**2.69** (2.35-3.14)	**3.63** (3.08-4.37)	**4.42** (3.67-5.44)	**5.30** (4.30-6.66)	**6.27** (4.95-8.11)	**7.73** (5.86-10.4)	**8.97** (6.58-12.5)
3-day	**0.903** (0.799-1.04)	**1.42** (1.26-1.64)	**2.17** (1.92-2.52)	**2.84** (2.48-3.31)	**3.83** (3.24-4.61)	**4.66** (3.87-5.73)	**5.58** (4.52-7.02)	**6.60** (5.21-8.53)	**8.12** (6.15-10.9)	**9.41** (6.90-13.1)
4-day	**0.930** (0.823-1.07)	**1.47** (1.30-1.70)	**2.25** (1.99-2.61)	**2.94** (2.57-3.43)	**3.97** (3.36-4.78)	**4.83** (4.01-5.94)	**5.78** (4.69-7.27)	**6.83** (5.39-8.83)	**8.40** (6.37-11.3)	**9.72** (7.13-13.5)
7-day	**0.992** (0.878-1.14)	**1.58** (1.40-1.83)	**2.43** (2.15-2.82)	**3.19** (2.79-3.72)	**4.30** (3.64-5.18)	**5.24** (4.35-6.43)	**6.26** (5.07-7.87)	**7.39** (5.83-9.55)	**9.06** (6.87-12.2)	**10.5** (7.68-14.6)
10-day	**1.04** (0.922-1.20)	**1.67** (1.48-1.93)	**2.57** (2.27-2.98)	**3.37** (2.95-3.93)	**4.56** (3.86-5.49)	**5.55** (4.61-6.82)	**6.64** (5.38-8.35)	**7.84** (6.19-10.1)	**9.61** (7.29-12.9)	**11.1** (8.14-15.4)
20-day	**1.13** (1.00-1.30)	**1.83** (1.61-2.11)	**2.84** (2.50-3.28)	**3.73** (3.26-4.35)	**5.07** (4.29-6.10)	**6.19** (5.14-7.60)	**7.41** (6.01-9.33)	**8.77** (6.92-11.3)	**10.8** (8.16-14.5)	**12.4** (9.12-17.3)
30-day	**1.26** (1.11-1.45)	**2.04** (1.80-2.35)	**3.18** (2.80-3.68)	**4.19** (3.67-4.89)	**5.72** (4.84-6.88)	**7.00** (5.81-8.60)	**8.40** (6.81-10.6)	**9.95** (7.85-12.9)	**12.2** (9.27-16.5)	**14.1** (10.4-19.7)
45-day	**1.37** (1.21-1.57)	**2.22** (1.96-2.56)	**3.48** (3.07-4.03)	**4.61** (4.04-5.38)	**6.32** (5.36-7.61)	**7.77** (6.45-9.55)	**9.35** (7.59-11.8)	**11.1** (8.77-14.4)	**13.7** (10.4-18.4)	**15.8** (11.6-22.0)
60-day	**1.49** (1.32-1.71)	**2.42** (2.14-2.79)	**3.80** (3.35-4.39)	**5.04** (4.41-5.88)	**6.93** (5.87-8.34)	**8.54** (7.09-10.5)	**10.3** (8.36-13.0)	**12.3** (9.67-15.8)	**15.1** (11.5-20.4)	**17.6** (12.9-24.4)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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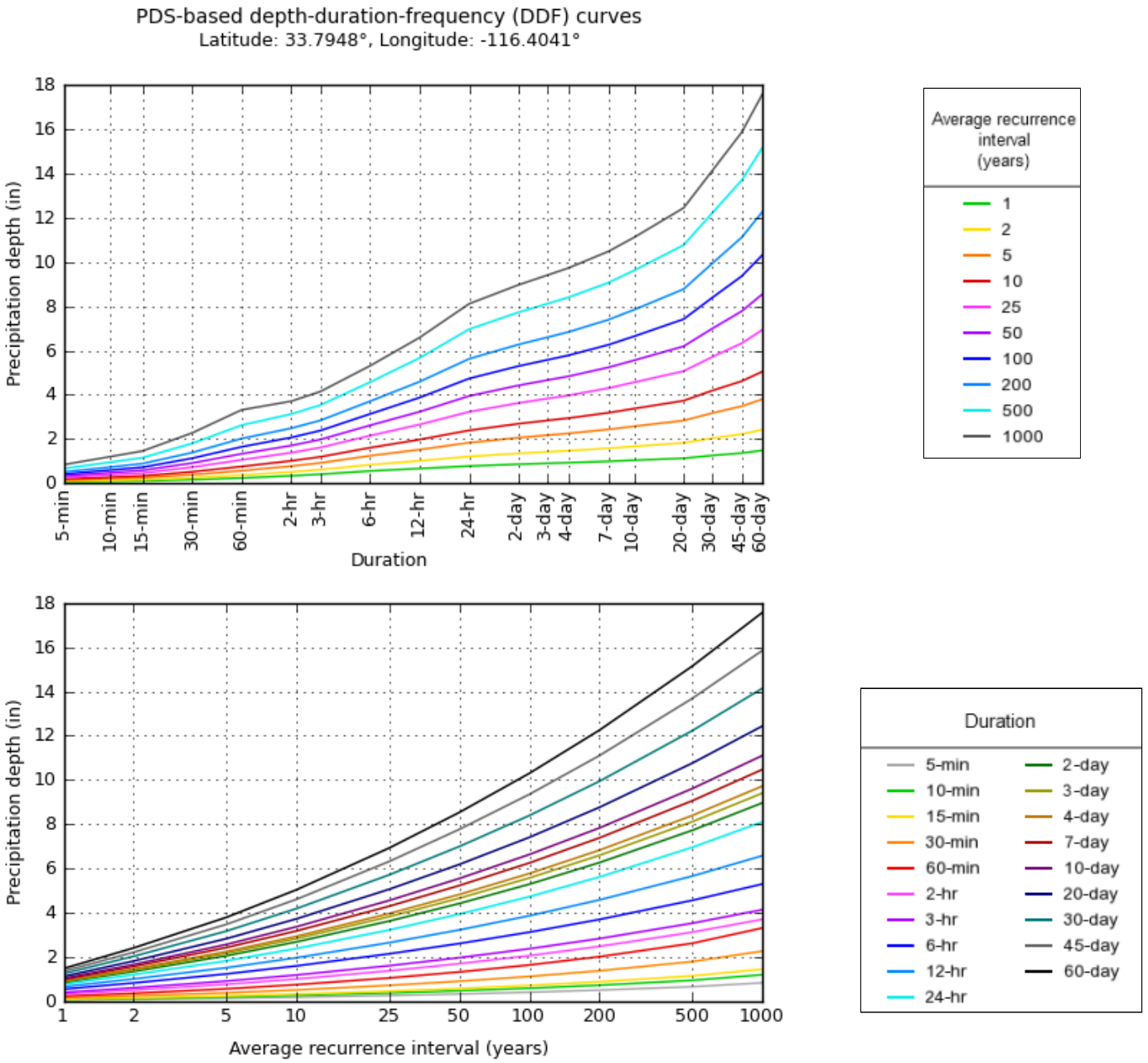
PF graphical



NOAA Atlas 14, Volume 6, Version 2

Created (GMT): Wed May 3 13:39:02 2023

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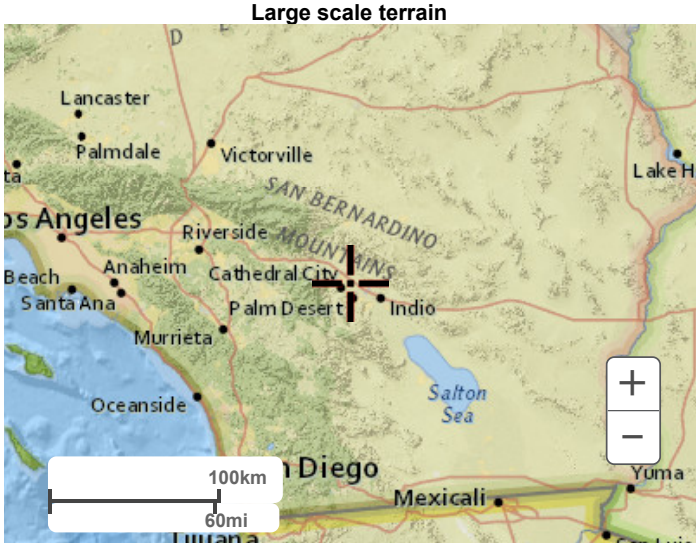
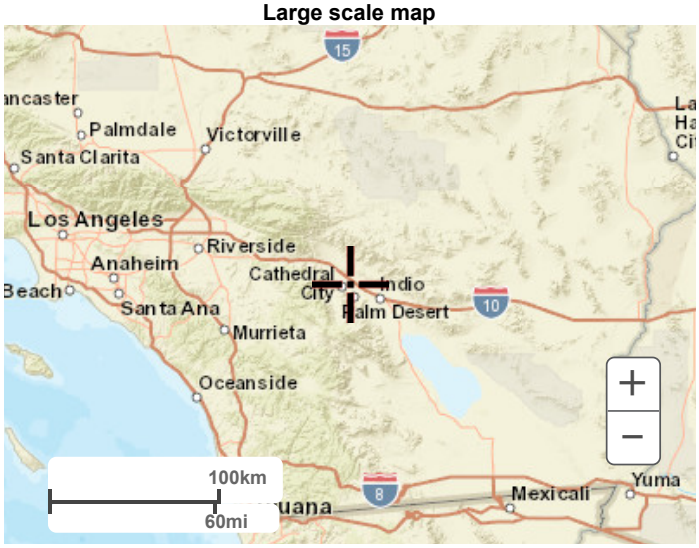
Maps & aerials

Small scale terrain

Large scale terrain



Large scale map



Large scale aerial

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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Appendix G

AGREEMENTS – CC&RS, COVENANT AND AGREEMENTS, BMP MAINTENANCE AGREEMENTS AND/OR OTHER MECHANISMS FOR ENSURING ONGOING OPERATION, MAINTENANCE, FUNDING AND TRANSFER OF REQUIREMENTS FOR THIS PROJECT-SPECIFIC WQMP

SEE FINAL WQMP SUBMITTAL

Appendix H

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT – SUMMARY OF SITE REMEDIATION CONDUCTED AND USE RESTRICTIONS

NOT APPLICABLE

Appendix I

PROJECT-SPECIFIC WQMP SUMMARY DATA FORM

Project-Specific WQMP Summary Data Form

Applicant Information	
Name and Title	Farhad Zomoradi
Company	72094 Ginger Rogers LLC
Phone	310 428-2875
Email	

Project Information	
Project Name (as shown on project application/project-specific WQMP)	Tentative Tract Map 38636
Street Address	Northeast Corner Landy Lane and Ginger Rogers Road
Nearest Cross Streets	Victoria Drive
Municipality (City or Unincorporated County)	Rancho Mirage
Zip Code	92770
Tract Number(s) and/or Assessor Parcel Number(s)	APN: 685-080-002
Other (other information to help identify location of project)	

Indicate type of project.	**Priority Development Projects (Use an "X" in cell preceding project type):**	
		SF hillside residence; impervious area ≥ 10,000 sq. ft.; Slope ≥ 25%
		SF hillside residence; impervious area ≥ 10,000 sq. ft.; Slope ≥ 10% & erosive soils
		Commercial or Industrial ≥ 100,000 sq. ft.
		Automotive repair shop
		Retail Gasoline Outlet disturbing > 5,000 sq. ft.
		Restaurant disturbing > 5,000 sq. ft.
		Home subdivision ≥ 10 housing units
	X	Parking lot ≥ 5,000 sq. ft. or ≥ 25 parking spaces

Date Project-Specific WQMP Submitted	April 28, 2023
Size of Project Area (nearest 0.1 acre)	1.36
Will the project replace more than 50% of the impervious surfaces on an existing developed site?	No
Project Area managed with LID/Site Design BMPs (nearest 0.1 acre)	4.2
Are Treatment Control BMPs required?	Yes
Is the project subject to onsite retention by ordinance or policy?	Yes
Did the project meet the 100% LID/Site Design Measurable Goal?	Yes
Name of the entity that will implement, operate, and maintain the post-construction BMPs	72094 Ginger Rogers LLC.
Contact Name	Farhad Zomoradi
Street or Mailing Address	P.O. Box 10544
City	Beverly Hills, Ca.
Zip Code	90213
Phone	909 519-3346

Space Below for Use by City/County Staff Only	
Preceding Information Verified by (consistent with information in project-specific WQMP)	**Name:** **Date:**
Date Project-Specific WQMP Approved:	
Data Entered by	**Name:** **Date:**
Other Comments	

Appendix H Noise Impact Analysis, dated October 20, 2023

TTM 38636
NOISE IMPACT ANALYSIS

City of Rancho Mirage

October 20, 2023

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

TTM 38636
NOISE IMPACT ANALYSIS

City of Rancho Mirage

October 20, 2023

prepared by
Roma Stromberg, INCE, MS
Catherine Howe, MS

GANDDINI GROUP INC.
555 Parkcenter Drive, Suite 225
Santa Ana, CA 92705
(714) 795-3100 | ganddini.com

Project No. 19669

TABLE OF CONTENTS

Appendices

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EXECUTIVE SUMMARY

The 5.04-acre project site is located at the northeast corner of the intersection of Landy Lane and Ginger Rogers Drive in the City of Rancho Mirage, California. The project site is currently vacant.

The proposed project involves development of a single-family residential subdivision consisting of nine (9) lots.

Existing Noise Environment

Sensitive receptors that may be affected by project generated noise include the existing single-family residential uses located adjacent to the north and east of the project site and approximately 566 feet to the southwest, 590 feet to the west, 1,340 feet to the south, and 1,296 feet to the southeast of the project site. Vehicle traffic associated with Bob Hope Drive is the dominant noise source and ambient noise levels on the project site are estimated to range between 51 and 54 dBA CNEL.

Project Construction Noise (On-Site Equipment)

The project site is adjacent to existing single family residential land uses to the north and to the east. Construction, alteration, repair, grading or improvement of any building, structure, road, or improvement to real property for which a permit has been issued by the city if said construction occurs within the allowable hours set forth in Section 15.04.030 is exempt from the provisions of Section 8.45 of the City's Municipal Code. Therefore, as long as project construction occurs outside the hours of 7:00 PM to 7:00 AM or on Sundays or holidays, or if written permission of the Building Official is obtained, project construction will be consistent with the applicable ordinance. The project is expected to comply with this ordinance and therefore, will be consistent with applicable ordinances.

Existing noise levels and project construction noise levels were modeled at the northern and eastern property lines using the FTA methodology in order to determine the expected increase in noise levels due to project construction. Existing noise levels along the northern property line are estimated to average 52.5 dBA L_{eq} and existing noise levels along the eastern property line are estimated to be 45.1 dBA L_{eq}. Construction noise levels are estimated to reach 61.6 dBA L_{eq} at the nearest residential property to the north and 66.8 at the nearest residential property to the east. Increases in ambient noise levels due to project construction will reach up to 9.1 along the northern property line and reach up to 21.7 along the eastern property line.

Best management practices (BMPs) provided in the Project Description will be included on the project plans and in contract specifications to minimize construction noise emanating from the proposed project.

Project Construction Noise (Off-Site Traffic)

The addition of 15 worker trips per day will result in an increase of less than 1 dB. Therefore, vehicle traffic generated during project construction is nominal relative to existing roadway volumes. The project impact is less than significant; no mitigation is required.

Project Operational Noise (Project Generated Traffic Noise)

Existing noise levels in the vicinity of the project site were modeled at 54.1 dBA CNEL and existing plus project generated vehicle traffic were modeled at 54.2 dBA CNEL, resulting in an increase of 0.1 dBA CNEL. Project generated vehicle traffic would not result in substantial increases in ambient noise levels. The project impact is less than significant; no mitigation is required.

Future Traffic Noise at the Project Site

future traffic noise levels at the project site are expected to reach 57.3 at proposed residential lots and will not exceed the City's criteria of normally acceptable (57.5 dBA CNEL). The proposed project would be consistent with the City General Plan Noise Element Noise Level and Land Use Compatibility Criteria. This impact would be less than significant. No mitigation is required.

Groundborne Vibration Impacts - Construction

With incorporation of BMPs, groundborne vibration generated by project construction would not exceed the levels necessary to cause architectural damage to sensitive receptors. Furthermore, potential annoyance at the nearest residential uses is expected to be temporary and only during daytime hours. This impact would be less than significant. No mitigation is required.

Air Traffic Impacts

The project site is located well outside the 60 dBA CNEL noise contour of Palm Springs International Airport. Therefore, the project would not expose people residing or working in the project area to excessive noise levels associated with airports. The impact would be less than significant; no mitigation is required.

1. INTRODUCTION

This section describes the purpose of this study and the proposed project.

PURPOSE AND OBJECTIVES

The purpose of this report is to provide an assessment of the noise impacts resulting from development and operation of the proposed project and to identify mitigation measures that may be necessary to reduce potentially significant impacts. The noise issues related to the proposed land use and development have been evaluated in light of applicable federal, state, and local policies, including those of the City of Rancho Mirage, in the context of the California Environmental Quality Act (CEQA).

Although this is a technical report, effort has been made to write the report clearly and concisely. A list of acronyms and glossary are provided in Appendix A and Appendix B of this report to assist the reader with technical terms related to noise and vibration analysis.

PROJECT LOCATION

The 5.04-acre project site is located at the northeast corner of the intersection of Landy Lane and Ginger Rogers Drive in the City of Rancho Mirage, California. The project site is currently vacant. A vicinity map showing the project location is provided on Figure 1.

PROJECT DESCRIPTION

The proposed project involves development of a single-family residential subdivision consisting of nine (9) lots. Figure 2 illustrates the project site plan.

The following best management practices (BMPs) shall be provided on project plans and in contract specifications to minimize construction and operational noise emanating from the proposed project:

1. All stationary construction equipment will be placed so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

2. As applicable, all equipment shall be shut off when not in use.

3. To the degree possible, equipment staging will be located in acres that create the greatest distance between construction-related noise and vibration sources and existing sensitive receptors.

4. Jackhammers, pneumatic equipment, and all other portable stationary noise sources will be directed away and shielded from existing residences in the vicinity of the project site. Either one-inch plywood or sound blankets can be utilized for this purpose. They should reach up from the ground and block the line of sight between equipment and existing residences. The shielding should be without holes and cracks.

5. No amplified music and/or voice will be allowed on the project site.

6. Haul truck deliveries will not occur outside of the hours presented as exempt for construction per City of Rancho Mirage Municipal Code Section 15.04.030.

7. The use of vibratory rollers, or similar vibratory equipment, will be avoided within 20 feet of the residential structures to the north of the project site.

Figure 1
Project Location Map

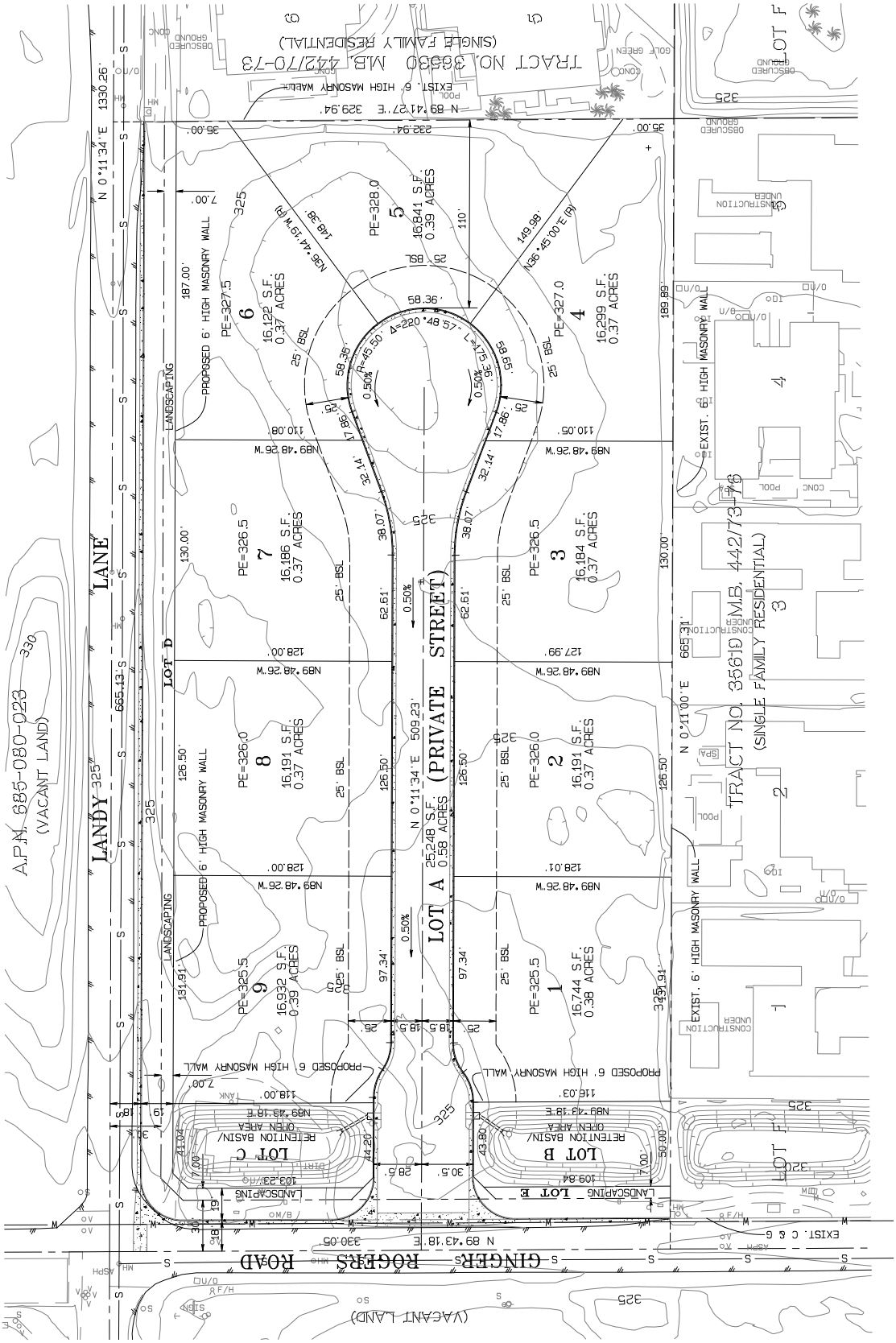


Figure 2
Site Plan

2. NOISE AND VIBRATION FUNDAMENTALS

This section provides an overview of key noise and vibration concepts.

NOISE FUNDAMENTALS

Sound is a pressure wave created by a moving or vibrating source that travels through an elastic medium such as air. Noise is defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in extreme circumstances, hearing impairment.

Commonly used noise terms are presented in Appendix B. The unit of measurement used to describe a noise level is the decibel (dB). The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, the "A-weighted" noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using A-weighted measurements are written dB(A) or dBA.

From the noise source to the receiver, noise changes both in level and frequency spectrum. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on whether the source is a point or line source as well as ground absorption, atmospheric effects, and refraction, and shielding by natural and manmade features. Sound from point sources, such as air conditioning condensers, radiates uniformly outward as it travels away from the source in a spherical pattern. The noise drop-off rate associated with this geometric spreading is 6 dBA per each doubling of the distance (dBA/DD). Transportation noise sources such as roadways are typically analyzed as line sources, since at any given moment the receiver may be impacted by noise from multiple vehicles at various locations along the roadway. Because of the geometry of a line source, the noise drop-off rate associated with the geometric spreading of a line source is 3 dBA/DD.

Decibels are measured on a logarithmic scale, which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as a doubled traffic volume, would increase the noise levels by 3 dBA; halving of the energy would result in a 3 dBA decrease. Figure 3 shows the relationship of various noise levels to commonly experienced noise events.

Average noise levels over a period of minutes or hours are usually expressed as dBA L_{eq}, or the equivalent noise level for that period of time. For example, $L_{eq(3\text{-}hr)}$ would represent a 3-hour average. When no period is specified, a one-hour average is assumed.

Noise standards for land use compatibility are stated in terms of the Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level (DNL). CNEL is a 24-hour weighted average measure of community noise. CNEL is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours. DNL is a very similar 24-hour average measure that weights only the nighttime hours.

It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA; that a change of 5 dBA is readily perceptible, and that an increase (decrease) of 10 dBA sounds twice (half) as loud. This definition is recommended by the California Department of Transportation's Technical Noise Supplement to the Traffic Noise Analysis Protocol (2013).

VIBRATION FUNDAMENTALS

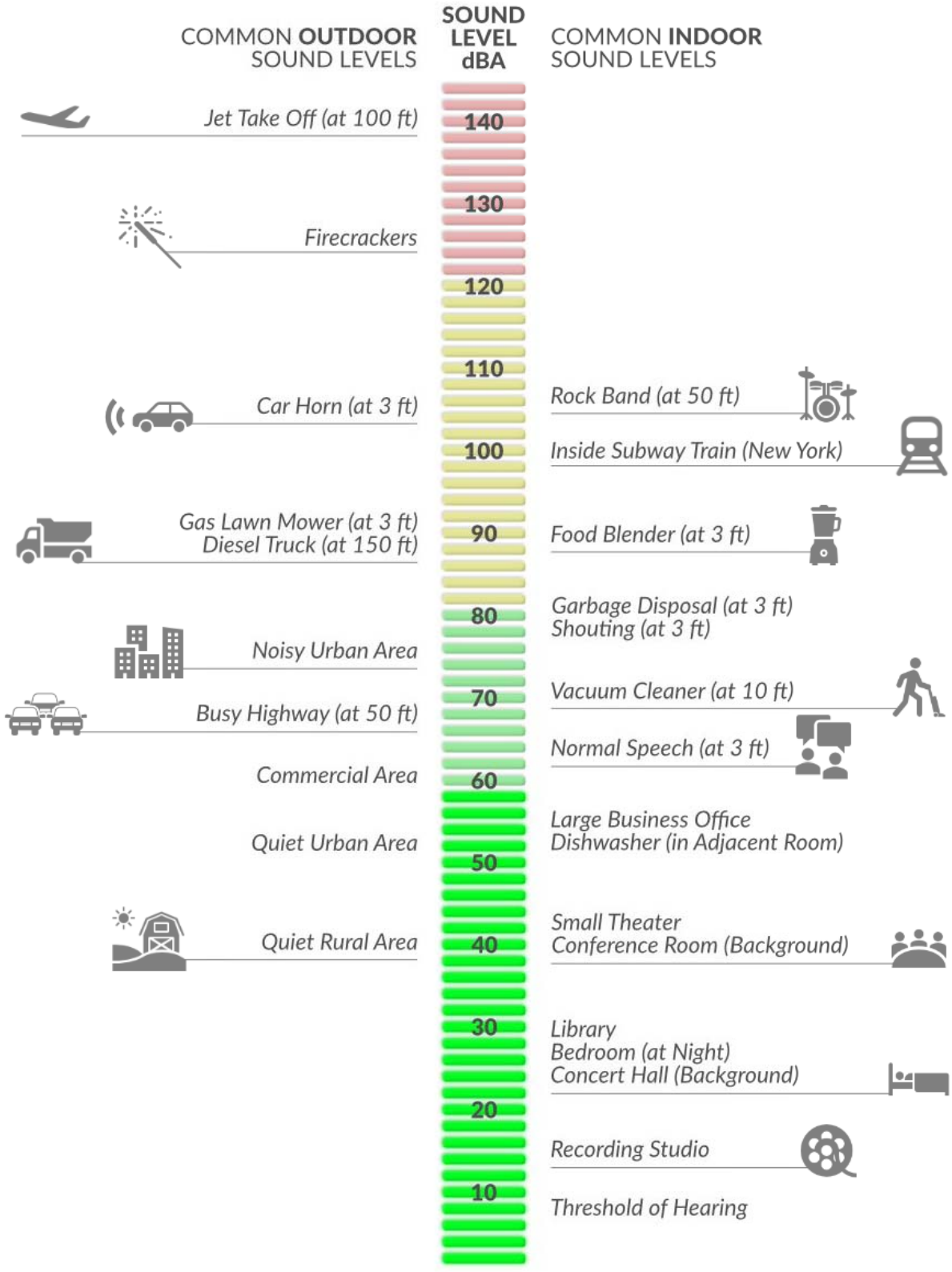
The way in which vibration is transmitted through the earth is called propagation. Propagation of earthborn vibrations is complicated and difficult to predict because of the endless variations in the soil through which

waves travel. There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Raleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. Compression waves, or P-waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. Shear waves, or S-waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse or "side-to-side and perpendicular to the direction of propagation".

As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

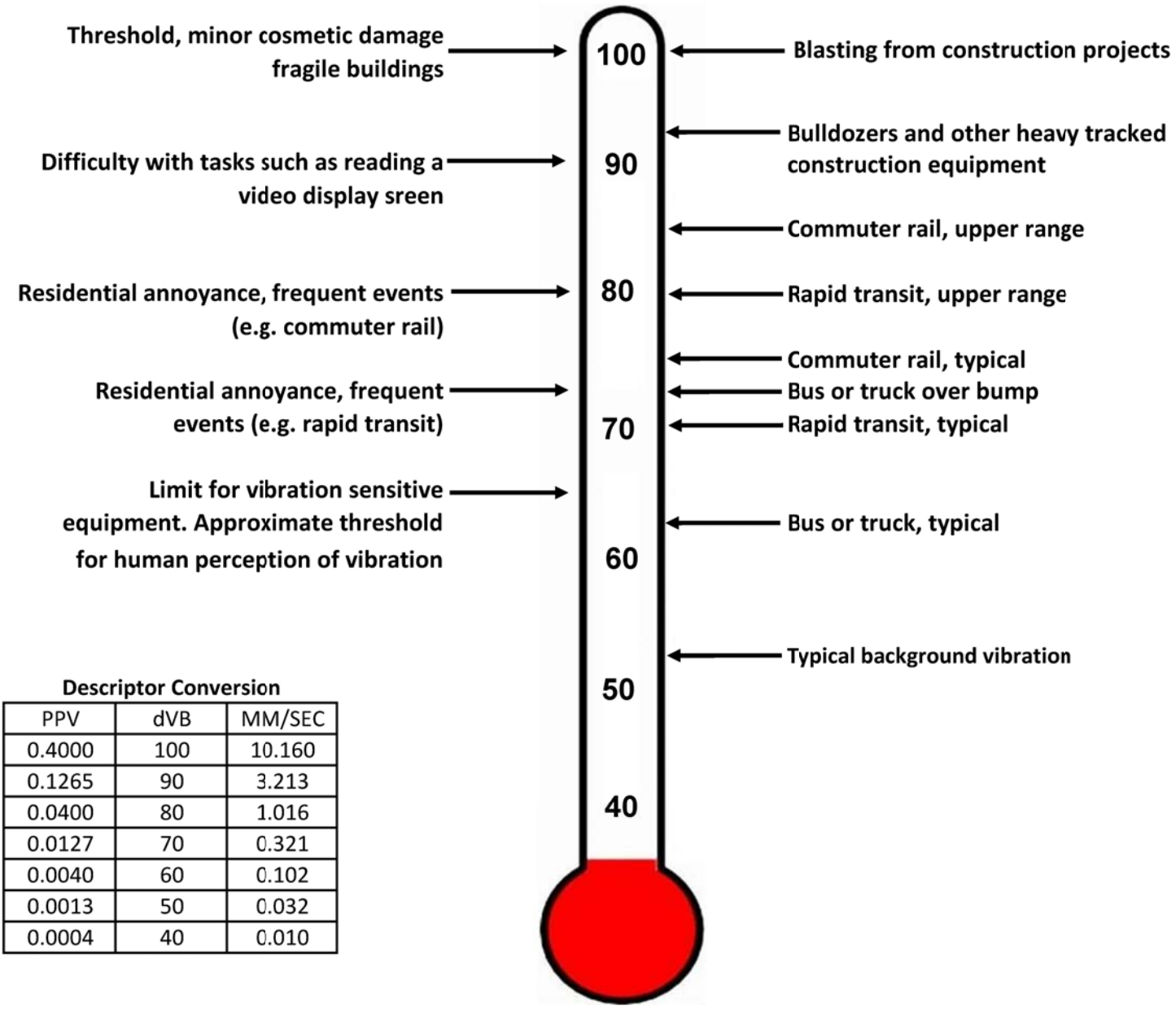
Vibration amplitudes are usually expressed as either peak particle velocity (PPV) or the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous peak of the vibration signal in inches per second. The RMS of a signal is the average of the squared amplitude of the signal in vibration decibels (VdB), ref one micro-inch per second. The Federal Railroad Administration uses the abbreviation "VdB" for vibration decibels to reduce the potential for confusion with sound decibel.

PPV is appropriate for evaluating the potential of building damage and VdB is commonly used to evaluate human response. Decibel notation acts to compress the range of numbers required in measuring vibration. Similar to the noise descriptors, L_{eq} and L_{max} can be used to describe the average vibration and the maximum vibration level observed during a single vibration measurement interval. Figure 4 illustrates common vibration sources and the human and structural responses to ground-borne vibration. As shown in the figure, the threshold of perception for human response is approximately 65 VdB; however, human response to vibration is not usually substantial unless the vibration exceeds 70 VdB. Vibration tolerance limits for sensitive instruments such as magnetic resonance imaging (MRI) or electron microscopes could be much lower than the human vibration perception threshold.



Based on Policy & Guidance from Federal Aviation Administration

Figure 3
A-Weighted Comparative Sound Levels



Descriptor Conversion

PPV	dVB	MM/SEC
0.4000	100	10.160
0.1265	90	3.213
0.0400	80	1.016
0.0127	70	0.321
0.0040	60	0.102
0.0013	50	0.032
0.0004	40	0.010

Source: FRA, 2012. Federal Railroad Administration High-Speed Ground Transportation Noise and Vibration Impact Assessment. Office of Railroad Policy Development, Washington, D.C. DOT/FRA/ORD-12/15. September.

Figure 4
Typical Levels of Groundborne Vibration

3. EXISTING NOISE ENVIRONMENT

This section describes the existing noise setting in the project vicinity.

EXISTING LAND USES AND SENSITIVE RECEPTORS

The project site is bordered by single-family residential uses to the north and east, Landy Lane to the west, and Giner Rogers Drive to the south of the project site.

The State of California defines sensitive receptors as those land uses that require serenity or are otherwise adversely affected by noise events or conditions. Schools, libraries, churches, hospitals, single and multiple-family residential, including transient lodging, motels and hotel uses make up the majority of these areas. Sensitive land uses that may be affected by project noise include the existing single-family residential uses located adjacent to the north and east of the project site and approximately 566 feet to the southwest, 590 feet to the west, 1,340 feet to the south, and 1,296 feet to the southeast of the project site.

Bob Hope Drive parallels the site approximately 400 feet to the west in a north/south direction. It is designated as a six-lane divided Major Arterial with a 120-foot right-of-way. Vehicle traffic traveling on Bob Hope Drive dominates the existing noise environment at the project site and is expected to continue to be the dominant noise source in the future. Existing noise levels at the site associated with vehicles traveling on Bob Hope Drive was modeled using a level of service buildout capacity of 20,806 average daily trips (ADT),[1] a vehicle mix of 92 % automobiles, 3% medium trucks, and 5 percent heavy trucks, and a speed of 40 miles per hour.[2] The modeling sheets are provided in Appendix D. The existing modeled noise level at the project site is 54.1 dBA CNEL.

[1] City of Rancho Mirage Street Traffic Counts. https://ranchomirageca.gov/our-city/city-departments/public-works/street-traffic-counts/. Accessed Oct. 19, 2023.

[2] Riverside County Public Health Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures. Jan. 15, 2004

4. REGULATORY SETTING

FEDERAL REGULATION

Federal Noise Control Act of 1972

The U.S. Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception, EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In response, the EPA published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (Levels of Environmental Noise). The Levels of Environmental Noise recommended that the Ldn should not exceed 55 dBA outdoors or 45 dBA indoors to prevent significant activity interference and annoyance in noise-sensitive areas.

In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to State and local governments. However, noise control guidelines and regulations contained in EPA rulings in prior years remain in place by designated Federal agencies, allowing more individualized control for specific issues by designated Federal, State, and local government agencies.

STATE REGULATIONS

California Code of Regulations

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Code. These noise standards are applied to new construction in California for the purpose of controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, including residential buildings, are developed near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dB CNEL or higher. Acoustical studies that accompany building plans for noise-sensitive land uses must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings the acceptable interior noise limit for new construction is 45 dB CNEL

State of California General Plan Guidelines 2017

Though not adopted by law, the State of California General Plan Guidelines 2017, published by the California Governor's Office of Planning and Research (OPR) (OPR Guidelines), provides guidance for the compatibility of projects within areas of specific noise exposure. The OPR Guidelines identify the suitability of various types of construction relative to a range of outdoor noise levels and provide each local community some flexibility in setting local noise standards that allow for the variability in community preferences. Findings presented in the Levels of Environmental Noise Document (EPA 1974) influenced the recommendations of the OPR Guidelines, most importantly in the choice of noise exposure metrics (i.e., Ldn or CNEL) and in the upper limits for the normally acceptable outdoor exposure of noise-sensitive uses.

The OPR Guidelines include a Noise and Land Use Compatibility Matrix which identifies acceptable and unacceptable community noise exposure limits for various land use categories. Where the "normally acceptable" range is used, it is defined as the highest noise level that should be considered for the construction of the buildings which do not incorporate any special acoustical treatment or noise mitigation. The "conditionally acceptable" or "normally unacceptable" ranges include conditions calling for detailed acoustical study prior to the construction or operation of the proposed project.

Department of Transportation

The California Department of Transportation (Caltrans) has developed several publications on groundborne vibration. The *Transportation and Construction Vibration Guidance Manual* (Caltrans, 2020) provides informational content that supplements previous publications with improved knowledge and information relating to groundborne transportation- and construction-induced vibrations. Although the *Transportation and Construction Vibration Guidance Manual* is not an official policy, standard, specification, or regulation, it serves as a useful guide for evaluating vibration impacts.

Table 1 and Table 2 show the guideline criteria for potential damage and annoyance resulting from groundborne vibration. As shown in Table 1, these guidelines recommend that the threshold at which there is a risk of architectural damage is a peak particle velocity (PPV) of 0.25 inches/second (in/sec) for historic buildings, PPV of 0.3 in/sec at older residential structures, and a PPV of 0.5 in/sec at new residential structures and modern commercial/industrial buildings. Table 2 shows that a PPV of 0.4 in/sec is the threshold at which groundborne vibration becomes severe in regard to annoyance (Caltrans, 2020).

LOCAL REGULATIONS

City of Rancho Mirage General Plan

The City of Rancho Mirage General Plan Noise Element provides goals, policies and programs that are intended to ensure compatible development, protect noise sensitive land uses, and minimize the effects of excessive and nuisance noise. As shown in Table 3, per the City of Rancho Mirage General Plan, noise levels of up to 57.5 dBA CNEL are considered "normally acceptable" and up to 70 dBA CNEL are considered "conditionally acceptable" for single-family residential uses. These thresholds apply to the project itself.

Goals, policies, and programs from the Noise Element of the City's General Plan that are applicable to the proposed project are presented below:

Goal N 1 A noise environment providing peace and quiet that complements and is consistent with Rancho Mirage's resort residential character.

Policies:

N 1.1 Land use patterns, associated traffic and its distribution, and individual developments shall be assessed for their potential to generate adverse and incompatible noise impacts. Noise exceeding normally acceptable levels shall be appropriately mitigated.

Program N 1.1A Expand the City's Noise Ordinance to include noise exposure thresholds triggering project-specific noise impact studies. Provide development standards and project design guidelines that include a variety of mitigation measures that can be applied to meet City standards.

Program N 1.1B Develop and utilize an outline of minimal requirements for noise studies for future development projects. Studies shall analyze project impacts and the effectiveness of proposed mitigation measures.

N 1.2 Noise sensitive land uses, including residences, resorts, community open space, schools, libraries, churches, hospitals, and convalescent homes, shall be protected from high noise levels emitted by both existing and future noise sources.

Program N 1.2A On a project-specific basis, apply noise mitigating site planning and require the installation of sound walls, earthen berms, wall, and

window noise insulation, and/or other mitigation measures in areas exceeding the City's normally acceptable noise limits.

N 1.3 Project designs shall be required to include measures that assure that interior noise levels for residential development do not exceed 45 dBA CNEL.

Program N 1.3A In areas subject to exterior noise levels exceeding 65 dBA CNEL, the City shall require new residential development, upon construction, to demonstrate compliance with all applicable noise level limits at project completion.

N 1.4 Land uses allowed adjacent to Rancho Mirage's major arterial roads and highways, or the Southern Pacific Railroad/I-10 corridor, should generally be limited to those that are compatible with higher noise levels to maximize noise-related land use compatibility.

N 1.5 Develop and maintain a circulation plan that is consistent with the resort residential character of Rancho Mirage, avoids impacts to existing and planned sensitive receptors/uses, and provides fixed routes for existing and future truck traffic.

Program N 1.5A Employ noise mitigation practices, as necessary, when designing future streets and highways, and when improvements occur along existing road segments. Mitigation measures should emphasize the establishment of natural buffers or setbacks between the arterial roadways and adjoining noise-sensitive areas.

City of Rancho Mirage Municipal Code

The City's Municipal Code sets forth standards, guidelines, and procedures concerning the regulation of noise in Rancho Mirage. Section 8.45 cites the value and importance given by residents, visitors, and businesses to the exceptional quality of life and peace and quiet of the community. Portions applicable to the proposed project are presented below.

8.45.030 Exterior noise level limits.

Section 8.45.030 defines exterior noise level standards for the emission of noise from one property to another based on the zoning and time-of-day.

The noise level limits, presented in Table 4, are for a cumulative period of thirty minutes during any hour of the applicable time period. For cumulative periods of time less than thirty minutes in an hour, all the noise standards in Table 4 are increased according to Table 5. Per the ordinance, if the measured ambient noise level exceeds the dBA limits in Table 4, the noise limits and their adjustments for the first three categories in Table 5 shall be increased in five dBA increments as needed to encompass or reflect said ambient noise level. The maximum noise level under the last two categories in Table 4 shall be increased, if necessary, only to equal the ambient noise level.

8.45.050 Special provisions and exemptions.

The following activities and noise sources shall be exempted from the provisions of Section 8.45 of the City's Municipal Code.

E. Construction, alteration, repair, grading or improvement of any building, structure, road, or improvement to real property for which a permit has been issued by the city if said construction occurs within the allowable hours set forth in Section 15.04.030.

F. The operation of any equipment and machinery at any time within any zone by the city, its employees, or any agent or franchisee of the city in the course of performing maintenance, construction, or trash collection.

Section 15.04.030 Adoption, modifications, amendments, and deletions to Chapter 1 of the Building Code.

117.1 Restricted hours; Construction work. Except as otherwise provided herein, no person other than the person actually occupying any buildings to be altered, repaired or improved, shall be engaged or employed, nor shall any person cause any other person to be engaged or employed in any work of construction, erection, alteration, repair, addition to or improvement of any building, structure, road or improvement to realty, between the hours of 7:00 PM of each day and 7:00 AM of the next succeeding day or on Sundays and holidays, without written permission of the Building Official being first obtained. The Building Official may grant permission to work during those periods under appropriate circumstances after first having determined that such work will not unduly or unreasonably interfere with the peaceful enjoyment of property adjacent to such work.

117.2 Restricted hours; Landscape maintenance. Within gated communities, shopping centers, commercial centers, vacant residential or commercial parcels, or developed residential or commercial parcels, landscape activities such as leaf blowing, tree trimming, re-seeding, or mowing of grass as associated with the re-seeding process and any other landscaping activities which generate unusual noise, are prohibited between the hours of 6:00 PM of each day and 7:00 AM of the next succeeding day or on Sundays or on holidays.

8.45.065 Landscape maintenance.

A. It is unlawful and a public nuisance for any person to permit or perform for-hire landscape and non-emergency exterior hardscape maintenance activities such as, but not limited to, tree trimming, re-seeding, lawn mowing, leaf blowing, dust and debris clearing and any other landscaping or nonemergency exterior hardscape maintenance activities which utilize any motorized saw, sander, drill, grinder, leaf-blower, lawnmower, hedge trimmer, edger, or any other similar tool or device any time on Saturday and Sunday and between the hours of 6:00 PM and 7:00 AM the next day during weekdays, unless otherwise provided in this section.

17.18.080 Vibration.

No vibration associated with any use shall be allowed which is discernible beyond the boundary line of the subject property.

Table 1
Guideline Vibration Damage Potential Threshold Criteria

Structure Condition	Maximum PPV (in/sec)	
	Transient Sources[1]	Intermittent Sources[1]
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: California Department of Transportation. Transportation and Construction Vibration Guidance Manual, Chapter 7 Table 19, April 2020.

Notes:

(1) Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 2
Guideline Vibration Annoyance Potential Criteria

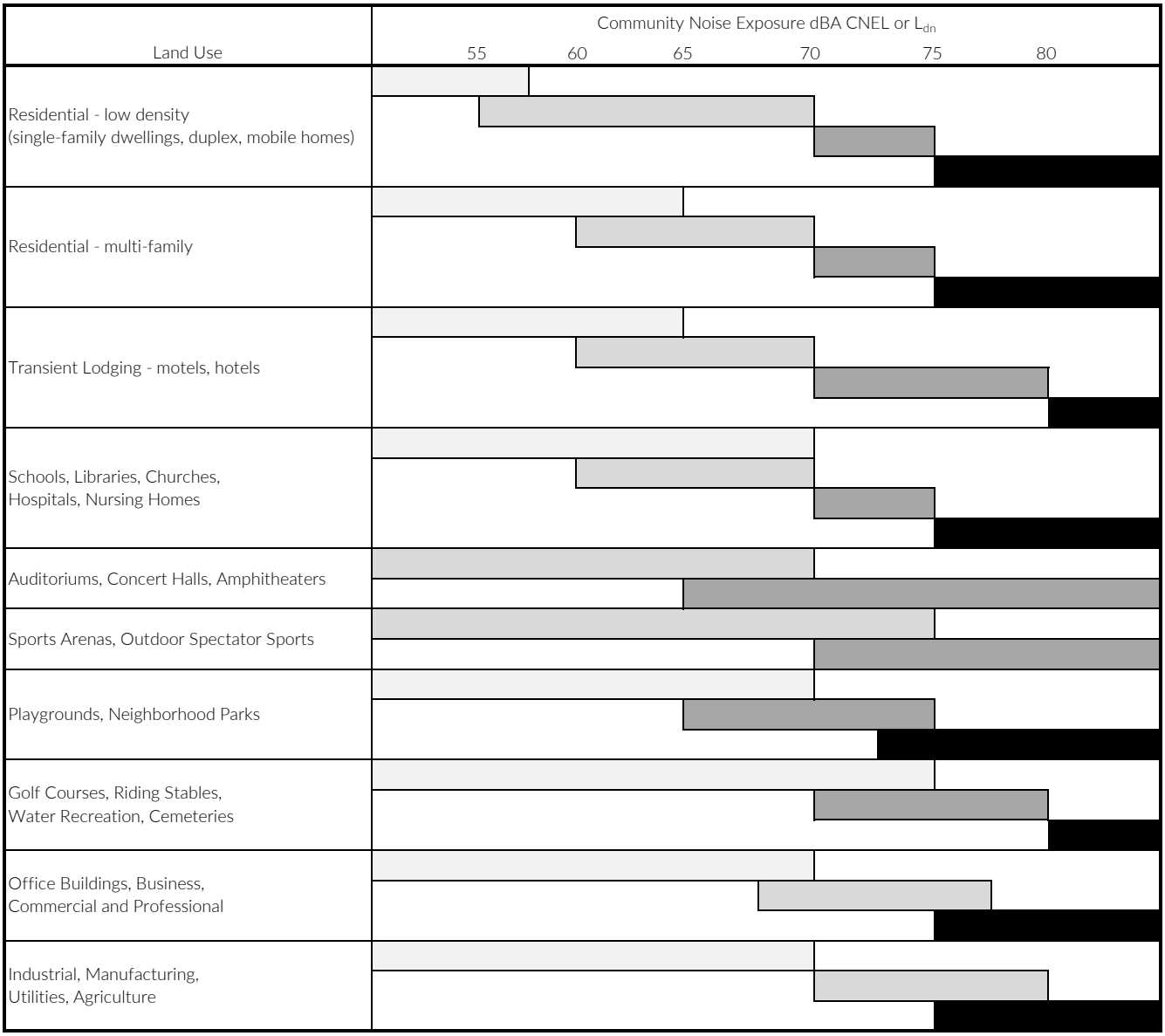
Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: California Department of Transportation. Transportation and Construction Vibration Guidance Manual,

Notes:

(1) Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 3
City of Rancho Mirage Noise Level and Land Use Compatibility



Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings are conventionally constructed with no special noise installation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Outdoor environment will seem noisy.

Normally Unacceptable: New construction or development should generally be discouraged, but if it does proceed, a detailed analysis of the noise reduction requirements must be made with needed noise insulation features included in the design and outdoor areas must be shielded.

Clearly Unacceptable: New construction or development should generally not be undertaken. Construction cost to make indoor environment acceptable would be prohibitive and outdoor environment would not be usable.

Source: City of Rancho Mirage 2017 General Plan.

Table 4
City of Rancho Mirage Exterior Noise Level Standards (More than 30 Minutes)

Land Use/Zone	Time of Day	Noise Level (dBA)
Residential, Low Density (R-E, H-R, R-L-2, R-L-3)	7:00 AM to 6:00 PM	55
	6:00 PM to 10:00 PM	50
	10:00 PM to 7:00 AM	45
Residential, Medium and High Density, Hospital, Open Space (OS, R-M, R-H, MHP)	7:00 AM to 6:00 PM	60
	6:00 PM to 10:00 PM	55
	10:00 PM to 7:00 AM	50
Commercial Office, Resort Commercial, Mixed Use, Institutional (O, P, Rs-H, M-U)	7:00 AM to 6:00 PM	65
	6:00 PM to 10:00 PM	60
	10:00 PM to 7:00 AM	55
Commercial Neighborhood, General Commercial, Commercial Recreation, Light Industrial (C-N, C-G, I-L)	7:00 AM to 6:00 PM	70
	6:00 PM to 10:00 PM	65
	10:00 PM to 7:00 AM	60

Notes:

Source: City of Rancho Mirage Municipal Code 8.45.030 (Table A-1).

Table 5

City of Rancho Mirage Adjustments
For Exterior Noise Level Standards (30 Minutes and Less)

Duration of Sound	dBA Adjustment
15—30 minutes per hour	3
10—15 minutes per hour	5
5—10 minutes per hour	10
1—5 minutes per hour	15
Any period of time less than 1 minute per hour	20

Notes:

Source: City of Rancho Mirage Municipal Code 8.45.030 (Table B-1).

5. ANALYTICAL METHODOLOGY AND MODEL PARAMETERS

This section discusses the analysis methodologies used to assess noise impacts.

CONSTRUCTION NOISE MODELING

Construction noise will vary depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work.

Construction noise associated with the proposed project was calculated at the sensitive receptor locations, utilizing methodology presented in the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* (2018) together with several key construction parameters, including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. Distances to receptors were based on the acoustical center of the project site.

The equipment used to calculate the construction noise levels for each phase were based on the assumptions provided in the California Emissions Estimator Model (CalEEMod) modeling provided in the Air Quality, Global Climate Change, and Energy Impact Analysis prepared for the proposed project (Ganddini Group, Inc., 2023). For analysis purposes, the distance measured from the project site to sensitive receptors was assumed to be the acoustical center of the project site to the property line of residential properties with existing residential buildings. Sound emission levels associated with typical construction equipment as well as typical usage factors are provided in Table 6. Construction noise worksheets are provided in Appendix C.

SOUNDPLAN NOISE MODEL

The SoundPLAN acoustical modeling software was utilized to model existing, existing plus project, and future roadway noise levels at the proposed sensitive receptors (e.g., residences). SoundPLAN is capable of evaluating both mobile and stationary noise sources (e.g., vehicle traffic, rail, parking lots, drive-thru menus, car wash equipment, vacuums, etc.). The SoundPLAN software utilizes algorithms (based on the inverse square law) to calculate noise level projections. The software allows the user to input specific noise sources, spectral content, sound barriers, building placement, topography, and sensitive receptor locations.

Landy Lane borders the project site to the west and Ginger Rogers Road borders the project site to the south. Both of these roadways are designated as two-lane "Local" roadways with 60-foot rights-of-way in the City of Rancho Mirage 2017 General Plan Circulation Element. Neither of these roadways will generate enough vehicle traffic to be considered acoustically significant. Bob Hope Drive parallels the site approximately 400 feet to the west in a north/south direction. It is designated as a six-lane divided Major Arterial with a 120-foot right-of-way. Vehicle traffic traveling on Bob Hope Drive dominates the existing noise environment at the project site and is expected to continue to be the dominant noise source in the future. Bob Hope Drive was modeled using a level of service buildout capacity of 43,100 average daily trips (ADT), a vehicle mix of 92 % automobiles, 3% medium trucks, and 5 percent heavy trucks, and a speed of 40 miles per hour[3]. The modeling sheets are provided in Appendix D.

GROUNDBORNE VIBRATION MODELING

Groundborne vibration modeling was performed using vibration propagation equations and construction equipment source levels obtained from the FTA *Transit Noise and Vibration Impact Assessment Manual* (2018). Table 7 shows typical vibration levels associated with commonly used construction equipment based on data from the FTA.

[3] Riverside County Public Health Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures. Jan. 15, 2004

There are several types of construction equipment that can cause vibration levels high enough to annoy persons in the vicinity and/or result in architectural or structural damage to nearby structures and improvements. For example, as shown in Table 7, a vibratory roller could generate up to 0.21 in/sec PPV at and operation of a large bulldozer could generate up to 0.089 PPV at a distance of 25 feet (two of the most vibratory pieces of construction equipment). Groundborne vibration at sensitive receptors associated with this equipment would drop off as the equipment moves away. For example, as the vibratory roller moves further than 100 feet from the sensitive receptors, the vibration associated with it would drop below 0.0026 in/sec PPV. It should be noted that these vibration levels are reference levels and may vary slightly depending upon soil type and specific usage of each piece of equipment.

The fundamental equation used to calculate vibration propagation through average soil conditions and distance is as follows:

$$PPV_{equipment} = PPV_{ref} (25/D_{rec})^n$$

Where: PPV_{ref} = *reference PPV at 25ft.*
D_{rec} = *distance from equipment to receiver in ft.*
n = 1.5 (*the value related to the attenuation rate through ground*)

Groundborne vibration calculations are provided in Appendix E.

Table 6 (1 of 2)
CA/T Equipment Noise Emissions and Acoustical Usage Factor Database

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
All Other Equipment > 5 HP	No	50	85	-N/A-	0
Auger Drill Rig	No	20	85	84	36
Backhoe	No	40	80	78	372
Bar Bender	No	20	80	-N/A-	0
Blasting	Yes	-N/A-	94	-N/A-	0
Boring Jack Power Unit	No	50	80	83	1
Chain Saw	No	20	85	84	46
Clam Shovel (dropping)	Yes	20	93	87	4
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Concrete Batch Plant	No	15	83	-N/A-	0
Concrete Mixer Truck	No	40	85	79	40
Concrete Pump Truck	No	20	82	81	30
Concrete Saw	No	20	90	90	55
Crane	No	16	85	81	405
Dozer	No	40	85	82	55
Drill Rig Truck	No	20	84	79	22
Drum Mixer	No	50	80	80	1
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Forklift[2,3]	No	50	n/a	61	n/a
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Generator (<25KVA, VMS signs)	No	50	70	73	74
Gradall	No	40	85	83	70
Grader	No	40	85	-N/A-	0
Grapple (on backhoe)	No	40	85	87	1
Horizontal Boring Hydr. Jack	No	25	80	82	6
Hydra Break Ram	Yes	10	90	-N/A-	0
Impact Pile Driver	Yes	20	95	101	11
Jackhammer	Yes	20	85	89	133
Man Lift	No	20	85	75	23
Mounted Impact hammer (hoe ram)	Yes	20	90	90	212
Pavement Scarafier	No	20	85	90	2
Paver	No	50	85	77	9
Pickup Truck	No	50	85	77	9
Paving Equipment	No	50	85	77	9
Pneumatic Tools	No	50	85	85	90

Table 6 (2 of 2)
CA/T Equipment Noise Emissions and Acoustical Usage Factor Database

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
Pumps	No	50	77	81	17
Refrigerator Unit	No	100	82	73	3
Rivit Buster/chipping gun	Yes	20	85	79	19
Rock Drill	No	20	85	81	3
Roller	No	20	85	80	16
Sand Blasting (Single Nozzle)	No	20	85	96	9
Scraper	No	40	85	84	12
Shears (on backhoe)	No	40	85	96	5
Slurry Plant	No	100	78	78	1
Slurry Trenching Machine	No	50	82	80	75
Soil Mix Drill Rig	No	50	80	-N/A-	0
Tractor	No	40	84	-N/A-	0
Vacuum Excavator (Vac-truck)	No	40	85	85	149
Vacuum Street Sweeper	No	10	80	82	19
Ventilation Fan	No	100	85	79	13
Vibrating Hopper	No	50	85	87	1
Vibratory Concrete Mixer	No	20	80	80	1
Vibratory Pile Driver	No	20	95	101	44
Warning Horn	No	5	85	83	12
Welder/Torch	No	40	73	74	5

Notes:

(1) Source: FHWA Roadway Construction Noise Model User's Guide January 2006.

(2) Warehouse & Forklift Noise Exposure - NoiseTesting.info Carl Stautins, November 4, 2014 http://www.noisetesting.info/blog/carl-strautins/page-3/

(3) Data provided Leq as measured at the operator. Sound Level at 50 feet is calculated using Inverse Square Law.

Table 7
Construction Equipment Vibration Source Levels

Equipment		PPV at 25 ft, in/sec	Approximate Lv* at 25 ft
Pile Driver (impact)	upper range	1.518	112
	typical	0.644	104
Pile Driver (sonic)	upper range	0.734	105
	typical	0.170	93
clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.210	94
Hoe Ram		0.089	87
Large Bulldozer		0.089	87
Caisson Drilling		0.089	87
Loaded Trucks		0.076	86
Jackhammer		0.035	79
Small Bulldozer		0.003	58

Source: Federal Transit Administration: Transit Noise and Vibration Impact Assessment Manual, 2018.
*RMS velocity in decibels, VdB re 1 micro-in/sec

6. NOISE AND VIBRATION IMPACTS

This section analyzes the significance of project-related noise and groundborne vibration impacts relative to standards established by the City of Rancho Mirage and other applicable agencies in the context of CEQA. Appendix G of the California Environmental Quality Act Guidelines (Title 14, Division 6, Chapter 3 of the California Code of Regulations) includes an environmental checklist that identifies issues upon which findings of significance should be made. The CEQA Environmental Checklist Appendix G, XIII. Noise, requires determination if the project would result in:

a) *Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*
b) *Generation of excessive groundborne vibration or groundborne noise levels?*
c) *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?*

NOISE IMPACTS

Would the project result in:

a) *Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Finding: Less Than Significant

In relation to the Environmental Checklist noise issue "a", applicable standards established by the City of Rancho Mirage can be categorized into the following areas:

- Construction Noise
- Mobile Source Noise

Project Construction Noise (On-Site Equipment)

The project site is adjacent to existing single family residential land uses to the north and to the east. Construction, alteration, repair, grading or improvement of any building, structure, road, or improvement to real property for which a permit has been issued by the city if said construction occurs within the allowable hours set forth in Section 15.04.030 is exempt from the provisions of Section 8.45 of the City's Municipal Code. Therefore, as long as project construction occurs outside the hours of 7:00 PM to 7:00 AM or on Sundays or holidays, or if written permission of the Building Official is obtained, project construction will be consistent with the applicable ordinance. The project is expected to comply with this ordinance and therefore, will be consistent with applicable ordinances.

Existing noise levels and project construction noise levels were modeled at the northern and eastern property lines using the FTA methodology in order to determine the expected increase in noise levels due to project construction. Existing noise levels along the northern property line are estimated to average 52.5 dBA L_{eq} and existing noise levels along the eastern property line are estimated to be 45.1 dBA L_{eq}. Construction noise levels are estimated to reach 61.6 dBA L_{eq} at the nearest residential property to the north and 66.8 at the nearest residential property to the east. Increases in ambient noise levels due to project construction will reach up to 9.1 along the northern property line and reach up to 21.7 along the

eastern property line. Construction noise modeling worksheets for each phase are provided in Appendix C. Anticipated noise levels during each construction phase are presented in Table 8.

Best management practices (BMPs) provided in the Project Description will be included on the project plans and in contract specifications to minimize construction noise emanating from the proposed project.

Project Construction Noise (Off-Site Traffic)

Construction truck trips would occur throughout the construction period. Given the project site's proximity to Interstate 10 Freeway, it is anticipated that vendor and/or haul truck traffic would take the most direct route to the appropriate freeway ramps.

According to the TTM 38636 *Air Quality, Global Climate Change, and Energy Impact Analysis* (Ganddini Group, Inc., 2023), the greatest number of construction-related vehicle trips per day would be during grading and paving at up to 15 vehicle trips per day (for worker trips). The addition of 15 trips will result in an increase of less than 1 dB. Therefore, vehicle traffic generated during project construction is nominal relative to existing roadway volumes. The project impact is less than significant; no mitigation is required.

Project Operational Noise (Project Generated Traffic Noise)

The proposed project is the development of the approximately 4.37 net-acre project site with 9 single-family residential lots. Due to the project's size, it is anticipated that it will screen out and will not require a traffic study. Therefore, based on the Institute of Transportation Engineers (ITE) 11th Edition Trip Generation Manual (2021) rate for single-family housing (ITE 210), the proposed project will have trip generation rates of 9.43 trips per dwelling unit per weekday, 9.48 trips per dwelling unit per Saturday, and 8.48 trips per dwelling unit per Sunday. Considering these trip generation rates and that the project is only 9 dwelling units, the proposed project would be anticipated to generate up to approximately 85 vehicle trips per day.

As discussed in Section 3, existing noise levels at the project site were modeled at 54.1 dBA CNEL. Existing plus project generated vehicle traffic were modeled at 54.2 dBA CNEL and would result in an increase of 0.1 dBA CNEL over existing noise levels. Project generated vehicle traffic would not result in substantial increases in ambient noise levels. The project impact is less than significant; no mitigation is required.

Future Traffic Noise at the Project Site

As shown in Table 3, per the City of Rancho Mirage General Plan, noise levels of up to 57.5 dBA CNEL are considered "normally acceptable" and up to 70 dBA CNEL are considered "conditionally acceptable" for single-family residential uses. Per the City, new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Noise levels at the western property line

As shown in Figure 5 and in Figure 6, future traffic noise levels at the project site are expected to reach 57.3 at proposed residential lots and will not exceed the City's criteria of normally acceptable (57.5 dBA CNEL). The proposed project would be consistent with the City's General Plan Noise Element Noise Level and Land Use Compatibility Criteria (Table 3).

GROUNDBORNE VIBRATION IMPACTS

Would the project result in:

b) Generation of excessive groundborne vibration or groundborne noise levels?

Finding: Less Than Significant

In relation to the Environmental Checklist noise issue "b", the City of Rancho Mirage Municipal Code Section 17.18.080 states that no vibration associated with any use shall be allowed which is discernible beyond the boundary line of the subject property. However, the City has not established thresholds of significance concerning groundborne vibration. In the absence of City-established thresholds, groundborne vibration impacts are based on guidance from the *Transportation and Construction Vibration Guidance Manual* (California Department of Transportation, 2020) (see Regulatory Setting section). Accordingly, the project would result in a significant impact if:

- Groundborne vibration levels generated by the project have the potential to cause architectural damage at nearby buildings by exceeding the following PPV:
  - 0.08 in/sec at extremely fragile historic buildings, ruins, ancient monuments
  - 0.10 in/sec at fragile buildings
  - 0.25 in/sec at historic and some old buildings
  - 0.30 in/sec at older residential structures
  - 0.50 in/sec at new residential structures and modern industrial/commercial buildings.
- Groundborne vibration levels generated by the project have the potential to cause severe annoyance to people living or working in nearby buildings by exceeding a PPV of 0.4 in/sec.

Groundborne vibration modeling worksheets are provided in Appendix E.

Construction-Related Vibration Impacts

Existing structures in the immediate vicinity of the project site include the single-family residential dwelling units located as close as approximately 15 feet to the north and 26 feet to the east of the project site and the commercial building located as close as approximately 195 feet to the southwest of the project site.

Groundborne vibration levels associated with project construction are provided in Table 9. As shown in Table 9, the residential threshold of 0.3 PPV in/sec will be exceeded at the residential uses to the north. BMPs prohibiting the use of vibratory rollers, or other similar vibratory equipment, within 20 feet of residential structures to the north will reduce potential architectural damage impacts. With incorporation of the needed best management practice for architectural damage, potential annoyance at the nearest residential uses would be below the 0.4 in/sec PPV threshold. Furthermore, annoyance is expected to be temporary, occurring during the daytime hours and only when vibratory equipment, such as vibratory rollers, are in proximity to a residential structure. Project construction would not result in the exposure of persons to excessive groundborne vibration and impacts would be less than significant with incorporation of BMPs management practices listed in the Project Description.

The most substantial sources of groundborne vibration during post-construction project operations will include the movement of passenger vehicles and trucks on paved and generally smooth surfaces. Loaded trucks generally have a PPV of 0.076 at a distance of 25 feet (Caltrans 2020), which is a substantially lower PPV than that of a vibratory roller (0.210 in/sec PPV at 25 feet). Therefore, groundborne vibration levels generated by project operation would not exceed those modeled for project construction.

Air Traffic Impacts

Would the project result in:

c) *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?*

Finding: No Impact

The closest airport to the project site is the Palm Springs International Airport, with associated airport runways located as close as approximately 5.55 miles northwest of the project site. As shown on Map PS-3, Noise Compatibility Contours, of the Riverside County Airport Land Use Compatibility Plan Policy Document (adopted March 2005) the project site is located well outside the 60 dBA CNEL noise contour of Palm Springs Airport. Therefore, the proposed project would not expose people residing or working in the area to excessive noise levels. There is no impact, and no mitigation is required.

Table 8
Construction Noise Levels (dBA L_{eq})

Receptor Location	Representative Noise Measurement[1]	Existing Ambient Noise Levels (dBA Leq)	Construction Noise Levels (dBA Leq)[2]	Increase Due to Construction
Phase: Demolition				
Residential Adjacent on the North	NM1	52.5	60.5	8.0
Residential Adjacent on the East	NM2	45.1	65.7	20.6
Phase: Grading				
Residential Adjacent on the North	NM1	52.5	61.6	9.1
Residential Adjacent on the East	NM2	45.1	66.8	21.7
Phase: Building Construction				
Residential Adjacent on the North	NM1	52.5	58.0	5.5
Residential Adjacent on the East	NM2	45.1	63.2	18.1
Phase: Paving				
Residential Adjacent on the North	NM1	52.5	58.4	5.9
Residential Adjacent on the East	NM2	45.1	63.5	18.4
Phase: Architectural Coating				
Residential Adjacent on the North	NM1	52.5	48.8	0.0
Residential Adjacent on the East	NM2	45.1	53.9	8.8

Notes:
(1) Estimated per existing traffic noise levels associated with Bob Hope Drive (see Appendix *)
(2) Construction noise worksheets are provided in Appendix D.

Table 9
Construction Vibration Levels at the Nearest Receptors

Receptor Location	Distance from Property Line to Nearest Structure (feet)	Equipment	Vibration Level[1]	Threshold Exceeded?[2]	Vibration Level with BMPs?	Threshold Exceeded?
Architectural Damage Analysis in (PPV)						
Residential to North (9 Siena Vista Court, Rancho Mirage)	15	Vibratory Roller	0.452	Yes	0.293	No
	15	Large Bulldozer	0.191	No	-	-
Residential to East (7 Echo Lane, Rancho Mirage)	26	Vibratory Roller	0.198	No	-	-
	26	Large Bulldozer	0.084	No	-	-
Commercial to Southwest (Resuscitation International (Surgical Supply Store), 35100 Bob Hope Drive #200)	195	Vibratory Roller	0.010	No	-	-
	195	Large Bulldozer	0.004	No	-	-

Notes:

(1) Vibration levels are provided in PPV in/sec.

(2) Caltrans identifies the threshold at which there is a risk to "architectural" damage older residential structures as 0.3 in/sec PPV and 0.5 in/sec PPV at modern industrial/commercial buildings (see Table 2).

(3) Needed Best Management Practices (BMPs) for architectural damage would include prohibiting the use of vibratory rollers, or other similar vibratory equipment, within 20 feet of residential strucures to the north of the project site.

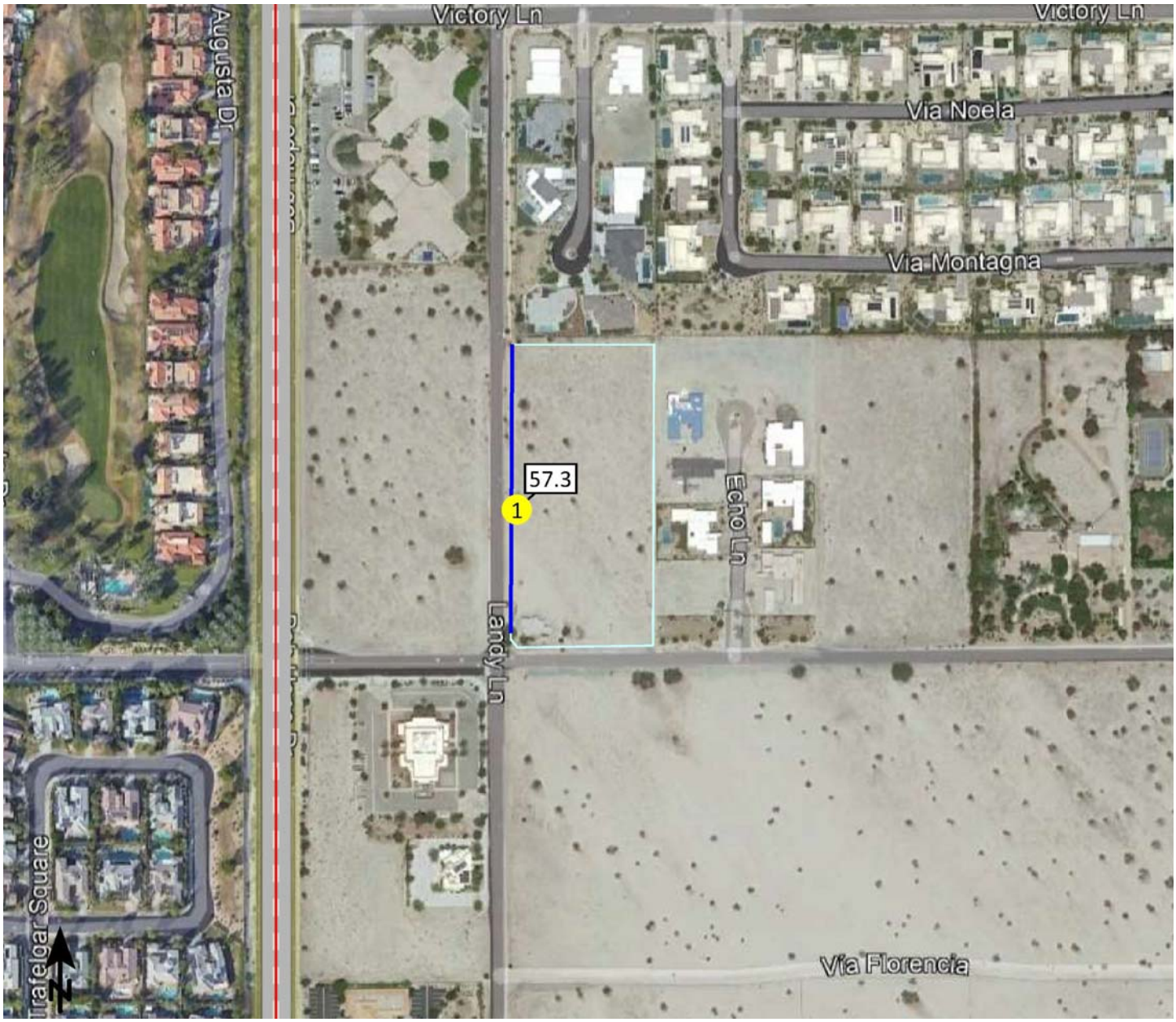
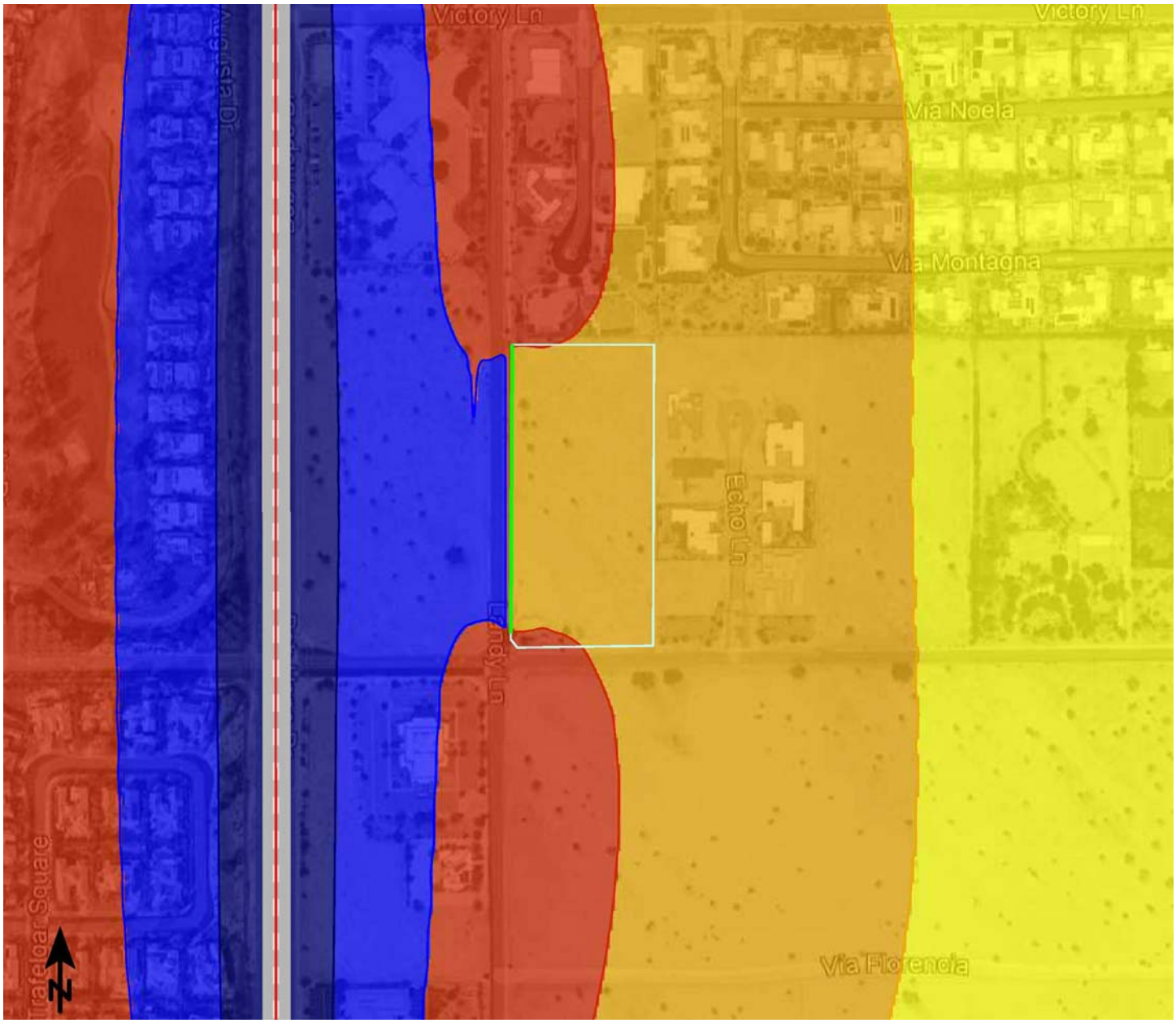


Figure 5
Future Traffic Noise Levels (dBA, CNEL)



Signs and symbols

Property Boundary

Proposed 6-Ft Masonry Wall

Bob Hope Drive

Levels in dB(A) CNEL

<	45
45 -	50
50 -	55
55 -	60
60 -	65
65 -	70
>=	70

Figure 6
Future Traffic Noise Contours (dBA, CNEL)

7. REFERENCES

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APPENDICES

Appendix A List of Acronyms
Appendix B Glossary
Appendix C Construction Noise Model Worksheets
Appendix D SoundPLAN Worksheets
Appendix E Groundborne Vibration Worksheets

APPENDIX A

LIST OF ACRONYMS

Term	Definition
ADT	Average Daily Traffic
ANSI	American National Standard Institute
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
D/E/N	Day / Evening / Night
dB	Decibel
dBA or dB(A)	Decibel "A-Weighted"
dBA/DD	Decibel per Double Distance
dBA L_{eq}	Average Noise Level over a Period of Time
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
L_{02},L_{08},L_{50},L_{90}	A-weighted Noise Levels at 2 percent, 8 percent, 50 percent, and 90 percent, respectively, of the time period
DNL	Day-Night Average Noise Level
$L_{eq(x)}$	Equivalent Noise Level for '"x" period of time
L_{eq}	Equivalent Noise Level
L_{max}	Maximum Level of Noise (measured using a sound level meter)
L_{min}	Minimum Level of Noise (measured using a sound level meter)
LOS C	Level of Service C
OPR	California Governor's Office of Planning and Research
PPV	Peak Particle Velocities
RCNM	Road Construction Noise Model
REMEL	Reference Energy Mean Emission Level
RMS	Root Mean Square

APPENDIX B

GLOSSARY

Term	Definition
Ambient Noise Level	The all-encompassing noise environment associated with a given environment, at a specified time, usually a composite of sound from many sources, at many directions, near and far, in which usually no particular sound is dominant.
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear.
CNEL	Community Noise Equivalent Level. CNEL is a weighted 24-hour noise level that is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours.
Decibel, dB	A logarithmic unit of noise level measurement that relates the energy of a noise source to that of a constant reference level; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
DNL, Ldn	Day Night Level. The DNL, or Ldn is a weighted 24-hour noise level that is obtained by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the nighttime hours.
Equivalent Continuous Noise Level, L_{eq}	A level of steady state sound that in a stated time period, and a stated location, has the same A-weighted sound energy as the time-varying sound.
Fast/Slow Meter Response	The fast and slow meter responses are different settings on a sound level meter. The fast response setting takes a measurement every 100 milliseconds, while a slow setting takes one every second.
Frequency, Hertz	In a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., the number of cycles per second).
L_{02}, L_{08}, L_{50}, L_{90}	The A-weighted noise levels that are equaled or exceeded by a fluctuating sound level, 2 percent, 8 percent, 50 percent, and 90 percent of a stated time period, respectively.
L_{max}, L_{min}	Lmax is the RMS (root mean squared) maximum level of a noise source or environment measured on a sound level meter, during a designated time interval, using fast meter response. Lmin is the minimum level.
Offensive/ Offending/Intrusive Noise	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of sound depends on its amplitude, duration, frequency, and time of occurrence, and tonal information content as well as the prevailing ambient noise level.
Root Mean Square (RMS)	A measure of the magnitude of a varying noise source quantity. The name derives from the calculation of the square root of the mean of the squares of the values. It can be calculated from either a series of lone values or a continuous varying function.

APPENDIX C

CONSTRUCTION NOISE MODEL WORKSHEETS

Receptor - Residential Uses to North

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA	With 6 Ft Wall Reduction
Demolition										
Concrete/Industrial Saws	1	82	290	40	0.40	-15.3	-4.0	66.7	62.8	**52.8**
Excavators	3	82	290	40	1.20	-15.3	0.8	66.7	67.5	**57.5**
Rubber Tired Dozers	2	82	290	40	0.80	-15.3	-1.0	66.7	65.8	**55.8**
								Log Sum	70.5	**60.5**
Grading										
Excavators	1	82	290	40	0.40	-15.3	-4.0	66.7	62.8	**52.8**
Rubber Tired Dozers	1	82	290	40	0.40	-15.3	-4.0	66.7	62.8	**52.8**
Tractors/Loaders/Backhoes	3	84	290	40	1.20	-15.3	0.8	68.7	69.5	**59.5**
Graders	1	85	290	40	0.40	-15.3	-4.0	69.7	65.8	**55.8**
								Log Sum	71.6	**61.6**
Building Construction										
Cranes	1	81	290	16	0.16	-15.3	-8.0	65.7	57.8	**47.8**
Forklifts[2]	3	48	290	40	1.20	-15.3	0.8	32.7	33.5	**23.5**
Generator Sets	1	81	290	50	0.50	-15.3	-3.0	65.7	62.7	**52.7**
Welders	3	74	290	40	1.20	-15.3	0.8	58.7	59.5	**49.5**
Tractors/Loaders/Backhoes	1	84	290	40	0.40	-15.3	-4.0	68.7	64.8	**54.8**
								Log Sum	68.0	**58.0**
Paving										
Concrete Mixer	2	80	290	20	0.40	-15.3	-4.0	64.7	60.8	**50.8**
Pavers	1	77	290	50	0.50	-15.3	-3.0	61.7	58.7	**48.7**
Paving Equipment	2	77	290	50	1.00	-15.3	0.0	61.7	61.7	**51.7**
Rollers	2	80	290	20	0.40	-15.3	-4.0	64.7	60.8	**50.8**
Tractors/Loaders/Backhoes	1	84	290	40	0.40	-15.3	-4.0	68.7	64.8	**54.8**
								Log Sum	68.4	**58.4**
Architectural Coating										
Air Compressors	1	78	290	40	0.40	-15.3	-4.0	62.7	58.8	**48.8**
								Log Sum	58.8	**48.8**

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construction Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

Receptor - Residential Uses to East

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA	With 6 Ft Wall Reduction
Demolition										
Concrete/Industrial Saws	1	82	160	40	0.40	-10.1	-4.0	71.9	67.9	**57.9**
Excavators	3	82	160	40	1.20	-10.1	0.8	71.9	72.7	**62.7**
Rubber Tired Dozers	2	82	160	40	0.80	-10.1	-1.0	71.9	70.9	**60.9**
								Log Sum	75.7	**65.7**
Grading										
Excavators	1	82	160	40	0.40	-10.1	-4.0	71.9	67.9	**57.9**
Rubber Tired Dozers	1	82	160	40	0.40	-10.1	-4.0	71.9	67.9	**57.9**
Tractors/Loaders/Backhoes	3	84	160	40	1.20	-10.1	0.8	73.9	74.7	**64.7**
Graders	1	85	160	40	0.40	-10.1	-4.0	74.9	70.9	**60.9**
								Log Sum	76.8	**66.8**
Building Construction										
Cranes	1	81	160	16	0.16	-10.1	-8.0	70.9	62.9	**52.9**
Forklifts[2]	3	48	160	40	1.20	-10.1	0.8	37.9	38.7	**28.7**
Generator Sets	1	81	160	50	0.50	-10.1	-3.0	70.9	67.9	**57.9**
Welders	3	74	160	40	1.20	-10.1	0.8	63.9	64.7	**54.7**
Tractors/Loaders/Backhoes	1	84	160	40	0.40	-10.1	-4.0	73.9	69.9	**59.9**
								Log Sum	73.2	**63.2**
Paving										
Concrete Mixer	2	80	160	20	0.40	-10.1	-4.0	69.9	65.9	**55.9**
Pavers	1	77	160	50	0.50	-10.1	-3.0	66.9	63.9	**53.9**
Paving Equipment	2	77	160	50	1.00	-10.1	0.0	66.9	66.9	**56.9**
Rollers	2	80	160	20	0.40	-10.1	-4.0	69.9	65.9	**55.9**
Tractors/Loaders/Backhoes	1	84	160	40	0.40	-10.1	-4.0	73.9	69.9	**59.9**
								Log Sum	73.5	**63.5**
Architectural Coating										
Air Compressors	1	78	160	40	0.40	-10.1	-4.0	67.9	63.9	**53.9**
								Log Sum	63.9	**53.9**

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construction Noise Model User's Guide (January 2006)

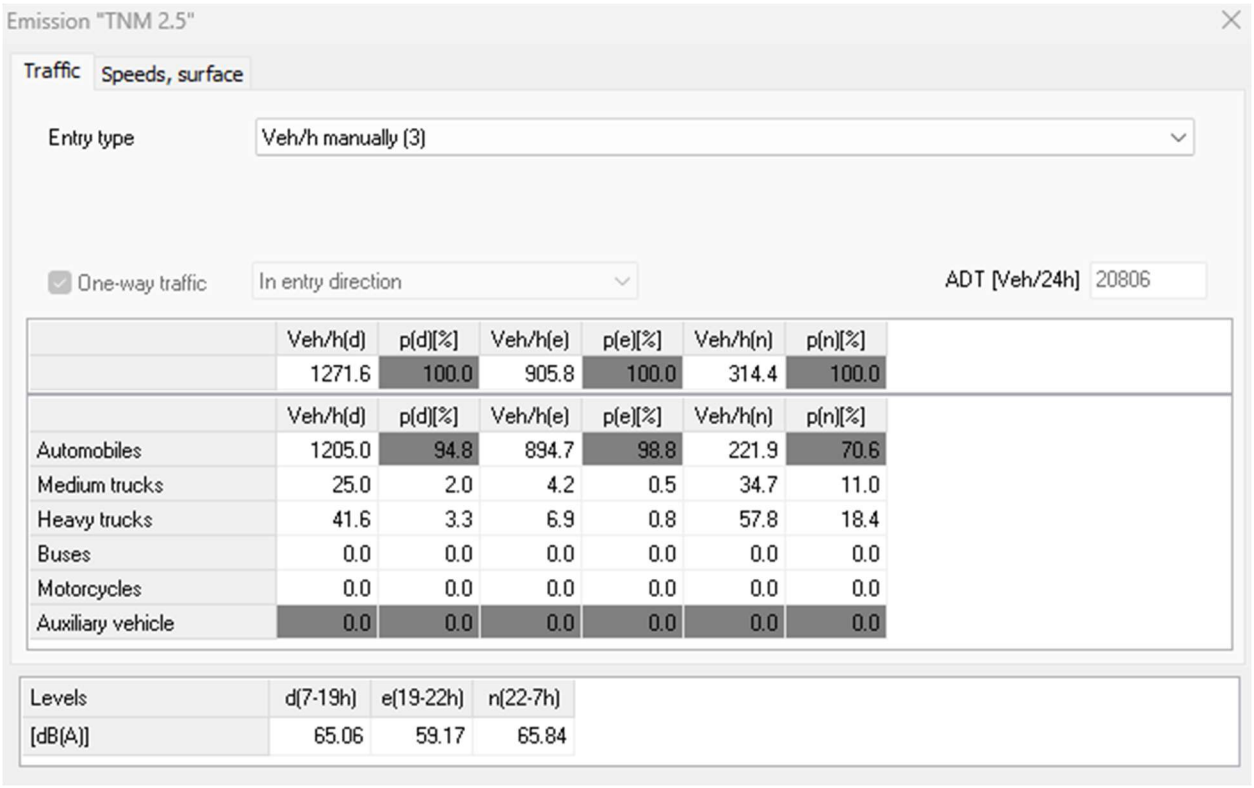
(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

APPENDIX D

SOUNDPLAN WORKSHEETS

Existing Traffic - SoundPlan



Emission "TNM 2.5"

Traffic | Speeds, surface

Entry type: Veh/h manually (3)

One-way traffic: In entry direction

ADT [Veh/24h]: 20806

	Veh/h(d)	p(d)[%]	Veh/h(e)	p(e)[%]	Veh/h(n)	p(n)[%]
	1271.6	100.0	905.8	100.0	314.4	100.0
	Veh/h(d)	p(d)[%]	Veh/h(e)	p(e)[%]	Veh/h(n)	p(n)[%]
Automobiles	1205.0	94.8	894.7	98.8	221.9	70.6
Medium trucks	25.0	2.0	4.2	0.5	34.7	11.0
Heavy trucks	41.6	3.3	6.9	0.8	57.8	18.4
Buses	0.0	0.0	0.0	0.0	0.0	0.0
Motorcycles	0.0	0.0	0.0	0.0	0.0	0.0
Auxiliary vehicle	0.0	0.0	0.0	0.0	0.0	0.0

Levels	d(7-19h)	e(19-22h)	n(22-7h)
[dB(A)]	65.06	59.17	65.84

Receiver list

No.	Receiver name	Building side	Floor	Limit Lden dB(A)	Level Lden dB(A)	Conflict Lden dB
1	1	-	EG	-	54.1	-

Existing Plus Project Traffic - SoundPlan

Emission "TNM 2.5"

Traffic | Speeds, surface

Entry type: Veh/h manually (3)

One-way traffic: In entry direction

ADT [Veh/24h]: 20880

	Veh/h(d)	p(d)[%]	Veh/h(e)	p(e)[%]	Veh/h(n)	p(n)[%]
	1275.9	100.0	909.5	100.0	315.6	100.0

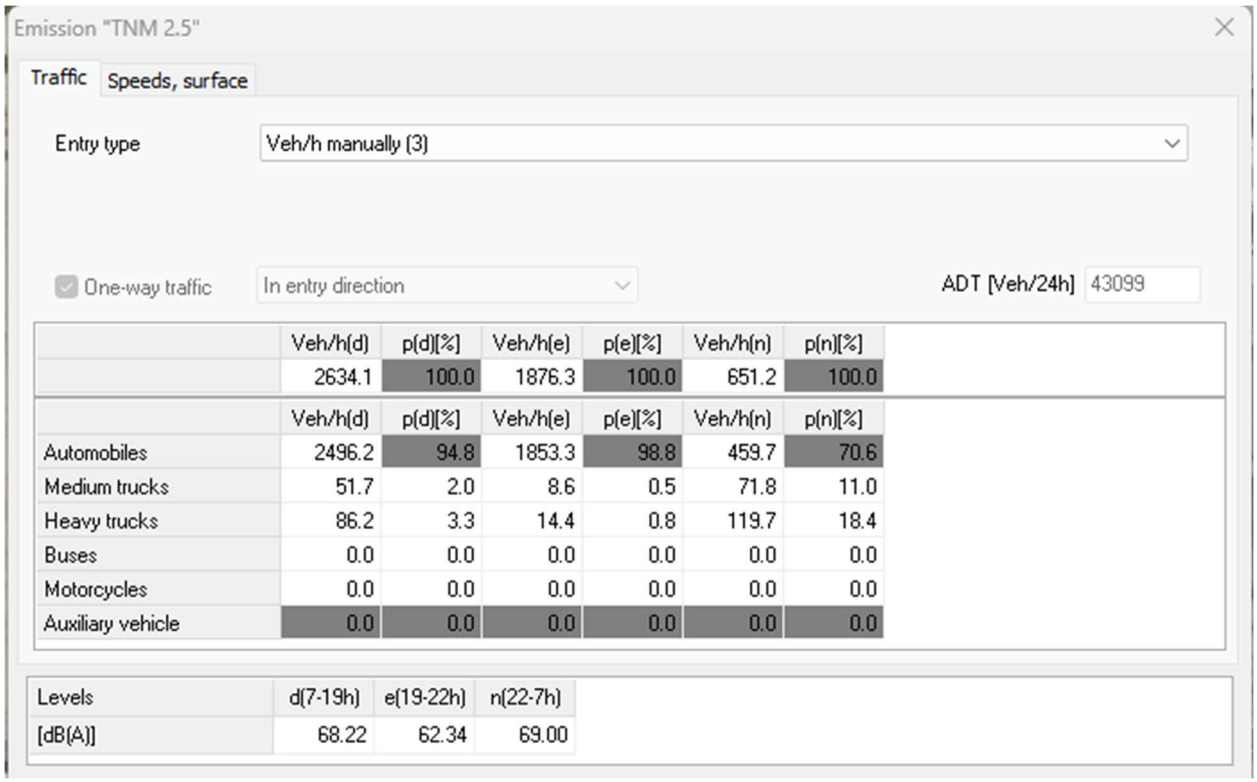
	Veh/h(d)	p(d)[%]	Veh/h(e)	p(e)[%]	Veh/h(n)	p(n)[%]
Automobiles	1209.0	94.8	898.3	98.8	222.8	70.6
Medium trucks	25.1	2.0	4.2	0.5	34.8	11.0
Heavy trucks	41.8	3.3	7.0	0.8	58.0	18.4
Buses	0.0	0.0	0.0	0.0	0.0	0.0
Motorcycles	0.0	0.0	0.0	0.0	0.0	0.0
Auxiliary vehicle	0.0	0.0	0.0	0.0	0.0	0.0

Levels	d(7-19h)	e(19-22h)	n(22-7h)
[dB(A)]	65.08	59.21	65.86

Receiver list

No.	Receiver name	Building side	Floor	Limit Lden dB(A)	Level Lden dB(A)	Conflict Lden dB
1	1	-	EG	-	54.2	-

Future Traffic - SoundPlan



Emission "TNM 2.5"

Traffic | Speeds, surface

Entry type: Veh/h manually (3)

One-way traffic: In entry direction

ADT [Veh/24h]: 43099

	Veh/h(d)	p(d)[%]	Veh/h(e)	p(e)[%]	Veh/h(n)	p(n)[%]
	2634.1	100.0	1876.3	100.0	651.2	100.0

	Veh/h(d)	p(d)[%]	Veh/h(e)	p(e)[%]	Veh/h(n)	p(n)[%]
Automobiles	2496.2	94.8	1853.3	98.8	459.7	70.6
Medium trucks	51.7	2.0	8.6	0.5	71.8	11.0
Heavy trucks	86.2	3.3	14.4	0.8	119.7	18.4
Buses	0.0	0.0	0.0	0.0	0.0	0.0
Motorcycles	0.0	0.0	0.0	0.0	0.0	0.0
Auxiliary vehicle	0.0	0.0	0.0	0.0	0.0	0.0

Levels	d(7-19h)	e(19-22h)	n(22-7h)
[dB(A)]	68.22	62.34	69.00

Receiver list

No.	Receiver name	Building side	Floor	Limit				Level				Conflict			
				Day	Evenin	Night	Lden	Day	Evenin	Night	Lden	Day	Evenin	Night	Lden
				dB(A)				dB(A)				dB			
1	1	-	EG	-	-	-	-	50.1	43.8	51.0	57.3	-	-	-	-

APPENDIX E

GROUNDBORNE VIBRATION WORKSHEETS

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19669 TTM 38636		Date: 10/4/23
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential to North		
Address:	9 Siena Vista Court, Rancho Mirage		
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	15.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.452	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19669 TTM 38636	Date:	10/4/23
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential to North		
Address:	9 Siena Vista Court, Rancho Mirage		

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type =	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	15.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.191	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19669 TTM 38636		Date: 10/4/23
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential to East		
Address:	7 Echo Lane, Rancho Mirage		
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment Type =	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	26.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.198	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19669 TTM 38636		Date: 10/4/23
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential to East		
Address:	7 Echo Lane, Rancho Mirage		
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment Type =	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	26.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.084	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19669 TTM 38636	Date:	10/4/23
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Commercial to Southwest		
Address:	Resuscitation International (Surgical Supply Store), 35100 Bob Hope Drive #200, Rancho Mirage		
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	195.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.010	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19669 TTM 38636	Date:	10/4/23
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Commercial to Southwest		
Address:	Resuscitation International (Surgical Supply Store), 35100 Bob Hope Drive #200, Rancho Mirage		

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	195.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.004	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19669 TTM 38636		Date: 10/4/23
Source:	Vibratory Roller		
Scenario:	With Incorporation of BMPs		
Location:	Residential to North		
Address:	9 Siena Vista Court, Rancho Mirage		
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	20.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.293	IN/SEC	OUTPUT IN BLUE

GANDDINI GROUP INC.

714.795.3100 | ganddini.com

Appendix I Tribal Consultation Letters

CITY OF RANCHO MIRAGE

July 31, 2024

Agua Caliente Band of Cahuilla Indians
Attn: Lacy Padilla, Director of Historic Preservation/THPO
5401 Dinah Shore Drive
Palm Springs, CA 92264

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Director of Historic Preservation/THPO Padilla,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
Project No.: EA23-0003, VAR24-0002, and TTM23-0001
Project Location: 72094 Ginger Rogers Road (APN: 685-080-002)
Project Description: The project proposes to subdivide 5.04 gross acres into nine (9) single-family residential lots with lots ranging in size from 16,122 square feet to 16,932 square feet. The project requests approval of a variance request to the Very Low Density Residential (R-L-2) minimum required lot size from 18,000 square feet to 16,000 square feet in order to be compatible with the established lot sizes with the immediate area. The project involves the demolition of an existing single-family residence built in 1958.

In accordance with PRC § 21080.3.1, you have thirty (30) days from the receipt of this letter to request consultation in writing for this project.

You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

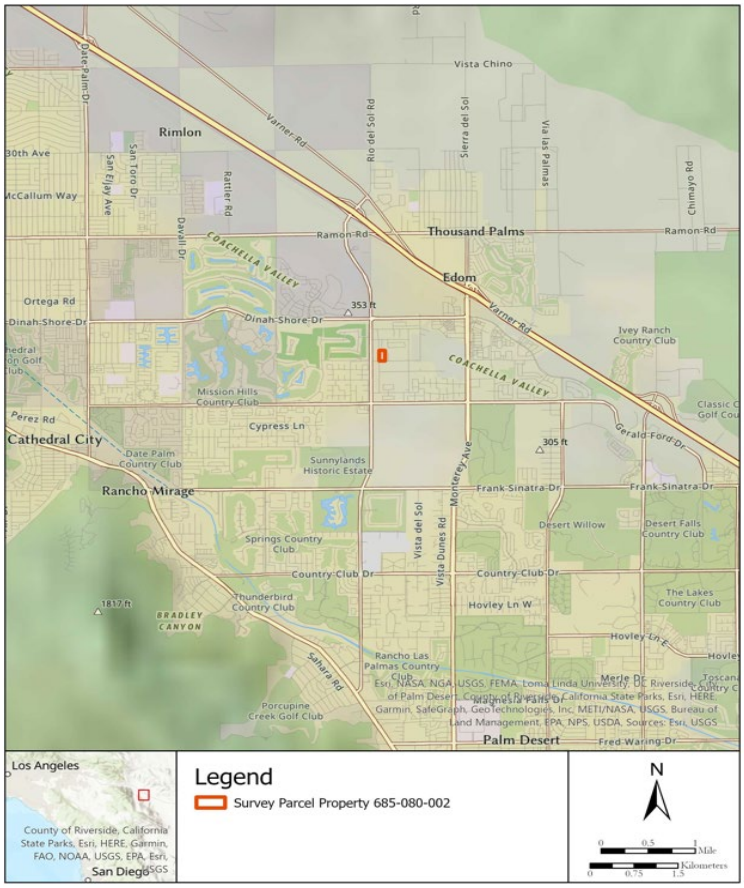


FIGURE 1. REGIONAL LOCATION MAP

FIGURE 2. PROJECT VICINITY MAP

CITY OF RANCHO MIRAGE

July 31, 2024

Augustine Band of Cahuilla Indians
Attn: , Tribal Operations
84-001 Avenue 54
Coachella, CA 92236

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Sir or Madam,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
Project No.: EA23-0003, VAR24-0002, and TTM23-0001
Project Location: 72094 Ginger Rogers Road (APN: 685-080-002)
Project Description: The project proposes to subdivide 5.04 gross acres into nine (9) single-family residential lots with lots ranging in size from 16,122 square feet to 16,932 square feet. The project requests approval of a variance request to the Very Low Density Residential (R-L-2) minimum required lot size from 18,000 square feet to 16,000 square feet in order to be compatible with the established lot sizes with the immediate area. The project involves the demolition of an existing single-family residence built in 1958.

In accordance with PRC § 21080.3.1, you have thirty (30) days from the receipt of this letter to request consultation in writing for this project.

You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Cabazon Band of Cahuilla Indians
Attn: Doug Welmas, Chairperson
84-245 Indio Springs Parkway
Indio, CA 92203

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Chairperson Welmas,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
Project No.: EA23-0003, VAR24-0002, and TTM23-0001
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In accordance with PRC § 21080.3.1, you have thirty (30) days from the receipt of this letter to request consultation in writing for this project.

You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Cahuilla Band of Indians
Attn: Anthony Madrigal, Tribal Historic Preservation Officer
52701 CA Highway 371
Anza, CA 92539

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Tribal Historic Preservation Officer Madrigal,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
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Project Location: 72094 Ginger Rogers Road (APN: 685-080-002)
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In accordance with PRC § 21080.3.1, you have thirty (30) days from the receipt of this letter to request consultation in writing for this project.

You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Cahuilla Band of Indians
Attn: Erica Schenk, Chairperson
52701 CA Highway 371
Anza, CA 92539

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Chairperson Schenk,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
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In accordance with PRC § 21080.3.1, you have thirty (30) days from the receipt of this letter to request consultation in writing for this project.

You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Cahuilla Band of Indians
Attn: Bobby Ray Esparza, Cultural Director
52701 CA Highway 371
Anza, CA 92539

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Cultural Director Esparza,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
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In accordance with PRC § 21080.3.1, you have thirty (30) days from the receipt of this letter to request consultation in writing for this project.

You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Los Coyotes Band of Cahuilla and Cupeño Indians
Attn: Ray Chapparosa, Chairperson
P.O. Box 189
Warner Springs, CA 92086-0189

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Chairperson Chapparosa,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
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In accordance with PRC § 21080.3.1, you have thirty (30) days from the receipt of this letter to request consultation in writing for this project.

You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Morongo Band of Mission Indians
Attn: Robert Martin, Chairperson
12700 Pumarra Road
Banning, CA 92220

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Chairperson Martin,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
Project No.: EA23-0003, VAR24-0002, and TTM23-0001
Project Location: 72094 Ginger Rogers Road (APN: 685-080-002)
Project Description: The project proposes to subdivide 5.04 gross acres into nine (9) single-family residential lots with lots ranging in size from 16,122 square feet to 16,932 square feet. The project requests approval of a variance request to the Very Low Density Residential (R-L-2) minimum required lot size from 18,000 square feet to 16,000 square feet in order to be compatible with the established lot sizes with the immediate area. The project involves the demolition of an existing single-family residence built in 1958.

In accordance with PRC § 21080.3.1, you have thirty (30) days from the receipt of this letter to request consultation in writing for this project.

You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Morongo Band of Mission Indians
Attn: Ann Brierty, Tribal Historic Preservation Officer
12700 Pumarra Road
Banning, CA 92220

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Tribal Historic Preservation Officer Brierty,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
Project No.: EA23-0003, VAR24-0002, and TTM23-0001
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In accordance with PRC § 21080.3.1, you have thirty (30) days from the receipt of this letter to request consultation in writing for this project.

You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Quechan Tribe of the Fort Yuma Reservation
Attn: Manfred Scott, Acting Chairman - Kw'ts'an Cultural Committee
P.O. Box 1899
Yuma, AZ 85366

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Acting Chairman - Kw'ts'an Cultural Committee Scott,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

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Project Location: 72094 Ginger Rogers Road (APN: 685-080-002)
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In accordance with PRC § 21080.3.1, you have thirty (30) days from the receipt of this letter to request consultation in writing for this project.

You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Quechan Tribe of the Fort Yuma Reservation
Attn: Jill McCormick, Historic Preservation Officer
P.O. Box 1899
Yuma, AZ 85366

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Historic Preservation Officer McCormick,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
Project No.: EA23-0003, VAR24-0002, and TTM23-0001
Project Location: 72094 Ginger Rogers Road (APN: 685-080-002)
Project Description: The project proposes to subdivide 5.04 gross acres into nine (9) single-family residential lots with lots ranging in size from 16,122 square feet to 16,932 square feet. The project requests approval of a variance request to the Very Low Density Residential (R-L-2) minimum required lot size from 18,000 square feet to 16,000 square feet in order to be compatible with the established lot sizes with the immediate area. The project involves the demolition of an existing single-family residence built in 1958.

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Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Quechan Tribe of the Fort Yuma Reservation
Attn: Jordan Joaquin, President, Quechan Tribal Council
P.O. Box 1899
Yuma, AZ 85366

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear President, Quechan Tribal Council Joaquin,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
Project No.: EA23-0003, VAR24-0002, and TTM23-0001
Project Location: 72094 Ginger Rogers Road (APN: 685-080-002)
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In accordance with PRC § 21080.3.1, you have thirty (30) days from the receipt of this letter to request consultation in writing for this project.

You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Ramona Band of Cahuilla
Attn: Joseph Hamilton, Chairperson
P.O. Box 391670
Anza, CA 92539

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Chairperson Hamilton,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
Project No.: EA23-0003, VAR24-0002, and TTM23-0001
Project Location: 72094 Ginger Rogers Road (APN: 685-080-002)
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In accordance with PRC § 21080.3.1, you have thirty (30) days from the receipt of this letter to request consultation in writing for this project.

You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Santa Rosa Band of Cahuilla Indians
Attn: Vanessa Minott, Tribal Administrator
P.O. Box 391820
Anza, CA 92539

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Tribal Administrator Minott,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
Project No.: EA23-0003, VAR24-0002, and TTM23-0001
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In accordance with PRC § 21080.3.1, you have thirty (30) days from the receipt of this letter to request consultation in writing for this project.

You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Santa Rosa Band of Cahuilla Indians
Attn: Steven Estrada, Tribal Chairman
P.O. Box 391820
Anza, CA 92539

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Tribal Chairman Estrada,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
Project No.: EA23-0003, VAR24-0002, and TTM23-0001
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In accordance with PRC § 21080.3.1, you have thirty (30) days from the receipt of this letter to request consultation in writing for this project.

You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Soboba Band of Luiseno Indians
Attn: Jessica Valdez, Cultural Resource Specialist
P.O. Box 487
San Jacinto, CA 92581

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Cultural Resource Specialist Valdez,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
Project No.: EA23-0003, VAR24-0002, and TTM23-0001
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In accordance with PRC § 21080.3.1, you have thirty (30) days from the receipt of this letter to request consultation in writing for this project.

You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Soboba Band of Luiseno Indians
Attn: Joseph Ontiveros, Tribal Historic Preservation Officer
P.O. Box 487
San Jacinto, CA 92581

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Tribal Historic Preservation Officer Ontiveros,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
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In accordance with PRC § 21080.3.1, you have thirty (30) days from the receipt of this letter to request consultation in writing for this project.

You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Torres-Martinez Desert Cahuilla Indians
Attn: Alesia Reed, Cultural Committee Chairwoman
P.O. Box 1160
Thermal, CA 92274

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Cultural Committee Chairwoman Reed,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
Project No.: EA23-0003, VAR24-0002, and TTM23-0001
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In accordance with PRC § 21080.3.1, you have thirty (30) days from the receipt of this letter to request consultation in writing for this project.

You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Torres-Martinez Desert Cahuilla Indians
Attn: Thomas Tortez, Chairperson
P.O. Box 1160
Thermal, CA 92274

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Chairperson Tortez,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

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You may obtain more information about the project or request consultation by contacting the Planner directly at (760) 328-2266 or via email at JoyT@RanchoMirageCA.gov. In your request, please reference the project name and number as indicated above.

Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Torres-Martinez Desert Cahuilla Indians
Attn: Abraham Becerra, Cultural Coordinator
P.O. Box 1160
Thermal, CA 92274

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Cultural Coordinator Becerra,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

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Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Torres-Martinez Desert Cahuilla Indians
Attn: Gary Resvaloso, TM MLD
P.O. Box 1160
Thermal, CA 92274

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear TM MLD Resvaloso,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

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Sincerely,

Joy Tsai
Senior Planner

CITY OF RANCHO MIRAGE

July 31, 2024

Torres-Martinez Desert Cahuilla Indians
Attn: Mary Belardo, Cultural Committee Vice Chair
P.O. Box 1160
Thermal, CA 92274

RE: AB 52 Consultation for Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001) in the City of Rancho Mirage, Riverside County, California (Assessor Parcel Number 685-080-002)

Dear Cultural Committee Vice Chair Belardo,

The City of Rancho Mirage is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed project described below. The Native American Heritage Commission has identified your organization as having or potentially having traditional lands or cultural places located within the City boundaries. Pursuant to the provisions of Assembly Bill (AB) 52, the City hereby extends an invitation to consult on the CEQA review of this proposed project in order to identify tribal cultural resources that may be impacted by the project.

Project Title: Tentative Tract Map No. 38636
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Sincerely,

Joy Tsai
Senior Planner

AGUA CALIENTE BAND OF CAHUILLA INDIANS

TRIBAL HISTORIC PRESERVATION

RECEIVED
DEVELOPMENT SERVICES DEPT
08/22/2024 11:41:10 AM

03-008-2024-008

August 22, 2024

[VIA EMAIL TO:joyt@ranchomirageca.gov]
City of Rancho Mirage
Ms. Joy Tsai
69-825 Highway 111
Rancho Mirage, California 92270

Re: TTM23-0001

Dear Ms. Joy Tsai,

The Agua Caliente Band of Cahuilla Indians (ACBCI) appreciates your efforts to include the Tribal Historic Preservation Office (THPO) in the TTM23-0001 project. The project area is not located within the boundaries of the ACBCI Reservation. However, it is within the Tribe's Traditional Use Area. For this reason, the ACBCI THPO requests the following:

*Formal government to government consultation under California Assembly Bill No. 52 (AB-52).

*A cultural resources inventory of the project area by a qualified archaeologist prior to any development activities in this area.

*Copies of any cultural resource documentation (report and site records) generated in connection with this project.

*A copy of the records search with associated survey reports and site records from the information center.

*The presence of an approved Agua Caliente Native American Cultural Resource Monitor(s) during any ground disturbing activities (including archaeological testing and surveys). Should buried cultural deposits be encountered, the Monitor may request that destructive construction halt and the Monitor shall notify a Qualified Archaeologist (Secretary of the Interior's Standards and Guidelines) to investigate and, if necessary, prepare a mitigation plan for submission to the State Historic Preservation Officer and the Agua Caliente Tribal Historic Preservation Office.

Again, the Agua Caliente appreciates your interest in our cultural heritage. If you have questions or require additional information, please call me at (760) 423-3485. You may also email me at ACBCI-THPO@aguacaliente.net.

Cordially,

5401 DINAH SHORE DRIVE, PALM SPRINGS, CA 92264
T 760/699/6800 F 760/699/6924 WWW.AGUACALIENTE-NSN.GOV

AGUA CALIENTE BAND OF CAHUILLA INDIANS

TRIBAL HISTORIC PRESERVATION

Xitlaly Madrigal
Cultural Resources Analyst
Tribal Historic Preservation Office
AGUA CALIENTE BAND
OF CAHUILLA INDIANS

5401 DINAH SHORE DRIVE, PALM SPRINGS, CA 92264
T 760/699/6800 F 760/699/6924 WWW.AGUACALIENTE-NSN.GOV

AGUA CALIENTE BAND OF CAHUILLA INDIANS

TRIBAL HISTORIC PRESERVATION

RECEIVED
DEVELOPMENT SERVICES DEPT
09/11/2024 4:43:21 PM

03-008-2024-008

September 11, 2024

[VIA EMAIL TO:joyt@ranchomirageca.gov]
City of Rancho Mirage
Ms. Joy Tsai
69-825 Highway 111
Rancho Mirage, California 92270

Re: TTM23-0001

Dear Ms. Joy Tsai,

The Agua Caliente Band of Cahuilla Indians (ACBCI) appreciates your efforts to include the Tribal Historic Preservation Office (THPO) in the TTM23-0001 project. The project area is not located within the boundaries of the ACBCI Reservation. However, it is within the Tribe's Traditional Use Area. For this reason, the ACBCI THPO requests the following:

*The presence of an approved Agua Caliente Native American Cultural Resource Monitor(s) during any ground disturbing activities (including archaeological testing and surveys). Should buried cultural deposits be encountered, the Monitor may request that destructive construction halt and the Monitor shall notify a Qualified Archaeologist (Secretary of the Interior's Standards and Guidelines) to investigate and, if necessary, prepare a mitigation plan for submission to the State Historic Preservation Officer and the Agua Caliente Tribal Historic Preservation Office.

*The presence of an archaeologist that meets the Secretary of Interior's standards during any ground disturbing activities.

Again, the Agua Caliente appreciates your interest in our cultural heritage. If you have questions or require additional information, please call me at (760) 423-3485. You may also email me at ACBCI-THPO@aguacaliente.net.

Cordially,

Xitlaly Madrigal
Cultural Resources Analyst
Tribal Historic Preservation Office
AGUA CALIENTE BAND
OF CAHUILLA INDIANS

AUGUSTINE BAND OF CAHUILLA INDIANS

84-001 AVENUE 54 COACHELLA, CA 92236 | T: 760-398-4722 F: 760-369-7161

TRIBAL CHAIRPERSON: AMANDA AUGUSTINE TRIBAL TREASURER: WILLIAM VANCE

TRIBAL COUNCIL MEMBER: RONNIE VANCE

RECEIVED
DEVELOPMENT SERVICES DEPT
08/06/2024 1:17:46 PM

Date: 08/06/2024

Dear: Joy Tsai
Senior Planner

SUBJECT: Tentative Tract Map No. 38636 (Planning Case Nos. EA23-0003, VAR24-0002, TTM23-0001)

Thank you for the opportunity to offer input concerning the development of the above-identified project. We appreciate your sensitivity to the cultural resources that may be impacted by your project and the importance of these cultural resources to the Native American peoples that have occupied the land surrounding the area of your project for thousands of years. Unfortunately, increased development and lack of sensitivity to cultural resources have resulted in many significant cultural resources being destroyed or substantially altered and impacted. Your invitation to consult on this project is greatly appreciated.

At this time, we are unaware of specific cultural resources that may be affected by the proposed project, however, in the event, you should discover any cultural resources during the development of this project please contact our office immediately for further evaluation.

Very truly yours,

Jacobia Kirksey

Jacobia Kirksey, Tribal Operations Specialist
Augustine Band of Cahuilla Indians

TRIBAL HISTORIC PRESERVATION OFFICE

RECEIVED
DEVELOPMENT SERVICES DEPT
08/13/2024 9:44:54 AM

MORONGO BAND OF MISSION INDIANS
A SOVEREIGN NATION

VIA ELECTRONIC MAIL

JoyT@RanchoMirageCA.gov

Joy Tsai, Senior Planner
DEVELOPMENT SERVICES DEPARTMENT
69-825 Highway 111
Rancho Mirage CA 92270

August 12, 2024

Re: AB 52 Consultation for Tentative Tract Map No. 38636, City of Rancho Mirage, California

The Morongo Band of Mission Indians (Tribe/MBMI) Tribal Historic Preservation Office received your letter regarding the above referenced Project. The proposed Project is not located within the boundaries of the ancestral territory or traditional use area of the Cahuilla and Serrano people of the Morongo Band of Mission Indians.

Thank you for notifying the MBMI about this project. MBMI encourages your consultation with tribes more closely associated with the lands upon which the project is located.

Respectfully,

Bernadette Ann Brierty

Bernadette Ann Brierty
Tribal Historic Preservation Officer
Morongo Band of Mission Indians

CC: Morongo THPO

Appendix J Agency Comment Letters

COACHELLA VALLEY WATER DISTRICT
Established in 1918 as a public agency

GENERAL MANAGER
Jim Barrett

CLERK OF THE BOARD
Sylvia Bermudez

23 JUN 15 PM 1:40

ASSISTANT GENERAL MANAGER
Robert Cheng

ASSISTANT GENERAL MANAGER
Dan Charlton

June 12, 2023

Joy Tsai, Senior Planner
Development Services Department
City of Rancho Mirage
69825 Highway 111
Rancho Mirage, CA 92270

Dear Ms. Tsai:

Subject: City of Rancho Mirage, Development Services Department, Request for Comments, Tentative Tract Map No. 38636 (EA23-003, TTM23-0001)

This area is designated Zone X on Federal Flood Insurance rate maps, which are in effect at this time by the Federal Emergency Management Agency (FEMA).

Flood protection measures for local drainage shall comply with California Drainage Law and provide that stormwater flows are received onto and discharged from this property in a manner that is reasonably compatible with predevelopment conditions.

The City of Rancho Mirage (City) shall require mitigation measures to be incorporated into the development to prevent flooding of the site or downstream properties. These measures shall require 100 percent on-site retention of the incremental increase of runoff from the 100-year storm. In addition, flood protection measures shall comply with California Drainage Law and provide that offsite stormwater flows are received onto the property and discharged from the property in a manner that is reasonably compatible with redevelopment conditions. Coachella Valley Water District (CVWD) requests review of said flood protection measures for compliance with California Drainage Law from a regional valley floor drainage perspective.

The project is located within the service area of CVWD for the provision of domestic water and sanitation service. The initiation of said service to this area will be subject to the satisfaction of terms and conditions established by CVWD and imposed from time to time, including but not limited to fees and charges, water conservation measures, etc.

CVWD may need additional facilities to provide for the orderly expansion of its domestic water and sanitation systems. These facilities may include pipelines, wells, reservoirs, booster pumping stations, lift stations, treatment plants and other facilities. The developer may be required to construct/install these facilities and then convey said facilities to CVWD along with the land and/or easements on which these facilities will be located. The terms and conditions for the planning, design, construction/installation, and conveyance of property interests shall be determined by CVWD pursuant to its rules and regulations as said requirements may be revised from time to time. These sites shall be shown on the tract map as lots and/or easements to be deeded to CVWD for "CVWD public services" purposes.

This notice of domestic water and sanitation service availability only applies to the specific property for which it was issued and shall expire three (3) years from date of issuance. Unless or until all requirements for the initiation of service are met, the developer shall not be deemed to have any vested right or other commitment to receive water and/or sanitation service. In the event all of the terms, conditions, fees and charges are not satisfied on or before the expiration date, this notice shall expire. Upon expiration, the developer will be required to submit a new application and otherwise comply with any and all new or amended requirements for the provision of service as may be determined by CVWD pursuant to its rules and regulations.

Domestic water and sanitation service remain at all times subject to changes in regulations adopted by CVWD's Board of Directors including reductions in, or suspensions of, service.

The project lies within the Whitewater River Subbasin Area of Benefit. Groundwater production within the area of benefit is subject to a replenishment assessment in accordance with the State Water Code.

Any entity producing more than 25 acre-feet of water during any year from one or more wells must equip the well(s) with a water-measuring device. A CVWD Water Production Metering Agreement is required to provide CVWD staff with the authority to regularly read and maintain this water-measuring device.

The Sustainable Groundwater Management Act (SGMA) is a law requiring that groundwater basins are managed to achieve sustainability. In accordance with the SGMA, CVWD submitted the Coachella Valley Water Management Plan as an alternative to a Groundwater Sustainability Plan (Alternative Plan) for the Indio Subbasin. On July 17, 2019, the Department of Water Resources (DWR) sent a notification approving the Alternative Plan. The goal of the Alternative Plan is to reliably meet current and future water demands in a cost-effective and sustainable manner. This development lies within the Indio Subbasin and will contribute to the total water demand in the subbasin. The elements and actions described in the Alternative Plan shall be incorporated into the design, construction, and operation of this development to reduce its negative impact on the Indio Subbasin.

If you have any questions, please call Tommy Fowlkes, Development Services Supervisor, extension 3535.

Sincerely,

Carrie Oliphant

Carrie Oliphant
Director of Engineering

cc: Shantel Bacon
Supervising Environmental Health Specialist
Riverside County Department of Environmental Health
Environmental Protection and Oversight Division
47-950 Arabia Street, Suite A
Indio, CA 92201

TH: al\Eng\Dev Srvs\2023\June\DRL PZ 23-14772 City of Rancho Mirage TTM 38636.doc
File: 0163.1, 0421.1, 0721.1, 1150.08
Geo. 040630-2
PZ 23-14772

RECEIVED
DEVELOPMENT SERVICES DEPT
06/08/2023 3:41:08 PM

IID

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June 8, 2023

Ms. Joy Tsai
Senior Planner
Development Services Department
City of Rancho Mirage
69-825 Highway 111
Rancho Mirage CA 92270

SUBJECT: Request for Agency Comments - Tentative Tract Map TTM 38636 in Rancho Mirage

Dear Ms. Tsai:

On May 24, 2023, the Imperial Irrigation District received from the City of Rancho Mirage Development Services Department, a request for agency comments on Tentative Tract Map 38636. The applicant proposes to subdivide a 5.04-acre parcel into nine (9) single-family residential lots and common area lots. The subject property is located at 72094 Ginger Rogers Road, at the northeast corner of Ginger Rogers Road and Landy Lane, in Rancho Mirage, CA (APN 685-080-002).

IID has reviewed the project information and, although no residential development is being proposed at this time, has the following comments when the project reaches the design and implentation phase:

1. IID will not begin any studies, engineering or estimate costs to provide electrical service to the development project until the applicant submits a customer project application (available at http://www.iid.com/home/showdocument?id=12923 and detailed loading information, panel sizes, project schedule and estimated in-service date. Applicant shall bear all costs associated with providing electrical service to the development project, including but not limited to the construction of distribution backbone feeder and line extensions, underground conduit systems and the re-configuration of distribution lines and related upgrades as well as applicable permits, zoning changes, landscaping (if required by the City) and rights-of-way and easements.

2. However, based on the preliminary information provided to IID, the district can accommodate the power requirements of the project by extending distribution primary backbone lines (conduit and cable) from existing distribution lines running on the south side of the project site, up to the edge of property along Landy Lane.

3. The district's ability to provide service from existing infrastructure is based on current available capacity, which may be impacted by future development in the area.

4. It is important to note that a detailed and final study will be developed once a customer project application and loading calculations are received. This detailed information will allow IID to perform an accurate assessment and provide a full report of any potential impacts and mitigation measures. The conditions of service could change as a result of the additional studies.

5. Underground infrastructure that includes trenching, conduits, pull boxes, switch boxes and pads should be installed following IID approved plans. Physical field installation of underground infrastructures should be verified and approved by an IID inspector prior to cable installation as per IID Developer's Guide (available at the district website https://www.iid.com/home/showdocument?id=14229).

6. IID Regulations governing line extensions can be found at:
   No. 2 (http://www.iid.com/home/showdocument?id=2540),
   No. 13 (http://www.iid.com/home/showdocument?id=2553),
   No. 15 (http://www.iid.com/home/showdocument?id=2555),
   No. 20 (http://www.iid.com/home/showdocument?id=2560) and
   No. 23 (https://www.iid.com/home/showdocument?id=17897).

7. For additional information regarding electrical service for the projects, the applicant should be advised to contact the IID Energy - La Quinta Division Customer Operations, 81-600 Avenue 58 La Quinta, CA 92253, at (760) 398-5841 and speak with the project development planner assigned to the area.

8. It is important to note that IID's policy is to extend its electrical facilities only to those projects that have obtained the approval of a city or county planning commission and such other governmental authority or decision-making body having jurisdiction over said projects.

9. The applicant will be required to provide rights-of-way and easements for power line extensions and/or any other infrastructure needed to serve the project.

10. The applicant will be required to provide and bear all costs associated with acquisition of rights of way, easements, and infrastructure relocations deemed necessary to accommodate street or road improvements imposed by the municipality.

11. Any construction or operation on IID property or within its existing and proposed right of way or easements including but not limited to: surface improvements such as proposed new streets, driveways, parking lots, landscape; and all water, sewer,

storm water, or any other above ground or underground utilities; will require an encroachment permit, or encroachment agreement (depending on the circumstances). A copy of the IID encroachment permit application and instructions for its completion are available at https://www.iid.com/about-iid/department-directory/real-estate. The IID Real Estate Section should be contacted at (760) 339-9239 for additional information regarding encroachment permits or agreements.

12. Any new, relocated, modified or reconstructed IID facilities required for and by the project (which can include but is not limited to electrical utility substations, electrical transmission and/or distribution lines, ancillary facilities associated with the conveyance of energy service; the acquisition and dedication of real property, rights of way and/or easements for the siting and construction of electrical utility substations, electrical transmission and/or distribution lines and ancillary facilities associated with the conveyance of energy service, etc.) need to be included as part of the project's California Environmental Quality Act (CEQA) and/or National Environmental Policy Act (NEPA documentation, environmental impact analysis and mitigation. Failure to do so will result in postponement of any construction and/or modification of IID facilities until such time as the environmental documentation is amended and environmental impacts are fully mitigated. **Any mitigation necessary as a result of the construction, relocation and/or upgrade of IID facilities is the responsibility of the project proponent**.

13. Dividing a project into two or more pieces and evaluating each piece in a separate environmental document (Piecemealing or Segmenting), rather than evaluating the whole of the project in one environmental document, is explicitly forbidden by CEQA, because dividing a project into a number of pieces would allow a Lead Agency to minimize the apparent environmental impacts of a project by evaluating individual pieces separately, each of which may have a less-than-significant impact on the environment, but which together may result in a significant impact. Segmenting a project may also hinder developing comprehensive mitigation strategies. In general, if an activity or facility is necessary for the operation of a project, or necessary to achieve the project objectives, or a reasonably foreseeable consequence of approving the project, then it should be considered an integral project component that should be analyzed within the environmental analysis. The project description should include all project components, including those that will have to be approved by responsible agencies. The State CEQA Guidelines define a project under CEQA as "the whole of the action" that may result either directly or indirectly in physical changes to the environment. This broad definition is intended to provide the maximum protection of the environment. CEQA case law has established general principles on project segmentation for different project types. For a project requiring construction of offsite infrastructure, the offsite infrastructure must be included in the project description. *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App. 4th 713.

14. Applicant should be advised that landscaping can be dangerous if items are planted too close to IID's electrical equipment. In the event of an outage, or equipment failure, it is vital that IID personnel have immediate and safe access to its equipment to make the needed repairs. For public safety, and that of the electrical workers, it is important to adhere to standards that limit landscaping around electrical facilities. IID landscaping guidelines are available at https://www.iid.com/energy/vegetation-management.

Should you have any questions, please do not hesitate to contact me at (760) 482-3609 or at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully,

Donald Vargas
Compliance Administrator II

Sergio Quiroz – Interim General Manager
Mike Pacheco – Manager, Water Dept.
Jamie Asbury – Manager, Energy Dept.
Matthew H Smelser – Deputy Mgr. Energy Dept.
Daryl Buckley – Mgr. of Distribution Srvcs. & Maint. Oprtns., Energy Dept.
Geoffrey Holbrook – General Counsel
Michael P. Kemp – Superintendent General, Fleet Services and Reg. & Environ. Compliance
Laura Cervantes. – Supervisor, Real Estate

From: Charnoske, John L
To: Joy Tsai
Cc: Diaz Jr., Pedro
Subject: RE: Request for Comments - Tentative Tract Map TTM 38636 City of Rancho Mirage
Date: Friday, May 26, 2023 7:55:23 AM
Attachments: image001.png
image002.jpg

Good morning Joy,

The Developer can reach out to me now if they like. All Spectrum can do at this early stage is just keep this project on file. We normally start the ball rolling once the developer receive SCE preliminary plans.

Thanks,

John Charnoske | Construction Coordinator II
83-473 Avenue 45 Indio CA 92001
Office: (760) 904-5457
Cell: (760) 250-2952
John.charnoske@charter.com

From: Joy Tsai <joyt@RanchoMirageCA.gov>
Sent: Thursday, May 25, 2023 1:17 PM
To: Charnoske, John L <John.Charnoske@charter.com>
Cc: Diaz Jr., Pedro <Pedro.Diaz1@charter.com>
Subject: [EXTERNAL] RE: Request for Comments - Tentative Tract Map TTM 38636 City of Rancho Mirage

Good afternoon John,

Thank you for your response. The tentative map has not received approval yet. Should the developer reach out to Spectrum now, or wait until after they receive tentative map approval from the City?

Joy Tsai

City Seal.jpg

Senior Planner
Phone: 760-328-2266 Ext. 256
E-mail: joyt@RanchoMirageCAgov
69-825 Highway 111, Rancho Mirage, California, 92270
wwwRanchoMirageCa.gov

TRANSPARENCY NOTICE

Some or all of the content of this e-mail and its attachments may be subject to disclosure pursuant to the California Public Records Act (Government Code section 6250, et seq.)

From: Charnoske, John L <John.Charnoske@charter.com>
Sent: Thursday, May 25, 2023 7:56 AM
To: Joy Tsai <joyt@RanchoMirageCA.gov>
Cc: Diaz Jr., Pedro <Pedro.Diaz1@charter.com>
Subject: RE: Request for Comments - Tentative Tract Map TTM 38636 City of Rancho Mirage

Good Morning Joy,

Thank you for reaching out to us. As part of our construction process. We would like the developer to please contact us so we can start our survey process.

Thank you and have a great day,

John Charnoske | Construction Coordinator III
83-473 Avenue 45 Indio CA 92001
Office: (760) 904-5457
Cell: (760) 250-2952
John.charnoske@charter.com

From: Diaz Jr., Pedro <Pedro.Diaz1@charter.com>
Sent: Thursday, May 25, 2023 7:15 AM
To: Charnoske, John L <John.Charnoske@charter.com>
Cc: Diaz Jr., Pedro <Pedro.Diaz1@charter.com>
Subject: FW: Request for Comments - Tentative Tract Map TTM 38636 City of Rancho Mirage

God morning

From: Joy Tsai <joyt@RanchoMirageCA.gov>
Sent: Wednesday, May 24, 2023 4:45 PM
Subject: [EXTERNAL] Request for Comments - Tentative Tract Map TTM 38636 City of Rancho Mirage

Good afternoon,

For your comment, attached is a tentative tract map application. The Subject Property is located at 72094 Ginger Rogers Road (APN: 685-080-002), at the northeast corner of Ginger Rogers Road and Landy Lane in the City of Rancho Mirage. The applicant is proposing to subdivide a 5.04-acre parcel into nine (9) single-family residential lots and common area lots. No residential development is being proposed with this request. Please review and return any comments to me by June 8, 2023, to this email (JoyT@RanchoMirageCAgov).

Thank you,
Joy

City Seal.jpg

Joy Tsai
Senior Planner
Phone: 760-328-2266 Ext. 256
E-mail: joyt@RanchoMirageCAgov
69-825 Highway 111, Rancho Mirage, California, 92270
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