MONTEREY COUNTY
RESOURCE MANAGEMENT AGENCY
Carl P. Holm, AICP, Director

LAND USE & COMMUNITY DEVELOPMENT | PUBLIC WORKS & FACILITIES | PARKS
1441 Schilling Place, South 2nd Floor (831)755-4800
Salinas, California 93901-4527 www.co.monterey.ca.us/rma

NOTICE OF AVAILABILITY OF DRAFT EIR[1]
2019 RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT

PROJECT TITLE: **PARAISO SPRINGS RESORT (PLN040183; SCH#2005061016)**

PROJECT LOCATION: **WESTERN TERMINUS OF PARAISO SPRINGS ROAD, SEVEN MILES WEST OF GREENFIELD, CALIFORNIA**

Notice is hereby given that the County of Monterey is seeking written comment on the 2019 Recirculated Draft Environmental Impact Report (2019 RDEIR) prepared for the Paraiso Hot Springs Project (PLN040183; SCH#2005061016) in accordance with the California Environmental Quality Act (CEQA). This 2019 Recirculated Draft Environmental Impact Report consists of revised portions of the 2018 Recirculated Draft Environmental Impact Report. The 2019 RDEIR consists of an introduction, miscellaneous edits to specific portions of the 2018 RDEIR, and a revised Aesthetics and Visual Resources chapter. The 2018 RDEIR remains in effect except as specifically superseded by the 2019 RDEIR, pursuant to CEQA Guidelines section 15088.5(c), which allows recirculation of "portions of the EIR."

One of the purposes of this Notice of Availability is to clarify, consistent with CEQA Guidelines Section 15088.5(f) that although a part of the administrative record, the previous comments submitted on the earlier Paraiso Hot Springs DEIR, dated July 11, 2013, do not require a written response in the Final EIR, and the County of Monterey will not respond to these previously submitted comments. Previous comments submitted on the Paraiso Hot Springs RDEIR circulated in 2018 will be responded to in the Final EIR. Pursuant to CEQA Guidelines section 15088.5(f)(2), Monterey County is requesting that reviewers limit their comments to the revised portions of the 2019 RDEIR. New comments must be submitted on the 2019 RDEIR portions to be considered by the County of Monterey.

The State Clearinghouse has approved a shortened review period pursuant to CEQA Guidelines section 15105(d). The public review period for the 2019 RDEIR will begin on June 7, 2019 and end on July 9, 2019. This review period was established for the purpose of receiving written comments on the accuracy and adequacy of the 2019 RDEIR together with other information relative to the environmental effects of the project.

PROJECT DESCRIPTION:
The proposed project is a request consisting of the following elements:

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[1] Pursuant to CEQA Guidelines sections 15087 and 15088.5

A. "After The Fact" Demolition Permit to authorize demolition of nine historic cottages at the Paraiso Hot Springs Resort, November 2003 (to clear Code Violation Case CE030404/PLN040488);
B. Combined Development Permit consisting of:
    1. Use Permit and General Development Plan to allow the phased redevelopment of the Resort, including the following:
        a. 103 hotel units, restaurants, meeting and conference rooms, associated support facilities
        b. Hamlet consisting of a day spa, retail, artist studios, wine tasting and real estate office
        c. Spas and Fitness Center
        d. Vineyard and Wine Pavilion
        e. Water and wastewater facilities
        f. Pedestrian and vehicular facilities
        g. Appurtenant resort uses and facilities
    2. Use Permit for the creation of 77 Timeshare units
    3. Vesting Tentative Map (Condominium Map) for the creation of 60 airspace timeshare condominium units
    4. Standard Subdivision (Vesting Tentative Map) to allow the merger and resubdivision of approximately 235 acres into 23 parcels
    5. Use Permit for removal of 185 protected oak trees; and
    6. Use Permit for development on slopes in excess of 30 percent.
C. Off-site road improvements on Paraiso Springs Road.

The project site is designated by the applicable General Plan, the 1982 Monterey County General Plan, and the 1987 Central Salinas Valley Area Plan, a part of the 1982 General Plan, as Commercial and Permanent Grazing. The project site is in the Visitor Serving/Professional Office and the Permanent Grazing, 40 acre minimum, Zoning Districts, consistent with its General Plan land use designation, and is consistent with the historic use of the site as a resort.

LEAD AGENCY: County of Monterey Resource Management Agency – Planning.

ADDRESSES WHERE A COPY OF THE 2019 RECIRCULATED DRAFT EIR IS AVAILABLE FOR REVIEW:

County of Monterey
RMA – Planning
1441 Schilling Place, 2nd Floor
Salinas, CA 93901
(831) 755-5025

Soledad Library
401 Gabilan Drive
Soledad, CA 93960
(831) 678-2430

Greenfield Library
315 El Camino Real
Greenfield, CA 93927
(831) 674-2614

Documents referenced in the 2019 RDEIR, including RDEIR Appendices, are available at Monterey County RMA – Planning at the address listed above.

PUBLIC REVIEW PERIOD: June 7, 2019 through July 9, 2019.

POTENTIAL SIGNIFICANT ENVIRONMENTAL EFFECTS:
The 2019 Recirculated Draft Environmental Impact Report, which only involves portions of the EIR, identifies impacts in the following resource areas that are either less than significant or are significant but can be mitigated to a less than significant level: Aesthetics and Hazards and Hazardous Materials.

The 2018 Recirculated Draft Environmental Impact Report had identified impacts in the following resource areas that are significant and cannot be mitigated to a less than significant level: Cultural Resources. This conclusion is not changed by the 2019 Recirculated Draft Environmental Impact Report.

Public hearings will be held, subsequent to the public review period, at a time and place to be specified by legal advertisement in a local newspaper of general circulation. If you would like to be notified of the hearings or would like additional information, please contact:

Project Planner Mike Novo, AICP
Monterey County RMA – Planning
1441 Shilling Place, 2nd Floor
Salinas, CA 93901
Phone: (831) 755-5176
E-mail: novom@co.monterey.ca.us

We welcome your comments during the public review period. You may submit comments in hard copy to the Project Planner at the name and address above. The Agency also accepts comments via e-mail or facsimile but requests that you follow these instructions to ensure that the Agency has received your comments. To submit your comments by e-mail, please send a complete document including all attachments to CEQAcomments@co.monterey.ca.us.

An e-mailed document should contain the name of the person or entity submitting the comments and contact information such as phone number, mailing address and/or e-mail address and include any and all attachments referenced in the e-mail. To ensure a complete and accurate record, we request that you also provide a follow-up hard copy to the Project Planner name and address listed above. If you do not wish to send a follow-up hard copy, then please send a second e-mail requesting confirmation of receipt of comments with enough information to confirm that the entire document was received. If you do not receive e-mail confirmation of receipt of comments, then please submit a hard copy of your comments to ensure inclusion in the environmental record or contact the Agency to ensure the Agency has received your comments.

Facsimile (fax) copies will be accepted with a cover page describing the extent (e.g., number of pages) being transmitted. A faxed document must contain a signature and all attachments referenced therein. Faxed documents should be sent to the contact noted above at (831) 757-9516. To ensure a complete and accurate record, we request that you also provide a follow-up hard copy to the Project Planner name and address listed above. If you do not wish to send a follow-up hard copy, then please contact the Agency to confirm that the entire document was received.

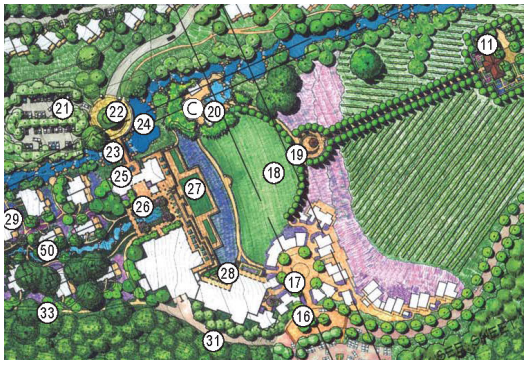
The 2019 Recirculated Draft Environmental Impact Report is available on CD for purchase from Monterey County RMA – Planning at 1441 Shilling Place, Second Floor, Salinas. The documents are also available on the County website at: http://www.co.monterey.ca.us/government/departments-i-z/resource-management-agency-rma-/planning/current-major-projects/paraiso-springs-resort

Recirculated Draft Environmental Impact Report

Paraiso Springs Resort

State Clearinghouse #2005061016

June 2019



2019 Recirculated Draft Environmental Impact Report

Paraiso Springs Resort

SCH# 2005061016

PREPARED BY

County of Monterey

Resources Management Agency

1441 Schilling Place, Second Floor

Salinas, CA 93901

Tel: 831.755.5176

Mike Novo, Management Specialist

novom@co.monterey.ca.us

June 2019

1. INTRODUCTION

1.1 AUTHORIZATION AND PURPOSE

This document is a second Recirculated Draft Environmental Impact Report (Recirculated Draft EIR) for the proposed Paraiso Springs Resort Development (hereinafter "proposed project"), prepared in accordance with the requirements of the California Environmental Quality Act (CEQA). This Recirculated Draft EIR (or 2019 RDEIR) has been prepared by Monterey County (County of Monterey) as the "Lead Agency," in consultation with the appropriate local, regional, and state agencies. The purpose of the EIR is to inform the public and various government agencies of the environmental effects/impacts of the project, identify possible ways to minimize the significant effects, and describe reasonable alternatives that support the objectives of the project. As defined by CEQA Guidelines Section 15382, "significant effect on the environment" means "...a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether a physical change is significant."

1.2 EIR PROCESS

On June 30, 2005, the County of Monterey prepared a proposed Mitigated Negative Declaration (MND) for a Demolition Permit to clear Code Violations resulting from the un-permitted demolition of nine Victorian cottages on the project site (the MND is included in Appendix A). The initial study attached to the MND identified that the project applicant had been in contact with the County about a resort development on the subject site. Among the public comments received during the 30-day review period (concluding July 5, 2005) was a letter from the State Historic Preservation Office (SHPO) stating that the loss of the nine Victorians was a significant impact under CEQA and that the whole of the action needed to include the removal of the Victorian Structures and the proposed resort. County staff determined that the removal of the nine Victorian cottages was a potentially significant adverse environmental effect, as defined by the California Environmental Quality Act (CEQA) Guidelines section 15064. CEQA Guidelines require preparation of an EIR when a Lead Agency determines that there is evidence that a project may have a significant effect on the environment. The applicant then submitted an application for the resort project that is being evaluated in this EIR (2018 RDEIR and 2019 RDEIR, as explained below). Therefore the "project" includes both the "after-the-fact" demolition permit and the resort construction.

A Draft EIR (DEIR) was prepared to inform the public of the potentially significant environmental effects of the proposed project, identify possible ways to minimize the significant effects, and describe a reasonable range of project alternatives. The County of Monterey notified all responsible and trustee agencies, interested groups, and individuals that an EIR was required for the proposed project. The County of Monterey used the following methods to solicit input during the preparation of the DEIR:

- A Notice of Preparation (NOP) was filed with the State Clearinghouse on May 29, 2008 for a 30-day review period, which concluded on June 27, 2008. The California State Clearinghouse assigned a State Clearinghouse Number of 2005061016.
- In addition to state agency distribution through the Clearinghouse and in accordance with the requirements of CEQA, Monterey County, acting through the Monterey County Planning Department, circulated the NOP from May 29, 2008 to June 27, 2008 for the required 30-day review period to responsible and trustee agencies, as well as interested groups, organizations, and individuals.
- The County of Monterey also conducted a public scoping meeting on December 13, 2007 to solicit input on the EIR. All comments received were considered during the preparation of this DEIR. The NOP and comments received in response to the NOP are presented in Appendix A.

The DEIR was circulated for public comment between July 15, 2013, and October 4, 2013. Monterey County received 29 comment letters. After the close of the public comment period, Monterey County Planning Department staff determined it was necessary to add significant new information to the Draft EIR, specifically to the aesthetics and visual resources, biological resources, cultural and historic resources, hydrology and water quality, and noise sections of the Draft EIR, as well as to evaluate an additional alternative to the proposed project.

In 2018, a Recirculated Draft EIR (RDEIR) was prepared to inform the public of the potentially significant environmental effects of the proposed project, identify possible ways to minimize the significant effects, and describe a reasonable range of project alternatives. The County of Monterey notified all responsible and trustee agencies, interested groups, and individuals that an EIR was required for the proposed project. The RDEIR fully superseded the 2013 DEIR.

The RDEIR was circulated for public comment between February 28, 2018, and April 26, 2018. Monterey County received 18 comment letters. After the close of the public comment period, Monterey County Planning staff prepared a Final EIR. Pursuant to comments received prior to certification of the Final EIR, Monterey County staff determined it was necessary to add significant new information to the 2018 Recirculated Draft EIR, specifically to the aesthetics and visual resources and to the hazards and hazardous materials sections of the RDEIR, as well as to evaluate an additional alternative to the proposed project.

This 2019 RDEIR will be circulated for agency and public review during a minimum 30-day public review period (see public comment instructions, below). This shortened review period was authorized by the State of California pursuant to CEQA Guidelines section 15105(d). The 2018 RDEIR remains in effect except as specifically superseded by the 2019 RDEIR, pursuant to CEQA Guidelines section 15088.5(c), which allows recirculation of “portions of the EIR.”

Comments received by the County on the 2019 RDEIR will be reviewed and responses to comments will be provided in the Final EIR (FEIR). Written responses to comments will be sent to those public agencies that provided timely comments on the 2019 RDEIR at

least 10 days prior to the certification hearing, when the County will consider whether or not to certify the FEIR and approve the proposed project.

The County, as Lead Agency, will review and consider the EIR (RDEIR, 2019 RDEIR and FEIR). If the County finds that the EIR reflects the County's independent judgment and has been prepared in accordance with CEQA and the CEQA Guidelines, the County will certify the adequacy and completeness of the EIR. Although the EIR does not control the Lead Agency's ultimate decision on the project, the County must consider the information and each significant effect identified in the EIR. A decision to approve the project would be accompanied by written findings prepared in accordance with CEQA Guidelines Section 15091, and if applicable, Section 15093. For each significant effect identified in the EIR, the findings will describe whether it can be reduced to a less than significant level through feasible mitigation measures, or if not, why there are no feasible mitigation measures or alternatives to reduce the effect to a less than significant level. No aspect of the proposed project will be approved until after the EIR is certified as adequate.

State law requires that a public agency adopt a monitoring program for mitigation measures that have been incorporated into the approved project to reduce or avoid significant effects on the environment. The Mitigation Monitoring and Reporting Program (MMRP), as required by Section 15097 of the CEQA Guidelines, describes how each of the mitigation measures will be implemented and provides a mechanism for monitoring and/or reporting on their implementation. The purpose of the MMRP is to ensure compliance with environmental mitigation during project implementation and operation. A monitoring program will be included in the FEIR.

If the lead agency approves the project with associated significant effects on the environment that cannot be feasibly avoided or reduced to less than significant levels, the County must adopt a Statement of Overriding Considerations that explain how the benefits of the project outweigh the significant unavoidable environmental effects, in accordance with Section 15093 of the CEQA Guidelines.

1.3 PUBLIC COMMENT INSTRUCTIONS

This 2019 RDEIR has been distributed to the State Clearinghouse, appropriate federal agencies, responsible and trustee agencies, other affected agencies, nearby cities, and interested parties, as well as all parties requesting a copy of the RDEIR in accordance with Public Resources Code 21092(b). The Notice of Completion of the 2019 RDEIR has also been distributed as required by CEQA. During the public review period, the 2019 RDEIR, including the technical appendices, is available for review at the County of Monterey Resource Management Agency – Planning.

Pursuant to CEQA Guidelines section 15088.5(f)(2), Monterey County is requesting that reviewers limit their comments to the revised portions of the 2019 RDEIR. All written comments on the 2019 Recirculated Draft EIR should be addressed to:

County of Monterey Resource Management Agency - Planning
Attn: Mike Novo
1441 Schilling Place, 2nd Floor

Salinas, CA 93901
(831) 755-5176

The County of Monterey welcomes your comments during the public review period. Comments may be submitted in hard copy to the name and address above. The County also accepts comments via e-mail or facsimile but requests that you follow these instructions to ensure that the Planning Department has received your comments.

To submit your comments by e-mail, please send a complete document including all attachments to: ceqacomments@co.monterey.ca.us. An e-mailed document should contain the name of the person or entity submitting the comments and contact information such as phone number, mailing address and/or e-mail address and include any and all attachments referenced in the e-mail. To ensure a complete and accurate record, we request that you also provide a follow-up hard copy to the name and address listed above. If you do not wish to send a follow-up hard copy, then please send a second e-mail requesting confirmation of receipt of comments with enough information to confirm that the entire document was received. If you do not receive e-mail confirmation of receipt of comments, then please submit a hard copy of your comments to ensure inclusion in the environmental record or contact the Planning Department to ensure your comments were received.

Facsimile (fax) copies will be accepted with a cover page describing the extent (e.g. number of pages) being transmitted. A faxed document must contain a signature and all attachments referenced therein. Faxed documents should be sent to the contact noted above at (831) 757-9516. To ensure a complete and accurate record, we request that you also provide a follow-up hard copy to the name and address listed above. If you do not wish to send a follow-up hard copy, then please contact the Planning Department to confirm that the entire document was received.

1.4 ORGANIZATION OF THE 2019 RECIRCULATED DRAFT EIR

This 2019 RDEIR consists of five sections: Introduction, Miscellaneous Edits, Aesthetics and Visual Resources Chapter, Hazards and Hazardous Materials sections, and Alternatives sections, plus a set of appendices.

- Introduction provides an overview of the organization of the EIR and processes involved in preparation and review of the 2019 RDEIR. Background information regarding the project planning process and coordinated planning process is included as well.
- The Aesthetics and Visual Resources Chapter, and the Hazards and Hazardous Materials sections include modifications to the 2018 RDEIR. These sections describe the Environmental Setting, Impacts, and Mitigation Measures, including in depth analysis of the project's environmental impacts for these topics. Analysis is provided for all environmental factors listed in CEQA Appendix G environmental checklist. A detailed description of this section's organization and contents is included in the 2018 RDEIR introduction to Section 3.0: Environmental Setting, Impacts, and Mitigation Measures.
- A new project alternative is added to the 2018 RDEIR Alternatives section (Chapter 5) and contains a discussion of this new alternative to the proposed

project. Modifications to the 2018 RDEIR to incorporate this new alternative are also included.

- The Miscellaneous Edits section includes edits to other sections of the 2018 RDEIR to reflect the changes from this 2019 RDEIR and provide internal consistency.
- Appendices include the original 2005 General Development Plan, a 2019 Fire Protection Plan prepared by the applicant's consultant (Dudek), and technical information relating to lighting impacts, provided by Michael Baker International under contract to the County of Monterey.

1.5 AGENCIES CONTACTED

This 2019 RDEIR was prepared in consultation with CalFire and Mission-Soledad Rural Fire Protection District: Chief David Fulcher and John Owens, as well as the California Board of Forestry and Fire Protection: Edith Hannigan, Land Use Program Manager, and Matt Dias, Executive Officer.

Miscellaneous Edits

1. RDEIR Executive Summary Section, Project Alternatives, is modified to add a new alternative:

Alternative #5 – Timeshare Relocation Alternative

2. RDEIR Executive Summary Section, Summary of Project Environmental Impacts and Mitigation Measures, Table ES.1, is modified to replace Mitigation Measure 3.1-1 with the revised mitigation measure identified in this 2019 RDEIR.

MM 3.1-1 Prior to issuance of any construction permits, the project applicant shall modify the project landscape design and colors for the exterior roof and plaster walls as follows:

- The roof color shall include a blend of darker shades, which colors would serve to blend the building's rooftops into the natural environment and reduce the appearance of large masses from greater distances. Final design shall be subject to review and approval of the RMA Director.
- The color of the plaster shall utilize a variety of earth tone colors, such as the color supplied in the palette on page 2 in Exhibit 1 of the RMA Analysis, and as otherwise approved by the RMA Director.
- The Landscape Plan shall include the use of five-gallon size or transplanted native oak trees, or other tree or tall shrub species as approved by RMA-Planning, planted, when mature, to break up the building rooflines and the front of the resort when viewed from common public viewing areas in the Salinas Valley, while allowing well-designed openings in the canopy to allow views from the resort of the valley. Oak trees shall be provided in appropriate areas, such as where oak trees were originally present prior to grading in that area, or on the north side of buildings where no oak woodland was present prior to grading. Where oak trees were not part of the original landscape for that area of the site, other tree species shall be used.
- Where buildings are placed in areas that previously consisted of dense oak woodlands, the design of the landscaping shall integrate the buildings into the oak woodland setting such that the buildings, if visible, are viewed in the context of the oak woodland. Native oak trees shall be strategically placed at building corners and extending between buildings and natural landforms or remaining native oak trees to integrate the buildings into the natural landscape. Landscape Plans shall be submitted for review and

approval by the RMA Director of Planning for each phase of development and shall be approved prior to issuance of construction permits for buildings within the area covered by the Landscape Plan. Review by the County of the landscape plans will be conducted in consultation with the fire district to ensure that landscaping is installed in a fire-safe manner.

The intent of this mitigation measure is to occasionally break up the mass, not screen the site from the valley or from public views, and to use color and vegetation to break up the visual massing from common public viewing areas. This can be achieved by using existing topography, landscape plantings, and a variety of colors to create variety in the mass. The landscape plantings, while further reducing visibility, will not be fully grown at the time of planting. The mitigation measure's other techniques, as well as existing topography and vegetation that will not be disturbed, will reduce the impact to a less than significant level even while the newly planted vegetation grows to maturity, due to the distance to common public viewing areas. Oak trees can be a planted a distance away from structures and each other, to comply with safe fire-planting principles, and still provide screening from public viewing areas.

3. RDEIR Executive Summary Section, Summary of Project Environmental Impacts and Mitigation Measures, Table ES.1, is modified to replace the information related to Impact 3.7-6 with the information relating to Impacts 3.7-6 through 3.7-9 (see next pages):

Project Impacts	Level of Significance Without Mitigation	Mitigation Measure(s)	Resulting Level of Significance
Impact 3.7-6: Implementation of the proposed project will not affect an emergency response plan or emergency evacuation plan. However, project implementation may impact emergency response and evacuation efforts.	Potentially Significant	**MM 3.7-6a** The Fire Protection Plan shall be subject to review by the Mission Soledad Rural Fire Protection District, and approval by the RMA Director, prior to clearance of any vegetation or issuance of permits for construction, whichever occurs first. The applicant shall implement the approved Fire Protection Plan. The Fire Protection Plan shall include the following or equivalent measures, as determined through the approval process: • Provide a facility Fire Safety Coordinator(s) to oversee implementation of fire protection and safety and overall fire coordination with MSRFPD/CAL FIRE • Coordinate an annual fire evacuation drill/fire exercise to ensure proper safety measures have been implemented, facility awareness and preparation of facility-wide “Ready, Set, Go!” plan, consistent with the Monterey County Community Wildfire Protection Plan. • Provide trained security staff 24/7, 365 days per year at the guard gate who are trained to manage an evacuation of the facility by opening the gates and directing traffic out of the area. • Provide a first-responder	Less than Significant

Project Impacts	Level of Significance Without Mitigation	Mitigation Measure(s)	Resulting Level of Significance
		(EMT) level staff person and equipment to be on-site at all times. • Provide a customized one-ton, 4x4 pickup with a skid mounted pump and up to 150 gallon water tank. Multiple staff members and the site security staff should be trained to utilize this apparatus for the purposes of providing initial suppression for any vegetation ignitions, and initial response to other fires. • Designate one or more structures to house the projected population and to include additional hardening to be designated a temporary refuge area (TRA). • Provide ember-resistant vents for all ventilation for project structures. • Provide a site-wide Public Address (PA)/Intercom system for emergency notifications. • Prepare and practice site-wide evacuations following the "Ready, Set, Go!" program guidelines. • Prepare an Emergency Preparation Plan that considers pre-fire planning, post-fire recovery, reporting, training, prevention, and communications procedures, • Enhance traffic flow by not constructing speed	

Project Impacts	Level of Significance Without Mitigation	Mitigation Measure(s)	Resulting Level of Significance
		bumps/humps and provide an automatic opening device for fire and law enforcement at the entrance gate. • Restrict vegetation around temporary refuge area buildings to highly ignition resistant vegetation planted at low densities and maintained free of all accumulated debris/litter. • Design and implement a landscaping plan consistent with accepted wildland urban interface fire safe/fire adapted practices. • If planted, manage the vineyard in an irrigated, maintained condition to act as a modified fuel buffer. • Conduct an annual inspection of the site by MSRFPD or its designee to ensure that project landscaping is maintained in a wildfire-safe condition. • Maintain a 1- to 3-foot landscape-free area adjacent to all building structures' foundations to prevent available fuels for embers at the building base. **MM 3.7-6b** Implement and maintain fuel treatment areas along project roads. Fuel treatment areas shall measure 20 feet in width (horizontal) as measured from the edge of the paved surface and shall occur on both sides of the road.	

Project Impacts	Level of Significance Without Mitigation	Mitigation Measure(s)	Resulting Level of Significance
		Maintenance of roadside treatment areas shall be conducted according to the standards outlined in Monterey County Code Chapter 18.09 (Fire Code), Section O109.1.	
Impact 3.7-7: Implementation of the proposed project may exacerbate wildfire risk.	Potentially Significant	**MM 3.7-7a** Implement all construction-phase fuel modification components from the approved Construction Fire Prevention Plan (see MM 3.7-7b) prior to removal of vegetation or combustible building materials being delivered to the site, as applicable. **MM 3.7-7b** The applicant shall develop a Construction Fire Prevention Plan that addresses training of construction personnel and provides details of fire-suppression procedures and equipment to be used during construction. The Construction Fire Prevention Plan shall be subject to review by the Mission Soledad Rural Fire Protection District, and approval by the RMA Director, prior to clearance of any vegetation or issuance of permits for construction, whichever occurs first. Information contained in the plan shall be included as part of project-related environmental awareness training. At minimum, the plan shall include the following or equivalent measures: • Procedures for minimizing potential ignition,	Less than Significant

Project Impacts	Level of Significance Without Mitigation	Mitigation Measure(s)	Resulting Level of Significance
		including, but not limited to, vegetation clearing, parking requirements/restrictions, idling restrictions, smoking restrictions, proper use of gas-powered equipment, use of spark arrestors, and hot work restrictions; • Work restrictions during Red Flag Warnings and High to Extreme Fire Danger days; • Adequate water supply to service construction activities; • Fire coordinator role and responsibility; • Worker training for fire prevention, initial attack firefighting, and fire reporting; • Emergency communication, response, and reporting procedures; • Coordination with local fire agencies to facilitate agency access through the project site; • Emergency contact information; • Demonstrate compliance with applicable plans and policies established by state and local agencies. **MM 3.7-7c** Maintenance of project buildings, grounds, and infrastructure, including defensible space areas, shall be	

Project Impacts	Level of Significance Without Mitigation	Mitigation Measure(s)	Resulting Level of Significance
		conducted using firesafe practices to minimize the potential for wildfire ignitions resulting from equipment use. Firesafe practices shall be consistent with California Public Resources Code Sections 4427, 4428, 4431, and 4442. Infrastructure maintenance activities shall be ceased during periods of high fire hazard (e.g., red flag warnings), except where necessary to maintain water supply for fire suppression purposes. This requirement shall be included in the project's operational manual (MM 3.7-7d). **MM 3.7-7d** The applicant shall develop an Operations Fire Prevention Plan that addresses policies and procedures for minimizing wildfire potential. The Operations Fire Prevention Plan shall be subject to review by the Mission Soledad Rural Fire Protection District, and approval by the RMA Director, prior to issuance of occupancy permits or final inspection, whichever occurs first, for any habitable structures. The plan shall include the following: • Procedures for minimizing potential ignition during maintenance activities; • Work restrictions during Red Flag Warnings and High to Extreme Fire Danger days; • Fuel modification zone and	

Project Impacts	Level of Significance Without Mitigation	Mitigation Measure(s)	Resulting Level of Significance
		landscape area maintenance procedures, including timing of work to reduce the likelihood of ignition and/or fire spread; • Communication and reporting procedures with MSRFPD; • Fire safety coordinator role and contact information; • Applicable recommendations included in the project's Fire Protection Plan (MM 3.7-6a).	
Impact 3.7-8: Implementation of the proposed project may exacerbate fire risk associated with installation and maintenance of project-related infrastructure.	Potentially Significant	With implementation of Mitigation Measures 3.7-6b and 3.7-7c, wildfire impacts resulting from installation and maintenance of project-related infrastructure would be less than significant.	Less than Significant
Impact 3.7-9: Implementation of the proposed project may increase risk associated with post-fire runoff, slope instability, or drainage changes.	Potentially Significant	**MM 3.7-9:** Following any wildfire that burns onto the project site, a post-fire field assessment shall be conducted by an engineering geologist within 60 days of fire personnel allowing access to the site, to identify any areas that may be subject to increased risk of post-fire flooding, landslide or erosion. Any recommendations identified by the geologist to mitigate such risk shall be reviewed and approved by Monterey County RMA and implemented by the project applicant. This requirement shall	Less than Significant

Project Impacts	Level of Significance Without Mitigation	Mitigation Measure(s)	Resulting Level of Significance
		be included in the project's operational manual.	

4. RDEIR Cumulative Section 4.5.2, Cumulative Impacts Assumptions and Analysis, Aesthetics, is modified to add the following information prior to the last sentence of this Aesthetics section:

A cumulative light and glare impact would occur if the proposed project, together with other projects located within the proposed project's area, would contribute to a cumulative increase in ambient nighttime light levels or glare generation in that area, as defined in RDEIR section 4.5.2 related to Aesthetics.

The project area includes lighting from residential and agricultural facilities (including wineries). The area does not include substantial lighting from these uses and only one currently proposed project, a residential care facility located within the Las Palmas Ranch project, and one approved project (Ferrini Ranch subdivision) is included in the area subject to the cumulative analysis. The Las Palmas community, which contains approximately 1000 residential units near Spreckels, is 18 miles north of the project site. Due to the distance, light emitting from this project near Soledad would not add cumulatively to light emissions from either area. Also, the Las Palmas Ranch project would also have to comply with the lighting standards controlling light pollution set forth in Title 24 and in county policies. The Ferrini Ranch project is even further away and is primarily located along the Highway 68 corridor (RDEIR page 4-6), on the north and west side of the Sierra de Salinas mountain range. Very little of that project is visible within the Sierra de Salinas foothills area, which is the area for consideration of the cumulative impact for aesthetics, including light and glare.

5. RDEIR Cumulative Section 4.5.2, Cumulative Impacts Assumptions and Analysis, Hazards and Hazardous Materials, is modified to add the following information prior to the last sentence of this Hazards and Hazardous Materials section:

No other significant development projects are proposed, or approved and not yet constructed, in the State Responsibility Area of the Sierra de Salinas mountain range. Potential cumulative impacts to exacerbating fire risk within the SRA are the same potential impacts of this project identified above.

3.1 AESTHETICS AND VISUAL RESOURCES

3.1.1 Introduction

This section describes the aesthetic and visual resource conditions at the project site and in the project vicinity, presents the regulatory framework applicable to the proposed project, and discusses the potential aesthetic impacts that could result from implementation of the proposed project. The primary aesthetic concerns associated with the proposed project are potential changes in aesthetic character of the project site, impacts to public viewsheds, and/or obstruction of existing views.

The project-specific information and analysis within this section is primarily based on project plans and site reconnaissance and photo documentation of the project site performed by RBF Consulting during the spring of 2007, and a subsequent site visit and documentation by EMC Planning Group in the fall of 2012. In addition, Monterey County Resource Management Agency (Monterey County RMA) performed a site reconnaissance on May 4, 2016 and prepared a visual analysis report, dated December 1, 2016 utilizing a view analysis prepared by HKS, Inc. (HKS) in June 2016. The Monterey County RMA report and supporting HKS visual analysis are included in 2018 RDEIR Appendix C.

3.1.2 Environmental Setting

Local Visual Resources

The project site consists of about 235 acres nestled in the mouth of a canyon extending westward into the foothills located at the western terminus of Paraiso Springs Road on the eastern slope of the Sierra de Salinas Foothills in the Salinas Valley, approximately seven miles west of the City of Greenfield. Elevations at the project site range from approximately 1,000 feet at the current entrance to the project site from Paraiso Springs Road to slightly over 2,400 feet along the ridgelines. Views from the project site consist of scenic ridgelines north, west, and south, and the expansive Salinas Valley to the east. Surrounding land uses currently consist of agricultural uses and grazing, as well as several single-family residences located along Paraiso Springs Road located east of the project site. The existing topography and vegetation screens the project site from these residential uses. The project site is visible on the approach from Paraiso Springs Road and is identifiable by several tall palm trees.

Existing development within the project site consists of 15 vernacular cabins located along the hillside, a changing room, a recreation room, indoor and outdoor baths, six mobile homes, a lodge, a workshop, a yurt compound[1], and several small outbuildings as shown in Figure 2-4, Parcel Boundary and Site Characteristics, presented earlier, which shows an aerial view of the site characteristics. Photographs of the project site are shown in Figures 2.5a and 2.5b, presented earlier.

As shown in Figure 3.1-1, Views of the Project Site, the project site is very secluded and is difficult to see from adjacent public roadways. Several residences are located below and to the east of the project site on Paraiso Springs Road.

The project site is comprised of areas that contain both native and non-native landscape plantings, including eucalyptus, palm trees, live oak woodland, Diablan sage scrub, baccharis scrub, wetlands, and annual grasslands. The tall palm trees on site are a visually distinctive feature that stands out within the foothills. On and surrounding the project site, the vegetation is typical to that of the California chaparral landscape, a semi-arid shrub dominated association of plants shaped by summer drought, winter rain and periodic wildfire.

[1] A yurt is a portable, covered, framed dwelling structure.

Sensitive Viewpoints

Areas of visual sensitivity are those areas that may be visible from long distances, for long durations of time from "common public viewing areas" which is defined in Monterey County Code section 21.06.195. Areas of visual sensitivity may include particularly distinctive or prominent landforms or vegetation, or they may represent sensitive juxtapositions of line, color, shape, and texture in their composition. Ridgelines, mountain faces, hillsides, open meadows, natural landmarks, and vegetation are visually prominent from Paraiso Springs Road immediately adjacent to the project site and within the project site itself.

According to the *Central Salinas Valley Area Plan* (Monterey County 1987), several of the roads and canyons within the plan area exhibit scenic qualities sufficient to warrant their designation as a scenic route or highway (page 61). While the Area Plan identifies this area as scenic, the property does not include a Visual Sensitivity overlay zoning district. The County's Scenic Highway System is composed of roads and highways that have been designated as either State Scenic Highways or County Scenic Routes. The Central Salinas Valley contains areas of inspiring natural landforms and bucolic rural settings that can be appreciated from many of its roads and highways. In recognition of the desirability to preserve these scenic corridors for future generations, the Scenic Highway Element of the 1982 *Monterey County General Plan* proposed that many scenic routes in the planning area be constructed or improved to meet the criteria of the Scenic Highway Program (page 61). One of the identified scenic routes in the project vicinity is Arroyo Seco Road, which extends more than 15 miles from U.S. Highway 101 (to the north and west of the project site) to Carmel Valley Road (southwest of the project site). The *Monterey County General Plan* indicated that Arroyo Seco Road to Carmel Valley Road and along Carmel Valley Road to its terminus at State Route 1 are proposed scenic routes that may become official scenic routes after proper study and certification (page 183). As shown on Figure 3.1-2, Scenic Highway Corridors and Visual Sensitivity Map, a section of Arroyo Seco Road is located approximately four miles west to southwest of project site. This section of Arroyo Seco Road has not been officially designated as a scenic roadway and the project site is not within a Visual Sensitivity Overlay Zoning District.

Photo 1: Looking west, view of the Sierra de Salinas foothills with the Paraiso Springs Rd. and the Site in the foreground.

Photo 2: Looking southeast, view of the Site and the Sierra de Salinas foothills to the north and south. Salinas Valley shown in the distance.

Source: RBF Consulting 2007

Figure 3.1-1

Views of the Project Site

Paraiso Springs Resort EIR

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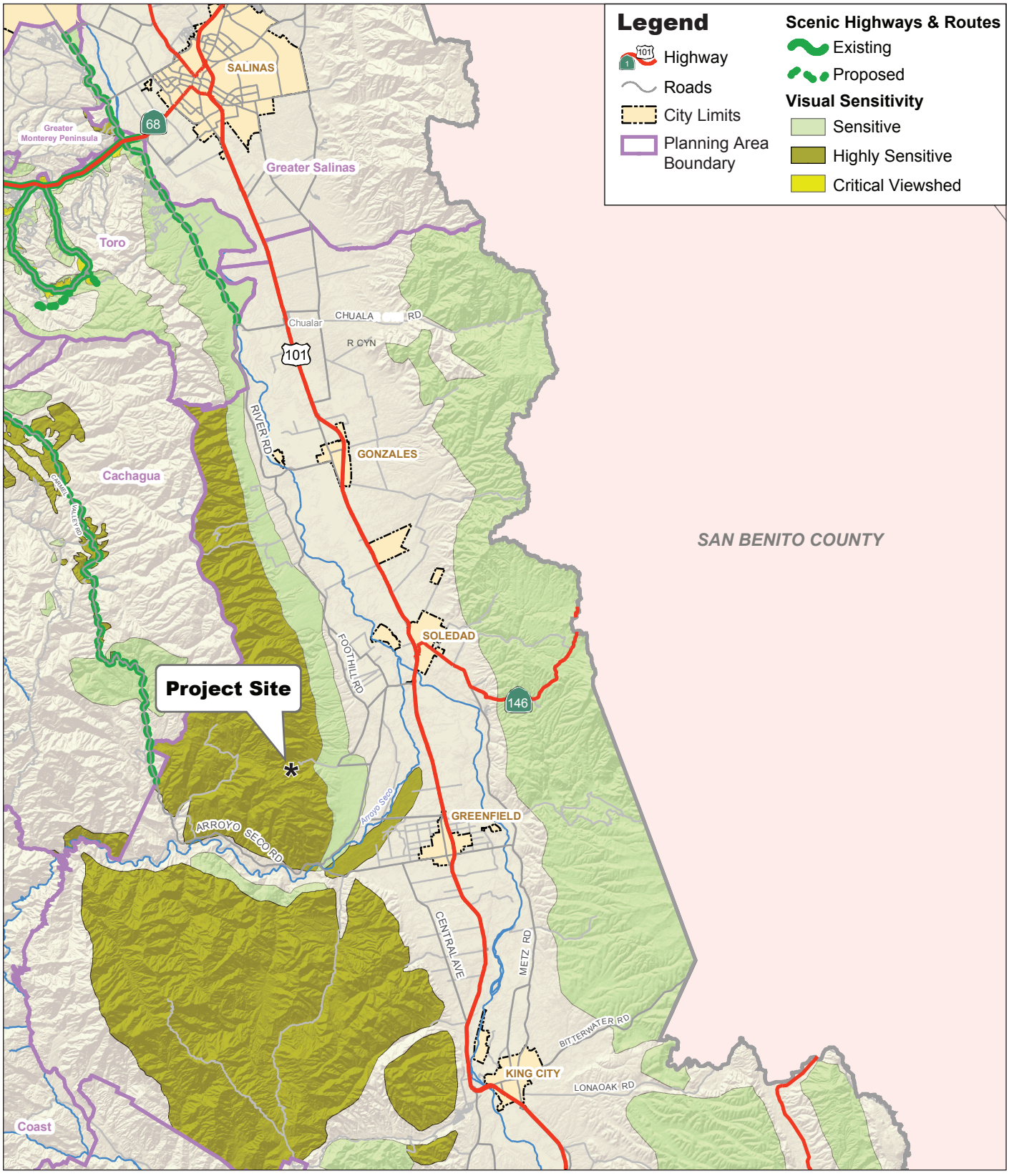

Source: Monterey County 1987

Figure 3.1-2

Scenic Highway Corridors and Visual Sensitivity Map

Paraiso Springs Resort EIR

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Note: The terms Light, Light Pollution, and Glare used in this chapter and listed below are defined in Attachment 1 to a memorandum prepared by a County consultant, Michael Baker International. The consultant also provided technical information for use in the project EIR (Michael Baker International, Memo to Monterey County Planning, February 13, 2019, 2019 RDEIR Appendix 3).

Terminology

a. Light

"light" refers to light emissions, or the degree of brightness, generated by a given source. Artificial lighting may be generated by point sources - focused points of origin representing unshielded light sources - or by indirectly illuminated sources of reflected light. Light may be directed downward to illuminate an area or surface; cast upward into the sky by an unshielded fixture and refracted (dispersed) by atmospheric conditions (sky glow); or cast sideways and outwards onto off-site properties (light trespass or overspill).

Sky glow and light trespass are considered forms of light pollution, which encompasses any adverse impacts of artificial lighting.

b. Light Pollution

The International Dark Sky Association defines light pollution as, "Any adverse effect of artificial light." They explain that light pollution includes light trespass, sky glow, and glare, with secondary effects including decreased nighttime visibility and energy waste.

c. Glare

The International Dark Sky Association defines glare as "Intense and blinding light that reduces visibility. A light within the field of vision that is brighter than the brightness to which the eyes are adapted" (http://darksky.org/our-work/resources/glossary/). Glare is focused, intense light directly emanated by a source or indirectly reflected by a surface from a source. The absolute measurement of light intensity on a given surface is objective, but human perception of that light intensity as a source of actual glare is dependent on the size, position, distance, and degree of visibility of a source from a given vantage point; the number of sources in a given area; and the luminance, or light levels, to which the eye of the beholder is adapted.

Glare is generally experienced as visual discomfort caused by high contrast in brightness levels in a given environment, or it may cause actual disability, such as a reduction in motorists' ability to see or identify objects. Daytime glare is typically caused by the reflection of sunlight from highly reflective surfaces at or above eye level. Reflective surfaces are generally associated with buildings clad with broad expanses of highly polished surfaces or with broad, light-colored areas of paving. Daytime glare is generally most pronounced during early morning and late afternoon hours when the sun is at a low angle and the potential exists for intense reflected light to interfere with vision and driving conditions. Daytime glare may also hinder outdoor activities conducted in surrounding land uses, such as sports.

Nighttime glare refers to direct, intense, focused light, as well as reflected light, and hampers visibility. Glare caused by direct sources of light generally originates from mobile and therefore transitory sources, such as automobiles. Nighttime glare may also originate from particularly intense stationary sources, such as floodlights. As with daytime sun glare, such intense light may cause undesirable interference with driving or other activities.

Existing Project Setting

The Project site is located approximately 130 miles south of San Francisco in the unincorporated central part of Monterey County in the western foothills of the Central Salinas Valley, approximately seven miles west of the City of Greenfield and the City of Soledad at the western terminus of Paraiso Springs Road. The project consists of about 50 acres of development area on a 235 acre property with development mostly located in the Paraiso Springs Valley and Indian Valley. The site is bordered to the east by grazing and farmland and to the north, south and west by the Santa Lucia Mountains. Land uses surrounding the Project site include single-family residences and agricultural operations to the east of the project on Paraiso Springs Road, with wineries and tasting rooms within a few miles of the site.

Some land uses are considered "light-sensitive receptors," including residences, natural areas, hotels, or hospitals, since minimal nighttime illumination levels may be essential to the proper function, use, or enjoyment of these uses. Sensitive receptors in the Project vicinity include single family residences on Paraiso Springs Road to the east of the Project site and natural areas (Michael Baker International, Memo to Monterey County Planning Department, Attachment 1, February 13, 2019). No street lighting exists along local roadways; however, cars, and trucks are a potential source of light and glare. The project vicinity is primarily rural residential and agricultural; therefore, there are very limited sources of light and glare.

The current nighttime illumination levels on the project site are consistent with rural residential use. Sources of nighttime lighting on the Project site include interior and exterior lighting from one mobile home occupied by the on-site property manager and one pole mounted light fixture about 20 feet high located near the occupied mobile home. Ancillary buildings on the property are only lighted during the rare times when in use in the evening. Vehicles arriving at and departing the property at night represent an additional source of light and, potentially, glare and is generally limited to ingress and egress of the caretaker's family (see RDEIR pages 2-2 and 4-6). Because of the site's location within a steep-sided valley and the general location of the mobile home near the center of the site, light on the site is currently only visible from certain vantages within the site itself and not able to be seen from any roadway offsite.

The residences east of the Project site on Paraiso Springs Road exhibit low nighttime light levels consistent with the mobile home occupied by the on-site manager. No street lighting exists along local roadways.

Existing Night Sky Brightness

Some lighting experts will measure night sky brightness using "The Bortle Scale." The County's consultant for lighting, Michael Baker International, describes the Bortle Scale in Attachment 1 to their memo. The Bortle Scale, in summary, is a nine-level numeric scale that measures the night sky's brightness of a particular location. The site is located within an area with a Bortle Scale value of approximately 3.5 (Benya Burnett Consultancy (April 23, 2018); Michael Baker International, Memo to Monterey County Planning, February 13, 2019). This Bortle value of 3.5 is consistent with the site's classification by the State of California as Lighting Zone 2, which is described in Section 3.1.3, State

Title 24 discussion, below (Michael Baker International, Memo to Monterey County Planning, February 13, 2019, 2019 RDEIR Appendix 3).

In summary, the project vicinity is primarily rural residential and agricultural; therefore, there are very limited sources of light and glare. The highest nighttime illumination levels are found approximately seven miles east of the Project site in the urban settings of Greenfield and Soledad, with the highest light pollution levels emanating from the two state prisons ("Correctional Facilities") in Soledad (https://cires.colorado.edu/Artificial-light). Portions of the city of Greenfield can be seen from the project site at night. Major fixed light sources associated with these cities are streetlights, residential, commercial and industrial developments, and schools and athletic facilities, which include parking lot lights, interior lights and decorative outdoor lights. Highway 101, east of the project site, is a major highway with two travel lanes in each direction and runs north and south. Headlights from traffic traveling the highway at night can be seen from portions of the project site at night. The existing night sky brightness on the project site as measured by the Bortle Scale is consistent with the State of California assigned Lighting Zone 2 for the project site.

3.1.3 Regulatory Background

State

Title 24, Part 6 (California Code of Regulations; 2016 Building Energy Efficiency Standards for Residential and Nonresidential Buildings)

While the project is subject to the local requirements in effect when the application was determined "complete" as explained on page 2-1 of the RDEIR, the project must comply with the latest state code requirements, such as the building code, including State of California Title 24 described here.

Title 24 (California Code of Regulations) provides regulations to efficiently use lighting and save energy, including directing lighting to intended area, using occupancy sensors, multi-level lighting to provide efficient lighting levels, and mandatory and optional requirements to meet strict limitations as outlined in the regulation. All regulated, nonresidential buildings must be designed and built to comply with the mandatory measures of Title 24, Parts 6 and 11. In addition to meeting the mandatory requirements, buildings must also comply with additional requirements specified within the Energy Standards. The Energy Standards requirements for outdoor lighting apply to hardscape areas and designated landscape areas. This typically consists of the paved portions of an outdoor building site but may also include planters or other small areas of landscaping within the application area.

It is important to note that the standards in Title 24 were developed to ensure that new lighting introduced into an existing area would maintain the existing ambient light levels of the designated area thus eliminating any significant impacts related to light pollution either individually or cumulatively to the area. The exterior lighting portions of Title 24 are also heavily based on the Model Lighting Ordinance (MLO) created by the International Dark-Sky Association (IDA) and the Illuminating Engineering Society of North America (IESNA; https://www.ies.org/about/), groups which have a professional and technical interest in reducing light pollution, minimizing environmental impacts, and the technical expertise needed to provide viable lighting design.

Classification of Ambient Light Levels

Beginning with the 2005 Building Energy Efficiency Standards, the California Energy Commission adopted Outdoor Lighting Zone requirements that specified lighting power allowances based on project locations in the state and whether the surrounding environment is wild (dark), rural (characterized by low to moderate ambient light levels) or urban (characterized by higher ambient light

levels). The most recent requirements for lighting in California, Title 24, which is a very restrictive state code, took effect January 1, 2017. Lighting zones reflect the base (or ambient) light levels desired by a community. State designated lighting zones have been established for each area of the state. Table 10-114A of the California Code of Regulations, Title 24 Article 1, Section 10-114 specifies the relative ambient illumination level and the statewide default location for each lighting zone (Michael Baker International, Memo to Monterey County Planning, February 13, 2019).

Exterior lighting allowances in California vary by the established Lighting Zone (LZ). The regulations contain lighting power allowances for newly installed equipment and specific alterations that are dependent on the project site's assigned Lighting Zone. Lighting zone designations are public information, serve to quantify the existing project site ambient light conditions and are based on the latest (2010) U.S. Census Bureau data. They are designed to establish standards that limit light pollution and ensure light levels are appropriate for the purpose and the area. Descriptions of Lighting Zone 0, Lighting Zone 1, and Lighting Zone 2 are included in the Michael Baker International, Memo to Monterey County Planning, February 13, 2019 (Appendix 3). Lighting Zone 0 is applied to undeveloped areas of government-designated parks, recreation areas, and wildlife preserves. Lighting Zone 1 is applied to developed portions of government-designated parks, recreation areas, and wildlife preserves. Lighting Zone 2 is applied to rural areas, as defined by the 2010 U.S. Census (Michael Baker International, Memo to Monterey County Planning, February 13, 2019).

Lighting Zone 2 is the state default designation for rural areas, which is the designation for this site located in Census Tract 111.01 (Michael Baker International, Memo to Monterey County Planning Department, February 13, 2019; www.factfinder2.census.gov, Title 24 state website at http://energy.ca.gov/title24/2016standards/; Nonresidential Lighting and Electrical Power Distribution Guide, California Lighting Technology Center, UC Davis, 2016 https://cltc.ucdavis.edu/sites/default/files/files/publication/2016_Title24_Nonresidential_Lighting_Guide_170419_web_0.pdf; and Guide to the 2016 California Green Building Standards Code, California Building Standards Commission, 2017 https://www.documents.dgs.ca.gov/bsc/CALGreen/CALGreen-Guide-2016-FINAL.pdf). The project is required to comply with the lighting standards in Title 24 for this Lighting Zone designation.

The outdoor lighting requirements within Title 24 set minimum control requirements, maximum allowable power levels, minimum efficacy requirements and mandate outdoor lighting design parameters that must follow the Illuminating Engineering Society backlight, uplight and glare rating as defined in their technical memorandum TM-15-11 for controlling light pollution for all outdoor lighting systems based on the state assigned lighting zone (Michael Baker International, Memo to Monterey County Planning Department, February 13, 2019).

Title 24 non-residential lighting standards also have regulations for controlling indoor lighting. Hotel/motel guest rooms are covered by portions of both the non-residential indoor lighting requirements and the residential indoor lighting requirements. The primary mechanism for regulating indoor lighting under the standards is to limit the allowed lighting power, in watts, installed in the building. Other mechanisms require basic equipment efficiency and require that the lighting be controlled to permit efficient operation. These mechanisms are achieved utilizing controls that automatically turn off lighting when not needed for all conditioned and non-conditioned interior spaces (Michael Baker International, Memo to Monterey County Planning Department, February 13, 2019).

Monterey County General Plan

The applicable *Monterey County General Plan* was adopted by the Board of Supervisors in 1982. The following goals and policies in the General Plan are applicable to aesthetics and visual quality at the project site.

Goal 26 Promote appropriate and orderly growth and development while protecting desirable existing land uses.

Policy 7.2.1 Landowners and developers shall be encouraged to preserve the integrity of existing terrain and natural vegetation in visually sensitive areas such as hillsides and ridges.

Policy 26.1.1 The County, in coordination with the cities, shall manage the type, location, timing, and intensity of growth in the unincorporated area.

Policy 26.1.2 The County shall discourage premature and scattered development.

Policy 26.1.6 Development which preserves and enhances the County's scenic qualities shall be encouraged.

Policy 26.1.10 The County shall prohibit development on slopes greater than 30 percent. It is the general policy of the County to require dedication of a scenic easement on a slope of 30 percent or greater. Upon application, an exception to allow development on slopes of 30 percent or greater may be granted at a noticed public hearing by the approving authority for discretionary permits or by the Planning Commission for building and grading permits. The exception may be granted if one or both of the following findings are made, based upon substantial evidence:

A) There is no alternative which would allow development to occur on slopes of less than 30 percent; or

B) The proposed development better achieves the resource protection objectives and policies contained in the Monterey County General Plan, accompanying Area Plans and Land Use Plans, and all applicable master plans.

Policy 26.1.20 All exterior lighting shall be unobtrusive and constructed or located so that only the intended area is illuminated, long range visibility is reduced, and off-site glare is fully controlled.

Central Salinas Valley Area Plan

The *Central Salinas Valley Area Plan* (Monterey County 1987*)* contains the following policies applicable to the proposed project:

Policy 26.1.6.1 (CSV) Development shall have appropriate review where it is permitted in sensitive or highly sensitive areas as shown on the Scenic Highways and Visual Sensitivity Map.

Policy 40.1.2 (CSV) The County shall pursue measures to obtain official Scenic Road designation for Highway 146 and 25, Arroyo Seco Road, Bitterwater Road, and Elm Avenue

Monterey County Code

Monterey County Code Section 21.64.260 provides regulations for the protection of oak and other specific types of trees as required by the Monterey County General Plan, area plans, and master plans. Native oak trees six inches in diameter when measured two feet above the ground are protected under

these regulations. Oaks which are 24 inches or greater in diameter are considered "landmark trees" and are afforded additional protection measures.

Monterey County Code Section 21.64.230 provides a process for considering, and standards for, development on slopes of thirty (30) percent or greater. The regulations provide a permit process that allows the County to consider whether to allow development on slopes at or greater than 30% and two criteria, either of which must be met, to allow development to occur on these slopes. If one of the criteria cannot be met as determined through a public hearing process, the proposed development cannot occur on the steeper slopes.

Monterey County Code Section 21.66.10 provides regulations for development to determine if it will not create a substantially adverse visual impact when viewed from a common public viewing area. This project does not meet the definition for ridgeline development, which is defined in MCC Section 21.06.950 as follows: "Ridgeline development means development on the crest of a hill which has the potential to create a silhouette or other substantially adverse impact when viewed from a common public viewing area."

Substantial adverse visual impact is defined in MCC section 21.06.1275 as follows: "Substantial adverse visual impact means a visual impact which, considering the condition of the existing viewshed, the proximity and duration of view when observed with normal unaided vision, causes an existing visual experience to be materially degraded."

Monterey County Standard Conditions of Approval for Lighting Control

The County has been controlling the off-site effects of lighting since at least 1982, when the County General Plan included the following policy:

> *Policy 26.1.20: All exterior lighting shall be unobtrusive and constructed or located so that only the intended area is illuminated, long range visibility is reduced, and off-site glare is fully controlled.* (RDEIR page 3-10, pages 3-14 through 3-25, page 3-264 and page 4-6)

To implement this policy, the County applies standard conditions to control the type, intensity and location of lighting to ensure that fixtures illuminate only the intended area and to control lighting in a manner that off-site property and the night sky are not adversely affected by a project. In visually sensitive areas, a more restrictive standard condition is imposed that requires that the lighting source (bulb) is not visible from the area being protected from light pollution. Screening of the light source substantially reduces intrusion of any lighting effects on areas on and off the site.

The County's extensive experience over more than 35 years includes areas of Big Sur, where the County requires that development cannot be seen from Highway 1 and other specified areas. The County developed and applies a more restrictive standard condition for visually sensitive areas, such as Big Sur. Because the Paraiso Springs Resort property is identified as being within a visually sensitive area (RDEIR Section 3.1.2), this more restrictive condition of approval would be applied for this project. The visual sensitivity standards of this area, as opposed to County requirements in Big Sur, allow development to be seen from common public viewing areas. However, lighting would be strictly controlled through the condition of approval to illuminate only the intended area and control the visibility of the light source, which would minimize off-site impacts of project lighting. In accordance with County regulations and policies, the resort is allowed to, and will, be seen from offsite. .

In 2016, the County adopted design guidelines related to lighting (MCC Title 21, Chapter 21.63, and Board of Supervisors Resolution No. 16-010). The guidelines include forms of acceptable lighting, mostly related to shielding and directing lighting to the intended area and an effort to reduce off-site effects from lighting, including protecting the night sky from light pollution.

3.1.4 Analytical Methodology and Significance Threshold Criteria

Methodology

Aesthetics, as addressed in CEQA, refers to visual considerations. Aesthetics (or visual resource) analysis is a process to logically assess visible change and anticipated viewer response to that change. A common methodology for conducting visual analysis has been developed by the Federal Highway Administration, United States Department of Agriculture Forest Service, and the U.S. Soil Conservation Service. The County adapted the techniques and similar principles for this assessment.

As an initial step, such analysis begins with the identification of existing conditions with regard to visual resources and entails the following steps:

- Objective identification of visual features of the landscape;
- Assessment of the character and quality of those resources relative to overall regional visual character; and
- Assessment of the potential significance of features in the landscape to the people who see them and their sensitivity to the proposed changes to those features.

Viewshed is an area of the landscape that is visible from a particular location (e.g., an overlook) or series of points (e.g., a road or trail). To identify the importance of views of a resource, a viewshed may be broken into distance zones of foreground, middle ground, and background; the County terms for these categories were Near Visibility, Mid-Range Visibility, and Long-Range Visibility, respectively. Generally, the closer a resource is to the viewer, the more dominant it is and the greater its importance to the viewer. Although distance zones in viewsheds may vary between different geographic regions or types of terrain, the County defined Near Visibility as within approximately 1.5 miles, Mid-Range Visibility as between 1.5 and 3 miles, and Long-Range Visibility as greater than 3 miles.

In the Near Visibility zone, the observer is a direct participant, and the views include objects at close range that may tend to dominate the view. This zone is an important linkage because it sets a tone for the quality of a visual resource. Near Visibility views are valued at a maximum level.

In the Mid-Range Visibility zone, the observer focuses on the center of the viewshed. Views tend to include objects that are the center of attention if they are sufficiently large or visually different from adjacent visual features. Details will not be as sharp as the Near Visibility view, but land features will still be distinguishable.

In the Long-Range Visibility zone, the observer can see less detail and distinction in landform and surface features. The emphasis of Long-Range views is an outline or edge. Silhouettes and ridges of one landmass against another are the conspicuous visual parts of the background, with skyline serving as the strongest line. Objects in the background eventually fade to obscurity with increasing distance.

Viewer sensitivity is based on the visibility of resources in the landscape, the proximity of viewers to the visual resource, the relative elevation of viewers to the visual resource, and the types and expectations of individuals and viewer groups. The criteria for identifying the importance of views are related in part to the position of the viewer relative to the resource.

Visual sensitivity also depends on the number and type of viewers and the frequency and duration of views. Generally, visual sensitivity increases with an increase in total number of viewers, the frequency of viewing (e.g., daily or seasonally), and the duration of views (i.e., how long a scene is viewed). Also, visual sensitivity is higher for views seen by people who are driving for pleasure;

people engaging in recreational activities such as hiking, biking, or camping; and homeowners. Sensitivity tends to be lower for views seen by people driving to and from work or as a part of their work. Views from recreation trails and areas, scenic highways, and scenic overlooks are generally assessed as having high visual sensitivity.

Monterey County RMA performed a site reconnaissance on May 4, 2016 to evaluate visibility of the project and photographed the view at seven different vantage point locations looking toward the project site. During the site reconnaissance, the County of Monterey RMA staff conducted a field analysis to determine the visibility of the site from surrounding roadways. At the time of the field survey, the visibility was unobstructed with clear skies, no discernible wind, and no dust.

County staff determined Arroyo Seco Road and Highway 101, depicted in the HKS visual viewshed report as vantage points 2 and 1, respectively, as common public viewing areas. These common public viewing areas are between 2.5 to 4.5 miles away from the site. At this distance, physical staking and flagging pursuant to the Board of Supervisors resolution would not have been visible with normal, unaided vision, as required by the definition for "substantial adverse visual impact." Due to staff's determination that there would be a lack of visibility using the staking and flagging method, County staff requested a 5 x 5 foot orange sign to identify the project's location (RDEIR page 3-12) for the purpose of preparing a visual analysis. The sign was placed on the ridge near a location where the two and three bedroom timeshare villas are proposed. This sign was located at approximately the same elevation as the top of the palm trees existing in the valley in the location of the proposed hotel.

The site's visibility was then documented by driving the roads in the area to identify areas from where the proposed project would and would not likely be visible, with the aid of the requested sign as a reference point to prepare the visual analysis. Pictures were taken at each study location. The orange traffic sign was visible with the unaided eye from the study locations; however, the sign does not show up in the site photos due to the distance from the viewing locations. As a result of this effort, county staff requested that photo simulations be used to convey the visual impact information to the public and to provide the basis for staff's analysis of visibility of the proposed project, and of potential visual impacts from common public viewing areas.

County staff then determined that photo simulations would better allow an analysis of potential impacts for the purpose of application review and for preparation of the environmental document as opposed to Staking and/or Flagging. Staking and/or Flagging Criteria section 1, Delineation, number 4, allows photo simulation as one of the four methods of delineation. Due to the distance from the site to the common public viewing areas, planning staff determined that photo simulations would better meet the purpose as outlined in the Board of Supervisors adopted Staking and/or Flagging Criteria (Board Resolution 09-360, Attachment 1, first paragraph):

> "The purpose of staking and/or flagging is to provide visualization and analysis of projects in relation to County policies and regulations. Staking and/or flagging is intended to help planners and the public visualize the mass and form of a proposed project, or to assist in visualizing road cuts in areas of visual sensitivity."

Following the site reconnaissance, the applicant provided photo documentation of these seven vantage point locations to a firm to prepare a view analysis report. The view analysis report, dated June 21, 2016 (HKS, 2016), presents bird's eye and street views of existing conditions, including visual simulation with the proposed project and an alternate visual simulation of proposed project with relocated condominium timeshare units to a lower elevation. A County Visual Analysis report was prepared for views of the proposed project from Near Visibility, Mid-Range Visibility, and Long-Range Visibility. The County Visual Analysis report included seven vantage points starting from U.S. Highway 101 and traveling westward toward the valley of the proposed project site along Arroyo Seco

Road, Clark Road, and Paraiso Springs Road. The conclusion of this County Visual Analysis report uses a combination of the site visit observations, documentary photos and photo simulations.

The seven vantage point locations are shown in Figure 3.1-3, View Analysis Vantage Points, and are listed below:

- Location #1 (Long-Range Visibility). Highway 101 just north of the Hudson Road intersection looking west toward project site;
- Location #2 (Mid-Range Visibility). Intersection of Arroyo Seco Road and Clark Road looking west toward project site;
- Location #3 (Mid-Range Visibility). Midpoint on Clark Road between Arroyo Seco Road and Paraiso Springs Road looking west toward project site;
- Location #4 (Mid-Range Visibility). Westbound Clark Road approaching the Paraiso Springs Road intersection looking toward project site;
- Location #5 (Near Visibility). Southbound Paraiso Springs Road approaching the Clark Road intersection looking southwest into the valley where project site is located;
- Location #6 (Near Visibility). Westbound on Paraiso Springs Road, passing a reservoir, and looking toward project site; and,
- Location #7 (Near Visibility). Westbound on Paraiso Springs Road approaching the valley where project site is located.

The location of the site within a valley tucked in the side of the foothills limits the visibility of the site from the north and the south. The primary visibility of the site is from an angle that allows the observer to look up into the valley. Based upon this, the visibility of the site was broken into three distances, near, mid-range and long-range visibility, which can be defined as follows:

- Near Visibility: At this distance the observer will be able to see the buildings individually without any loss of definition due to distance.
- Mid-Range Visibility: A distance where the definition of the buildings begin to blend into a mass.
- Long-Range Visibility from Highway 101: The location from which the highest number of observers will view the site.

The County of Monterey RMA evaluated each of these three site visibility ranges with a discussion on existing visibility and visual impact from each vantage viewpoint. The findings were summarized in the County Visual Analysis report and the impacts are discussed below under Impact Analysis section.

Significance Threshold Criteria

As stated in Appendix G of the CEQA Guidelines, a project may create a significant impact related to aesthetics if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of public views of the site and its surroundings; (this reflects the revised 2019 CEQA Guidelines Appendix G question, as it clarifies the question by adding the clarifying phrase “public views of” without changing the meaning of the threshold); and/or
- Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

Source: HKS, Inc.

Figure 3.1-3

View Analysis Vantage Points

Paraiso Springs Resort EIR

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3.1.5 Impact Analysis

Alteration of a View from a State-designated Scenic Highway and Damage to Scenic Resources within a State Scenic Highway

There are no State-designated scenic highways in the vicinity of the project site (see Figure 3.1-2, Scenic Highway Corridors and Visual Sensitivity Map). The County never obtained an official scenic road designation for Arroyo Seco Road and the General Plan policy that sought the designation was eliminated in 2010. Therefore, there are no impacts due to alteration of a view from a state-designated scenic highway in the project vicinity.

Adverse Effect on a Scenic Vista and Degradation of the Existing Visual Character or Quality of the Project Site and its Surroundings from Public Areas

Impact 3.1-1:	Implementation of the proposed project would have an adverse effect on a scenic vista and would degrade the existing visual character or quality of the site and its surroundings from public viewing areas. (Less than Significant with Mitigation).

Scenic Vista. As described in the *Central Salinas Valley Area Plan* (Monterey County 1987), visually sensitive areas include the foothills of the Gabilan and Sierra de Salinas mountain ranges, Arroyo Seco watershed, and the Salinas Valley floor. Scenic resources are defined in the plan as "resources within the Planning Area which, because of their scenic value or unusual physical features should either be conserved or protected" (page 14 of the *Central Salinas Valley Area Plan*).

According to Figure 5, Scenic Highway and Visual Sensitivity, of the *Central Salinas Valley Area Plan* (Monterey County 1987), the project site area, the foothills of the Sierra de Salinas range, is considered "highly sensitive." Areas identified as highly sensitive are those possessing scenic resources which are most unique and which have regional or countywide significance and/or because of their prominence of ridgelines and frontal slopes with their unique vegetation, are important in giving the Planning Area its rural character.

In addition, according to the *Central Salinas Valley Area Plan* several of the roads and canyons within the area exhibit scenic qualities sufficient to warrant their designation as a scenic highway or roadway. The County's Scenic Highway System is composed of roads and highways that have been designated as either State Scenic Highways or County Scenic Routes. The central Salinas Valley contains areas of inspiring natural landforms and bucolic rural settings, which can be appreciated from many of its roads and highways. In recognition of the desirability to preserve these scenic corridors for future generations, the Scenic Highway Element of the *Monterey County General Plan* has proposed that many scenic routes in the planning area be constructed or improved to meet the criteria of the Scenic Highway Program. One of these routes is Arroyo Seco Road, which extends more than 15 miles from U.S. Highway 101 (to the north and west of the project site) to Carmel Valley Road (southwest of the project site). Arroyo Seco Road has not been improved to meet these criteria and has not been officially adopted as a scenic route through the project area in the years since the area plan was adopted in 1987.

The proposed project includes construction of 103 one- and two-story clustered visitor-serving hotel units, conference facilities, and various wellness, education, and recreation facilities, all generally clustered in the valley floor as shown in Figures 2-6, Project Site Plan, and Figure 2-7, Conceptual Rendering of the Proposed Project, presented earlier. The proposed project also includes a separate timeshare development, which consists of 60 one- and two-bedroom timeshare units and 17 single-family residential timeshare villas. As shown in Figure 2-12, Planting Plan, the proposed project would include extensive landscaping of the grounds, parking facilities throughout the development, paths, hiking trails, and pedestrian and vehicle bridges. Vegetation will be managed along the project perimeter to achieve a fire safe condition, but will not require clearance of vegetation. Vegetation will

be thinned and dead vegetation removed, but vegetation will remain in the fuel management areas. The visibility of the site, as depicted on the photo simulations, would not be altered by the fuel management methods.

As shown in Figures 2-9a through 2-9h, presented earlier, the proposed elevations of the buildings at the project site would range from approximately 25 feet to 35 feet at the main resort. The elevation at the one-story casitas would be approximately 20 feet and the elevation of the two-story casitas would be approximately 30 feet. Elevation of the wine pavilion would be approximately 28 feet and the institute would be approximately 25 feet.

Based on the elevations of the proposed buildings at the project site, the steep terrain, vegetation density, and topography difference, the project site would be visible from portions of several roadways, including Arroyo Seco Road, Clark Road, Paraiso Springs Road and Highway 101.

From the near visibility locations 5, 6 and 7, the site would be visible. From location 7 the roofs of the hotel, spa and day use areas will be visible as shown in the photo rendering in Exhibit 1, Page 29, of the County Visual Analysis report, and the condominiums on the hillside framing the north side of the site will be fully visible from this location. From location 6, portions of the hotel, spa and day use areas will be visible, and the condominiums on the hillside will be visible (see pages 25-27 of Exhibit 1 of the County Visual Analysis report). From location 5, the site becomes less visible with most of the visual impact from the hillside condominiums. At this location the remainder of the site will only be slightly visible as evidenced by the visual simulation on Page 21 of Exhibit 1 of the County Visual Analysis report.

From the mid-range visibility locations (Locations 2, 3, and 4 of the County Visual Analysis report), the proposed individual buildings become less visible, but the visibility of the rooftops becomes more pronounced as the natural topography rises up the valley floor and the buildings correspondingly increase in elevation. The rooftops of each succeeding building will be visible, and from increasing distances, the rooftops will appear more as a single mass of buildings on the landscape. This will be most pronounced from location 2 at Arroyo Seco Road. At this distance the buildings will have the potential to create a distinct break in the vegetation cover, which is part of the unique scenic resource in this location. The project proposes significant grading to achieve gradients and pads for structures, but significant landforms will not be altered and will not cause a change in topographical appearance from off-site view areas.

From the long-range visibility location (Location 1 of the County's Visual Analysis report), the primary visual impact will be a disruption in the natural vegetation pattern and the buildings will appear as masses against the foothills. The existing palm trees already alter the existing vegetation but this is not noticeable to the traveling public at this distance. The proposed project has the potential, as discussed above for location 2, to create a break in the appearance of the natural landscape.

The area does not have designated scenic roads and the property and area are not within a Visual Sensitivity overlay zoning district. However, the foothills are designated as a scenic vista and the project may have a substantial adverse effect on this scenic vista. Mitigation measure 3.1-1, below, will require landscaping and other techniques that will break the building massing as seen from public viewing areas and would reduce this impact to a less-than-significant level

Changes to Visual Character of the Project Site and its Surroundings.

The project site is located at the western terminus of Paraiso Springs Road on the eastern slope of the Sierra de Salinas Foothills in the Salinas Valley and consists of approximately 235 acres nestled in the mouth of a canyon extending westward into the foothills. The project site is bordered to the north,

south, and west by the Santa Lucia Mountains and to the east by residences and agricultural fields. The *Monterey County General Plan* identifies the project area (mountain range) as visually sensitive based on the prominence of the frontal slopes and the unique vegetation of this area.

The surrounding land is designated by the *Monterey County General Plan* for farmland and rural grazing uses, and is currently used for agriculture and vineyards (where slope allows), and grazing in the steeper areas. According to the *Monterey County Zoning Map*, the project site area being developed as a resort is currently zoned Commercial-Visitor Serving/Professional Office. Other portions of the property are currently zoned Permanent Grazing, 40 acres minimum building site, and Farmlands, 40 acres minimum building site. The County does not have any policies or regulations that consider vehicle travel on public roads, or an increase in vehicle trips as a result of the project that is well within the capacity of the roadway, to be an impact on the public viewshed.

The project site is visible on the approach from Paraiso Springs Road and is identifiable by several tall palm trees. Several single-family residential uses are located below and to the east of the project site on Paraiso Springs Road. The site has been inhabited by Native Americans, missionaries and as a resort. This has resulted in various types of development, as evidenced by the existing improvements including 15 vernacular cabins along the hillside, a changing room, a recreation room, indoor and outdoor baths, six mobile homes, a lodge, a workshop, a yurt compound[2], and several small outbuildings.

Development of the proposed project would change the existing visual character and quality of the project site by increasing the intensity and density of visitor-serving facilities, construction of roadways, and removal of approximately 191 trees and all palm trees, including 185 protected oak trees. The project is proposed to be centralized within the portion of the property that has historically supported development. The project proposes to limit the development footprint to approximately 50 acres of the 235-acre site. The footprint will largely be located at the lower portions of the site to minimize the visual impact associated with development on slopes and higher elevations (as discussed in more detail below). The renderings prepared for the project include mission style architecture using a red terra cotta tile roof and white exterior plaster walls.

Visually the most significant portions of the site relate to the proposed development on steep slopes and higher elevations surrounding Paraiso Valley and Indian Valley. Approximately 66.7 percent of the project site is located on slopes greater than 30 percent as shown in Figure 3.1-4, Slope Analysis. Overall, approximately 25,400 S.F. (1.1%) of the 2,178,000 S.F. proposed for development is located on 30% or greater slopes. Some of the Hillside Village Condominium complex is located in the portion of the project (lots 20-23 with 60 units) along an east/west oriented ridge in the northern portion of the project site within some areas identified as 30 percent or greater slopes. The proposed 17 single-family timeshare villas north of the Hillside Village Condominiums (lots 3-19) are generally within slopes of 20 percent or less, at a higher elevation than the hotel area. Some of the timeshare condominium units proposed and the timeshare villas will be clearly visible from the Paraiso Valley floor, with just some of the condominiums visible from the upper section of Paraiso Springs Road (Locations 5, 6, and 7).

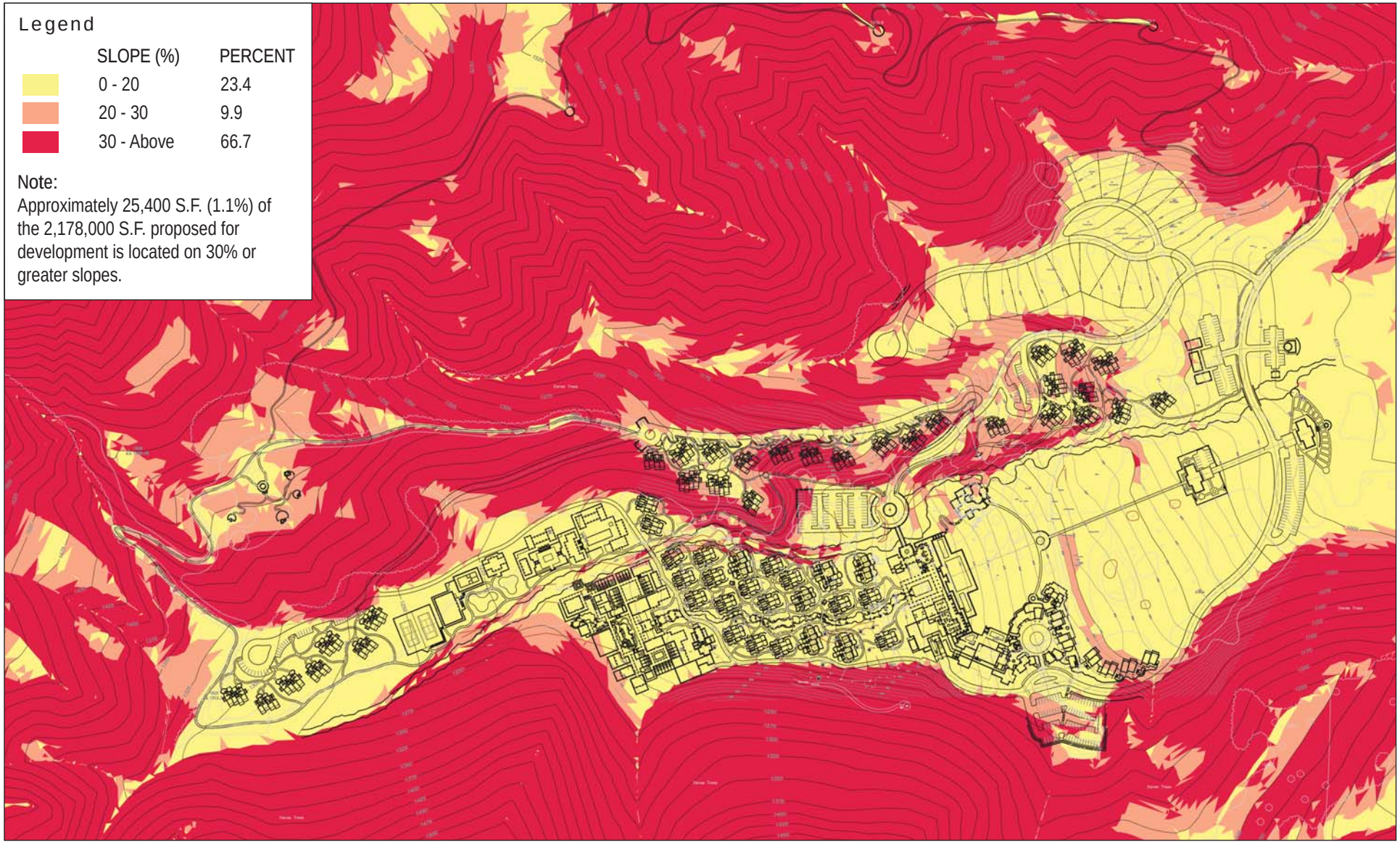
The County Visual Analysis report findings and a review of HKS view analysis indicate that implementation of the project has the potential to interrupt the natural vegetation patterns with large mass of light-colored buildings that highlight the loss of trees and vegetation. The buildings of the proposed project and disruption in the natural vegetation pattern will be visible to the traveling public from U.S. Highway 101 just north of the Hudson Road intersection (Location 1); this view is distant

[2] A yurt is a portable, covered, framed dwelling structure.

and a small portion of the viewshed. Some of the buildings will become highly visible traveling from the intersection of Arroyo Seco Road and Clark Road, and along Clark Road approaching the Paraiso Springs Road intersection. Traveling closer to the project site, the buildings become individually visible along Paraiso Springs Road approaching the valley.

According to the County Visual Analysis report, a project that would significantly detract from the appearance of the slopes and vegetation would constitute a significant impact. Implementation of the proposed project would interrupt the vegetation patterns with a large mass of light-colored buildings with terra cotta roofs, and would be a significant adverse impact. The following mitigation measure to modify project design and colors would comply with policies of the *Monterey County General Plan* and *Central Salinas Valley Area Plan*, and reduce this impact to a less-than-significant level.

In addition, the development of the timeshare condominiums will be along a ridge that supports oak woodland. Some of the trees proposed for removal as part of this project are in this area. The visual impact of the tree removal and the construction of the timeshare condominiums would have an impact to the visual character of the area. This impact can be minimized by replanting native oak trees or other trees and shrubs around the proposed structures and streets, in accordance with fire safe landscaping principles, to further minimize the visibility of these structures and to maintain the integrity of the oak woodland. The following mitigation measure to provide landscaping and other techniques that will break the building massing would reduce this impact to a less-than-significant level:



Source: RBF Consulting 2010, Hill Glazier Architects 2005, Edward D. Stone & Associates 2005

Figure 3.1-4
Slope Analysis

Paraiso Springs Resort EIR

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Mitigation Measure

MM 3.1-1 Prior to issuance of any construction permits, the project applicant shall modify the project landscape design and colors for the exterior roof and plaster walls as follows:

- The roof color shall include a blend of darker shades, which colors would serve to blend the building's rooftops into the natural environment and reduce the appearance of large masses from greater distances. Final design shall be subject to review and approval of the RMA Director.
- The color of the plaster shall utilize a variety of earth tone colors, such as the color supplied in the palette on page 2 in Exhibit 1 of the RMA Analysis, and as otherwise approved by the RMA Director.
- The Landscape Plan shall include the use of five-gallon size or transplanted native oak trees, or other tree or tall shrub species as approved by RMA-Planning, planted, when mature, to break up the building rooflines and the front of the resort when viewed from common public viewing areas in the Salinas Valley, while allowing well-designed openings in the canopy to allow views from the resort of the valley. Oak trees shall be provided in appropriate areas, such as where oak trees were originally present prior to grading in that area, or on the north side of buildings where no oak woodland was present prior to grading. Where oak trees were not part of the original landscape for that area of the site, other tree species shall be used.
- Where buildings are placed in areas that previously consisted of dense oak woodlands, the design of the landscaping shall integrate the buildings into the oak woodland setting such that the buildings, if visible, are viewed in the context of the oak woodland. Native oak trees shall be strategically placed at building corners and extending between buildings and natural landforms or remaining native oak trees to integrate the buildings into the natural landscape. Landscape Plans shall be submitted for review and approval by the RMA Director of Planning for each phase of development and shall be approved prior to issuance of construction permits for buildings within the area covered by the Landscape Plan. Review by the County of the landscape plans will be conducted in consultation with the fire district to ensure that landscaping is installed in a fire-safe manner.

The intent of this mitigation measure is to occasionally break up the mass, not screen the site from the valley or from public views, and to use color and vegetation to break up the visual massing from common public viewing areas. This can be achieved by using existing topography, landscape plantings, and a variety of colors to create variety in the mass. The landscape plantings, while further reducing visibility, will not be fully grown at the time of planting. The mitigation measure's other techniques, as well as existing topography and vegetation that will not be disturbed, will reduce the impact to a less than significant level even while the newly planted vegetation grows to maturity, due to the distance to common public viewing areas. Oak trees can be a planted a distance away from structures and each other, to comply with safe fire-planting principles, and still provide screening from public viewing areas.

The analysis for ridgeline development is a two part test: 1) that the development is on the crest of a hill and 2) the development would create a silhouette against the sky or would otherwise create a substantially adverse impact. The project site includes ridges surrounded by topographic features that are much higher in elevation, so development at this location, as determined by County staff and

ultimately by the decision making body, will not constitute ridgeline development and will not conflict with Policy 26.1.9 of the *Monterey County General Plan*. In addition, the requirements contained in Mitigation Measure 3-1.1 will reduce visual impacts from off-site public viewing locations. While ridgeline development is defined as being development on the crest of a hill that silhouettes against the sky from common public viewing areas, it also includes the possibility of other substantially adverse visual impacts. That would typically be a situation where a viewshed is interrupted by an unexpected adverse visual obstruction. In this case, the resort will be visible from nearby locations as would be expected as the location has operated as a resort for over 100 years. Vegetation, topography and the location of the public road leading to the site will allow that some of the project development will be seen from the public road, but with different views of the project as one moves along the road, and always with the backdrop of the Sierra de Salinas mountain range.

The presence of higher mountains forming the backdrop of this location will minimize the impact to the visual character of the area. Protecting these surrounding landforms and the dominant natural features will help to mitigate the impact of this development upon the visual character of the area. Insuring protection of the higher and steeper slopes surrounding the project from future development will insure that the overall visual quality and character of the site is maintained.

Policy 26.1.10 of the *Monterey County General Plan* allows development on slopes greater than 30 percent in limited circumstances and requires dedication of a scenic easement on slopes of 30 percent or greater. If development on 30% slopes associated with the proposed project is not consistent with Policy 26.1.10 in the *Monterey County General Plan* this would be considered a potentially significant impact. The County requires a Use Permit to consider development on slopes greater than 30%, which allows decision makers the discretion to determine whether the development is appropriate, even if allowed on slopes greater than 30%. In situations where development is proposed on, or could affect, slopes over 30%, the County of Monterey implements the following standard condition of approval:

Standard Condition

PD023 – CONSERVATION AND SCENIC EASEMENT (SLOPE)

A conservation and scenic easement shall be conveyed to the County over those portions of the property where the slope exceeds 30 percent. The easement shall be developed in consultation with a certified professional. A conservation and scenic easement deed shall be submitted to, and approved by, the Director of RMA - Planning and accepted by the Board of Supervisors prior to or concurrent with recording the final map or prior to the issuance of grading or building permits, whichever occurs first. The Final Subdivision Map shall identify the areas within a "scenic easement" and note that no development shall occur within the areas designated as "scenic easement." **(RMA – Planning)**

The decision making body needs to make one of the following findings to allow development on slopes greater than 30%, as required by Monterey County Code Section 21.64.230.E.1:

a. There is no feasible alternative which would allow development to occur on slopes of less than thirty (30) percent; or
b. That the proposed development better achieves the goals, policies and objectives of the Monterey County General Plan and applicable area plan than other development alternatives.

If the development on slopes over 30% is allowed by the decision-making body implementation of the standard condition would ensure consistency with Policy 26.1.10 of the *Monterey County General Plan* by designating slopes greater than 30 percent on the project site as "scenic easements" and would protect the slopes above and around the proposed project to protect the integrity of the natural landforms. This will protect the overall visual character of the site. The impact from that portion of the site which is potentially visible from off site will be minimized by implementation of Mitigation Measure 3.1-1, requiring a strategically designed landscape plan placing native oak and/or other trees

and shrubs around the buildings and development to integrate the development into the environment, and to specifically utilize oak trees in any natural oak woodland area. With these actions and the standard condition associated with light and glare below, the visual character of the site and surrounding area would be maintained and the impact associated with the proposed project would be reduced to a less than significant level.

Increase in Light or Glare

Impact 3.1-2: The proposed project would introduce new sources of lighting that could adversely affect the existing visual resources in the area. (Less than Significant with standard condition of approval).

The proposed project will introduce new light sources including, but not limited to, street lighting, and interior and exterior lighting of the proposed resort/hotel and timeshare units. Stationary light sources have the potential to adversely affect adjacent properties through a "spillover" effect. The nearest residential units to the project site are located to the east within a quarter mile from the project site.

Construction

Construction of the proposed project would occur over an approximately ten-year period. On-site construction lighting may be used on occasion and would represent a marginal increase in existing ambient nighttime light levels on any sensitive receptors because of the small size of any lighted construction area, distance to sensitive receptors, and intervening vegetation and topography. The earliest construction phase would be the closest to the nearest sensitive receptor, which is over 1000 feet from the easternmost portion of the project site. The vast majority of construction is not located near the eastern property line and later phases would be even farther away from sensitive receptors. Construction lighting would only be required for limited duration, purposes and locations on site and would be removed upon completion of the need for nighttime work.

Construction activities are not expected to create sources of glare that could affect visibility in the project area because of the depth of building setbacks from surrounding roadways, the use of low-reflectivity building materials, and the infrequent (or lack of) nighttime construction lighting (Michael Baker International, Memo to Monterey County Planning Department, February 13, 2019). Therefore, impacts due to glare generation and interference with the performance of an off-site activity or adverse effects on views would be less than significant during construction.

Operation

A resort facility found in a commercial zoning district requires outdoor lighting for safety purposes and may include lighting for aesthetics. RDEIR Chapter 2 describes Energy Conservation components of the project description, including use of energy efficient outdoor lighting. The County does not require development project applications to submit final lighting plans prior to approval of a residential or commercial development, as technology changes and code requirements change on a regular basis.

The property is subject to the lighting requirements for controlling effects of light pollution, glare, sky glow and light trespass imposed by California Code of Regulations, Title 24, parts 6 and 11 for a rural designation under a designated Lighting Zone 2 classification, as well as the County applied standard conditions to implement policy or regulations related to protecting resources, including biological and aesthetic resource protection from lighting impacts. Application of these mandatory standard conditions as a result of a project's approval allows the final design, in this case for lighting, to reflect the latest in regulations and technology.

The proposed project would introduce new sources of permanent new sources of lighting within the project site, including exterior and interior lighting. Generally, the topography and landscape of the Project site, which will primarily occupy two valleys, surrounded on three sides by mountains, severely

constrains the influence that Project-related light sources would have on off-site uses or the night sky (Michael Baker International, Memo to Monterey County Planning Department, February 13, 2019).

The only sensitive receptors near the Project site are the single family residences on Paraiso Springs Road. The nearest proposed development on the Project site, at the eastern end of the property, would be separated from the nearest off-site residency by a horizontal distance of at least 1050 feet and an elevation differential, since the Project property sits higher in elevation than residences. Because of distance and topography, Monterey County standard condition requirements for fully controlling lighting impacts offsite, as well as state Title 24 Standards, the project light sources would not substantially increase ambient illumination levels. Potential impacts from light and glare would be less than significant. Timeshare condominium lighting sources may be visible from off-site residences and would incrementally increase ambient illumination levels in this area; however, the increase is expected to be minor and would constitute a less than significant impact due to lighting controls required by Monterey County and by Title 24 for the applicable Lighting Zone.

Lighting from vehicle headlights traveling along public roads to the site could cause a temporary reduction in viewing ability for anyone viewing the night sky. Vehicle trips during the evening peak hour would pass any single location on average about once or twice per minute (up to two vehicles encountered on a road that takes two minutes to traverse (Hatch Mott MacDonald, 2017, page 14). Peak hour for the evening is defined as 4 to 6 p.m. The sky grows dark around 5 p.m. on the shortest day of the year (December 21), so more vehicles would pass by anyone viewing the night sky during the wintertime than in summer, when the sky darkens around 9 p.m. on the longest day of the year. When the sky grows dark after 6 p.m. (February 1 through October 31 for this area), non-peak hour traffic will pass by resulting in relatively fewer trips passing anyone viewing the night sky. Any headlights passing by people viewing the night sky would be transitory and not considered to be a significant impact on the environment.

Only low-reflective building materials, such as darker shades of roofs and plaster walls using a variety of earth tones are required pursuant to Mitigation Measure 3.1-1. Therefore, project-related glare impacts and the potential for interference with the performance of any off-site activity or adverse effects on views would be less than significant.

Most of the new buildings would be located on the valley floor except for some of the timeshare condominiums along a hillside (RDEIR Chapter 2, Figure 2-6, Figure 2-8, Figure 2-12). These timeshare units would be two story structures and may be visible from different locations off-site and could incrementally increase ambient illumination levels in the area; however the increase is expected to be minor for the reasons described in this chapter (Michael Baker International, Memo to Monterey County Planning Department, February 13, 2019).

Indoor Lighting Sources

Interior lighting sources from some hotel units and timeshare units on the project site may be visible from offsite and may increase ambient illumination levels in the area; however the increase is expected to be minor and would constitute a less than significant impact.

Interior source lighting is contemplated under the LZ2 lighting zone designation of "rural" as all residences operate interior lights at night. The hotel rooms and timeshare use of interior lights would be required to be consistent with the LZ2 lighting designation and would be lessened through the Mission Revival architectural style, as described below. These architectural features function as ways to limit light spill toward the sky and off site, due to eave design and a limited number of windows. Consistent with resort properties, it is expected that all rooms will have interior window coverings, curtains and/or shades that will be drawn for privacy at night and act to shield or reduce any lighting effects from interior lights. Interior lighting effects would also be limited as lights would be extinguished as visitors to the resort retire for the night (Michael Baker International, Memo to Monterey County Planning Department, February 13, 2019).

The remainder of the Project site would be undeveloped and not be lighted at night, Sources of lighting would include visible interior building illumination, exterior building security and decorative facade lighting, lighted pedestrian walkways and common areas such as courtyards and swimming pools, and lighting along internal driveways and roadways and at Project site entrances.

Light levels for proposed on-site development would be required to comply with the County standard condition for visually sensitive areas as well as with state law, Title 24, which controls both exterior and interior lighting. Title 24 incorporates the following Illuminating Engineering Society of North America recommendations:

- Select luminaires emitting little to no light above the plane of the horizon;
- Avoid excessively bright spots on ground or surfaces;
- Limit the use of non-cutoff luminaires;
- Turn off non-critical lighting late at night; and
- Use internal or external shielding, such as louvers, hoods, or other screening devices, to minimize up light and resulting sky glow when luminaires need to be tilted or aimed.

Proposed development on the Project site would use building materials with low-reflectivity properties and would not introduce large expanses of glass or light-colored surfaces that could generate glare perceptible from off-site locations. The selected project design, Mission Revival, includes "limited fenestration" and "wide, projecting eaves" (RDEIR Chapter 2, page 2-20). This limits the intrusion of interior light to outdoor areas. The project is setback from surrounding roadways and surrounded on three sides by mountains, and large mature oak trees along with the incorporation of landscaping into the site design would further reduce the potential for Project glare generation. Portions of the project would be visible from mid-range and long-range visibility views (RDEIR Impact 3.1-1). Any glare that may occur from on site structures would be visible for a very short time as the common public viewing areas are high speed county roads and Highway 101 at distances of two to seven miles.

New light sources could result in a greater overall level of light at night adjacent to the project site, thus reducing night sky visibility, affecting the general character of the area. However, Policy 26.1.20 in the *Monterey County General Plan* states that "All exterior

lighting shall be unobtrusive and constructed or located so that only the intended area is illuminated, long range visibility is reduced, and off-site glare is fully controlled." If lighting associated with the proposed project is not consistent with Policy 26.1.20 in the *Monterey County General Plan* this could be considered a potentially significant impact. In situations like this the County of Monterey implements the following standard condition of approval for visually sensitive areas:

Standard Condition

> **PD014(B) – LIGHTING – EXTERIOR LIGHTING PLAN (VISUAL SENSITIVITY DISTRICT/ RIDGELINE DEVELOPMENT)**
>
> All exterior lighting shall be unobtrusive, down-lit, harmonious with the local area, and constructed or located so that only the intended area is illuminated and off-site glare is fully controlled. Exterior lights shall have recessed lighting elements. Exterior light sources that would be directly visible when viewed from a common public viewing area, as defined in Monterey County Code Section 21.06.195, are prohibited. The applicant shall submit three (3) copies of an exterior lighting plan which shall indicate the location, type, and wattage of all light fixtures and include catalog sheets for each fixture. The lighting shall comply with the requirements of the California Energy Code set forth in California Code of Regulations, Title 24, Part 6. The exterior lighting plan shall be subject to approval by the Director of the RMA - Planning Department, prior to the issuance of building permits. **(RMA – Planning Department)**

The County Visual Analysis report for the proposed project reiterated that all lighting for the project be screened to minimize effects from new light sources. Lighting plans shall be submitted to the County for approval and incorporated into the final building plans prior to issuance of a building permit by the County. Implementation of this standard condition would ensure that the proposed project would have a less than significant impact by complying with Policy 26.1.20 in the *Monterey County General Plan* and ensuring that there are not new light sources casting glare off site. The County developed and applies a more restrictive standard condition for visually sensitive areas, such as Big Sur. The visual sensitivity standards of this area, as opposed to the Big Sur planning area, allow development to be visible from common public viewing areas. However, lighting would be strictly controlled through the conditions of approval. The standard condition (PD014(B)) requires that the light source, typically the bulb itself, cannot be visible from common public viewing areas. That means that lighting may be seen from off site, but the bulb (light source) itself is either shielded, recessed, or directed (methods that the planner analyzes to determine if the lighting meets the test of "fully controlled") such that the light source is not visible from common public viewing areas. The condition and county policy, in place and implemented since 1982, further requires that lighting not create glare, which can be a safety hazard if directly shining into someone's eyes or, for example, shining off a wet roadway. Also, by requiring that the light source only illuminate the intended area, the lights are not allowed to cause light pollution to the night sky or to impact adjacent natural areas where wildlife could be adversely affected. While implementing this condition, the project planner reviews a detailed set of plans that includes fixture types, fixture locations and manufacturer's cut sheets to review the lighting plan associated with issuance of building permits. This requirement to illuminate

only the intended area also results in development areas being illuminated, but protects biological habitat remaining on and off site.

With the requirements of state law (Title 24) and the imposition of the County's standard condition requiring a lighting plan for visually sensitive areas, the effects of project lighting would be less than significant when analyzed against the threshold of significance described above in Section 3.1.4. The project setting among a vegetated canyon, the proposed Mission Revival architectural style, its distance to common public viewing areas, the requirements of California Code of Regulations Title 24, Parts 6 and 11, which took effect January of 2017, and the requirements from the County's standard conditions of approval related to design, landscaping and lighting controls would result in a less than significant effect on the environment and no additional mitigation is required. The County's technical consultant found the following:

> "We also reviewed the California state and Monterey County laws that will apply to this development, including Title 24 Part 6 and Part 11, the Monterey County General Plan, Monterey County Design Guidelines for Exterior Lighting, and Monterey County Code 21.22.070 E, and have found that the requirements contained in these laws and codes are sufficient to maintain the site at or below LZ2 levels of light pollution in all forms. We also find no need to apply the Model Lighting Ordinance (MLO) or LEED 4. The lighting requirements of Title 24 are heavily based upon the MLO, and are in some ways even more restrictive. LEED 4 also allows more uplight than allowed by Title 24 and Monterey County codes, guidelines, and standard conditions, which is a major contributor of anthropogenic sky glow." (Michael Baker International, Memo to Monterey County Planning Department, February 13, 2019).

> "Because of the distance and topography, and the fact that the Monterey County standard condition of approval calls for fully controlling lighting impacts offsite, as well as Title 24 Standards, the project light sources would not substantially increase ambient illumination levels. Potential impacts from light and glare would be less than significant" (Michael Baker International, Memo to Monterey County Planning Department, February 13, 2019).

A cumulative light and glare impact would occur if the proposed project, together with other projects located within the proposed project's area, would contribute to a cumulative increase in ambient nighttime light levels or glare generation in that area, as defined in RDEIR section 4.5.2 related to Aesthetics.

The project area includes lighting from residential and agricultural facilities (including wineries). The area does not include substantial lighting from these uses and only one currently proposed project, a residential care facility located within the Las Palmas Ranch project, and one approved project (Ferrini Ranch subdivision) is included in the area subject to the cumulative analysis. The Las Palmas community, which contains approximately 1000 residential units near Spreckels, is 18 miles north of the project site. Due to the distance, light emitting from this project near Soledad would not add cumulatively to light emissions from either area. Also, the Las Palmas Ranch project would also have to comply with the lighting standards controlling light pollution set forth in Title 24 and in county policies. The Ferrini Ranch project is even further away and is

primarily located along the Highway 68 corridor (RDEIR page 4-6), on the north and west side of the Sierra de Salinas mountain range. Very little of that project is visible within the Sierra de Salinas foothills area, which is the area for consideration of the cumulative impact for aesthetics, including light and glare.

Hazards and Hazardous Materials Sections

RDEIR Section 3.7.1, Introduction, is modified to read as follows:

3.7.1 Introduction

This section describes the existing setting of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Paraiso Springs Resort project (project or proposed project). This section of the RDEIR discusses the potential presence of hazards and hazardous materials at or within the vicinity of the project site and analyzes the potential risk of these conditions within the context of existing and proposed development and future human activities. This section is based on a Phase I Environmental Assessment (EA) prepared by Lee & Pierce, Inc. prepared for the project applicant in October 2007. This report is included as Appendix G of the 2018 RDEIR.

This section also focuses on the effect of the proposed project on wildfire risk. Potential wildfire impacts resulting from construction and operation of the proposed project were evaluated based on a review of existing resources, data, and applicable laws, regulations, guidelines, and standards. Fire protection services for the proposed project are addressed in Section 3.11 (Public Services).

Previous reports and information used to prepare this section include the following documents:

- California Board of Forestry and Fire Protection. Personal Communication between Edith Hannigan, Land Use Program Manager and Mike Novo, Monterey County Planning; May 3, 2019.
- California Department of Forestry and Fire Protection (CAL FIRE). 2018a. 2018 *Strategic Fire Plan for California*. http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fpppdf1614.pdf
- CAL FIRE. 2018b. *CAL FIRE Unit Strategic Fire Plan, San Benito-Monterey*. April 25.
- CAL FIRE. 2017. *Fire Perimeters* (fire17_1) (GIS Data). http://frap.cdf.ca.gov/data/frapgisdata/select.asp
- CAL FIRE. 2010. *California's Forests and Rangelands: 2010 Assessment*. http://frap.fire.ca.gov/assessment/2010/assessment2010
- CAL FIRE. 2009. *Post Fire Erosion* (thr_erosclass09_1) (GIS Data). http://frap.fire.ca.gov/data/assessment2010/data/thr_erosclass09_1.gdb.zip
- CAL FIRE. 2007. *"Monterey County Fire Hazard Severity Zones in SRA." November 7, 2007*. Accessed at: http://frap.fire.ca.gov/webdata/maps/monterey/fhszs_map.27.pdf

- CAL FIRE. 2005. *Fire Threat Version 05_1* (GIS Data). http://frap.fire.ca.gov/data/statewide/fthrt05_1.zip
- CH2MHill. 2005. Technical Memo to Thompson Holdings, L.L.C., subject: *Paraiso Springs Resort: Preliminary Fire Protection Plan*. July 15, 2005.
- Dudek. 2019. *Fire Protection Plan – Paraiso Springs Resort, Monterey County*. May 3.
- Lipsett, M. 2008. *Wildfire Smoke: A Guide for Public Health Officials*. July 2008. Accessed February 7, 2019. https://oehha.ca.gov/media/downloads/public-information/document/wildfirev8.pdf
- Moench, R., & Fusaro, J. 2012. *Soil Erosion Control after Wildfire - 6.308*. Colorado State University Extension. Accessed at: https://mountainscholar.org/bitstream/handle/10217/183596/AEXT_063082012.pdf?sequence=1&isAllowed=y
- Monterey County. 2019. GIS Webapps: *Fire Protection Areas (WUI and FHSZ in SRA) map*. Accessed at: http://www.co.monterey.ca.us/government/departments-i-z/resource-management-agency/gis
- Monterey County. 2015. *Multi-Jurisdictional Hazard Mitigation Plan*. June.
- Monterey County. 2010. *2010 Monterey County General Plan*. October 26.
- Monterey County. 1987. *Central Salinas Valley Area Plan*. November 1987.
- Monterey County. 1982. *Monterey County General Plan*. August 1982 with Amendments through November 5, 1996.
- Rana Creek Environmental Planning. 2005. *Paraiso Hot Springs Biological Assessment*. July 2005
- Smalley, J. 2008. *"Wildfires and Climate Change: An American Perspective on a Global Issue." Fire Interdisciplinary Research on Ecosystem Services (Seminar). June 24, 2008*. http://www.fires-seminars.org.uk/downloads/seminar2/smalley_public_keynote.pdf.
- Syphard A.D., and J.E. Keeley. 2016. *"Historical Reconstructions of California Wildfires Vary by Data Source."* International Journal of Wildland Fire 25(12):1221–1227. https://doi.org/10.1071/WF16050.
- USDA (U.S. Department of Agriculture). 2000a. *Wildland Fire in Ecosystems: Effects of Fire on Flora.* General Technical Report RMRS-GTR-42-vol. 2. Ogden, Utah: USDA, Forest Service, Rocky Mountain Research Station. December 2000.
- USDA. 2000b. *Wildland Fire in Ecosystems: Effects of Fire on Fauna*. General Technical Report RMRS-GTR-42-vol. 1. Ogden, Utah: USDA, Forest Service, Rocky Mountain Research Station. January 2000.
- USDA. 2005. *Wildland Fire in Ecosystems: Effect of Fire on Soil and Water*. General Technical Report RMRS-GTR-42-vol. 4. Ogden, Utah: USDA, Forest Service, Rocky Mountain Research Station. September 2005.
- United States Forest Service (USFS). 2019. *National Fire Plan*. Accessed February 2019. https://www.forestsandrangelands.gov/resources/overview/index.shtml

RDEIR Section 3.7.2, Environmental Setting, Fire Hazards, is modified to read as follows:

3.7.2 Environmental Setting, Fire Hazards section only

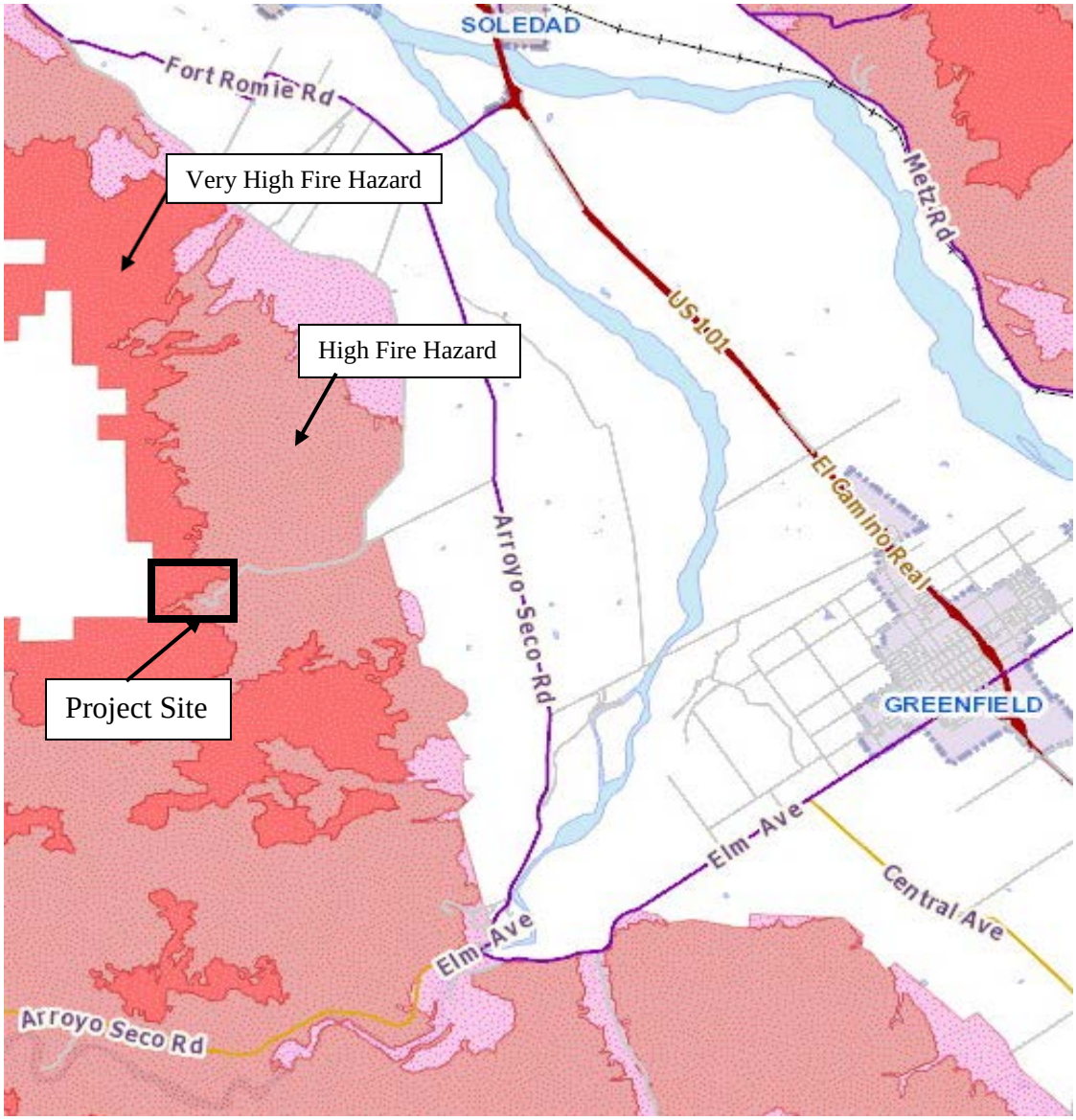
Fire environments are dynamic systems and are influenced by many types of environmental factors and site characteristics. Fires can occur in any environment where conditions are conducive to ignition and fire movement. The three major components of fire environment are vegetation (fuels), climate, and topography. The state of each of these components and their interactions with each other determines the potential characteristics and behavior of a wildfire. In addition, the type, location, and intensity of a wildfire can affect wildlife, vegetation, air quality, water quality, and slope stability to varying degrees, as discussed below.

It is important to note that wildland fire may transition to urban fire if structures are receptive to ignition. Understanding the fire environment on and adjacent the proposed project site is necessary to understand the potential for fire within and around the project site. The project site is located in one of the foothill/canyon areas of the Central Salinas Valley that has been identified as a high and very high fire hazard area (Monterey County 1982, Monterey County 2010). The project site has been subject to structural fires over the years, including one that destroyed a number of structures including the main lodge. However, the site has not been located within larger wildfires (Dudek, 2019).

Based on Fire Hazard Severity Zone (FHSZ) mapping data (CAL FIRE 2007, Monterey County 2019), the proposed project site is located within both High FHSZ (HFHSZ) and Very High FHSZ (VHFHSZ). The California Department of Forestry and Fire Protection (CAL FIRE) uses FHSZs to classify anticipated fire-related hazards for the entire state and includes classifications for State Responsibility Areas (SRAs), Local Responsibility Areas (LRAs), and Federal Responsibility Areas (FRAs). Fire hazard severity classifications take into account the following elements: vegetation, topography, weather, crown fire production, and ember production and movement. The High and Very High Fire Hazard Severity designations can be attributed to a variety of factors including highly flammable, dense, drought-adapted chaparral vegetation; seasonal, strong winds; and a Mediterranean climate that results in vegetation drying during the fall months. CAL FIRE also maps and ranks areas of fire threat, which indicates the level of fire threat based on the potential fire behavior (fuel rank) and expected fire frequency (fire rotation) at a given location (CAL FIRE 2005). The proposed project occurs within areas ranked high and very high fire threat. Figure 3.7-1 (Fire Severity Zones) identifies the CAL FIRE FHSZ designations in the vicinity of the proposed project.

The following sections provide more information regarding the fire environment associated with the proposed project and potential environmental effects of wildfire burning on or near the proposed project site.

3.7-1 Fire Severity Zones



Vegetation/Fuels

As described in Section 3.3 (Biological Resources), there are 14 vegetation types that comprise the proposed project site, as presented in Table 3.7-1.

Table 3.7-1 Existing Vegetation Types within the Project Site

Vegetation Type	Existing Conditions (acres)
Annual Grassland	28.41
Baccharis Scrub	7.65
Diablan Sage Scrub	117.38
Eucalyptus	1.54
Landscaped	2.85
Landscaped – Lawn	3.48
Mixed Hardwood Forest	39.62
Mixed Oak/Landscape Trees	1.11
Oak Woodland	22.60
Palm Trees	0.48
Pond	0.45
Riparian	2.05
Seasonal Wet Seep	0.21
Wetland	0.08
Total	***227.91***
Source: Rana Creek 2005	

Variations in vegetative cover type and species composition have a direct effect on fire behavior. Some plant communities and their associated plant species have increased flammability based on plant physiology (resin content), biological function (flowering, retention of dead plant material), physical structure (bark thickness, leaf size, branching patterns), and overall fuel loading. For example, grass dominated plant communities become seasonally prone to ignition and produce lower intensity, higher spread rate fires. In comparison, sage scrub can produce higher heat intensity and higher flame lengths under strong, dry wind patterns, but does not typically ignite or spread as quickly as light, flashy grass fuels.

Another important factor is the dynamic nature of vegetation communities. Fire presence and absence at varying cycles or regimes disrupts plant succession, returning it to a pre-fire plant community where less fuel is present for a period of time as the plant community begins its succession again. High frequency fires tend to convert shrublands to grasslands or maintain grasslands, while fire exclusion tends to convert grasslands to shrublands, over time. In general, biomass and associated fuel loading will increase over time, assuming that disturbance (fire, farming, grazing, or grading) or fuel reduction efforts are not implemented. It is possible to alter successional pathways for varying plant communities through manual alteration.

Weather

As described in RDEIR Section 3.2, Air Quality, Monterey County lies within the North Central Coast Air Basin. A semi-permanent high-pressure cell in the eastern Pacific Ocean is the basic controlling factor in the air basin's climate. In the summer, a

dominant, high pressure cell causes persistent west and northwest winds over the coast. The generally northwest-southeast orientation of mountain ranges surrounding the Salinas Valley restricts and channels summer on-shore air currents. Surface heating in the interior portion of the Salinas Valley intensifies on-shore airflows during the afternoon and evening. In the fall, surface winds become weak, dissipating altogether on some days. Airflow is occasionally reversed in a weak offshore movement, and the relatively stationary air mass is held in place by the high-pressure cell. During the winter, the high-pressure cell migrates southward and has less influence on the air basin. Air frequently flows in a southeasterly direction out of the Salinas and San Benito valleys, especially during night and morning hours. Northwest winds are nevertheless still dominant in winter, but easterly flow is more frequent.

For the project region, wind speed data was analyzed for modeling potential fire behavior in support of the project's fire protection plan (Dudek 2019). Data was obtained from the Arroyo Seco Remote Automated Weather Station (RAWS), which is located approximately six miles southwest of the proposed project site. Based on this data, average (50^{th} percentile) sustained wind speeds for the region are approximately 10 miles per hour (mph) and extreme (97^{th} percentile) sustained wind speeds are 19 mph, with gust speeds reaching 50 mph (Dudek 2019).

Topography

Site topography is influenced by the Paraiso Springs drainage, which bisects the property from its southwest corner to approximately midway along its eastern boundary. Indian Valley drainage also affects site topography, converging with the Paraiso Springs Valley drainage in the central/eastern portion of the property. Site elevations range from approximately 960 feet above mean sea level (amsl) where the Paraiso Springs Valley drainage exits the property along its eastern boundary, to approximately 2,000 feet amsl in the property's northeast corner. Slope aspects across the property vary based on slope position relative to the site's drainages, with south-, east-, and north-facing slopes dominating the site. Slope gradients on site range from relatively flat in the central, developed portion of the site, up to approximately 70% along the slopes that extend upward from the developed central portion of the property.

Regionally, the proposed project site is situated at the eastern edge of the Sierra de Salinas range where it slopes easterly down to the Salinas Valley. Terrain in this region, and on the project site, include components that are favorable to wildfire spread including steep slopes, ravines, ridges, mountains, and valleys. These terrain features influence the speed and direction of air movement, which has a direct effect on wildfire behavior.

Fire History

Fire history data can provide an understanding of fire frequency, fire type, burn severity, significant ignition sources, and other information relevant to understanding the fire and fuels environment in an area. There have been numerous recorded wildfires within the project study area. Fire history data was obtained from CAL FIRE's Fire and Resources Assessment Program (FRAP) database. FRAP summarizes fire perimeter data dating to the late 1800s, but which is incomplete due to the fact that it includes only fires over 10 acres in size and has incomplete perimeter data, especially for the first half of the 20th century (Dudek 2019). However, the data does provide a summary of recorded fires and

can be used to show whether large fires have occurred in the project area, which indicates whether they may be possible in the future.

Fire history records document 156 wildfires within 5 miles of the project site between 1932 and 2016 (CAL FIRE 2017), primarily to the west and south in the nearby Sierra de Salinas and Santa Lucia Ranges in the Los Padres National Forest. Based on a review of the fire history information, average fire return interval for the area within 5 miles of the project site is 6 years, with intervals ranging from 1 to 14 years. Average fire return interval for large fires (>1,000 acres) within 5 miles of the project site is 12.7 years, with intervals ranging from 1 to 41 years (CAL FIRE 2017). While structural fires have occurred on site in the old resort buildings, no wildfires in the recorded history have burned onto the project site (Dudek 2019).

Environmental Effects of Wildfires

Although wildfire can benefit natural ecosystems that have evolved with occasional burning and that benefit from the stimulation of growth through the reproduction of plants and wildlife habitat, fire can also be detrimental to biological and other natural resources, such as air quality and water quality.

Biological Resources

Flora

Grassland communities, usually non-native grasses, will readily establish after wildfires in chaparral and scrub communities. With repeated burning at short intervals of up to several years, it is possible to convert chaparral and scrub to non-native grasslands. Chaparral and scrub vegetation communities will typically re-sprout and absent fire or other disturbances will return to pre-fire conditions. Chaparral communities also tend to repopulate many forest types following stand-replacing fire. The chaparral may establish for the first several years after the fire event, whereupon the tree cover will begin to establish (USDA 2000a). Because vegetation communities can be converted following fire, these changes in dominant vegetation communities can drastically affect plant and animal habitat and can affect the prevalence of special-status species.

Fauna

Generally speaking, fires injure or kill a relatively small proportion of wild animals. For example, birds and larger mammals can flee wildfire, and small mammals and reptiles can seek refuge in subterranean burrows. Habitat changes resulting from fires have a much more profound impact on faunal populations and communities than does the fire itself. Fires can result in short-term increases in vegetation productivity and the availability and nutrient content of forage and browse (USDA 2000b). These increases can in turn lead to increases in herbivore populations. However, any increase in population size is highly dependent upon the population's ability to survive in the post-fire environment (USDA 2000b). In general, fires that devastate a landscape featuring many shrubs and trees temporarily reduce habitat cover for species requiring cover and increase habitat for species (such as raptors) that prefer open areas (USDA 2000b).

Air Quality

Carbon dioxide, water vapor, carbon monoxide, particulate matter, hydrocarbons, and other constituent materials are all present in wildfire smoke. The specific composition of smoke depends largely on the fuel type (vegetation types contain different amounts of cellulose, oils, waxes, and starches, which when ignited produce different compounds). In addition, hazardous air pollutants and toxic air contaminants, such as benzene and formaldehyde, are also present in smoke. However, the principal pollutant of concern from wildfire smoke is particulate matter. In general, particulate matter from smoke is very small in size and can be inhaled into the deepest recesses of the lungs, presenting a serious health concern (Lipsett 2008).

Factors including weather, stage of fire, and terrain can all dictate fire behavior and the impact of wildfire smoke. Wind, for instance, generally results in lower smoke concentrations because wind causes smoke to mix with a larger volume of air. Large quantities of pollutants can also be released by wildland fires over a relatively short period of time. Air quality during large fires can become severely hazardous and can remain impaired for several days after the fire is ignited (Lipsett 2008).

Water Quality

Fire can impact water quality by increasing potential for erosion and sedimentation in areas where vegetation has been burned, resulting in increased water temperature through removal or drastic modification of shade-providing trees and vegetation. Water chemistry can also be altered through the introduction of pollutants and chemical constituents. Aquatic environments may also be impacted through the introduction of fire retardant chemicals used during firefighting activities.

Erosion and Sedimentation

Watersheds severely burned by wildfire are vulnerable to accelerated rates of soil erosion and can experience large amounts of post-fire sediment deposits. Increases in post-fire suspended sediments in streams and lakes (in addition to possible increases in turbidity) can result from erosion and overland flow, channel scouring, and creep accumulations in stream channels after an event (USDA 2005). While less is known regarding the effect of fire on turbidity, it has been observed that post-fire turbidity levels in stream water are affected by the steepness of the burned watershed (USDA 2005). The little data available regarding post-fire turbidity levels has indicated that U.S. Environmental Protection Agency (EPA) water quality standard for turbidity can be exceeded after a fire event (USDA 2005). In some cases, during severe, slow-moving fires, the combustion of vegetation during wildfires creates a gas that can penetrate the soil. As the soil cools, this gas condenses and forms a waxy coating which causes the soil to repel water. This phenomenon, called hydrophobicity, increases the rate of surface water runoff as water percolation into the soil is reduced (Moench and Fusaro 2012).

The threat to water quality from erosion following wildfire was analyzed by CAL FIRE (2009). This analysis estimates an expected erosion rate if an area experiences a high severity fire and considers information on fire rotation to better identify locations that are more likely to experience frequent high severity fires (CAL FIRE 2010). Mapping data generated from this analysis indicates that the proposed project is classified as primarily having low and moderate erosion potential, although an area in the northwest portion of

the property is classified as having high post-fire erosion potential (CAL FIRE 2009). Areas of low erosion potential on the proposed project site are associated with lower elevations where proposed development is concentrated. Erosion potential increases on the slopes surrounding the proposed development area.

Water Temperature

When fire burns stream bank vegetation and shade trees, water temperature can rise, which in turn can lead to thermal pollution, which leads to increased biological activity in the stream. Increased activity levels place a greater demand on the dissolved oxygen content of the water and can affect the survivability and sustainability of aquatic populations and communities (USDA 2005). Water temperature increases up to 62° Fahrenheit (°F) have been recorded in stream flows following fires in which the stream bank vegetation was burned (USDA 2005).

Water Chemistry

Ash deposits generated by a fire can affect the pH of water immediately after the event, potentially increasing to levels that violate water quality standards. In addition, increases in the pH of nearby soil can also cause increases in stream flow pH (USDA 2005). Dissolved nitrogen levels can increase after fires as a result of accelerated mineralization and nitrification (dissolved nitrogen is commonly studied as an indicator of fire disturbance), but these levels do not typically exceed established water quality standards (USDA 2005). Dissolved phosphorous, sulfur, chloride, and total dissolved solids levels can increase after a fire, but studies have shown that these increases typically do not result in violation of drinking water quality standards (USDA 2005).

Fire Retardant

The use of fire retardants to protect communities, sensitive resources, or other assets has proven highly effective, but it can have a direct effect on aquatic environments. The use of ammonium-based retardants can affect water quality, and, in some instances, they can be toxic to aquatic biota (USDA 2005). Nitrogen-containing retardants can potentially affect drinking water quality, and retardants containing sodium ferrocyanide can potentially be lethal for aquatic organisms (USDA 2005).

The following information is added to 2018 RDEIR Section 3.7.3, Regulatory Background, Federal:

3.7.3 Regulatory Background

Federal

National Fire Protection Association Codes, Standards, Practices, and Guides

National Fire Protection Association (NFPA) codes, standards, recommended practices, and guides ("NFPA Documents") are developed through a consensus standards development process approved by the American National Standards Institute (ANSI). This process brings together professionals representing varied viewpoints and interests to

achieve consensus on fire and other safety issues. NFPA standards are recommended guidelines and nationally accepted good practices in fire protection but are not law or "codes" unless adopted as such or referenced as such by the California Fire Code or the Local Fire Agency.

Federal Wildland Fire Management Policy

The Federal Wildland Fire Management Policy was developed in 1995, updated in 2001, and again in 2009, by the National Wildfire Coordinating Group, a federal multi-agency group that establishes consistent and coordinated fire management policy across multiple federal jurisdictions. An important component of the Federal Wildland Fire Management Policy is the acknowledgement of the essential role of fire in maintaining natural ecosystems. The Federal Wildland Fire Management Policy and its implementation are founded on the following guiding principles:

- Firefighter and public safety are the first priority in every fire management activity.
- The role of wildland fire as an essential ecological process and natural change agent will be incorporated into the planning process.
- Fire management plans, programs, and activities support land and resource management plans and their implementation.
- Sound risk management is a foundation for all fire management activities.
- Fire management programs and activities are economically viable, based upon values to be protected, costs, and land and resource management objectives.
- Fire management plans and activities are based upon the best available science.
- Fire management plans and activities incorporate public health and environmental quality considerations.
- Federal, state, tribal, local, interagency, and international coordination and cooperation are essential.
- Standardization of policies and procedures among federal agencies is an ongoing objective.

National Fire Plan

The National Fire Plan was a presidential directive in 2000 as a response to severe wildland fires that had burned throughout the United States. The National Fire Plan focuses on reducing fire impacts on rural communities and providing assurance for sufficient firefighting capacity in the future. The plan addresses five key points: Firefighting, Rehabilitation, Hazardous Fuels Reduction, Community Assistance, and Accountability. The plan continues to provide invaluable technical, financial, and resource guidance and support for wildland fire management across the United States. The USDA Forest Service and the Department of the Interior are working to successfully implement the key points outlined in the plan (USFS 2019).

International Fire Code

Created by the International Code Council, the International Fire Code addresses a wide array of conditions hazardous to life and property including fire, explosions, and hazardous materials handling or usage (although not a federal regulation, but rather the product of the International Code Council). The International Fire Code places an emphasis on prescriptive and performance-based approaches to fire prevention and fire

protection systems. Updated every 3 years, the International Fire Code uses a hazards classification system to determine the appropriate measures to be incorporated in order to protect life and property (often times these measures include construction standards and specialized equipment). The International Fire Code uses a permit system (based on hazard classification) to ensure that required measures are instituted.

International Wildland-Urban Interface Code

The International Wildland–Urban Interface (WUI) Code is published by the International Code Council and is a model code addressing wildfire issues.

The following information is added to 2018 RDEIR Section 3.7.3, Regulatory Background, State:

State

California Building Code

Chapter 7A of the California Building Code (CBC) applies to building materials, systems and/or assemblies used in the exterior design and construction of new buildings located within a Wildland-Urban Interface Fire Area. The purpose of this chapter is to establish minimum standards for the protection of life and property by increasing the ability of a building located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area to resist the intrusion of flames or burning embers projected by a vegetation fire and contributes to a systematic reduction in conflagration losses. New buildings located in such areas are required to comply with the ignition resistant construction standards outlined in Chapter 7A.

California Fire Code

The California Fire Code (CFC) is contained within Title 24, Chapter 9 of the California Code of Regulations (CCR). Based on the International Fire Code, the CFC is created by the California Buildings Standards Commission and regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. Similar to the International Fire Code, the CFC and the California Building Code (CBC) use a hazards classification system to determine the appropriate measures to incorporate to protect life and property.

California Public Resources Code

These regulations are discussed in further detail as follows:

- **Public Resource Code 4290** requires minimum fire safety standards related to defensible space that are applicable to state responsibility area lands and lands classified and designated as very high fire hazard severity zones.
- **Public Resource Code 4291** requires a reduction of fire hazards around buildings, requiring 100 feet of vegetation management around all buildings, and is the primary mechanism for conducting fire prevention activities on private property within CAL FIRE jurisdiction.

Fire Hazard Severity Zoning

CAL FIRE mapped FHSZs in Monterey County based on fuel loading, slope, fire

weather, and other relevant factors as directed by Public Resources Code Sections 4201–4204 and Government Code Sections 51175–51189. FHSZs are ranked from moderate to very high and are categorized for fire protection within a Federal Responsibility Area (FRA), State Responsibility Area (SRA), or Local Responsibility Area (LRA) under the jurisdiction of a federal agency, CAL FIRE, or local agency, respectively.

California Strategic Fire Plan

The 2018 Strategic Fire Plan for California reflects CAL FIRE's focus on (1) fire prevention and suppression activities to protect lives, property, and ecosystem services, and (2) natural resource management to maintain the state's forests as a resilient carbon sink to meet California's climate change goals and to serve as important habitat for adaptation and mitigation. The Plan's vision is for a natural environment that is more fire resilient, buildings and infrastructure that are more fire resistant, and a society that is more aware of and responsive to the benefits and threats of wildland fire, all achieved through local, state, federal, tribal, and private partnerships (CAL FIRE 2018a). Plan goals include the following:

1. Identify and evaluate wildland fire hazards and recognize life, property and natural resource assets at risk, including watershed, habitat, social and other values of functioning ecosystems. Facilitate the collaborative development and sharing of all analyses and data collection across all ownerships for consistency in type and kind.
2. Promote and support local land use planning processes as they relate to: (a) protection of life, property, and natural resources from risks associated with wildland fire, and (b) individual landowner objectives and responsibilities.
3. Support and participate in the collaborative development and implementation of local, county and regional plans that address fire protection and landowner objectives.
4. Increase fire prevention awareness, knowledge and actions implemented by individuals and communities to reduce human loss, property damage and impacts to natural resources from wildland fires.
5. Integrate fire and fuels management practices with landowner/land manager priorities across jurisdictions.
6. Determine the level of resources necessary to effectively identify, plan and implement fire prevention using adaptive management strategies.
7. Determine the level of fire suppression resources necessary to protect the values and assets at risk identified during planning processes.
8. Implement post-fire assessments and programs for the protection of life, property, and natural resource recovery.

The following information is added to 2018 RDEIR Section 3.7.3, Regulatory Background, Local:

Local

CAL FIRE San Benito-Monterey Unit Strategic Fire Plan

The 2018 CAL FIRE/San Benito-Monterey Unit Strategic Fire Plan (CAL FIRE 2018b) is produced on an annual basis for the coming fire season. The Plan includes an assessment of the fire situation in the Unit (which includes Monterey County),

stakeholder contributions and priorities, and strategic targets for pre-fire solutions developed by people who reside and work in the local area. The Unit Strategic Fire Plan is designed to achieve the goals and objectives of the Strategic Fire Plan for California under the direction of the Unit's Pre-Fire Engineer. After identifying and evaluating existing wildfire hazards, the Plan supports collaboration between stakeholders in the implementation and development of actions to reduce potential for a wildfire and ensure adequate response in the event of a wildfire.

Monterey County Fire Code

Standard defensible space requirements as identified in Monterey County Code, Chapter 18.09, requires the removal of combustible vegetation from within a minimum of 100 feet or to the property line from structures, whichever is closer. In these fuel management areas, vegetation must be no taller than four inches (4") high, trees must be limbed six feet up from ground and limbs must be removed within 10 feet of chimneys. Additional or alternate fire protection approved by the fire code official may be required to provide reasonable fire safety. Environmentally sensitive areas may require alternative fire protection, to be determined by the fire code official and other jurisdictional authorities.

The following information replaces the last paragraph of 2018 RDEIR Section 3.7.4, Analytical Methodology and Significance Threshold Criteria, Methodology:

The wildfire section of this chapter is based primarily on a review of applicable fire planning documents prepared for the proposed project, specifically the *Preliminary Fire Protection Plan* prepared by CH2MHill (2005) included in the General Development Plan (2019 RDEIR Appendix 1) and the *Fire Protection Plan* prepared by Dudek (2019) (2019 RDEIR Appendix 2). A field survey was also conducted on April 17, 2019 to evaluate the site's fire environment and support preparation of the *Fire Protection Plan* (Dudek 2019). Additionally, the following plans, documents, and data sets were reviewed to evaluate project-related impacts to wildfire:

- 1982 County of Monterey General Plan
- 1987 Central Salinas Valley Area Plan
- 2015 Monterey County Multi-Jurisdictional Hazard Mitigation Plan
- Monterey County Fire Hazard Severity Zone Mapping Data
- CAL FIRE Mapping Data for Fire History, Fire Threat, Fire Hazard Severity, and Erosion Threat

The following information replaces the last two bullets of 2018 RDEIR Section 3.7.4, Analytical Methodology and Significance Threshold Criteria, Significance Threshold Criteria:

The 2019 version of the *CEQA Guidelines*, Appendix G, provided new sample questions related to wildfire hazards. Although the CEQA Guidelines do not require that

preparation of this 2019 RDEIR use the new questions, the County has chosen to analyze the project's potential environmental impacts against these new questions.

If the project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones, a significant impact related to wildfire would occur if the project would:

- Substantially impair an adopted emergency response plan or emergency evacuation plan.
- 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.
- 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.
- 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.

The following information replaces Impact 3.7-6 of 2018 RDEIR Section 3.7.5, Potential for Wildfire Hazards at the Project Site:

Substantially Impair An Emergency Reponses Plan/Emergency Evacuation Plan

Impact 3.7-6:	Implementation of the proposed project will not affect an emergency response plan or emergency evacuation plan. However, project implementation may impact emergency response and evacuation efforts. This is considered a potentially significant impact. (Less than Significant with Mitigation).

The proposed project does not occur along or utilize local roadways that are an identified evacuation route. The closest identified evacuation route to the proposed project site is Arroyo Seco Road (G17), approximately 2.8 miles from the proposed project site entrance via Paraiso Springs Road and Clark Road (Monterey County 2010). The proposed project is not expected to impair evacuation procedures along this road due to its low traffic volumes and rural land uses along Arroyo Seco Road. An analysis of evacuation from the proposed project site and its effect on other evacuation traffic (residents, vineyard staff) along Paraiso Springs Road was conducted during development of the project's Fire Protection Plan (Dudek 2019) and is discussed below.

The project site is located within the Mission Soledad Rural Fire Protection District (MSRFPD) with the closest station located at 525 Monterey Street in the City of Soledad. This station is operated by CAL FIRE under contract to the City of Soledad and the MSRFPD. Fire agency response to the proposed project site was calculated at 15 minutes and 46 seconds (Dudek 2019), according to the Insurance Service Office (ISO) travel time formula. Policy 17.3.3 of the 1982 Monterey County General Plan (Monterey County 1982) encourages all new development to be located within the response time of 15 minutes from the fire station responsible for serving the parcel. Policy 17.3.3 also states that if this is not possible, on-site fire protection systems (such as fire breaks, fire-

retardant building materials, and/or water storage tanks) must be installed and approved by the local fire jurisdiction. The County does not have any regulations that require a response time of 15 minutes.

The proposed project includes installation of a fire hydrant network, a dedicated fire water pipeline system, a 500,000-gallon water supply tank, and fire department hose connections at the hotel site (Preliminary Fire Protection Plan (CH2MHill 2005)—found in General Development Plan, 2019 RDEIR Appendix 1). As the project site occurs within HFHSZ and VHFHSZ, it will be built to the latest ignition resistant building codes found in PRC 4290 and Chapter 7A of the California Building Code, as adopted by Monterey County, and any additional restrictions or requirements adopted locally by the MSRFPD. Defensible space (fuel management areas) will also be installed and maintained within 100 feet of all project structures. With incorporation of these project features and mitigation measure MM 3.7-6a (additional fire protection measures outlined in the project's Fire Protection Plan (Dudek 2019, RDEIR Appendix 2)) and MM 3.7-6b (vegetation management along project roads), emergency response to the project site would be consistent with 1982 General Plan Policy 17.3.3.

In addition to the policies identified in the County's General Plan, a more in-depth analysis of the proposed project's fire protection and evacuation system was conducted by Dudek in 2019 (2019 RDEIR Appendix 2). This analysis addressed project road capacity, offsite road improvements, project population impacts on evacuation traffic, project population impacts on increased fire potential, increased fire potential impacts to offsite residents, evacuation contingency plans, dead end road lengths, and emergency response. The following summarizes the findings of this analysis:

- Road Capacity: The analysis determined that all project guests and employees could be evacuated from the site to the intersection of Paraiso Springs Road and Clark Road in just over 17 minutes, considering road capacity, distance, and speed variables and factoring in reductions associated with delays and congestion during an emergency situation. Paraiso Springs Road and its connectors include significantly more capacity to move vehicles than would be utilized by project evacuation traffic and existing resident/vineyard evacuation traffic. The road capacity analysis includes a buffer that can offset traffic congestion that may occur during an emergency evacuation and still maintain acceptable vehicle movement and evacuation times.
- Offsite Road Improvements: The proposed project would improve Paraiso Springs Road from its boundary to its intersection with Clark Road by providing minimum road widths of 20 feet for 98 percent of the 7,490 foot road with a small area of 150 feet where topographical constraints would result in an 18 foot wide road, and installing safety signage, delineators and centerline striping where feasible. These improvements create an access road that allows for effective evacuation and emergency access.
- Project Population Impact on Evacuation Traffic: The analysis determined that approximately 275 vehicles may be leaving the proposed project site during an evacuation. Concurrent evacuations of the proposed project population and local residents/vineyard staff could increase evacuation times by 3 to 4 minutes, which is still an acceptable evacuation time. As a part of the project's emergency preparation plan, project employees would assist in evacuation efforts along

Paraiso Springs Road. The addition of approximately 275 vehicles associated with the proposed project may increase evacuation time along Paraiso Springs Road for existing residents and vineyard workers but would not be expected to adversely impact the ability to move people from the area in acceptable timeframes.

- Evacuation Contingency Plan: The analysis determined that temporary refuge during a wildfire or other emergency provides a contingency option that increases overall safety by avoiding the limitation of relying only on evacuation during an emergency. The ability to temporarily refuge visitors, staff and firefighters on site would be available to project emergency managers should evacuation via Paraiso Springs Road be considered unsafe or less desirable.
- Dead End Road Length: The analysis determined that the dead end road length allowances within Title 14 Fire Safe Regulations, Article 2, were based on conditions where readily available fuels were situated along the roadways and where buildings were built within the fuels (e.g., scattered homes/buildings in a wildland urban intermix condition). Such conditions partially exist along Paraiso Springs Road where approximately 1 mile of travel includes natural or unmaintained fuels along the roadside. Beyond that point, agricultural, primarily vineyard fields, occur and present a considerable fuel break with low potential for ignition and fire spread. Roads on the proposed project site would comply with all state and local laws, including state Public Resources Code (PRC) section 4290. As identified by the California Board of Forestry and Fire Protection (Edith Hannigan, Land Use Program Manager, California Board of Forestry and Fire Protection – email to Mike Novo, Monterey County Planning, May 3, 2019), Paraiso Springs Road is a county maintained road built in the 19th century and is not subject to PRC 4290 dead end road requirements. However, the project is mitigating for this single access road into the project site with road improvements for evacuation and emergency access vehicles as well as numerous onsite fire protection measures. These measures are proposed to provide the same practical effect for meeting the intent of the code, to provide for project site safety, and are identified in the Fire Protection Plan (Dudek 2019, 2019 RDEIR Appendix 2). Mitigation Measure 3.7-6a is applied as if PRC 4290 did apply to Paraiso Springs Road. Although PRC section 4290 dead end road requirements are not applicable to the offsite Paraiso Springs Road, the proposed project would comply by providing onsite measures that provide the same practical effect, as allowed in California Code of Regulations, Title 14, section 1270.07.
- Emergency Response: The analysis determined that the closest fire station (Station 37) could reach the project site entrance in a travel time of just over 15 minutes based on Insurance Services Office (ISO) standards, which substantially conforms to the County's 1982 General Plan encouragement of development being within a 15 minute timeframe from Fire Station 37. Calculated call volumes for the proposed project would not be expected to impact current response capabilities with a calculated increase in the daily call rate from 4.4 calls to less than 4.5 calls per day (Dudek 2019).

Recommendations in the project's Fire Protection Plan (Dudek 2019) would also further reduce project-related impacts and enhance emergency response and evacuation efforts. These measures exceed minimum code and policy standards and are included in Mitigation Measure 3.7-6a.

Mitigation Measures

MM 3.7-6a The Fire Protection Plan shall be subject to review by the Mission Soledad Rural Fire Protection District, and approval by the RMA Director, prior to clearance of any vegetation or issuance of permits for construction, whichever occurs first. The applicant shall implement the approved Fire Protection Plan. The Fire Protection Plan shall include the following or equivalent measures, as determined through the approval process:

- Provide a facility Fire Safety Coordinator(s) to oversee implementation of fire protection and safety and overall fire coordination with MSRFPD/CAL FIRE
- Coordinate an annual fire evacuation drill/fire exercise to ensure proper safety measures have been implemented, facility awareness and preparation of facility-wide "Ready, Set, Go!" plan, consistent with the Monterey County Community Wildfire Protection Plan.
- Provide trained security staff 24/7, 365 days per year at the guard gate who are trained to manage an evacuation of the facility by opening the gates and directing traffic out of the area.
- Provide a first-responder (EMT) level staff person and equipment to be on-site at all times.
- Provide a customized one-ton, 4x4 pickup with a skid mounted pump and up to 150 gallon water tank. Multiple staff members and the site security staff should be trained to utilize this apparatus for the purposes of providing initial suppression for any vegetation ignitions, and initial response to other fires.
- Designate one or more structures to house the projected population and to include additional hardening to be designated a temporary refuge area (TRA).
- Provide ember-resistant vents for all ventilation for project structures.
- Provide a site-wide Public Address (PA)/Intercom system for emergency notifications.
- Prepare and practice site-wide evacuations following the "Ready, Set, Go!" program guidelines.
- Prepare an Emergency Preparation Plan that considers pre-fire planning, post-fire recovery, reporting, training, prevention, and communications procedures,
- Enhance traffic flow by not constructing speed bumps/humps and provide an automatic opening device for fire and law enforcement at the entrance gate.
- Restrict vegetation around temporary refuge area buildings to highly ignition resistant vegetation planted at low densities and maintained free of all accumulated debris/litter.
- Design and implement a landscaping plan consistent with accepted wildland urban interface fire safe/fire adapted practices.
- If planted, manage the vineyard in an irrigated, maintained condition to act as a modified fuel buffer.
- Conduct an annual inspection of the site by MSRFPD or its designee to ensure that project landscaping is maintained in a wildfire-safe condition.

- Maintain a 1- to 3-foot landscape-free area adjacent to all building structures' foundations to prevent available fuels for embers at the building base.

MM 3.7-6b Implement and maintain fuel treatment areas along project roads. Fuel treatment areas shall measure 20 feet in width (horizontal) as measured from the edge of the paved surface and shall occur on both sides of the road. Maintenance of roadside treatment areas shall be conducted according to the standards outlined in Monterey County Code Chapter 18.09 (Fire Code), Section O109.1.

Exacerbate Wildfire Risks, Which May Then Expose Occupants to Pollutant Concentrations From A Wildfire or Uncontrolled Wildfire Spread

Impact 3.7-7:	Implementation of the proposed project may exacerbate wildfire risk. This is considered a potentially significant impact. (Less than Significant with Mitigation).

Wildfire Risk

No substantial evidence of a commercial resort exacerbating wildfire risk has been found. Substantial evidence has been found that increased residential use in wildland areas exacerbates fire risk. A commercial project allows a trained staff to provide fuel management and other fire safe techniques around and on a commercial property. However, with wildfire risk being important in these high hazard zones, and a concern for the safety of occupants, neighbors and firefighters, the County is assuming that wildfire risks could increase from the proposed project, as described in this section.

Construction and operation/maintenance of the proposed project would involve the use of flammable materials, tools, and equipment capable of generating a spark and igniting a wildfire. Additionally, increased vehicle traffic and human presence in the project area could increase the potential for wildfire ignitions during operations/maintenance. The potential for the project to exacerbate wildfire risks to project occupants/staff and local residents during construction and operations/maintenance phases is discussed below.

Construction

As described, the proposed project area is located within a HFHSZ and VHFHSZ and heat or sparks from construction equipment, vehicles, as well as the use of flammable hazardous materials, have the potential to ignite adjacent vegetation and start a fire, especially during weather events that include low humidity and high wind speeds. The following construction-related equipment has the potential to generate heat or sparks that could result in wildfire ignition:

- Earth-moving and excavating equipment – Heated exhausts or sparks may result in ignition.
- Chainsaws and other small gas-powered equipment/tools – may result in vegetation ignition from overheating, spark, fuel leak, etc.
- Tractors, graders, mowers, bulldozers, backhoes, cranes, excavators, trucks, and vehicles – heated exhaust in contact with vegetation may result in ignition.
- Welders – Open heat source may result in metallic sparks coming into contact with vegetation.

- Wood chippers – Include flammable fuels and hydraulic fluid that may overheat and spray onto vegetation with a hose failure.
- Grinders – Sparks from grinding metal components may land on a receptive fuel bed.
- Torches – Heat source, open flame, and resulting heated metal shards may come in contact with vegetation.

The potential risk of wildfire ignition and spread associated with construction of the proposed project can be managed and pre-planned so that the potential for vegetation ignition is reduced. In addition, pre-planning and construction personnel fire awareness, reporting, and suppression training not only results in lower probability of ignition, but also in higher probability of fire control and extinguishment in its incipient stages. Data indicate that 95% of all wildfire ignitions are controlled during initial attack (Smalley 2008).

Additionally, measures that would help reduce construction-related wildfire impacts to a less than significant level include having adequate water available to service construction activities, implementing a construction-phase fire prevention plan, providing proper wildfire awareness, reporting, and suppression training to construction personnel, and requiring that all construction-phase components of the fuel modification be fulfilled prior to delivery of combustible materials/lumber drop to the project site. Implementation of mitigation measures MM 3.7-7a and MM 3.7-7b would reduce construction-phase impacts to a less than significant level.

Operations and Maintenance

Operations and maintenance of the proposed project would necessitate the use of flammable materials and powered tools and equipment periodically, all of which have the potential to ignite adjacent vegetation and start a fire, especially during weather events that include low humidity and high wind speeds. Creation of defensible space areas surrounding all structures and installation and maintenance of project landscaping would reduce fuel loads and readily-ignitable flashy fuels (grasses) and increase spacing between retained vegetation. This managed vegetation condition within and surrounding the developed portion of the project would minimize the potential for wildfire ignition and spread. Implementation of firesafe maintenance practices (MM 3.7-7c) and development and implementation of an operations-phase fire prevention plan (MM 3.7-7d) would further reduce operations phase impacts to a less than significant level.

Occupant Exposure

The proposed project has identified a daily population of approximately 500 people at full buildout with 100 percent occupancy, including staff and visitors. Given the project site's location in a HFHSZ and VHFHSZ, several fire protection systems have been included in the proposed project design or are otherwise required through relevant codes and standards. Fire protection systems for the proposed project that serve to minimize occupant exposure to wildfire impacts include:

- Installation of a fire hydrant network, a dedicated fire water pipeline system, a 500,000-gallon water supply tank, and appropriate hose connections (CH2MHill 2005)).

- Construction according to the latest ignition resistant building codes found in PRC 4290 and Chapter 7A of the California Building Code, as adopted by Monterey County, and any additional restrictions or requirements adopted locally by the MSRFPD.
- Installation of sprinklers in all structures designed by a licensed Fire Protection Engineer. A commercial sprinkler system supplied by the fire water pipeline system and 500,000 gallon water supply tank would be provided for the Hotel/Spa Resort complex. Built-in fire sprinklers for timeshare units would be connected to the potable water system.
- Installation and maintenance of defensible space areas within 100 feet of all project structures to reduce the potential for extreme fire behavior adjacent to developed areas and provide a working area for firefighters to conduct suppression activities.
- Installation of 12 foot-wide (minimum) on-site access roads, vehicle turnarounds, and bridges meeting appropriate loading standards.

Additionally, the technical analysis conducted in support of the proposed project (Fire Protection Plan (Dudek 2019)) considered potential occupant exposure and identified management recommendations that exceed minimum fire code and policy standards. A summary of these measures is presented under Impact 3.7-6. Implementation of proposed project design features, applicable fire code and policy standards, and Mitigation Measures 3.7-6a (implementation of Fire Protection Plan (Dudek 2019) recommendations), 3.7-6b (roadside fuel management), 3.7-7c (firesafe maintenance practices), and 3.7-7d (operations fire prevention plan) would reduce wildfire exposure impacts to a less than significant level.

Local Resident/Staff Exposure

The proposed project has identified certain components or design features intended to minimize occupant exposure to wildfire impacts. Additionally, mitigation measures have been identified to further reduce wildfire impacts to project occupants. Implementation of Mitigation Measures 3.7-7a through 3.7-7d will also reduce project-related wildfire impacts to local residents and vineyard staff to a less than significant level by reducing the likelihood of project-related ignitions. Certain project features will also help minimize wildfire impacts to local residents and vineyard staff and include:

- Installation and maintenance of project landscaping and defensible space areas around structures and roads will create a larger area of managed, irrigated, and maintained vegetation on the project site than currently exists. This will create a larger fuel break in the project area, would provide a working area for firefighters to conduct suppression activities, and would slow a fire burning eastward from the Sierra de Salinas range/Los Padres National Forest.
- Installation of a fire water system would assist in early suppression of on-site structure fires, should they occur.
- Completion of off-site road improvements along Paraiso Springs Road would facilitate fire apparatus response or evacuation egress during an emergency.
- Completion of a temporary refuge area for use during a wildfire emergency, which can be utilized by local residents in the event of an emergency.

Increased Risk from Locating New Development in a High Fire Severity Zone

While it is true that humans are the cause of most fires in California, there is no data available that links increases in wildfires with the development of ignition resistant communities.

Based on its location in a HFHSZ and a VHFHSZ, the Proposed Project is required to provide for a level of planning, ignition resistant construction, access, water availability, fuel modification and construction materials and methods that have been developed specifically to allow safe development within these areas. The Project meets and exceeds these requirements and based on the fire protection designs and measures integrated into the Proposed Project, which reduces potential for fire ignitions, the potential fire risk to existing residents in the area is not expected to increase. The Project would provide an up-canyon fuel break, positively affecting down-canyon residents by slowing fire spread. This type of development with an unbroken landscape (as opposed to low density wildland urban intermix projects) has been found to perform well against wildfires (Syphard, et. al, USGS Research 2015: Fires at the Wildland Urban Interface: Lessons from Southern California; Institute for Business & Home Safety, BHS Mega Fires: The Case for Mitigation 2008).

As detailed in the Fire Protection Plan, the Proposed Project will include a comprehensive fire protection system that employs land use planning, site design, and ignition resistant material and methods to minimize fire risk and result in a fire hardened project. This same robust fire protection system that protects the Proposed Project's structures, persons and property, also provides protections from on-site fire spreading to off-site vegetation. Accidental fires within the landscape or structures in the Proposed Project will have limited ability to spread. The landscape throughout the Proposed Project and on its perimeter will be highly maintained and much of it irrigated, which further reduces its ignition potential. Structures will be highly ignition resistant on the exterior and the interiors will be protected with automatic sprinkler systems, which have a very high success rate for confining or extinguishing fires. Additionally, future staff and visitors will enhance the wildfire detection network within the Project Area by providing additional fire-aware persons in the area. The Project will employ the fire adapted community strategies with a strong outreach program that raises fire awareness among its staff and visitors. Finally, the proposed fire suppression capabilities at the site (Type VI engine with skid pump) would reduce the initial response time to wildfire ignitions and increase the likelihood of successful initial attacks that limit the spread of wildfires.

The Project's presence would include an increase in the number of people in the area. However, the Proposed Project has been analyzed and designed to minimize the likelihood that an ignition occurs on site, and if it did, that it would escape the site. The Project will provide an ignition resistant landscape that essentially breaks up fuel continuity, provides operational advantages, including anchor points (an advantageous location from which firefighters can start building a fire line), and offers temporary refuge for existing residents and firefighters as well as widens Paraiso Springs Road. Roadways are consistently some of the highest ignition points for wildfires. The additional Project related traffic using Paraiso Springs Road introduces additional potential ignition sources along the roadway. However, the road widening and paving creates a more suitable access road and provides additional space between vehicles within travel lanes, provides a road surface that can support the imposed loads of vehicles and responding fire apparatus and in addition the ability to provide a fast response from the

site with the Type VI fire engine that would be on the project site at all times, would minimize the likelihood of a vegetation fire. Data indicate that 95% of all wildfire ignitions are controlled during initial attack (Smalley 2008). Off-site land uses further reduce the likelihood of vegetation fire given the large areas that are irrigated agricultural/vineyard uses, which are also resistant to ignition. Implementation of Mitigation Measures 3.7-7a through 3.7-7d will also reduce project-related wildfire impacts to local residents and vineyard staff to a less than significant level by reducing the likelihood of project-related ignitions, including from Project vehicles.

Mitigation Measure

MM 3.7-7a Implement all construction-phase fuel modification components from the approved Construction Fire Prevention Plan (see MM 3.7-7b) prior to removal of vegetation or combustible building materials being delivered to the site, as applicable.

MM 3.7-7b The applicant shall develop a Construction Fire Prevention Plan that addresses training of construction personnel and provides details of fire-suppression procedures and equipment to be used during construction. The Construction Fire Prevention Plan shall be subject to review by the Mission Soledad Rural Fire Protection District, and approval by the RMA Director, prior to clearance of any vegetation or issuance of permits for construction, whichever occurs first. Information contained in the plan shall be included as part of project-related environmental awareness training. At minimum, the plan shall include the following or equivalent measures:

- Procedures for minimizing potential ignition, including, but not limited to, vegetation clearing, parking requirements/restrictions, idling restrictions, smoking restrictions, proper use of gas-powered equipment, use of spark arrestors, and hot work restrictions;
- Work restrictions during Red Flag Warnings and High to Extreme Fire Danger days;
- Adequate water supply to service construction activities;
- Fire coordinator role and responsibility;
- Worker training for fire prevention, initial attack firefighting, and fire reporting;
- Emergency communication, response, and reporting procedures;
- Coordination with local fire agencies to facilitate agency access through the project site;
- Emergency contact information;
- Demonstrate compliance with applicable plans and policies established by state and local agencies.

MM 3.7-7c Maintenance of project buildings, grounds, and infrastructure, including defensible space areas, shall be conducted using firesafe practices to

minimize the potential for wildfire ignitions resulting from equipment use. Firesafe practices shall be consistent with California Public Resources Code Sections 4427, 4428, 4431, and 4442. Infrastructure maintenance activities shall be ceased during periods of high fire hazard (e.g., red flag warnings), except where necessary to maintain water supply for fire suppression purposes. This requirement shall be included in the project's operational manual (MM 3.7-7d).

MM 3.7-7d The applicant shall develop an Operations Fire Prevention Plan that addresses policies and procedures for minimizing wildfire potential. The Operations Fire Prevention Plan shall be subject to review by the Mission Soledad Rural Fire Protection District, and approval by the RMA Director, prior to issuance of occupancy permits or final inspection, whichever occurs first, for any habitable structures. The plan shall include the following:

- Procedures for minimizing potential ignition during maintenance activities;
- Work restrictions during Red Flag Warnings and High to Extreme Fire Danger days;
- Fuel modification zone and landscape area maintenance procedures, including timing of work to reduce the likelihood of ignition and/or fire spread;
- Communication and reporting procedures with MSRFPD;
- Fire safety coordinator role and contact information;
- Applicable recommendations included in the project's Fire Protection Plan (MM 3.7-6a).

Exacerbate Wildfire Risks Due To Infrastructure

Impact 3.7-8:	Implementation of the proposed project may exacerbate fire risk associated with installation and maintenance of project-related infrastructure. This is considered a potentially significant impact. (Less than Significant with Mitigation)

Infrastructure required for development of the proposed project is discussed in detail in Section 2.4 (Project Description). The following identifies proposed project infrastructure and its contribution to wildfire risk:

- Potable and Recycled Water Supply: Two wells would supply necessary potable and recycled water, with the second well serving as a back-up supply. Recycled water would be used to irrigate project landscaping. This water supply is not intended for fire hydrants or structure sprinklers (this supply is discussed below). Any maintenance needed on either well would not result in additional temporary or permanent impacts beyond those identified in the 2018 RDEIR and 2019 RDEIR ("this EIR"). Implementation of Mitigation Measure 3.7-7c during maintenance of these features would reduce potential wildfire impact to less than significant.

- Wastewater Management: A wastewater treatment facility would be constructed at the eastern end of the project site, near the entrance and downhill from the main resort area. Recycled water would be stored underground on-site and used for landscape irrigation. If unavailable, landscape irrigation water would come from the project's potable supply. Installation of the wastewater treatment facility would not result in additional temporary or permanent impacts beyond those identified in this EIR. Implementation of mitigation measure MM 3.7-7c during maintenance of this area would reduce potential wildfire impact to less than significant.
- Stormwater Management: The project will install interceptor drainage ditches, debris basins, and vehicular/pedestrian bridges and will remove four existing culverts to manage storm and debris flows. These stormwater features are static, do not generate heat/sparks and would not impede site access or otherwise hinder evacuation or emergency response efforts. Installation of these features would not result in additional temporary or permanent impacts beyond those identified in this EIR. Implementation of mitigation measure MM 3.7-7c during construction and maintenance of these features would reduce potential wildfire impact to less than significant.
- Energy Conservation and Greenhouse Gas Emissions Reductions: The project would implement measures to conserve energy on site. Most of the identified measures occur within structures (e.g., low-flow water fixtures) or are programs to reduce waste (e.g., recycling program). Exterior measures (e.g., solar photovoltaic systems) would be installed to existing code standards. None of these measures would exacerbate wildfire risk or result in additional temporary or permanent impacts beyond those identified in this EIR.
- Fire Protection: The project would install a fire hydrant network, a dedicated fire water pipeline system, a 500,000-gallon water supply tank, and fire department hose connections at the hotel site. These features are static, do not generate heat/sparks and would not impede site access or otherwise hinder evacuation or emergency response efforts and availability of on-site fire water would reduce potential wildfire impacts. Installation of these features would not result in additional temporary or permanent impacts beyond those identified in this EIR. Implementation of mitigation measure MM 3.7-7c during construction or maintenance of these features would reduce potential wildfire impact to less than significant.
- Defensible Space: Defensible space would be required within 100 feet of the project's structures to reduce fire hazard on-site, consistent with state and county requirements. Defensible space zones are passive measures and would not impede site access or otherwise hinder evacuation or emergency response efforts. Presence of defensible space areas would reduce fuel volumes and moderate fire behavior near structures and would reduce potential wildfire impacts. Installation of defensible space areas would not result in additional temporary or permanent impacts beyond those identified in this EIR. Maintenance of defensible space areas may require heat-or spark-generating equipment thereby increasing wildfire risk. However, implementation of MM 3.7-6b (fuel treatment areas along project roads) and MM 3.7-7c (fire-safe maintenance practices) would reduce potential wildfire impact to less than significant.

- Power Lines: Project power lines would be installed below ground and would not exacerbate wildfire risk or result in additional temporary or permanent impacts beyond those identified in this EIR.

With implementation of Mitigation Measures 3.7-6b and 3.7-7c, wildfire impacts resulting from installation and maintenance of project-related infrastructure would be less than significant.

Increased Risk Associated with Runoff, Post-Fire Slope Instability, or Drainage Changes

Impact 3.7-9:	Implementation of the proposed project may increase risk associated with post-fire runoff, slope instability, or drainage changes. This is considered a potentially significant impact. (Less than Significant with Mitigation)

Wildfires can greatly reduce the amount of vegetation. Plant roots stabilize the soil and above-ground plant parts slow water, allowing it to percolate into the soil. Removal of surface vegetation resulting from a wildfire on a hillside reduces the ability of the soil surface to absorb rainwater and can allow for increased runoff that may include large amounts of debris. If hydrophobic conditions exist post-fire, the rate of surface water runoff is increased as water percolation into the soil is reduced (Moench and Fusaro 2012). The potential for surface runoff and debris flows therefore increases significantly for hillside areas recently burned by large wildfires (Monterey County 2015, Moench and Fusaro 2012).

As described in RDEIR Sections 2.4 (Project Description) and 3.6 (Geology and Soils), the surrounding hillsides above the proposed project are steep in many areas and are susceptible to erosion, landslides, and debris flow. CAL FIRE mapping data indicates moderate and high erosion potential in the hillside areas above the developed area of the proposed project (CAL FIRE 2009). RDEIR Section 3.6 also identifies that some slopes surrounding the proposed development area are prone to slope failure and have a high geologic hazard risk potential for landside and debris flow and that numerous debris avalanches and debris slides of varying ages are present on these slopes. It is expected that such conditions could be exacerbated in a post-fire landscape where surface vegetation has been removed (burned) and erosion potential increases.

The proposed project proposes to install interceptor drainage ditches on hillsides above the developed areas to deliver upland surface runoff around buildings, retaining walls, roadways, and other built structures. To manage potential debris flows and landslide impacts, up to five debris basins are also proposed at locations adjacent to proposed development sites. These debris basins will include a series of two-to-four small soil and rock check dams, approximately three-feet tall, constructed at the low flow line of the natural drainage feature. The debris basins would be constructed adjacent to proposed roadways, parking lots or maintenance paths to facilitate inspection and maintenance. The proposed project would also implement mitigation measure MM 3.8-2 which would require that a Civil Engineer prepare a final drainage plan to limit the 100-year post-development runoff rate to the County-identified 10-year pre-development rate. Additionally, Mitigation Measures 3.6-4a and b would ensure that the potential for landslide is reduced to a less than significant level by requiring preparation of a Final Geologic and Soil Engineering Feasibility Report prior to issuance of a grading permit.

Implementation of these project features and Mitigation Measures 3.8-2, 3.6-4a, and 3.6-4b are also expected to minimize potential flooding, runoff, or slope instability impacts that may occur post-fire. When combined with the post-fire inspection assessment identified in Mitigation Measure MM 3.7-9, potential impacts associated with post-fire flooding, runoff, or slope instability are considered less than significant.

Mitigation Measure

MM 3.7-9 Following any wildfire that burns onto the project site, a post-fire field assessment shall be conducted by an engineering geologist within 60 days of fire personnel allowing access to the site, to identify any areas that may be subject to increased risk of post-fire flooding, landslide or erosion. Any recommendations identified by the geologist to mitigate such risk shall be reviewed and approved by Monterey County RMA and implemented by the project applicant. This requirement shall be included in the project's operational manual.

As explained in 2018 RDEIR section 4.5.2, Cumulative Impacts Assumptions and Analysis, Hazards and Hazardous Materials, second paragraph, "[T]he proposed project would not combine with any planned growth in the area to form a hazards impact greater or more significant than the proposed project impact alone." No other significant development projects are proposed, or approved and not yet constructed, in the State Responsibility Area of the Sierra de Salinas mountain range. Potential cumulative impacts to exacerbating fire risk within the SRA are the same potential impacts of this project identified above.

Alternatives Section

RDEIR Section 5.1.3, Alternatives Eliminated from Detailed Analysis, is modified to read as follows:

5.1.3 Alternatives Eliminated from Detailed Analysis

An "Alternative Site Location" was rejected because the *Monterey County General Plan*, *Central Salinas Valley Area Plan*, and Zoning Ordinance all contemplate a visitor serving use at this location, the historic use of the site has been for visitor serving purposes, and the applicant specifically purchased and seeks to develop this property because of the attraction of the hot springs. An alternative location would not meet the basic project objectives of utilizing the mineral hot springs, developing a mission style resort that provides visitor-serving support for the Monterey County wine corridor, honoring the historic connection to the Soledad Mission's use of the property as a vineyard and retreat, or reducing pressure to convert agricultural land. There are no other locations within the Central Salinas Valley that includes natural mineral hot springs or that includes the historic use by the Soledad Mission. The site does not currently contain agricultural uses. For all these reasons, the "Alternative Site Location" was eliminated from consideration.

Two alternatives are eliminated as not being economically feasible, and not being consistent with a sufficient number of project objectives: a hotel only alternative and a 61 unit alternative. The resort, prior to its closure in 2003, had a number of configurations with up to 61 units, including mobile homes (RDEIR Figure 3.5-1) and hook ups for recreational vehicles. Camping and a yurt area were also provided.

For the hotel only alternative, the proposed project's timeshare units are important to provide adequate financing and occupancy rates to make the project financially feasible due to the need to construct on-site and off-site infrastructure for the project, such as a sewer system, water system, fire suppression system, and off-site road improvements. In addition, this resort is located in an area isolated from significant tourist destinations in Monterey County, making the economic risk of this project higher. Timeshare units have a higher average occupancy rate (CHMWarnick letter dated February 20, 2019; personal communication, John Thompson, September 7, 2017), which help to make the project economically feasible, as well as meet county goals related to obtaining tax revenue from the project site to support agricultural and tourism related programs funded by the county. The 61 unit alternative would not have sufficient size to allow the project to provide all the amenities necessary to become a destination resort. A project of that size would likely only be able to consist of hotel units and limited amenities, which makes financial feasibility difficult if not unlikely, as explained above. This makes the objective of providing an economically sustainable combination of hotel units and timeshare units infeasible. Most importantly from the lead agency's standpoint, both alternatives would also not meet a fundamental project objective, important to and included by the county,

relating to maximizing the use of the site to reduce pressure to convert other agricultural land in the wine corridor as well as meet the needs of the wine corridor economic program outlined in the 2010 *Monterey County General Plan*. In addition, neither of these alternatives serves to reduce impacts on the only significant environmental impact of the project, even after mitigations imposed, which is the loss of historic structures. These alternatives would reduce the number of site users, leading to less people being informed of the site's history.

RDEIR Section 5.1.4, Alternatives Selected for Detailed Analysis, is modified to read as follows:

5.1.4 Alternatives Selected for Detailed Analysis

Below is a qualitative analysis of a reasonable range of alternatives to the proposed project. This analysis is intended to provide a relative comparison between the proposed project and each individual project alternative. In several cases, the description of the impact level may be the same under each scenario when compared to the CEQA thresholds of significance (i.e., both scenarios would result in a less than significant impact determination). However, the actual degree of impact may be slightly different under each scenario, and this relative difference is the basis for a conclusion of greater or lesser impacts.

While none of these alternatives can reduce the only Significant and Unavoidable impact to historical resources, each one reduces impacts in comparison to the proposed project. Each of the alternatives analyzed in section 5.2 consists of a reduced project size, which generally results in less impact for many of the resource topics.

This analysis will identify an environmentally superior alternative from among the alternatives. The environmentally superior alternative is the alternative that would result in the fewest or least significant environmental impacts, while still achieving the basic objectives of the proposed project, as described during the planning effort. The alternatives discussed below are deemed as potentially feasible for analysis in this EIR; however, a final decision on feasibility of each alternative will be determined through evidence provided to the County decision-making body.

The alternatives evaluated include the following:

Alternative #1 - No Project Alternative

Alternative #2 – Valley Floor Alternative One

Alternative #3 – Valley Floor Alternative Two

Alternative #4 - Reduced Project Alternative - Phases 1 and 2 Project

Alternative #5 – Timeshare Relocation Alternative

The analysis of each alternative as compared to the proposed project is presented below.

According to the California Environmental Quality Act, section 15126.6(f), "…the alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project." As described below, there is no way to avoid the significant effects related to this project. Cultural Resources impacts, related to the demolition of historic structures, cannot be avoided or reduced through these project alternatives, including the No Project Alternative and are determined to be significant and unavoidable. Mitigation measures identified for all topic areas, which measures reduce impacts to less than significant, with the exception of impacts to cultural resources, would also be applied to the alternatives described below, other than the No Project Alternative.

Section 5.2.4.5, Alternative #5, Timeshare Relocation Alternative, is added to the RDEIR as follows:

5.2.4.5 Alternative #5: Timeshare Relocation Alternative

This alternative would relocate many of the timeshare condominium units to Indian Valley, relocate 13 Villa timeshare units to the timeshare hillside area on Lots 21 and 22, and redesign the Villa timeshare units to single story structures. This alternative would eliminate the majority of proposed development on slopes exceeding 30 percent. The objective of this alternative is to create better consistency with County policy related to development on slopes exceeding 30 percent, reduce grading, reduce the visibility of development on the site from common public viewing areas, and relocate most of the lodging units closer to the project entrance for fire safety. This alternative would involve the following modifications to the site plan:

- Relocate the Villa timeshare units to the hillside between Paraiso Valley and Indian Valley (Lots 21 and 22). The Villa timeshare units would be redesigned as single story structures;
- Relocate the timeshare condominium units on Lots 21 and 22 from their current location along a hillside in an area that requires encroachment onto 30 percent slopes to Indian Valley in the location of the villa lots;
- Relocate the timeshare condominium units on Lot 23 to Indian Valley in the location of the villa lots; and
- Relocate road alignment from hillside timeshares (northwest corner of Lot 22) to more directly connect the cul de sac to the rear of the hotel area rather than to the area vacated by the relocated timeshare condominiums on Lot 23 (reduces area of thirty percent slope encroachment and avoids High geologic hazard area)

The result of these changes would be the retention and relocation of the 60 timeshare condominium units and the relocation of 13 of the 17 timeshare Villa lots. A total of four Villa timeshare units would be eliminated. This results in a two percent reduction in visitor serving units being constructed on site (from 180 to 176). Elimination of these units results in a drop in the number of rooms from 310 to 298 (4%). The outcome would be reduction in height of development at higher and more visible locations, a smaller development footprint (elimination of development on proposed Lot 23) and related less environmental effects, a reduction in grading and development activities on steeper slopes, and location of units closer to the project entrance.

Impact Analysis

Aesthetics

The relocation of the timeshare Villas to the hillside would result in fewer visual changes to the project site from common public viewing areas. Fewer structures would be built; therefore, slightly fewer trees and other vegetation would be removed, and fewer sources of light and glare would be introduced within the project site. The timeshare condominiums on Lot 23, proposed for relocation, were in oak woodland. Their relocation leaves the forested area undeveloped, resulting in fewer native trees being removed. The relocation and height reduction of the hillside timeshare units to single story would allow existing topography and vegetation, as well as proposed landscaping, a better ability to reduce visibility of the proposed development from common public viewing areas.

It should also be noted that, as stated in Section 3.1, Aesthetics and Visual Resources, planting of trees will occur in accordance with Section 21.64.260 of the Monterey County Code. In addition, this alternative would reduce encroachment on slopes greater than 30 percent particularly on/near Lot 23 with the relocation and reduction in length of the hillside roadway. Under the proposed project, the condominiums on Lots 21 and 22 would be visible from Paraiso Springs Road. Relocation of these proposed two story units from the higher slopes of this hillside, and replacement with single story structures, would reduce the visual impact by incorporating single story units.

Lot 23 would then remain as undeveloped open space. Implementation of the proposed project is not expected to substantially degrade the existing visual quality or character of the project site or surrounding area, and all aesthetic impacts herein were found to be less than significant with mitigation measures as outlined in Section 3.1: Aesthetics and Visual Resources. However, this alternative would have fewer impacts on aesthetics, light, and glare than the proposed project with a reduction in development and vegetation removal, reduction in hillside grading for a road, and an emphasis on keeping the most visible development at lower height (single story versus the project's proposed two story units).

Air Quality

Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities. Therefore, less particulate matter from short-term construction would occur under the Timeshare Relocation Alternative. In

addition, the reduction of the number of units developed would correspondingly reduce construction exhaust emissions associated with construction and operational activities. The elimination of timeshare units would reduce vehicular trips and long-term vehicular emissions generated by development within the project site. As such, fewer impacts to air quality would occur. With implementation of mitigation measures, as outlined in Section 3.2, Air Quality, impacts regarding air quality were found to be less than significant. This alternative would have even fewer impacts on air quality relative to the proposed project due to less grading, resulting in less construction vehicle exhaust emissions and less dust generated, and slightly lower operational emissions related to vehicle exhaust and emissions from energy use. Although this alternative would result in slightly fewer air quality impacts, the air quality impacts associated with the proposed project would not be substantially lessened with implementation of this alternative.

Biological Resources

The Timeshare Relocation Alternative would result in fewer timeshare units and, subsequently, additional open space with the relocation of seven structures (14 units) from Lot 23, which is primarily oak woodland habitat. As such, there would be fewer disturbances to existing plant and wildlife habitats, including the removal of oak woodland habitat and other vegetation. Also, as this alternative would have fewer impacts to wildlife habitat, the potential impacts to special-status wildlife species would also be reduced. This alternative would not result in a reduction of wetland impacts when compared with the proposed project.

As identified in Section 3.3, Biological Resources, biological resource impacts resulting from implementation of the proposed project can be mitigated to a less than significant level. However, because this alternative would result in less removal or disturbance of biological resources, this alternative would have fewer impacts on biological resources in comparison to the impacts of the proposed project. Therefore, with the exception of potential impacts to wetlands, this alternative would lessen the biological impacts associated with the proposed project.

Climate Change

Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities, site operations that utilize electricity or use fuel, and transportation emissions (direct or indirect). Less particulate matter from short-term construction would occur under this alternative. The reduction of the number of units developed, relocating a proposed road off a steep hillside, and concentrating development on a smaller footprint, would reduce grading activities, which will reduce exhaust emissions associated with construction activities. The elimination of four timeshare units would reduce vehicular trips and long-term vehicular emissions generated by development within the project site. The proposed project includes a provision to design the project such that no net increase in contributions to climate change will occur, as discussed in Section 3.4, Climate Change. As such, this Timeshare Relocation Alternative would result in no change in comparison to the impacts of the proposed project.

Cultural Resources

The impacts to archaeological resources through construction of the proposed project were found to be less than significant with mitigation. However, as identified in Section 3.5, Cultural Resources, impacts to historic resources resulting from implementation of the proposed project cannot be mitigated to a less than significant level due to previous removal of the nine individually significant Victorian-era cottages in 2003.

The Timeshare Relocation Alternative would result in slightly fewer timeshare units and additional open space. As such, there would be a slight reduction in the potential for the disturbance or destruction of unique archaeological resources or paleontological resources, except at the location of the proposed offsite road improvements. The project applicant would still be required to implement mitigation measures incorporated herein to reduce the impacts to historic resources to the extent feasible. Even with implementation of these mitigation measures, as these historic resources cannot be recreated, this would continue to be a significant and unavoidable impact under the Timeshare Relocation Alternative and would result in no change in comparison to the proposed project.

For other potential cultural resource impacts related to Native American and unique archaeological resources, impacts under the Timeshare Relocation Alternative would result in similar potential impact in comparison to the impacts of the proposed project. While the development footprint is being reduced, recorded sites are not found in the area being eliminated, resulting in the expectation that impacts would be similar.

Geology and Soils

The project site is subject to earthquakes and seismic ground shaking. In addition, the project site may be subject to secondary seismic effects such as liquefaction and landslides. The Timeshare Relocation Alternative would result in a smaller construction footprint and fewer timeshare units in comparison to the proposed project. The relocation of the hillside road proposed to lead to Lot 23 would allow the road to avoid a High Geologic Hazard Potential area (designated 4S on RDEIR Figure 3.6-4, Relative Geologic Hazards).

The reduction in timeshare units would reduce exposure of persons and structures to seismic hazards. There would be a lower potential for short-term, construction related erosion to occur and, therefore, would have a lower potential to create adverse impacts. In addition, the timeshare relocation from Lot 23, and the relocation of the road to Lot 23, would result in less disturbance to the steep slopes on the project site. This would reduce potential adverse impacts from long-term erosion hazards and landsliding. Therefore, fewer impacts could occur under this alternative. As identified in Section 3.6, Geology and Soils, with the incorporation of the recommended mitigation measures, the proposed project will have a less than significant effect on geology and soils. The Timeshare Relocation Alternative would result in fewer buildings at the project site. As such, because there would be fewer units within a seismic hazard area and less potential for short- and long-term erosion, this alternative is viewed as having slightly less impact associated with seismic hazards in comparison to the impacts of the proposed project.

This alternative does, however, eliminate some development on hillsides and, therefore, the hazards associated with potential landslides are lessened when compared with the impacts of the proposed project.

Hazards and Hazardous Materials

The Timeshare Relocation Alternative would result in fewer timeshare units, less grading, and the provision of additional open space. In the short-term, less earthmoving activities would take place that could result in accidental spills or release of hazardous construction-related materials. In the long-term, there would a slight reduction in the use of hazardous materials within the project site. As identified in Section 3.7, Hazards and Hazardous Materials, the hazardous impacts would be considered less than significant. However, because the Timeshare Relocation Alternative would result in less use of hazardous materials and fewer incidents for accidental spills or release of hazardous construction-related materials, this alternative would have fewer impacts to hazards and hazardous materials in comparison to the impacts of the proposed project.

This alternative results in fewer timeshare units, which slightly reduces potential impacts to emergency evacuation and to wildfire. Potential impacts to wildfire risk from infrastructure installation and maintenance, and potential impacts related to increased risk associated with post-fire slope instability or drainage changes would be slightly less to the proposed project by eliminating one area of timeshare units.

Hydrology and Water Quality

Short-term Erosion and Water Quality

The proposed project would result in short-term erosion and water quality impacts that would be less than significant with mitigation measures. The Timeshare Relocation Alternative would reduce the number of visitor-serving units by approximately two percent. In the short-term, the Timeshare Relocation Alternative would reduce the required earthmoving activities that could otherwise result in increased erosion and sedimentation. Therefore, this alternative would have fewer short-term erosion and water quality impacts.

Long-term Surface Water Runoff

The proposed project would result in long-term surface water runoff impacts that would be less than significant with mitigation measures. The Timeshare Relocation Alternative would slightly reduce the number of visitor-serving units and reduce the length of one two-lane road. This alternative would slightly reduce impervious surfaces that would increase surface water runoff when compared to the proposed project. Therefore, this alternative would have slightly fewer long-term surface water runoff impacts.

Long-term Surface Water Quality

The proposed project would result in long-term surface water quality impacts that would be less than significant with mitigation measures. The Timeshare Relocation Alternative would slightly reduce the number of visitor-serving units. In the long-term, the Timeshare Relocation Alternative would reduce impervious surfaces and associated surface water

runoff and urban contaminants, as explained above, that have an adverse impact on surface water quality when compared to the proposed project. Therefore, this alternative would have slightly fewer long-term surface water quality impacts.

Long-term Water Supply

The proposed project would result in a reduction of groundwater flow to the Salinas Valley Groundwater Basin. Net groundwater use for proposed project would result in a reduction of 15.5 acre-feet per year flowing from the site to the groundwater basin, or 17.8 acre-feet per year if supplemental watering for wetland/riparian areas is required. Groundwater levels in the Forebay Aquifer and the groundwater basin would not be substantially affected by the required water withdrawals: therefore, the impact is considered less than significant.

The Timeshare Relocation Alternative would reduce the number of visitor-serving units, and therefore slightly reduce water demand. Gross water demand would be reduced by approximately 1.5 acre-feet per year. Net water demand, as a result of treating 90% of potable water as wastewater and using for landscape irrigation, would be reduced by 0.15 acre-feet per year.

Two other factors influence changes to water use: 1) less rainwater will be collected and infiltrated, and 2) landscaping would likely be reduced due to a smaller development footprint. Rainwater is collected and infiltrated into the aquifer as part of the low impact development (LID) practices described in this RDEIR. Fewer structures will lead to less of that runoff being collected and infiltrated. The reduction in water needed for landscaping would likely be proportional to the wastewater generated by a Villa timeshare as landscaping around Villa timeshare units is more in proportion to the area of the structure. These two factors would essentially offset, leading to no substantial effect on the net water use reduction. The net water use reduction estimated above would be a reduction of approximately one percent. In the long-term, the Timeshare Relocation Alternative would reduce groundwater demand by up to one percent when compared to the proposed project. Therefore, this alternative would have slightly fewer long-term water supply impacts.

Well Interference

Implementation of the proposed project would lower water levels in nearby wells. Calculations show that water levels would be reduced by up to 0.5 feet in the closest off-site well, which could affect that well's pumping rate by 0.27 percent. The lowering of the water level and pumping rate would not affect the well capacity or amount of water provided by that well. Effects on wells at greater distances would be less than 0.5 feet lowering of the water table, decreasing to no measurable effect farther from the project site. Therefore, this is considered a less than significant impact.

The Timeshare Relocation Alternative would reduce the number of visitor-serving units by approximately two percent, and, as explained above, reduce water demand by approximately one percent, nominally reducing the less than significant impact on neighboring wells. The reduction may not be measurable. In the long-term, the Timeshare Relocation Alternative would slightly reduce groundwater demand when compared to the

proposed project. Therefore, this alternative would have the same or fewer impacts on neighboring wells.

Effect on Salinas Valley Groundwater Levels

Implementation of the proposed project would result in a net reduction in groundwater flowing from the aquifer underlying the site by between 15.5 and 17.8 acre-feet per year. This would result in a lowering of the water table of up to 0.02 inches in the aquifer between the project site and the Salinas River, eight miles to the north and east. The project's net consumptive use on the Salinas Valley Groundwater Basin is a reduction of 0.002 percent of average annual recharge. Therefore, this is considered a less than significant impact.

The Timeshare Relocation Alternative would reduce the number of visitor-serving units by two percent and four percent of the available room count, and therefore slightly reduce water demand when compared to the proposed project. Therefore, this alternative would have slightly fewer impacts to groundwater levels.

Groundwater Quality

The proposed project would use treated wastewater for irrigation. Evaporative concentration of irrigation water, and evaporation from the ornamental pond could increase total dissolved solids (TDS); the use of certain types of water softening equipment could increase calcium carbonate levels in groundwater to a level that could exceed drinking water standards. Resort operations could affect water quality by increasing salinity. The impact related to increasing calcium carbonate would be less than significant with implementation of mitigation measures.

The Timeshare Relocation Alternative would reduce the number of visitor-serving units by approximately two percent, and therefore slightly reduce irrigation needs or other uses that could increase salinity when compared to the proposed project. Therefore, this alternative would have fewer potential impacts to groundwater quality.

Wetland and Riparian Habitat Impact

The proposed project could lower the water table to a level that could adversely impact wetland or riparian vegetation. This impact would be less than significant with implementation of mitigation measures.

The Timeshare Relocation Alternative would reduce the number of visitor-serving units by approximately two percent, and therefore slightly reduce water demand when compared to the proposed project. Therefore, this alternative would have slightly fewer impacts to groundwater levels and associated wetland and riparian habitat.

Noise

Development creates short-term noise impacts from the operation of construction equipment and long-term noise impacts from increased vehicle traffic and operations. Under the Timeshare Relocation Alternative, four timeshare units would be eliminated, and proportionally less noise from short-term construction or long-term operational activities would occur. As such, fewer noise impacts would occur. With the mitigation

measures, as set forth in Section 3.10, Noise, all noise impacts from the proposed project were found to be less than significant. However, the Timeshare Relocation Alternative would have slightly fewer noise impacts in comparison to the proposed project due to a reduction in vehicle trips to the project site, less development areas requiring maintenance activities, and fewer guests occupying the site. Potential noise impacts from on-site operations would likely be the same related to outdoor activities that will remain on the site with the majority of the units still being occupied and any day use activities being essentially unaffected by this reduction in timeshare units. Therefore, this alternative would have fewer construction-related noise impacts and slightly less operational noise impacts when compared to the impacts of the proposed project.

Public Services and Utilities

Wastewater Generation and Treatment

As discussed in Section 3.11, Public Services and Utilities, implementation of the proposed project would result in increased wastewater flows and includes construction of new wastewater treatment, distribution, and disposal facilities. The construction and operation of these facilities would result in a less than significant environmental impact. This alternative reduces the proposed number of units by four units (approximately two percent) and therefore, would generate less wastewater and require less wastewater to be treated and therefore, would have fewer impacts when compared to impacts of the proposed project.

Water Quality

The water supply for the proposed project currently exceeds the public health standard of 2.0 mg/L for fluoride. As discussed in Section 3.11, Public Services and Utilities, a mitigation measure is required to address water quality issues that would reduce the impact to a less than significant level. This alternative reduces the proposed number of units by four (approximately two percent) and therefore, would have relatively less water demand and require less water to be treated. Therefore, this alternative would have fewer impacts when compared to impacts of the proposed project.

Storm Drainage Facilities

The proposed project would be required to detain the difference between the 100-year post-development storm runoff rate and the 10-year pre-development storm runoff rate. This may require the construction of new or expanded storm water detention facilities. As discussed in Section 3.11, Public Services and Utilities, the associated impacts are less than significant with mitigation measures. This alternative reduces the proposed number of units by four (approximately two percent) and subsequently, slightly reduces the amount of impervious surfaces possibly requiring smaller detention facilities. It would therefore, have slightly fewer impacts when compared to impacts of the proposed project.

Solid Waste

The proposed project would result in construction and long-term solid waste. As discussed in Section 3.11, Public Services and Utilities, the associated impacts were determined to be less than significant. This alternative reduces the proposed number of

units by four (approximately two percent) and therefore, would result in less solid waste delivered to the landfill. Therefore, this alternative would have slightly fewer impacts when compared to impacts of the proposed project.

Other Public Services

Impacts to other public services, all determined to be less than significant as discussed in Section 3.11, would be similar to the proposed project.

Transportation and Traffic

Implementation of the Timeshare Relocation Alternative would result in elimination of four proposed timeshare Villa units (approximately two percent of total units). Each of the Villa timeshare units generates 9.57 vehicle trips per day, not including credit for shuttle use. With credit for shuttle use, trip reduction would be approximately 35 vehicle trips per day (four units x 9.57 trips per unit – 6.25% shuttle credit). This alternative would result in approximately eight percent (35 divided by 406 trips per day) less traffic than the proposed project.

The project, as designed, does not require mitigation as no potentially significant environmental impacts were identified. The slight reduction in project trips would not change the levels of service nor affect the applicant's proposed improvements to Paraiso Springs Road. The elimination of eight parking spaces associated with the eliminated Villa timeshare units would result in development being within the same footprint as the development footprint shown on the tentative map, except the elimination of development on Lot 23 for the timeshare condominium units. Therefore, because the Timeshare Relocation Alternative would reduce the generation of construction-related vehicle trips and long-term operational traffic, as well as require fewer parking spaces, this alternative would have slightly fewer transportation and circulation impacts in comparison to the impacts of the proposed project.

Conclusion

The smaller footprint and slightly fewer timeshare units proposed by the Timeshare Relocation Alternative would result in corresponding fewer impacts to all environmental issue areas with the exception of impacts to Climate Change, which would have similar impacts to the proposed project. The Timeshare Relocation Alternative would result in four fewer timeshare units, which would reduce the room count by 12 rooms, and, therefore, would meet the proposed project objectives to a lesser degree compared to the proposed project. The objectives met to a lesser degree under this alternative include development of 50 acres of the project site, providing an economically sustainable combination of hotel units and timeshare units of varying sizes, maximizing development of this previously disturbed site, reducing pressure on the conversion of other agricultural areas to provide tourist accommodations related to the Winery Corridor, and providing a world class spa-resort in the Central Salinas Valley.

Add the following text to 2018 RDEIR section 5.2.2, Alternative #2: Valley Floor Alternative One, Hazards and Hazardous Materials:

This alternative results in ten percent fewer timeshare units, which slightly reduces potential impacts to emergency evacuation and to wildfire. Potential impacts to wildfire risk from infrastructure installation and maintenance, and potential impacts related to increased risk associated with post-fire slope instability or drainage changes would be slightly less to the proposed project by eliminating one area of timeshare units.

Add the following text to 2018 RDEIR section 5.2.3, Alternative #3: Valley Floor Alternative Two, Hazards and Hazardous Materials:

This alternative results in 6.7 percent fewer timeshare units, which slightly reduces potential impacts to emergency evacuation and to wildfire. Potential impacts to wildfire risk from infrastructure installation and maintenance, and potential impacts related to increased risk associated with post-fire slope instability or drainage changes would be slightly less to the proposed project by eliminating one area of timeshare units.

Add the following text to 2018 RDEIR section 5.2.4, Alternative #4: Reduced Project Alternative, Hazards and Hazardous Materials:

This alternative results in 35.5 percent fewer visitor-serving units, which substantially reduces potential impacts to emergency evacuation and reduces potential impacts to wildfire. Potential impacts to wildfire risk from infrastructure installation and maintenance, and potential impacts related to increased risk associated with post-fire slope instability or drainage changes would be reduced compared to the proposed project due to less area being disturbed through the elimination of development areas for Phases 3 and 4.

RDEIR Table 5-1 is Amended to Add a Column for Alternative #5, Timeshare Relocation Alternative (see following pages)

Environmental Impact	Proposed Project	Alternative #5 Timeshare Relocation Alternative (Units Reduced by 2%--NEW COLUMN)
Aesthetics and Visual Resources		
3.1-1 Adverse effect on a scenic vista and degrade the visual quality of the project site.	Less than significant with mitigation	Less than significant with mitigation Reduced
3.1-2 New sources of light adversely affecting visual resources	Less than significant with standard condition of approval	Less than significant with standard condition of approval Reduced
Air Quality		
3.2-1 Short-term construction emissions	Less than significant with mitigation	Less than significant with mitigation Reduced
3.2-2 Potential exposure to asbestos and/or lead during demolition activities	Less than significant with mitigation	Less than significant with mitigation Similar
3.2-3 Long-term operational stationary and vehicular emissions	Less than significant	Less than significant Reduced
3.2-4 Carbon Monoxide	Less than significant	Less than significant Reduced
3.2-5 Exposure of sensitive receptors to unpleasant odors	Less than significant	Less than significant Reduced
3.2-6 Exposure of sensitive receptors to toxic air contaminants	Less than significant	Less than significant Reduced
Biological Resources		

3.3-1 Habitat loss for special status bat species, Monterey dusky-footed woodrat, coast horned lizard, and burrowing owl.	Less than significant	Less than significant Reduced
3.3-2 Potential direct impact to special status species status bat species, Monterey dusky-footed woodrat, coast horned lizard, and burrowing owl.	Less than significant with mitigation	Less than significant with mitigation Reduced
3.3-3 Potential direct impacts to nesting birds.	Less than significant with mitigation	Less than significant with mitigation Reduced
3.3-4 Loss of potential jurisdictional wetland (0.40 acre, 7,771 linear feet).	Less than significant with mitigation	Less than significant with mitigation Similar
3.3-5 Impede wildlife movement	Less than significant	Less than significant Reduced
3.3-6 Removal of approximately 7.5 acres of coast live oak woodland habitat and up to 191 trees, including 185 protected oak trees.	Less than significant with mitigation	Less than significant with mitigation Reduced
Climate Change		
3.4-1 Generation of greenhouse gas emissions above net zero	No impact with applicant-proposed mitigation	No impact with applicant-proposed mitigation Similar
Cultural Resources		
3.5-1 2003 demolition of nine significant historic Victorian-era cottages.	Significant and Unavoidable, with mitigation	Significant and Unavoidable, with mitigation Similar

3.5-2 Potential to disturb, destroy, or adversely affect the integrity of recorded archaeological sites.	Less than significant with mitigation	Less than significant with mitigation Similar
3.5-3 Potential to disturb, destroy, or adversely affect the integrity of a significant archaeological resource (planned road improvements)	Less than significant with mitigation	Less than significant with mitigation Similar
3.5-4 Potential to disturb, undiscovered archaeological resources or human remains.	Less than significant with mitigation	Less than significant with mitigation Reduced
Geology and Soils		
3.6-1 Seismic groundshaking potentially resulting in exposure of people to injury or death	Less than significant with mitigation	Less than significant with mitigation Reduced
3.6-2 Potential human safety hazards resulting from dynamic compaction	Less than significant with mitigation	Less than significant with mitigation Reduced
3.6-3 Potential human safety hazards from liquefaction and/or lateral spreading	Less than significant with mitigation	Less than significant with mitigation Reduced
3.6-4 Potential human safety hazards from potential landslides.	Less than significant with mitigation	Less than significant with mitigation Reduced
3.6-5 Short-term and long-term erosion with the potential to adversely affect water quality	Less than significant with mitigation	Less than significant with mitigation Reduced
3.6-6 Project site has a low potential for expansive soils	Less than significant with mitigation	Less than significant with mitigation Similar

Hazards and Hazardous Materials		
3.7-1 Use of hazardous materials during project operations	Less than significant	Less than significant Similar
3.7-2 Transport, use, or disposal of hazardous materials during construction activities	Less than significant	Less than significant Similar
3.7-3 Possible release of asbestos, lead, and/or PCBs from the fluorescent lighting ballasts within the existing structures	Less than significant with mitigation	Less than significant with mitigation Similar
3.7-4 Possible exposure of people or property to hazardous materials associated with septic systems abandonment	Less than significant with mitigation	Less than significant with mitigation Similar
3.7-5 Possible release of hazardous materials in the soil during construction activities	Less than significant with mitigation	Less than significant with mitigation Reduced
3.7-6 Impact emergency response and evacuation efforts.	Less than significant with mitigation	Less than significant with mitigation Reduced
3.7-7 Project implementation may exacerbate wildfire risk	Less than significant with mitigation	Less than significant with mitigation Reduced
3.7-8 Project implementation may exacerbate fire risk associated with installation and maintenance of project-related infrastructure	Less than significant with mitigation	Less than significant with mitigation Reduced
3.7-9 Increased Risk Associated with Runoff, Post-Fire Slope Instability, or Drainage Changes	Less than significant with mitigation	Less than significant with mitigation Reduced
Hydrology and Water Quality		

3.8-1 Short-term Erosion and Water Quality	Less than significant with mitigation	Less than significant with mitigation Reduced
3.8-2 Long-term Surface Water Runoff	Less than significant with mitigation	Less than significant with mitigation Reduced
3.8-3 Long-term Surface Water Quality	Less than significant with mitigation	Less than significant with mitigation Reduced
3.8-4 Long-term Water Supply	Less than significant	Less than significant Reduced
3.8-5 Effect on Salinas Valley Groundwater Levels	Less than significant	Less than significant Reduced
3.8-6 Well Interference	Less than significant	Less than significant Reduced or Similar
3.8-7 Potential Spring Impact	Less than significant	Less than significant Reduced or Similar
3.8-8 Groundwater Quality	Less than significant with mitigation	Less than significant with mitigation Reduced
3.8-9 Wetland and Riparian Impact	Less than significant with mitigation	Less than significant with mitigation Similar
Noise		
3.10-1 Ground borne vibrations	Less than significant	Less than significant Reduced

3.10-2 Traffic noise at residences along Paraiso Springs Road	Less than significant	Less than significant Reduced
3.10-3 Non-traffic noise from project operations at residences along Paraiso Springs Road	Less than significant with mitigation	Less than significant with mitigation Similar
3.10-4 Short-term construction noise	Less than significant with mitigation	Less than significant with mitigation Reduced
Public Services and Utilities		
3.11-1 Increase wastewater flows and construction of treatment, distribution, and disposal facilities	Less than significant	Less than significant Reduced
3.11-2 Water exceeds public health standards for fluoride	Less than significant with mitigation	Less than significant with mitigation Similar
3.11-3 Possible construction of new or expanded stormwater detention facilities	Less than significant with mitigation	Less than significant with mitigation Reduced
3.11-4 Increase in solid waste generation disposed of in landfill	Less than significant	Less than significant Reduced
Transportation and Traffic		
3.12-1 Added vehicle trips to the vicinity roadway system	Less than significant	Less than significant Reduced
3.12-2 Roadway hazards	Less than significant	Less than significant Similar
Consistency with Project Objectives	Meets the project objectives	Meets the project objectives but to a lesser degree

Table 5-1 is Amended to Add Rows for Impacts 3.7-6 through 3.7-9, Wildfire

Environmental Impact	Proposed Project	Alternative #1 No Project	Alternative #2 Valley Floor Alternative One (Units Reduced by 10%)	Alternative #3 Valley Floor Alternative Two (Units Reduced by 6.7%)	Alternative #4 Reduced Project Alternative (Units Reduced by 35.5%)
3.7-6 Impact emergency response and evacuation efforts.	Less than significant with mitigation	No Impact Avoids Impact	Less than significant with mitigation Reduced	Less than significant with mitigation Reduced	Less than significant with mitigation Substantially reduced
3.7-7 Project Implementation may exacerbate wildfire risk	Less than significant with mitigation	No Impact Avoids Impact	Less than significant with mitigation Reduced	Less than significant with mitigation Reduced	Less than significant with mitigation Reduced
3.7-8 Project implementation may exacerbate fire risk associated with installation and maintenance of project-related infrastructure	Less than significant with mitigation	No Impact Avoids Impact	Less than significant with mitigation Reduced	Less than significant with mitigation Reduced	Less than significant with mitigation Reduced
3.7-9 Increased Risk Associated with Runoff, Post-Fire Slope Instability, or Drainage Changes	Less than significant with mitigation	No Impact Avoids Impact	Less than significant with mitigation Similar	Less than significant with mitigation Similar	Less than significant with mitigation Similar

Appendix 1
General Development Plan

Thompson Holdings, LLC, 2005

Paraiso Springs General Development Plan

Owner:

Thompson Holdings, LLC
P.O. Box 2015
Horsham, PA 19044
(215) 441-8600
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Paraiso Springs General Development Plan

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Section 1

General Development Plan

PARAISO SPRINGS RESORT

Project Description

Paraiso Hot Springs Resort is located in Monterey County, eight miles southwest of the town of Soledad. The resort is located at an elevation of approximately 1200 feet over looking the Salinas Valley. The property is situated on 240 acres, with approximately 90 acres of area for the spa/resort development, and the remainder of the site to be retained in open space, hiking trails, habitat and landform preservation, and landscaping improvements.

Access to the spa/resort is provided via Paraiso Springs Road from Clark Road or River Road with direct access from either Route 68 or Highway 101.

The Paraiso site is owned by Thompson Holdings, LLC. The property is divided into three lots of record that are included in the following Assessor's Parcel Numbers: 418-361-004, 418-381-022, 418-381-021. The area currently developed and those areas to be redeveloped are zoned Commercial-Visitor Serving.

Land Uses

Resort

The Paraiso Spa/Resort will be one the premier properties in all of California. Paraiso will provide both overnight and day guest with a tranquil landscaped environment by which the visitor can enjoy the beautiful surroundings of the property and Salinas valley. The spa/resort will bring to California unique wellness treatments only found in the finest spas in Europe. In combination with the wellness treatments Paraiso will provide an extensive educational component, fitness program and culinary experience that promises to be a valued enhancement to the surrounding community. The spa/resort is envisioned to consist of a series of single and two-story clustered visitor-servicing hotel units, timeshare units, timeshare villas and common visitor areas. A total of 103 hotel units, 60 2/3 bedroom timeshare units and 17 timeshare villas are planned in addition to a variety of resort amenities that comprise Paraiso Springs Spa/Resort.

The redevelopment of Paraiso will be constructed, where feasible, with green building materials. Sustainability practices will be adopted in all facets of the project from design to construction and operation of the spa/resort. The resort/spa has been designed to provide both a public access part of the resort via a Hamlet and a secluded part of the resort for hotel guests. The public will be provided access to the historic springs through the use of the day spa located within the hamlet. The landscaping of the property will make use of man made ponds and waterfalls. Trails will also be incorporated throughout the site. The guest units will be strategically placed on the site to provide a sense of privacy for the guests and also to preserve views from the guest quarters of the Paraiso property and the Salinas Valley below. The hotel units are designed so that they may be clustered in groups of two/four units, or as a detached single unit. The timeshare-hotel units are proposed to be larger units which will include small kitchens, a small dining nook, a living room and two/three bedroom suites, complete with baths for each bedroom. The timeshare-villas are larger units that provide family style living for the guest.

The Paraiso General Development Plan was developed after a detailed review of the Central Salinas Valley Area Plan and its associated EIR for the Paraiso Hot Springs Property. The Central Salinas Valley Area Plan policy number 28.1.1.1 designates specific land uses for the Paraiso Hot Springs Property specifically "The resort may include such uses as a lodge, individual cottages, visitor center, recreational vehicle accommodations, restaurants, shops, stables, tennis courts, aquaculture, mineral water bottling, hiking trails, vineyards and orchards".

Recreation

Second only to the spectacular foothills setting of the Paraiso Springs Resort, the natural mineral springs of the property are the preeminent assets of Paraiso and are responsible for the original development of the site in the 1800's. The existing hot springs will be used in both existing and new water features. A Spa Center is proposed which will offer massage, beauty and therapeutic services. A Wellness/Education Center is proposed which will offer lectures by some of the top wellness professionals from around the world. Conference facilities are proposed which will offer seminars, small group and meeting space. An outdoor/indoor fitness center is proposed which will integrate outdoor activities with indoor physical wellness and training facilities. A cultural center for the arts is proposed which will offer music, art and literature.

Restaurants

Three restaurants are proposed, featuring organic foods and wine. The restaurants will provide both dining facilities for the general public and hotel guests. A garden and greenhouse are proposed to be located near the restaurant(s), offering herbs and produce grown on the resort property. A culinary training school is also proposed.

Site Amenities

An outdoor amphitheater is proposed for various uses by the hotel guests. Vineyards and a wine pavilion for hotel guest functions are contemplated near the entrance to the resort. Laundry and maintenance facilities are also proposed on site.

Parking

Parking is proposed for both overnight and day guests. The total number of parking spaces is 310 spaces.

Landscaping

The proposed amenities will be located to be surrounded by man made ponds and waterfalls to promote a sense of tranquility. The use of many trees (both existing and new plantings) will be incorporated into the project to promote a feeling of privacy. Paths are proposed throughout the site to provide easy accessibility for guests.

Site Summary

The property is located on 240 acres of mountain and foothill terrain. The proposed development area will encompass approximately 90 acres, with a focus on 50 acres or 21% of the total property. A total of 103 hotel units, 60 timeshare units and 17 timeshare villas with support facilities are proposed. The following will serve as a reference table, with functional descriptions of the space/feature, keyed directly to the master site plan and drawings contained within the application. The table also indicates if the facility/feature is available to the public (day guest and overnight guest access), private (access to overnight guest only) or is a support facility only accessible by spa/resort staff.

Master Plan Reference Table

Site Plan #	*Feature*	*Description*	*Private/Public*
1	Main Entry Roadway	Road leading to Spa/Resort	Public (access to day and overnight guests)
2	Hotel Spa Entry Gateway	Gate House for overnight guests	Private (available to overnight guests only)
3	Existing specimen oaks	Typical oaks on property	N/A
4	Estate Lots Drive	Road leading to Timeshare Villas	Private
5	Estate Lots Drive – 1/3 acre	Timeshare Villas	Private
6	Vineyards	Vineyards for the production of house wine	Public
7	Hotel and Spa Entry Drive	Road leading to guest check registration	Private
8	Paraiso Institute	Educational classes for guests on health and wellness	Private
9	Themed Stone Bridge	Feature for guest arrival	Private
10	Nursery Center and Display Gardens	Organic gardens where flowers, fruits, vegetables and herbs will be grown for resale or use by the spa/resort	Public
11	Wine Pavilion	Private conference center for special events	Private
12	Hamlet Entry Drive	Road leading to the hamlet	Public
13	Parking Meadow	Overflow parking for special events	Public
14	Visitors Center	Overflow parking area for the Hamlet guests.	Public
15	Enhanced On-Site Treatment System	Waste treatment system and pump house for subsurface irrigation.	
16	Hamlet Arrival Plaza	Arrival plaza for the hamlet for day guests	Public
17	Hamlet Town Square	Main square of the hamlet where both overnight and day guests can enjoy various amenities (i.e. wine tasting, watch artist at work, shop or just enjoy a cup of tea from around the world)	Public
18	Amphitheater Lawn	The great lawn is the main seating area for specialty events	Private
19	Amphitheater Pavilion and Stage	Outdoor theater where specialty events will be held for hotel guests	Private
20	Day Spa Pools and Pavilions	Original Paraiso spring-featured pools where both day guests and overnight guests can enjoy the healing waters	Public
21	Hotel Guest Parking	Overnight guest parking	Private
22	Spa and Hotel Arrival Plaza	Arrival Plaza for the overnight hotel and spa guests	Private
23	Stone Pedestrian Arrival Bridge	Arrival feature for the overnight guest	Private
24	Re-circulating Ornamental Stream and Waterfalls	Water features	N/A

Master Plan Reference Table (Continued)

25	Guest Arrival Courtyard	Arrival area for the overnight guests	Private
26	Hotel Pergola Gardens & Overlook Terrace	Featured garden areas	Public
27	Activity Terrace with Croquet and Bocce Courts	Sports courts for both day and overnight guests to enjoy the sports of croquet and bocce ball	Public
28	Conference Center Gardens and Terraces	Featured Gardens	Public
29	Guestroom Casitas	Overnight guest accommodations	Private
30	Overnight Therapy Stream and Swimming Pool	Water walk with multiple hot and cold water chambers for the improvement of circulation	Private
31	Service Drive	Service road for Paraiso staff	Staff Only
32	Hamlet Parking	Parking for day guests	Public
33	Service Cart Path	Path that allow staff to provide service to the guests	Staff Only
34	Housekeeping, Laundry, Mechanical	Back of house operations	Staff Only
35	Spa Entry Courtyard Gardens	Featured entry garden for the spa	Private
36	Teahouse	Registration and waiting area for scheduled spa treatments	Private
37	Spa Water Gardens	Feature water gardens	Private
38	Spa Courtyard Garden (typical)	Feature garden	Private
39	Labyrinth	Sand based walking area for meditation	Private
40	Pedestrian Bridge to Spa Activity Center	Crossover bridge that allows guests to access the activity center	Private
41	Lap Pool	Pool within the activity center designed for lap swimming	Private
42	Vitality Pavilions	Pavilions used for the practice of yoga, palates and other activities	Private
43	Vitality Courtyard Garden	Feature Garden	Private
44	Golf School	School where guests can improve their golf game	Private
45	Practice Putting Greens	Used by the golf school	Private
46	Racquetball Pavilion	Guests can enjoy the sport of racquetball	Private
47	Basketball Pavilion	Guests can enjoy the sport of basketball	Private
48	Pathway to Hiking Center, Trailheads, and Naturist Area	Path that leads guests to the hiking center	Private
49	Hillside Village Timeshare	Timeshare Units	Private
50	Streamside Pathway	Path running along the stream	Private
51	Naturist Solarium Area	Sun bathing area for the overnight guests	Private
52	Hiking Trails	Various levels of hiking trails for the overnight guests	Private
53	Trailside Overlook	A main trail leading around the entire base of the property	Private

Environmental Considerations

Historical/Archaeological Resources

An Archaeological and Historical report has been prepared by Archaeological Consulting Inc. and has been submitted to Monterey County Planning Department. In summary, the historical report identified several structures on the site of significant historical value that were demised and recommended mitigations to address the demolitions. The structures were demolished prior to the submittal of this application. The archaeological report identified two recorded archaeological sites on the property. Although, no development is planned for the areas where these resources are located archaeological monitoring will be done during all earth moving activities to insure that any resources discovered will be handled and preserved properly.

Hydrology

Water Quality & Quantity

Paraiso is currently performing all appropriate testing for the various water sources that will supply both the potable water, irrigation water and fire protection water. Pools and baths will use the natural water flow on the property. The update to this section will be submitted in the future when all tests are completed.

Grading/Erosion Control/Drainage

Grading

The conceptual grading plan produces the approximate quantity of earthwork cuts and fills. Please see CH2MHILL technical memo titled "Paraiso Springs Resort: Preliminary Site Earthwork Report" found in Appendix A. As indicated in this report, the cuts and fills essentially balance.

Erosion Control

The majority of the planned development will impact approximately 50 acres of the 240 acre project site. Within the development envelope the existing ground gradients vary from approximately 8% at the relatively flat eastern end of the site, to approximately 12% at its western end. The existing ground in the north-central timeshare development areas of the site has slopes up to approximately 33%. The terrain surrounding the development envelope and above the envelope has even steeper slopes. The main drainage is a defined channel which traverses the middle of the development from west to east, with several smaller, steeper drainage swales entering the development area from the north to south. Refer to CH2MHILL technical memo titled "Paraiso Springs Resort: Preliminary Erosion Protection Measures" incorporated in this general development plan as Appendix B.

Drainage

The project site is shown on the Flood Insurance Rate Map (FIRM) for Monterey County, California (Unincorporated Areas), Panel Number 060195 0350 D, dated January 30, 1984. This Map indicates that the Project Site is in Zone C – areas of minimal flooding. Approximately 23 acres of the project site will contain impermeable surfaces because this is such a small % of the overall drainage basin at 2% no significant increase in outflow is anticipated. The main drainage channel that runs west to east through the development envelope has an approximate width of 50'. The current bank full capacity of the primary drainage channel is approximately 4000 cfs. It is estimated that approximately 400 cfs of runoff would be generated from the watershed above the east boundary of the project site during a 1% (100 year) storm event. Therefore the existing channel should have adequate capacity to convey upstream flows through the site. Please refer to CH2MHILL technical memo "Paraiso Springs Resort: Existing Hydrologic and Hydraulic Site Conditions" found in Appendix C.

Biological Survey

The property is comprised of developed areas that contain buildings, trails, roads, wells, landscaping plants, eucalyptus, and palm trees, areas of live oak woodland, Diablan sage scrub, and Baccharis scrub, riparian and annual grasslands. Many species inhabit the area including deer, rabbits and wild turkeys. The majority of the proposed development will be done in areas that are already developed or disturbed. No rare plant species were found during the surveys. The Monterey dusky-footed woodrat nests were noted during the surveys in the lower willow riparian area. The Monterey dusky-footed woodrat is a California Species of Concern. The Areas in which they were found are not proposed for development. The main wetland pond on the property will be preserved and enhanced during the development process. Refer to the Biological assessment report provided by Rana Creek Habitat Restoration the project biologist.

Aesthetics

Paraiso Hot Springs is located at the western terminus of Paraiso Springs Road on the eastern slope of the Sierra de Salinas foothills about seven and a half miles north-northwest of the city of Soledad. The site consists of about 240 acres nestled in the mouth of a canyon extending westward into the foothills. The surrounding land is designated as farmlands and rural grazing and is currently used for agriculture and vineyards where slope allows, and grazing and watershed in the steeper areas. Several residences are located below (east of) the resort on Paraiso Springs Road. However, topography and vegetation screens the resort from those residences. The site is only visible on the approach from Paraiso Springs Road above the residences, where it can be identified by several tall palm trees. Existing structures include several mobile homes, a lodge, pool house, conference room, pump and tool sheds, and bath-houses. None of these structures are visible until one arrives at the site. It should be noted that these structures also have existing nighttime lighting.

Noise

Paraiso Springs is nestled in a canyon extending westward into the eastern slope of the Sierra de Salinas foothills. The property is only visible on approach from Paraiso Springs Road. Geographic isolation and topography minimize noise impacts associated with the new development. To minimize any increase in noise to the residents along Paraiso Springs Road generated by any additional traffic the spa/resort will implement the following vehicle reduction strategies: 90% of the employees will be shuttled from the Soledad park and ride, 20% of the visitors will make use of the resort provided shuttle to and from the airport, most guests will be on a 4-day or 7-day programs, electric carts will be utilized by guests on-site and no private vehicles will be permitted on roads surrounding hotel units. With the above strategies in place the noise levels should not exceed previous historic levels.

Energy Resources/Conservation

PG&E currently supplies electricity to three locations at Paraiso Hot Springs. Suburban Propane currently provides propane service to the property. The spa/resort will use alternative energy sources where appropriate. While the spa/resort will remain connected to the power grid to insure a constant power source, a net metering program will be explored with the California Department of Energy. Alternative energy sources that are viable options at Paraiso include both passive and active solar solutions and wind energy. During the detailed design phase an in-depth investigation and design of alternative energy will be conducted and instituted where feasible. Other energy conservation measures will be implemented during the design such as the specification of energy saving construction materials which could include but not be limited to the use of thermo-pane windows, weather stripping around doors, windows, wrapped heating ducts and hot water plumbing.

Transportation

Paraiso Springs Road is a two lane county road which terminates at Paraiso Hot Springs. The Paraiso Springs Development Plan is accompanied by a detailed traffic analysis report prepared by Higgins Associates that concludes that with the development of the proposed project an adequate level of service on Paraiso Springs Road will be maintained, that there is ample capacity, and that there are no congestion problems for the foreseeable future.

Air Quality

Monterey County is part of the North Central Coast Air Basin. The air quality in the area is generally favorable. The spa/resort will employ several transportation management strategies such as shuttling of the employees from the Soledad Park and ride, providing a shuttle for guests to and from the Monterey Airport and use of emission free (electric) golf carts on site. Clean burning gas sources such as propane will be used in any new fireplaces.

Hazards

Fire

The property is located in an area subject to high fire hazards. Soledad is the closest fire department. The State Department of Forestry also serves the area. Current fire protection on site consists of fire hydrants, three (3) on site wells and storage tanks (totaling 23,000 gallons), hoses, alarms, fire pump and extinguishers. The project will implement a fire protection plan which will include a wet hydrant network, supplied by a dedicated fire water pipeline system that will be separate from the spa/resort's potable water system, a "Fire Safety Plan" will be instituted at the resort, use of fire resistant building materials, commercial sprinkler systems in all structures and a detailed maintenance plan for the maintaining all existing/new equipment and fire breaks. Please reference the CH2MHILL technical memo titled "Paraiso Springs Resort: Preliminary Fire Protection Plan" attached as Appendix D. The above referenced technical memo was developed through consultation with Frank Royos (CA Dept. of Forestry) and Art Black (Carmel Valley Fire Protection Consultants).

Earthquakes

To minimize damage from earthquakes the spa/resort will implement best practices in both building and site design as stated in the Geological and Geotechnical Report provided by Landset Engineers on the Paraiso Resort Project.

Security/Police Protection

Paraiso Hot Springs is located in County Sheriffs Patrol Beat 10. This Beat covers a large area and is sparsely populated, and therefore has relatively long response times. An increased number of visitors at the resort may increase the likelihood of crime. Paraiso anticipates that the project will have on-site security and that all visitors will pass thru a manned gated entrance. The county Sheriff's department at that point would be a second responder to any crime at Paraiso. Paraiso management (John M. Thompson) communicated in detail the intensions of the project with the King City Sheriff's office (Sergeant Bass) on June 7, 2005 and found that the on-site security and manned gated entrance were consistent with what the Sheriff's department would have suggested for crime prevention. The Sheriff's department also noted that Paraiso was located in an already low crime area.

Solid Waste/Sewage

Solid Waste

The spa/resort will adopt a composting procedure for all kitchen waste, a solid recycling and separation facility will be established and trash will be disposed of by Rural Garbage and Disposal Service Company.

Sewage

The current resort uses a septic tank with leach field to treat and dispose of all wastewater generated by the resort. The redevelopment of the spa/resort will result in an increase in the amount of wastewater generated by the project. It is not feasible to use a standard septic system with leach field technology due to the land area that is required for disposal. The project will implement an enhanced on-site treatment system with subsurface irrigation as the method of disposal of the effluent. Reference the technical memo provided by CH2MHILL title "Paraiso Springs Resort: Wastewater Treatment System" included as Appendix E.

Alternative Development Opportunities

Because of the unique natural resources located on the property and the existing resort uses, no other alternative development opportunities exist.

Consistency Analysis to the Policies of the Central Salinas Valley Plan

Central Salinas Valley Plan Policy	Consistency Analysis
5.1.2.1 (CSV) Development shall be designed to maintain groundwater recharge capabilities on the property.	**The Paraiso Springs Development Plan** calls for recharging of groundwater by taking secondary treated water and using drip irrigation throughout the development to promote reuse of water and water percolation. Therefore, the Paraiso Springs Development Plan is **consistent** with this policy
6.1.3 (CSV) New development shall be phased to ensure that existing groundwater supplies are not committed beyond their safe-long term yields in areas where such yields can be determined by both the Director of Environmental Health and the Flood Control and Water Conservation District. Development levels which generate a water demand exceeding the safe-long term yields of local aquifers shall only be allowed when additional-satisfactory water supplies are secured.	**The Paraiso Springs Development Plan** is submitted with water demand calculations for the resort in its entirety. Primary sources for all water are located on the property. These sources are believed to have safe long term yields that can meet the demands of the new development. Therefore, the Paraiso Springs Development Plan is **consistent** with this policy.
14.3.1 (CSV) The County should encourage energy-efficient business and agricultural practices.	**The Paraiso Springs Development Plan** calls for the resort to be energy efficient and if possible energy independent. During the detailed building design phase detailed studies will be done to incorporate into design energy efficient technologies inclusive of but not limited to solar energy, thermo-pane windows, weather stripping around doors, windows, and wrapped

	heating ducts. Therefore the Paraiso Springs Development Plan is **consistent** with this policy.
14.3.2 (CSV) The County should encourage the development and utilization of renewable energy sources such as solar, wind generation, and biomass technologies in the Central Salinas Valley.	**The Paraiso Springs Development Plan** states that based on all currently available information that active and passive solar energy could be a viable source of energy for Paraiso. During the detailed design phase an in depth investigation and design of heating and electrical power systems using the latest solar energy technology will be instituted. Therefore, the Paraiso Springs Development Plan is **consistent** with this policy.
16.2.1.1 (CSV) Site plans for new development shall indicate all flood plains, flood hazards, perennial or intermittent streams, creeks, and other natural drainages. Development shall not be allowed to occur within these drainage courses nor shall development be allowed to disturb the natural banks and vegetation along these drainage courses, unless such disturbances are approved by the Flood Control and Water Conservation District. Development shall adhere to all regulations and ordinances related to development in flood plains.	**The Paraiso Springs Development Site Plan** clearly shows the primary east-west drainage axis for the property and clearly shows that no development will happen within the drainage course excepting any bridges or roads that traverse the axis. These bridges or roads will be designed to keep flow rates consistent and eliminate any blockages from debris flow. The project site is not located in any flood plains and the project site is shown on the Flood Insurance Rate Map for Monterey County in Zone C-areas of minimal flooding. The Paraiso Springs Development Plan calls for the natural east-west drainage axis to be maintained and in the future design phase and working with the appropriate agencies, enhanced to manage future debris flows, prevent debris blockages and limit continued erosion of the main drainage channel. Therefore, the Paraiso Springs Development Plan is **consistent** with this policy.
21.1.2.1 (CSV) Groundwater recharge areas must be protected from all sources of pollution. Groundwater recharge systems shall be designed to protect groundwater from contamination and shall be approved by both the Director of Environmental Health and the Flood Control and Water Conservation District.	**The Paraiso Springs Development Plan** will protect groundwater recharge from all sources of pollution and contamination. However, due to the isolation of the property and its self containment these issues are expected to minimal and easily manageable. Therefore, the Paraiso Springs Development Plan is **consistent** with this policy.
21.3.1.4 (CSV) Development shall meet both water quality and quantity standards expressed in Title 22 of the California Administrative Code and Title 15.04 of the Monterey County Code subject to review of the Director of Environmental Health.	**The Paraiso Springs Development Plan** anticipates that the development will meet water quality and quantity standards expressed in Title 22 and Title 15.04. The current use of the resort does in fact meet those standards. Therefore, the Paraiso Springs Development Plan is **consistent** with this policy.
21.3.1.5 (CSV) New development shall meet the	**The Paraiso Springs Development Plan** does

minimum standards of the Regional Water Quality Control Basin Plan when septic systems are proposed. The minimum lot size shall be one acre. New development shall provide evidence to the Director of Environmental Health that any proposed septic systems will not adversely affect groundwater quality. Inclusionary and clustered housing shall also meet the 1 acre/unit density when septic systems are proposed.	not propose any septic tanks and instead proposes an on-site waste treatment system. Therefore, the Paraiso Springs Development Plan is **consistent** with this policy.
26.1.4.3 (CSV) A standard tentative subdivision map and/or vesting tentative and/or Preliminary Project Review Subdivision map application for either a standard or minor subdivision shall not be approved until: (1) The applicant provides evidence of an assured long term water supply in terms of yield and quality for all lots which are to be created through subdivision. A recommendation on the water supply shall be made to the decision making body by the County's Health Officer and the General Manager of the Water Resources Agency, or their respective89 designees. (2) The applicant provides proof that the water supply to serve the lots meets both the water quality and quantity standards as set forth in Title 22 of the California Code of Regulations, and Chapters 15.04 and 15.08 of the Monterey County Code subject to the review and recommendation by the County's Health Officer to the decision making body.	**The Paraiso Springs Development** plan provides in the associated drawing set a Preliminary Vesting Tentative Map. Also, we hereby incorporate answers from 6.1.3 CSV and 21.3.1.4 CSV listed above. Therefore, the Paraiso Springs Development Plan is **consistent** with this policy.
CSV Policy 28.1.1.1 states: Recreation and visitor serving land uses for the Paraiso Hot Springs property may be permitted in accordance with a required comprehensive development plan. The resort may include such uses as a lodge , individual cottages, a visitor center, recreational vehicle accommodations, restaurant, shops, stables, tennis courts, aquaculture, mineral water bottling, hiking, trails, vineyards, and orchards,. The plan shall address fire safety, access, sewage treatment, water quality, water quantity, drainage, and soil stability issues.	**The Paraiso Springs Development Plan** herein submitted is a comprehensive plan that addresses fire safety, access, sewage treatment, water quality, water quantity, drainage, and soil stability. In this plan specifically, the existing drainage pattern and riparian areas on the property are preserved and to the extent that that drainage pattern contributes to the riparian area below the property then that area would also be undisturbed. The proposed resort uses are also consistent with this policy. Therefore, the Paraiso Springs Development Plan is **consistent** with this policy.
28.1.1.2 (CSV) Recreation and visitor-serving commercial uses shall only be allowed if it can be proven that: 1. areas identified by the Flood Control and Water Conservation District as prime-groundwater recharge areas can be preserved and protected from sources of pollution as determined by the Director of Environmental Health and the Flood Control and Water Conservation District; 2. proposed development can be phased to ensure that existing groundwater supplies are not committed beyond their safe-long term yields where such yields can be determined by both the Director of Environmental Health	**The Paraiso Springs Development Plan** herein submitted includes plans for addressing recharge and pollution issues, demonstrating a long term water supply and water balance, handling runoff and riparian areas. See also responses to Policies 6.1.3, 21.3.1.4, 26.1.4.3, and 28.1.1.1. Therefore, the Paraiso Springs Development Plan is **consistent** with this policy.

and the Flood Control and Water Conservation District; 3. the main channels of either the Arroyo Seco River or the Salinas River will not be encroached on by development because of the necessity to protect and maintain these areas for groundwater recharge, preservation of riparian habitats, and flood flow capacity as determined by the Flood Control and Water Conservation District; 4. the proposed development meets both water quality and quantity standards expressed in Title 22 of the California Administrative Code and Title 15.0.4 of the Monterey County Code as determined by the Director of Environmental Health; 5. the proposed development meets the minimum standards of the Regional Water Quality Control Basin Plan when septic systems are proposed and also will not adversely affect groundwater quality, as determined by the Director of Environmental Health; and 6. the proposed development will not generate levels of runoff which will either cause erosion or adversely affect surface water resources as determined by the Flood Control and Water Conservation District Recreation and visitor-serving commercial uses shall only be allowed if	
28.1.1.3 (CSV) All recreation and visitor-serving commercial land uses shall require a use permit on sites of 10 acres or less. On sites greater than 10 acres, visitor serving recreation and commercial uses may be permitted in accordance with both a use permit and a required comprehensive development plan. The comprehensive development plan shall address hydrology, water quantity and quality, sewage disposal, fire safety, access, drainage, soils, and geology.	The Paraiso Springs Development Plan calls for development greater than 10 acres. The comprehensive plan addresses hydrology, water quantity and quality, sewage disposal, fire safety, access, drainage, soils, and geology. Therefore, the Paraiso Springs Development Plan is **consistent** with this policy.

APPENDIX A: PRELIMINARY SITE EARTHWORK REPORT

Paraiso Springs Resort: Preliminary Site Earthwork Report

PREPARED FOR: Thompson Holdings L.L.C.

PREPARED BY: David Von Rueden/CH2M HILL

COPIES: Steve Ronzone/CH2M HILL
Kris Hansen/EDSA
Andrea Ramage/CH2M HILL

DATE: July 15, 2005

PROJECT NUMBER: 327806.TK.02

The purpose of this memorandum is to provide a preliminary analysis of cuts and fills and mass grading quantities for the proposed Paraiso Springs Resort, based on the conceptual Project Grading Plan prepared by EDSA and delivered in electronic format to CH2M HILL on April 7, 2005. The Grading Plan depicts conceptual contour grading for the site, which includes a 103-room Resort Hotel with Spa and Fitness Center facilities; a Hamlet Day Spa; 17 -for-sale Single Family Home Lots; 60 for-sale condominiums; 310 parking spaces, and approximately 11,100 linear feet of private roadways. The total property area is approximately 240 acres, with approximately 50 of those acres impacted by earthwork operations.

SUMMARY

The conceptual Grading Plan produces the approximate quantities of earthwork cuts and fills shown in the table below:

VOLUMES SUMMARY

Region	Total SF	Raw Cut CY	Raw Fill CY	Fill Factor	Net Cut CY	Net Fill CY	Net Difference
Stripping Resuse	2,083,521	38,584	0		38,584	0	38,584
Earthwork	2,083,521	123,489	109,871	1.150	123,489	126,352	-2,863
Job Total	**2,083,521**	**162,073**	**109,871**	**1.150**	**162,073**	**126,352**	

As indicated, the cuts and fills essentially balance. The 2,863 cubic yards of excess fill is a minor amount of material at only 2-3% of the cut volume. This volume of "import" can easily be avoided by minor adjustments to the site grades.

The earthwork balance does not include disposal of the topsoil strippings, which total approximately 38, 584 cubic yards. These strippings typically contain organic materials such as grass, weeds, shrubs and roots and are therefore not acceptable as engineered fill material

for construction. The stripped material should be stockpiled for possible use in landscape areas, the vineyard, on-site disposal, or sale off-site.

The fill heights range up to a maximum of approximately 14 feet, with the highest fills needed to construct the main Hotel complex and adjacent Hamlet, and the roadway leading to the western-most cluster of condominiums.

The depths of cut generally are less than 10 feet throughout the site. However, deep cuts of up to 25 feet are required for the parking area south of the Hamlet and the adjacent roadway. Significant retaining walls or upper slope benching will likely be required in this area. Input from the Geotechnical Engineer will be required for supplemental grading design of these cut areas and the higher fill areas.

METHODOLOGY

The earthwork volumes noted above were calculated by a computer program specifically designed to compute cuts and fills for land development projects similar to the Paraiso Springs Resort Project. The computer program computes the vertical differences between the existing terrain model developed from the aerial topography for this Project provided by Bestor Engineers, and the finish graded surfaces across the site that are defined by the conceptual Grading Plan provided by EDSA. The vertical differences are computed as cubic yards of cut and fill. The computations were done under CH2M HILL's direction, by EARTHCALC Incorporated, a vendor who specializes in site earthwork quantity calculations.

ASSUMPTIONS

The earthwork computations reported herein are based on the following assumptions:

1) Six (6) inches of topsoil stripping will be required at all construction areas. The actual amount of stripping may vary from this assumed value, and should be determined by the Geotechnical Engineer, based on site conditions at the time of construction .

2) A shrinkage factor of 15% has been applied to the fill quantity to address the potential density differential between soil excavated on-site and subsequently placed as compacted engineered fill. The final shrinkage factor should be recommended by the Geotechnical Engineer, based on actual soil conditions and soil types, and construction methods.

3) All roadway pavement sections were assumed to have a structural section one (1) foot thick. This structural section is assumed to contain the driving surface material(s) and all imported subgrade material (ie; baserock, etc.). As of this date, pavement sections have not yet been designed. Actual pavement sections should be designed by the Geotechnical Engineer, based on subgrade soil "R" values and surface materials selected by the Owner (ie: concrete; asphalt concrete; stone pavers, etc.).

4) All building foundation sections were assumed to be one (1) foot thick concrete slab-on-grade, including concrete slab and sand/gravel subgrade materials. Actual foundations sections will likely vary from this assumption, based on the different building types. No architectural construction details for foundations are available at this time.

5) All recommendations contained in the Geologic and Soils Engineer's Feasibility Report, dated December 2004, and prepared by Landset Engineers, Inc, will be followed during final design and construction.

6) All existing, on-site buildings and related structures will be demolished, prior to earthwork operations.

7) All earthwork operations will be essentially completed in a single construction operation, such that stockpiling/borrowing of soil materials will not be required to support future grading operations. No analysis was done to determine quantities of earthwork materials required for project phasing.

SUPPORTING DATA

Supporting data for this earthwork analysis includes the previously referenced site topographic survey, conceptual Project Grading Plan and Geotechnical Engineer's Report. These documents are not attached to this memorandum, but are available separately.

The earthwork quantity take-off from EARTHCALC, displayed as a cut/fill map, is shown on Sheet CG1.1 – Proposal Excavation and Embankment Plan, bound separately.

APPENDIX B: PRELIMINARY EROSION PROTECTION MEASURES

UPDATED per 10/28/08 memo (Hydrology & Erosion) by JB

TECHNICAL MEMORANDUM CH2MHILL

Paraiso Springs Resort: Preliminary Erosion Protection Measures

PREPARED FOR: Thompson Holdings L.L.C.

PREPARED BY: David Von Rueden/CH2M HILL

COPIES: Steve Ronzone/CH2M HILL
Kris Hansen/EDSA
Andrea Ramage/CH2M HILL

DATE: July 15, 2005

PROJECT NUMBER: 327806.TK.06

The purpose of this Memorandum is to provide a preliminary description of proposed erosion protection measures that will be implemented for the planned development of the Paraiso Springs Resort, as shown on the conceptual Site Plan and Grading Plan prepared by EDSA.

SUMMARY

Construction of the planned development will impact approximately 50 acres of the 240 acre Project Site. Within this construction zone, existing ground gradients vary from approximately 8% at the relatively flat eastern end of the site, to approximately 12% at its western end. Existing ground in the north-central condominium development areas of the Site has slopes up to approximately 33%. Existing terrain surrounding and above the construction zone has even steeper slopes. One major drainage in a defined channel traverses the middle of the development from west to east, with several smaller, steeper drainage swales entering the development area from the north and south.

The site surface soils are erodible, as noted in the Geologic and Soil Engineering Feasibility Report, dated December 2004, prepared by Landset Engineers Inc. In addition, the Report states that the steep hillside areas above the development are susceptible to landslides and debris flow. These areas are generally delineated on the *Relative Geologic Hazards Map* included in the Report.

Proposed erosion control measures for the Project include temporary measures to prevent erosion and sedimentation from construction operations, and permanent measures. The temporary erosion control measures will include Best Management Practices (BMPs) for construction activities, such as:

- Construction vehicle access pads at the County Road project entrance and at access points off any constructed roadways
- Material hauling
- Construction material storage
- Dust control
- Construction vehicle maintenance and fueling
- Hazardous materials storage
- Use of hay bales, straw matts and waddles at new cut and fill slopes
- Hydroseeding cut and fill slopes prior to rainy season
- Contractor employee training
- Settling basins for dewatering areas
- Concrete truck wash out basins

An NPDES Notification for this Project will have to be filed with the Water Resources Control Board, and a site-specific Stormwater Prevention Plan prepared, prior to construction activities beginning.

The permanent erosion control measures should include the following features:

- Debris walls, diversions or basins constructed in the upper portions of the drainage swales leading to the development site, as recommended in the previously referenced Geologic and Soil Engineering Feasibility Report. Based on the *Relative Geologic Hazards Map*, there appear to be five (5) drainages above the site that could contribute significant debris flows to the Project area, and should be addressed. Design of these facilities will require additional soils, hydraulic and site investigations, and should be done in conjunction with the site storm drainage design.
- Interceptor drainage ditches on hillsides above the development, to divert upland surface runoff around single-family lots, buildings, spa/fitness facilities, and retaining walls. Drainage ditches should also be constructed on the uphill sides of perimeter roadways and trails to collect runoff and channel it to collection points. These ditches should be grass-lined swales to the extent possible, to encourage water percolation and blend in aesthetically with surrounding areas. However, ditches with longitudinal slopes greater than 4-5% will require harder surfacing such as rock, cobblestone or concrete.
- Roadway/parking lot gutters, constructed to collect and convey roadway/parking drainage to a storm drainage system.
- Benches with drainage ditches, above large cut/fill slopes, as directed by the geotechnical engineer.
- Jute netting, erosion control matts, or hydroseeding, in conjunction with landscape planting on all steep (greater than 4:1) finish slopes.
- Hydroseeding or landscaping on all areas of the Project that are disturbed by construction.
- Storm drainage collection system, including roof gutters/leaders, lined/landscaped swales, catch basins and underground pipe collection system for the entire Project area.
- Appropriate agricultural soil conservation measures to limit erosion/runoff from the Vineyard Area.
- Channel invert and bank stabilization measures, such as rock or biomechanical slope protection, for the main drainage channel through the Project site. These features should

be designed to be compatible with the landscape design theme for the drainage area, and must safely incorporate storm drainage outfalls from site drainage facilities. It is likely that design of this drainage facility must be coordinated with and permitted by the CA Dept. of Fish and Game.

ASSUMPTIONS

The following assumptions pertain to the preliminary erosion protection plan described above:

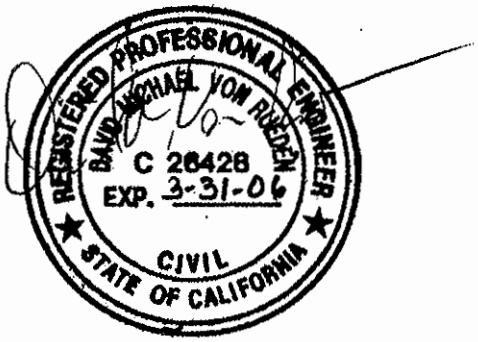
- All recommendations of the geotechnical engineer will be followed regarding slope stability and subsurface drainage, within the Project
- A master storm drainage plan will be prepared to further evaluate drainage conditions around and through the site.
- Pervious materials will be used to the extent possible for roadways, walkways and parking areas.

SUPPORTING DATA

The Project Site Plan prepared by EDSA and the Geologic and Soil Engineering Feasibility Study were used in the development of this Memorandum.

APPENDIX C: EXISTING HYDROLOGIC AND HYDRAULIC SITE CONDITIONS

Paraiso Springs Resort: Existing Hydrologic and Hydraulic Site Conditions



PREPARED FOR: Thompson Holdings L.L.C.

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Kris Hansen/EDSA
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Andrea Ramage/CH2M HILL

(with Attachment)

DATE: July 15, 2005

PROJECT NUMBER 327806.TK.03

This Memorandum provides a preliminary analysis of the current hydrologic and hydraulic conditions of the Paraiso Springs Resort (Project) Watershed and the potential for site flooding.

SUMMARY

Watershed Description

The Project is located south of Soledad and east of Greenfield, in Monterey County California. The Paraiso Springs drainage, which flows through the proposed development, begins on the eastern slopes of the Sierra de Salinas Mountains and in the westerly portion of the Arroyo Seco Watershed, travels northeasterly to the Arroyo Seco Valley floor, where flows are collected and enter the Arroyo Seco River. The Arroyo Seco River is a major tributary to the Salinas River.

The primary drainage basin, tributary to the Paraiso Springs channel, extends from the southwest, at elevation 2400 feet (NGVD), to the northeast project boundary, at elevation 1000 feet. The basin is approximately 1160 acres in size, and is surrounded by mostly undeveloped and rural agricultural land uses. The mountains and hillsides that are the primary sources of flows to the creek are covered by a mixture of native oak savannas, sycamore river valleys, grasslands, and scrub chaparral. The average slope of the hills to the southwest of the project site is 0.40 ft/ft. The average slope of the hills to the west of the

project site is 0.36 ft/ft. Topographic contour patterns show that there are four points within the basin that collect and transfer flows from the higher areas of the basin to the existing stream.

Precipitation & Historical Flows

As discussed below, hydrologic data utilized in this memorandum was not compiled by the authors and could be confirmed or modified through direct measurement utilizing rainfall and stage gages present near or at the project site.

Average annual rainfall in the Project area is approximately 11-inches. Storms are few and infrequent and primarily occur in January and February. Two recent flood events occurred in January and in March of 1995, when almost 10-inches of rain fell in the watershed over five days. Using the Monterey County Rainfall Intensities Chart, the March 1995 storm was approximated to be between a 10- and 20-year event. Some damage to the pools and the road on the site was reported. This damage included a culvert whose capacity was greatly reduced by debris, brush and rocks.

Channel Characteristics

The main drainage channel through the Project site has an approximate width of 50 feet. The adjacent lands southerly of this channel are relatively flat and extend several hundred feet beyond the top of bank. The Soil Engineering Feasibility Report discusses existing soil conditions and the potential for landslides and debris production within the project area. This Report indicates that sediment and debris produced in the steeper portions of the drainage basin will migrate into the channel and will require management.

The channel slope upstream of the Project site (approximately 50 percent of its total length) is 0.25 ft/ft. The channel slope in the valley section of the channel (the length of the Project site) is approximately 0.112 ft/ft. The expected average channel velocity, within the Project site, is in the order of 27 ft/sec, at a full bank flow condition. This velocity, in combination with existing soil conditions, illustrates a potential for channel erosion during infrequent storm events.

Flood Zone

The Project site is shown on the Flood Insurance Rate Map (FIRM) for Monterey County, CA (Unincorporated Areas), Panel Number 060195 0350 D, dated January 30, 1984. This Map indicates that the Project Site is in Zone C – areas of minimal flooding. Although this indicates the Project site is not within a flood hazard area, FEMA requires all new construction to be built at the base flood elevation, which is 1-foot above the elevation of the top of bank, for undesignated flood hazard areas.

Paraiso Resort Site

The Project site, approximately 240 Acres, encompasses 21 percent of the total basin area. Only approximately 23 acres of the Project site is expected to contain impermeable surfaces. Because this is such as small percentage of the overall drainage basin at 2%, no significant increase in outflow from the basin is anticipated. However, because the project is to be built

in the flatter lands that are tributary to the drainage channel, an impact to the current drainage patterns can be expected. Flows that are now delivered to the main channel via the four collection points, as discussed in Watershed Description, and overland sheet flow, will require collection and routing via culverts, piped storm drainage systems, or ditches with erosion protection. The appropriate sizing, locations and erosion protection measures for the drainage systems will be developed during subsequent Project design phases. Likewise, emergency surface drainage releases, for flow volumes beyond the design capacity of the drainage systems, will need to be provided to divert sheet flows around buildings.

The current, bankfull capacity of the primary drainage channel is approximately 4,000 cfs, excluding any existing culverts. It is estimated that approximately 400 cfs of runoff will be generated from the watershed, above the west boundary of the Project site, during a 1% (100-year) storm event. Therefore, the existing channel should have adequate capacity, with freeboard, to convey upstream flows through the site, provided that all roadway crossings of the creek provide a waterway opening that is comparable to the existing channel section. Also, erosion protection measures, such as bed stabilization, toe protection and bridge scour protection, should be implemented for the channel to preserve the channel cross section and minimize sedimentation downstream.

Conclusions

Subsequent design phases for the Project should consider the following:

- The Project is situated in an area tributary to a natural drainage channel and has the potential to impact the current site drainage patterns.
- The Project Site is not subject to flooding from a 1% (100-year) storm event, provided that the existing channel waterway cross section is maintained.
- Water surface elevations and velocities in the channel will need to be determined. Grading required for building pads and /or the foundations of all structures will be one (1) foot above the drainage channel banks. The grading or construction required for flood protection throughout the development area will be fully coordinated with the site's tree preservation requirements.
- There is a potential for significant sediment and debris production from the upper watershed. Debris basins upstream of the development should be implemented and a maintenance plan prepared.
- Efforts to control possible flooding should be considered, including:

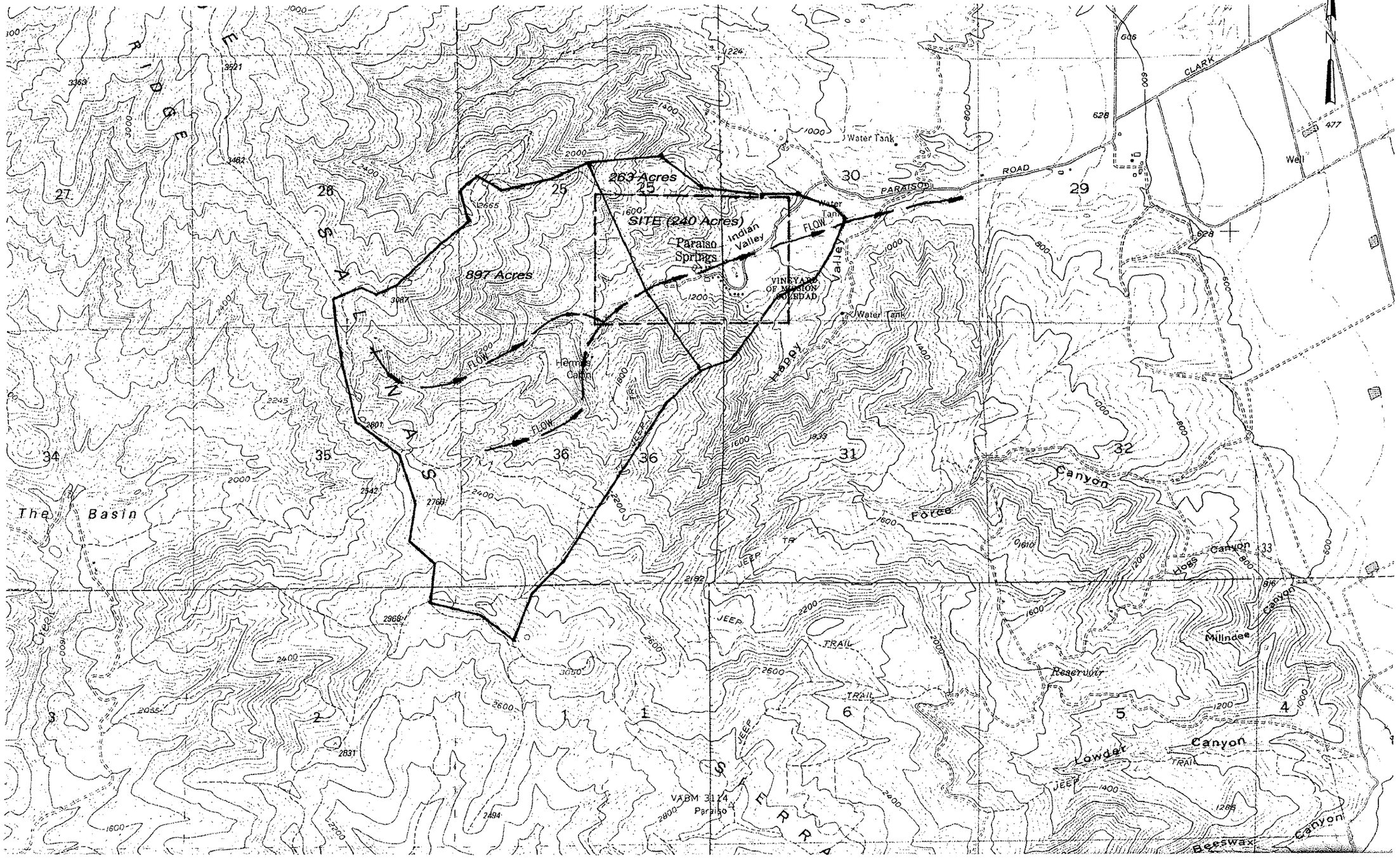
    - diversion and/or containment of runoff above developed areas
    - measures to limit erosion of the main drainage channel
    - maintenance of the channel to prevent blockage
    - overland flow patterns should be established around proposed buildings, as part of the finish grading plan

METHODOLOGY AND ASSUMPTIONS

The preliminary hydrology data presented in this Memorandum were developed using a rough analysis of the SCS Curve Number method. Storm distributions for a duration of 24 hours were developed by SCS from U. S. National Weather Service data as typical design storms. In the SCS method, the intensity of rainfall varies considerably during the storm period. A Type 1 storm is used for areas in Central California. Runoff is affected by ground cover, soil type, and topography.

SUPPORTING DATA

Assumptions for soil type, ground cover and topography were based on cursory reviews of the Geology and Soil Engineering Feasibility Report for the Project, USGS Quadrangle maps, and field visits. A Watershed Map, based on a USGS Quadrangle Map, is attached.



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SCALE 1"=2000'

PATH: Bigsea\Proj\Thompson HoldingsLLC\327806\AutoCad\Deliverable-Tentative Map
ACAD FILE: Exhibit_WaterShed.dwg

HG
HILL GLAZIER ARCHITECTS

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Paraiso Springs Resort

Soledad, California

ISSUED FOR

SHEET TITLE

WATERSHED MAP

PROJECT 327806
DATE 07/15/05
SCALE AS NOTED

SHEET CW1.1
OF 1 SHEET

APPENDIX D: PRELIMINARY FIRE PROTECTION PLAN

Paraiso Springs Resort: Preliminary Fire Protection Plan

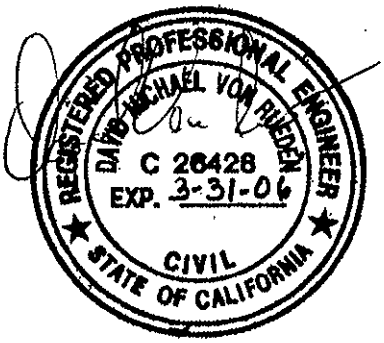
PREPARED FOR: Thompson Holdings L.L.C. (with Attachment)

PREPARED BY: David Von Rueden/CH2M HILL

COPIES: Steve Ronzone/CH2M HILL (with Attachment)
Kris Hansen/EDSA (with Attachment)
Andrea Ramage/CH2M HILL (with Attachment)

DATE: July 15, 2005

PROJECT NUMBER: 327806.TK.07



This Memorandum provides a description of the fire protection systems that will support the planned development of the Paraiso Springs Resort, as shown on the conceptual Site Plan and Grading Plan prepared by EDSA (Project).

SUMMARY

The fire protection system for the Project will be a wet hydrant network, supplied by a dedicated fire water pipeline system that will be separate from the Project's potable water system. Each hydrant will have one four-inch and two, two and one-half-inch connections. A total of sixteen (16) hydrants will be provided and located throughout the site as indicated on the attached map. The flow capacity for each hydrant will be 1,000 gallons per minute (gpm).

In addition to the wet hydrant system, all buildings on site will be sprinklered. A commercial sprinkler system will be provided for the Hotel/Spa Resort Complex, the Hamlet and the condominiums, and it will be supplied by the fire water pipeline system. Requirements for fire flow are based on sprinkler demand for the Project's largest building (Hotel Conference Center Wing @ 25,000 sf), along with one adjacent hydrant. Based on this building size, up to 500,000 gallons of fire water storage will be provided for the on-site fire suppression system. The precise storage volume for the Project will be established through detailed engineering studies preformed during the Design Development phase of the Project.

A water reservoir of up to 500,000 gallons will be provided on-site to support the hydrant and commercial building sprinkler systems. The potential reservoir options are:

- A steel tank, located at the west end of the development, above the western-most condominium units. Assuming a pressure of 40 psi will be required at the highest hydrant (elevation approximately 1305 ft), this tank will need to be located above elevation 1410 ft.

- An on-site artificial lake or storage pond. In conjunction with this artificial lake, a fire pump would be utilized, because most likely, the lake would be located at an elevation below most of the development and therefore gravity flow would not work. The fire pump would be approximately 2,000 gpm capacity.

The water for the fire protection system will be from an on-site source.

The condominiums and single-family homes will also be sprinklered. Most likely, these sprinklers will be connected to the potable water system, on the homeowner's side of their water meter.

A series of Fire Department Connections (four total) will also be installed around the Hotel building and entrance, as shown on the attached map. The commercial and residential fire sprinkler systems, along with the hydrant system, will be designed by a licensed Fire Protection Engineer.

Other fire protection Project elements include:

- Twelve (12) foot wide (minimum) access roads by the Spa, Fitness Center and condominiums,
- Adequate vehicle turn-arounds at end of roadways,
- Access Road Bridge across creek must be designed for highway loading standards (HS-44).

METHODOLOGY

The technical data contained in this Memorandum is based on information received from Mr. Frank Royos/CA Dept. of Forestry and Mr. Art Black/Carmel Fire Protection Association, who have fire protection jurisdiction for the Paraiso Springs area of Monterey County.

ASSUMPTIONS

The following assumptions pertain to the preliminary fire protection system described above:

1) A water reservoir, either a steel tank or an artificial lake, can be located on the project site and constructed in conformance with recommendations from the Geotechnical Engineer. The reservoir will have a storage volume of up to 500,000 gallons, which will be maintained at all times.
2) The on-site source is capable of supplying enough water to fill the fire water reservoir on a regular basis, for an indefinite period of time, within an acceptable timeframe after reservoir drawdown.
3) The Project fire suppression system layout and capacity will be verified during subsequent Project design phases.

SUPPORTING DATA

Refer to the attached map for a general layout of fire hydrants and fire department connections. This data was provided by Frank Royos in March 2005, and Art Black in May 2005.

POSSIBLE RESERVOIR LOCATION

ACCESS ROAD

POSSIBLE RESERVOIR LOCATION

FIRE WATER SUPPLY WELL (EXISTING)

LEGEND

FIRE HYDRANT LOCATION
(2) 2 1/2" CONNECTIONS
(1) 4" CONNECTION

FDC / FIRE DEPT. CONNECTION

PATH: Bigjose\Proj\Thompson HoldingsLLC\327806\AutoCad\Deliverable-Tentative Map

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Paraiso Springs Resort

Soledad, California

ISSUED FOR

SHEET TITLE

PRELIMINARY
FIRE PROTECTION
PLAN

PROJECT 327806
DATE 07/15/05
SCALE NO SCALE

SHEET CF1.1
OF 1 SHEET

APPENDIX E: WASTEWATER TREATMENT SYSTEM

Paraiso Springs Resort: Wastewater Treatment System

PREPARED FOR: Bill Thompson/Thompson Holdings
John Thompson/Thompson Holdings

PREPARED BY: Andrea Ramage/CH2M HILL
Doug Berschauer/CH2M HILL
Steve Ronzone/Consultant

DATE: July 13, 2005

PROJECT NUMBER: 327806.TK.04

This memorandum describes the proposed wastewater collection, treatment, and disposal system for the 240-acre Paraiso Springs Resort. The proposed enhanced onsite treatment (EOT) system was selected for its ability to meet several important design and performance criteria, including:

- Compliance with state and county water quality requirements
- High reliability and ease of maintenance
- Low operations and maintenance costs
- Very low to no odors
- Capability of below-ground installation
- Small footprint
- Ability to handle daily and seasonal variations in wastewater flow

Background and Assumptions

The following paragraphs summarize key background information and assumptions that influenced the choice of treatment technology and preliminary design and performance characteristics.

Wastewater Load

The wastewater load was estimated by assigning Monterey County code-defined sewage flow rates[1] to each of the facility types contained in the Paraiso Springs Resort Data Table. The basis of this information is the Project Master Plan prepared by EDSA and the March 16, 2005 Hill Glazier Architects Building Program provided to CH2M HILL. The building program includes a resort hotel with spa and fitness center facilities; a hamlet day spa and retail facilities; single-family home lots; condominiums; and other miscellaneous facilities.

The total estimated wastewater load is 57,660 gallons per day, as shown in Table 1, below.

[1] Monterey County Codes: Title 15, Chapter 15.20 Sewage Disposal, Section 15.20.070 Standards and Specifications, Table C: Quantities of Sewage Flow. Obtained from web site at http://municipalcodes.lexisnexis.com/codes/montereyco .

TABLE 1: ESTIMATED WASTEWATER LOAD FOR PARAISO SPRINGS RESORT

Facility	Number of Units	Unit Load (gallons/day)	Total Load (gallons/day
Hotel Guestrooms (accounts for guest use as well as Institute meeting rooms, banquet rooms, back of house food, beverage, and laundry, and hotel support facilities)	103 rooms	60	6,420
Hotel Restaurants	205 seats	1,000 + 30/seat	7,150
Hotel Bar	20 seats	15 gal/seat	300
Spa Restaurant	33 seats	1,000 + 30/seat	1,990
Hamlet Coffee Bar	50 seats	1,000 + 30/seat	2,500
Institute Culinary School	1 school	1,000	1,000
Institute (second phase construction)	10 people	15	150
Hamlet Stores	5 stores	1,000	5,000
Hamlet Day Spa	50 guests	35	1,750
Pet Spa	1 unit	1,000	1,000
Wine Pavilion	30 guests	15	1,000
Teahouse	10 guests	15	1,150
Spa and Fitness Facilities	150 guests	35	5,250
Hillside Condos	60 units	250	15,000
Single Family Residences	17 units	250	4,250
Resort Employees	250 people	15	3,750
	TOTAL		**57,660**

The calculations assume full occupancy and therefore represent the maximum estimated load. Note that the calculation does not double-count wastewater loading from hotel guests' and employees' use of toilet, shower, kitchen, and other wastewater-generating facilities. For example, the wastewater load for guest rooms includes (1) guest use of hotel rooms, (2) hotel guest use of restaurants & meeting and conference rooms, (3) hotel administrative staff needed to serve the guests, and (4) support functions such as hotel laundry.

Landscaping Plan

The landscaping plan includes the following areas:

TABLE 2: LANDSCAPING AND IRRIGATIN AREAS FOR PARAISO SPRINGS RESORT

Landscaping Location	Estimated Area (Sq. Feet)	Estimated Area (Acres)
Suites	80,000	1.8
Main Lobby & Hamlet	82,000	1.9
Institute	12,000	0.3
Spa	3,500	0.1
Sports Facility	52,000	1.2
Villas at Sports	46,000	1.1
Villas Hillside (w)	85,000	2.0
Villas Hillside (e)	75,000	1.7
Hillside Meadows	300,000	6.9
Sub Total	**735,500**	**17.0**

Irrigation Rates

Preliminary calculations by EDSA (project landscape architect)[2] show that irrigation requirements, based on evapotranspiration data[3] for the preliminary planting plan described above, vary from 1.0 million gal/month (minimum) during winter to 3.59 million gal/month (maximum) during the growing season.

Land Application Rate

An appropriate land application rate for subsurface irrigation was determined using an estimating tool provided by "Geoflow," a subsurface irrigation supplier. Using this tool, and based on previous and limited percolation tests by GeoSolutions LLC[4] in 1998, we have conservatively estimated onsite soils to be Class II "loam" soils with a hydraulic loading rate of 0.7 gal/square foot/day.

Proposed System: Enhanced Onsite Treatment

Enhanced on-site treatment (EOT) improves upon septic/disposal field approaches by adding solids and grease removal and aerobic fixed media treatment.

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[2] Irrigation requirement for preliminary planting plan estimates maximum 3.59 million gal/month during growing season and 1.0 million gal/month during winter season. Information conveyed by personal communication, Bill Thompson, June 15, 2005. Original data received by Bill Thompson from Kris Hansen/EDSA.

[3] Kris Hansen, EDSA. Personal communication, July 7, 2005. Also referencing website http://www.itrc.org/etdata/etmain.htm.

[4] "Percolation Evaluation Report, Paraiso Springs Resort, Paraiso Springs Road, Solodad Area of Monterey County, Paraiso Springs, California: Project SL00682-1. Prepared for Mr. Dave Watson/King Ventures. Prepared by Geosolutions LLC. December 1998.

Description

The EOT system is described as follows:

1. Wastewater Conveyance: Wastewater will be conveyed by gravity to septic tanks, where solids will be collected. The liquid portion will be pumped or gravity-fed to the onsite treatment system. The soils onsite are generally well-drained, and infiltration and inflow into sewers is not anticipated to be a problem. Regardless, sewers will be constructed with care to ensure a "tight" system. Septic tanks will be cleaned regularly to remove solids.

2. Treatment Technology: The AdvanTex biological treatment process (by Orenco Systems Incorporated) uses a treatment tank and a pump to recirculate wastewater within the treatment unit and draw air in from the outside. Biomass attaches to a non-woven textile medium to provide a large surface area for biological treatment. Part of the treated effluent is recirculated into the tank and part is diverted for dispersal by irrigation (as described below).

3. Effluent Quality: The treatment process produces secondary effluent, which can be further improved with additional filtration and disinfection. The treatment system will meet County and state standards for wastewater treatment.

4. Dispersal Method: The treated effluent will be conveyed to subsurface irrigation systems through pressurized lines. The pressurized lines allow the dosing volume and duration of wastewater disposal to be regulated in predetermined subsurface irrigation zones, thereby increasing the effectiveness of the dispersal system. This type of dispersal system recycles water in two ways – by offsetting potable water needed for irrigation, and by recharging groundwater through infiltration.

5. Water Balance: According to estimated land application rate, with the given wastewater load, the EOT system will require 82,371 square feet (1.9 acres) for disposal by subsurface irrigation. With approximately 17 acres of planned landscaping, the site provides ample area for wastewater disposal; indeed, subsurface irrigation water must be supplemented with potable water to meet the total irrigation demand, for most of the year.

6. Nitrogen Loading: For raw sewage disposal in septic/disposal fields, Monterey County code limits nitrogen loading to less than 300 gallons per acre per day. The recommended system meets this criterion in two ways. First, the given wastewater load of 57,660 gal/day amounts to an average load of 240 gal/acre/day (over the 240-acre site). Second, by treating sewage to secondary levels, the recommended system significantly reduces the nitrogen load compared to septic/disposal systems.

7. Redundancy. The system will incorporate several levels of redundancy to ensure failsafe operation, such as:

   - **Effluent storage**: A diversion valve in the sanitary sewer line will be provided to route wastewater flows to the septic tanks during shutdown for maintenance or emergency procedures. The septic tanks would ordinarily be empty and available to store three full days of sewage flow. Small submersible pumps will

be installed in the septic tanks to empty effluent back into the collection system when the treatment plant comes back on line.

- **Power**: Emergency power to operate the treatment plant will be provided by an onsite emergency generator.
- **Equipment**: Spare equipment will be kept on hand in the event of equipment failure.

8. Monitoring: Monitoring of the wastewater treatment system will be carried out in accordance with the Waste Discharge Requirements to be issued by the Regional Water Quality Control Board, in addition to specific items that may be requested by Monterey County.
9. Location: The enhanced onsite treatment unit will be located at the eastern end of the site, near the entrance, downhill from the main resort area. Irrigation lines will extend into various landscaped areas, to be determined during design.

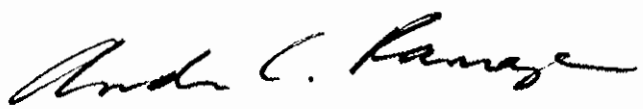
Advantages

With reference to the selection criteria listed above, the advantages of this system are:

- The technology is simple and easy to maintain. For example, solids are removed from septic tanks every 5 to 7 years, compared to a much higher frequency for package treatment systems.
- Treatment units can be installed below ground.
- Modular configuration provides flexibility in design, an easy way to build in redundancy for reliability, and easy expansion in the future.
- The system can handle daily and seasonal variations in wastewater flow.
- Both types of enhanced on-site treatment systems described above are proven to be reliable and able to produce better-than-secondary type quality effluent, with lower nitrogen loading than conventional septic disposal systems.
- Energy consumption is low compared to package treatment plants.
- Very low to no odors.
- Some parts of the treatment system can be automated (blowers and pumps).
- Because this system provides a pressurized drip system, it can utilize steeper terrain than disposal fields.
- Backup storage is an integral part of the septic system connected to the enhanced onsite treatment system, thus not requiring additional storage capacity.

Please do not hesitate to contact me if you have any questions.

Sincerely,



Andrea C. Ramage, P.E.
Director, Sustainable Solutions

Appendix 2
2019 Fire Protection Plan

Dudek, 2019

605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 F 760.632.0164

May 16, 2019 11760

Mr. John M. Thompson
Paraiso Springs Resort, LLC
P.O. Box 779
Spring House, Pennsylvania. 19477

Subject: Fire Protection Plan – Paraiso Springs Resort, Monterey County

Dear Mr. Thompson:

This fire protection plan (FPP) and associated technical analysis has been prepared for the Paraiso Springs Resort as a response to comments received regarding the planned resort development. The evaluation and hazard assessment, and the resulting recommendations provided in this plan address identified areas of fire protection and safety and indicate that fire analysis has been incorporated the Project's newly Recirculated Draft Environmental Impact Report Hazards Section (RDEIRHS)[1]. The intent of this FPP is for the provided recommendations to become Project conditions of approval.

The Project, known as Paraiso Springs Resort, is located in unincorporated southern Monterey County in the western foothills of the Central Salinas Valley, approximately seven miles west of the City of Greenfield at the western terminus of Paraiso Springs Road. The project site consists of approximately 235 acres located in the entrance of Paraiso Springs Valley and Indian Valley and extending westward into the foothills between the crest of the Sierra de Salinas Foothills and the Salinas Valley. The site is bordered to the east by grazing and farmland and to the north, south and west by the Santa Lucia Mountains.

Fire related comments submitted to Monterey County pertaining to the Project's DEIR include those from:

LAFCO – comments regarding fire response service levels, fire station necessity, and impact fees

CAL FIRE – defensible space details, addressing Public Resources Code (PRC) 4290 and 4291[2] application, vegetation management plan, reforestation plan details, need for Temporary Refuge Areas, excessive response time for structure fire response, access gate details and alternative access

City of Soledad – comments regarding fire service, impact fees, distance and fire response time

LandWatch – Project not consistent with PRC 4290 and County Code chapter 18.56, EIR recirculation to address fire hazards, revise project for consistency with fire protection in SRA, dead end road length and width less than 18 feet, Project will compromise its neighbors' safety, on-site fire station, evacuation and shuttles, no evacuation plan, no significant impact determination, not consistent with Monterey County Code for dead end road length and dcannot meet same practical effect.

1 Paraiso Springs Resort Recirculated Draft Environmental Impact Report. EMC Planning Group; February 2018.
2 California Public Resources Code (PRC) 4290 addresses building and infrastructure requirements in State Responsibility Areas (SRAs). PRC 4291 addresses defensible space requirements in SRA.

California Attorney General - Project has not adequately analyzed fire hazard and fire risk, DEIR failed to recognize that existing residents would be exposed to higher risk from building in a high fire sensitivity zone (sic), that there are new CEQA thresholds for wildfire that should be addressed, that the DEIR did not evaluate potential impacts on existing residents' evacuation or the visitors and staff at the resort, lack of an evacuation plan (deferred mitigation), suggestion that the project should widen the entire Paraiso Springs Road, and that the DEIR should be revised to include updated emergency response data and construction of a fire station on site

In summary, the comments primarily focus on requests for more details regarding the Project's fire protection plan, fire response details, conformance with applicable codes and standards, evacuation plan, impacts to neighbors and generally, whether the Project has adequately considered the site and its visitors and staff safety. The technical analysis in this FPP provides additional details and assessment of the Project's fire protection and safety and responds to the comments noted above. In addition, this report provides a summary of Dudek's evaluation of the proposed project and its fire protection and recommendations for incorporation into the Project's design and fire protection system.

Project Information

The Project site is located in Monterey County, California (Project Location; Figure 1) near Greenfield and Soledad. It is located approximately 5 miles west of Highway 101, 22 miles east of the Pacific Ocean, 7 miles southwest of Soledad, and 6.5 miles west/northwest of Greenfield. Specifically, the approximately 235-acre project site is located at the terminus of Paraiso Springs Road. The project site is located in a valley surrounded by foothills of the Sierra de Salinas Foothills. The Project site is disturbed having been a resort destination for well over 100 years but that has been unused in this capacity since 2003. Vegetation on the Project site includes disturbed landscapes of grassland, oak woodland, and sage scrub. The hills directly north, south and east of the site are undisturbed, including sage scrub, grassland, and oak trees. Land cover/uses to the northeast, east and southeast is dominated by agriculture, including vineyards. The existing terrain on the site is generally characterized as flat to gently sloping. Elevations at the project site range from approximately 1,000 feet above mean sea level (amsl) to 1,200 feet amsl. Slopes around the project site vary from up to approximately 2,000 feet to the south, 2,800 feet to the west, and 2,450 feet to the north.

The proposed Project includes redevelopment of the property into a variety of resort land uses including a hotel, timeshares, spa/fitness center, instructional training center, restaurants, and outdoor fields and gardens. Access to the site will be provided via Paraiso Springs Road. A staffed guard gate at the property's entrance will control traffic entering and leaving the site. Paraiso Springs Road is the Project's only access road and traverses through agriculture fields and natural vegetation near the Project, as illustrated in Figure 2.

The Project site is partially within a State Responsibility Area (SRA) and the majority of the development area is in the Mission Soledad Rural Fire Protection District (MSRFPD) and is planned to be annexed into MSRFPD jurisdiction, which would change the SRA to Local Responsibility Area (LRA). The site will remain a Very High Fire Hazard Severity Zone (VHFHSZ), as designated by CAL FIRE. Because of this designation, the Project would be required to be built to the latest ignition resistant building codes found in PRC 4290 and Chapter 7A of the California Building Code, as adopted by Monterey County, and any additional restrictions or requirements adopted locally by the MSRFPD.

Fire History

Fire history is an important component of wildfire analysis. Wildfire history information can provide an understanding of fire frequency, fire type, most vulnerable project areas, and significant ignition sources, amongst others. CAL FIRE's Fire and Resource Assessment Program (FRAP) database was used to evaluate the Project's fire history. FRAP summarizes fire perimeter data dating to the late 1800's, but which is incomplete due to the fact that it includes only fires over 10 acres in size and has incomplete perimeter data, especially for the first half of the 20th century (Syphard and Keeley 2016). However, the data does provide a summary of recorded fires and can be used to show whether large fires have occurred in the project area, which indicates whether they may be possible in the future.

According to available data from CAL FIRE's FRAP (CAL FIRE 2014), several wildfires have burned in the vicinity of the Project site since the beginning of the historical fire data record (Figure 3). These fires, burned within 5 miles of the Project site. While structural fires have occurred on site in the old resort buildings, no wildfires in the recorded history have burned onto the project site.

Project Understanding

The purpose of the technical analysis is to provide a fire hazard assessment and examine the proposed Paraiso Springs Resort, its consistency with the applicable code requirements, its potential impact to the fire response resources, and to prescribe additional fire protection measures/features, if justified. To complete this analysis, Dudek Fire Protection Planners visited the site and performed a fire environment assessment, evaluated the site plans, the existing roadways that would be used in an evacuation, and the planned fire protection measures. The analysis summarized herein is based on site conditions, project-related information including the Project's RDEIRHS, comment letters, and available aerial images and site data.

Technical Analysis Methods

Dudek evaluated the project site and its consistency with applicable fire safety requirements. The following tasks were completed:

1. Conducted a site visit to analyze fuels, terrain, access, and other fire environment attributes
2. Reviewed provided site plans, comment letters, Recirculated Draft Environmental Impact Report Hazard Section (RDEIRHS), and applicable fire codes.
3. Conducted aerial image review of the site, access roads, and potentially available emergency egress routes.
4. Analyzed historical wind and weather data from remote automated weather stations (RAWS) using the FireFamily Plus software package.
5. Modeled potential fire behavior based on an assumed mature sage scrub and chaparral conditions using the BehavePlus fire behavior modeling software package. Fire behavior modeling outputs included those for surface fires (flame length, fireline intensity, fire spread rate, spotting distance).
6. Measured distances from the Project site to the nearest fire station and calculated response time.
7. Measured distances from the project site to various road intersections.
8. Reviewed PRC 4290 and 4291 and Monterey County Fire Code (Chapter 18.09 of Monterey County Code)

9. Documented unique circumstances, features, characteristics related to the project and how they support code modification findings.
10. Generated a FPP with recommended fire protection measures/features to enhance the existing plan

The following sections present our observations, analysis, findings, and recommendations regarding the Paraiso Springs Resort's fire protection and overall wildfire safety.

Observations

Key Project Fire Safety Features

1. The Paraiso Springs Resort structural and infrastructural fire protection components will comply with the applicable code requirements, including the latest codes in place at the time of construction.
2. Structures will be of the latest ignition and ember resistant methods and materials including for:
    - Walls
    - Roofs
    - Eaves
    - Windows
    - Doors
    - Appendages
3. Structures will include fire sprinklers to occupancy requirements.
4. A Project condition prohibits solid fuels in outdoor fireplaces, barbeques, and grills.
5. Fuel Modification will be provided throughout the perimeter of the site and will at a minimum, meet the applicable 100 foot wide standard (Figure 4).
6. Landscaping would be maintained on an ongoing basis. This would assure that the use of highly flammable species is prohibited and that appropriate plant densities would be maintained. This would also reduce the impact of landscaping hanging into the roadways by reviewing size and location of trees and maintain 13-foot, 6-inch vertical clearance for fire apparatus.
7. Fire apparatus access roads will be provided throughout the facility and will be 20 to 24 feet wide, with no parking. Designated 12-foot wide circulation roads not open to visitor vehicle use will be designated for fire apparatus access to buildings beyond the area where 20 to 24 foot wide roads are provided.
8. Paraiso Springs Road will be improved, prior to the opening of phase 1 of the resort, to include 20 foot road widths for 98% of the 7,490 foot road and to 18 feet (based on terrain constraints) for the remaining 2% which equates to 150 foot of the 7,490 foot road to the Clark Road intersection. .
9. Water capacity and delivery improvements including upgraded storage (500,000 gallons) and pipe size provide for a reliable water source for operations and during emergencies requiring extended fire flow. Water availability and delivery is gravity fed and would provide for a reliable water source during daily and emergency usage.
10. Potential firefighting operations staging areas are available within the facility in developed areas and site green spaces.

Fire Behavior Modeling Analysis

An analysis utilizing BehavePlus fire behavior software[3] was conducted to evaluate fire behavior variables and to objectively predict flame lengths, intensities, and spread rates for four modeling scenarios. These fire scenarios incorporated observed fuel types representing the dominant on-site and off-site vegetation on vacant land to the north, east, south, and west, in addition to measured slope gradients, and wind and fuel moisture values derived from RAWs weather data. Modeling scenario locations were selected to better understand different fire behavior that may be experienced on or adjacent the site.

Weather:

Historical weather data for the region was utilized in determining appropriate fire behavior modeling inputs for the project site. For this analysis, 50th and 97th percentile fuel moisture and wind speed values were derived from Arroyo Seco RAWS[4] data and utilized in the fire behavior modeling efforts conducted in support of this report. The Arroyo Seco RAWS is located at approximately 6.0miles south of the project site.

To determine weather-related modeling inputs, RAWS fuel moisture and wind speed data were processed utilizing the FireFamily Plus software. Data from the RAWS was evaluated from June 1 through November 30 for each year between 1961 and 2018. Data derived from this analysis included 1-hour, 10-hour, and 100-hour fuel moistures, live herbaceous moisture, live woody moisture, and 20-foot sustained wind speed. The 50th and 97th percentiles wind speed and fuel moisture data were used in the BehavePlus fire behavior modeling runs, as presented below.

Terrain:

Slope gradients for natural slopes range from 5% to 60%.

Fuels:

Vegetation types, which were derived from the Project's RDEIRHS and field assessment, which was conducted on April 17, 2019, were classified into a fuel model. Fuel models are selected by their vegetation type; fuel stratum most likely to carry the fire; and depth and compactness of the fuels. Fire behavior modeling was conducted for vegetative types that surround the proposed development. Fuel models were selected from Standard Fire Behavior Fuel Models: a Comprehensive Set for Use with Rothermel's Surface Fire Spread Model[5]. This value was used in the modeling analysis for the fuel type adjacent to the site. Fuel models were also assigned to the perimeter 100-foot wide fuel modification zones (FMZ) where existing vegetation would be removed of deadwood and thinned in addition to grasses to be cut in height as described in RDEIRHS. Based on the anticipated pre- and post-project

[3] Andrews, Patricia L.; Collin D. Bevins; and Robert C. Seli. 2004. BehavePlus fire modeling system, version 3.0: User's Guide. Gen. Tech. Rep. RMRS-GTR-106 Ogden, Utah: Department of Agriculture, Forest Service, Rocky Mountain Research Station. 132p.

[4] Arroyo Seco, California (NWS ID: 044301): Latitude: 36^{0}13'48"; Longitude: 121^{0}29'30"; Elevation 980 feet amsl

[5] Scott, Joe H. and Robert E. Burgan. 2005. Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel's Surface Fire Spread Model. Gen. Tech. Rep. RMRS-GTR-153. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 72 p.

vegetation conditions, six different fuel models were used in the fire behavior modeling effort presented herein. Fuel model attributes are summarized in Table 1.

Table 1. Fuel Model Characteristics

Fuel Model	Description	Location	Surface Fuel Bed Depth (Feet)
Gr1	cut grasses (short, sparse, dry climate grass)	FMZ	<0.5
Gr4	Annual Grassland (moderate load dry climate grass)	Valley bottoms	<2.0
Gs2	Oak Woodland/Mixed Hardwood Forest (moderate load dry climate grass-shrub)	Drainages/north-facing slopes	<15.0
Sh1	Minimum 50% thinning of brush (low load dry climate shrub)	FMZ	<3.0
Sh2	Willow Riparian (moderate load dry climate shrub)	Eastern portion of site	>6.0
Sh5	Diablan Sage Scrub (high load climate shrub)	Northern and western areas	<4.0
Sh5	Baccharis Scrub (high load dry climate shrub)	Near riparian and eastern slopes	<3.0

Table 2 summarizes the weather, terrain, and fuels variables used in the BehavePlus fire behavior modeling analysis.

Table 2. BehavePlus Fire Behavior Modeling Inputs

Model Variable	50th Percentile Weather	97th Percentile Weather
Weather		
1 h fuel moisture	4%	2%
10 h fuel moisture	5%	3%
100 h fuel moisture	11%	7%
Live herbaceous moisture	42%	30%
Live woody moisture	84%	60%
20 ft. wind speed (miles per hour)	10 mph sustained winds 24 mph max. high winds	19 mph sustained winds 50 mph peak gusts
Wind adjustment factor	0.4	0.4
Terrain		
Natural Slope	20% to 60%	5% to 25%

Fire Modeling Results

The results of fire behavior modeling analysis for pre- and post-project conditions are presented in Tables 3 and 4, respectively. Identification of modeling run (fire scenarios) locations is presented graphically in Figure 5, BehavePlus Fire Behavior Analysis exhibit.

Table 3. Paraiso Springs Resort BehavePlus Fire Behavior Model Results Existing Conditions[1]

Fire Scenarios	Flame Length (feet)	Fireline Intensity (BTU/feet/second)	(Spread Rate (mph)	Spotting Distance (miles)
Scenario 1: Slope - 5% , 97th Percentile Weather Conditions (Untreated Fuels)				
Fuel Model Gr4	17.6 (33.3)	2,876 (11,569)	3.5 (14.0)	0.7 (2.0)
Fuel Model Gs2	9.9 (18.8)	837 (3,359)	0.95 (3.8)	0.4 (1.3)
Fuel Model Sh2	8.3 (15.1)	562 (2,077)	0.25 (0.93)	0.4 (1.1)
Scenario 2: Slope - 25% , 97th Percentile Weather Conditions (Untreated Fuels)				
Fuel Model Gr4	17.8 (33.4)	2,976 (11,667)	3.6 (14.1)	0.7 (2.0)
Fuel Model Gs2	10.1 (18.9)	867 (3,389)	1.0 (3.9)	0.4 (1.3)
Fuel Model Sh5	24.8 (41.4)	6.112 (18,553)	2.1 (6.3)	0.8 (2.3)
Scenario 3: 20% to 46% slopes, 50th Percentile Weather Conditions (Untreated Fuels)				
Fuel Model Gr4	9.5 (16.4)	765 (2,495)	1.1 (3.4)	0.3 (0.8)
Fuel Model Gs2	5.2 (8.8)	201 (649)	0.3 (0.9)	0.2 (0.5)
Fuel Model Sh5	15.3 (22.4)	2,141 (4,906)	1.0 (2.0)	0.5 (0.9)
Scenario 4: 45% to 60% slopes, 50th Percentile Weather Conditions (Untreated Fuels)				
Fuel Model Gs2	5.5 (8.8)	233 (649)	0.3 (0.9)	0.2 (0.5)
Fuel Model Sh5	14.4 (21.5)	1,857 (4,454)	0.7 (1.8)	0.4 (0.9)

Note:

[1] It should be noted that the values in parenthesis represent worst-case wind speeds of 50 mph for scenarios 1 and 2 and 24 mph for scenarios 3 and 4.

Table 4. Paraiso Springs Resort BehavePlus Fire Behavior Model Results Post Project Conditions[1]

Fire Scenario	Flame Length (feet)	Fireline Intensity (BTU/feet/second)	Spread Rate (mph)	Spotting Distance (miles)
Scenario 1: Slope - 5% , 97th Percentile Weather Conditions (Fuel treatments)				
Fuel Model Gr1	3.1 (3.1)	67 (67)	0.05 (0.5)	0.2 (0.4)
Fuel Model Sh1	5.5 (9.5)	227(760)	0.4 (1.3)	0.3 (0.8)
Scenario 2: Slope – 25% , 97th Percentile Weather Conditions (Fuel treatments)				
Fuel Model Gr1	3.1 (3.1)	67 (67)	0.05 (0.5)	0.2 (0.4)
Fuel Model Sh1	5.5 (9.5)	235 (760)	0.4 (1.3)	0.3 (0.8)
Scenario 3: 20% to 46% slopes, 50th Percentile Weather Conditions (Fuel treatments)				
Fuel Model Gr1	2.1 (2.3)	29 (34)	0.23 (0.27)	0.1 (0.2)
Fuel Model Sh1	1.0 (1.0)	5.0 (5.0)	0.03 (0.03)	0.1 (0.1)
Scenario 4: 45% to 60% slopes, 50th Percentile Weather Conditions (Fuel treatments)				
Fuel Model Gr1	2.3 (2.3)	34 (34)	0.3 (0.3)	0.1 (0.2)
Fuel Model Sh1	1.0 (1.0)	5 (50)	0.03 (0.03)	0.1 (0.1)

Note:

[1] It should be noted that the values in parenthesis represent worst-case wind speeds of 50 mph for scenarios 1 and 2 or 24 mph for scenarios 3 and 4.

The results presented in Tables 3 and 4 depict values based on inputs to the BehavePlus software and are not intended to capture changing fire behavior as it moves across a landscape. Changes in slope, weather, or pockets of different fuel types are not accounted for in this analysis. For planning purposes, the averaged worst-case fire behavior is the most useful information for conservative fuel modification design. Model results should be used as a basis for planning only, as actual fire behavior for a given location would be affected by many factors, including unique weather patterns, small-scale topographic variations, or changing vegetation patterns.

Conclusion: As presented in Table 3, wildfire behavior in non-treated, grasses (Fuel Model Gr4), sage- baccharis scrub (Fuel Model Sh5), oak woodland/mixed hardwood forest (Fuel Model Gs2), and willow riparian (Fuel Model Sh2) vary based on timing of fire. A fire being fanned by 24 mph, onshore, downslope winds (fire scenarios 3 and 4) would result in a fire spreading in grasses-sage scrub fuel types at roughly 2.0 to 3.4 mph with up to 22.4 feet flame lengths (the flames would be more vertical due to the wind pushing them down the slope). During the fall when there are more likely extreme offshore winds and low fuel moistures, a wildfire in sage scrub-oak woodlands fuel types (fire scenarios 1 and 2) is expected to be moving up to 14.0 mph with highest flame length values reaching approximately 41.4 feet in eastern portions of the property (moving up-slope and flames laying more parallel to the slope). Maximum spotting distance for both onshore and offshore wind-driven fires is projected to occur between 0.9 and 2.3 miles, respectively, downwind.

As previously mentioned, Dudek conducted modeling of the site for post-fuel modification zones. Fuel modification includes removal of dead and dying shrubs and trees in addition to reducing the shrub canopy coverage by 50% and cutting grasses to less than 6-inches in height on the periphery of the project site, beginning at the structure. For modeling the post-FMZ treatment condition, the fuel model assignment for untreated fuels were re-classified according to the specific fuels management (e.g., cutting grasses vs. 50% thinned native brush) treatment.

As depicted in Table 4, the FMZ areas experience a significant reduction in flame length and intensity. The approximately 33-foot and 41-foot flame lengths predicted for grasses and sage-baccharis scrub fuel types during pre-treatment modeling for fire scenarios 1 and 2 are reduced to approximately 3.1 and 9.5 feet, respectively. During onshore weather conditions, a fire approaching from the west towards the development footprint would be reduced from 22-foot tall flames to less than 1.0-foot tall with low fire intensity and spotting distances due to the higher live and dead fuel moisture contents. These reduction of flame lengths and intensities are assumed to occur within the full 100 feet of fuel modification. Based on this analysis, the 100 foot wide FMZs are considered appropriate for providing defensible space, and protecting the site's ignition resistant structures from direct flame impingement and radiant/convective heat from a wildfire.

Project Issue Analysis

The following analysis considers the key components of the Project's fire protection and evacuation system. It is assumed that the Project's structures will be ignition resistant because they will be built to the code requirements (Chapter 7A of the California Building Code) that were put in place to minimize the ability of embers to penetrate and cause ignition. Similarly, the site's landscape will be ignition resistant and maintained in a condition that would not facilitate the spread of fire into the developed portions of the resort landscape. Water availability has been addressed and includes dedicated stored water, gravity flow, and hydrants throughout the site.

1. Road Capacity

Paraiso Springs Road is able to accommodate up to 2,000 vehicles per hour (Keith Higgins 2019)[6]. Dudek commonly utilizes 1,900 vehicles per hour per traffic lane based on several traffic engineers input on similar project evacuation studies. This means that the maximum number of vehicles that can be accommodated in a single lane per hour, assuming traffic flow is maintained, is approximately 1,900 vehicles, or about 32 vehicles per minute passing a given point. Accordingly, in an emergency that required evacuation of the Paraiso Springs Resort, all estimated 275 vehicles can be moved down to the intersection of Clark Road (a distance of 1.4 miles) in less than 10 minutes (actual "wheels rolling" time – which is the time when a vehicle leaves the resort gate and arrives at the Clark Road intersection). At 12 miles per hour, the travel time is approximately 5 minutes to reach Clark Road. The amount of time for vehicles to reach Paraiso Springs Road varies based on distance from the gate exiting to the road and distance to their vehicle onsite, and could require an additional 5 to 10 minutes on average, and a worst case buffer time of 30 minutes was used in Table 5 for some of the resort guests to assemble and exit the property.

As depicted in Table 5, it is understood that there can be delays, congestion, and slower movement of traffic that reduces the ability to reach the maximum hourly capacity. In this case, however, if the maximum capacity is reduced by 30%, the Project evacuation travel time is less than 13 minutes and if it is reduced to 50% (950 vehicles per hour), there would still be enough capacity to have all vehicles off-site in just over 17 minutes travel time. This is considered an acceptable "wheels rolling" evacuation time for the anticipated population. Traffic congestion is expected to be minimized as there are few driveway or heavily used intersections on Paraiso Springs Road (few vehicles to merge into evacuating vehicle procession). By the time the last vehicle left the project, vehicles leaving earlier would already be beyond the Clark Road intersection. Per Table 6, the traffic speeds needed to reach these travel times are considered reasonable during an evacuation with the highest speeds being approximately 12 mph (1,900 vehicles per hour) and the lowest speeds being a calculated 5 mph (950 vehicles per hour). Additionally, it would be possible to position minimal law enforcement or other emergency responders at Clark Road/Paraiso Springs Road and then downstream to keep traffic moving and avoid backups. Traffic is anticipated to be able to be moved steadily as there are at least three, and up to seven potential vehicle dispersion routes that are available off of both Paraiso Springs and Clark Roads.

Table 5. Paraiso Springs Resort Evacuation Travel Time and Total Estimated Time

Maximum Single Lane Capacity	Capacity Discount[2]	Discounted Lane Capacity	Evacuating Vehicles (	Travel Time (to Clark Road)	Buffer Time[3]	Total Estimated Time
1,900	0%	1,900	275	8 m, 42 s	30 min	<40 m
1,900	30%	1,330	275	12 m, 24 s	30 min	<45 m
1,900	50%	950	275	17 m, 22 s	30 min	<50 m

1 Single lane maximum feasible capacity commonly used by traffic engineers.
2 Discounts are provided based on evacuation conditions that may result in slower vehicle movement.
3 Buffer time is 30 minutes to account for pre-evacuation preparations, mobilization, and responses, but actual additional time may be much shorter, in the 5 to 10 minute timeframe.

6 Letter dated March 8, 2019 from Traffic Engineer Keith Higgins with review and input by Dudek to John Thompson, Paraiso Springs Resort, LLC. Subject – Project evacuation traffic analysis.

Table 6. Vehicle Speed by Road Capacity

Lane Capacity	Vehicles per minute	Seconds per vehicle	Average Vehicle Speed
1,900	31.6	1.9	< 12 mph
1,330	22.2	2.7	< 7 mph
950	15.8	3.8	< 5 mph

Conclusion: Paraiso Springs Road and its connectors include significantly more capacity to move vehicles than would be utilized with the combined Paraiso Springs Project and existing resident and vineyard evacuation traffic. This capacity represents a buffer that can offset traffic congestion that may occur during an emergency evacuation and still maintain acceptable vehicle movement and evacuation times. The Project's calculated fast evacuation can be contrasted with more densely populated areas where road congestion can continue for several hours or more.

2. Off-site Road Improvements

The Project would improve Paraiso Springs Road from the Project boundary to its intersection with Clark Road by increasing the currently 16 to 22 feet road widths prior to opening of the first phase to a minimum of 20 feet for the 98 percent of the road with one 150 foot exception due to terrain limitations. That area limited by terrain would still be widened to a minimum of 18 feet. Additional improvements would include the installation of safety signage, delineators and centerline striping. Road widening and related improvements are an important component of this Project's Roadway Improvement Plan (Hatch Mott MacDonald, 2008)[77] in terms of emergency vehicle access and visitor evacuation.

Conclusion: The off-site road improvements are considered very important for meeting the intent of the applicable fire codes and for creating an access road that minimizes pinch points that could negatively impact fire apparatus response or an evacuation. The planned widening to a minimum of 20 feet with a limited section of 18 feet in the exception area provides a minimum of two ten foot travel lanes for 98% of the road (with a small section of the road providing two 9 foot travel lanes) and would alleviate concerns related to emergency access and evacuation.

3. Project Population Impact on Evacuation Traffic

The project is proposing a daily population of approximately 500 people at full buildout with 100% occupancy, including staff and visitors. Dudek has utilized 2 persons per vehicle to estimate the additional number of vehicles that would be generated during an emergency, which is a common vehicle population used for evacuation calculations and is consistent with the planned parking spaces and shuttle capacity. Additionally, there may be Project vehicles and a shuttle that would be used in an evacuation. This results in a total of up to approximately 275 vehicles that may be leaving the site during a declared evacuation. The existing Paraiso Springs Road includes approximately 5 homes and a vineyard. The homes would be expected to generate roughly 11 vehicles (2.2 vehicles per home – Cal Poly San Luis Obispo study 2016)[8] while the vineyard may include up to 5 vehicles during an

7 Hatch Mott MacDonald. 2008. Paraiso Springs Roadway Improvement Plan. September 5, 2008

8 Developing a Planning tool for Evaluating Proposed Developments Accessible by Dead-End Roads. February 2016. W. David Conn, Principal Investigator, Cornelius K. Nuworsoo, Co-Principal Investigator, Christopher A. Dicus, Co-

evacuation. The evacuation of these existing residents, along with the Project's population is anticipated to require less than 10 minutes travel time for the last vehicle to reach the Clark Road intersection. The actual travel time for the existing residents and vineyard workers would be less than 10 minutes due to their location closer to Clark Road, and is estimated at between 3 and 5 minutes. The vineyard workers' evacuation travel time may be slightly longer since they are further up the road, but would still be anticipated to meet the approximately 10 minute timeframe. The Clark Road intersection is considered a point of lower risk because it is amongst the irrigated and maintained vineyards where wildfire exposure would be limited. Currently, the existing residents and vineyard workers would be anticipated to evacuate the area within 2 to 3 minutes travel time (Higgins 2019). During evacuations, it would be expected that existing residents would evacuate sooner and be at or beyond the Clark Road intersection before the resort traffic reached them since they are closer to the Clark Road intersection. This likely scenario would, in effect, maintain the current condition for the existing residents and vineyard workers. However, if for some reason the residents and vineyard workers evacuated the area concurrently with resort traffic, an additional 3 to 4 minutes timeframe may be incurred. This increase would be considered an insignificant impact as that evacuation time is considered acceptable. In addition, it is the intent of the Project as part of its emergency preparation plan, to place 2 evacuation managers at the two curves in Paraiso Springs Road during an emergency evacuation. One person would be placed at the intersection where 3 of the neighboring houses and the vineyard employees would exit onto Paraiso Springs Road and the other closer to the other 2 "downstream" houses. In the event that these residents and workers are not already evacuated and off Paraiso Springs Road (estimated 2 to 3 minutes travel) before the Project evacuates, this Project commitment would aid in maintaining traffic movement and as needed, assist with emergency vehicles heading toward the Project. This would also allow breaks in Project vehicles to allow the existing resident's ability to merge onto the road and proceed toward the Clark Road intersection. The insignificant impact is further minimized by the Project's benefits to the neighbors including: Paraiso Springs Road improvements, increased tax base that results in additional resources for fire protection, modified fire behavior as the Project presents a fuel break to the west of the existing residents, and the Project provides designated temporary refuge area if evacuation via Paraiso Springs Road is considered unsafe. The evacuation of Paraiso Springs Resort is aided by the short distance to areas of relative safety and the roadside protection the agricultural landscapes would provide.

Conclusion: The calculated evacuation travel time up to approximately 10 minutes to areas where exposure to wildfire would be limited is considered a good travel time for 500 persons on the project site and the local residents and vineyard workers. Again, this travel time estimate is considered a worst case because it would be expected that the local residents and vineyard workers would evacuate prior to incurring any resort traffic. Efforts aimed at education of staff and visitors regarding emergency procedures would facilitate evacuations and minimize the mobilization time for visitors to go to their vehicles, carpools, or shuttles. The addition of approximately 275 vehicles associated with the Project would be expected to potentially increase the evacuation time along Paraiso Springs Road for existing residents and vineyard workers, but would not be expected to adversely impact the ability to move people from the area in acceptable timeframes due to the finite population evacuating vs. an urban area where many more vehicles would be evacuating, extending travel times significantly.

Principal, Investigator, Kenneth C. Topping, Senior Advisor, Dan Turner, Senior Consultant. 81 pp. Refers to US Census average of vehicles per house.

4. Evacuation Contingency Plan

The proposed Project's primary evacuation protocol is early evacuation according to the Paraiso Springs Resort Evacuation Plan in Attachment 1. However, the Project will include several buildings that would be acceptable as temporary refuge areas. Larger structures that would be built to the latest ignition resistant building requirements and provided maintained defensible space could be used by visitors, staff, and emergency responders to temporarily shelter during a wildfire and will be sized appropriately for each phase of development. The landscapes would be required to include a minimum of 100 feet of fuel modification/defensible space. Structures that are built to the latest requirements for very high fire hazard severity zones and are provided maintained defensible space perform very well during wildfires, as noted by numerous after action assessments (evaluations following wildfires of why homes were lost or saved). As such, it would be possible for persons at the resort to seek temporary refuge within these buildings if evacuation was considered unsafe. Emergency managers would have the flexibility to direct persons to these buildings to temporarily refuge if the evacuation roads were considered unusable during a late evacuation where the wildfire or other emergency has encroached upon the area. The first priority for these guests would be early evacuation, long before a wildfire threatened the area and its evacuation route. Temporarily seeking refuge in a protected building would be a contingency option, improving the emergency responders' procedural flexibility and resort population safety. Because the Project's population is transient, there would be no reason for anyone to stay and defend personal property, early evacuation is largely improved and would be mandatory per Attachment 1: Wildland Fire Evacuation Plan.

Conclusion: In addition to the evacuation route from the Project to various connector roads, the potential to temporarily refuge during a wildfire or other emergency provides a contingency option that increases overall safety by avoiding the limitation of relying only on evacuation during an emergency. The ability to temporarily refuge visitors, staff and firefighters on site would be available to emergency managers should evacuation via the available options be considered unsafe or less desirable.

5. Dead End Road Length Intent

In terms of the dead end road length allowances within Title 14 Fire Safe Regulations, Article 2, the original intent included minimizing the exposure of evacuating people and responding emergency personnel to wildfire conditions. This intent was seemingly based on conditions where readily available fuels were situated along the roadways and where buildings were built within the fuels (scattered homes/commercial buildings in a wildland urban intermix condition). These conditions partially exist along Paraiso Springs Road where approximately 1 mile of travel includes natural or unmaintained fuels along the roadside. Beyond that point, agricultural, primarily vineyard fields, occur and present a considerable fuel break with low potential for ignition and fire spread. These agricultural areas are considered an important component of the evacuation process from the project as once evacuees reach this point, the exposure risk is substantially reduced.

Conclusion: The project intends to comply with PRC 4290 for the proposed project parcel. Paraiso Springs Road is a county maintained road built in the 19th century and is not subject to PRC 4290 dead end road requirements per the California Board of Forestry and Fire Protection (Edith Hannigan, Land Use Program Manager, California Board of Forestry and Fire Protection – email to Mike Novo, Monterey County Planning, May 3, 2019). However, the project is mitigating for the single access road into the project site with road improvements for evacuation and emergency access vehicles as well as numerous on-site fire protection methods, thus achieving the same practical effect through the various recommendations/measures discussed herein as if PRC 4290 did apply to Paraiso Springs Road.

6. Emergency Response

MSRFPD fire station 37 is within 8.9 miles of the Paraiso Springs Resort. Station 37 has an estimated response travel time of slightly above 15 minutes, which assumes travel time to the project entrance and an adjusted speed based on the Insurance Services Office travel time formula[9]. The 15'46" minute response travel time is substantially conforming with the 1982 Monterey County General Plan[10] policy standard of 15 minutes and the additional 46 seconds can be largely offset by drive speed on open stretches of the response route. It should also be noted that the 2010 Monterey County General Plan policy standard for emergency response time for the proposed project would now be 45 minutes, almost three times the 1982 General Plan standard.

The existing fire stations currently respond to approximately 1,600 calls per year[11] (4.4 calls per day), which would be considered approximately average in terms of call volume. For perspective, a busy urban fire station may run 15 or more calls per day and a busy rural fire station may run 7 calls per day (Hunt 2010)[12]. The existing service area includes approximately 34,000 residents. The per capita call volume is 0.047 calls per person per year, which equates to 47 calls per 1,000 population. The majority of these calls (estimated 80% or more) are medical emergencies. The Project would add approximately 500 persons which would result in an anticipated call volume increase of 24 calls per year. This estimate is considered overly conservative in that it combines all socio-economic and age group call generation totals and applies them to the Project, which would typically include a demographic that requires fewer calls. For example, the 379 room Portola Hotel and conference center in Monterey indicate that they average about 10 to 12 per year and the 93 room Quail Lodge resort and golf club average about 4 calls per year. Even using the Project's conservative call number of 24, it equates to 0.07 calls per day or one call every 14 days.

Conclusion: The response travel time substantially conforms to the 1982 General Plan's 15 minute timeframe from Fire Station 37. Rural areas are often afforded additional response time (much longer times than experienced within urban areas) due to the low density population, low call volumes, and the lack of sustainable, generated funding and justification to build more stations. Monterey County, in their 2010 General Plan acknowledges this by increasing standard response time guidelines three fold to 45 minutes. There are not enough calls generated to justify a station, therefore, jurisdictions often allow longer response times and the people living and working in these areas typically consider longer response times an acceptable trade off. The 1982 General Plan indicates that other on-site fire protections can be provided as mitigation for response exceeding 15 minutes as allowed by the General Plan policy. The site offers several measures that meet the General Plan's focus on fire response. However, because most emergency calls at the Project site will be medical related and Resort clientele may expect fast response for medical emergencies, measures to provide advanced life support capabilities within 5 minutes (critical timeline for cardiac arrest and strokes) is considered worth exploring and is addressed in the following section. With regard to call volume, the project's very conservatively calculated call volume would not be expected to impact the current response capabilities of the MSRFPD, with a conservatively calculated increase of the daily rate from 4.4 calls to less than 4.5 calls per day.

9 T=0.65 + 1.7D, where T = time and D = distance. This formula generally compensates for intersection deceleration and acceleration and does not include turnout time.

10 Monterey County updated their General Plan in 2010. The new policy S-6.5 allows for a response time of 45 minutes or less, 90% of the time in rural areas. The Project fully complies with the new response time goal.

11 City of Soledad Fire Department Web Site: https://cityofsoledad.com/our-city/public-safety-services/fire-department/

12 Personal communication between Jim Hunt (Hunt Research Associates) and the author of this report, May 2010.

Findings – Hazard vs Risk

While the Proposed Project site resides in a designated VHFHSZ, it will have significantly lower potential of actual loss than other older communities/structures existing in MSRFPD. This reasoning is based upon the distinction between HAZARD (which the State categorizes) and RISK (which the State does not quantify). HAZARD is a property of the potential fire behavior (flame length, crown fire occurrence, capacity to generate embers) in the likely mature vegetation of a given area. RISK, however, is the potential for structural loss from said fire. Thus, even if there is potential low fire hazard in a given area (expected low flame lengths), a given structure might be at high risk of ignition if the physical characteristics of the property would facilitate structural ignition (e.g., flammable vegetation next to a home with wood siding or unprotected openings).

Conversely (and more appropriate to the Proposed Project), a structure might be in a high hazard area, but may actually be at low risk of ignition if the structure is built with ignition-resistant construction materials and methods and the adequate defensible space around and throughout the development is provided. This is especially true in planned communities and the Paraiso Springs Resort, where fuel modification can be provided over large areas and includes a perimeter zone.

We have confidence that the provided fire protection features along with the recommended measures discussed below would combine to enable the Fire Authority Having Jurisdiction to make findings that the Project provides appropriate fire protection for the site and its structures to be able to withstand the type of wildfires that may occur in the vicinity.

Conclusion

Dudek's conclusion is consistent with that contained in the RDEIRHS for the project prepared by the County of Monterey, The Project's design, location, access and construction will not expose the public to greater fire related hazard than other newly constructed buildings/communities located in a VHFHSZ and built to the required ignition resistance codes. The response time to the site is within the generally acceptable standards for rural development, the project roadway width will substantially meet the applicable requirements and with the roadway improvements to Paraiso Springs Road potential conflicts between outbound and inbound vehicles would be addressed, and the code enables single access with conditions/findings. The proposed development will be required to comply with the fire code in existence at the time of project construction including requirements for the use of fire resistant roofing and construction materials, provision of defensible space adjacent to structures, interior sprinklers, and significant water storage. Based on these facts, it is our conclusion that the construction and use of these premises will not create a public safety hazard.

Recommendations

The following fire protection and safety measures are recommended as conditions for development of the Paraiso Springs Resort. These measures were developed to directly address identified Project fire protection and safety issues.

1. A facility Fire Safety Coordinator(s) should be designated and would oversee implementation of fire protection and safety and overall fire coordination with MSRFPD/CAL FIRE.

2. The Fire Safety Coordinator(s) would coordinate an annual fire evacuation drill/fire exercise to ensure proper safety measures have been implemented, facility awareness and preparation of facility-wide "Ready, Set, Go!" plan, consistent with Monterey County Community Wildfire Protection Plan (2010)[13] .
3. Trained security staff 24/7, 365 days per year at the guard gate. The security staff should be trained to manage an evacuation of the facility by opening the gates and directing traffic out of the area.
4. Provide a first responder level staff person and equipment to be on-site at all times. This position may be the site's security personnel or a cross-staffed position who is capable of providing advanced life support for medical emergencies.
5. Provide a customized one-ton, 4x4 pickup with a skid mounted pump and up to 150 gallon water tank. Multiple staff members and the site security staff should be trained to utilize this apparatus for the purposes of providing initial suppression for any vegetation ignitions, and initial response to other fires.
6. A designated structure (e.g., Hotel, Conference Center) will be selected to house the projected population and to include additional hardening to be designated a temporary refuge area (TRA): exterior glazing to be dual pane with both panes tempered glass, exceeding the code requirement. Primary TRA to include:
    - Large-panel television monitors discreetly located so those that are interested may track newscasts during a wildfire event
    - Wireless internet accessibility
    - Second utility source or U.L.-rated diesel generator for the designated TRA
    - Intercom system to maintain communications with Ranch administration
    - A copy of the Emergency Procedures Plan
    - Food and water provisions for up to 24 hours
    - Educational materials on emergency procedures and temporary sheltering during wildfire
    - Telephones (hard line)
7. All ventilation for the structures for the Project should require ember-resistant vents in addition to 1/8 screening. Require ember resistant O'Hagan or Brandguard vents (or tested equivalent) in all site buildings.
8. Provide a site-wide Public Address (PA) / Intercom system so that visitors and staff throughout the site (indoors and out) can be notified of an emergency quickly to facilitate efficient evacuations or contingency temporary refuging on site.
9. Prepare and practice site-wide evacuations following the "Ready, Set, Go!" program guidelines (Attachment 2). Include educational outreach regarding emergencies and the potential for evacuation or temporary refuging on site in designated buildings.
10. The Project's Fire Safety Coordinator(s) would prepare an Emergency Preparation Plan that considers:
    - Pre-fire planning and preparations
    - Post-fire recovery actions
    - Reporting Emergency, Alerting Employees and Guests
    - Staff Training

[13] Community Wildfire Protection Plan prepared by the Monterey Fire Safe Council to evaluate wildfire risk, identify hazard reduction efforts, detail a strategy and action plan, and educate the public on wildfire safety.

- Emergency Contact List of Key Personnel
- Building Identification
- Facility Protection Systems
- Increased Fire Prevention Efforts During High Fire Danger and Extreme High Fire Danger Periods
- Emergency Supplies
- Telephones/Communications/Technological resources (Twitter, Facebook, Web page, etc.)
- Media Communications
- Emergency Response Team Roles and Responsibilities
- Annual Review and Update
- Emergency Evacuation Procedures
- Temporary, On-Site Sheltering Procedures
- Scripted Emergency Notification Messages
- Guest Educational Materials on Emergency Procedures
- Participation in the Alert Monterey County – Emergency Notification System
- Emergency Decision Matrix
- Shuttle Bus on site day and night
- The updated EPP document should be reviewed by MSRFPD and local law enforcement agencies.

11. Only one, fully manned gate and no speed bumps or humps should be allowed in this project. This would allow traffic flow (ingress and/or egress) to move more rapidly in the case of emergency. The site entrance gate should be equipped with automatic opening device for fire and law enforcement at their discretion (e.g., Knox, click-to-enter, siren, or similar).
12. Fuel modification zones (minimum 100 feet wide) around designated temporary refuge area buildings should be restricted to highly ignition resistant vegetation planted at low densities and maintained free of all accumulated debris/litter.
13. A formal landscaping plan should be prepared and reviewed by MSRFPD and/or an experienced fire protection planner for the landscape plan's consistency with accepted wildland urban interface fire safe/fire adapted practices.
14. If the vineyard is planted, a professional Vintner should be under contract at all times to manage the vineyard in an irrigated, maintained condition to act as a modified fuel buffer. The grape plants should be grown on trellises made of non-combustible material. The plants should be irrigated via drip irrigation to maintain a high moisture content, dead and dying plants or plant materials and debris should be removed from the area on an on-going basis. Should the vineyard operation ever be vacated or otherwise cease to operate, the area should be converted to irrigated turf or equivalent fuel modification zone consistent with the remaining irrigated FMZ throughout the resort.
15. An annual inspection of the site should be completed by MSRFPD or its designee at the Project's expense to ensure that project landscaping is maintained in a wildfire-safe condition. The inspections would document out-of-compliance issues for abatement and follow up to confirm the abatement is completed.
16. Maintain a 1- to 3-foot landscape-free area adjacent to all building structures' foundations. This would prevent available fuels for embers at the building base and flame impingement under the stucco along the weep screed and help prevent ember penetration into the structures' with stucco walls.

Dudek anticipates that the provided fire protection features along with the additional fire protection enhancements described above would reduce likelihood of structure ignition, minimize fire spread potential through the site, and provide for an aware and ready staff and visitor population.

Limitations

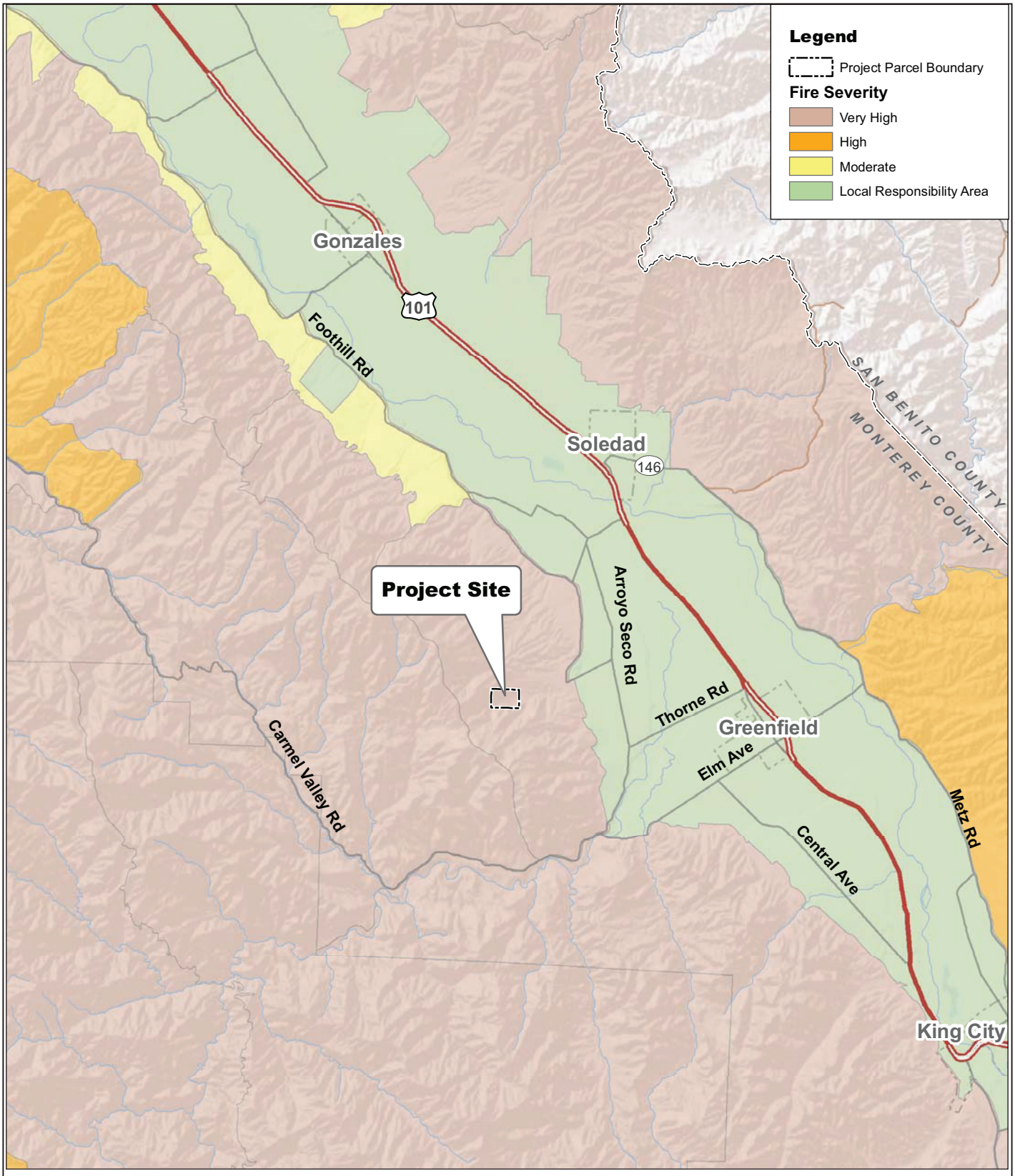
This analysis and its fire protection recommendations are supported by fire science research, results from previous wildfire incidents, and fire agencies that have approved these concepts. However, this study does not provide a guarantee that all residents and visitors at the Paraiso Springs Resort will be safe at all times. There are many variables that may influence overall safety. This analysis provides recommendations based on proposed post-project conditions, anticipated evacuation scenarios, and currently available research. It is recommended that the owner(s) maintain a conservative approach to fire safety and evacuation. This approach must include maintaining fire safe landscape and structural components and evacuating early. The approach should also include a contingency option so that in the rare instance where it is determined by incident managers that it is unsafe to evacuate, seeking temporary refuge within hardened and protected buildings is a practiced contingency plan. Wildfire is a dynamic and somewhat unpredictable occurrence and it is important for anyone living in wildland urban interface areas to educate themselves on practices, including the Project's Evacuation Plan and ongoing public outreach programs.

If you have any questions regarding this technical analysis, please contact me at 619.992.9161.

Sincerely,

Michael Huff
Principal/Senior Fire Protection Planner

Att.: *Figures 1–5*
Attachment 1 – Wildland Fire Evacuation Plan
Attachment 2 – Ready, Set, Go! Action Plan



Source: RBF Consulting 2010, Monterey County 2006

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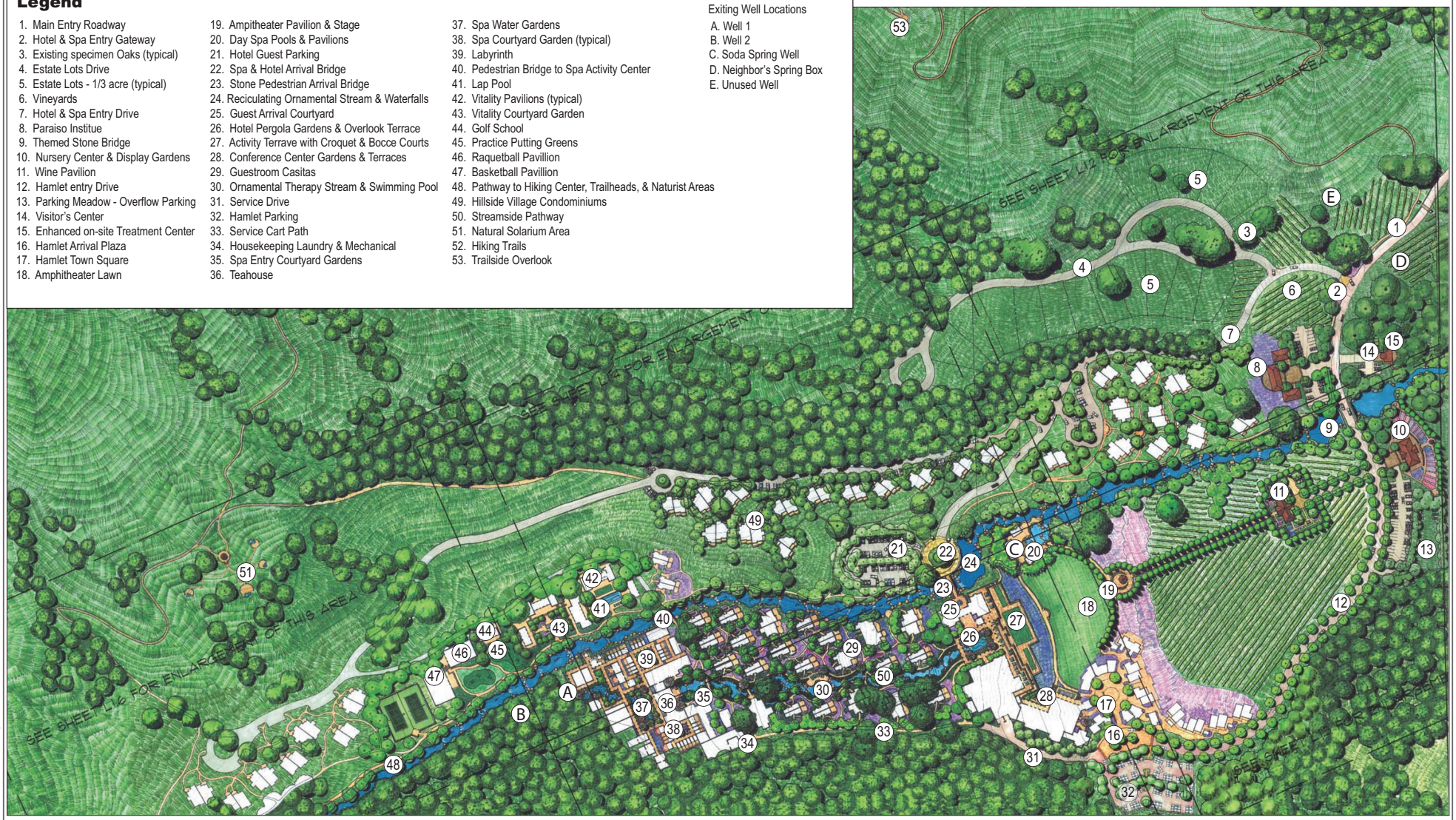
FIGURE 1
Regional Location

Fire Protection Technical Analysis—Paraiso Springs Resort



Source: Hill Glazier Architects 2005

FIGURE 2

Site Plan

Fire Protection Technical Analysis—Paraiso Springs Resort

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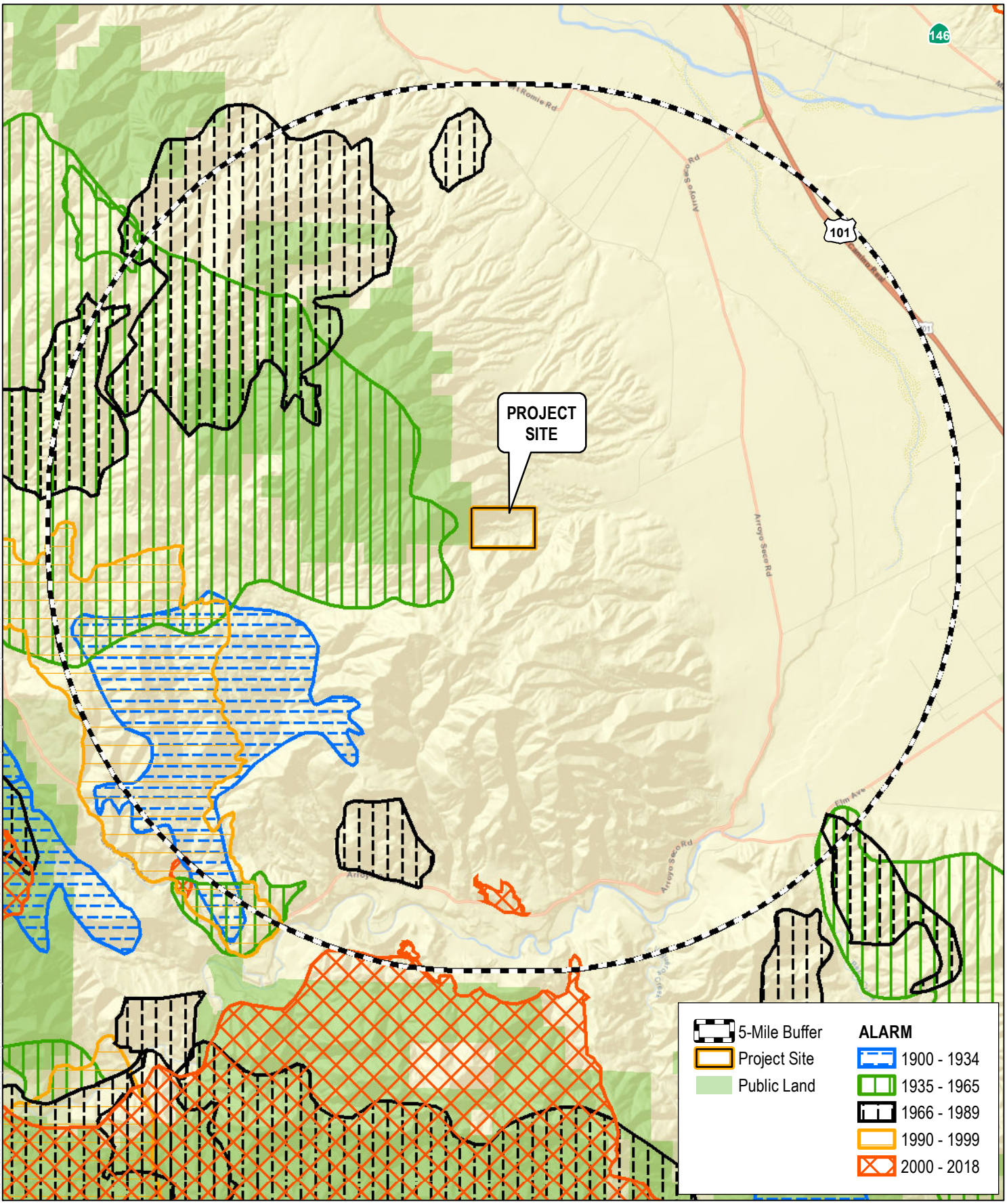

SOURCE: BASEMAP- ESRI; FIRE DATA-CAL FIRE 2017

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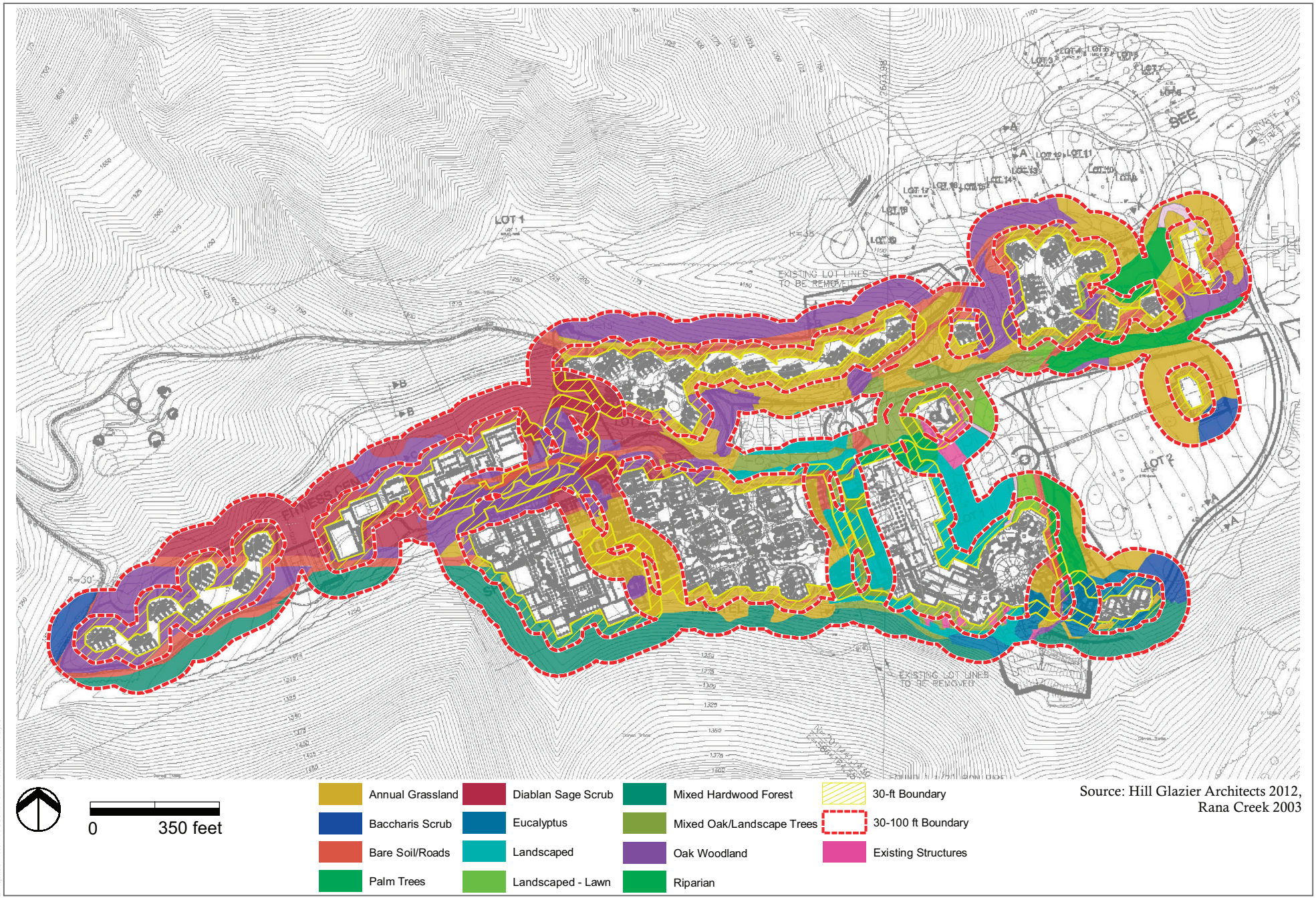
0 1 2 Miles

FIGURE 3

Fire History Map

Fire Protection Technical Analysis - Paraiso Springs Resort



Source: Hill Glazier Architects 2012, Rana Creek 2003

FIGURE 4

Fuel Modification Zones/Defensible Space

Fire Protection Technical Analysis—Paraiso Springs Resort

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Fuel Model Characteristics

Fuel Model	Description	Location	Surface Fuel Bed Depth (Feet)
Gr1	cut grasses	FMZ	<0.5
Gr4	Annual Grassland	Valley bottoms	<2.0
Gs2	Oak Woodland/Mixed Hardwood Forest	Drainages/north-facing slopes	<15.0
Sh1	Minimum 50% thinning of brush	FMZ	<3.0
Sh2	Willow Riparian	Eastern portion of site	>6.0
Sh5	Diablan Sage Scrub	Northern and western areas	<4.0
Sh5	Baccharis Scrub	Near riparian and eastern slopes	<3.0

BehavePlus Fire Behavior Modeling Inputs

Model Variable	50th Percentile Weather	97th Percentile Weather
Weather		
1 h fuel moisture	4%	2%
10 h fuel moisture	5%	3%
100 h fuel moisture	11%	7%
Live herbaceous moisture	42%	30%
Live woody moisture	84%	60%
20 ft. wind speed (miles per hour)	10 mph sustained winds 24 mph max. high winds	19 mph sustained winds 50 mph peak gusts
Wind adjustment factor	0.4	0.4
Terrain		
Natural Slope	20% to 60%	5% to 25%

Paraiso Springs Resort BehavePlus Fire Behavior Model Results Existing Conditions[1]

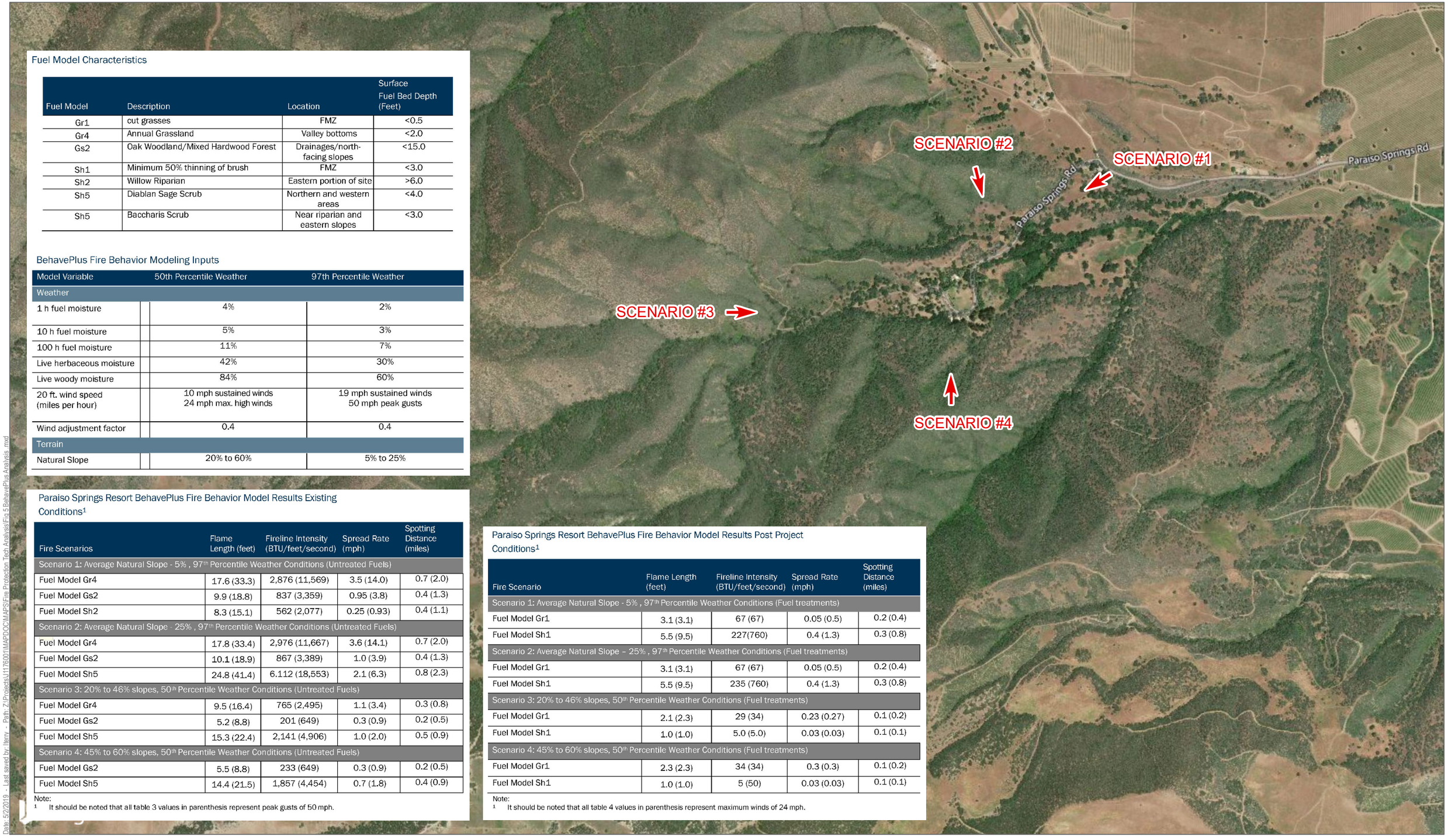
Fire Scenarios	Flame Length (feet)	Fireline Intensity (BTU/feet/second)	Spread Rate (mph)	Spotting Distance (miles)
Scenario 1: Average Natural Slope - 5% , 97th Percentile Weather Conditions (Untreated Fuels)				
Fuel Model Gr4	17.6 (33.3)	2,876 (11,569)	3.5 (14.0)	0.7 (2.0)
Fuel Model Gs2	9.9 (18.8)	837 (3,359)	0.95 (3.8)	0.4 (1.3)
Fuel Model Sh2	8.3 (15.1)	562 (2,077)	0.25 (0.93)	0.4 (1.1)
Scenario 2: Average Natural Slope - 25% , 97th Percentile Weather Conditions (Untreated Fuels)				
Fuel Model Gr4	17.8 (33.4)	2,976 (11,667)	3.6 (14.1)	0.7 (2.0)
Fuel Model Gs2	10.1 (18.9)	867 (3,389)	1.0 (3.9)	0.4 (1.3)
Fuel Model Sh5	24.8 (41.4)	6.112 (18,553)	2.1 (6.3)	0.8 (2.3)
Scenario 3: 20% to 46% slopes, 50th Percentile Weather Conditions (Untreated Fuels)				
Fuel Model Gr4	9.5 (16.4)	765 (2,495)	1.1 (3.4)	0.3 (0.8)
Fuel Model Gs2	5.2 (8.8)	201 (649)	0.3 (0.9)	0.2 (0.5)
Fuel Model Sh5	15.3 (22.4)	2,141 (4,906)	1.0 (2.0)	0.5 (0.9)
Scenario 4: 45% to 60% slopes, 50th Percentile Weather Conditions (Untreated Fuels)				
Fuel Model Gs2	5.5 (8.8)	233 (649)	0.3 (0.9)	0.2 (0.5)
Fuel Model Sh5	14.4 (21.5)	1,857 (4,454)	0.7 (1.8)	0.4 (0.9)

Note:
[1] It should be noted that all table 3 values in parenthesis represent peak gusts of 50 mph.

Paraiso Springs Resort BehavePlus Fire Behavior Model Results Post Project Conditions[1]

Fire Scenario	Flame Length (feet)	Fireline Intensity (BTU/feet/second)	Spread Rate (mph)	Spotting Distance (miles)
Scenario 1: Average Natural Slope - 5% , 97th Percentile Weather Conditions (Fuel treatments)				
Fuel Model Gr1	3.1 (3.1)	67 (67)	0.05 (0.5)	0.2 (0.4)
Fuel Model Sh1	5.5 (9.5)	227(760)	0.4 (1.3)	0.3 (0.8)
Scenario 2: Average Natural Slope – 25% , 97th Percentile Weather Conditions (Fuel treatments)				
Fuel Model Gr1	3.1 (3.1)	67 (67)	0.05 (0.5)	0.2 (0.4)
Fuel Model Sh1	5.5 (9.5)	235 (760)	0.4 (1.3)	0.3 (0.8)
Scenario 3: 20% to 46% slopes, 50th Percentile Weather Conditions (Fuel treatments)				
Fuel Model Gr1	2.1 (2.3)	29 (34)	0.23 (0.27)	0.1 (0.2)
Fuel Model Sh1	1.0 (1.0)	5.0 (5.0)	0.03 (0.03)	0.1 (0.1)
Scenario 4: 45% to 60% slopes, 50th Percentile Weather Conditions (Fuel treatments)				
Fuel Model Gr1	2.3 (2.3)	34 (34)	0.3 (0.3)	0.1 (0.2)
Fuel Model Sh1	1.0 (1.0)	5 (50)	0.03 (0.03)	0.1 (0.1)

Note:
[1] It should be noted that all table 4 values in parenthesis represent maximum winds of 24 mph.



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SOURCE: BASEMAP- BING MAPPING SERVICE

DUDEK 0 600 1,200 Feet

FIGURE 5

BehavePlus Fire Behavior Analysis Map

Fire Protection Technical Analysis - Paraiso Springs Resort

Attachment 1

Wildland Fire Evacuation Plan

1 EMERGENCY PRE-PLANNING - EVACUATION

1.1 Quick Reference - Wildland Fire Evacuation Plan

Evacuation is a process by which people are moved from a place where there is immediate or anticipated danger, to a safer place, and offered temporary shelter facilities. When the threat passes, evacuees are able to return to their normal activities, or to make suitable alternative arrangements.

Figure 1 indicates the Emergency Evacuation Routes available to the Paraiso Springs Resort. The exhibit highlights the community's backbone interior roads along with primary access points and off-site roads and major traffic corridors leading to designated evacuation areas.

The available evacuation routes for the guests of Paraiso Springs Resort are (Figure 2):

1. **Egress to the east via Paraiso Springs Road** – This is the only Paraiso Springs Resort access road and interconnects with Clark Road and eventually Arroyo Seco Road to the East. Arroyo Seco Road to the south transitions to Thorne Road, which offers travel options to US-101 north or south, or continues south and eventually intersects with Elm Avenue. Arroyo Seco Road to the north offers travel options to US-101 north or south. US-101 north offers travel to Soledad and Salinas, while US-101 south offers travel to King City and Paso Robles.
2. **Egress to the south via Clark Road to Arroyo Seco Road secondary egress route** – This portion of Arroyo Seco Road continues south until it transitions into Elm Avenue, which provides travel options to the east, connecting with US-101 north or south. Turning right onto Central Avenue from Elm Avenue and continue southeast, the road will eventually connect with US-101 north or south.
3. **Egress to the north on Paraiso Springs Road** – This secondary evacuation route to the north on Paraiso Springs Road provides a route that connects with Foothill Road. Foothill Road continues north/northwest and transitions into River Road which parallels the Salinas River and US-101 north.

This evacuation plan has been prepared specifically for the Paraiso Springs Resort and focuses on wildland fire evacuations, although many of the concepts and protocols will be applicable to other emergency situations. Ultimately, this plan will be used by the Paraiso Springs Resort to educate their guests as to their evacuation approach during wildfires and other similar emergencies.

It is recognized that wildfire and other emergencies are often fluid events and that the need for evacuations are typically determined by 1) on-scene first responders, 2) a collaboration between first responders, law enforcement, and designated emergency response teams, including the Office

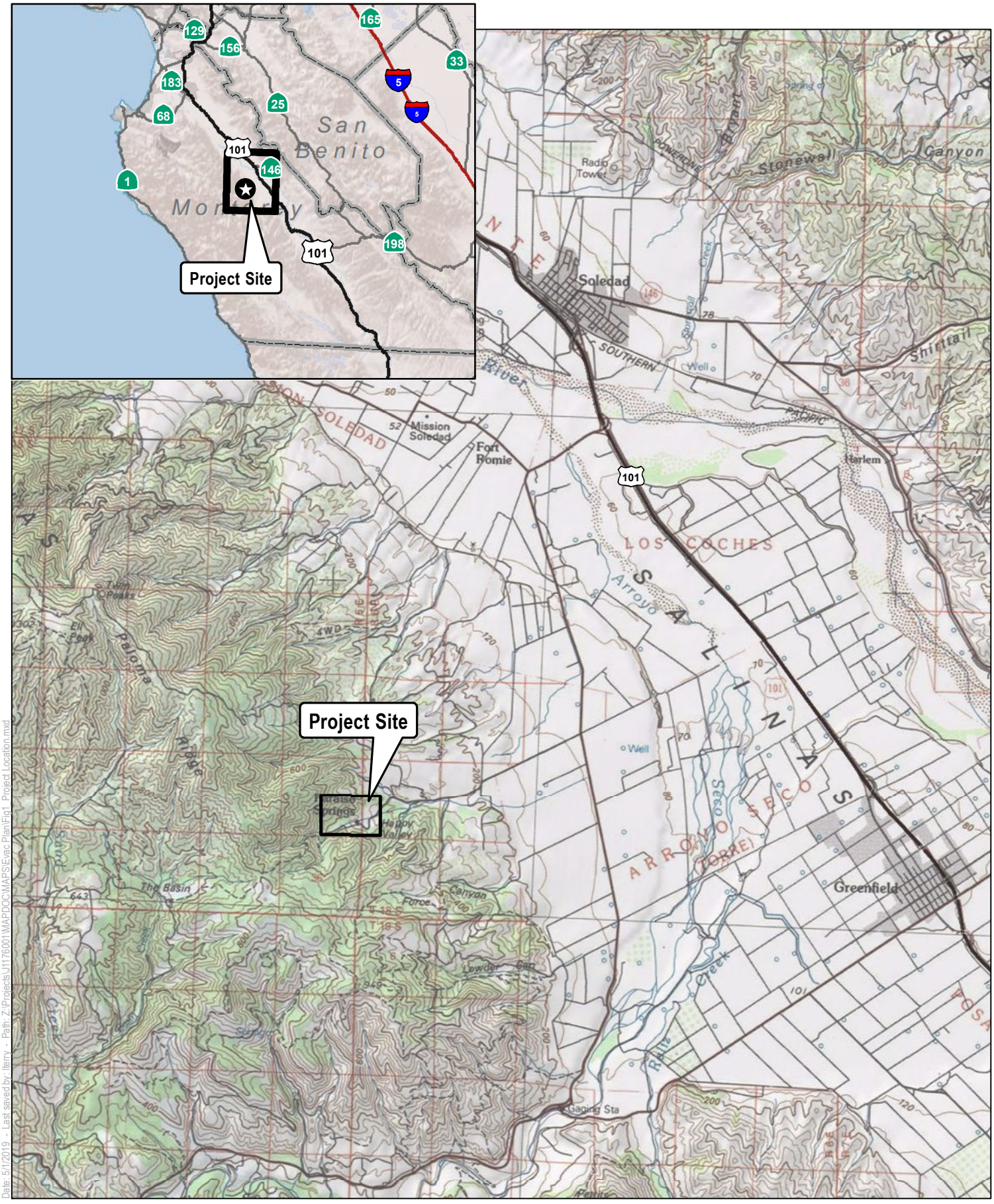
of Emergency Services and the Incident Command (IC) established for larger emergency events. As such, and consistent with all emergency evacuation plans, this Emergency Evacuation plan is to be considered a tool that supports existing pre-plans, as available for the area, and provides for citizens who are familiar with the evacuation protocol, but is subservient to emergency event-specific directives provided by agencies managing the event.

This Emergency Evacuation Plan should be reviewed by the Mission Soledad Rural Fire Protection District (MSRFPD), The County of Monterey, and Monterey County Sheriff's Department. Provided input and edits will be integrated resulting in a coordinated effort and collaborative plan.

1.2 Background

The Paraiso Springs Resort Project site is located in Monterey County, California (Project Location; Figure 1) in the vicinity of Greenfield and Soledad. It is located approximately 5 miles west of Highway 101, 22 miles east of the Pacific Ocean, 7 miles southwest of Soledad, and 6.5 miles west/northwest of Greenfield. Specifically, the approximately 235-acre project site is located at the terminus of Paraiso Springs Road. The project site is located in a valley surrounded by foothills of the Sierra de Salinas Foothills. The Project site is disturbed having been a resort destination for well over 100 years but that has been unused in this capacity since 2003. Vegetation on the Project site includes disturbed landscapes of grassland, oak woodland, and sage scrub. The hills directly north, south and east of the site are undisturbed, including sage scrub, grassland, and oak trees. Land cover/uses to the northeast, east and southeast is dominated by agriculture, including vineyards.

This Paraiso Springs Resort Evacuation Plan has been prepared based on the Unified Monterey County Office of Emergency Services and Monterey County Emergency Operations Plan (EOP) – Annex P Transportation/Evacuation Plan. In order to establish a framework for implementing well-coordinated evacuations, the Monterey County Office of Emergency Services (OES) developed an Evacuation Annex as part of the Area EOP (Monterey County 2010). Large-scale evacuations are complex, multi-jurisdictional efforts that require coordination between many agencies and organizations. Emergency services and other public safety organizations play key roles in ensuring that an evacuation is effective, efficient, and safe.



SOURCE: USGS 7.5 Minute Series, Paraiso Springs Quadrangle

DUDEK

0 4,250 8,500 Feet

FIGURE 1

Project Location

Wildland Fire Evacuation Plan for the Paraiso Springs Resort

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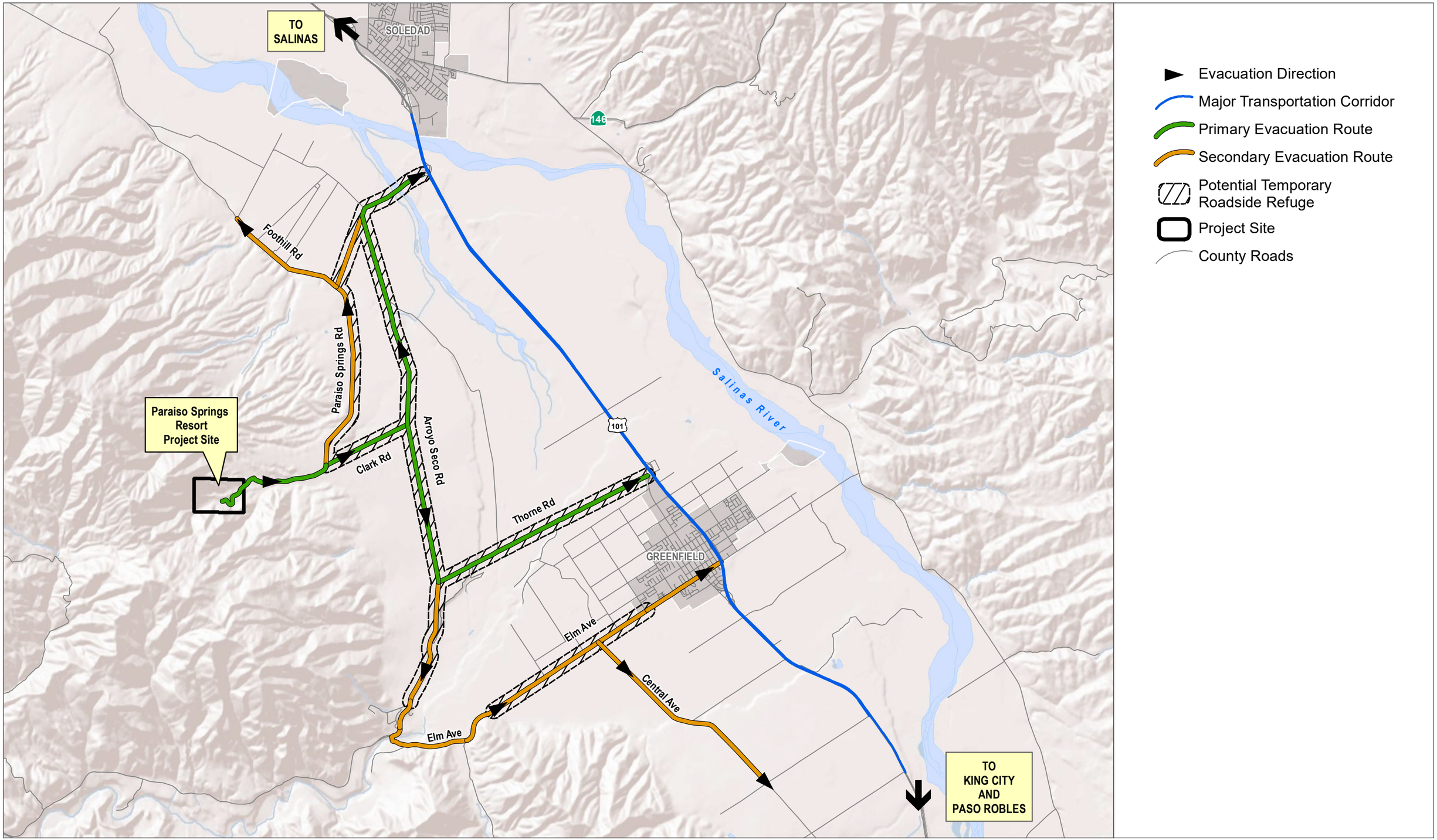

SOURCE: BASEMAP-ESRI

DUDEK

0 3,550 7,100 Feet

FIGURE 2

Paraiso Springs Resorts Community Fire Evacuation Map

Wildland Fire Evacuation Plan for the Paraiso Springs Resort

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Evacuation during a wildfire is not necessarily directed by the fire agency, except in specific areas where fire personnel may enact evacuations on-scene. The Monterey County Sheriff's Department (MCSD), California Highway Patrol, and other cooperating law enforcement agencies have primary responsibility for evacuations in the field and take direction from the fire and other agencies managing the event. These agencies work closely within the Unified Incident Command System, with the County OES, and responding fire department personnel who assess fire behavior and spread, which should ultimately guide evacuation decisions. To that end, MSRFPD, CAL FIRE, City Fire, law enforcement, Public Works, Planning, Emergency Services Departments, and CalTrans, amongst others, have worked with a County Pre-Fire Mitigation Task Force to address wildland fire evacuation planning for Monterey County.

It is important to note that every evacuation scenario will include some level of unique challenges, constraints, and fluid conditions that require interpretation, fast decision making, and alternatives. Risk is considered high when evacuees are evacuating late, and fire encroachment is imminent. This hypothetical scenario highlights the importance of continuing to train responding agencies, model various scenarios, educate the public, and take a very conservative approach to evacuation decision timelines (early evacuation) as well as providing contingency plans.

Equally as important, the evacuation procedures should be regularly updated with lessons learned from actual evacuation events, as they were following the 2008, 2015 and 2016 Monterey County fires. The authors of this Evacuation Plan recommend that occasional updates are provided, especially following lessons learned from actual incidents, as new technologies become available that would aid in the evacuation process, and as changing landscapes and development patterns occur within and adjacent the Paraiso Springs Resort Project that may impact how evacuation is accomplished. At the time of this plan's preparation, there was no encompassing emergency evacuation plan available for the greater region. This Paraiso Springs Resort Wildland Fire Evacuation Plan is consistent with County evacuation planning and can be integrated into a regional evacuation plan when and if the area officials and stakeholders (MSRFPD, CAL FIRE, City of Monterey Fire Department, Monterey County Regional Fire District, Office of Emergency Services, Monterey County Sheriff's Department, and others) complete one.

As demonstrated during large and localized evacuations occurring throughout California over the last 15 years, an important component to successful evacuation is early assessment of the situation and early notification via managed evacuation declarations. Monterey County utilizes early warning and informational programs to help meet these important factors. Among the methods available to citizens for emergency information are phone (via text messaging), radio, television, social media/internet, neighborhood patrol car PA notifications, and Reverse 911.

The Paraiso Springs Resort guests will be strongly encouraged to register with Reverse 911, Alert Monterey County, and the Monterey County Nixle Notification System. In addition, the resort will organize evacuation public outreach as well as maintain a fire safe page on the Resort's Web page, including key sections of this Emergency Evacuation Plan and the Modified FPP and links to important citizen preparedness information.

1.3 Monterey County Evacuation Planning Summary

This Wildland Fire Evacuation Plan incorporates concepts and protocols practiced throughout Monterey County. The Monterey County Transportation/Evacuation Annex (2010) follows basic protocols set forth in the County's Operation Area Emergency Operations Plan and the California Master Mutual Aid Agreement, which dictate who is responsible for an evacuation effort and how regional resources will be requested and coordinated.

First responders are responsible for determining initial protective actions before EOCs and emergency management personnel have an opportunity to convene and gain situational awareness. Initial protective actions are communicated to local EOCs and necessary support agencies as soon as possible to ensure an effective, coordinated evacuation.

During an evacuation effort, the designated County Evacuation Coordinator is the Sheriff, who is also the Law Enforcement Coordinator. The Evacuation Coordinator will be assisted by other law enforcement and support agencies. Law enforcement agencies, highway/road/street departments, and public and private transportation providers will conduct evacuation operations. Procurement, regulation, and allocation of resources will be accomplished by those designated. Evacuation operations will be conducted by the following agencies:

- Monterey County Sheriff's Department
- Fire and Rescue
- County Health and Human Services Agency
- Department of Animal Services,
- Department of Planning and Land Use
- Department of Environmental Health
- Department of General Services
- Department of Public Works
- Department of Agriculture, Weights, and Measures
- Department of Parks and Recreation

1.4 Paraiso Springs Resort Evacuation Road Network

Wildfire emergencies that would be most likely to include an evacuation of Paraiso Springs Resort would be large wildfires approaching from the north, south, east or west. These fires are often wind driven and occur during declared Red Flag Warning days where low humidity and high winds facilitate fire ignition and spread. If a fire starts in the open fields and pastures to the east of the Project or in the mountains to the north, west or south of the Project and are fanned by these fire weather conditions, an early evacuation of the area may occur as many as 24 or more hours prior to actual threatening conditions, depending on the location of the ignition. Fires occurring on typical weather days, even fires igniting off the local highways, have been very successfully controlled at small sizes within minutes of ignition and would not typically trigger a need to evacuate the project. Partial evacuation or temporary relocation of some neighborhoods could be an option in these cases.

If a wildfire ignited closer to the Paraiso Springs Resort during weather that facilitates fire spread, where multiple hours are not available for evacuation, a different evacuation approach would need to be explored. It is preferred to evacuate long before a wildfire is near, and in fact, history indicates that most human fatalities from wildfires are due to late evacuations when they are overtaken on roads. Therefore, it is prudent to consider a contingency option. For example, if a wildfire is anticipated to encroach upon the community in a timeframe that is shorter than would be required to evacuate all resort guests, then options available to responding fire and law enforcement personnel should include 1) temporary refuge where guests and staff of the resort are directed to other large buildings on the property that would be built to the latest ignition resistant building requirements and provide maintained defensible space and instructed to remain in these buildings while firefighters perform their wildland fire and structure protection functions. Although not officially designated a "shelter in place" site, the structures and landscape at the Paraiso Springs Resort provides the same features of shelter in place facilities, particularly they are ignition resistant, defensible and designed to require minimal resources for protection, which enables these contingency options that may not be available to other nearby structures and residences.

The roads that will be used for ingress and egress from the Paraiso Springs Resort are described as:

- ***Paraiso Springs Road*** – provides primary access to Paraiso Springs Resort. Prior to the opening of phase one of the resort, the road will be improved to provide for a 20 foot road width for 98 percent of the road and a minimum of 18 foot in the remaining 150 feet of road that is limited by terrain thus providing two 10 foot travel lanes in each direction for almost all of the road and a minimum of two nine-foot travel lanes in each direction for the small section of road that will be 18 ft. wide. Paraiso Springs Road intersects Clark Road, an 18-

foot wide, approximately 1.35 mile paved stretch of road with dirt shoulders, providing a minimum of two nine-foot travel lanes in each direction that connects Paraiso Springs Road to Arroyo Seco Road.

- ***Arroyo Seco Road*** (via Clark Road) – Arroyo Seco Road will provide primary emergency access to the north and south and will provide two approximately 10 foot wide unobstructed travel lanes that connect to US-101 to the north. Arroyo Seco Road intersects with Elm Avenue to the south which provides access to the US-101 to the east.

The need for evacuation plans, pre-planning, and tiered or targeted and staggered evacuations is important for improving evacuation effectiveness. Among the most important factors for successful evacuations in urban settings is control of intersections downstream of the evacuation area. If intersections are controlled by law enforcement, barricades, signal control, or other means, potential backups and slowed evacuations can be minimized. For the Paraiso Springs Resort project, there are few intersections and a low number of vehicles evacuating which does not conform to urban population evacuations which can be more complex.

Consistent with Monterey County transportation and evacuation annex (2010), major ground transportation corridors in the area will be used as primary evacuation routes during an evacuation effort. The road systems were evaluated to determine the best routes for fire response equipment and "probable" evacuation routes for relocating people to designated safety areas. The primary roadways that would be used for evacuation from Paraiso Springs Resort are Paraiso Springs Road, Clark Road, Arroyo Seco Road, Thorne Road, Elm Avenue, Central Avenue, Foothill Road, and Colony Road. These roads provide access to a major traffic corridor including U.S. Route 101 (US-101) to the east.

During an emergency evacuation from the Paraiso Springs Resort, the primary roadways may be providing citizen egress while responding emergency vehicles are inbound. The resort's primary evacuation route intersects with the primary ingress/egress roads that intersect off-site primary and major evacuation routes.

If there is an emergency requiring evacuation, all guests and staff traffic would exit the project to the east via Paraiso Springs Road which is the only road to and from the resort. In a typical evacuation that allows time, all traffic will be directed to the east and out Paraiso Springs Road.

1.4.1 Evacuation Route Determination

Fire and law enforcement official will identify evacuation points before evacuation routes are announced to the public. Evacuation routes are determined based on the location and extent of the incident and include as many pre-designated transportation routes as possible. Absent direction

from fire and/or law enforcement officials, residents would be advised to use the primary access road – Paraiso Springs Road for evacuations.

1.4.2 Roadway Capacities and Maximum Evacuation Time Estimate

Roadway capacity represents the maximum number of vehicles that can reasonably be accommodated on a road. Roadway capacity is typically measured in vehicles per hour and can fluctuate based on the number of available lanes, number of traffic signals, construction activity, accidents, and obstructions as well as positive effects from traffic control measures.

Each roadway classification has a different capacity based on level of service, with freeways and highways having the highest capacities. Based on traffic engineer estimates (Keith Higgins 2019), and using peak numbers and a conservative estimate, roads that would be the most likely available to Paraiso Springs Resort guests and their hourly capacities are:

1. ***Paraiso Springs Road*** –1,900 vehicles/hour

Using this average, the length of time it will take for an area to evacuate can be determined by dividing the number of vehicles that need to evacuate by the total roadway capacity. Paraiso Spring Resort will have an estimated 500 people at full buildout with 100 percent occupancy, including staff and resort guests. Dudek utilized 2 persons per vehicle to estimate the additional number of vehicles that would be generated during an emergency, which is a common vehicle population used for evacuation calculations and is generally consistent with the project planned parking spaces and shuttle capacity as estimated in the project traffic analysis report. Specifically, the highest employee shift count for the day shift was used to estimate personnel onsite and would equate to 98 onsite employees, leaving approximately 400 guests onsite at full buildout. Approximately 10 of the employees (10 percent) are management employees and would drive their own vehicles to the site which equates to approximately 10 management cars onsite. One shuttle bus would be onsite at all times to shuttle employees and resort guests from the property that did not drive their own vehicles to the Paraiso Springs Resort. Approximately 6.25 percent of the guests (approximately 25 people) would use the shuttle to get to the resort. Additionally, there would be approximately 5 to 8 vehicles and/or utility vehicles on the property at all times used for internal maintenance activities. This results in a total of up to approximately 269 vehicles that may be leaving the site during a declared evacuation compared to the Dudek estimate of 275 vehicles which would leave the site which is a slightly more conservative estimate. The existing Paraiso Springs Road includes approximately 5 homes and a vineyard. The homes would be expected to generate roughly 10 vehicles (2 vehicles per home - Cal Poly San Luis Obispo study 2016) 1 while the vineyard may include up to 5 vehicles during an evacuation. The evacuation of these existing residents and vineyard workers, along with the Project's population is anticipated to require up to

10 minutes travel time for the last vehicle to reach the Clark Road intersection. The actual travel time for the existing residents and vineyard workers would be less than 10 minutes due to their location, and is estimated at between 5 and 7 minutes. These evacuation times are considered good as most wildfire events would enable longer timeframes for a fire threatened the site or its evacuation roads.

In the above scenario, there would be approximately 100 people (non-management employees and guests who were shuttled to the site) left to use the onsite shuttle bus and other evacuation vehicles. It's estimated that a single shuttle could hold up to 35 or 40 people and the management employees could carpool up to 4 additional employees off the property per vehicle, giving the ability between the shuttle and management employees to evacuate up to 80 people in one trip out of the 100 resort guests/employees. This leaves approximately 20 employees that would be the last to exit the property after insuring that all evacuees were safely off the property; these remaining 20 employees would be directed to evacuate using any of the 5 to 8 onsite work vehicles that would be maintained on the property at all times. It is also reasonable to expect that if necessary, resort guests could be directed to assist in the evacuation process and would allow other guests to carpool offsite (Higgins 2019).

The Clark Road intersection is considered a point of lower risk because it is amongst the irrigated and maintained vineyards where wildfire exposure would be limited. During evacuations, it would be expected that existing residents would evacuate sooner and be at or beyond the Clark Road intersection before the resort traffic reached them since they are closer to the Clark Road intersection. This likely scenario would, in effect, maintain the current condition for the existing residents and vineyard workers. However, if for some reason the residents and vineyard workers evacuated the area concurrently with resort traffic, an additional 3 to 4 minutes timeframe may be incurred. This increase would be considered an insignificant impact as that evacuation time is considered acceptable. In addition, it is the intent of the Project as part of its emergency preparation plan, to place 2 evacuation managers at the two curves in Paraiso Springs Road during an emergency evacuation. One person would be placed at the intersection where 3 of the neighboring houses and the vineyard employees would exit onto Paraiso Springs Road and the other closer to the other 2 "downstream" houses. In the event that these residents and workers are not already evacuated and off Paraiso Springs Road (estimated 2 to 3 minutes travel) before the Project evacuates, this Project commitment would aid in maintaining traffic movement and as needed, assist with emergency vehicles heading toward the Project. This would also allow breaks in Project vehicles to allow the existing resident's ability to merge onto the road and proceed toward the Clark Road intersection. The insignificant impact is further minimized by the Project's benefits to the neighbors including: Paraiso Springs Road improvements, increased tax base that results in additional resources for fire protection, modified fire behavior as the Project presents a fuel break to the west of the existing residents, and the Project provides a designated temporary

refuge area if evacuation via Paraiso Springs Road is considered unsafe. The evacuation of Paraiso Springs Resort is aided by the short distance to areas of relative safety and the roadside protection the agricultural landscapes would provide.

1.5 Fire/Evacuation Awareness

The Paraiso Springs Resort will be active in its outreach to guests regarding fire safety and general evacuation procedures. There are aspects of fire safety and evacuation that require a significant level of awareness by the guests, staff and emergency services in order to reduce and/or avoid problems with an effective evacuation. Mitigating potential impediments to successful evacuations requires focused and repeated information through a strong educational outreach program. The Paraiso Springs Resort will engage the guests and staff and coordinate with local fire agencies for fire safety awareness through a variety of methods.

This FPP and evacuation plan will be accessible to all visitors and staff members within the resort and on the resorts Website. The resort will work with local fire agencies to hold an annual fire safety and evacuation preparedness informational meeting. The meeting will be attended by representatives of the fire agencies and important fire and evacuation information reviewed. One focus of these meetings and of the resort's annual message will be on the importance of each visitor and staff member to prepare and be familiar with the "Ready, Set, Go!" evacuation plan. The "Ready, Set, Go!" program is defined at: http://wildlandfirersg.org/.

The focus of the "Ready, Set, Go!" program is on public awareness and preparedness, especially for those living in the wildland-urban interface (WUI) areas. The program is designed to incorporate the local fire protection agency as part of the training and education process in order to insure that evacuation preparedness information is disseminated to those subject to the potential impact from a wildfire. There are three components to the program:

"READY" – Preparing for the Fire Threat: Take personal responsibility and prepare long before the threat of a wildfire so you and your home are ready when a wildfire occurs. Create defensible space by clearing brush away from the resort as detailed in this FPP (Dudek 2019). Use only fire-resistant landscaping and maintain the ignition resistance of all structures within the resort. Assemble emergency supplies and belongings in a safe spot. Confirm you are registered for Reverse 911, AlertMontereyCounty, and Community Alert System. Make sure all guests staying at the resort understand the plan, procedures and escape routes.

"SET" – **Situational Awareness When a Fire Starts:** If a wildfire occurs and there is potential for it to threaten the Paraiso Springs Resort, pack your vehicle with your emergency items. Stay

aware of the latest news from local media and your local fire department for updated information on the fire. If you are uncomfortable, leave the area.

"GO!" – **Leave Early!** Following your Action Plan provides you with knowledge of the situation and how you will approach evacuation. Leaving early, well before a wildfire is threatening your community, provides you with the least delay and results in a situation where, if a majority of neighbors also leave early, firefighters are now able to better maneuver, protect and defend structures, evacuate other residents who couldn't leave early, and focus on citizen safety.

"READY! SET! GO!" is predicated on the fact that being unprepared and attempting to flee an impending fire late (such as when the fire is physically close to the community) is dangerous and exacerbates an already confusing situation. This Paraiso Springs Resort Wildland Fire Evacuation Plan provides key information that can be integrated into the individual Action Plans, including the best available routes for them to use in the event of an emergency evacuation.

Situation awareness requires a reliable information source. One of the most effective public notification methods is Reverse 911. The Monterey County Office of Emergency Services operates the reverse 911 notification system that provides a recorded message over land line telephone systems relating to evacuation notices. In addition, the Office of Emergency Services operates a program known as "Alert Monterey County" that has the capability to send emergency notifications over both land lines as well as to cell phones and via text messages. It is up to individual residents to register their cell phones for "Alert Monterey County". The registration of cell phones can be done on line at http://www.alertmontereycounty.org/.

In addition, Monterey County provides a separate Community Notification System which allows people to register to receive email or text message notifications about urgent or other information, including events that may result in traffic delays or road closures. Anyone can subscribe at http://www.nixle.com/ and selecting "Residents" and "Sign up" This system is not affiliated with the Monterey County Reverse 9-1-1 system and is informational only. It will not be used to issue an evacuation order.

As part of the Paraiso Springs Resort fire awareness and evacuation readiness program, information will be delivered in a variety of methods. The Resort will be responsible to provide and distribute to each guest and staff member a complete copy of the project's Fire Protection Plan and this Wildland Fire Evacuation Plan, including materials from the READY! SET! GO! Program. The Resort is also responsible for insuring the distribution of copies of the aforementioned materials throughout the Resort.

As part of the approval of this project, it shall be binding on the Resort to actively participate as a partner with the MSRFPD, CAL FIRE, City Fire, and the local FireSafe Council (Monterey County Firesafe Council) and to assist with the coordination and distribution of fire safety information they develop.

1.6 Paraiso Springs Resort Evacuation Procedures

It is estimated that the minimum amount of time needed to move the Paraiso Springs Resort population to urbanized and/or designated evacuation areas may require approximately 10 minutes to just over 17 minutes, on average, under varying constraints that may occur during an evacuation.

Wildfire emergency response procedures will vary depending on the type of wildfire and the available time in which decision makers (Incident Command, MSRFPD, CAL FIRE, City Fire, MCSD, and/or County Office of Emergency Management) can assess the situation and determine the best course of action. Based on the community, it's road network, and the related fire environment, the primary type of evacuation envisioned is an orderly, pre-planned evacuation process where people are evacuated from the Paraiso Springs Resort to more urban areas further from an encroaching wildfire (likely to urban areas east and southeast) well before fire threatens. This type of evacuation must include a conservative approach to evacuating, i.e., when ignitions occur and weather is such that fires may spread rapidly, evacuations should be triggered on a conservative threshold that includes time allowances for unforeseen, but possible, events that would slow the evacuation process.

Evacuation is considered by many to offer the highest level of life protection to the public, but it can result in evacuees being placed in harm's way if the time available for evacuation is insufficient (Cova et al. 2011). An example of this type of evacuation which is highly undesirable from a public safety perspective, is an evacuation that occurs when fire ignites close to vulnerable communities. Paraiso Springs Resort would not be considered a vulnerable community, however, there are vulnerable communities within the region. This type of situation is inherently dangerous because there is generally a higher threat to persons who are in a vehicle on a road when fire is burning in the immediate area than in a well-defended, ignition resistant home or designated building. Conditions may become so poor, that the vehicle drives off the road or crashes into another vehicle, and flames and heat overcome the occupants. A vehicle offers little shelter from a wildfire if the vehicle is situated near burning vegetation or catches fire itself. This type of evacuation must be considered a very undesirable situation by law and fire officials in all but the rarest situations where late evacuation may be safer than seeking temporary refuge in a structure (such as when there are no nearby structures, the structure(s) is/are already on fire, or when there is no other form of refuge).

The third potential type of evacuation is a hybrid of the first two. In cases where evacuation is in process and changing conditions result in a situation that is considered unsafe to continue evacuation, it may be advisable to direct evacuees to pre-planned temporary refuge locations, including several structures within the Paraiso Springs Resort built with the latest ignition resistant construction and defensible space. The evacuation pre-planning must consider these potential scenarios and prepare decision makers at the IC level and at the field level for enacting a contingency to evacuation when conditions dictate.

Indications from past fires and related evacuations, in Monterey County and throughout Northern California, which have experienced increasingly more frequent and larger fires, are that evacuations are largely successful, even with a generally unprepared populace. It then stands to reason that an informed and prepared populace would minimize the potential evacuation issues and related risk to levels considered acceptable from a community perspective.

1.6.1 Paraiso Springs Resort Evacuation Baseline

For purposes of this Evacuation Plan, the first and most logical choice for all of the staff members and guests within the boundaries of the Paraiso Springs Resort is to adhere to the principals and practices of the "READY! SET! GO!" Program previously mentioned in this document. In addition, it is imperative that the "READY! SET! GO!" Program information is reviewed by resort guests, along with the accompanying maps illustrating evacuation routes, temporary evacuation points and pre-identified evacuation points.

Guests and staff members are urged to evacuate as soon as they are notified to do so or earlier if they feel uncomfortable. Evacuation directions will be provided, Paraiso Springs Resort guests will proceed accordingly, to available routes away from the encroaching fire. Depending on the type of emergency and the resulting evacuation, it could take as long as 17 minutes to reach Clark Road, at which point evacuation options are available and surrounding land uses are less vulnerable to wildfire.

Note: this evacuation plan will require adjustment and continued coordination by the Paraiso Springs Resort Fire Safety Coordinator(s) and/or developer and Fire/Law enforcement agencies during each of the construction phases. With each phase, the evacuation routes on site may be subject to changes with the addition of both primary and secondary evacuation routes.

1.6.2 Civilian and Firefighter Evacuation Contingency

As of this document's preparation, no community in California has been directed to shelter in place during a wildland fire, however, shelter in place has been used for populations at college campuses and elsewhere. Even the communities in Rancho Santa Fe, California which are designed and

touted as shelter in place communities, were evacuated during the 2007 Witch Creek Fire. This is not to say that people have not successfully sheltered in place during wildfire, where there are numerous examples of people sheltering in their homes, in hardened structures, in community buildings, in swimming pools, and in cleared or ignition resistant landscape open air areas. The preference will likely always be early evacuation following the "Ready, Set, Go!" model, but there exists the potential for unforeseen civilian evacuation issues, and having a contingency plan will provide direction in these situations that may result in saved lives. Potential problems during wildfire evacuation from the Paraiso Springs Resort include:

- Fires that prevent safe passage along planned evacuation routes
- Inadequate time to safely evacuate
- Blocked traffic due to accidents or fallen tree(s) or power pole(s)
- The need to move individuals who are unable to evacuate

It is recommended that a concerted pre-planning effort focus on evacuation contingency planning for civilian populations when it is considered safer to temporary seek a safer refuge than evacuation.

1.6.2.1 Safety Zones

The International Fire Service Training Association (IFTSA; Fundamentals of Wildland Fire Fighting, 3rd Edition) defines Safety Zones as areas mostly devoid of fuel, which are large enough to assure that flames and/or dangerous levels of radiant heat will not reach the firefighting personnel occupying them. Areas of bare ground, burned over areas, paved areas, and bodies of water can all be used as safety zones. The size of the area needed for a safety zone is determined by fuel types, its location on slopes and its relation to topographic features (chutes and saddles) as well as observed fire behavior. Safety zones should never be located in topographic saddles, chutes or gullies. High winds, steep slopes or heavy fuel loads may increase the area needed for a Safety Zone.

The National Wildland Fire Coordinating Groups (NWFCG), Glossary of Wildland Fire Terminology provides the following definitions for Safety Zone and Escape routes

> Safety Zone. An area cleared of flammable materials used for escape in the event the line is outflanked or in case a spot fire causes fuels outside the control line to render the line unsafe. In firing operations, crews progress so as to maintain a safety zone close at hand allowing the fuels inside the control line to be consumed before going ahead. Safety zones may also be constructed as integral parts of fuel breaks;

they are greatly enlarged areas which can be used with relative safety by firefighters and their equipment in the event of blowup in the vicinity.

According to NWFCG, Safety Zone(s):

- Must be survivable without a fire shelter
- Can include moving back into a clean burn
- May take advantage of natural features (rock areas, water, meadows)
- Can include Constructed sites (clear-cuts, roads, helispots)
- Are scouted for size and hazards
- Consider the topographic location (larger if upslope)
- Should be larger if downwind
- Should not include heavy fuels
- May need to be adjusted based on site specific fire behavior

The definition for a safety zone includes provisions for separation distance between the properly equipped and trained firefighter and the flames of at least four times the maximum continuous flame height. Distance separation is the radius from the center of the safety zone to the nearest fuels. For example, considering worst case 42 foot tall flame lengths that may be possible adjacent this site, then a 168 foot separation would be required, and more if there were any site-specific features that would result in more aggressive fire behavior. This is not to be confused with the required 100 feet FMZs. The firefighter safety zones are meant to keep firefighters in protective gear exposed to the air adequately set back from the nearest fuels.

If one considers the ignition resistant and maintained landscaping within the Paraiso Springs Resort, along with the adjacent fuel modification zones that will at a minimum, meet the applicable 100 foot wide standard, and Chapter 7A of California Building Code compliant structures, the Resort's interior roads would provide Safety Zones available to responding firefighters. Additionally, an area such as the Paraiso Vineyards would provide an opportunity for a safety zone. These areas and the Paraiso Springs Resort on-site structures as Safety Zones can be part of MSRFPD's and County's pre-planning efforts and should be further studied by them to act as such.

1.6.2.2 Temporary Firefighter Refuge Areas

Firescope California defines a contingency plan when it is not possible to retreat to a safety zone. This contingency includes establishment of firefighter TRA(s), which are defined as:

> A preplanned area where firefighters can immediately take refuge for temporary shelter and short-term relief without using a fire shelter in the event that emergency egress to an established Safety Zone is compromised.

Examples of a TRA may include the lee side of a structure, inside of a structure, large lawn or parking areas, or cab of apparatus, amongst others. Differences between a TRA and a Safety Zone is that TRA's are closer to the immediate firefighting area, are considered a contingency to being able to get to a Safety Zone, do not include a requirement for a large area set back four times the flame lengths of adjacent fuels, and cannot be feasibly pre-planned until firefighters arrive on-scene and size up the situation.

Firescope appropriately notes that although Safety Zones and viable Escape Routes shall always be identified in the WUI environment, they may not be immediately available should the fire behavior increase unexpectedly. Often a TRA is more accessible in the WUI environment. A TRA will provide temporary shelter and short-term relief from an approaching fire without the use of a fire shelter and allow the responders to develop an alternate plan to safely survive the increase in fire behavior.

TRAs are pre-planned areas (planned shortly after firefighters arrive on scene) where firefighters may take refuge and temporary shelter for short-term thermal relief, without using a fire shelter in the event that escape routes to an established safety zone are compromised. The major difference between a TRA and a safety zone is that a TRA requires another planned tactical action, i.e., TRAs cannot be considered the final action, but must include self-defense and a move out of the area when the fire threat subsides. A TRA should be available and identified on site at a defended structure. TRAs are NOT a substitute for a Safety Zone. TRA pre-planning is difficult, at best because they are very site and fire behavior specific. For the Paraiso Springs Resort, TRAs would likely include areas throughout the resort where the minimum 100 feet wide fuel modification zones provide defensible space and maintained landscapes are provided, along with ignition resistant structures and wide roads that offer numerous opportunities for TRA.

The entire developed portions of the Paraiso Springs Resort, but especially the interior areas of resort, are considered TRAs. This is an important concept because it offers last-resort, temporary refuge of firefighters, and in a worst-case condition, resort guests and even local neighboring residents. This approach would be consistent with Firescope California (2013) which indicates that firefighters must determine if a safe evacuation is appropriate and if not, to identify safe refuge for those who cannot be evacuated, including civilians.

Each of the site's interior structures that can be considered for TRA includes the following features:

- Ignition Resistant Construction
- A minimum 100 feet wide Fuel Modification Zones around perimeter of project
- Annual inspections by 3rd party fuel modification zone inspectors
- Wide roadways with fire hydrants
- Maintained landscapes and roadside fuel modification
- Ember resistant vents
- Interior fire sprinklers

Because there is the possibility that evacuation of the project may be less safe than temporarily refuging on-site, such as during a fast-moving, wind driven fire that ignites nearby, including temporary refuge within resort structures or elsewhere on site is considered a contingency plan for the Paraiso Springs Resort. This concept is considered a component of the "Ready, Set, Go!" model as it provides a broader level of "readiness" should the ability to execute an early evacuation be negated by fire, road congestion, or other unforeseen issues. Note: this approach would be considered a last-resort contingency during wildfire with the primary focus being on early evacuation.

1.7 Evacuation Plan Limitations

This Wildland Fire Evacuation Plan has been developed based on wildfire and evacuation standards and the Monterey County Transportation/Evacuation Annex (Monterey County 2010) and is specifically intended as a guide for evacuations for the Paraiso Springs Resort. This plan provides basic evacuation information that will familiarize residents with standard evacuation preparedness protocols as well as travel route options that may be available to them during an emergency. However, because emergencies requiring evacuation have many variables and must be evaluated on a case by case basis, this plan shall be subservient to real-time law enforcement and fire personnel/ agencies' decision making and direction during an emergency requiring evacuation.

This Evacuation Plan promotes the "Ready, Set, Go!" model, adopted by the State of California and many fire agencies statewide, including MSRFPD. The goal is to raise agency and citizen awareness of potential evacuation issues and get a majority of the public "Ready" by taking a proactive stance on preparedness, training drills, and visitor education, and evacuation planning efforts. The Paraiso Springs Resort populace will be "Set" by closely monitoring the situation whenever fire weather occurs and/or when wildland fire occurs, and elevating pre-planned protocol activities and situation awareness. Lastly, officials will implement the plan and mandate that populations "Go" by executing pre-planned evacuation procedures in a conservative

manner, i.e., evacuation will occur based on conservative decision points, as proposed in this evacuation plan or when directed by fire and law enforcement personnel, whichever is more conservative. The preferred alternative will always be early evacuation. However, there may be instances when evacuation is not possible, is not considered safe, or is not an option based on changing conditions. For example, should a fire occur and make evacuation from the project ill advised, a contingency plan for guests and staff members will be available. This contingency would include moving people to pre-designated temporary refuge areas until it is safe to evacuate or the threat has been mitigated.

Ultimately, it is the intent of this Evacuation Plan to guide the implementation of evacuation procedure recommendations such that the process of evacuating people from the Paraiso Springs Resort project is facilitated in an efficient manner and according to a pre-defined evacuation protocol as well as providing a contingency option of temporarily refuging, if evacuation is considered less safe.

It is recommended that the evacuation process is carried out with a conservative approach to fire safety. This approach must include maintaining the Paraiso Springs Resort fuel modification landscape, infrastructural, and ignition resistant construction components according to the appropriate standards and embracing a "Ready, Set, Go!" stance on evacuation. Accordingly, evacuation of the wildfire areas should occur according to pre-established evacuation decision points, or as soon as they receive notice to evacuate, which may vary depending on many environmental and other factors. Fire is a dynamic and somewhat unpredictable occurrence and it is important for anyone living at the wildland-urban interface to educate themselves on practices that will improve safety.

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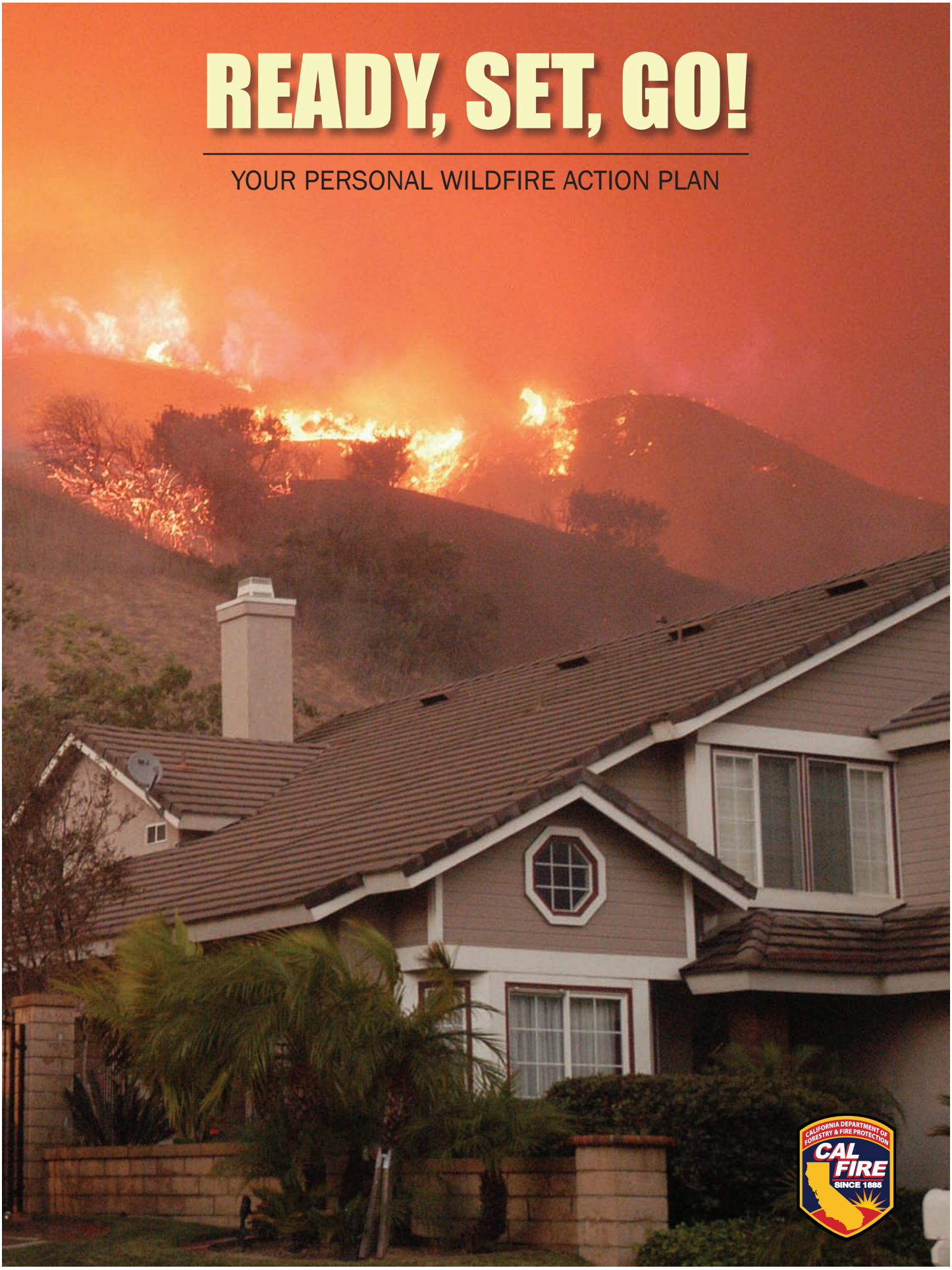
Attachment 2

Ready, Set, Go! Action Plan

READY, SET, GO!

YOUR PERSONAL WILDFIRE ACTION PLAN



READY, SET, GO!

Wildfire Action Plan

Saving Lives and Property
through Advance Planning

Wildfire is a serious threat to lives, property and natural resources in California. The men and women of CAL FIRE make countless preparations and train frequently in order to be ready for all types of emergencies, including wildfires. Residents need to do the same.

You can dramatically increase your safety and the survivability of your property by preparing well in advance of a wildfire. This brochure provides comprehensive information on how to improve your home's resistance to wildfires and prepare your family to be ready to leave early in a safe manner. We call this process, "Ready, Set, Go!"

The guide illustrates the importance of having defensible space around your home and it will help educate you about the preparations you need to make so you can leave early and evacuate well ahead of a wildfire. This brochure also provides information on how to retrofit your home with ignition resistant materials to address the threat of flying embers that can travel as far as a mile ahead of a flame front.

Fire is, and always has been, a natural part of the beautiful state we've chosen to live in. Wildfires, fueled by a build-up of dry vegetation and driven by hot, dry winds, are extremely dangerous and are challenging for firefighters to control. This publication will help you prepare your home so you can leave early; confident in the fact that you've done everything you reasonably can to protect your home from devastating wildfire.

I hope you'll find the information on the next pages helpful. As always, if you need more information about preparing for wildfire or any other disaster, contact your nearest fire station or visit us on the web at www.fire.ca.gov.

Chief Del Walters
Director, CAL FIRE

All suggestions and requirements are based on State Codes and Regulations, specifically the California Building Code Chapter 7A, California Fire Code, and Title 14 Fire Safe Regulations. Contact your local fire and building department for specific requirements or recommendations for your community.

INSIDE

This publication was prepared by the Ventura County Fire Department. Special thanks to CAL FIRE, Orange County Fire Authority, FireSafe Council, Firewise Communities, and the Institute for Business and Home Safety as well as many other organizations for their contributions to content.

Ready, Set, Go! is supported by:

Living in the Wildland Urban Interface

Ready, Set, Go! begins with a house that firefighters can defend.

Defensible space works!

If you live next to a natural area, the Wildland Urban Interface, you must provide firefighters with the defensible space they need to protect your home. The buffer you create by removing weeds, brush and other vegetation helps to keep the fire away from your home and reduces the risks from flying embers.

A home within one mile of a natural area is at risk of flying embers. Wind-driven embers can attack your home. You and your home must be prepared well before a fire occurs. Ember fires can destroy homes or neighborhoods far from the actual flame front of the wildfire.

What is Defensible Space?

Defensible space is the required space between a structure and the wildland area that, under normal conditions, creates a sufficient buffer to slow or halt the spread of wildfire to a structure. It protects the home from igniting due to direct flame or radiant heat. Defensible space is essential for structure survivability during wildfire conditions and for the protection to firefighters defending your home.

ZONE ONE

Zone One extends 30 feet out from buildings, structures, decks, etc.

- Remove all dead or dying vegetation.
- Trim tree canopies regularly to keep their branches a minimum of 10 feet from structures and other trees.
- Remove leaf litter (dry leaves/pine needles) from yard, roof and rain gutters.
- Relocate woodpiles or other combustible materials into Zone Two.
- Remove combustible material and vegetation from around and under decks.
- Remove or prune vegetation near windows.
- Remove “ladder fuels” (low-level vegetation that allows the fire to spread from the ground to the tree canopy). Create a separation between low-level vegetation and non-vegetative materials such as patio furniture, wood piles, swing set, etc., from tree branches. This can be done by reducing the height of low-level vegetation and/or trimming low tree branches.

ZONE TWO

Zone Two extends 30 to 100 feet out from buildings, structures and decks. You can minimize the chance of fire jumping from plant to plant or other non-vegetative combustible, by removing dead material and removing, separating, and/or thinning vegetation. The minimum spacing between vegetation is three times the dimension of the plant or other non-vegetative combustible.

- Remove “ladder fuels.”
- Cut or mow annual grass down to a maximum height of 4 inches.
- Trim tree canopies regularly to keep their branches a minimum of 10 feet from other trees.
- Loose surface litter, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches, shall be permitted to a depth of 3 inches if erosion control is an issue.

What is a Hardened Home?

Construction materials and the quality of the defensible space surrounding it are what gives a home the best chance to survive a wildfire. Embers from a wildfire will find the weak link in your home's fire protection scheme and gain the upper hand because of a small, overlooked or seemingly inconsequential factor. However, there are measures you can take to safeguard your home from wildfire. While you may not be able to accomplish all the measures listed below, each will increase your home's, and possibly your family's, safety and survival during a wildfire.

ROOFS

Roofs are the most vulnerable surface where embers land because they can lodge and start a fire. Roof valleys, open ends of barrel tiles and rain gutters are all points of entry.

EAVES

Embers can gather under open eaves and ignite exposed wood or other combustible material.

VENTS

Embers can enter the attic or other concealed spaces and ignite combustible materials. Vents in eaves and cornices are particularly vulnerable, as are any unscreened vents. New vents have been developed that prevent flame and embers from getting through to the attic.

WALLS

Combustible siding or other combustible or overlapping materials provide surfaces or crevices for embers to nestle and ignite.

WINDOWS and DOORS

Embers can enter gaps in doors, including garage doors. Plants or combustible storage near windows can be ignited from embers and generate heat that can break windows and/or melt combustible frames.

BALCONIES and DECKS

Embers can collect in or on combustible surfaces or the undersides of decks and balconies, ignite the material and enter the home through walls or windows.

To harden your home even further, consider protecting your homes with a residential fire sprinkler system. In addition to extinguishing a fire started by an ember that enters your home, it also protects you and your family year-round from any fire that may start in your home.

All suggestions and requirements are based on State Codes and Regulations, specifically the California Building Code Chapter 7A, California Fire Code, and Title 14 Fire Safe Regulations. Contact your local fire and building department for specific requirements or recommendations for your community.

Tour a Wildfire Ready Home

Home Site and Yard: Ensure you have at least a 100-foot radius of defensible space (cleared vegetation) around your home. Note that even more clearance may be needed for homes in severe hazard areas. This means looking past what you own to determine the impact a common slope or neighbors' yard will have on your property during a wildfire.

Cut dry weeds and grass before 10 a.m. when temperatures are cooler to reduce the chance of sparking a fire.

Landscape with fire-resistant plants that have a high moisture content and are low-growing.

Keep woodpiles, propane tanks and other non-vegetative combustible materials away from your home and other structures such as garages, barns and sheds.

Ensure that trees are far away from power lines.

Roof: Your roof is the most vulnerable part of your home because it can easily catch fire from wind-blown embers. Homes with wood-shake or shingle roofs are at high risk of being destroyed during a wildfire.

Build your roof or re-roof with ignition resistant materials such as composition, metal or tile. Block any spaces between roof decking and covering to prevent ember intrusion.

Clear pine needles, leaves and other debris from your roof and gutters.

Cut any tree branches within ten feet of your roof.

Vents: Vents on homes are particularly vulnerable to flying embers.

All vent openings should be covered with 1⁄8-inch to 1/4 inch metal mesh. Do not use fiberglass or plastic mesh because they can melt and burn.

Attic vents in eaves or cornices should be baffled or otherwise protected to prevent ember intrusion (mesh is not enough).

Windows: Heat from a wildfire can cause windows to break even before the home ignites. This allows burning embers to enter and start internal fires. Single-paned and large windows are particularly vulnerable.

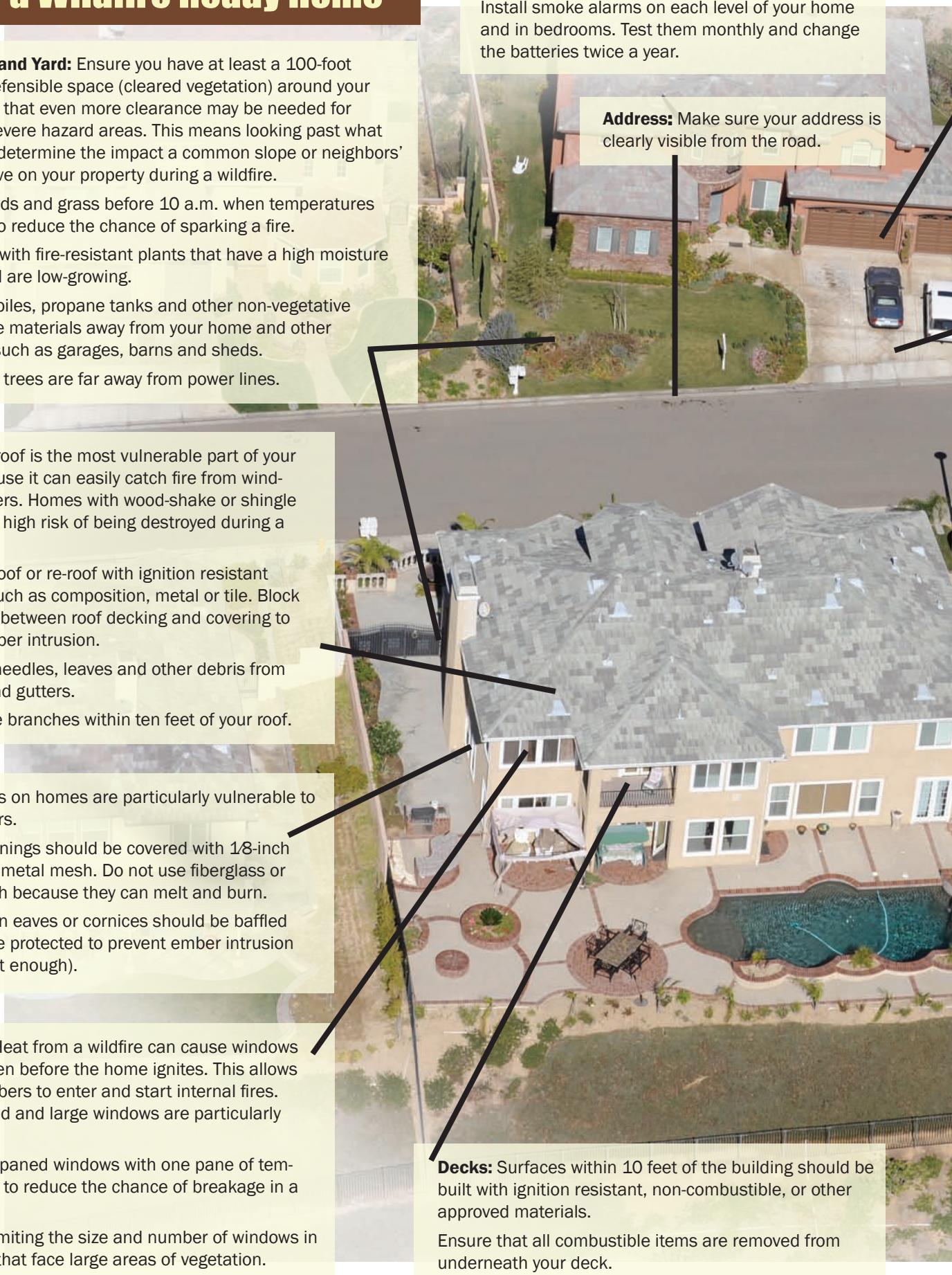
Install dual-paned windows with one pane of tempered glass to reduce the chance of breakage in a fire.

Consider limiting the size and number of windows in your home that face large areas of vegetation.

Inside: Keep working fire extinguishers on hand.

Install smoke alarms on each level of your home and in bedrooms. Test them monthly and change the batteries twice a year.

Address: Make sure your address is clearly visible from the road.



Decks: Surfaces within 10 feet of the building should be built with ignition resistant, non-combustible, or other approved materials.

Ensure that all combustible items are removed from underneath your deck.

Garage: Have a fire extinguisher and tools such as a shovel, rake, bucket and hoe available for fire emergencies.

Consider installing weather stripping around and under door to prevent ember intrusion.

Store all combustibles and flammable liquids away from ignition sources.

Driveways and Access Roads: Driveways should be built and maintained in accordance to the state and local codes to allow fire and emergency vehicles to reach your house.

Consider maintaining access roads with a minimum 10-foot clearance on either side of the traveled section of the roadway and allowing for two-way traffic.

Ensure that all gates open inward and are wide enough to accommodate emergency equipment.

Trim trees and shrubs overhanging the road to allow emergency vehicles to pass.

Fencing: Consider using ignition resistant or non-combustible fencing to protect your home during a wildfire.

Eaves and Soffits Protection: Eaves and soffits should be protected with ignition resistant or non-combustible materials .

Rain Gutters: Screen or enclose rain gutters to prevent accumulation of plant debris.

Water Supply: Consider having multiple garden hoses that are long enough to reach any area of your home and other structures on your property.

If you have a pool or well, consider a pump.

Patio Cover: Use the same ignition resistant materials for patio covering as a roof.

Walls: Wood products, such as boards, panels or shingles, are common siding materials. However, they are combustible and not good choices for fire-prone areas.

Build or remodel with ignition resistant building materials, such as stucco, fiber cement, wall siding, fire retardant, treated wood, or other approved materials.

Be sure to extend materials from foundation to roof.

Chimney: Cover your chimney and stovepipe outlets with an approved spark arrestor non-combustible screen with openings no smaller than 3⁄8 inch and no larger than 1/2 inch to prevent embers from escaping and igniting a fire.

Make sure that your chimney is at least 10 feet away from any tree branches.

READY, SET, GO!

Create Your Own Wildfire Action Plan

Now that you've done everything you can to protect your house, it's time to prepare your family. Your **Wildfire Action Plan** must be prepared with all members of your household well in advance of a fire.

Use these checklists to help you prepare your Wildfire Action Plan. Each family's plan will be different, depending on their situation.

Once you finish your plan, practice it regularly with your family and keep it in a safe and accessible place for quick implementation.

GET READY

Prepare Your Family

- ☐ Create a **Family Disaster Plan** that includes meeting locations and communication plans and practice it regularly. Include in your plan the evacuation of large animals such as horses.
- ☐ Have fire extinguishers on hand and train your family how to use them.
- ☐ Ensure that your family knows where your gas, electric and water main shut-off controls are and how to use them.
- ☐ Plan several different evacuation routes.
- ☐ Designate an emergency meeting location outside the fire hazard area.
- ☐ Assemble an emergency supply kit as recommended by the American Red Cross.
- ☐ Appoint an out-of-area friend or relative as a point of contact so you can communicate with family members who have relocated.
- ☐ Maintain a list of emergency contact numbers posted near your phone and in your emergency supply kit.
- ☐ Keep an extra emergency supply kit in your car in case you can't get to your home because of fire.
- ☐ Have a portable radio or scanner so you can stay updated on the fire.

GET SET | As the Fire Approaches

- [ ] Evacuate as soon as you are set!
- [ ] Alert family and neighbors.
- [ ] Dress in appropriate clothing (i.e., clothing made from natural fibers, such as cotton, and work boots). Have goggles and a dry bandana or particle mask handy.
- [ ] Ensure that you have your emergency supply kit on hand that includes all necessary items, such as a battery powered radio, spare batteries, emergency contact numbers, and ample drinking water.
- [ ] Stay tuned to your TV or local radio stations for updates, or check the fire department Web site.
- [ ] Remain close to your house, drink plenty of water and keep an eye on your family and pets until you are ready to leave.

INSIDE CHECKLIST

- [ ] Shut all windows and doors, leaving them unlocked.
- [ ] Remove flammable window shades and curtains and close metal shutters.
- [ ] Remove lightweight curtains.
- [ ] Move flammable furniture to the center of the room, away from windows and doors.
- [ ] Shut off gas at the meter. Turn off pilot lights.
- [ ] Leave your lights on so firefighters can see your house under smoky conditions.
- [ ] Shut off the air conditioning.

OUTSIDE CHECKLIST

- [ ] Gather up flammable items from the exterior of the house and bring them inside (e.g., patio furniture, children's toys, door mats, etc.) or place them in your pool.
- [ ] Turn off propane tanks.
- [ ] Don't leave sprinklers on or water running - they can waste critical water pressure.
- [ ] Leave exterior lights on.
- [ ] Back your car into the driveway. Shut doors and roll up windows.
- [ ] Have a ladder available.
- [ ] Patrol your property and extinguish all small fires until you leave.
- [ ] Seal attic and ground vents with pre-cut plywood or commercial seals if time permits.

IF YOU ARE TRAPPED: SURVIVAL TIPS

- [ ] Shelter away from outside walls.
- [ ] Bring garden hoses inside house so embers don't destroy them.
- [ ] Patrol inside your home for spot fires and extinguish them.
- [ ] Wear long sleeves and long pants made of natural fibers such as cotton.
- [ ] Stay hydrated.
- [ ] Ensure you can exit the home if it catches fire (remember if it's hot inside the house, it is four to five times hotter outside).
- [ ] Fill sinks and tubs for an emergency water supply.
- [ ] Place wet towels under doors to keep smoke and embers out.
- [ ] After the fire has passed, check your roof and extinguish any fires, sparks or embers.
- [ ] Check inside the attic for hidden embers.
- [ ] Patrol your property and extinguish small fires.
- [ ] If there are fires that you can not extinguish with a small amount of water or in a short period of time, call 9-1-1.

Go! | *Early!*

By leaving early, you give your family the best chance of surviving a wildfire. You also help firefighters by keeping roads clear of congestion, enabling them to move more freely and do their job.

WHEN TO LEAVE

Leave early enough to avoid being caught in fire, smoke or road congestion. Don't wait to be told by authorities to leave. In an intense wildfire, they may not have time to knock on every door. If you are advised to leave, don't hesitate!

WHERE TO GO

Leave to a predetermined location (it should be a low-risk area, such as a well-prepared neighbor or relative's house, a Red Cross shelter or evacuation center, motel, etc.)

HOW TO GET THERE

Have several travel routes in case one route is blocked by the fire or by emergency vehicles and equipment. Choose an escape route away from the fire.

WHAT TO TAKE

Take your emergency supply kit containing your family and pet's necessary items.

EMERGENCY SUPPLIES

The American Red Cross recommends every family have an emergency supply kit assembled long before a wildfire or other emergency occurs. Use the checklist below to help assemble yours. For more information on emergency supplies, visit the American Red Cross Web site at www.redcross.org.

- ☐ Three-day supply of water (one gallon per person per day).
- ☐ Non-perishable food for all family members and pets (three-day supply).
- ☐ First aid kit.
- ☐ Flashlight, battery-powered radio, and extra batteries.
- ☐ An extra set of car keys, credit cards, cash or traveler's checks.
- ☐ Sanitation supplies.
- ☐ Extra eyeglasses or contact lenses.
- ☐ Important family documents and contact numbers.
- ☐ Map marked with evacuation routes.
- ☐ Prescriptions or special medications.
- ☐ Family photos and other irreplaceable items.
- ☐ Easily carried valuables.
- ☐ Personal computers (information on hard drives and disks).
- ☐ Chargers for cell phones, laptops, etc.

Note: Keep a pair of old shoes and a flashlight handy in case of a sudden evacuation at night.

Write up your Wildfire Action Plan and post it in a location where every member of your family can see it. Rehearse it with your family.

My Personal Wildfire Action Plan

During High Fire Danger days in your area, monitor your local media for information on brush fires and be ready to implement your plan. Hot, dry and windy conditions create the perfect environment for a wildfire.

Important Phone Numbers:

Out-of-State Contact: _____ Phone: _____

Work: _____ _____ _____

School: _____ _____ _____

Other: _____ _____ _____

Evacuation Routes: _____

_____

_____

Where to go: _____

_____

Location of Emergency Supply Kit: _____

_____

Notes: _____

_____

_____

California Department of Forestry and Fire Protection
If you have an emergency, call 911
CAL FIRE: 916-653-5123
Web site: http://www.fire.ca.gov

This booklet has been adapted from the original, created by the Ventura County Fire Department.

Appendix 3
Memo to Monterey County, Lighting Impacts

Michael Baker International, 2019

Michael Baker
INTERNATIONAL

We Make a Difference

MEMO

To: Monterey County Planning Department

From: Neil Hinckley, Michael Baker International

Date: February 13, 2019

Re: Paraiso Springs Resort Light Impact Review

Monterey County contracted Michael Baker International (Michael Baker) to review a prepared Monterey County response to the comments prepared by James Benya under contract with LandWatch, a land use advocacy group. Michael Baker was contracted to review the completed response and determine if the response adequately addresses the concerns raised by Mr. Benya and Landwatch. This review was performed by Neil Hinckley with expert advice and additional review provided by Lance Mackie, P.E., LC, RCCD, LEED AP; Peter Boucher; and Owen Milligan, California P.E.. Neil Hinckley has recently completed a lighting environmental impact study for Santa Clara County and assisted with an environmental impact lighting study for Almaden Golf and Country Club for the city of San Jose. Lance Mackie has specialized in lighting for the last 27 years, has earned his Lighting Certification from the National Council on Qualifications for the Lighting Professions (NCQLP), and has recently participated in a lighting environmental impact study for the city of San Pablo. Peter Boucher has more than 30 years of experience conducting environmental impact evaluations under the California Environmental Quality Act and National Environmental Policy Act. Owen Milligan, P.E., is a professional engineer with over 30 years of engineering experience. He has designed/been in responsible charge of many outdoor lighting projects, including highway lighting, parking lot lighting design, apron lighting and several sports venue lighting designs. Most of these designs required adherence to IESNA lighting requirements, ASHRAE 90.1 requirements, Dark Sky requirements or meeting LEED ® exterior lighting requirements to achieve LEED ® Silver or Gold.

After careful review of the response provided by Monterey County we have determined that the response adequately addresses all concerns raised by Mr. Benya with regard to the lighting impact of the proposed resort. While the concerns Mr. Benya raises are real and important, the RDEIR and the clarifications and context provided by the response demonstrate compliance with both the letter and intent of all relevant law, and consideration for the preservation of the area.

The primary concerns raised by Mr. Benya are:

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Office: 801.255.4400 | Fax: 801.255.0404

1. That a variety of environmental impacts, including anthropogenic sky glow, trespass lighting, and glare are not adequately resolved by the RDEIR.
2. That LZ2 is not an appropriate classification of the project site.
3. That various cumulative effects from already approved or in progress developments could negatively impact the currently low levels of light pollution.
4. That the county and state requirements are not sufficient to prevent environmental impacts under CEQA.

After careful review of the RDEIR and the county's response to Mr. Benya we have found that the environmental impacts of sky glow, light trespass, and glare are sufficiently addressed, and appropriate mitigation measures are outlined in the RDEIR.

We also confirmed Mr. Benya's finding of a Bortle value of approximately 3.5 for the site using the newer ATLAS 2015 data set (as presented on www.lightpollutionmap.info) and are in agreement with the county response that a Bortle value of 3.5 is consistent with the site's classification by the state of California as LZ2, or a rural location, and that reclassification of the site as LZ0 or LZ1 is not warranted.

The county response also demonstrates that there are no other developments in planning or construction stages near the proposed resort, and so there are no cumulative effects that need to be presented or mitigated by the RDEIR.

We also reviewed the California state and Monterey County laws that will apply to this development, including Title 24 Part 6 and Part 11, the Monterey County General Plan, Monterey County Design Guidelines for Exterior Lighting, and Monterey County Code 21.22.070 E, and have found that the requirements contained in these laws and codes are sufficient to maintain the site at or below LZ2 levels of light pollution in all its forms. We also find no need to apply the Model Lighting Ordinance (MLO) or LEED 4. The lighting requirements of Title 24 are heavily based upon the MLO, and are in some ways even more restrictive. LEED 4 also allows more uplight than allowed by Title 24 and Monterey County codes, guidelines, and standard conditions, which is a major contributor of anthropogenic sky glow.

In addition to the information provided in this memo, we are providing additional technical information on the topics discussed in this memo and in Mr. Benya's comments, to support the RDEIR response to comments on this topic. See Attachment 1.

Sincerely,

Neil Hinckley

Electrical Associate II, Michael Baker International

Lance Mackie, P.E., LC, RCDD, LEED AP

Technical Manager – Electrical Engineering, Michael Baker International

Owen Milligan, California P.E.

Senior Electrical Engineer, Michael Baker International

Peter Boucher

Technical Manager, Michael Baker International

Attachment 1 to Memo dated February 13, 2019
Lighting Response Letter 10, Number 5

The following discussion provides technical information in support of the County's discussion found in the Paraiso Hot Springs Recirculated Draft Environmental Impact Report (RDEIR) in section 3.1.2, Environmental Setting, Aesthetics and Visual Resources, section 3.1.4, Impact Analysis, Aesthetics and Visual Resources, and in section 4.5.2, Cumulative Impacts Assumptions and Analysis (RDEIR page 4-6).

Terminology

a. Light

For purposes of this response, "light" refers to light emissions, or the degree of brightness, generated by a given source. Artificial lighting may be generated by point sources - focused points of origin representing unshielded light sources - or by indirectly illuminated sources of reflected light. Light may be directed downward to illuminate an area or surface; cast upward into the sky by an unshielded fixture and refracted (dispersed) by atmospheric conditions (sky glow); or cast sideways and outwards onto off-site properties (light trespass or overspill).

Sky glow and light trespass are considered forms of light pollution, which encompasses any adverse impacts of artificial lighting.

b. Light Pollution

The International Dark Sky Association defines light pollution as, "Any adverse effect of artificial light[1]". They explain that light pollution includes light trespass, sky glow, and glare, with secondary effects including decreased nighttime visibility and energy waste.

c. Glare

The International Dark Sky Association defines glare as "Intense and blinding light that reduces visibility. A light within the field of vision that is brighter than the brightness to which the eyes are adapted" (http://darksky.org/our-work/resources/glossary/). Glare is focused, intense light directly emanated by a source or indirectly reflected by a surface from a source. The absolute measurement of light intensity on a given surface is objective, but human perception of that light intensity as a source of actual glare is dependent on the size, position, distance, and degree of visibility of a source from a given vantage point; the number of sources in a given area; and the luminance, or light levels, to which the eye of the beholder is adapted.

Glare is generally experienced as visual discomfort caused by high contrast in brightness levels in a given environment, or it may cause actual disability, such as a reduction in motorists' ability to see or identify objects. Daytime glare is typically caused by the reflection of sunlight from highly reflective surfaces at or above eye level. Reflective surfaces are generally associated with buildings clad with broad expanses of highly polished surfaces or with broad, light-colored areas of paving. Daytime glare is generally most pronounced during early morning and late afternoon hours when the sun is at

[1] http://darksky.org/our-work/resources/glossary/

a low angle and the potential exists for intense reflected light to interfere with vision and driving conditions. Daytime glare may also hinder outdoor activities conducted in surrounding land uses, such as sports.

Nighttime glare refers to direct, intense, focused light, as well as reflected light, and hampers visibility. Glare caused by direct sources of light generally originates from mobile and therefore transitory sources, such as automobiles. Nighttime glare may also originate from particularly intense stationary sources, such as floodlights. As with daytime sun glare, such intense light may cause undesirable interference with driving or other activities.

Light-Sensitive Uses in the Project Vicinity

Some land uses are considered "light-sensitive receptors," including residences, natural areas, hotels, or hospitals, since minimal nighttime illumination levels may be essential to the proper function, use, or enjoyment of these uses[2]. Sensitive receptors in the Project vicinity include single family residences on Paraiso Springs Road to the east of the Project site and natural areas.

Classification of Ambient Light Levels

Beginning with the 2005 Building Energy Efficiency Standards, the California Energy Commission adopted Outdoor Lighting Zone requirements that specified lighting power allowances based on project locations in the state and whether the surrounding environment is wild (dark), rural (characterized by low to moderate ambient light levels) or urban (characterized by higher ambient light levels). The most recent requirements for lighting in California, Title 24, which is a very restrictive state code, took effect January 1, 2017. Lighting zones reflect the base (or ambient) light levels desired by a community. State designated lighting zones have been established for each area of the state. Table 10-114A of the California Code of Regulations, Title 24 Article 1, Section 10-114 specifies the relative ambient illumination level and the statewide default location for each lighting zone.

Exterior lighting allowances in California vary by the established Lighting Zones (LZ). The regulations contain lighting power allowances for newly installed equipment and specific alterations that are dependent on the project site's assigned Lighting Zone. Lighting Zone designations are public information, serve to quantify the existing project site ambient light conditions and are based on the latest (2010) U.S. Census Bureau data. They are designed to establish standards that limit light pollution and ensure light levels are appropriate for the purpose and the area.

In his comments, Mr. Benya, a lighting expert who provided a memorandum to LandWatch Monterey County related to this comment, has suggested that a permanent declaration of Lighting Zone 0 (LZ0) and Lighting Zone 1 (LZ1) be applied to the project as opposed to the designation applied by Title 24 for rural areas, which is Lighting Zone 2 (LZ2), based on the location of the project site as explained below.

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[2] http://www.countyofplumas.com/DocumentCenter/View/9346; https://planning.lacity.org/eir/BoyleHeights/DEIR/files/IV.A.2%20Light%20Glare%20and%20Shading.pdf; https://www.sandiego.gov/sites/default/files/legacy/development-services/pdf/news/sdtceqa.pdf

Zone LZ0 has an ambient illumination designation of "very low" with a Statewide Default Location for this zone as "Undeveloped area of government designated parks, recreation areas, and wildlife preserve". This designation would not apply to the project site as the project site has been a commercial visitor serving property since the late 1800s and is located in an area surrounded by agricultural and residential land uses. The site and adjacent lands are not a government designated park, recreation area or wildlife preserve (Table 10-114A, California Code of Regulations, Title 24 Article 1, Section 10-114; County staff site visit on October 18, 2017).

Zone LZ1 has an ambient illumination designation of "low" with a Statewide Default Location for this zone as "Developed portion of government designated parks, recreation areas and wildlife preserves. Those that are wholly contained within a higher lighting zone may be considered by the local government as part of that lighting zone". The LZ1 lighting zone designation does not apply to this project site as it is not a developed portion of a government designated park, recreation area, or wildlife preserve.

Zone LZ2, which is the state designated zone for this site, has an ambient illumination designation of "moderate" with a Statewide Default Location for this zone as "Rural areas, as defined by the 2010 U.S. Census." The LZ2 designation is the proper designation as it relates to this project site, which is located in Census Tract 111.01.[3] The project would need to comply with the lighting standards in Title 24 for this Lighting Zone designation.

In his memo, Mr. Benya states that the "The current portion of light pollution in a particular region can be measured from satellite data and classified according to the Bortle Scale. The proposed Resort would be in an unusually dark sky region of coastal California. With a Bortle value of about 3.5, the area can be described as possessing a dark sky offering views of the zodiacal light, thousands of stars, and the Milky Way. But the Milky Way lacks detail, clouds are illuminated from below and the light domes of San Jose and small cities are visible on the horizon caused by regional light pollution."

Bortle Scale

The definition for the Bortle scale states:
"The **Bortle scale** is a nine-level numeric scale that measures the night sky's brightness of a particular location. It quantifies the astronomical observability of celestial objects and the interference caused by light pollution. John E. Bortle created the scale and published it in the February 2001 edition of *Sky & Telescope* magazine to help amateur astronomers evaluate the darkness of an observing site, and secondarily, to compare the darkness of observing sites. The scale ranges from Class 1, the darkest skies available on Earth, through Class 9, inner-city skies. It gives

[3] www.factfinder2.census.gov, Title 24 state website at http://energy.ca.gov/title24/2016standards/, Nonresidential Lighting and Electrical Power Distribution Guide, California Lighting Technology Center, UC Davis, 2016 https://cltc.ucdavis.edu/sites/default/files/files/publication/2016_Title24_Nonresidential_Lighting_Guide_170419_web_0.pdf, and Guide to the 2016 California Green Building Standards Code, California Building Standards Commission, 2017 https://www.documents.dgs.ca.gov/bsc/CALGreen/CALGreen-Guide-2016-FINAL.pdf

several criteria for each level beyond naked-eye limiting magnitude (NELM). The accuracy and utility of the scale have been questioned in recent research"[4,5,6].

Mr. Benya assigns a 3.5 Bortle scale class to the site, which is between Bortle Class 3 and Bortle Class 4. While a Bortle scale Class of 3.5 is not defined, we can provide the following information related to Classes 3 and 4. The Bortle Scale Class 4 Description is "Rural/suburban transition" with the following description points[7,8] :

- the zodiacal light is still visible, but does not extend halfway to the zenith at dusk or dawn
- light pollution domes visible in several directions
- clouds are illuminated in the directions of the light sources, dark overhead
- surroundings are clearly visible, even at a distance
- the Milky Way well above the horizon is still impressive, but lacks detail
- M33 is a difficult averted vision object, only visible when high in the sky

The Bortle Scale Class 3 designation is described as "Rural sky" with the following description points[9,10]:

- the zodiacal light is striking in spring and autumn, and color is still visible
- some light pollution evident at the horizon
- clouds are illuminated near the horizon, dark overhead
- Milky Way still appears complex
- M31 (Andromeda Galaxy) is obviously visible
- M33[11] is only visible with averted vision

Looking at the Bortle Scale Class 4 or Class 3 description of "Rural/suburban transition "or "Rural sky" both appear to be consistent with the statewide "Rural" designation for the project site confirming that the California Energy Code Lighting Zone (LZ2) for the project site is the proper Lighting Zone. Development of the project must comply with the lighting standards in Title 24 for that zone. The Light Pollution Map website[12] shows that the project site is influenced by light pollution from the cities, and appears to be on the margin between Bortle Scale Classes 3 and 4 (Exhibits 1 and 2). Even if the County agrees that the Bortle Class should be 3.5, for the reasons described in this response, the potential environmental impact from the proposed project's light and

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[4] https://en.wikipedia.org/wiki/Bortle_scale
[5] http://www.bigskyastroclub.org/lp_bortle.html
[6] https://academo.org/demos/bortle-scale/
[7] http://www.bigskyastroclub.org/lp_bortle.html
[8] *Bortle, John E. (February 2001). "The Bortle Dark-Sky Scale". Sky & Telescope. Sky Publishing Corporation. Retrieved 2013-02-20.*
[9] http://www.bigskyastroclub.org/lp_bortle.html
[10] *Bortle, John E. (February 2001). "The Bortle Dark-Sky Scale". Sky & Telescope. Sky Publishing Corporation. Retrieved 2013-02-20.*
[11] M33 is the Triangulum Galaxy, the third largest as viewed from Earth behind the Milky Way and Andromeda galaxies https://www.space.com/25585-triangulum-galaxy.html
[12] www.lightpollutionmap.info

glare is a less than significant impact on the physical environment.

Title 24 (California Code of Regulations)

Title 24 provides regulations to efficiently use lighting and save energy, including directing lighting to intended area, using occupancy sensors, multi-level lighting to provide efficient lighting levels, and mandatory and optional requirements to meet strict limitations as outlined in the regulation. All regulated, nonresidential buildings must be designed and built to comply with the mandatory measures of Title 24, Parts 6 and 11 with certain sections of that code specifically addressing light pollution reduction measures based on the statewide established Lighting Zone. In addition to meeting the mandatory requirements, buildings must also comply with additional requirements specified within the Energy Standards. The Energy Standards requirements for outdoor lighting apply to hardscape areas and designated landscape areas. This typically consists of the paved portions of an outdoor building site but may also include planters or other small areas of landscaping within the application area.

It is important to note that the standards in Title 24 were developed to ensure that new lighting introduced into an existing area would maintain the existing ambient light levels of the designated area thus eliminating any significant impacts related to light pollution either individually or cumulatively to the area. The exterior lighting portions of Title 24 are also heavily based on the Model Lighting Ordinance (MLO) created by the International Dark-Sky Association (IDA) and the Illumination Engineering Society of North America (IESNA), groups which have a heavy interest in reducing light pollution and the technical expertise need to provide viable design guidelines.[13]

Illuminating Engineering Society of North America Standards

The outdoor lighting requirements within California Building Code Title 24 conserve energy, reduce winter peak electric demand, and are both technically feasible and cost effective. They set minimum control requirements, maximum allowable power levels, minimum efficacy requirements, and mandate outdoor lighting design parameters that must follow the Illuminating Engineering Society backlight, uplight and glare ratings as defined in their technical memorandum TM-15-11 for controlling light pollution for all outdoor lighting systems based on the state assigned lighting zone. The lighting power allowances are based on current Illuminating Engineering Society of North America (IES) recommendations for the quantity and design parameters of illumination, current industry practices, and efficient sources and equipment that are readily available. Data indicates that the IES recommendations provide more than adequate illumination, based on a 2002 baseline survey of outdoor lighting practice in California that showed that the majority of outdoor lighting illuminates at substantially lower levels than IES recommendations.

Title 24 Mandatory Interior Lighting Controls

Title 24 non-residential lighting standards also have regulations for controlling indoor lighting. The Title 24 non-residential lighting standards are the result of the involvement of many representatives of the lighting design and manufacturing community, and of enforcement agencies across the state. A great deal of effort has been devoted to making the lighting requirements practical and realistic.

[13] https://www.darksky.org/our-work/lighting/public-policy/mlo/

Hotel/motel guest rooms are covered by portions of both the nonresidential indoor lighting requirements and the residential indoor lighting requirements. The residential indoor lighting requirements are covered in the Residential Compliance Manual.[14]

The primary mechanism for regulating indoor lighting under the standards is to limit the allowed lighting power in watts installed in the building. Other mechanisms require basic equipment efficiency and require that the lighting be controlled to permit efficient operation.

All lighting systems are required to have switching or control capabilities that turn off lights when they are not needed. In addition, it is desirable to reduce light output and power consumption when full light output is not needed. These mandatory requirements apply to all nonresidential, high-rise residential and hotel/motel buildings for both conditioned and unconditioned interior spaces. A partial list of the Title 24 non-residential mandatory lighting control requirements can be summarized as follows:

- Light switches (or other control) in each room
- Separate controls for general, display, ornamental, and display case lighting
- Occupant sensors in offices 250 ft2 or smaller, multi-purpose rooms less than 1000 ft2, classrooms of any size, and conference rooms of any size
- Partial ON/OFF occupant sensors are required in aisle ways and open areas in warehouses, library book stack aisles, corridors, and stairwells
- Multi-level control (dimming capability) for lighting systems > 0.5 W/ft² in rooms > than 100 ft2.
- Automatic daylighting controls in daylit areas >100 ft2 except when the total installed general lighting is less than 120 watts or the glazing area is less than 24 ft2.
- Demand responsive controls in buildings larger than 10,000 ft2 automatically reducing lighting power by a minimum of 15% in response to a demand response signal.

Recirculated Draft EIR

The RDEIR, on pages 3-263 through 3-265, addresses consistency of the project related to General Plan policies regarding aesthetics. This discussion addresses impacts of lighting related to policies 26.1.6, 26.1.20, 26.1.6.1 (CSV), and 40.1.2 (CSV). The discussion on RDEIR page 3-25 explains how the project planner reviews the lighting plan to achieve the purpose of the General Plan policy and protect biological and aesthetic resources, as well as to ensure that lighting does not cause a safety issue through glare or through directing bright lights at sensitive receptors, roadways or into the sky.

The effects of interior lighting were considered in the RDEIR analysis (see Impact 3.1-2 discussion). As explained on page 2-20 of the Recirculated Draft EIR, the design of the project is proposed to be Mission Revival style, with "limited fenestration" and "wide, projecting eaves." These features function as ways to additionally limit light spill toward the sky and off site, due to the limited number of windows and eaves that cut off light toward the sky, as well as the goals of the project to generally keep lighting subdued (RDEIR Figures 2-9a through 2-9h). The nearest residences are from over 1000 feet to approximately a mile from the development site, but have limited visibility of

[14] https://www.energy.ca.gov/title24/2016standards/residential_manual.html

the proposed development area due to topography and existing vegetation that will be retained (RDEIR Figure 2.4, Figure 2-5a, Figure 2-6, Figure 2-8, page 3-24).

Project Impacts

Construction

Construction of the proposed project would occur over an approximately 10-year period, with one or more on-site parcels developed simultaneously. On-site construction lighting would represent a marginal increase in existing ambient nighttime light levels on any sensitive receptors (three single family residences on Paraiso Springs Road) close to the Project site because of the small size of the construction sites(s) lighted at any given time and because of the distance and/or intervening vegetation and topography between most on-site construction and off-site sensitive receptors and the fact that the closest receptor is over 1000 feet away from the easternmost part of the project site. Nighttime construction would not be typical, but could occur on occasion. Construction lighting would be temporary and removed upon completion of construction. Therefore, construction lighting would not substantially increase the ambient illumination levels in off-site areas surrounding the Project site through light spillover or sky glow or interfere with off-site activities, and impacts would be less than significant.

Construction activities are not anticipated to create sources of glare that could affect visibility in the Project area, because of the depth of building setbacks from surrounding roadways, the use of building materials that are low-reflectivity in nature, and construction is not expected to involve bright light sources that would be visible from off-site locations. Therefore, impacts due to glare generation and interference with the performance of an off-site activity or adverse effects on views would be less than significant during construction.

Operation

The proposed Project would introduce a variety of permanent new sources of lighting to the Project site including exterior and interior lighting. Generally, the topography and landscape of the Project site, which will primarily occupy two valleys, surrounded on three sides by mountains, severely constrains the influence that Project-related light sources would have on off-site uses or the night sky.

The only sensitive receptors near the Project site are the single-family residences on Paraiso Springs Road. The nearest proposed development on the Project site, at the eastern end of the property, would be separated from the nearest off-site residence by a horizontal distance of at least 1050 feet and an elevation differential, since the Project property sits higher in elevation than the residences. Because of distance and topography, and the fact that the Monterey County standard condition calls for fully controlling lighting impacts offsite, as well as Title 24 Standards, the project light sources would not substantially increase ambient illumination levels. Potential impacts from light and glare would be less than significant. Timeshare condominium lighting sources may be visible from off-site residences and would incrementally increase ambient illumination levels in this area; however, the increase is expected to be minor and would constitute a less than significant impact due to lighting controls required by Monterey County and by Title 24 for the applicable Lighting Zone.

Only low-reflective building materials, such as darker shades of roofs and plaster walls using a variety of earth tones are anticipated to be used. Therefore, project-related glare impacts and the

potential for interference with the performance of any off-site activity or adverse effects on views would be less than significant.

Interior Lighting Sources

Interior lighting sources from the hotel units and timeshare condominiums on the project site may be visible from offsite and may increase ambient illumination levels in this area, however the increase is expected to be minor and would constitute a less than significant impact.

Interior source lighting is contemplated under the LZ2 lighting zone designation of "rural" as all residences in the area operate interior lights at night. The hotel rooms and timeshares use of interior lights would be required to be consistent with the visually sensitive area and the LZ2 lighting designation. The design of the project is proposed to be Mission Revival style, with "limited fenestration" and "wide, projecting eaves." These features function as ways to additionally limit light spill toward the sky and off site, due to design and a limited number of windows. Consistent with resort properties, it is expected that all rooms will have interior window coverings, curtains and or shades that will be drawn for privacy at night and act to shield and reduce any lighting effects from interior lights. Interior lighting effects would also be limited as visitors are not expected to be up all night and lights would be extinguished as visitors to the resort retire for the night.

In summary, because of distance and topography, Title 24 lighting control regulations, window design, window coverings and expected night time use, interior lighting would have no impacts on any offsite sensitive receptors which are the residences on Paraiso Springs Road and project indoor lighting would not substantially increase ambient illumination levels in off-site areas surrounding the Project site.

Exhibit 1: Bortle Scale Map Legend

Bortle Scale Number	Color on Map	Limiting Magnitude	Sky Type	Description
1		8	Excellent Dark Site	Airglow is very weak and near horizon Zodiacal Light is across the night sky Miky Way casts shadows
2		7.5	Dark Site	Airglow is weakly visible Zodiacal Light casts shadows Milky way is very detailed
3		7	Rural	Clouds are faintly lit at horizon Zodiacal light visible well above horizon Milky Way appears complex
4		6.5	Rural/ Suburban	Clouds are lit only at horizon Zodiacal Light is visible halfway above horizon Milky Way structure starts to show
5		6	Suburban	Clouds and ground are faintly lit Some Zodiacal Light Milky Way is slightly more visible overhead
6		5.5	Bright Suburban	The sky glows gray at horizon Constellations are visible Milky Way visible overhead
7		5	Suburban/ Urban	The sky has a gray/yellow glow Bight constellations are visible No Milky Way
8		4.5	City	The sky has an orangeish glow Brightest constellations are visible No Milky Way
9		4 at best	Inner-City	The sky has a bright glow Only bright stars are visible No Milky Way

Exhibit 2: Bortle Scale Map Legend