

**Otay Ranch Resort Village 13
Responses to Late Comment Letters**

Prepared by



County of San Diego

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Table of Contents

Introduction..... 2

Responses 3

 Planning Commission Letter (PC)-1: United States Fish and Wildlife Service, Carlsbad Fish and
 Wildlife Office 4

 Planning Commission Letter (PC)-2: California Department of Fish and Wildlife 6

 Planning Commission Letter (PC)-3: Climate Action Campaign 7

 Planning Commission Letter (PC)-4: California Native Plant Society San Diego Chapter..... 9

 Planning Commission Letter (PC)-5: Sierra Club San Diego Chapter 14

 Planning Commission Letter (PC)-6: Shute, Mihaly, and Weinberger LLP..... 20

 Planning Commission Letter (PC)-7: Land Protection Partners 40

eComments and General Letters 42

List of Attachments

- Attachment PC-6.1 Wildfire
- Attachment PC-6.2 Transportation Fuel Use Memorandum

Introduction

The County has received late comment letters and attachments submitted by the public after the Planning Commission docketing of the Otay Ranch Village 13 project on April 17th, 2020.

Under CEQA Guidelines Section 15105, the County was legally required to provide a 45-day public review period on the Draft EIR. The public comment period for the Draft EIR began on April 3, 2015 and ended on May 22, 2015. All comment letters on the original Draft EIR received after expiration of the public review and comment period ending on May 22, 2015, are considered late comments. Portions of the Draft EIR were subsequently recirculated between April 11, 2019 and May 28, 2019. Per CEQA Guidelines Section 15088.5(f)(2), comments were only permitted on the portions of the EIR that were recirculated. All comment letters on the recirculated portions of the Draft EIR received after expiration of the public review and comment period ending on May 28, 2019, are considered late comments.

A lead agency is required to consider comments on the Draft EIR and to prepare written responses if a comment is received within the public comment period. (Pub. Resources Code, §21091(d); CEQA Guidelines, §15088.) When a comment letter is received after the close of the public comment period, however, a lead agency does not have an obligation to respond. (Pub. Resources Code, §21091(d)(1); Pub. Resources Code, §21092.5(c).) Accordingly, the County is not required to provide a written response to late comment letters, including the comment letters received prior to the Planning Commission Hearing (See, CEQA Guidelines, §15088(a)).

Nonetheless, for information purposes, the County has elected to respond to the late letters, but without waiving its position that written responses to late comment letters are not required by law.

Responses

The comment letters received have been labeled for ease of reference. Although CEQA does not require the County to address late letters as explained above, the County, with the assistance of experts in various technical disciplines from the County's Approved Consultant List has prepared responses to the issues raised therein. The following responses are provided in detail:

PC-1 United States Fish and Wildlife Service

PC-2 California Department of Fish and Wildlife

PC-3 Climate Action Campaign

PC-4 California Native Plant Society San Diego

PC-5 Sierra Club

PC-6 Shute Mihaly & Weinberger, LLP

PC-7 Land Protection Partners

Several other correspondences were received through the County's eComment system or via brief email that stated only broad claims that did not pertain to the environmental analysis. In these instances, the County has read and acknowledged each comment but does not provide an individual response to each comment. The name of each individual commenter is included in the response.

**Planning Commission Letter (PC)-1: United States Fish and Wildlife Service,
Carlsbad Fish and Wildlife Office**

Dated April 15, 2020

Review of MSCP and Quino checkerspot butterfly consultation

For purposes of this proposed Project, the Wildlife Agencies, during a meeting with the applicant, recommended that the 2010 version of the draft Quino Amendment (or “Addition”) be used as guidance for purposes of determining adequate mitigation. The Wildlife Agencies, in a meeting on January 23, 2013, confirmed that the acreage provided in the preserve, which was based on a 2010 draft of the Quino Amendment, was adequate but that management and monitoring was needed. A Quino Checkerspot Butterfly Management/Enhancement Plan (Plan) was prepared and is included as Appendix K to the 2015 Biological Resources Technical Report (Appendix C-3) in the 2015 Draft EIR. Subsequently, this Plan was updated in 2019 for Alternative H and to include revisions requested by the Wildlife Agencies during review of the 2015 DEIR. The updated Plan for Alternative H is included as Appendix K to **Appendix D-3** of the Recirculated DEIR. The Wildlife Agencies commented on drafts of the Plan during both the 2015 and 2019 public review, and responses to their comments are reflected in the Final EIR. As explained in previous responses to comments, the Management/Enhancement Plan is in a draft form and the Plan, including cost estimates and management activities, will require review, adjustment, and concurrence from the Wildlife Agencies.

For the 2019 Recirculation -Alternative H, vegetation mapping was used as the basis for calculating impacts on suitable Quino checkerspot butterfly habitat. The Wildlife Agencies concurred in this approach. This method was considered more appropriate than using momentary observation of adult butterflies and/or host plants to determine habitat suitability. Because individual butterflies and host plants vary in population size, density, and location from year to year (and from day to day during the flight season), the habitat acreage method was considered a more reliable method of determining impacts on the species. In short, analyzing the more predictable and stable vegetation community provides a more concrete evaluation of impacts on habitat suitable for the species.

To determine the management actions and the types of habitat restoration (level of effort) required for the project site, it was surveyed as requested by the Wildlife Agencies in 2013 and again for a detailed host plant mapping in 2016 and the various areas within the proposed preserve were generally categorized as requiring: 1) complete restoration; 2) enhancement; or 3) management. Much of this Preserve area is high quality habitat for Quino checkerspot butterfly and has been documented to be occupied by the species.

Alternative H preserves a sufficient amount of habitat to ensure the long-term conservation of the species as outlined in the draft Quino Checkerspot Butterfly Management/Enhancement Plan (Appendix C to Appendix D-3 of the EIR). As shown in the Plan, the preserve design includes significant larval host plant populations, known occurrences of the Quino checkerspot butterfly from multiple years of surveys, suitable habitat for the species, and ridgelines and hilltops where the species has been recorded during multiple years of surveys. There also is connectivity to off-site occupied areas to the north, east, and south and provisions are included in the project design to provide for

connectivity within the site as well as to off-site areas. Thus, Alternative H preserves occupied Quino checkerspot butterfly habitat within the same region as the impact within on-site locations.

Please also refer to **Global Response 2**, Golden Eagle, and **Global Response R4**, Quino Checkerspot Butterfly.

Planning Commission Letter (PC)-2: California Department of Fish and Wildlife
Dated April 15, 2020

Request for review extension and background

The commenter requested two additional weeks to review the Final EIR and associated materials prior to the County Planning Commission hearing, which was held on April 17, 2020. The County denied this request as the materials were posted to the County's website ten days prior to the Planning Commission, per the County's requirements.

Concerns for Quino checkerspot butterfly

The commenter expressed concern about the take authorization and mitigation for the Quino checkerspot butterfly that it should be through a Section 10 process rather than a Section 7 process. In addressing similar comments, the County response to comment RA-2-4 indicated that the Section 7 was underway; however, Alternative H mitigation measure M-BI-9a for Quino checkerspot butterfly includes the following options for take authorization: . . . "take authorization for Quino checkerspot butterfly through one of the following: (a) federal Endangered Species Act (ESA) Section 7 Consultation, (b) ESA Section 10 incidental take permit, or (c) the County's MSCP Subarea Plan Quino Checkerspot Butterfly Amendment, if and when approved pursuant to ESA Section 10. If the project receives take authorization through the County's Quino Checkerspot Butterfly Amendment, the project will satisfy any and all Quino checkerspot butterfly mitigation requirements of the County. If the project receives take authorization directly through the ESA Section 7 or Section 10 processes, the Project Applicants will comply with any and all conditions, including preconstruction surveys that the USFWS may require for take of Quino checkerspot butterfly pursuant to FESA." Any of the three options are legally permissible for the applicant to see incidental take authorization, despite CDFW's interest in the applicant pursuing a Section 10 incidental take permit.

Please note that if the ACOE takes jurisdiction for the entire project site, the Section 7 Consultation for the Quino checkerspot butterfly will occur as a matter of course. Regardless of the method, if additional mitigation is required by the USFWS in order to receive incidental take authorization for the Quino checkerspot butterfly, that mitigation must occur in addition to the measures required by the County in order for the project to proceed.

The commenter suggested a boundary line adjustment may benefit the Quino checkerspot butterfly. The County understands that Boundary Line Adjustments (BLA) are approved by the CDFW and USFWS. As was seen in the original proposed Project for Village 13, USFWS had worked with the County to create what USFWS indicated was a preferred design. However, upon completion and submittal of the BLA to the Wildlife Agencies, that BLA was denied. Since the denial of the original proposed Project that required a BLA, neither of the Wildlife Agencies have suggested a different project design with a BLA nor does the commenter in this letter. Adhering to the design approved in the MSCP avoids the BLA process and includes benefits that come with the design process that was originally undertaken with the development of the MSCP preserve. Alternative H provides for less edge effects, a reduced development footprint, and more mitigation area for Quino checkerspot butterfly than either the originally proposed Project or the MSCP approved design. Please also refer to **Global Response R4**, Quino Checkerspot Butterfly for additional information.

Planning Commission Letter (PC)-3: Climate Action Campaign

Dated April 15, 2020

Concerns over global climate change and greenhouse gas emissions

The comment letter expresses opposition to the “Otay Ranch Resort Village 13 development”, and requests that the County reject the development proposal. The County is unsure of if the commenter is referring to the proposed Project or Alternative H and will not speculate, but rather provides a general response based on the commenter’s letter. The commenter’s opposition to the Project is noted in the record and will be considered by the County’s decision-making body (the Board of Supervisors) when evaluating the adequacy of the EIR and deciding whether to approve the Project.

The commenter highlights a number of environmental and planning items that are briefly summarized and responded to below. Of note, the comment letter does not raise any new issues not previously considered in the Final EIR, including the global and individual responses contained in **Chapter 8.0**, Letters of Comment and Responses, therein.

- State Climate Law. The Project’s adherence to “state climate law” is addressed in **Section 2.10**, Global Climate Change, of the Final EIR. The Project would comply with all applicable aspects of California’s regulatory framework for land use development, and would be consistent with statewide climate goals through implementation of the EIR’s mitigation framework requiring the Project to result in no net increase in GHG emissions. Because the comment letter does not identify any specific concern with the referenced analysis, no further response can be provided.
- Natural Habitat. The Project’s impacts on “natural habitat” are discussed in **Section 2.3**, Biological Resources, and **Chapter 4.0**, Alternatives, of the Final EIR. Because the comment letter does not identify any specific concern with the referenced analysis, no further response can be provided.
- Affordable Housing. The comment letter objects to the “lack of affordable housing mandates” for the Project. The presence or absence of affordable housing is not an environmental impact category under CEQA; however, the Project’s evaluation with aspects of the General Plan that address affordable housing and diversity in housing product types is addressed in **Appendix E-1** of the Final EIR. Because the comment letter does not identify any specific concern with the referenced analysis, no further response can be provided.
- Wildfire Danger. The Project’s impacts on wildfire are addressed in **Section 2.6**, Hazards and Hazardous Materials, and **Chapter 4.0**, Alternatives, of the Final EIR. Impacts were determined to be less than significant for several reasons that include, but are not limited to, the Project’s compliance with all applicable code provisions (such as building design provisions that minimize the likelihood of ember penetration and establish and standards for fuel modification), preparation of a Fire Protection Plan and provision on an on-site fire station. Because the comment letter does not identify any specific concern with the referenced analysis, no further response can be provided.
- SB 375 Targets. The Project’s consistency with SANDAG’s SB 375-oriented Regional Transportation Plan/Sustainability Communities Strategy (RTP/SCS) is evaluated in **Section 2.10**, Global Climate Change, of the Final EIR. The Project’s land use designations are incorporated into regional planning efforts like SANDAG’s RTP/SCS because the Project is part of the County-approved Otay Ranch General Development

Plan/Subregional Plan (GDP/SRP). Further, the Project would implement specified land use design and transportation demand management strategies to facilitate some of the policy objectives of SB 375 and SANDAG’s RTP/SCS. The Project’s achievement of a net zero GHG emissions level, post mitigation, also ensures that it would not conflict with SB 375-related GHG reduction targets for the region. Because the comment letter does not identify any specific concern with the referenced analysis, no further response can be provided.

- Vehicle Miles Travelled. The Project’s impacts on vehicle miles travelled (VMT) are discussed in Response to Comment **RO-1-18**, even though neither CEQA nor the County requires that this Final EIR contain an analysis of the Project’s transportation-related VMT impacts. Because the comment letter does not identify any specific concern with the referenced analysis, no further response can be provided.
- Carbon Offsets. The County’s ability to “develop and track in-county offsets” is considered in **Global Response R1: Carbon Offsets** of the Final EIR, and also is established by implementation of the Mitigation Measures M-GHG-7 and M-GHG-8. Whether any “such program exists or has been vetted by the Board of Supervisors, the public or the courts” will be assessed at the time of offset need, as permitted by CEQA’s mitigation provisions. For purposes of this Project, the availability of in-County offsets to meet Project demand will be evaluated prior to issuance of grading permits (for construction emissions) and prior to issuance of building permits (for operational emissions). Because the comment letter does not identify any specific concern with the referenced analysis, no further response can be provided.
- General Plan-Authorized Growth. The comment letter recommends that the County “support the growth already zoned in the General Plan.” The Project is consistent with that recommendation because the Project implements a portion of the development envisioned by the Otay Ranch GDP/SRP that was approved by the County in 1993. The GDP/SRP development guidelines are reflected in the County’s 2011 General Plan Update.
- Climate Action Plan. The commenter described the Project as a “CAP-busting sprawl project” in the comment letter. In response, as presented in Section 2.10 of the 2019 Recirculated Portions of the Draft EIR, the Project EIR’s global climate change analysis does not rely upon, tier from or use the County’s 2018 CAP (approval of which was rescinded by the County’s Board of Supervisors in September 2020) to evaluate the significance of the Project’s GHG emissions. This also is explained in **Global Response R2: County of San Diego Climate Action Plan**, which explains that the Project EIR used significance thresholds from Appendix G of the CEQA Guidelines and did not streamline its analysis based upon the CAP.

Notably, the Project would not increase the overall density or intensity of development on the site, when evaluated via reference to the adopted General Plan land use framework. To the contrary, as substantiated in EIR Appendix C-25, the Project is less GHG intensive than the existing land use designations for the site that are contained in the County-adopted Otay Ranch GDP/SRP, which was incorporated into the County General Plan. The GHG emissions resulting from the proposed development also were incorporated into the 2018 CAP’s emissions forecasts and the Project – as proposed – was consistent with the 2018 CAP’s growth assumptions for the site. As such, it is not accurate to characterize the Project as a “CAP-busting sprawl project” in relation to the County’s recently rescinded 2018 CAP.

Planning Commission Letter (PC)-4: California Native Plant Society San Diego Chapter
Dated April 15, 2020

Opening remarks on general views of the project

The commenter provides background information on California Native Plant Society and the project as it is being presented to the Planning Commission. The commenter provides an introduction to the remainder of the letter and identifies general concerns that are detailed later in the comment letter.

The commenter also states that the project is not consistent with the visions, goals and policies of the County General Plan. The commenter states that the project is not consistent because it requires a General Plan Amendment and it does not include affordable housing near transit. Please see responses to comments **RO-6-5**, **RO-6-127**, **RO-6-128**, and **RO-6-131** in the Final EIR for detailed discussion on general plan consistency and affordable housing.

Native Plants

Nuttall's scrub oak

The County concurs that there is an impact to Nuttall's scrub oak. This is described in the 2015 Response to Comments for the Draft EIR and is noted in Section 2.3 of the Final EIR. Section 2.3 notes that the Nuttall's scrub oak occurs within a portion of the project site totaling 6.2 acres. Additional information about Nuttall's scrub oak is as follows (2015 Draft EIR, Response to Comment letter from California Native Plant Society, May 17, 2015; comment O-1-9):

“The County concurs that the oak habitat was misidentified as confirmed by the San Diego Natural History Museum. Based on the samples that were collected, the oaks are Nuttall's scrub oak. However, because the Project will affect only a small isolated number of Nuttall's scrub oak, the impact is not considered significant. This determination is further supported by the fact that a much larger population of Nuttall's scrub oak is located in the western portion of the County. The discussion regarding Nuttall's scrub oak within the Draft EIR on pages 2.3-3 and 2.3-20 has been revised to state that the identification is confirmed and to remove the discussion regarding the challenge to the identification. Additionally, Table 2.3-2 of the Final EIR has been revised to remove the text regarding misidentification. Regardless, the conclusion regarding impacts being less than significant is still appropriate.”

As a County List A plant species, the impact is considered significant unless a biologically based determination can be made that the project would not have a substantial adverse effect on the local long-term survival of that plant or animal taxon. In support of that biologically based determination, most records of Nuttall's scrub oak are restricted to areas of low elevation within sight of the ocean¹ and occur generally west of I-15. The largest population occurs in Torrey Pines State Park and the plant distribution extends from the U.S. border with Mexico north to Santa Barbara. As part of Otay Ranch and the Otay Ranch RMP, significant acreage is required to be conveyed and included in the Otay Ranch Preserve, which would protect any Nuttall's scrub oak present. Finally, the species is included in the plant palette for restoration and included in salvage for upland restoration (M-BI-1d).

¹ Fryer, J.L. 2012. *Quercus berberidifolia*, *Q. dumosa*. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Accessed January 14, 2015. <http://www.fs.fed.us/database/feis/>.

Other Rare Plants

The commenter also raises concerns about other rare plant species. The County reviewed discussion of other rare plants with the biologists at Dudek who did the initial and follow up botanical surveys. They had the same conclusion regarding the potential for other plants to occur. This review was included in the revised Biological Technical Report from 2015 (Appendix C-3) to the Final EIR and also in the Responses to Comments O-1-8 and O-1-10. “As noted in the response, surveys for bryophytes and lichens were not included in the rare plant surveys due to the low potential for the Project to have significant impacts on these taxa. In addition, the lichen *Catillaria glauconigricans*, discussed by the commenter, has no status in the CDFW Special Vascular Plants, Bryophytes, and Lichens List and consequently is not addressed further.” Two special-status species were identified through the standard 9-quad CNPS and CNDDDB searches, woven-spored lichen (*Texosporium sancti-jacobi*), CNPS List 3, and California screw-moss (*Totula californica*), CNPS List 1B.2.

With respect to the woven-spored lichen, there is no data indicating that woven-spored lichen populations exist within Otay Ranch Master Plan area and the Project site. In addition, CEQA does not generally address CNPS List 3 species, as they are not considered rare and have no protective designation.

Chaparral, as a generalized habitat type, is adequately conserved through the Otay Ranch RMP; thus, the species is presumed to be adequately conserved.

With respect to California screw-moss, there is a low potential for this species to occur onsite due to the species’ preference for chenopod scrub and grasslands on sandy soils. The Project site does not support chenopod scrub, and the grasslands onsite occur on clay soils, not sandy soils. The only sandy soils on the Project site occur in the northeastern and far eastern portions of the site which predominantly support coastal sage scrub and chaparral, no chenopod scrub. In short, the habitat mixture at the Project site (vegetation community and soil) does not match the habitat preferences of California screw-moss.”

With respect to Campbell’s liverwort (*Geothallus tuberosus*), it is located in mesic coastal sage scrub and vernal pools. While it is possible to occur, there are no documented occurrences as far east as the Project site; however, it was concluded to have potential. If found within the pools proposed to be impacted, the Army Corps of Engineers may require mitigation. It is likely to be present in the K8 pools which are the preserved and are higher quality vernal pools.

With respect to bottle liverwort (*Sphaerocarpos drewei*), it appears to only have coastal occurrences. Moreover, a description from Palomar College (<https://www2.palomar.edu/users/warmstrong/owenpk7.htm>) shows photos of bottle liverwort in very moist conditions which are uncommon at the Project site. There are few such mesic moist conditions in the Project site, although though, there are vernal pools which could provide suitable habitat for this species. If found within the pools proposed to be impacted, the Army Corps of Engineers may require mitigation. It has a low potential to be present since this is not a coastal location however if present, it would be within the K8 pools which are preserved and are higher quality vernal pools.

Wildfire

As stated in Responses to Comments **RO-2-14**, **RO-4-65**, **RO-4-67**, and **RO-4-68**, the Fire Protection Plan (FPP) prepared for Alternative H properly analyzes the potential impacts from

wildfire based on County guidelines and formats which document fire risk, evaluate conformance with fire and building codes, and provide fire protection recommendations that become Project conditions with approval. The Project Area fire history and potential for future fires were analyzed within the Fire Protection Plan (Appendix C-21) for the original Project and the Fire Protection Plan amendment (Appendix D-1) for Alternative H. The Project site is located within an area designated as Very High Fire Hazard Severity Zone (VHFHSZ). The VHFHSZ designation also comes with requirements for fire-safe building include a consolidated layout, and implementation of fire protection features such as fuel management zones, closed eaves, and ember-resistant vents. The County notes that, due to its VHFHSZ location, the Village 13 Project is required by the San Diego County Consolidated Fire Code, the California Building Code, and the Fire Safe Regulations detailed in Public Resources Code, Title 14, to incorporate various fire safety measures. These measures include fire protection features for the structures, fire apparatus access, water availability, defensible space, and community “hardening” against the types of wildfires. The Village 13 Project meets or exceeds all of these requirements. Building in VHFHSZs requires high levels of structural ignition resistance through resistant building materials, construction methods along with and resident firefighting capacity, emergency within a five-minute travel time, the applicant is required to construct and staff an on-site fire station prior to first occupancy.

Alternative H has prepared an evacuation program for its residents and would maintain that plan through public outreach. The program would focus on resident awareness and readiness. In addition, a Fire Safety Memo and Evacuation Plan (**Appendix D-21A**) has been prepared for Alternative H which clarifies previously raised concerns about fire ignition, subdivision-specific evacuation planning and execution, the defensibility of modern subdivisions, and temporary refuge strategies. San Diego County Fire Authority has a separate Wildland Urban Interface Emergency Response Plan prepared for most areas of the County, including the Project area, and this plan includes operational evacuation pre-planning. County Fire and Sheriff Departments agree with the proposed evacuation plan and projected evacuation timeframe. Similarly, San Diego County Fire Authority confirmed that Alternative H can be evacuated in a timeframe that is acceptable given the types of wildfires anticipated in the area due to the short distance between the Project and urban Chula Vista. Because Alternative H would address resident awareness through an evacuation program and ongoing outreach, and the emergency managers and operations agencies already have prepared a WUI Emergency Response Plan that would assist the cooperating agencies with their evacuation of the Project, there is no deferred evacuation related mitigation proposed.

The comment raises concerns on topics addressed in a memorandum prepared by Dudek on March 19, 2020 title Fire-Safety – Otay Ranch Village 13. This memorandum is provided as **Appendix D-21A** to the Final EIR and the commenter is referred to the memorandum for thorough responses to fire and evacuation concerns.

Greenhouse Gas

First, the comment letter references California’s carbon neutrality target for 2045 (see Executive Order B-55-18) and noting the Project’s natural gas use asks, “Why build [GHG] emissions into the Project’s infrastructure?” The Project’s utilization of natural gas is discussed in **Response to Comment RO-1-5**. As explained therein, because “the issue of building electrification and elimination of natural gas is being addressed from policy and regulatory perspectives at the state level, the County has made a policy decision not to mandate wholesale building electrification in the absence of a state directive to do so through revisions to Title 24 of the California Code of Regulations.” That being said, the Project Applicants have committed to electrify the Project’s

single-family residences, thereby eliminating the consumption of natural gas within the building envelope of these residences. This commitment – reflected in refined text in Mitigation Measure M-GCC-4 – includes prohibitions on: (i) natural gas fireplaces, (ii) natural gas appliances, and (iii) the use of natural gas in the heating, ventilation and air conditioning (HVAC) systems.

Further, no final determination has been made that California’s carbon neutrality target only can be reached through the wholesale elimination of natural gas consumption. Indeed, as of the EIR’s preparation, no specific strategy for the State’s achievement of the 2045 target has been outlined, and the California Air Resources Board still is in the early phases of development of such strategies. Notably, if the applicable regulatory framework evolves over the course of Project development, should it be approved, the Project would comply with such applicable regulations. For example, if natural gas usage was regulatorily prohibited prior to completion of Project buildout, the portion of the Project still to be built would comply with such standards; the consequence of which likely would serve to reduce GHG emissions below the level reported in the Final EIR.

Second, the comment letter suggests that the Project needs to increase the quantity of on-site renewable energy generation in order to power electric vehicles that may be operated by homeowners, relatedly stating that the Project is “not designed to maximize solar gain.” In response, the Project’s residences, including any related EV-charging demand, would be served by a combination of renewable energy generated both on the Project site (through solar/photovoltaic panels) *and* off-site through the energy provider. As to the latter category, SDG&E is subject to California’s Renewables Portfolio Standard, which increases the percentage of renewable energy that comprises each utility’s energy profile over time. Additionally, the Project design considers the solar orientation of buildings, but also has to factor in other environmental considerations, such as biological constraints. As evaluated by the Project’s building energy analyst, ConSol, the Project’s single-family residences can achieve their energy efficiency design objectives (as established via Mitigation Measure M-GCC-4) even with “worst case” orientation assumptions. (See Appendix C within **Appendix C-2** of the EIR.)

Third, the comment letter states that the Final EIR does not present substantial evidence that the Project can meet its zero-net energy (ZNE) design mitigation commitment (see Mitigation Measure M-GCC-4) for single-family residences. However, the commenter offers no specific critique of the evidence and analysis prepared by the Project’s building energy analyst, ConSol, which is contained in Appendix C within **Appendix C-2** of the EIR. As shown therein, ConSol used the California Energy Commission’s public-domain compliance software to evaluate and confirm the ability of the Project’s residential prototypes to achieve ZNE design. See also **Response to Comment RO-1-10**. Because the comment letter does not identify any specific concern with the referenced analysis, no further response can be provided.

Fourth, the comment letter states that the Project’s EIR mistakenly relies on carbon offsets and will be subject to the same fate as two lawsuits on other County projects that successfully challenged the use of carbon offsets. The subject of carbon offsets is discussed at length in **Global Response R1: Carbon Offsets** of the Final EIR. Because the comment letter does not identify any specific concern with the referenced analysis, no further response can be provided.

Concluding statements

The commenter concludes the letter with general concerns about climate change and the COVID-19 pandemic. These comments do not discuss the adequacy of the environmental analysis; therefore, no further comment is provided.

Planning Commission Letter (PC)-5: Sierra Club San Diego Chapter
Dated April 13, 2020

Concerns about Global Climate Change and Greenhouse Gas Analysis

The GHG-related concerns presented in this comment letter are very similar to those presented in the Sierra Club’s May 28, 2019 comment letter on the 2019 Recirculated Draft EIR see (Letter RO-1). The 2020 comment letter does not directly reference specific aspects of the County’s RO-1 responses to the 2019 comment letter, as contained in the Final EIR. The GHG-related comments in this 2020 comment letter (see italicized text below) have been cross-referenced to the applicable 2019 Recirculated Draft EIR response with additional detail as necessary. A brief summary of the applicable response is also provided below.

Whether the EIR adequately discloses the carbon sequestration attributes of the existing on-site vegetation.

Response: The Sierra Club previously raised this issue in its comments on the 2019 Recirculated Draft EIR and the County responded in **Response to Comment RO-1-4**. As discussed therein, the Final EIR’s technical appendix Global Climate Change Evaluation (Final EIR, Appendix C-2, page 30) discloses that vegetation on the Project site is an existing source of carbon sequestration. As such, the Final EIR quantifies and discloses the release of sequestered carbon that would result from the removal of that vegetation; specifically, the Final EIR reports that the Project would release 4,077 MT CO₂e of sequestered carbon when the existing vegetation on the site is cleared for development. (Final EIR, page 2.10-42.) Thus, the Final EIR’s approach is consistent with the scientific literature cited by the Sierra Club and the Project’s emissions inventory analysis is complete and accurate.

Whether gas fireplaces will or will not be permitted in Project residences.

Response: Final EIR Table 2.10-3 contains a list of the Project’s environmental design considerations (EDCs). (Final EIR, page 2.10-41.) The first EDC references the Project’s commitment to only utilize natural gas fireplaces and prohibit the installation of wood-burning fireplaces. (Ibid.) In response to a comment previously submitted by the Sierra Club (see **Response to Comment RO-1-5**) and upon further evaluation, the Project’s mitigation measures have been refined to prohibit the use of wood-burning and natural gas-burning fireplaces in all residences:

- Single-family residences will not include natural gas-burning fireplaces (Mitigation Measure M-GCC-4);
- Attached multi-family residences will not include natural gas-burning fireplaces (Mitigation Measure M-GCC-5);
- No residences will include wood-burning fireplaces (EDC).

Whether the Project can fully electrify the building envelope.

Response: The Sierra Club previously raised this issue in its comments on the 2019 Recirculated Draft EIR and the County responded in **Response to Comment RO-1-5**. As discussed therein, “[b]ecause the issue of building electrification and elimination of natural gas [usage in the building envelope] is being addressed from policy and regulatory perspectives at the state level,

the County has made a policy decision not to mandate wholesale building electrification in the absence of a state directive to do so through revisions to Title 24 of the California Code of Regulation.” That same response also refers to pending lawsuits challenging the legal authority of land use jurisdictions to mandate electrification. That being said, the Project Applicants have committed to electrify the Project’s single-family residences, thereby eliminating the consumption of natural gas within the building envelope of these residences. This commitment – reflected in refined text in Mitigation Measure M-GCC-4 – includes prohibitions on: (i) natural gas fireplaces, (ii) natural gas appliances, and (iii) the use of natural gas in the heating, ventilation and air conditioning (HVAC) systems.

Response to Comment RO-1-5 also explains that the Project will install one or more of the following types of electric or alternatively-fueled water heating systems in all residences as a condition of Project approval (a requirement that is consistent with the County’s rescinded 2018 Climate Action Plan checklist): solar thermal water heater; tankless electric water heater; storage electric water heater; electric heat pump water heater; and/or tankless gas water heater.

Finally, as to the establishment of a community choice aggregation program, as discussed in **Response to Comment RO-1-5**, the formation of such a program in the County is being considered. Therefore, the Final EIR appropriately relied on the energy portfolio of the existing energy provider to estimate emissions. If the County’s program is implemented in the future, it likely would *reduce* Project emissions further below the inventory estimate parameters presented in the EIR. (See also Final EIR, page 2.10-22.)

Whether the EIR adequately discloses the emissions reductions attributable to the on-site reduction strategies (M-GCC-1 through M-GCC-6).

Response: The Sierra Club previously raised this issue in its comments on the 2019 Recirculated Draft EIR and the County responded in **Response to Comment RO-1-6**. As discussed therein, the following itemized breakdown of annual mitigation reductions is associated with the Project’s on-site reduction strategies:

- M-GCC-1 (TDM Strategies): 1,203 MT CO₂e
- M-GCC-2 (High-Efficiency Lighting): 44 MT CO₂e
- M-GCC-3 (EnergyStar Appliances): 9 MT CO₂e
- M-GCC-4 (ZNE Homes): 3,804 MT CO₂e
- M-GCC-5 (Beyond Code Efficiencies): 106 MT CO₂e
- M-GCC-6 (ZEV Charging Infrastructure): not quantified (see note to EIR Table 2.10-4)

The emission reductions attributable to the Project’s mitigation measures for on-site strategies also were quantified, to the extent practicable, and disclosed in the Final EIR’s Global Climate Change Section. (Final EIR, page 2.10-42.) As explained in EIR Section 2.10, the calculation parameters are conservative and the results presented here under-estimate the emission reductions attributable to the mitigation commitments, particularly with respect to Mitigation Measures M-GCC-2, M-GCC-4 through M-GCC-6 and M-GCC-9. This conservatism results from modeling limitations and the continued refinement of the mitigation measures – throughout this review process – to be more environmentally protective and restrictive. For example, the calculation results presented above do not reflect the quantitative benefits of requiring all single-family residences to eliminate the use of natural gas consumption under M-GCC-4.

Whether the EIR captures the GHG emissions associated with installation of trails and bike lanes, and whether the EIR relatedly reports the amount of lost carbon sequestration.

Response: The Sierra Club previously raised this issue in its comments on the 2019 Recirculated Draft EIR and the County responded in **Response to Comment RO-1-7**. As discussed therein, the Final EIR’s “Construction Activities” and “Sequestration Loss” values account for the emissions associated with these activities. (See Final EIR, page 2.10-42.)

Whether the EIR provides sufficient detail regarding on-site transit opportunities and the quantified VMT/emission reductions.

Response: The Sierra Club previously raised this issue in its comments on the 2019 Recirculated Draft EIR and the County responded in **Response to Comment RO-1-8**. The referenced response addresses the availability of public transit and the quantification of emission reductions assigned to the Project’s Transportation Demand Management strategies, as well as the significance of the Project’s “rural” location. Also, while the Project is not required to prepare a VMT analysis, one was prepared for informational purposes as discussed in **Response to Comment RO-1-18**.

Whether the single-family homes should be subject to M-GCC-2 and M-GCC-4. (Note: The comment incorrectly refers to M-GCC-4 when it is describing M-GCC-3.)

Response: The Sierra Club previously raised this issue in its comments on the 2019 Recirculated Draft EIR and the County responded in **Response to Comment RO-1-9**. The referenced response explained that the Zero Net Energy design requirement for single-family residences under M-GCC-4 encompasses the same types of efficiencies associated with the high-efficiency lighting and EnergyStar appliances required for multi-family residences under M-GCC-2 and M-GCC-3. (See also Final EIR, page 2.10-38, footnote 52.)

Whether M-GCC-2 and M-GCC-4 are already required by existing regulatory standards. (Note: The comment incorrectly refers to M-GCC-4 when it is describing M-GCC-3.)

Response: The Sierra Club previously raised this issue in its comments on the 2019 Recirculated Draft EIR and the County responded in **Response to Comment RO-1-9**. As explained therein, both mitigation measures require the Project to achieve beyond code efficiencies relative to the CalEEMod modeling platform. (See also Final EIR, page 2.10-31.)

Whether the EIR adequately discloses the type of appliances subject to M-GCC-4. (Note: The comment incorrectly refers to M-GCC-4 when it is describing M-GCC-3.)

Response: The Sierra Club previously raised this issue in its comments on the 2019 Recirculated Draft EIR and the County responded in **Response to Comment RO-1-9**. The referenced response also details the types of EnergyStar appliances required by the mitigation measures. (See also Final EIR, page 2.10-31.)

Whether the EIR adequately discloses and substantiates the emissions reduction associated with Zero Net Energy, citing to the perceived impossibility of natural gas usage ever allowing for it.

Response: The Sierra Club previously raised this issue in its comments on the 2019 Recirculated Draft EIR and the County responded in **Response to Comment RO-1-10**. As discussed therein, the emissions reduction was quantified and substantiated by a report prepared by a building

energy efficiency expert, ConSol. (That report was appended to the EIR; specifically, see Appendix C of the EIR’s **Appendix C-2**.) And, the ConSol modeling demonstrates that homes with some natural gas consumption can achieve Zero Net Energy design because that design standard is not exclusively predicated on full electrification of the building envelope.

Whether the EIR adequately discloses the emissions reductions resulting from M-GCC-5 and explains why it is not applicable to single-family homes.

Response: The Sierra Club previously raised this issue in its comments on the 2019 Recirculated Draft EIR and the County responded in **Response to Comment RO-1-11**. As explained therein, the emissions reduction has been quantified and the Project’s mitigation framework “has been designed and customized to the various land uses proposed for development, recognizing that different emission reduction options are best suited to various land uses.” Therefore, single-family homes are subject to a more restrictive Zero Net Energy design requirement and multi-family homes are subject to a “beyond” Title 24 requirement.

Whether the EIR adequately justifies why M-GCC-6 is not applied to 100 percent of the residential units and explains why no emissions reductions are estimated.

Response: The Sierra Club previously raised this issue in its comments on the 2019 Recirculated Draft EIR and the County responded in **Response to Comment RO-1-12**. As explained therein, all residential garages will be “EV ready.” Fifty percent of the residential garages will be equipped with EV chargers based on existing market penetration rates and the anticipated near-term demand for EV chargers. The Project also will install EV chargers in non-residential parking areas. (See also Final EIR, page 2.10-32.) The Final EIR explained that the emissions reduction from EV infrastructure was not quantified due to calculation complexities associated with the number of EV vehicles, the number of hours of charging, etc. (Final EIR, page 2.10-42.) This is conservative and likely serves to under-estimate the emission reductions from on-site strategies and, therefore, increase the Project’s offsets burden “beyond” net zero.

Whether the EIR can continue to utilize off-site carbon offsets that are not located in the County of San Diego.

Response: The Sierra Club previously raised this issue in its comments on the 2019 Recirculated Draft EIR and the County responded in **Responses to Comments RO-1-13** and **RO-1-14**. As discussed therein, **Global Response R1: Carbon Offsets** and **Global Response R2: County of San Diego Climate Action Plan** provide extensive evidence and analysis regarding the disposition of the County’s Climate Action Plan litigation and General Plan Goal COS-20 and its implementing policies. (See also Final EIR, pages 2.10-15 to 2.10-16, 2.10-25; and, Final EIR, Appendices C-25 and E-1.)

The Project is not subject to and does not rely on M-GHG-1 from the County’s 2018 Climate Action Plan EIR because it does not propose development that is more GHG-intensive than the existing allowable land use. Further, the Project is consistent with General Plan Goal COS-20, which imposes no express or implied limits on the use of all feasible GHG reduction strategies. The Project first implements all on-site EDCs and mitigation measures before pivoting to the use of off-site carbon offsets.

Whether the EIR substantiates that a 15 percent reduction will occur from the Project under SB 375.

Response: The Sierra Club previously raised this issue in its comments on the 2019 Recirculated Draft EIR and the County responded in **Response to Comment RO-1-16**. As discussed therein, the Sierra Club erroneously suggests that the 15 percent reduction target adopted by CARB *for the region* applies at the project-specific level. To the contrary, it is a regional target. And, the Otay Ranch GDP/SRP development framework is incorporated into SANDAG’s regional planning efforts as a long-approved master plan for development of the South County sub-region. As such, the Project would not result in emissions that are not already anticipated by and planned for in SANDAG’s documents. (See also Final EIR, pages 2.10-25 through 2.10-27.) Finally, the Project’s achievement of a net zero GHG emissions level, post mitigation, also ensures that it would not conflict with SB 375-related GHG reduction targets for the region.

Whether the EIR adequately analyzes and mitigates for impacts to special status species.

Response: The County disagrees with the comment that the mitigation is not real, additional, or permanent. The required conveyance of land within Otay Ranch is accompanied by the dedication to the County Preserve System and will be managed by the Preserve Owner Manager (POM). An endowment accompanies and/or the County will establish a Community Facilities District or similar financing mechanism to provide for long-term management that would not be done without the conveyance. The dedication of the land to the Otay Ranch Preserve is permanent and the POM provides for long term management, in perpetuity. The mitigation measures are enforceable and where appropriate, they are quantifiable. The mitigation for wetlands provides for no net loss of wetlands. Finally, the mitigation for the two non-covered species, San Diego fairy shrimp and quino checkerspot butterfly includes the requirement that the applicant will include any and all additional conditions that are required as part of the Take Authorization for the species.

Whether the County should require an “expert, independent consultant” to determine the adequacy of the Project’s in-County mitigation.

Response: The Sierra Club previously raised this issue in its comments on the 2019 Recirculated Draft EIR and the County responded in **Response to Comment RO-1-17**. As discussed therein, the Project’s GHG emissions analysis was prepared by Ms. Valorie Thompson, an expert in the field that has conducted extensive GHG and air quality modeling work in the San Diego region for numerous public agencies and project applicants. Ms. Thompson’s work also was independently reviewed and evaluated by County staff familiar with GHG emissions analysis under CEQA and the County’s own experts, including Ms. Poonam Boparai and Mr. Ricky Williams of Ascent Environmental.

Whether the traffic analysis is adequate.

Response: The Sierra Club previously raised these same traffic-related issues in its comments on the 2019 Recirculated Draft EIR, and the County responded in **Response to Comment RO-1-18**. As explained in the prior response, no comments requesting analysis of vehicle miles traveled (VMT) were submitted during the public comment period on the Draft EIR in 2015. The comment did not require a response as it was/is outside the scope of the 2019 Recirculation documentation. In any event, CEQA does not require that the County, as part of the traffic analysis of this EIR, include an evaluation of VMT related impacts. Lead agencies are not required to include a VMT analysis in CEQA documents circulated for public review prior to July

1, 2020. (CEQA Guidelines §§ 15007(c) & 15064.3 (c).) Nonetheless, for information purposes, **Response to Comment RO-1-18** includes an analysis of the project’s VMT-related traffic impacts consistent with recommended methodologies.

At the time the Draft EIR was circulated for public review in 2015, California was in the process of drafting amendments to the CEQA Guidelines relating to VMT analysis; those amendments were not approved until December 2018. Additionally, since publication of **RO-1-18**, the County prepared and adopted guidelines for the preparation of VMT-related analyses in June 2020, and the analysis presented in **Response to Comment RO-1-18** is consistent with those guidelines. Although, as previously noted, the requirement to prepare a VMT analysis does not apply to this EIR, which was circulated for public review prior to July 1, 2020.

Conclusion

The commenter provides concluding remarks and summarizes previous points raised throughout the letter. The commenter provides general remarks about the County planning process. No specific comments about the adequacy of the EIR are rated, therefore no further response is provided.

Planning Commission Letter (PC)-6: Shute, Mihaly, and Weinberger LLP

Dated April 16, 2020

Opening remarks on the current health crisis and the EIR

The commenter provides opening remarks about the commenter and the current COVID-19 pandemic. The introduction section of the letter makes broad comments about the inadequacy of the EIR but does not provide specific examples. Specific comments, where raised later in the letter, are responded to in the following sections of this response. The commenter also states that the project conflicts with the County General Plan. Please see Recirculation Responses to Comments **RO-6-5, RO-6-127, RO-6-128, and RO-6-131** for detailed discussion on General Plan consistency. Finally, the commenter lists other agencies and organizations who have provided comments on this project. The comments raised by these entities have been responded to in full as part of the 2015 and 2019 Responses to Comments, all of which are available on the County's website.

Concerns about biological resources analysis

Comment II. A. 1.

The comment letter states that the FEIR fails to identify the environmental impact to the K6 Vernal pools. The County disagrees that impacts were not reported. The impact to vernal pools, habitat and species is quantified in Section 2 of the Biological Technical Report Supplemental Analysis, D-3 appendix.

The comment letter states that the FEIR must describe how the loss of a sensitive species will be affected for their collective health and survival. The County has confirmed that the sensitive species recorded in the proposed development area will no longer be present upon implementation of the project, however the project is consistent with the MSCP and includes mitigation measures as well. The following features are included: through the MSCP, there is coverage for 85 species for which careful analysis of each species was conducted, conveyance of land for the Preserve, Take authorization for listed species that are not covered under the MSCP, and the RMP2 also requires that restoration and salvage must be included for a specific set of species. These requirements are clearly outlined in the Mitigation Measures M-BI-1 through M-BI-18.

Quino Checkerspot Butterfly

The comment letter states that discussion of critical habitat for Quino checkerspot butterfly was avoided and the importance of the site for the butterfly was not taken into account. The County disagrees with this. The FEIR quantifies impact to critical habitat in Table 8 of the Appendix D-3. In addition, it is fully addressed per the U.S. Army Corp of Engineers 404 Permit and full analysis will be included in the Biological Assessment. All of the acreage that is proposed to be conveyed is composed of Quino checkerspot butterfly critical habitat. In addition, the importance of the site is acknowledged by the conveyance of preserve land onsite rather than at some other location in Otay Ranch, which is allowable per the Resource Management Plan.

The comment letter states that the FEIR is not consistent with the 1993 Otay Ranch GDP/SRP Program Environmental Impact Report (PEIR). The County disagrees with this statement. It is acknowledged that the PEIR does include the language regarding 100 percent preservation in the

Otay Ranch GDP/SRP as described in the following information. The PEIR presents standards in Table 3.3-7 of the PEIR that are the minimum preservation requirements for the species that is significantly or potentially significantly impacted by the proposed development in the New Town Plan. The standard in the PEIR for Quino checkerspot butterfly is noted to be 100% or the requirements of an HCP or MSCP. Notably, the New Town Plan was never implemented. While the 1993 PEIR required preservation of 100 percent of occupied Quino checkerspot butterfly (QCB) habitat for the New Town Plan, it did so only to the extent such habitat was known or had been identified at that time, and was not intended to apply to all future areas the species may occupy. The parenthetical reference to “(or approved HCP/MSCP standards)” shows the County, when it adopted the original 1996 Resource Management Plan (RMP), understood that the status and location of the QCB might change and that the QCB might become subject to a federal Habitat Conservation Plan or Multiple Species Conservation Plan, each of which has the potential to include standards that would deviate from the 100 percent preservation threshold.

Additionally, the applicant must receive take authorization for impacts to Quino checkerspot butterfly which is included as a mitigation measure (M-BI-9a). Such authorization may be obtained through Section 7 or Section 10 of FESA, or through the MSCP County Subarea Plan amendment process. In all cases, take authorization is conditioned on the applicant’s compliance with any and all conditions, including preconstruction surveys, that the USFWS may require. Please see the mitigation measure M-BI-9b which requires the preparation of a management/enhancement plan that was included as Appendix C Quino Checkerspot Butterfly Management/Enhancement Plan. The measure for QCB includes performance criteria that are outlined in the Quino Checkerspot Butterfly Management/Enhancement Plan with detailed qualitative and quantitative success and performance criteria. In addition, the Wildlife Agencies will review and approve the plan and associated performance standards.

The comment letter states that the FEIR cannot rely on the Section 7 consultation or Section 10 HCP and that they performance standards are not adequate. The county disagrees with this statement. The Section 7 addresses jeopardy and the section 10 addresses recovery and one of those permitting options will be implemented to provide for Take authorization of Quino checkerspot butterfly. The mitigation has been stated by the wildlife agencies that it must be enforceable. Please see the mitigation measure M-BI-9b. The measure for Quino checkerspot butterfly includes performance criteria that are outlined in the Quino Checkerspot Butterfly Management/Enhancement Plan with detailed qualitative and quantitative success and performance criteria. In addition, the Wildlife Agencies will review and approve the plan and associated performance standards.

The commenter further states that the Recirculated portions of the DEIR improperly deferred mitigation for project-related impacts on QCB. The County disagrees and concludes that the mitigation is appropriate. The proposed Alternative H would disturb approximately 389 acres of potentially occupied/suitable QCB habitat, which represents approximately 26 percent of the potentially occupied/suitable QCB habitat on the project site. To address this significant impact, the Final EIR requires that the project applicant, working with County biologists, develop a management/enhancement plan for QCB which was prepared and included as Appendix C of the Appendix D-3. That management/enhancement plan includes the following performance criteria:

- The applicant or its designee (most likely a County-approved entity with expertise in habitat management and restoration) shall restore and/or enhance at least 15 acres per year in perpetuity, with specific quantitative and qualitative requirements that set forth the percent of native cover, percent of survival, and percent of nonnative cover allowed.

- The applicant or its designee shall assess the health and vigor of the host plants on site at least once per year in perpetuity.
- The applicant or its designee shall conduct annual monitoring of QCB populations, and shall use the data collected through that effort, including statistical changes in population size, to develop quantitative adaptive management triggers, including those that may require increased restoration efforts.
- The applicant or its designee shall reintroduce QCB to habitat that has been restored;
- The applicant shall establish and maintain a permanent funding mechanism that will work in concert with the already-existing funding requirements for Preserve lands conveyed to the POM.
- In the event the County approves a “Quino Checkerspot Butterfly Addition to the MSCP”, unless take authorization has already been obtained by either Section 7 or Section 10, the project shall comply with all mitigation measures required under such an addition.
- The applicant and its designee shall develop, adopt, and implement additional adaptive management measures to address contingencies and changed circumstances as they may arise.

These are the fundamental components of the QCB management/enhancement plan that were prepared by the applicant and the County, and they will sufficiently protect the species and reduce project impacts to less than significant.

Burrowing Owl

This comment letter questioned the adequacy of the proposed mitigation plan for impacts to burrowing owl if the species is observed during preconstruction surveys. One burrowing owl was observed on-site in 2000. The DEIR determined that the proposed Alternative H would disturb approximately 167 acres of grassland habitat which could support burrowing owl. This impact was determined to be potentially significant and thus required mitigation. Mitigation Measure M-BI-16 requires the applicant to conduct preconstruction surveys for burrowing owl prior to receiving any land development permits, including permits to clear, grub, and grade the site.

If the preconstruction surveys indicate that burrows are occupied by burrowing owls, a County-approved biologist shall prepare a plan for relocating the owl(s) in question, consistent with Section 3.4 of the County of San Diego “Strategy for Mitigating Impacts to Burrowing Owls in the Unincorporated County”, which is Attachment A to the County’s *Report Format and Content Requirements: Biological Resources* (2010). Pursuant to the County’s adopted mitigation strategy, if burrowing owls are detected during the preconstruction surveys, the owl(s) must be relocated away from the impact area using passive or active methods subject to review and approval by the wildlife agencies (i.e., the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service) and the County. Note that any plan developed to address burrowing owl detected during preconstruction surveys would include provisions specific to the owls and habitat in question, including the proposed relocation area. In addition, the plan would include provisions to reduce construction-related impacts and may include construction of artificial burrows.

San Diego Fairy Shrimp and Vernal Pools

The commenter sought additional information regarding project impacts on San Diego fairy shrimp (SDFS), a federally-listed endangered species, and vernal pools, which often provide habitat for SDFS. As explained in the Recirculated portions of the DEIR, Alternative H would directly impact one vernal pool on the K6 mesa, pool acreage is 0.005 acre, where a SDFS cyst was found, which was determined to be significant impact. In addition, the proposed Alternative

H would impact 0.11 acre (4,576 square feet) of unoccupied vernal pools within the K6 mesa, which was determined to be a significant impact. To mitigate these impacts, mitigation measure M-BI-7 requires 0.230 acre of restoration/enhancement, which consists of 2:1 mitigation for vernal pools *not* occupied by SDFS and 5:1 mitigation for vernal pools that *are* occupied by SDFS. The restoration/enhancement effort requires that the applicant or designee reconstruct the mima mounds and basins, remove weeds, revegetate the mounds with upland sage scrub species, and repopulate the vernal pools with species with identified success criteria. The applicant shall prepare a Conceptual Vernal Pool Mitigation Plan that identifies the location and activities of the restoration effort, and provides for the management and monitoring of the restoration area. The plan will include measures that target functions and values to assess the success of the restored vernal pools and mima mound habitat. The goal of the vernal pool mitigation program is to restore habitat with the appropriate topography and vernal pool hydrology to support the intended vernal pool target species, including SDFS. In addition, the project will provide a 100-foot buffer around all conserved vernal pools within the Preserve area.

Note also that in order to satisfy the Recirculated portions of the DEIR and the County's conditions of approval, the applicant must demonstrate to the County's Director of Planning and Development Services (or his/her designee) that the applicant has secured project-related take authorization for SDFS through an Endangered Species Action Section 7 consultation, a Section 10 incidental take permit, or through future provisions that would be included in a future QCB addition to the MSCP Subarea Plan (M-BI-10). Finally, the long-term management of vernal pools – both those that have been avoided/preserved and those that have been restored – shall be provided by the POM or included with the requirements for Conserved Open Space. The various mitigation measures described above would reduce the impacts of the proposed Alternative H on vernal pools and SDFS to less than significant levels.

The comment letter also states that there was no explanation of why the project could not avoid the K6 vernal pools. In response, the MSCP County Subarea Plan included the K6 vernal pools area within the development footprint. As discussed in Section 1 of Biological Technical Report Supplemental Analysis, Appendix D-3, multiple years of surveys indicate that the K6 pools no longer become inundated. These surveys for inundation and San Diego and Riverside fairy shrimp were conducted in 1999, 2000, 2003, 2007–2008, and 2014–2015. The Recirculated portions of the DEIR determined that Alternative H impacts to vernal pools are considered significant and mitigation is required for the K6 Mesa pools, including the one pool within the K6 mesa that was determined to be occupied by San Diego fairy shrimp cysts (measures M-BI-7 and M-BI-10). Alternative H provides for mitigation for impact on the K6 vernal pools within the onsite K8 mesa. Mitigation measure M-BI-7 outlines the requirement for the preparation of a vernal pool mitigation plan, Conceptual Vernal Pool Mitigation Plan, that will be prepared to the satisfaction of the County and USFWS. The draft plan is included in the FEIR and will be revised based on comment from the County and USFWS and during the permitting process.

The comment letter states that information about effectiveness of vernal pool mitigation banks was not included. The County disagrees, there are vernal pool mitigation banks used as part of the Western Riverside MSHCP as well as the Ramona Grasslands Conservation Bank within the County. The future availability of additional vernal pool mitigation banks within San Diego County is currently unknown, however if such a bank is permitted for sale of credits, it will have gone through all of the review and requirements of the wildlife agencies to be deemed effective. Also, the use of a mitigation bank has always been an option for the project but it would be in accordance to the requirements of the Section 7 consultation and per coordination with the Wildlife Agencies.

Western Spadefoot

The commenter also sought clarification of project impacts on western spadefoot. By way of response, western spadefoot was observed onsite, but the proposed Alternative H development footprint would not impact the habitat they occupy, which includes vernal pools that periodically become inundated. Such vernal pools comprise approximately 0.26 acres. Because the project would not result in impacts to western spadefoot occupied habitat, no mitigation is required.

The comment letter continues comments on surveys and impacts on western spadefoot. The County disagrees on the lack of surveys. During surveys conducted of the site, the species was recorded in the K8 vernal pools during periods when the pools held water. These pools are the only areas that include features that hold water for a time sufficient to support western spadefoot tadpoles. Thus, it was assumed that in addition to the specific detection, the rest of the pools could potentially support western spadefoot. The existing pools plus the watershed as well as a 100-foot buffer will be protected and managed to support the pools including the plants and wildlife that occur in this 12.5-acre conservation site.

Concerns about global climate change analysis***Compliance with CEQA's Mitigation Standards***

The comment letter generally objects to the framework set forth in Mitigation Measures M-GCC-7 and M-GCC-8, which the commenter characterizes as leaving “[a]ll decisions as to the rigor of offset protocols, and the quality and enforceability of offset project implementation ... to the registries.” In response, the referenced mitigation measures are designed to capitalize on the expertise of specified carbon registries that are recognized for their environmental integrity and proficiency, in light of the County’s role as a municipal land use agency and not an air quality/climate change agency (like, for example, the California Air Resources Board or San Diego Air Pollution Control District). This approach does not run afoul of CEQA, is supported by substantial evidence, and pursues pragmatic and substantiated means to require GHG reduction.

For example, as described on its website, the Climate Action Reserve (Reserve) is a private 501(c)(3) nonprofit organization whose mission is to “develop, promote and support innovative, credible market-based climate change solutions that benefit economies, ecosystems and society.” The Reserve focuses on “transparency, multi-stakeholder participation, credibility and regulatory-quality work.” Section 1.2, Reserve Program Principles, of the Reserve’s “Reserve Offset Program Manual” (Program Manual), which was most recently updated in November 2019 and is publicly available at <https://www.climateactionreserve.org/how/program/program-manual/>, emphasizes: “The Reserve’s program rules and procedures, eligibility criteria, and quantification and verification protocols are designed to ensure that GHG emission reductions certified by the Reserve are: Real ... Additional ... Permanent ... Verified ... [and] Owned Unambiguously,” with each such term defined therein. Chapter 4, Project Protocol Development Process, of the Program Manual also contains information considered by the County when evaluating whether it would be appropriate to utilize offsets issued under that registry’s protocols in the voluntary carbon market. Chapter 4 explains that the registry “uses an intensive multi-stakeholder process to develop its project protocols,” which “integrates extensive data collection and analysis with review and input from a diverse range of experts and stakeholders. Reserve staff guides this process to ensure that final protocols adhere to the principles outlined in Section 1.2.”

The comment letter then identifies several reasons the commenter believes the referenced mitigation fails to comply with CEQA:

First, the comment letter states that there is “no way for the County to enforce a limitation on CDM projects,” citing concerns that CDM projects might not sufficiently comply with the concept of additionality. However, as provided in **Global Response R1: Carbon Offsets**:

“It is noted that the County does not interpret mitigation measures M-GCC-7 and M-GCC-8 as permitting the use of Clean Development Mechanism (CDM)-related offsets; as such, the Project shall neither purchase offsets from the CDM registry nor purchase offsets generated under CDM protocols.”

This quoted statement is part of the Project’s administrative record, part of the framework that would inform implementation of the carbon offsets mitigation, and provides a clear expression of the County’s intent that the Project shall not use CDM-generated offsets. In order to ensure no further concern, Mitigation Measures M-GCC-7 and M-GCC-8 now expressly address the CDM prohibition.

Second, the comment letter states that the referenced mitigation “require[s] the County to accept offsets from presently unknown registries” that may be subsequently approved by CARB without evaluating the protocols used by such registries. This characterization is not accurate. The versions of Mitigation Measures M-GCC-7 and M-GCC-8 that are being presented to the County’s Board of Supervisors for review and consideration contain a static list of acceptable registries – those registries are the Climate Action Reserve, American Carbon Registry and Verra.

Third, the comment letter implies that the referenced mitigation only is defensible if there is evidence that “the County has reviewed *every* protocol or methodology used by the specified registries and has determined that *each* protocol or methodology complies with the Health and Safety Code standards.” Please see the discussion above regarding the Reserve’s Program Manual, which provides evidence that the Reserve’s protocols are designed to accord to the cited Health & Safety Code provisions. The comment appears to imply that the County must assign a presumption of inadequacy to the efforts of such registries. However, no evidence has been presented to the County that offsets issued under the Climate Action Reserve’s, American Carbon Registry’s and Verra’s protocols do *not* achieve adequate environmental integrity and effectiveness. The singular specific critique has been to offsets issued under CDM’s protocols, which would not be utilized by the Project. Furthermore, and importantly, the County notes that – as part of the updates to Mitigation Measures M-GCC-7 and M-GCC-8 that were circulated for public review and comment in August and September 2020 – the County reviewed and attached eligible protocols to the referenced measures. As explained in the Preface to Mitigation Measure M-GCC-7 Attachment “A,” the County has “reviewed and determined that the protocols and methodologies included in Attachment ‘A’ establish and require carbon offset projects to comply with standards designed to achieve additional, real, permanent, quantifiable, verifiable and enforceable reductions.”

Fourth, the comment letter states that there is no evidence that sufficient credits will be available for mitigation. In response, the County has determined that – to date – the offsets marketplace has responded to principles of demand, with demand driving innovation and offset project activity at sufficient levels. This is discussed in **Global Response R1: Carbon Offsets** under the “Availability of Carbon Offsets” heading. In any case, and should availability diminish over time, it must be underscored that the referenced mitigation measures require the Project to procure the requisite offset reductions *prior to* undertaking the emissions-generating activity. As such, the

mitigation framework protects against a scenario where emissions occur but are not mitigated via offsets.

Use of Forecasted Emission Reductions

The comment letter objects to the referenced mitigation’s recognition of “forecasted” emission reductions under the Climate Action Reserve’s Climate Forward program, because the commenter believes such reliance “would allow the adverse impacts of GHG emissions to persist for years before being mitigated.” However, the commenter misunderstands the nature and functionality of the Reserve’s Climate Forward program. As provided in the Reserve’s “Climate Forward Program Manual,” dated March 2020 and publicly available at <https://climateforward.org/program/program-and-project-forms/>, the intent of the program “is to recognize investments now that will reduce [GHG] emissions in order to mitigate emissions that will occur in the future from new types of economic activity (e.g., ... housing development ...).” While Forecasted Mitigation Units (FMUs) reflect mitigation actions that will produce a future stream of emission reductions, the FMUs only can be issued *after* an accredited confirmation body determines that the emissions-reducing project “has been implemented as described in the forecast methodology, and that the estimated emission reductions have been calculated accurately.” Therefore, the emission reductions stream is not deferred to some uncertain time in the future, but rather commences – at the latest – upon issuance of the FMUs. And, under the referenced mitigation measures, FMUs must be provided to the County *before* the grading and building permits are issued and the Project’s emissions generation begins.

It also is noted that the Reserve deploys multiple strategies to minimize potential underperformance in the Program, such as “avoiding project types with unacceptably high risk, requiring implementation of ‘resilience measures’ to mitigate risks of project failure or underperformance, conservative GHG accounting approaches, and the use of a risk pool.” FMUs have been retired for CEQA mitigation purposes, as disclosed on the Reserve’s Retired Mitigation Units report available at <https://climateforward.apx.com/>. And, while it is a new and developing endeavor, the Reserve has long been a leader in this area, and consistently pursues environmental integrity and transparency to achieve GHG reduction objectives.

30-Year Project Life

The comment letter objects to the 30-year project life parameter used to estimate the Project’s “net zero” mitigation requirements. This topic is discussed at length in **Global Response R1: Carbon Offsets** under the “Duration of Mitigation Obligation” heading. The commenter is referred to that discussion for relevant information.

Additional On-Site Mitigation

The comment letter recommends that the following GHG emission reduction strategies be required for the Project:

- A prohibition on natural gas and a requirement for building electrification.
- Funding the acquisition of conservation easements over local rural lands within the County where development is planned or foreseeable.

For information regarding natural gas and building electrification, please see **Response to Comment RO-1-5** and the updated Mitigation Measure M-GCC-4 text. Additionally, as to the Project’s funding the acquisition of conservation easements in the specified areas, the County is

not aware of any plan or program in place that would facilitate such a mitigation fee concept. Should one become available and it otherwise meets the requirements of Mitigation Measures M-GCC-7 and M-GCC-8, the Project would be required to participate in the plan or program under the mitigation measures' locational prioritization provision.

Interpretation of the Cap-and-Trade Program

While acknowledging that the EIR “does not appear to rely” on it, the comment letter requests that the EIR be revised to eliminate any and all discussion indicating that the Cap-and-Trade Program assures achievement of California’s 2020 GHG emissions reduction target. The commenter provides no evidence that the referenced text, which is not a basis for the EIR’s GHG impact determination or mitigation framework, is inaccurate. The EIR text is substantiated by citations to pertinent documents, including CARB’s 2008 Scoping Plan. Further, the information is consistent with CARB’s 2017 Scoping Plan, which states that the “Cap-and-Trade Program includes GHG emissions from transportation, electricity, industrial, agricultural, waste, residential and commercial sources, and caps them while complementing the other measures needed to meet the 2030 GHG target.” (2017 Scoping Plan, page ES16.)

Consistency with the General Plan

The comment letter disagrees with the interpretation of General Plan Goal COS-20 and its implementing policies. The subject of General Plan interpretation is discussed at length in **Global Response R1: Carbon Offsets**, as well as **Appendix E-1**. The commenter is referred to that discussion for relevant information.

Concerns about wildfire analysis

The comment letter expresses concerns regarding the Alternative H’s potential impacts on wildland fires and fire-safety. In response, the DEIR relies in part on the 2020 Fire Protection Plan (FPP) (Appendix D-21) to determine whether Alternative H complies with the strict requirements for building in fire hazard severity areas and wildland urban interface areas. The 2020 FPP (Appendix D-21, Section 3, pages 21-25) addresses the following CEQA significance criteria: (1) Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildland are adjacent to urbanized areas or where residences are intermixed with wildland? The FPP analysis determined that Alternative H’s fire protection features are designed, and have been shown to protect new communities from, significant risk of loss, injury or death, even though the project is built in an area where wildfires have historically occurred. (2) Would the project result in inadequate emergency access? The FPP analysis determined that all access roads meet the County road requirements and fire codes for providing fire apparatus access to the project site; Alternative H also provides adequate egress for residents seeking to evacuate the project site. (3) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance service ratios, response times or other performance objectives for fire protection? The FPP analysis determined that a new fire station would be necessary to meet San Diego County General Plan Safety Element travel time standards. Consequently, Alternative H includes construction of a fully-equipped fire station within the project site. The proposed fire station would mitigate any deficiency in emergency response times. In addition, because the proposed fire station will be located within the current development footprint, the impacts of the fire station have already been accounted for and

determined to be less than significant. (4) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? The FPP analysis determined that there would be sufficient water to serve Alternative H from existing entitlements and that no impact would be associated with water availability. Based on the assessment above, the Alternative H would not trigger any of the CEQA significance criteria for fire safety and emergency response.

The EIR discloses that the project site lies within a Very High Fire Hazard Severity Zone (VHFHSZ) (CAL FIRE FRAP 2015). This designation indicates that the site is located in an area that is susceptible to periodic wildfires. Based on its location in a VHFHSZ, Alternative H would be required by the 2020 San Diego County Consolidated Fire Code and the 2020 California Building Code 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 proposed Project (both the original and Alternative H) meets and exceeds these requirements and therefore is consistent with General Plan policy S-3.6 Fire Protection Measures.

New Development in the Wildland Urban Interface and Fire Ignition Risk

Some of the comments received suggested that placing new residential projects in the County’s wildland-urban interface (WUI) will increase the risk of fire ignition. The data, however, do not support that conclusion. According to the available evidence, no large fires in San Diego County since 1990 were determined to have been started within a nearby master planned, ignition-resistant subdivision or neighborhood. Syphard and Keeley² (2015 - *Location, timing and extent of wildfire vary by cause of ignition*) summarized all wildfire ignitions included in the CAL FIRE Fire and Resource Assessment Program³ database, dating back over 100 years. They found that in San Diego County, equipment-caused fires were by far the most numerous, and these also accounted for most of the area burned; power-line fires were a close second. Ignitions classified as equipment-caused frequently resulted from exhaust or sparks from power saws or other equipment with gas or electrical motors, such as lawn mowers, trimmers or tractors. These ignition sources are typically associated with lower density housing, not higher density housing such as that contemplated under the Alternative H. It is noted that electrical transmission lines would be undergrounded to the project site consistent with the County of San Diego General Condition for undergrounding utility lines.

In San Diego County, ignitions were more likely to occur close to roads and structures, and at intermediate structure densities. This is likely because lower density housing creates a wildland urban *intermix* rather than an *interface*. The intermix places housing amongst unmaintained fuels, whereas higher density housing such as the proposed Alternative H converts nearly all fuels within the footprint to non-flammable materials and provides managed fuel modification zones (FMZ) that separate homes from unmaintained fuel. The majority of Alternative H would include a perimeter FMZ as well as structure specific FMZs. Syphard and Keeley (2015 – see footnote 1) determined that “[t]he WUI, where housing density is low to intermediate, is an apparent influence in most ignition maps.” This further enforces the notion that lower density housing is a larger ignition issue than higher density communities. Syphard and Keeley also state that “Development of low-density, exurban housing may also lead to more homes being destroyed by

² Alexandra D. Syphard and Jon E. Keeley. 2015. Location, timing and extent of wildfire vary by cause of ignition. *International Journal of Wildland Fire*. 11 pp.

³ Cal Fire Fire and Resource Assessment Program. <https://frap.fire.ca.gov/>

fire” (Syphard et al. 2013)⁴. However, neither of these findings considers the fire hazard and risk reduction associated with HOA managed FMZs and ignition resistant structures. In addition, the study found that frequent fires and lower density housing growth may lead to the expansion of highly flammable exotic grasses that can further increase the probability of ignitions (Keeley et al. 2012)⁵. This is not the case with the proposed Alternative H, where the landscapes would be managed and maintained to remove exotic fuels that may become established over time. The proposed Alternative H Preserve Edge Plan (PEP) and Fire Protection Plan (FPP) plant palette restrictions, combined with HOA maintenance and 3rd party review/inspections of FMZ would minimize the establishment and expansion of exotic plants, including grasses. Based on research of the relevant literature and extensive conversations with active and retired fire operations and prevention officers (Personal Communications with Dudek Fire Protection Planners between 2007 and 2018), there is no substantial evidence that new residential neighborhoods built to the requirements of San Diego County’s Fire and Building Codes would increase the risk of wildfire ignition. Rather, the data indicate that roadways, electrical distribution lines, and lower density residential projects (that do not have HOA enforced restrictions and annual inspections) are the primary causes of increased wildfire ignition. It is important to note that the proposed Alternative H would provide roadside fuel modification throughout the project site and on either side of Otay Lakes Road. As stated above, electrical lines would be underground. Additionally, SDG&E⁶ is considered the leading electrical utility in California regarding its fire prevention and fire safety practices. SDG&E has invested heavily in developing a robust weather monitoring system with fire detection capabilities, fire hardening of its system, and fire awareness and outreach.

Evacuation Planning and Execution in San Diego County

The project-specific Wildland Fire Evacuation Plan (Appendix D-21A) was prepared based on the Unified San Diego County Emergency Services Organization and County of San Diego Operational Area (OA) Emergency Operations Plan (EOP)⁷ – Evacuation Annex.

To establish a framework for implementing well-coordinated evacuations, the County of San Diego Office of Emergency Services (OES) developed an Evacuation Annex as part of the area EOP (County of San Diego 2014 – see footnote 6). Large-scale evacuations are complex, multijurisdictional 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.

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 San Diego County Sheriff’s Department, California Highway Patrol (CHP), and other cooperating law enforcement agencies have primary responsibility for evacuations. These agencies work closely within the unified

⁴ Syphard AD, Bar Massada A, Butsic V, Keeley JE (2013) Land use planning and wildfire: development policies influence future probability of housing loss. PLoS ONE 8(8), e71708. doi:10.1371/JOURNAL.PONE.0071708

⁵ Syphard AD, Keeley JE, Bar Massada A, Brennan TJ, Radeloff VC (2012) Housing arrangement and location determine the likelihood of housing loss due to wildfire. PLoS ONE 7(3), e33954. doi:10.1371/JOURNAL.PONE.0033954

⁶

<https://www.bing.com/videos/search?q=san+diego+gas+and+electric+weather+system&&view=detail&mid=40AB6A3DD81DE981EE7D40AB6A3DD81DE981EE7D&&FORM=VRD GAR&ru=%2Fvideos%2Fsearch%3Fq%3Dan%2Bdiego%2Bgas%2Band%2Belectric%2Bweather%2Bsystem%26FORM%3DHDRSC4>

⁷ https://www.sandiegocounty.gov/content/dam/sdc/oes/emergency_management/plans/op-area-plan/2018/2018-Annex-Q-Evacuation.pdf

Incident Commander (IC) 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, San Diego County Fire Authority (SDCFA), law enforcement, Public Works, Planning, Emergency Services Departments, and California Department of Transportation (Caltrans), amongst others, have worked with a county pre-fire mitigation task force to address wildland fire evacuation planning for San Diego County.

If the emergency only impacts a local jurisdiction, the decision to evacuate will be made at the local jurisdiction level with regional collaboration considerations. Based on the information gathered, local jurisdictions will generally make the determination on whether to evacuate communities as the need arises, on a case-by-case scenario basis. Technological advancements in emergency notification capabilities has resulted in the ability of emergency managers to evacuate targeted areas vs the mass evacuations that occurred during 2003 and 2007 wildfires. Targeted evacuations allow better management of traffic congestion and focus on evacuating populations on a threat-level priority basis.

The San Diego County Sheriff's Department (SDCSD) is the lead agency for evacuations of the unincorporated areas of San Diego County, including Alternative H. The SDCSD, as part of a Unified Command, assesses and evaluates the need for evacuations, and orders evacuations according to established procedures. Additionally, as part of the Unified Command, the SDCSD identifies available and appropriate evacuation routes and coordinate evacuation traffic management with the California Department of Transportation (Caltrans), the California Highway Patrol (CHP), other supporting agencies, and jurisdictions.

Evacuation scenarios vary and often change in response to a wildfire incident. Every evacuation scenario includes unique challenges, constraints, and fluid conditions that require interpretation, fast decision making, and alternatives. For example, given a distant wildfire driven by Santa Ana winds, emergency managers may have several hours or more to evacuate communities with less urgency and the ability to spread traffic surges out over a long timeframe. In a scenario where a fire is much closer, less time is available and a more strategic approach may be necessary. Optionality is important in case unforeseen issues arise that require short-term or long-term changes to the evacuation process. In general, risk is considered highest when evacuees are evacuating late and fire encroachment is imminent. Alternative H provides the option of contingency on-site temporary refuge in designated buildings to address this scenario.

As demonstrated during large and localized evacuations occurring throughout San Diego County over the last 15 years, an important component to successful evacuation is early assessment of the situation and early notification via managed evacuation declarations. San Diego County utilizes early warning and informational programs to help with these important factors. The weather forecasting system developed by SDG&E is considered to be one of the most robust systems in the country. This system enables the detection of changing weather that may favor wildfire ignition and spread and can predict these changes with 24 to 72 hours' notice, allowing time to prepare fire response resources and provide resident warnings. Similarly, there are numerous fire detection assets positioned in San Diego County's open space areas, resulting in more time availability for the evacuation process to begin while a wildfire is still in its early stages. Among the methods available to citizens for emergency information are Reverse 911/Alert San Diego⁸, radio, television, social media/internet, neighborhood patrol car, and Aerial Support to Regional Enforcement Agencies helicopter (as available) and public address notifications.

⁸ <https://www.readysandiego.org/alertsandiego/>

The Alternative H project-specific Evacuation Plan is consistent with County protocols. Alternative H's Project-specific Wildland Fire Evacuation Plan (Appendix D-24A) incorporates concepts and protocols practiced throughout San Diego County, including those found in the San Diego County Evacuations Annex Q. The San Diego County Evacuation Annex Q, which is attached to the San Diego County Emergency Operations Plan, follows basic protocols set forth in the County's Operation Area EOP 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. In addition, Alternative H's subdivision-specific Wildland Fire Evacuation Plan is consistent with Jamul and Dulzura Community Protection Plans (JCPP) and San Diego County evacuation planning standards and can be integrated into a regional evacuation plan when and if the area officials and stakeholders (California Department of Forestry and Fire Protection (CAL FIRE), San Diego County Fire Authority, Office of Emergency Services, San Diego County Sheriff's Department, and others) complete one. Alternative H's subdivision-specific Evacuation Plan has been reviewed by San Diego County Fire Authority and San Diego County Sheriff's Department (SDCSD).

Evacuation Routes

Evacuation routes are determined by 1) jointly prepared pre-wildfire plans (Rhode & Associates⁹, SDCFA, Cal Fire, and others) that indicate the likely fire scenario, and how traffic can be moved from an area and 2) in real time data reflecting fire location, movement and projected path considering downstream traffic and most vulnerable populations. As indicated above, real time evacuations in San Diego County are primarily managed by the Sheriff's Department (or local law enforcement in cities). SDCSD relies on input and situational awareness provided by the Incident Command. SDCSD coordinates with CAL TRANS and CHP for road management during evacuations. The pre-prepared evacuation plans, such as the Approved Project's subdivision-specific Wildland Fire Evacuation Plan, are guidance documents only. San Diego County OES has separately prepared regional wildfire response plans that guide emergency responses and evacuation procedures. Actual field conditions supersede prepared subdivision-specific evacuation plans, but these plans provide valuable education for local residents about what to expect in an evacuation scenario.

The main factors affecting the timing and routing of evacuations are those related to the nature of the wildfire. For example, is the fire uncontrollable and does it have the capability of affecting a wide area? How will its movement and projected path play into evacuation route decisions? A key component of evacuations is the weather. On non-windy days and days with higher humidity, it is far less likely for a vegetation ignition to burn out of control and therefore, evacuation notifications are not typical. Windy, low humidity days (Red Flag Warning days) are far more prone to result in vegetation ignition escape and spread, resulting in far more sensitive evacuation trigger thresholds.

Evacuation routes that are considered acceptable when a wildfire is distant may be considered unsafe when a wildfire is in closer proximity. Having alternative routes offers flexibility for decision makers and having the contingency option of being able to temporarily refuge citizens within fire hardened structures offers yet another option in an environment where optionality is extremely valuable. Changes in wildfire behavior and traffic flow do alter how evacuation orders are implemented. Evacuation orders are based on a great deal of input, contemplation, situational awareness, and pre-planning. Evacuations may be altered to focus on controlling downstream intersections so that a population that is at highest risk can be moved before other populations that

⁹ <http://www.rohdeassociates.net/wui-fire-plans>

are considered at lower risk are allowed passage. This occurs often during wildfires. As weather conditions change and influence wildfire movement, evacuation orders will also shift, typically including larger areas. San Diego County Fire Agencies and related partners have a robust ability to rationally predict wildfire movement. This is accomplished through pre-fire planning and fire behavior modeling, working with UCSD's WIFIRE lab advanced wildfire behavior projection technology, and SDG&E's weather system network. More than 500 million dollars has been invested to enhance the county's fire prevention, detection, response, suppression and recovery capabilities since the 2003 Cedar Fire¹⁰. These efforts have proven effective in successfully managing wildfire events, such as was accomplished during the successfully managed 2018 Lilac Fire.

Agencies involved in implementing an evacuation order would not rely on a residential subdivision evacuation plan. Individual residential subdivision evacuation plans prepared in San Diego County have been prepared as a tool to help residents be aware of wildfire evacuations, their potential evacuation routes, and the fact that they may be directed to take temporarily refuge in their homes in lieu of evacuating. Evacuation managers would rely on Wildland Urban Interface Plans, if available for the area, Wildfire pre-plans have been or are in the process of being prepared for unincorporated areas of San Diego County by Rohde and Associates, under contract to SDCFA. The wildfire pre-plans are an operational tool provided to emergency responders that provide high-level fire environment, assets at risk, preferred evacuation approaches, and other safety information to responding personnel.

Evacuation scenario modeling for potential traffic impacts during an evacuation would include assumptions for the following variables (at a minimum): number of existing vehicles (various methods), number of project vehicles (various methods), roadway capacities (maximum lane capacity discounted or provided a premium if enhancements are provided – i.e., extra lanes, lane widening, signaling intersections, etc., total intersections, final destination, targeted evacuation area, total mobilization time, and others. Every fire scenario would include different assumptions. But the assumptions would change, depending on how a fire spreads, spots, and new fires start and impact routes being relied upon.

Wildfire pre-plans that are going to be relied upon for evacuation in San Diego County include information without attempting to model evacuation traffic because the results would be unreliable. There are wildfire categories: Extreme fire weather, fire weather, and typical (and within each of these categories, there could be a wide variety of conditions related to high wind/low humidity vs. low wind/low humidity vs. high wind/high humidity vs low wind/high humidity, etc.). Then there would be variations based on the vegetation communities and terrain. Spot fires are difficult to predict without real-time weather conditions (wind direction and intensity, relative moisture level/humidity, etc.) and can affect fire spread rates and evacuation routes. There would also be many variations depending on where the ignition occurred. Simply put, there would be hundreds of scenarios and the results would be limited because it is a model that would not be relied upon during an evacuation event. Because of the various factors described, it is difficult to model evacuations. However, providing an evacuation timeframe estimate can be accomplished by using Federal Emergency Management Agency (FEMA) guidelines, which was documented by Rohde & Associates. San Diego County contracted Rohde & Associates to perform a Project Fire Services Operational Assessment¹¹. Similar operational

¹⁰ <https://www.sandiegocounty.gov/content/dam/sdc/sdcfa/documents/prevention/2019-Wildfire-update-5-6-2019.pdf>

¹¹ Rohde & Associates Emergency Management. Feb 1, 2020. Otay Ranch Village Resort, Village 13, Fire Service Operational Assessment. Prepared for the San Diego County Fire Authority. 23 pp.

assessments have informed the County’s fire safety evaluations for several master planned communities over the last several years. The assessment of the project includes an evaluation of anticipated evacuations, and indicates that Otay Lakes Road, which would be improved with the addition of an extra lane in each direction between the project site and Chula Vista, virtually doubling capacity, would be the likely evacuation route for any type of wildfire in the area. The assessment also indicated that Otay Lakes Road eastbound would be available, but would not be recommended for evacuation purposes. Rohde estimates that the last vehicle could be evacuated into Chula Vista within 1.5 to 2 hours, and confirms that is consistent with FEMA guidelines. This timeframe is also consistent with previously approved county projects’ evacuation timeframes.

Fire Defensibility of Modern Residential Subdivisions

Fuel Management Zones (FMZs) play a role in fire protection. FMZs provide managed and maintained separation between structures and infrastructure and the unmaintained wildland fuels. This setback is considered defensible space because it enables firefighters to safely position themselves at the development edge and begin tactical protection efforts. The FMZ’s essentially starve advancing wildfire of fuel through the outer thinning zones (where native fuels are reduced so that no more than 50% of the ground is covered by plant canopy and includes removal of the highest flammability species), then an inner irrigated zone removes all native plants and replaces them with fire resistive species that are kept irrigated and with high internal moisture, which results in more difficult ignition. Fire behavior is affected as a wildfire burns into the thinned zone. Flame lengths drop, spread rates are reduced, and intensity decreases. This process continues as fire burns into the irrigated zone where flame lengths, spread rates and intensity are reduced substantially and wildfires become spotty. FMZs or “brush management” was initially made part of the Public Resources Code 4290 and 4291 to protect natural resources from fires originating in neighboring developed areas. The Alternative H’s FMZs are provided access for maintenance and for firefighting efforts at regularly spaced intervals. FMZs have since become focused on protecting communities and structures, but they continue to have the same benefit of buffering preserved open space areas from accidental ignitions within communities. Positioning the low plant density, irrigated zone directly adjacent to the structures provides a significant buffer between a house or other landscape fire and native vegetation. The same way that FMZs setback a wildland fire from structures, the FMZs setback a structure fire from the more burnable native plants. Embers can be generated by a structure fire and can be blown over the FMZs into native fuels, but the inclusion of non-combustible roof materials, ember resistant vents and automatic sprinklers in every building combined with the presence of staffed fire stations with fast response significantly reduces the potential for a structure fire to reach a size that would produce significant. The highest likelihood of vegetation ignitions would be related to roadways, which are provided roadside FMZ throughout Alternative H and along both sides of Otay Lakes Road.

Modern subdivisions are easier to defend than older subdivisions. San Diego County Fire Authority, Rancho Santa Fe Fire Protection District, and many other fire agencies (personal communications with Dudek and at Public Hearings between 2016 and 2019) have indicated that communities built to the standards required in San Diego County and maintained on an ongoing basis enable them to allocate resources where they are needed most — i.e., in the older developments — while defending the newer communities with significantly fewer engines. Deploying fire fighters in more recently constructed communities offers safe refuge due to the FMZs and ignition resistant structures. The requirements for ignition resistant structures and landscapes that are maintained in ignition resistant conditions are designed to minimize impacts on fire agencies. These requirements have become part of the fire and building codes because

they were found, as a result of after fire save and loss assessments, to be important for protecting structures from ignition. This is the same reason newer communities can be considered for contingency temporary refuge. Modern residential subdivisions in San Diego County are built to very strict requirements that have evolved over the last approximately 20 years to include a focus on ignition resistance. Following the 2003, 2007, and 2010 wildfires, assessment teams were formed to evaluate every home that was damaged or lost as well as for the first time, homes that were saved. The resulting data revealed that lost homes were almost always lost because embers penetrated the attic or other openings and ignited fires within the buildings or the homes were situated amongst heavy, unmaintained landscape fuels. Saved homes were strongly linked to newer, more resistant construction materials and methods such as ember resistant vents, boxed eaves, maintained fuel buffers, and other methods described in Alternative H's FPP. Additionally, numerous newer master planned communities in Southern California have been subjected to wildfire and generally performed well. Examples include Cielo in Rancho Santa Fe, and 4S Ranch in San Diego¹². Older communities throughout California continue to be the largest contributors to fire-destroyed homes, as occurred within Paradise during the Camp Fire (2018). Further evidence can be found in the Institute for Business and Home Safety *Mega Fires – The Case for Mitigation* (2007)¹³ report which discusses findings from the 2007 Witch Creek Fire, and the National Institute of Standards and Technology publication NIST Technical Note 1796, *A Case Study of a Community Affected by the Witch and Guejito Fires: Report #2 – Evaluating the Effects of Hazard Mitigation Actions on Structure Ignitions*¹⁴. This study focused on a particular Rancho Bernardo community and findings associated with the 2007 Witch Creek Fire.

Alternative H includes various improvements and amenities that improve fire response and fire safety. The accepted Fire Protection Plan details the fire protection approach and the individual requirements that provide fire safety. Amongst these are:

- *Improved Otay Lakes Road:* Alternative H would provide for full improvements of Otay Lakes Road to both the City of Chula Vista and the County General Plan Mobility Element road classification specifications. This would provide for a paved four-lane road with bike lanes and a community pathway from Lake Crest Drive in the City of Chula Vista to the second village entry, a distance of approximately 1.6 miles. Otay Lakes Road would be improved from the second entry to the eastern property boundary to a two-lane road with bike lanes and a community pathway. Such improvements would provide immediate additional access to/from the urbanized community of Chula Vista to the west and additional capacity for the very low density rural area to the east, which also has the option to evacuate easterly (i.e., typically in the direction of an on-coming fire) towards SR-94 and Campo Road.
- *Secondary Access Roads:* Alternative H has four access routes to Otay Lakes Road; three to the residential neighborhoods and a dedicated entry to the Resort; this is important from a fire response and fire safety perspective. Internal neighborhoods all meet access and secondary access requirements, per County acceptance of the Alternative H FPP. Access roads are crucial to communities, as they provide incoming access for emergency response and outgoing egress for evacuating citizens. Further, the concept for providing additional access is similar to providing more than one way out of a building. If the primary access point is not available due to fire or blockage, having another viable option is important for public safety.
- *On-Site Fire Station:* Having a fully staffed fire station within a community with the ability to respond quickly to all emergencies, including fire ignitions is a benefit that

¹² <https://www.rsf-fire.org/shelter-in-place/>

¹³ https://ibhs.org/wp-content/uploads/wpmembers/files/Mega-Fires-The-Case-for-Mitigation_IBHS.pdf

¹⁴ <https://nvlpubs.nist.gov/nistpubs/TechnicalNotes/NIST.TN.1796.pdf>

increases fire safety and reduces fire risk. It has been a common fire industry estimate that most vegetation fire ignitions (estimated 90% - Environmental Information Center 2020) occur during normal weather (non-extreme fire weather) and these fires account for approximately 10% of the total land area burned. This indicates that vegetation fires under normal weather conditions are controllable and fast response to these fires helps control them at small sizes. The 10% of fires that occur during extreme fire weather account for 90% of the burned area. These fires can quickly surpass efforts to control them and the need for a fast response to these types of vegetation fires is considerable if there is any likelihood of controlling/extinguishing them when they are small. The presence of an onsite station provides for fast response. Additional “eyes and ears” of residents in the Alternative H community heightens the likelihood of quick detection and reporting, enabling a fast response to ignitions. Structural fire ignitions are similar in that fast responses will reduce the fire’s ability to spread from the room of origin and limit the overall ability of a structural fire to result in a whole home loss, which would be the primary ember producing “fuel” within a new development. However, even though fast fire station response would be provided, a built-in protection that is designed to provide for safe egress from a house fire is the automatic fire sprinkler system. These systems have been shown to contain interior fires to the room of origin and literally begin the process of fire suppression before firefighters arrive.

- *Water Service for Fire Suppression:* Water is a key component to fighting wildfire and protecting structures. Providing water where it is not currently available, especially when it is provided in a protected environment like the ignition resistant landscapes of a new master planned community, enables firefighters to protect homes and work to control a wildfire’s advancement. New communities are required to provide fire hydrants meeting flow, volume and duration specifications at intervals designed to assist in fighting structural fires. These hydrants provide opportunities for wildland fire engines to stage, fill engine tanks, set up dip tanks for helicopter firefighting efforts, and sustain a fire fight. Alternative H’s location offers a large area of converted landscape, a fuel break, which offers opportunities for fighting and controlling wildfires before they encroach upon more urban areas. Alternative H changes fire behavior due to the lack of fuels and, combined with water (available from the adjacent Lower Otay Reservoir) and aerial fire-retardant drops, extent outward to slow or stop a fire’s advancement.

Temporary Refuge as Contingency Option

Temporary refuge is the practice of going or remaining indoors during or following an emergency event. This procedure is recommended if there is little time for the public to react to an incident and it is safer for the public to stay indoors for a short time rather than travel outdoors. Sheltering-in-place also has many advantages because it can be implemented immediately, allowing people to remain in their familiar surroundings and providing individuals with everyday necessities such as telephone, radio, television, food, and clothing. However, the amount of time people can stay sheltered-in-place is dependent upon availability of food, water, medical care, utilities, and access to accurate and reliable information.

The decision on whether to evacuate or temporarily refuge is carefully considered with the timing and nature of the incident (County of San Diego 2014). Sheltering in place is the preferred method of protection for people that are not in the direct path of a hazard. This reduces congestion and transportation demand on the major transportation routes for those that have been directed to evacuate by police or fire personnel. When a community is within the projected path of a wildfire, temporary refuge is a contingency option, but the preferred approach is to evacuate early. Like most new master planned communities incorporating ignition-resistant construction,

wide FMZs, and providing defensibility throughout, responding fire and law enforcement personnel would be able to direct residents to temporarily refuge in their homes or within designated structures such as the school or community center if it is determined to be safer than evacuating, such as if an early evacuation is not possible.

Temporarily refuging during a wildfire is not recommended or viable in all buildings or communities. Further, temporarily refuging from wildfire is not the planned approach or preferred approach by fire agencies, even in communities that are designed, constructed and maintained to withstand significant wildfire. The planned and preferred approach, given the ability to do so, is to evacuate a community and evacuate it early, long before a fire is threatening. When this is not possible, however, such as when a fire ignites nearby or otherwise does not enable enough time to fully evacuate, then temporary refuge is an important contingency plan. Evidence supporting the viability of sheltering in protected buildings requires an understanding of the previously described after action reports and post-fire save and loss assessments. This information, coupled with the extensive research that goes into determining how fire and embers affect structures and how construction materials and methods can protect structures from ignitions, provides insight into how building can be ignition resistant. Ignition resistant structures set back from wildfire by appropriate fuel modification zones/defensible space buffers result in the ability to temporarily refuge as a contingency option. In addition, there are many examples of people sheltering in open-air spaces or in buildings during wildfires, including within the town of Paradise in 2018 where nearly 150 people sheltered in an open air parking lot that included buffers from adjacent fuels, and others in a church. During the 2003 Cedar Fire, hundreds of people sheltered in the Barona Casino and hundreds of students were sheltered in the protected gymnasium in the Tea Fire on the Westmont College campus. Similarly, hundreds of students were sheltered on the Pepperdine Campus instead of evacuated during the 2018 Woolsey Fire.

The Alternative H Village Core, which is approximately 1,500 feet from the FMZ and is accessed directly from the second project entry from Otay Lakes Road, includes a 10-acre open public park and 10-acre elementary school site that provide the option for incident command to use for emergency/fire services staging and/or temporary refuge.

Concerns about water supply analysis

The commenter states that the EIR and Water Supply Assessment and Verification Report (WSA&V) (Appendix D-18) need to be updated to include the 2015 Urban Water Management Plan (UWMP). The baseline for the EIR is the release of the Notice of Preparation (NOP) for the EIR, as allowed under CEQA Section 15125(a)(1). Use of the 2010 UWMP is therefore acceptable as this was the best available data at that time. However, the commenter is incorrect that the WSA&V “continues to rely on an outdated Urban Water Management Plan”. The WSA&V for Alternative H, which is now the project alternative being presented to the Board of Supervisors for approval, uses the 2015 UWMP for its analysis. The EIR then incorporates this updated UWMP by reference and concludes that no changes to the significance determination would occur based on the updated UWMP.

The commenter then states that the “FEIR Fails to consider potential impacts for securing a long-term water supply for the project”. As stated in **Response to Comment RO-6-84**, the EIR analyzes impacts related to the construction of new or expanded water facilities as directed by CEQA and determines that impacts would be less than significant. The commenter is also concerned that water supply has not been secured for the project. As stated in the WSA&V (Appendix D-18), sufficient water supplies for Alternative H and other reasonably foreseeable planned development projects are currently planned for. Confirmation of water supplies prior

occupancy is not a deferral of analysis as the commenter states, but rather standard operating procedure for development projects. As for the commenter’s concerns about global climate change’s impact on water supply, the WSA&V (Appendix D-18) relies upon the 2015 UWMP which takes impacts from climate change on water supply into consideration. For additional information addressing Wildfire concerns, please see Attachment PC-6.1.

Concerns about energy impact analysis

The comment requests additional quantitative gasoline and diesel consumption data for the Project. In response, a technical memorandum was prepared that identifies the quantities of transportation fuels consumed during the Project’s construction and operational periods, based on the data and evidence previously developed in support of the EIR’s GHG emissions analysis. The referenced technical memorandum is located in Attachment PC-6.2. As presented therein, the Project would consume a total of approximately 4,434,475 gallons of diesel and 321,763 gallons of gasoline during the construction period. The Project also would consume a total of approximately 2,288,797 gallons of gasoline and 592,887 gallons of diesel during each year of Project operation.

Additionally, the comment expresses disagreement with the EIR’s conclusion that energy consumption would not be wasteful or inefficient, and recommends the incorporation of additional strategies to reduce the Project’s “excessive commuting.” Please refer to **Section 3.8** of the EIR for information regarding why the Project’s fuel consumption is neither wasteful nor inefficient. Because no significant energy impacts were identified, the strategies recommended by the commenter need not be further evaluated at this time. That being said, it is noted that whether transit service is extended to the Project site is a determination to be made by SANDAG and MTS. Further, daily shuttle service from the Project site to the Otay Ranch Town Center transit station was determined to not be feasible because of implementation usage factors that would impair effectiveness and cost constraints. However, the Transportation Demand Program (**M-GCC-1**) requires the Project’s HOA to coordinate with ride-share services, such as Uber-pool or Lyft-pool, to provide discount codes for ride-share-pooled services to the Otay Ranch Town Center transit station during commute peak hours.

Concerns about Alternatives analysis, recirculation, and General Plan consistency

The commenter reiterates previously raised concerns about Alternative G. As stated previously, the County agrees that Alternative G is the environmentally superior alternative, as disclosed in Chapter 4.0 Alternatives of the Final EIR. As stated in **RO-6-122 and 123**, Alternative G does not meet several of the project objectives. While Alternative G does provide single-family homes, it would only provide 465, which is 1,473 less than Alternative H. This reduction in single-family dwelling units would not enable it to meet the objective of “balancing higher densities associated with Otay Ranch’s multi-family development with lower density” and would not be able to support the attraction of “business owners and employers within both the Otay Ranch and Otay Mesa planned business parks, urban centers, and university uses”. Further, this reduction in units would impede Alternative G’s ability to “allow first-time buyers and others to transition to distinct, high-quality homes within Otay Ranch” as it would reduce opportunities for this to occur, and fewer residents would mean less money to “ensure public facilities are provided in a timely manner and financed by the residents and occupants, and thereby ensure no adverse fiscal consequences to other neighboring communities within Otay Ranch”. As stated by the commenter, Alternative G does not include an elementary school site, and does not contain a village core or mixed-use area to be accessed by a public trail system. Finally, Alternative G would result in a roughly 24-acre reduction in park space which would reduce the amount of

recreational opportunities available for residents. Therefore, Alternative H does not meet the seven project objectives listed in **RO-6-122**. Therefore, the County disagrees that “Alternative G would achieve almost every one of the Project objectives” as the commenter claims. As stated in **RO-6-123**, The County decision makers will decide which alternatives are feasible after taking into consideration Project objectives and specific economic, legal, social, technological, or other considerations, and ultimately select one for approval based upon the proposed Project’s Findings and Statement of Overriding Considerations.

The commenter also states that the Final EIR needs to be recirculated as evidenced in their comments contained in this letter. As discussed above in the specific responses, this is not the case. The commenter references “1,000 pages of new or revised analysis relating to climate change”, it appears that the commenter is referring to the entire body (C-2, C-12, D-3, D-16, D-17 & D-24) and total number of pages. However, to make it easier for the reader to proceed directly to the revised section(s), the County provided a “summary of changes” for each of these technical reports, including the section, page and reason for each revision. In addition, these sections are provided in redline/strikeout to identify changes to the 2015 analysis in the 2019 analysis.

The revisions do not constitute any substantial new information. They consist of: clarifications to intersections and text for off-site impacts within the City of Chula Vista, locational description for improvements, amended dates on title pages and footers, clarify blasting impacts criteria and an increase of 503 MT, provided additional species (such as tarplant, ashy spiked-moss, woven spores lichen), added to the biological section updated 2016 QCB survey data and clarification to M-BI-9b on management plan criteria or general consistency of terms for the FEIR supporting documents.”

The County disagrees that this much new information was released between the 2019 Recirculation and 2020 Planning Commission Hearing. The Fire Protection Plan that is referenced was included as part of the 2019 Recirculation. The March 19, 2020 fire memo provides supplemental information as well as the previously published County “Ready, Set, Go!” guidance, which is not required by CEQA, and does not disclose any new significant environmental impacts.

It is standard operating procedure to provide public notification when ~~for~~ the County releases their staff report, typically one week prior to the Planning Commission Hearing, and reflects a summary of the previously published information. The comment related to Mr. Mattson’s notification of posting revisions to the County website is also standard operating procedure to notify stakeholders of additional information or clarifications for the item under consideration. The notification was given to a variety of stakeholders per their individual requests. Therefore, the Final EIR does not need to be recirculated.

The commenter also raises concerns about the Village 13 project’s consistency with the County’s general plan. As shown in Section 3.3 of the EIR and The General Plan Amendment Report (Appendix E-1), the project is consistent with the County’s General Plan. In response to the commenter’s specific concern on Policy H-1.9, under General Plan policy H-1.9, the County, “when legally permissible”, must require large-scale residential projects seeking General Plan Amendments to provide an Affordable Housing component. Policy H-1.9 does not apply in this case because the Project does not seek a General Plan Amendment allowing for greater density or more housing units than currently permitted under the existing General Plan. Rather, the Project conforms to the General Plan because it is consistent with the densities adopted in the 1993 Otay Ranch GDP/SRP and reaffirmed in the 2011 General Plan Update. In addition, the County does not have an inclusionary housing ordinance which can be applied uniformly to Project and others

in the County, nor does the County have a legal mechanism to impose an affordable housing requirement on proposed Project. Note, however, that the proposed Project advances the goals of Policy H-1.9, in that the Project is consistent with the Otay Ranch GDP/SRP’s “Housing Chapter” as it relates to the overall Otay Ranch area. The Housing Chapter identifies the locations within Otay Ranch where affordable housing is to be located, i.e., within certain village cores. Further, the Otay Ranch Master Plan includes a 10% affordable housing requirement within the City of Chula Vista where higher density housing is more appropriately located in closer proximity to transit, public services, and employment centers.

As such, the EIR is legally adequate and the Project is not inconsistent with key planning policies for the region.

Planning Commission Letter (PC)-7: Land Protection Partners

Dated May 19, 2015

1. Concerns about Quino checkerspot butterfly

The commenter provided a number of comments regarding the Quino checkerspot butterfly. The commenter is incorrect in stating the conclusion of the DEIR was less than significant for impact to Quino checkerspot butterfly. Per the analysis of the impacts to the species and per the 2015 Biological Resources Technical Report (Appendix C-3) of the DEIR (and the 2019 Recirculated Biological Resources Technical Report Supplemental Analysis, Appendix D-3), "impacts to Quino checkerspot butterfly individuals and potentially occupied habitat are considered significant absent mitigation". Please note the commenter is providing comments on the 2015 DEIR and not on the recirculated version which includes analysis of a new alternative (Alternative H). This letter was never received by the County in 2015 and was submitted on April 16, 2020.

Additional surveys were conducted in 2016 and are included in the 2019 Recirculated Biological Resources Technical Report Supplemental Analysis (Appendix D-3). It is agreed that the number of points within the impact area is reported in the DEIR, however the impact analysis and mitigation is based on the number of acres of suitable habitat for the species and not on the number of butterflies observed within the project development footprint.

The reference in the comment letter to quantified take of Quino is from the boundary adjustment analysis and not from the project analysis. The proposed Project analysis is provided on p. 142 of the 2015 technical report (Appendix C-3).

Based on the grid analysis that the commenter provided, it was determined that the proposed Project would impact 32.5% of the Quino checkerspot butterfly occupied habitat. The DEIR took an even more conservative approach to impact analysis. Rather than analyzing cells delineated on the entire project site which does not necessarily account for habitat type, the project analysis looked at actual acreage of suitable habitat that was impacted to provide the quantification of impacts to potentially occupied Quino checkerspot butterfly habitat. Thus, the conclusion, from Table 17 of **Appendix C-3** of the 2015 DEIR is that "33% of potential habitat" would be impacted, which is approximately the same as that calculated by the commenter. Thus, the project analysis in the DEIR and the commenter's grid analysis provide a similar calculation of impacts (approximately 33%) to potentially occupied Quino checkerspot butterfly habitat.

The commenter recommends the impact be analyzed based on habitat. Both the 2015 DEIR and 2015 Biological Resources Technical Report and the 2019 Recirculated Biological Resources Technical Report Supplemental Analysis (Appendix D-3) included habitat-based impact analysis for Quino. Thus, the project analysis and the commenter's analysis both based the impact analysis on habitat.

While more detailed analysis and an entropy model could be used, the project analysis has documented that all habitat requirements or features for the species are included in the proposed Preserve as follows: hilltops, ridgelines, large patches of CSS and DCSS and cryptogamic soils as well as patches of host plant as shown in the detailed host plant density mapping provided from the 2016 survey (Appendix D-3).

The commenter notes that the evaluation of impacts on Quino Checkerspot butterfly did not reference the discussion by Preston et al. (2012)¹⁵. The draft of the 2015 DEIR was prepared prior to the publication of the Preston et al. (2012) paper, however it is included in the 2019 document. Preston et al. note that land use practices may have cause extirpation of local populations of the Quino checkerspot butterfly due to habitat destruction, a loss of resiliency and fragmentation of the habitat. The extirpation of the species from occupied areas was found to be associated with a long history of grazing, decline in wildflower abundance, increase in invasive species, human population growth, and possibly a range shift in response to climate change. Alternative H provides a larger preserve than is required based on the Otay Ranch RMP conveyance, no longer includes grazing or agriculture use on the site, includes preservation of all of the Village 13 site that is not designated under the MSCP as development, will include management of the onsite preserve to remove invasive species and includes mitigation to restore areas, and the impact and preserve are consistent with the County Subarea Plan of the MSCP for which a goal is to provide large, connected preserve areas which reduce fragmentation.

Please also refer to **Global Response R4**, Quino Checkerspot Butterfly for additional information.

¹⁵ Preston, K. L., R. A. Redak, M. F. Allen, J. T. Rotenberry. 2012. Changing distribution patterns of an endangered butterfly: Linking local extinction patterns and variable habitat relationships. *Biol. Cons.* 152: 280-290.

eComments and General Letters

As stated previously, several comments were submitted through the County’s eComment system or were brief emails that did not provide detailed comments about the adequacy of the environmental analysis. Similarly, to the detailed comment letters, these comments were submitted late, and the County is not required to respond. However, the County has decided to respond, and these comments have been categorized by topic and are responded to below.

Urban Sprawl

Comments submitted by Adrian Navarro, Andrea Gomez, Ann Feeney, Annika J. Nabors, Ariana Ciste, Bridger Langfur, Carolyn Marsden, Cindy Cortez, David Robertson, Evlyn Andrade, Fritz Stumpges, Galena Robertson, Glen Bradenburg, Jack Shu, Jose Trinidad Castaneda, Laura Hunter, Madeline McMurray, Maleeka Marsden, Matthew Vasilakis, Myles Pomeroy, Pamela Heatherington, Ronald Askeland, Sarah Thorwirth, Tara Hammond, Taylor Vierra, and William Carr all express concerns about urban sprawl and its associated impacts. However, these comments do not provide specific comments on the adequacy of the environmental analysis for Otay Village 13, and therefore no further response is provided.

Support for the Project

Comments submitted by Carmen Richardson, Carolyn Scholl, Christopher Redo, David Wick, Debra Discar-Espe, Eric Johnson, Jack McSweeney, Kathryn Lembo, Madison Holley, Nancy Daniels, and Zaneta Encarnacion all expressed general support for the Otay Village 13 project. However, they did not comment on the adequacy of the environmental analysis and therefore no further response is provided.

General Opposition

Comments submitted by Alan Bennett, Amanda Ruetten, JP Theberge, Renata Cruz, Sebastian N, Steve Bowman, and Susan Baldwin express general opposition for the project, for reasons including impacts to air quality, biological resources, global climate change, wildfire, traffic, and affordable housing. However, none of these commenters discussed the adequacy of the environmental analysis and therefore no further response is provided.

Request to Postpone

Comments submitted prior to the Planning Commission Hearing Date, Mr. Dan Silver (representing EHL) requested that the Planning Commission Hearing for the Village 13 project be postponed. The County respectfully denied this request. The commenter does not raise any issues regarding the adequacy of the environmental analysis; therefore, no further response is provided.

Access to Private Parcel

George Parker submitted an email on behalf of himself and Dagmar Satteral noting that they own approximately 20 acres surrounded by the project site (shown as “Not a Part” on project maps). The commenter asserts that there is no ingress or egress available to their property as a part of the Village 13 project. The County has reviewed the development layout and the applicant has provided an opportunity to access their property and determined that ingress and egress to this parcel has been considered and

planned. The commenter does not raise any issues regarding the adequacy of the environmental analysis for Otay Village 13; therefore, no further response is provided.

No Comment

In an email from Kim Gosling, she notes that the California Attorney General's office is not prepared to submit a comment letter prior to the Planning Commission Hearing. She does note that they will try to submit comments prior to the Board of Supervisors Hearing. The commenter does not raise any issues regarding the adequacy of the environmental analysis; therefore, no further response is provided.

Comment on Village 14

The comment letter and eComment submitted by Mitchell M. Tsai on behalf of the Southwest Regional Council of Carpenters pertains solely to the Otay Ranch Village 14 and Planning Area 16/19 project and does not provide any comment on the Otay Village 13 project. The commenter does not raise any issues regarding the adequacy of the environmental analysis for Otay Village 13; therefore, no further response is provided.

Attachment PC-6.1 - Wildfire

The commenter criticizes the Final EIR on grounds that it does not provide sufficient evidence that the proposed Project’s fire-safety measures will adequately protect adjacent communities from “Project-ignited” fires. For the purposes of this wildfire response “proposed Project” refers to the proposed Project and its alternatives, including Alternative H. This comment implies that the proposed Project will increase the risk of fire-ignition in the Otay Ranch area.

The comment also cites two reports from REAX that make similar claims – i.e., that new development within the Wildland Urban Interface (WUI) increases the risk of fire ignition. However, the technical literature does *not* show a simple or direct correlation between new development in the WUI and increases in fire ignition or acres burned. For example, Syphard and Keeley, in a recent article not cited by the commenter, found that fire frequency in California increased through most of the 20th century, peaking in 1980, but has since decreased steadily through 2016, despite significant population growth and more development in the WUI. (Keeley and Syphard, “Historical Patterns of Wildfire Ignition Sources in California Ecosystems,” *International Journal of Wildland Fire*, 2018, Vo. 27, pp. 781-799. Here are some of the article’s key findings:

- “Factors that may have played a role in these historical patterns of ignitions and area burned are changes in: population density, infrastructure development, fire-prevention success, fire-suppression effectiveness, vegetation-management practices, climate, and possibly record-keeping accuracy” (p. 794).
- “Not directly related to changing demography is the significant decline in fires in the last several decades – while population continued to grow after 1980, fire frequency was negatively related to population density. This is consistent with the pattern of fire activity peaking under intermediate population density” (p. 796).
- “Decreasing ignitions over the last 4 decades is potentially reflective of increasing efficiency of fire prevention. However, it also likely reflects changes in human infrastructure; new roads in this area were tied to development projects that required demonstration of adequate fire response capabilities” (p. 796).
- “In addition, an important factor behind declining ignitions is quite possibly the emergence of the California Fire Safe Council in the early 1990s, which made significant contributions to fire-safety education” (p.796).

Keeley and Syphard also found that since 1980, arson fires had decreased substantially, both in terms of number and area burned (p. 797). They noticed the same downward trend with respect to fires caused by smoking, children playing with fire, and motor vehicles (p. 797.). The only ignition source that resisted this trend was electrical powerlines; fires from this source continued to increase between 1980 and 2016 (p. 797.). According to the article, “[a]lthough powerlines do not account for many fires, they often account for substantial area burned . . .” (p. 797). With regard to the proposed Project, however, power line ignitions are less of an issue, since all such lines will be buried. Note also that San Diego Gas & Electric, which is the power provider in the project area, has embarked on an aggressive program to fire-harden its transmission line infrastructure and initiate systems that will enable it to predict (or quickly detect) dangerous wind events and adjust grid-power accordingly. These and other measures are set forth in SDG&E’s 2020 Wildfire Mitigation Plan:

https://www.sdge.com/sites/default/files/regulatory/SDG%26E%202020%20Wildfire%20Mitigation%20Plan%2002-07-2020_0.pdf (Section 5, pages 37 through 182).

The findings set forth in “Historical Patterns of Wildfire Ignition Sources in California Ecosystems” indicate that the mere presence of new development in the WUI does not equate to increases in fire ignition or acres burned. Rather, the arrangement of the development within the landscape, as well as the fire-resistant features of the community and the homes themselves, will determine whether a given development will or will not add to the local or regional fire risk.

The proposed Project contemplates clustered density housing with little to no internal vegetative fuel between or around homes and provides a fuel modification buffer around the perimeter and any internal open spaces to minimize fire risks. This makes the project substantially more resilient to fire than low to medium density projects where vegetation is allowed to grow between and among structures. This point is well-established in the scientific literature. For example, Alexandra D. Syphard, a fire expert who has studied fire conditions in San Diego County, has consistently maintained that low to medium density developments that are interspersed or inter-mixed with wildland vegetation have the highest risk of fire-related damage. Here are some examples:

- Alexandra D. Syphard and Jon E. Keeley, “Why Are So Many Structures Burning in California,” *Fremontia*, 2020, p. 30 [“Data show that fires tend to be most frequent at low to intermediate housing and population densities.”]
- Alexandra D. Syphard, Teresa J. Brennan, and Jon E. Keeley, “The Importance of Building Construction Materials Relative to Other Factors Affecting Structure Survival During Wildfire,” *International Journal of Disaster Risk Reduction*, Vo. 21 (2017), p 141 [“These [low to medium density] exurban housing developments are also located within complex terrain and may be more difficult to access by fire suppression crews; thus, low housing density has shown to be a major factor contributing to structure destruction in the [San Diego County] region.”]
- Patricia M Alexandre, Susan I. Stewart, Miranda H. Mockrin, Nicholas S. Keuler, Alexandra D. Syphard, Avi Bar-Massada, Murray K. Clayton, and Volker C. Radeloff, “The Relative Impact of Vegetation, Topography and Spatial Arrangement on Building Loss to Wildfires in Case Studies of California and Colorado,” *Landscape Ecol.* 2016) Vo. 31, p. 416 [“The probability that a building is lost is highest in small, isolated building clusters with low to intermediate building density and few roads.”]
- Alexandra D. Syphard, Avi Bar Massada, Van Butsic, and Jon E. Keeley, “Land Use Planning and Wildfire: Development Policies Influence Future Probability of Housing Loss,” *PLoS ONE* Vol 8, Issue 8 (2013), doi:10.1371/journal.pone.0071708.

The Final EIR and its associated technical reports accurately reflect Ms. Syphard’s long-held position, which is that low-density development, when inter-mixed with wildland fuels, are at the high risk of fire damage, while clustered density development, such as that contemplated in the proposed Project fare much better. Higher density or clustered communities tend to perform well because they are closer to roads and fire suppression services, and because they are designed to minimize fuel loads between structures. Such communities also tend to be newer and thus benefit from upgraded fire-resistant building materials.

The commenter also criticized the Final EIR for relying on “fire-hardening” as a means of protecting people and structures from wildfires, claiming no evidence supports such reliance. The technical literature indicates that fire-resistant construction materials and other fire-hardening measures improve significantly the ability of structures (and people) to survive wildfires. For example, in an article titled, “The Importance of Building Construction Materials Relative to Other Factors Affecting Structure Survival During Wildfire,” *International Journal of Disaster Risk Reduction*, Vol. 21 (2017), pp. 143-144, Alexandra. Syphard states that the results of her study “confirm the expectation that building construction and design play important roles in structure survival during large wind-driven fires events in San Diego County, CA.” In this same article, Ms. Syphard recommends that owners of older homes retrofit them with modern fire-hardening components, such as double-paned windows (p. 145). Ms. Syphard then draws the following conclusion:

“The data in our study show that newer buildings are more likely to be constructed using the materials and design that our data show to be empirically associated with structural survival. This is an encouraging sign for new construction in the region, and it helps to explain why structure age was one of the most important variables in the landscape analysis. Clearly, building ordinances adopted by [San Diego] county are effectively changing the design of new housing to become more fire resilient” (p. 146).

In this same article, Ms. Syphard explains why San Diego County is at the forefront of mandating fire-resistant housing materials:

“The County of San Diego has been enforcing fire codes for building construction in the WUI since 1997, when it adopted a requirement for class “A” residential roof covering on new construction; which means that the roofing material must pass a relatively stringent series of fire tests. Adopted in 2001 and made a requirement in 2002, the first comprehensive WUI code in the county required, in addition to the above, dual glazed/tempered windows, residential fire sprinklers, rated exterior construction, fire resistant decks and patios, no eave vents, no paper-backed insulation in attics, and 30 m (100 ft) vegetation modifications around structures. The WUI fire code has undergone minor revisions in 2004 and 2008 in response to the large fire events of 2003 and 2007. These regulations for fire-safe building construction are enforced through the issuance of building construction permits and approval of new subdivisions and thus they do not apply to older homes” (p.141).

Ms. Syphard indicates that San Diego County is, and has been, at the forefront of requiring state-of-the-art fire-resistant construction for new homes. It also shows that the County, in response to the Cedar and Harris fires, has improved those fire-safety requirements and made them even more robust and protective. The Village 13 homes will be subject to these updated requirements. This was not the case with the homes that were destroyed in the Cedar Fire (2003), the Harris Fire (2007), the Tubbs Fire (Santa Rosa 2017), and Camp/Paradise Fire (Butte 2018).

The proposed Project is required to comply with the County’s stringent housing material requirements, as noted above in the quote from Ms. Syphard’s article. The Final EIR and associated Fire Protection Plan, Preserve Edge Plan, and Specific Plan includes the full list. In addition, the homes have design features such as closed eaves, resistant roofing materials and the roofs will be fitted with state-of-the art ember-resistant vents. This last element – the ember-resistant vents – is a newer product not found in the homes that were featured in Ms. Syphard’s studies. They are critically important, however, as they are designed to

prevent the most dangerous source of structure ignition during wildfires – namely, embers penetrating the interior of homes.

In addition, the proposed Project will have large Fuel Management Zones (FMZs) between the project perimeter and the outlying vegetation. The FMZs not only protect the homes, they protect fire-fighters as well, allowing more fire-fighting personnel to move to other, more vulnerable areas. The project will also construct a County fully staffed fire station, with fire engines, and related fire-fighting equipment. Further, the project includes new and/or improved road system that will make it more efficient for fire crews to access points within the community and strategic connectivity to the perimeter by providing access point to the FMZs to address external wildfire event that may threaten the community. Note also that none of the proposed homes in the proposed Project will be placed in topographically risky locations, such as at the top of steep, naturally vegetated slopes or in canyon bottoms where wind-blown fire is a problem.

Many commenters have referenced the homes lost in the 2003 Cedar Fire in Julian. Those homes lost in the 2003 Cedar Fire were of an earlier vintage and did not have the benefit of modern fire-resistant construction or ongoing landscape fuel management that is inspected twice per year. Moreover, the Julian homes were interspersed with heavy vegetative fuel, something not permitted in clustered developments such as that contemplated in the proposed Project. Similarly, the 2007 San Diego County Wildfires resulted in higher losses with older structures. For instance, San Diego County after-fire assessments, indicate strongly that the building codes are working in preventing home loss: of 15,000 structures within the 2003 fire perimeter, 17% (1,050) were damaged or destroyed. However, of the 400 structures built to the 2001 codes (the most recent at the time), only 4% (16) were damaged or destroyed. Further, of the 8,300 homes that were within the 2007 fire perimeter, 17% were damaged or destroyed. A much smaller percentage (3%) of the 789 homes that were built to 2001 codes were impacted and an even smaller percentage (2%) of the 1,218 structures built to the 2004 Codes were impacted (IBHS 2008). It has been reasoned by fire officials conducting after-fire assessments that damage to the structures built to the latest codes is likely from unmaintained flammable landscape plantings or objects next to structures or open windows or doors (Hunter 2008). The comparison between the Cedar and other past wildfires and the Village 13 housing is very misleading and is hard to compare due to the proposed Project homes which must comply with the State and County's updated stringent fire-hardening requirements.

The Homeowner Association (HOA) Process

The proposed Project is a planned community with a regulatory Specific Plan, Vesting Replacement Tentative Map, Site Plans and other supporting project documents that the County of San Diego (County) may conditionally approve in a future meeting of the Board of Supervisors. The fundamental purpose behind a planned community is to allow individual homeowners the use of common area property and facilities and provide for a system of self-governance through an association of homeowners (*i.e.*, an HOA) within the community. Membership in the HOA is automatic. When a person buys a lot, home, townhouse, or condominium in an approved planned community, the person automatically becomes a member of the HOA and is subject to the HOA's "Declaration of Covenants, Conditions, and Restrictions" (CC&Rs).

The CC&Rs describe the rights and obligations of the property owners/association members within the subdivision and the association itself. The CC&Rs run with the land, that is, the rights and obligations contained in the CC&Rs remain with the land, regardless of ownership, and pass from deed to deed as the

land is transferred from one owner to another because the CC&Rs are recorded in the chain of title to each property within the subdivision. Buyers of property subject to the CC&Rs are presumed to accept them, having received constructive notice of them when they purchased the property (along with the deed and title report showing the CC&Rs recorded as an encumbrance on title).

The conditions, covenants, and restrictions contained in the CC&Rs are enforced by the HOA and the common facilities within the subdivision are generally owned by the HOA. In this regard, the HOA is considered quasi-governmental. That is, the CC&Rs supplement, and in some cases substitute for, the facilities and services that may otherwise be provided by local governmental agencies (cities and counties). Indeed, under California law, HOAs function almost as a second municipal government, regulating home ownership on behalf of the community. In *Villa Milano Homeowners' Assn. v. II Devorge* (2000) 84 Cal.App.4th 819, 836, the Court of Appeal stated, "one clearly sees the association as a quasi-government entity paralleling in almost every case the powers, duties, and responsibilities of a municipal government. As a 'mini-government,' the association provides to its members, in almost every case, utility services, road maintenance, street and common area lighting, and refuse removal. In many cases, it also provides security services and various forms of communication within the community. There is, moreover, a clear analogy to the municipal police and public safety functions...." [Citation.] In short, homeowners' associations, through their enforcement of the CC&Rs, provide many services that permit a common interest development to flourish.

A project specific HOA is formed only after the planned community project is approved by the local land use agency (city/county), and after the California Department of Real Estate (DRE) has processed and approved the HOA formation documents. commenter statements

Aside from certain inapplicable exemptions, the Davis-Sterling Common Interest Development Act (DSA; Civil Code, § 4000, et seq.) requires common interest developments/subdivisions to be governed by an HOA. Therefore, by law if the proposed Project is approved, it must establish a community HOA. Accordingly, contrary to the commenter's assertion, it is not "unclear" whether an HOA will be formed. The "planned community or CID" project, if approved, is required by law to form an HOA; it is not unclear, uncertain, or optional.

Once formed, the HOA has the powers enumerated by the Declarations of Covenants, Conditions, and Restrictions (CC&Rs), its articles of incorporation, bylaws, and adopted rules and regulations. The most significant powers of the HOA are to enter contracts, assume obligations, and levy regular and special assessments on its members. The general purpose of the HOA, governed through its board of directors, is to maintain the common areas on behalf of the membership and to enforce the governing documents, including the CC&Rs. The CC&Rs are not prepared until the proposed "planned community or CID" is approved by the local land use jurisdiction (in this case, the County). The CC&Rs contain the ground rules for the operation of the HOA, including identifying the HOA's common area responsibilities, explaining the HOA's obligations to collect assessments, and enabling the HOA to sue homeowners to enforce the CC&Rs and pay assessments.

Importantly, once the land within a planned community is subdivided pursuant to the Subdivision Map Act, the second law governing subdivision developments in California is the Subdivided Land Act. This law governs the process by which property, once it has been subdivided, may be initially marketed, and sold to

members of the public. The Subdivided Lands Act’s primary purpose is to protect homeowners in the public sale, lease, or financing of “subdivisions” by, among other things, ensuring home buyers within new subdivisions are provided with adequate information on all matters affecting the property prior to making their purchase decision.

The California Department of Real Estate (DRE) is responsible for administering and enforcing the Subdivided Lands Act. Such administration generally consists of reviewing applications for public reports and issuing them. As stated, the DRE’s role is to ensure that initial prospective home buyers receive adequate information about the subdivision. Toward that end, the public report application requires a substantial amount of information to be submitted by the “subdivider.” The DRE’s involvement begins when the public report application is submitted and ends once the subdivider or developer conveys the last lot or unit in the subdivision covered by the public report. As part of the public report process, the DRE reviews the local land use agency’s project approval documents, such as the approved specific plan, tentative map, conditions of approval, and other regulatory approval documents governing the subdivision. Of primary concern in the DRE’s review of approved planned communities or CIDs is the way common area improvements will be owned, operated, and maintained. This review includes the assurance provided by the subdivider that improvements will be completed, and the way ownership of the improvements will be transferred to the HOA.

As required by law, the developer or subdivider forms the HOA to own, operate, and maintain the common area improvements in perpetuity. The DRE reviews and approves HOA formation and management documents, including the CC&Rs, the bylaws, the operating budget, and the provisions for transfer and control of the residential subdivision interests and common areas to the purchasers (HOA members) and the HOA. The DRE public report process discloses significant conditions and obligations that the home buyer or HOA is responsible to satisfy, such as those found in agency-approved conditions, project design features, environmental mitigation measures, regulatory requirements in the project-approval documents, and other significant restrictions or adopted policies, including fire safety requirements imposed on the homeowner or HOA.

The DRE’s critical area of focus is operation of the HOA and the project during the selling stage of the new community, *i.e.*, that interim period from the times the HOA is formed until the last lot or unit is conveyed by the developer. During this period, the developer controls the HOA and is a major financial contributor to the HOA as the owner of unsold lots or units in the subdivision.

The DRE review focuses on, among other things: (a) the HOA budget (on standardized forms using DRE published cost and reserve data, or other justifiable cost data); (b) special arrangements for maintenance (and during the interim period, the developer will bear a large assessment burden, so the DRE ensures that the developer or subdivider actually contributes to the HOA as required); and (c) the CC&Rs (including the requirement that virtually every lot/unit will become subject to the CC&Rs when the developer makes the first conveyance to the purchaser, and this requirement ensures that the CC&Rs will be enforceable against the lots/units in the subdivision).

For further information regarding planned communities/subdivisions and the regulatory process, which follows approval of a planned community, please see DRE, “Guide to Understanding Residential Subdivisions in California,” by Alberto Esquivel and Jaime R. Alvayay (DRE 2014). DRE 2014 is

incorporated by reference and available for public review upon request to the County. (See also the DRE Subdivision Public Report Application Guide at <https://www.dre.ca.gov/files/pdf/sprag.pdf>).

The Project's HOA will be Established as Required by Project Approval Documents

The Specific Plan, a regulatory document of the County, and the Vesting Replacement Tentative Map, also a regulatory document required by the Subdivision Map Act, identify the improvements, facilities, maintenance, ownership, and access responsibilities of the proposed Project's HOA. These HOA requirements will require Project CC&Rs as part of the mandatory Subdivided Lands Act public report process overseen by DRE (see above), a process that is only initiated if the County decides to approve the proposed Project and adopts the Project approval documents by resolution or ordinance (e.g., Specific Plan; Public Facilities and Financing Plan [Appendix 4 to Specific Plan]; Village 13 Vesting Replacement Tentative Map; Fire Protection Plan; Wildland Fire Evacuation Plan) Further, County has crafted twelve (12) Conditions of Approvals that reference required compliance with the County Fire Code and the proposed Project's Fire Protection Plan (Appendix C-21 and D-21). If approved by the County Board of Supervisors, both the Fire Protection Plan and Evacuation Plan (regulatory documents) call for the proposed Project's HOA and assign responsibilities to the HOA consistent with applicable law, including the Subdivided Lands Act and the DRE regulatory process for implementing that law.

Specific Plan and Public Facilities and Financing Plan

The HOA responsibilities are discussed and identified in the Specific Plan. The proposed Project's Public Facilities and Financing Plan (Appendix IV to Specific Plan) also depicts the HOA construction and responsibilities for facilities and infrastructure with the proposed Project. The Specific Plan and its appendices are recommended for adoption by the County' Board of Supervisors as part of an approving resolution enforceable by the County. In addition, the proposed Project's Vesting Site Plan and Vesting Replacement Tentative Map with Conditions of Approvals are recommended for adoption by the County's Board of Supervisors.

HOA Maintenance and Ownership of Facilities/Infrastructure

Examples of HOA responsibilities designed into the proposed Project include:

Private Roads: All internal roads Otay Lakes behind residential traffic only gates are private roads as designed on the Replacement Tentative Map and as referenced in the Specific Plan; and the HOA is assigned the maintenance, ownership, and access responsibilities for such roads. (See, e.g., Specific Plan)). All other roads are public.

Gated community - The Specific Plan states that all residential areas except areas MU-1, MU-2 (Mixed Use Sites) and the Resort site, are gated communities with five private gates designated on the Replacement Tentative Map and as referenced in the Specific Plan. Therefore 1,881 (97%) of the 1,938 homes are in private gated HOA communities. Multifamily common areas are also HOA per Department of Real Estate requirements in California.

Specialty Village Lighting: This is in the Village Core and identified in the Specific Plan’s related Village Design Plan. The HOA is assigned the maintenance and ownership responsibilities for such lighting. (See Specific Plan)

Internal Open Space (HOA): There are 76 acres of internal open space HOA lots, designed on the Replacement Tentative Map and as referenced in the Specific Plan. The HOA is assigned the responsibility to maintain and own the internal open space lots, some of which are accessible to the public.

Private Parks: There are 5 private parks (approximately 15 acres total), designed on the Replacement Tentative Map and as referenced in the Specific Plan. The HOA is assigned the responsibility to maintain and own the private parks.

Other: The Specific Plan provides that the proposed Project’s HOA may be assigned other responsibilities for facilities and infrastructure within the Project site and that they can be divided among the applicant, homebuilder, the HOA, the County, and existing and future public financing districts. on- Public spaces such as on on-site trails and landscaped parkways, the HOA, County, or public financing district are all options for the maintenance and ownership of these public use facilities. This built-in flexibility is designed to accommodate the use of the best available funding mechanisms and provide home builder options — all of which is Department of Real Estate reviewed and approved prior to implementation as part of the subsequent public report process, if the proposed Project’s tentative subdivision map is approved.

The HOA is Assigned Fire Safety Measures to be Implemented Over the Life of the Project

The proposed Project’s HOA is also assigned fire safety measures to be implemented over the life of the project. Such measures are part of the Project regulatory documents which, if approved, govern proposed Project implementation and are to be reviewed by the Department of Real Estate as part of the subsequent public report process. Examples are provided below.

Project Preserve Edge Plan (January 2020)

The proposed Project’s Preserve Edge Plan (January 2020) provides information about homeowner and HOA responsibilities for but not limited to on wall/access controls, fuel modification zones, invasive non-native plants, brush management, and manufactured slopes.

For example, walls and fences will be constructed within the Preserve Edge/Fuel Modification Zone and be maintained by the HOA or the County landscape monitoring firm. Homeowners may be responsible for maintaining the interior of perimeter walls and fences, pursuant to the CC&Rs. Fuel Modification Zones (FMZs) are provided along the perimeter the Project area, and in the Homeowner Responsibility Zone A, the proposed Project’s HOA will include an architectural/landscape committee responsible for review and approval of landscape plans and be required to provide ongoing education to homeowners regarding fire adapted landscape maintenance. In Zone A, all manufactured slopes will be serviced by an above-ground automatic irrigation system that will be turned off by the HOA or the County’s landscape monitoring firm once the plantings are established but will remain in place.

The Preserve Edge Plan includes guidelines and compliance measures prohibiting invasive nonnative plants. The proposed Project also maintains an approved plant list for brush management, prepared in consultation with a qualified biologist (Brock Ortega, Dudek) and an urban forestry and fire protection planning specialist (Michael Huff, Dudek). Proposed changes to the approved plant list must be approved by a qualified biologist, the County’s Landscape Architect and the San Diego County Fire Authority.

Weed monitoring and abatement is required during the plant establishment period (typically two to three years for shrubs and up to five years for trees) to prevent weeds on the manufactured slopes from spreading into the adjacent MSCP Preserve. Either the HOA or the County’s landscape monitoring firm will be responsible to check the irrigated slopes during plant establishment to verify that excessive runoff does not occur and that any weed infestations are controlled.

The Preserve Edge Plan includes guidelines and compliance measures for brush management, and the proposed Project’s HOA has been assigned the responsibility of brush management in Zones A and B of the FMZ.

The Preserve Edge Plan includes guidelines and compliance measures for manufactured slopes. They are established as separate open space lots on the Vesting Replacement Tentative Map and will be maintained by the HOA.

Wildland Fire Evacuation Plan (March 2020)

The proposed Project’s Wildland Fire Evacuation Plan (EIR Appendix D-21A) provides important HOA requirements related to fire safety. The plan includes homeowner evacuation educational outreach efforts, primarily by and through the proposed Project’s HOA. For example, the HOA website will feature such fire evacuation outreach efforts, and the HOA will organize annual evacuation public outreach and maintain a fire safe page on the community website. The HOA website will include the proposed Project’s Wildland Fire Evacuation Plan and links to important citizen preparedness information. The HOA outreach would be used to educate community residents to wide range of topics including, plant management, water restrictions, conservation, evacuation responsibilities and recommended approach and activities during wildfires and other similar emergencies.

The HOA will also coordinate with local fire agencies to hold an annual fire safety and evacuation preparedness information meeting. At that meeting, important fire and evacuation information will be reviewed with the community residents. One focus of such meetings and of the HOA’s annual message is for each resident to prepare and be familiar with their own “Ready, Set, Go!” evacuation plan.” The focus of the “Ready, Set, Go!” evacuation plan is on public awareness and preparedness, especially for those living in the wildland-urban interface areas.

The HOA provides and distributes to each homeowner a complete copy of the Project’s Fire Protection Plan and the Wildland Fire Evacuation Plan, including materials from the “Ready, Set, Go!” program. The HOA also ensures the distribution of copies of the above materials to those individuals that purchase properties for resales, and to the management of multifamily residential and non-residential properties. The Wildland Fire Evacuation Plan makes it mandatory that the HOA actively participate as a partner with the San Diego County Fire Authority to assist with the coordination and distribution of fire safety information developed by the Fire Authority.

The Wildland Fire Evacuation Plan builds in flexibility to allow for adjustments and coordination during each construction phase of the proposed Project. Importantly, the plan’s approach is to maintain the proposed Project’s fuel modification landscape, infrastructure, and ignition resistant construction components according to wildfire and evacuation standards and the County’s Evacuation Annex Plan (Annex Q, 2014), and for residents to embrace the “Ready, Set, Go!” evacuation plan.

Fire Protection Plan (January 2020)

The proposed Project’s Fire Protection Plan (Appendices C-21 and D-21) provide HOA information to the Department of Real Estate in conjunction with the subsequent public report process (if the proposed Project is approved by the County’s Board of Supervisors).

For example, a Fire Protection Plan (FPP) (Appendices C-21 and D-21) was prepared for the proposed Project’s Final EIR, accepted by the San Diego County Fire Authority and determined to comply with the requirements of the 2017 County Consolidated Fire Code and the 2016 California Fire and Building Codes. The FPP’s recommendations, which will be required if the Specific Plan is approved by the County, include important fire safety requirements for the proposed Project’s HOA, as follows:

1. A Construction Fire Prevention Plan will be required, detailing the important construction-phase restrictions and fire safety requirements to be implemented to reduce risk of ignitions and plans for responding to any potential ignitions.
2. The Proposed Project buildings will be constructed of ignition-resistant materials based on the latest building and fire codes.
3. Fuel modification zones (FMZs) will be provided throughout the perimeter of the proposed Project site a minimum of 100 feet wide, including an additional 20 feet of the rear yard in some areas, as part of the modified zone. Maintenance will occur as needed, and the homeowner’s association (HOA) will annually hire a third-party, San Diego County Fire Authority-approved FMZ inspector, to provide annual certification that fuel modification meets the FPP requirements.
4. Fire apparatus access is provided by public and private roads throughout the community, varying in width and configuration designed to County standards, and provide at least the minimum required unobstructed travel lanes, lengths, turnouts, turnarounds, and clearances required by the applicable code.
5. Firefighting staging areas and temporary refuge areas would be available throughout the development and along roadways and proposed Project site green spaces so that firefighters will be able to stage operations and seek temporary refuge from wildfire, if necessary.
6. Water capacity and delivery will provide for a reliable water source for operations and during emergencies requiring extended fire flow.
7. A site-specific evacuation plan has been prepared and includes input and review from the San Diego County Fire Authority, law enforcement, and the San Diego County Office of Emergency Services.

Attachment PC-6.2 Transportation Fuel Use Memorandum



Memorandum

To: County of San Diego	From: Valorie Thompson
Transportation Fuel Use	
Re: Otay Ranch Village 13	Date: October 15, 2020

Urgent For Review Please Comment Please Reply Please Recycle

Executive Summary

This technical memorandum addresses the gasoline and diesel use during construction and operation for both the proposed Project and Alternative H analyzed in the Otay Ranch Resort Village EIR. Fuel use from the proposed Project is addressed in a quantitative manner based on the analysis of construction and operational impacts in the EIR. The differences in fuel use for Alternative H versus the proposed Project involve differences in offroad construction equipment fuel use and haul truck fuel use due to the more compact footprint. Operational fuel use for Alternative H was not addressed quantitatively but would be the same or less than the proposed Project due to the more compact nature of the development.

Fuel consumption during construction of the proposed Project and Alternative H would be similar to other projects of the same size and would not be wasteful or inefficient. The proposed Project and Alternative H would comply with CARB requirements to reduce emissions and thus reduce fuel usage, such as CARB’s idling restrictions that require heavy-duty vehicles with a gross vehicle weight rating of 10,000 lbs or more to restrict idling to no more than 5 minutes. The efficiency of the fuel consumption also is a result of the federal and state regulatory framework established for construction

fleets, as well as the proposed Project's mitigation framework for the reduction of air pollutants from construction equipment.

Introduction

This technical memorandum addresses the gasoline and diesel use during construction and operation for both the proposed Project and Alternative H analyzed in the Otay Ranch Resort Village EIR. This memorandum has been prepared in response to Shute, Mihaly, and Weinberger's Comment No. 5 in their letter on the Final Environmental Impact Report (FEIR) dated April 16, 2020.

As to construction, grading activities for both the proposed Project and Alternative H would be balanced on site, reducing the need for off-site truck trips and therefore reducing fuel use. However, Alternative H would result in the same or less consumption of transportation fuels as the proposed Project because it proposes the same land use and density within a smaller development footprint, thereby requiring less construction activities for grading and infrastructure. As discussed in the GHG Emissions for Alternative H Technical Memorandum (Appendix D-1 to the EIR) emissions from construction of Alternative H would be lower than for the proposed Project because the development footprint is smaller and more compact and would therefore result in lower vehicle miles traveled (VMT) during construction. Because construction emissions are a direct result of combustion of fuels, lower emissions indicates that the amount of fuel combusted is lower for Alternative H than for the proposed Project.

As to operation, and as also discussed in the Technical Memorandum reference above, while no quantitative analysis was conducted to assess reductions in operational VMT due to the compact land use structure of Alternative H versus the proposed Project, a qualitative analysis of the effect indicates that Alternative H's compact land use would likely improve the effectiveness of internally-based Transportation Demand Management (TDM) measures, and is not expected to affect externally-based TDM measures.¹ Operational emissions under Alternative H would therefore be expected to be lower than the proposed Project due to the increased effectiveness of internal TDM measures.

Transportation Fuel Consumption Analysis for the Project

The following analysis pertains to the proposed Project as defined in the EIR. Gasoline and diesel fuel would be consumed during both construction and operation of the proposed Project. Fuel consumed by offroad, heavy-duty construction equipment would be the primary energy resource expended over the course of

¹ Chen Ryan. 2019. *Transportation Demand Management Program Evaluation – Otay Ranch Resort Village Alternative H*. January 14.

construction. Fuel used in on-road trucks used for materials transport and vendor deliveries and fuel used in construction worker commutes would also result in petroleum consumption.

Heavy-duty construction equipment associated with construction activities, as well as haul trucks involved in earthmoving within the Project Area, would consume diesel fuel. Construction workers traveling to and from the Project Area primarily would travel in gasoline-powered vehicles.

CalEEMod was used to estimate heavy-duty construction equipment usage, haul truck usage, delivery truck usage, and worker vehicle travel and their associated emissions for the 11-year duration of construction. Emission factors within CalEEMod are based on the California Air Resource Board's (CARB) OFFROAD2007 model.² The OFFROAD2007 model also contains information on brake-specific fuel consumption (BSFC)³ in lbs/bhp-hr, which provides a means of estimating fuel consumption for construction equipment. Fuel consumption from construction equipment was estimated using the BSFC for each category of equipment used, as indicated below:

Fuel Consumption = [number of pieces of equipment] x [hours/day of equipment use] x [days of equipment use] x [BSFC x load factor]

Fuel consumption was estimated per year of construction for the proposed Project. Because the BSFC provides an estimate of fuel use in lbs, the fuel consumption was converted to gallons by using the estimated density of diesel fuel, 7.05 lbs/gallon.⁴

For on-road construction vehicles, CalEEMod emission estimates are based on the EMFAC2014 model, run in BURDEN mode. The EMFAC2014 model also provides estimates of daily fuel use and VMT for each category of vehicle for the air basin when run in BURDEN mode. These estimates can be used to calculate miles per gallon for each category of vehicle used in construction. Based on the CalEEMod model guidance⁵, worker trips were assumed to be distributed between light-duty autos (50%), light-duty trucks 1 (25%), and light-duty trucks 2 (25%). These vehicles were assumed to be gasoline-powered. Vendor trips were assumed to be distributed between medium-heavy duty trucks (50%) and heavy-heavy duty trucks (50%). Haul trucks were assumed to be heavy-heavy duty trucks. Both vendor trips and haul truck trips were assumed to be diesel.

For haul trucks, a portion of the emissions, and the fuel usage, is associated with truck idling. For the purpose of this analysis, it was assumed that trucks would comply with

² ENVIRON. 2011. Appendix A, Calculation Details for CalEEMod. February.

³ California Air Resources Board. 2011. Appendix D: OSM and Summary of OFFROAD Emissions Inventory Update.

⁴ U.S. Environmental Protection Agency. 1995. AP-42, Appendix A. <https://www3.epa.gov/ttnchie1/ap42/appendix/appa.pdf>.

⁵ ENVIRON. 2011. Appendix A, Calculation Details for CalEEMod. February.

the CARB idling restrictions, which prohibit idling for more than 5 minutes. Specifically, it was assumed that haul trucks would idle for no more than 5 minutes per hour during the work day. Based on information from the U.S. Department of Energy⁶, heavy-duty trucks consume approximately 0.8 gallons per hour during idling. Idling fuel consumption was added to fuel consumption for truck travel to estimate total gallons of fuel consumed by haul trucks during construction. Gallons of fuel used for worker trips, vendor trips, and haul truck trips were calculated based on the CalEEMod model's estimated VMT, and EMFAC2014 model miles per gallon.

The estimated fuel use during construction is presented in Tables 1 through 4. As shown in Table 5, the proposed Project would consume a total of approximately 4,434,475 gallons of diesel (see Tables 1 through 3) and 321,763 gallons of gasoline (see Table 4) during the construction period. Attachments A and B to this memorandum provide supporting calculations.

Year of Construction	Gallons of Diesel
1	270,269
2	271,303
3	270,171
4	275,082
5	285,513
6	283,750
7	275,335
8	274,419
9	284,895
10	275,678
11	147,752
Total	2,914,167

Year of Construction	Gallons of Diesel
1	68,291
2	102,552
3	130,392
4	129,812
5	129,665
6	167,330
7	130,446
8	163,350
9	127,666
10	59,056

⁶ U.S. Department of Energy, Energy Efficiency and Renewable Energy. https://afdc.energy.gov/files/u/publication/hdv_idling_2015.pdf.

11	0
Total	1,208,560

Table 3	
Project Vendor Truck Diesel Use	
Year of Construction	Gallons of Diesel
1	25,517
2	25,283
3	13,852
4	26,060
5	26,761
6	70,925
7	28,773
8	31,837
9	22,352
10	7,183
11	33,205
Total	311,748

Table 4	
Project Construction Worker Vehicle Gasoline Use	
Year of Construction	Gallons of Gasoline
1	27,952
2	30,999
3	16,004
4	30,374
5	30,184
6	62,076
7	29,992
8	35,231
9	23,855
10	11,541
11	23,555
Total	321,763

Table 5	
Total Project Construction Fuel Consumption	
	Gallons of Fuel
Diesel	4,434,475
Gasoline	321,763

To calculate transportation fuel consumption from project operations, project-related VMT were used. As for construction, the EMFAC2014 model was run in BURDEN mode for the year 2030 to calculate miles per gallon for each category of vehicle. The EMFAC2014 model provides an estimate of regional VMT by vehicle category. For the purpose of this analysis, it was assumed that the regional distribution of vehicles within the EMFAC2014 model for the San Diego Region would be the same as the distribution for the proposed Project. This assumption is consistent with the Air Quality and Greenhouse Gas analyses conducted using the CalEEMod model. Based on the distribution of VMT within the San Diego region by vehicle category obtained from the EMFAC2014 model, the gallons of fuel used by each category of vehicle were calculated using the proposed Project's total VMT of 76,621,314.

The calculation of gasoline and diesel consumption for operations is presented in Table 6. As shown therein, the proposed Project would consume a total of approximately 2,288,787 gallons of gasoline and 592,007 gallons of diesel during each year of project operation.

Table 6	
Annual Operational Transportation Fuel Consumption	
	Gallons of Fuel
Diesel	592,007
Gasoline	2,288,787

Transportation Fuel Consumption Analysis for Alternative H

The following analysis pertains to Alternative H. As discussed in the Executive Summary, the differences in fuel use for Alternative H versus the proposed Project involve differences in offroad construction equipment fuel use and haul truck fuel use due to the more compact footprint. Tables 7 and 8 present the estimated fuel use during construction from offroad equipment and haul trucks for Alternative H.

Table 7	
Alternative H Construction Offroad Equipment Diesel Use	
Year of Construction	Gallons of Diesel
1	271,303
2	270,171
3	275,082
4	285,513
5	283,750
6	275,335
7	274,419
8	284,895
9	275,678
10	147,752
Total	2,643,898

Table 8	
Alternative H Haul Truck Diesel Use	
Year of Construction	Gallons of Diesel
1	175,993
2	101,936
3	77,705
4	43,326
5	240,289
6	139,180
7	75,695
8	145,962
9	79,141
10	0
Total	1,079,227

Fuel use from vendor vehicles and worker vehicles would be the same as for the proposed Project. The total construction fuel consumption for Alternative H is shown in Table 9. As shown in Table 9, Alternative H would consume a total of approximately 4,434,475 gallons of diesel (see Tables 7, 8, and 3) and 321,763 gallons of gasoline (see Table 4) during the construction period. Attachments A and B to this memorandum provide supporting calculations.

Table 9	
Total Alternative H Construction Fuel Consumption	
	Gallons of Fuel
Diesel	4,034,873
Gasoline	321,763

Fuel consumption for Alternative H for operations is addressed qualitatively. As discussed in the Executive Summary, gasoline and diesel consumption for operations for Alternative H would be the same or less than for the proposed Project due to the more compact nature of the development.

Conclusion

Fuel consumption during construction of the proposed Project and Alternative H would be similar to other projects of the same size and would not be wasteful or inefficient. The proposed Project and Alternative H would comply with CARB requirements to reduce emissions and thus reduce fuel usage, such as CARB's idling restrictions that require heavy-duty vehicles with a gross vehicle weight rating of 10,000 lbs or more to restrict idling to no more than 5 minutes. The efficiency of the fuel consumption also is a result of the federal and state regulatory framework established for construction fleets, as well as the proposed Project's mitigation framework for the reduction of air

pollutants from construction equipment. For example, Mitigation Measure M-AQ-1a requires that the proposed Project utilize – at a minimum – Tier 3 construction equipment. This mitigation requirement relates to the efficient consumption of transportation fuels as Tier 3 equipment is newer, more efficient and cleaner than its predecessors. Additionally, the proposed Project and Alternative H would undertake a balanced grading operation, meaning that soils will not be transported on or off of the site to and from more distant locations.

The estimates of fuel consumption presented in this memo are conservative, as they are based on current approved models for offroad equipment and on-road vehicles. These models do not take into account ongoing regulatory efforts designed to reduce fuel use. The fuel use estimates do not take into account the ARB's recently enacted Advanced Clean Trucks rule, nor do the estimates take into account reasonably foreseeable rulemaking to address Governor Newsom's recent Executive Order setting targets for zero emission vehicles for new, in-State sales. As such, it is likely that long-term, annual fuel consumption is overestimated in this memo.

Fuel consumption during proposed Project and Alternative H operation also would not be wasteful or inefficient. The proposed Project's and Alternative H's inclusion of on-site walking/bicycling trails and other resident-serving amenities would facilitate non-vehicular trips and ensure that petroleum-based fuels are efficiently used and consumed. Additionally, the proposed Project would implement multiple mitigation requirements that ensure the efficient consumption of fuels. For example, Mitigation Measure M-GCC-1 requires the implementation of specified TDM strategies for residents, students, resort guests and employees; and, Mitigation Measure M-GCC-6 requires the installation of zero emission vehicle charging infrastructure throughout the proposed Project's and Alternative H's residential and non-residential development areas to facilitate reductions in demand for traditional transportation fuels like gasoline and diesel. Further, fuel consumption is expected to be reduced below that estimated in Table 6 over time, as the efficiency of vehicles continues to improve as a result of regulatory standards and technological innovation.

Lastly, the proposed Project and Alternative H would not conflict with or obstruct an applicable state or local plan for transportation fuel-related energy efficiency. Instead, the proposed Project and Alternative H would comply with applicable regulatory standards and policies.



Valorie L. Thompson, Ph.D.

Attachment A
Offroad Vehicle Fuel Use Calculations

Table A-1
OFFROAD2007 Brake-Specific Fuel Consumption, lbs/hour

Equipment	Fuel	Horsepower	BSFC, lbs/hp-hr
Pavers	D	125	0.47
Rollers	D	80	0.49
Scrapers	D	361	0.41
Paving Equipment	D	130	0.47
Trenchers	D	80	0.49
Excavators	D	162	0.47
Cement and Mortar Mixers	D	9	0.65
Cranes	D	226	0.47
Graders	D	174	0.47
Off-Highway Trucks	D	189	0.47
Rubber Tired Dozers	D	255	0.41
Tractors/Loaders/Backhoes	D	97	0.49
Generator Sets	D	84	0.49
Air Compressors	D	78	0.49
Welders	D	46	0.54
Forklifts	D	89	0.49

Table A-2
Year 1 Project Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	16941.31
Grading	Graders	2	8	174	0.41	9816.38
Grading	Off-Highway Trucks	2	8	189	0.38	9882.43
Grading	Rubber Tired Dozers	2	8	255	0.4	12243.47
Grading	Scrapers	6	8	361	0.48	62398.50
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15445.83
Utilities	Excavators	4	8	162	0.38	14183.42
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	4310.47
Utilities	Trenchers	2	8	80	0.5	4804.09
Building Construction	Cranes	2	7	226	0.29	13396.38
Building Construction	Forklifts	6	8	89	0.2	13005.06
Building Construction	Generator Sets	2	8	84	0.74	15138.47
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22944.25
Building Construction	Welders	2	8	46	0.45	5555.70
Paving	Cement and Mortar Mixers	8	8	9	0.56	3925.62
Paving	Pavers	4	8	125	0.42	14784.00
Paving	Paving Equipment	4	8	130	0.36	13178.88
Paving	Rollers	4	8	80	0.38	8924.92
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5268.35
Architectural Coating	Air Compressors	2	6	78	0.48	4121.91
Total						270269.44

Table A-3
Year 2 Project Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	17072.64
Grading	Graders	2	8	174	0.41	9892.48
Grading	Off-Highway Trucks	2	8	189	0.38	9959.04
Grading	Rubber Tired Dozers	2	8	255	0.4	12338.38
Grading	Scrapers	6	8	361	0.48	62882.21
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15565.57
Utilities	Excavators	4	8	162	0.38	14446.08
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	4390.29
Utilities	Trenchers	2	8	80	0.5	4893.05
Building Construction	Cranes	2	7	226	0.29	13396.38
Building Construction	Forklifts	6	8	89	0.2	13005.06
Building Construction	Generator Sets	2	8	84	0.74	15138.47
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22944.25
Building Construction	Welders	2	8	46	0.45	5555.70
Paving	Cement and Mortar Mixers	8	8	9	0.56	3895.88
Paving	Pavers	4	8	125	0.42	14672.00
Paving	Paving Equipment	4	8	130	0.36	13079.04
Paving	Rollers	4	8	80	0.38	8857.31
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5228.43
Architectural Coating	Air Compressors	2	6	78	0.48	4090.68
Total						271302.94

Table A-4
Year 3 Project Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	17072.64
Grading	Graders	2	8	174	0.41	9892.48
Grading	Off-Highway Trucks	2	8	189	0.38	9959.04
Grading	Rubber Tired Dozers	2	8	255	0.4	12338.38
Grading	Scrapers	6	8	361	0.48	62882.21
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15565.57
Utilities	Excavators	4	8	162	0.38	14183.42
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	4310.47
Utilities	Trenchers	2	8	80	0.5	4804.09
Building Construction	Cranes	2	7	226	0.29	13335.21
Building Construction	Forklifts	6	8	89	0.2	12945.67
Building Construction	Generator Sets	2	8	84	0.74	15069.35
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22839.48
Building Construction	Welders	2	8	46	0.45	5530.34
Paving	Cement and Mortar Mixers	8	8	9	0.56	3866.14
Paving	Pavers	4	8	125	0.42	14560.00
Paving	Paving Equipment	4	8	130	0.36	12979.20
Paving	Rollers	4	8	80	0.38	8789.70
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5188.52
Architectural Coating	Air Compressors	2	6	78	0.48	4059.45
Total						270171.35

Table A-5
Year 4 Project Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	17072.64
Grading	Graders	2	8	174	0.41	9892.48
Grading	Off-Highway Trucks	2	8	189	0.38	9959.04
Grading	Rubber Tired Dozers	2	8	255	0.4	12338.38
Grading	Scrapers	6	8	361	0.48	62882.21
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15565.57
Utilities	Excavators	4	8	162	0.38	16941.31
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	5148.61
Utilities	Trenchers	2	8	80	0.5	5738.21
Building Construction	Cranes	2	7	226	0.29	13335.21
Building Construction	Forklifts	6	8	89	0.2	12945.67
Building Construction	Generator Sets	2	8	84	0.74	15069.35
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22839.48
Building Construction	Welders	2	8	46	0.45	5530.34
Paving	Cement and Mortar Mixers	8	8	9	0.56	3895.88
Paving	Pavers	4	8	125	0.42	14672.00
Paving	Paving Equipment	4	8	130	0.36	13079.04
Paving	Rollers	4	8	80	0.38	8857.31
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5228.43
Architectural Coating	Air Compressors	2	6	78	0.48	4090.68
Total						275081.84

Table A-6
Year 5 Project Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	16941.31
Grading	Graders	2	8	174	0.41	9816.38
Grading	Off-Highway Trucks	2	8	400	0.38	20915.20
Grading	Rubber Tired Dozers	2	8	255	0.4	12243.47
Grading	Scrapers	6	8	361	0.48	62398.50
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15445.83
Utilities	Excavators	4	8	162	0.38	16941.31
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	5148.61
Utilities	Trenchers	2	8	80	0.5	5738.21
Building Construction	Cranes	2	7	226	0.29	13335.21
Building Construction	Forklifts	6	8	89	0.2	12945.67
Building Construction	Generator Sets	2	8	84	0.74	15069.35
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22839.48
Building Construction	Welders	2	8	46	0.45	5530.34
Paving	Cement and Mortar Mixers	8	8	9	0.56	3925.62
Paving	Pavers	4	8	125	0.42	14784.00
Paving	Paving Equipment	4	8	130	0.36	13178.88
Paving	Rollers	4	8	80	0.38	8924.92
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5268.35
Architectural Coating	Air Compressors	2	6	78	0.48	4121.91
Total						285512.56

Table A-7
Year 6 Project Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	17072.64
Grading	Graders	2	8	174	0.41	9892.48
Grading	Off-Highway Trucks	2	8	189	0.38	9959.04
Grading	Rubber Tired Dozers	2	8	255	0.4	12338.38
Grading	Scrapers	6	8	361	0.48	62882.21
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15565.57
Utilities	Excavators	4	8	162	0.38	17072.64
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	5188.52
Utilities	Trenchers	2	8	80	0.5	5782.70
Building Construction	Cranes	2	7	226	0.29	13396.38
Building Construction	Forklifts	6	8	89	0.2	13005.06
Building Construction	Generator Sets	2	8	84	0.74	15138.47
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22944.25
Building Construction	Welders	2	8	46	0.45	5555.70
Architectural Coating	Air Compressors	2	6	78	0.48	6296.29
Paving	Cement and Mortar Mixers	8	8	9	0.56	3268.61
Paving	Pavers	4	8	125	0.42	17024.00
Paving	Paving Equipment	4	8	130	0.36	15821.45
Paving	Rollers	4	8	80	0.38	10277.18
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5268.35
Total						283749.92

Table A-8
Year 7 Project Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	16941.31
Grading	Graders	2	8	174	0.41	9816.38
Grading	Off-Highway Trucks	2	8	189	0.38	9882.43
Grading	Rubber Tired Dozers	2	8	255	0.4	12243.47
Grading	Scrapers	6	8	361	0.48	62398.50
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15445.83
Utilities	Excavators	4	8	162	0.38	17072.64
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	5188.52
Utilities	Trenchers	2	8	80	0.5	5782.70
Building Construction	Cranes	2	7	226	0.29	13457.55
Building Construction	Forklifts	6	8	89	0.2	13064.44
Building Construction	Generator Sets	2	8	84	0.74	15207.60
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	23049.02
Building Construction	Welders	2	8	46	0.45	5581.07
Paving	Cement and Mortar Mixers	8	8	9	0.56	3925.62
Paving	Pavers	4	8	125	0.42	14784.00
Paving	Paving Equipment	4	8	130	0.36	13178.88
Paving	Rollers	4	8	80	0.38	8924.92
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5268.35
Architectural Coating	Air Compressors	2	6	78	0.48	4121.91
Total						275335.14

Table A-9
Year 8 Project Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	16941.31
Grading	Graders	2	8	174	0.41	9816.38
Grading	Off-Highway Trucks	2	8	189	0.38	9882.43
Grading	Rubber Tired Dozers	2	8	255	0.4	12243.47
Grading	Scrapers	6	8	361	0.48	62398.50
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15445.83
Utilities	Excavators	4	8	162	0.38	16941.31
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	5148.61
Utilities	Trenchers	2	8	80	0.5	5738.21
Building Construction	Cranes	2	7	226	0.29	13396.38
Building Construction	Forklifts	6	8	89	0.2	13005.06
Building Construction	Generator Sets	2	8	84	0.74	15138.47
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22944.25
Building Construction	Welders	2	8	46	0.45	5555.70
Paving	Cement and Mortar Mixers	8	8	9	0.56	3895.88
Paving	Pavers	4	8	125	0.42	14672.00
Paving	Paving Equipment	4	8	130	0.36	13079.04
Paving	Rollers	4	8	80	0.38	8857.31
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5228.43
Architectural Coating	Air Compressors	2	6	78	0.48	4090.68
Total						274419.27

**Table A-10
Year 9 Project Construction Equipment Fuel Use**

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	17072.64
Grading	Graders	2	8	174	0.41	9892.48
Grading	Off-Highway Trucks	2	8	400	0.38	21077.33
Grading	Rubber Tired Dozers	2	8	255	0.4	12338.38
Grading	Scrapers	6	8	361	0.48	62882.21
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15565.57
Utilities	Excavators	4	8	162	0.38	16941.31
Utilities	Sweepers/Scrubbers	2	8	64	0.46	4223.32
Utilities	Trenchers	2	8	80	0.5	5738.21
Building Construction	Cranes	2	7	226	0.29	13335.21
Building Construction	Forklifts	6	8	89	0.2	12945.67
Building Construction	Generator Sets	2	8	84	0.74	15069.35
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22839.48
Building Construction	Welders	2	8	46	0.45	5530.34
Paving	Cement and Mortar Mixers	8	8	9	0.56	3866.14
Paving	Pavers	4	8	125	0.42	14560.00
Paving	Paving Equipment	4	8	130	0.36	12979.20
Paving	Rollers	4	8	80	0.38	8789.70
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5188.52
Architectural Coating	Air Compressors	2	6	78	0.48	4059.45
Total						284894.52

Table A-11
Year 10 Project Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	17072.64
Grading	Graders	2	8	174	0.41	9892.48
Grading	Off-Highway Trucks	2	8	189	0.38	9959.04
Grading	Rubber Tired Dozers	2	8	255	0.4	12338.38
Grading	Scrapers	6	8	361	0.48	62882.21
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15565.57
Utilities	Excavators	4	8	162	0.38	17072.64
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	5188.52
Utilities	Trenchers	2	8	80	0.5	5782.70
Building Construction	Cranes	2	7	226	0.29	13335.21
Building Construction	Forklifts	6	8	89	0.2	12945.67
Building Construction	Generator Sets	2	8	84	0.74	15069.35
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22839.48
Building Construction	Welders	2	8	46	0.45	5530.34
Paving	Cement and Mortar Mixers	8	8	9	0.56	3925.62
Paving	Pavers	4	8	125	0.42	14784.00
Paving	Paving Equipment	4	8	130	0.36	13178.88
Paving	Rollers	4	8	80	0.38	8924.92
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5268.35
Architectural Coating	Air Compressors	2	6	78	0.48	4121.91
Total						275677.90

**Table A-12
Year 11 Project Construction Equipment Fuel Use**

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	0.00
Grading	Graders	2	8	174	0.41	0.00
Grading	Off-Highway Trucks	2	8	400	0.38	0.00
Grading	Rubber Tired Dozers	2	8	255	0.4	0.00
Grading	Scrapers	6	8	361	0.48	0.00
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	0.00
Utilities	Excavators	4	8	162	0.38	16941.31
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	5148.61
Utilities	Trenchers	2	8	80	0.5	5738.21
Building Construction	Cranes	2	7	226	0.29	13335.21
Building Construction	Forklifts	6	8	89	0.2	12945.67
Building Construction	Generator Sets	2	8	84	0.74	15069.35
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22839.48
Building Construction	Welders	2	8	46	0.45	5530.34
Paving	Cement and Mortar Mixers	8	8	9	0.56	3925.62
Paving	Pavers	4	8	125	0.42	14784.00
Paving	Paving Equipment	4	8	130	0.36	13178.88
Paving	Rollers	4	8	80	0.38	8924.92
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5268.35
Architectural Coating	Air Compressors	2	6	78	0.48	4121.91
Total						147751.86

Table A-13
Year 1 Alternative H Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	17072.64
Grading	Graders	2	8	174	0.41	9892.48
Grading	Off-Highway Trucks	2	8	189	0.38	9959.04
Grading	Rubber Tired Dozers	2	8	255	0.4	12338.38
Grading	Scrapers	6	8	361	0.48	62882.21
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15565.57
Utilities	Excavators	4	8	162	0.38	14446.08
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	4390.29
Utilities	Trenchers	2	8	80	0.5	4893.05
Building Construction	Cranes	2	7	226	0.29	13396.38
Building Construction	Forklifts	6	8	89	0.2	13005.06
Building Construction	Generator Sets	2	8	84	0.74	15138.47
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22944.25
Building Construction	Welders	2	8	46	0.45	5555.70
Paving	Cement and Mortar Mixers	8	8	9	0.56	3895.88
Paving	Pavers	4	8	125	0.42	14672.00
Paving	Paving Equipment	4	8	130	0.36	13079.04
Paving	Rollers	4	8	80	0.38	8857.31
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5228.43
Architectural Coating	Air Compressors	2	6	78	0.48	4090.68
Total						271302.94

Table A-14
Year 2 Alternative H Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	17072.64
Grading	Graders	2	8	174	0.41	9892.48
Grading	Off-Highway Trucks	2	8	189	0.38	9959.04
Grading	Rubber Tired Dozers	2	8	255	0.4	12338.38
Grading	Scrapers	6	8	361	0.48	62882.21
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15565.57
Utilities	Excavators	4	8	162	0.38	14183.42
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	4310.47
Utilities	Trenchers	2	8	80	0.5	4804.09
Building Construction	Cranes	2	7	226	0.29	13335.21
Building Construction	Forklifts	6	8	89	0.2	12945.67
Building Construction	Generator Sets	2	8	84	0.74	15069.35
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22839.48
Building Construction	Welders	2	8	46	0.45	5530.34
Paving	Cement and Mortar Mixers	8	8	9	0.56	3866.14
Paving	Pavers	4	8	125	0.42	14560.00
Paving	Paving Equipment	4	8	130	0.36	12979.20
Paving	Rollers	4	8	80	0.38	8789.70
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5188.52
Architectural Coating	Air Compressors	2	6	78	0.48	4059.45
Total						270171.35

Table A-15
Year 3 Alternative H Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	17072.64
Grading	Graders	2	8	174	0.41	9892.48
Grading	Off-Highway Trucks	2	8	189	0.38	9959.04
Grading	Rubber Tired Dozers	2	8	255	0.4	12338.38
Grading	Scrapers	6	8	361	0.48	62882.21
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15565.57
Utilities	Excavators	4	8	162	0.38	16941.31
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	5148.61
Utilities	Trenchers	2	8	80	0.5	5738.21
Building Construction	Cranes	2	7	226	0.29	13335.21
Building Construction	Forklifts	6	8	89	0.2	12945.67
Building Construction	Generator Sets	2	8	84	0.74	15069.35
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22839.48
Building Construction	Welders	2	8	46	0.45	5530.34
Paving	Cement and Mortar Mixers	8	8	9	0.56	3895.88
Paving	Pavers	4	8	125	0.42	14672.00
Paving	Paving Equipment	4	8	130	0.36	13079.04
Paving	Rollers	4	8	80	0.38	8857.31
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5228.43
Architectural Coating	Air Compressors	2	6	78	0.48	4090.68
Total						275081.84

Table A-16
Year 4 Alternative H Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	16941.31
Grading	Graders	2	8	174	0.41	9816.38
Grading	Off-Highway Trucks	2	8	400	0.38	20915.20
Grading	Rubber Tired Dozers	2	8	255	0.4	12243.47
Grading	Scrapers	6	8	361	0.48	62398.50
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15445.83
Utilities	Excavators	4	8	162	0.38	16941.31
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	5148.61
Utilities	Trenchers	2	8	80	0.5	5738.21
Building Construction	Cranes	2	7	226	0.29	13335.21
Building Construction	Forklifts	6	8	89	0.2	12945.67
Building Construction	Generator Sets	2	8	84	0.74	15069.35
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22839.48
Building Construction	Welders	2	8	46	0.45	5530.34
Paving	Cement and Mortar Mixers	8	8	9	0.56	3925.62
Paving	Pavers	4	8	125	0.42	14784.00
Paving	Paving Equipment	4	8	130	0.36	13178.88
Paving	Rollers	4	8	80	0.38	8924.92
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5268.35
Architectural Coating	Air Compressors	2	6	78	0.48	4121.91
Total						285512.56

Table A-17
Year 5 Alternative H Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	17072.64
Grading	Graders	2	8	174	0.41	9892.48
Grading	Off-Highway Trucks	2	8	189	0.38	9959.04
Grading	Rubber Tired Dozers	2	8	255	0.4	12338.38
Grading	Scrapers	6	8	361	0.48	62882.21
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15565.57
Utilities	Excavators	4	8	162	0.38	17072.64
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	5188.52
Utilities	Trenchers	2	8	80	0.5	5782.70
Building Construction	Cranes	2	7	226	0.29	13396.38
Building Construction	Forklifts	6	8	89	0.2	13005.06
Building Construction	Generator Sets	2	8	84	0.74	15138.47
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22944.25
Building Construction	Welders	2	8	46	0.45	5555.70
Architectural Coating	Air Compressors	2	6	78	0.48	6296.29
Paving	Cement and Mortar Mixers	8	8	9	0.56	3268.61
Paving	Pavers	4	8	125	0.42	17024.00
Paving	Paving Equipment	4	8	130	0.36	15821.45
Paving	Rollers	4	8	80	0.38	10277.18
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5268.35
Total						283749.92

Table A-18
Year 6 Alternative H Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	16941.31
Grading	Graders	2	8	174	0.41	9816.38
Grading	Off-Highway Trucks	2	8	189	0.38	9882.43
Grading	Rubber Tired Dozers	2	8	255	0.4	12243.47
Grading	Scrapers	6	8	361	0.48	62398.50
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15445.83
Utilities	Excavators	4	8	162	0.38	17072.64
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	5188.52
Utilities	Trenchers	2	8	80	0.5	5782.70
Building Construction	Cranes	2	7	226	0.29	13457.55
Building Construction	Forklifts	6	8	89	0.2	13064.44
Building Construction	Generator Sets	2	8	84	0.74	15207.60
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	23049.02
Building Construction	Welders	2	8	46	0.45	5581.07
Paving	Cement and Mortar Mixers	8	8	9	0.56	3925.62
Paving	Pavers	4	8	125	0.42	14784.00
Paving	Paving Equipment	4	8	130	0.36	13178.88
Paving	Rollers	4	8	80	0.38	8924.92
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5268.35
Architectural Coating	Air Compressors	2	6	78	0.48	4121.91
Total						275335.14

Table A-19
Year 7 Alternative H Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	16941.31
Grading	Graders	2	8	174	0.41	9816.38
Grading	Off-Highway Trucks	2	8	189	0.38	9882.43
Grading	Rubber Tired Dozers	2	8	255	0.4	12243.47
Grading	Scrapers	6	8	361	0.48	62398.50
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15445.83
Utilities	Excavators	4	8	162	0.38	16941.31
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	5148.61
Utilities	Trenchers	2	8	80	0.5	5738.21
Building Construction	Cranes	2	7	226	0.29	13396.38
Building Construction	Forklifts	6	8	89	0.2	13005.06
Building Construction	Generator Sets	2	8	84	0.74	15138.47
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22944.25
Building Construction	Welders	2	8	46	0.45	5555.70
Paving	Cement and Mortar Mixers	8	8	9	0.56	3895.88
Paving	Pavers	4	8	125	0.42	14672.00
Paving	Paving Equipment	4	8	130	0.36	13079.04
Paving	Rollers	4	8	80	0.38	8857.31
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5228.43
Architectural Coating	Air Compressors	2	6	78	0.48	4090.68
Total						274419.27

**Table A-20
Year 8 Alternative H Construction Equipment Fuel Use**

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	17072.64
Grading	Graders	2	8	174	0.41	9892.48
Grading	Off-Highway Trucks	2	8	400	0.38	21077.33
Grading	Rubber Tired Dozers	2	8	255	0.4	12338.38
Grading	Scrapers	6	8	361	0.48	62882.21
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15565.57
Utilities	Excavators	4	8	162	0.38	16941.31
Utilities	Sweepers/Scrubbers	2	8	64	0.46	4223.32
Utilities	Trenchers	2	8	80	0.5	5738.21
Building Construction	Cranes	2	7	226	0.29	13335.21
Building Construction	Forklifts	6	8	89	0.2	12945.67
Building Construction	Generator Sets	2	8	84	0.74	15069.35
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22839.48
Building Construction	Welders	2	8	46	0.45	5530.34
Paving	Cement and Mortar Mixers	8	8	9	0.56	3866.14
Paving	Pavers	4	8	125	0.42	14560.00
Paving	Paving Equipment	4	8	130	0.36	12979.20
Paving	Rollers	4	8	80	0.38	8789.70
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5188.52
Architectural Coating	Air Compressors	2	6	78	0.48	4059.45
Total						284894.52

Table A-21
Year 9 Alternative H Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	17072.64
Grading	Graders	2	8	174	0.41	9892.48
Grading	Off-Highway Trucks	2	8	189	0.38	9959.04
Grading	Rubber Tired Dozers	2	8	255	0.4	12338.38
Grading	Scrapers	6	8	361	0.48	62882.21
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	15565.57
Utilities	Excavators	4	8	162	0.38	17072.64
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	5188.52
Utilities	Trenchers	2	8	80	0.5	5782.70
Building Construction	Cranes	2	7	226	0.29	13335.21
Building Construction	Forklifts	6	8	89	0.2	12945.67
Building Construction	Generator Sets	2	8	84	0.74	15069.35
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22839.48
Building Construction	Welders	2	8	46	0.45	5530.34
Paving	Cement and Mortar Mixers	8	8	9	0.56	3925.62
Paving	Pavers	4	8	125	0.42	14784.00
Paving	Paving Equipment	4	8	130	0.36	13178.88
Paving	Rollers	4	8	80	0.38	8924.92
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5268.35
Architectural Coating	Air Compressors	2	6	78	0.48	4121.91
Total						275677.90

Table A-22
Year 10 Alternative H Construction Equipment Fuel Use

Construction Phase	Equipment	Number	Hours/Day	Horsepower	Load Factor	Fuel Use, Gallons/Year
Grading	Excavators	4	8	162	0.38	0.00
Grading	Graders	2	8	174	0.41	0.00
Grading	Off-Highway Trucks	2	8	400	0.38	0.00
Grading	Rubber Tired Dozers	2	8	255	0.4	0.00
Grading	Scrapers	6	8	361	0.48	0.00
Grading	Tractors/Loaders/Backhoes	6	8	97	0.37	0.00
Utilities	Excavators	4	8	162	0.38	16941.31
Utilities	Tractors/Loaders/Backhoes	2	8	97	0.37	5148.61
Utilities	Trenchers	2	8	80	0.5	5738.21
Building Construction	Cranes	2	7	226	0.29	13335.21
Building Construction	Forklifts	6	8	89	0.2	12945.67
Building Construction	Generator Sets	2	8	84	0.74	15069.35
Building Construction	Tractors/Loaders/Backhoes	6	7	97	0.37	22839.48
Building Construction	Welders	2	8	46	0.45	5530.34
Paving	Cement and Mortar Mixers	8	8	9	0.56	3925.62
Paving	Pavers	4	8	125	0.42	14784.00
Paving	Paving Equipment	4	8	130	0.36	13178.88
Paving	Rollers	4	8	80	0.38	8924.92
Paving	Tractors/Loaders/Backhoes	2	8	97	0.37	5268.35
Architectural Coating	Air Compressors	2	6	78	0.48	4121.91
Total						147751.86

Attachment B
Vehicle Fuel Use Calculations

Table B-1
EMFAC2014 Fuel Consumption and VMT

Vehicle Class	Fuel	2009				2010				2011				2012				2013				2014				2015				2016				2017				2018				2019				2020																																																																																																																																																																																						
		Fuel Consumption, 1000 gallons/day		VMT		Fuel Consumption, 1000 gallons/day		VMT		Fuel Consumption, 1000 gallons/day		VMT		Fuel Consumption, 1000 gallons/day		VMT		Fuel Consumption, 1000 gallons/day		VMT		Fuel Consumption, 1000 gallons/day		VMT		Fuel Consumption, 1000 gallons/day		VMT		Fuel Consumption, 1000 gallons/day		VMT		Fuel Consumption, 1000 gallons/day		VMT		Fuel Consumption, 1000 gallons/day		VMT																																																																																																																																																																																												
		mt	mpg	mt	mpg	mt	mpg	mt	mpg	mt	mpg	mt	mpg	mt	mpg	mt	mpg	mt	mpg	mt	mpg	mt	mpg	mt	mpg	mt	mpg	mt	mpg	mt	mpg	mt	mpg	mt	mpg	mt	mpg	mt	mpg																																																																																																																																																																																													
HDOT	GAS	1.15	1746	4.6	3.81	1803	4.71	1867	4.8	1929	4.86	1994	4.91	2061	4.96	2130	5.01	2199	5.06	2269	5.11	2340	5.16	2411	5.21	2483	5.26	2555	5.31	2628	5.36	2701	5.41	2774	5.46	2847	5.51	2920	5.56	2993	5.61	3066																																																																																																																																																																																										
HDOT	DSL	234.99	182184	5.61	330.39	187669	5.68	336.72	193164	5.76	343.14	198782	5.84	349.65	204421	5.92	356.24	210081	6.00	362.91	215850	6.08	369.66	221639	6.16	376.48	227448	6.24	383.37	233277	6.32	390.33	239126	6.40	397.36	245095	6.48	404.46	251084	6.56	411.63	257063	6.64	418.86																																																																																																																																																																																								
LDA	GAS	1676.89	4887259	27.21	1847.85	4847720	28.20	1817.68	4808211	29.19	1788.47	4769228	29.19	1788.47	4769228	30.18	1759.24	4730245	31.17	1730.07	4691262	32.16	1700.86	4652279	33.15	1672.61	4614316	34.14	1644.42	4577371	35.13	1616.19	4542426	36.12	1589.92	4512486	37.11	1563.50	4479596	38.10	1537.07	4442726	39.09	1510.68	4408846	40.08	1483.74	4380066	41.07	1459.85	4352246	42.06	1437.96	4325726	43.05	1417.07	4297346	44.04	1395.18	4272846	45.03	1374.30	4249846	46.02	1352.41	4217946	47.01	1330.63	4197946	48.00	1308.96	4173046	49.00	1285.59	4153046	50.00	1262.12	4128146	51.00	1238.65	4103246	52.00	1214.78	4083346	53.00	1194.91	4058446	54.00	1171.04	4033546	55.00	1147.17	4008646	56.00	1123.40	3983746	57.00	1100.73	3958846	58.00	1077.96	3933946	59.00	1054.59	3909046	60.00	1031.22	3884146	61.00	1008.85	3859246	62.00	985.48	3834346	63.00	963.11	3809446	64.00	940.74	3784546	65.00	918.37	3759646	66.00	896.00	3734746	67.00	872.63	3709846	68.00	849.26	3684946	69.00	826.89	3660046	70.00	804.52	3635146	71.00	782.15	3610246	72.00	759.78	3585346	73.00	737.41	3560446	74.00	715.04	3535546	75.00	692.67	3510646	76.00	670.30	3485746	77.00	647.93	3460846	78.00	625.56	3435946	79.00	603.19	3411046	80.00	580.82	3386146	81.00	558.45	3361246	82.00	536.08	3336346	83.00	513.71	3311446	84.00	491.34	3286546	85.00	468.97	3261646	86.00	446.60	3236746	87.00	424.23	3211846	88.00	401.86	3186946	89.00	379.49	3162046	90.00	357.12	3137146	91.00	334.75	3112246	92.00	312.38	3087346	93.00	290.01	3062446	94.00	267.64	3037546	95.00	245.27	3012646	96.00	222.90	2987746	97.00	200.53	2962846	98.00	178.16	2937946	99.00	155.79	2913046	100.00	133.42	2888146

Table B-2
Year 1 Project Construction Vehicle Fuel Use

CalEEMod Construction Trips							Gallons of Fuel			
Phase	Worker Trips	Vendor Trips	Haul Trips	Worker Trip Length	Vendor Trip Length	Haul Trip Length	Workers	Vendors	Hauling	
Grading	46	0	109713	10.8	7.3	0.5	2674.87		68290.79	
Utilities	20	0	0	10.8	7.3	20	973.66			
Building Cons	204	72	0	10.8	7.3	20	20138.59	25516.73		
Paving	30	0	0	10.8	7.3	20	1785.05			
Architectural	40	0	0	10.8	7.3	20	2380.06			
							Total	27952.24	25516.73	68290.79

Table B-3
Year 2 Project Construction Vehicle Fuel Use

CalEEMod Construction Trips							Gallons of Fuel			
Phase	Worker Trips	Vendor Trips	Haul Trips	Worker Trip Length	Vendor Trip Length	Haul Trip Length	Workers	Vendors	Hauling	
Grading	56	0	165047	10.8	7.3	0.5	3189.23		102551.52	
Utilities	20	0	0	10.8	7.3	20	963.78			
Building Cons	220	72	0	10.8	7.3	20	21106.77	25282.62		
Paving	56	0	0	10.8	7.3	20	3213.77			
Architectural	44	0	0	10.8	7.3	20	2525.10			
							Total	30998.66	25282.62	102551.52

Table B-4
Year 3 Project Construction Vehicle Fuel Use

CalEEMod Construction Trips							Gallons of Fuel			
Phase	Worker Trips	Vendor Trips	Haul Trips	Worker Trip Length	Vendor Trip Length	Haul Trip Length	Workers	Vendors	Hauling	
Grading	28	0	210243	10.8	7.3	0.5	1547.67		130392.11	
Utilities	10	0	0	10.8	7.3	20	459.20			
Building Cons	120	40	0	10.8	7.3	20	11122.83	13851.52		
Paving	28	0	0	10.8	7.3	20	1547.67			
Architectural	24	0	0	10.8	7.3	20	1326.58			
							Total	16003.95	13851.52	130392.11

Table B-5
Year 4 Project Construction Vehicle Fuel Use

CalEEMod Construction Trips							Gallons of Fuel			
Phase	Worker Trips	Vendor Trips	Haul Trips	Worker Trip Length	Vendor Trip Length	Haul Trip Length	Workers	Vendors	Hauling	
Grading	56	0	209715	10.8	7.3	0.5	2996.30		129812.40	
Utilities	20	0	0	10.8	7.3	20	1061.88			
Building Cons	232	76	0	10.8	7.3	20	20816.09	26060.34		
Paving	56	0	0	10.8	7.3	20	3019.35			
Architectural	46	0	0	10.8	7.3	20	2480.18			
							Total	30373.81	26060.34	129812.40

Table B-6
Year 5 Project Construction Vehicle Fuel Use

CalEEMod Construction Trips							Gallons of Fuel			
Phase	Worker Trips	Vendor Trips	Haul Trips	Worker Trip Length	Vendor Trip Length	Haul Trip Length	Workers	Vendors	Hauling	
Grading	56	0	210508	10.8	7.3	0.5	2874.67		129664.71	
Utilities	20	0	0	10.8	7.3	20	1026.67			
Building Cons	240	80	0	10.8	7.3	20	20819.90	26761.21		
Paving	56	0	0	10.8	7.3	20	2941.53			
Architectural	48	0	0	10.8	7.3	20	2521.31			
							Total	30184.08	26761.21	129664.71

Table B-7
Year 6 Project Construction Vehicle Fuel Use

CalEEMod Construction Trips							Gallons of Fuel			
Phase	Worker Trips	Vendor Trips	Haul Trips	Worker Trip Length	Vendor Trip Length	Haul Trip Length	Workers	Vendors	Hauling	
Grading	56	0	271863	10.8	7.3	0.5	2798.48		167330.34	
Utilities	20	0	0	10.8	7.3	20	999.46			
Building Cons	578	212	0	10.8	7.3	20	48658.98	70925.41		
Architectural	116	0	0	10.8	7.3	20	6777.86			
Paving	56	0	0	10.8	7.3	20	2841.53			
							Total	62076.31	70925.41	167330.34

Table B-8
Year 7 Project Construction Vehicle Fuel Use

CalEEMod Construction Trips							Gallons of Fuel			
Phase	Worker Trips	Vendor Trips	Haul Trips	Worker Trip Length	Vendor Trip Length	Haul Trip Length	Workers	Vendors	Hauling	
Grading	56	0	212095	10.8	7.3	0.5	2680.11		130446.00	
Utilities	20	0	0	10.8	7.3	20	964.60			
Building Cons	258	86	0	10.8	7.3	20	21058.01	28773.32		
Paving	56	0	0	10.8	7.3	20	2742.44			
Architectural	52	0	0	10.8	7.3	20	2546.55			
							Total	29991.71	28773.32	130446.00

Table B-9
Year 8 Project Construction Vehicle Fuel Use

CalEEMod Construction Trips							Gallons of Fuel			
Phase	Worker Trips	Vendor Trips	Haul Trips	Worker Trip Length	Vendor Trip Length	Haul Trip Length	Workers	Vendors	Hauling	
Grading	56	0	265780	10.8	7.3	0.5	2595.53		163349.85	
Utilities	20	0	0	10.8	7.3	20	926.97			
Building Cons	330	96	0	10.8	7.3	20	25966.06	31836.79		
Paving	56	0	0	10.8	7.3	20	2635.77			
Architectural	66	0	0	10.8	7.3	20	3106.44			
							Total	35230.77	31836.79	163349.85

Table B-10
Year 9 Project Construction Vehicle Fuel Use

CalEEMod Construction Trips							Gallons of Fuel			
Phase	Worker Trips	Vendor Trips	Haul Trips	Worker Trip Length	Vendor Trip Length	Haul Trip Length	Workers	Vendors	Hauling	
Grading	56	0	207863	10.8	7.3	0.5	2539.71		127665.89	
Utilities	20	0	0	10.8	7.3	20	900.06			
Building Cons	210	68	0	10.8	7.3	20	15970.89	22352.17		
Paving	56	0	0	10.8	7.3	20	2539.71			
Architectural	42	0	0	10.8	7.3	20	1904.79			
							Total	23855.17	22352.17	127665.89

Table B-11
Year 10 Project Construction Vehicle Fuel Use

CalEEMod Construction Trips							Gallons of Fuel			
Phase	Worker Trips	Vendor Trips	Haul Trips	Worker Trip Length	Vendor Trip Length	Haul Trip Length	Workers	Vendors	Hauling	
Grading	56	0	96262	10.8	7.3	0.5	2413.22		59055.71	
Utilities	20	0	0	10.8	7.3	20	861.86			
Building Cons	72	22	0	10.8	7.3	20	5203.00	7182.81		
Paving	56	0	0	10.8	7.3	20	2450.34			
Architectural	14	0	0	10.8	7.3	20	612.59			
							Total	11541.02	7182.81	59055.71

Table B-12
Year 11 Project Construction Vehicle Fuel Use

CalEEMod Construction Trips							Gallons of Fuel			
Phase	Worker Trips	Vendor Trips	Haul Trips	Worker Trip Length	Vendor Trip Length	Haul Trip Length	Workers	Vendors	Hauling	
Grading	56	0	59767	10.8	7.3	0.5	0.00		0.00	
Utilities	20	0	0	10.8	7.3	20	836.59			
Building Cons	256	102	0	10.8	7.3	20	18096.25	33204.67		
Paving	56	0	0	10.8	7.3	20	2396.92			
Architectural	52	0	0	10.8	7.3	20	2225.71			
							Total	23555.48	33204.67	0.00

Table B-13
Operational Vehicle Fuel Use

Total VMT for
Project
76621314 Fuel Use, Gallons/Year
VMT by Vehile Clas: Gasoline Diesel

GAS	HHDT	21714.86	4331.63955	
DSL	HHDT	2091087.03		333992.04
GAS	LDA	44219140.84	1195170.56	
DSL	LDA	592753.28		12644.7004
GAS	LDT1	3080839.70	97477.0782	
DSL	LDT1	1732.47		44.0215878
GAS	LDT2	14680256.96	504993.423	
DSL	LDT2	32213.96		875.808677
GAS	LHDT1	352011.18	34976.0904	
DSL	LHDT1	650672.65		34682.0218
GAS	LHDT2	128253.37	13922.7126	
DSL	LHDT2	309589.06		18200.8721
GAS	MCY	465794.63	13210.3585	
GAS	MDV	7889584.06	365685.636	
DSL	MDV	211641.57		7489.68164
GAS	MH	50629.00	7414.6589	
DSL	MH	14231.13		1454.73117
GAS	MHDT	161672.75	24273.8207	
DSL	MHDT	1303182.13		152227.802
GAS	OBUS	90063.07	13316.6643	
DSL	OBUS	70106.89		10130.2851
GAS	SBUS	21998.27	1835.63653	
DSL	SBUS	43094.12		5810.17934
GAS	UBUS	63077.33	12178.2078	
DSL	UBUS	75973.72		14455.2759
Totals		76621314.00	2288786.49	592007.419

Table B-14
 Year 1 Alternative H Construction Vehicle Fuel Use

CalEEMod Construction Trips			Ballons of Fuel
Phase	Haul Trips	Haul Trip Length	Hauling
Grading	283244	0.5	175992.92
Utilities	0	20	
Building Cons	0	20	
Paving	0	20	
Architectural	0	20	
		Total	175992.92

Table B-14
Year 2 Alternative H Construction Vehicle Fuel Use

CalEEMod Construction Trips			Ballons of Fuel
Phase	Haul Trips	Haul Trip Length	Hauling
Grading	164360	0.5	101935.60
Utilities	0	20	
Building Cons	0	20	
Paving	0	20	
Architectural	0	20	
		Total	101935.60

Table B-16
Year 3 Alternative H Construction Vehicle Fuel Use

CalEEMod Construction Trips			Ballons of Fuel
Phase	Haul Trips	Haul Trip Length	Hauling
Grading	125535	0.5	77705.46
Utilities	0	20	
Building Cons	0	20	
Paving	0	20	
Architectural	0	20	
		Total	77705.46

Table B-17
Year 4 Alternative H Construction Vehicle Fuel Use

CalEEMod Construction Trips			Ballons of Fuel
Phase	Haul Trips	Haul Trip Length	Hauling
Grading	70339	0.5	43326.08
Utilities	0	20	
Building Cons	0	20	
Paving	0	20	
Architectural	0	20	
		Total	43326.08

Table B-18
 Year 5 Alternative H Construction Vehicle Fuel Use

CalEEMod Construction Trips				gallons of Fuel
Phase	Haul Trips	Haul Trip Length		Hauling
Grading	390414	0.5		240297.89
Utilities	0	20		
Building Cons	0	20		
Architectural	0	20		
Paving	0	20		
			Total	240297.89

Table B-19
 Year 6 Alternative H Construction Vehicle Fuel Use

CalEEMod Construction Trips				gallons of Fuel
Phase	Haul Trips	Haul Trip Length		Hauling
Grading	226296	0.5		139180.12
Utilities	0	20		
Building Cons	0	20		
Paving	0	20		
Architectural	0	20		
			Total	139180.12

Table B-20
Year 7 Alternative H Construction Vehicle Fuel Use

CalEEMod Construction Trips			Ballons of Fuel
Phase	Haul Trips	Haul Trip Length	Hauling
Grading	123161	0.5	75695.43
Utilities	0	20	
Building Cons	0	20	
Paving	0	20	
Architectural	0	20	
		Total	75695.43

Table B-21
Year 8 Alternative H Construction Vehicle Fuel Use

CalEEMod Construction Trips				Ballons of Fuel
Phase	Haul Trips	Haul Trip Length		Hauling
Grading	237652	0.5		145961.79
Utilities	0	20		
Building Cons	0	20		
Paving	0	20		
Architectural	0	20		
			Total	145961.79

Table B-22
 Year 9 Alternative H Construction Vehicle Fuel Use

CalEEMod Construction Trips				gallons of Fuel
Phase	Haul Trips	Haul Trip Length		Hauling
Grading	129001	0.5		79140.74
Utilities	0	20		
Building Cons	0	20		
Paving	0	20		
Architectural	0	20		
			Total	79140.74

Table B-23
 Year 10 Alternative H Construction Vehicle Fuel Use

CalEEMod Construction Trips			Gallons of Fuel	
Phase	Haul Trips	Haul Trip Length		Hauling
Grading	0	0.5		0.00
Utilities	0	20		
Building Cons	0	20		
Paving	0	20		
Architectural	0	20		
			Total	0.00