# CITY OF SCOTTS VALLEY

## CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

## INITIAL STUDY AND

## NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

**for**

## THE ENCORE CONDOMINIUM PROJECT

**Assessor's Parcel Number 022-732-01 and -48**

**Tentative Map No. LD 21-001**

**Use Permit No. U 21-001**

**Design Review No. DR 21-001**

**Apple Homes Development, Applicant**

**May 21, 2021**

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This CEQA document has been prepared for the City of Scotts Valley by:

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# CITY OF SCOTTS VALLEY

**PLANNING DEPARTMENT**

One Civic Center Drive • Scotts Valley • California • 95066

Phone (831) 440-5630 • Facsimile (831) 438-2793 • www.scottsvalley.org


# Notice of Intent to Adopt a Mitigated Negative Declaration

**Project Title:** Encore Condominium Project

**Project Location:** 4104 Scotts Valley Drive (vacant), Scotts Valley, CA, 95066
APN 022-732-01 & -48

**Description of Project:** Proposal to construct a 16-unit condominium project (16 individual residential ownerships) with one common parcel for vehicle access, parking and open space on two adjoining vacant parcels that encompass 1.56 acres. All residential units would be within a single three-story building. Grading of 2,137 cubic yards would be required to construct the project.

Required project entitlements include Tentative Subdivision Map, Use Permit and Design Review approvals. The project also requires approval of a Habitat Conservation Plan by the U.S. Fish and Wildlife Service to address the loss of Mt. Hermon June Beetle habitat. This insect is listed as an endangered species by the federal Endangered Species Act.

**Planning Permit Application Nos.:** LD21-001, U21-001, DR21-001, MND21-001

**Lead Agency:**
City of Scotts Valley
Community Development Department
One Civic Center Drive, Scotts Valley, CA 95066

**Contact Person:**
Kim Carlos Tschantz, Contract Planner
Cypress Environmental and Land Use Planning
kimt@cruzio.com

**Documents may be obtained on the City of Scotts Valley website at this link:**
http://www.scottsvalley.org/242/Current-Projects

**Public Review Period Begins:** May 21, 2021

**Ends:** June 21, 2021(by 5:00PM)

All written comments on the Mitigated Negative Declaration should be submitted to the Planning Department at the address above or by email to the project planner during the review period.

**Public Hearings:** This project will Hearings be considered at a future hearing by both the Planning Commission and City Council. Public notices will be mailed when these hearings scheduled will also be posted at the City of Scotts Valley On- Line Agenda Center: https://www.scottsvalley.org/AgendaCenter.

Documents are available for public review on the City's website at the link provided on the previous page. Project files and plans are available for public review at the Planning Department by appointment only by emailing the project planner.

**WARNING NOTICE:** If you challenge the above application in court, you may be limited to raising only those issues you or someone else raised at the Public Hearing described in this Notice or in written correspondence delivered to the City of Scotts Valley (One Civic Center Drive, Scotts Valley) at, or prior to, the close of hearing. Any challenge in court must be commenced within ninety (90) days of the decision, as required by section 1094.6 of the California Code of Civil Procedure.

The City of Scotts Valley does not discriminate against persons with disabilities. The City Council Chambers is an accessible facility. If you wish to attend this meeting and you will require assistance such as sign language, a translator, or other special assistance or devices in order to attend and participate in the meeting, please call the City Clerk's office at 440-5600 at least 5 to 7 days in advance of the meeting to make arrangements for assistance.

The California State Relay Service (TDD to voice: 1-800-735-2929, voice to TDD: 1-800-735-2922) provides Telecommunications Devices for the Deaf (TDD) and will provide a link between the TDD caller and users of regular telephone equipment.

Kim Tschantz

By: _____ Date: May 17, 2021

Kim Tschantz, Contract Planner

300' Radius Notice Mailed: 5/21/2021

Posted at City Hall: 5/21/2021

# City of Scotts Valley

# California Environmental Quality Act (CEQA)

# INITIAL STUDY

## I. INTRODUCTION

### 1. Project Address, Application Number and Title:

4104 Scotts Valley Drive, Scotts Valley, CA, 95066
Assessor Parcel Number 022-732-01 and -48

Tentative Map (LD21-001);
Use Permit (U21-001); &
Design Review (DR21-001)

Encore Condominium Project

### 2. Lead Agency Name and Address:

City of Scotts Valley
One Civic Center Drive
Scotts Valley, CA 95066

### 3. Contact Person and Phone Number:

Kim Tschantz, MSP, CEP - Contract Planner
Cypress Environmental and Land Use Planning
kimt@cruzio.com

### 4. Project Sponsor's Name and Address:

Chris Perri
Apple Homes Development, Inc.
15 Sherman Court
Scotts Valley, CA 95066

## 5. General Plan Designation and Zoning:

General Plan: “Medium High Residential” - density = 5--9 d.u./acre.
Zoning: “R-M-6” (Multi-family Residential with a 5,000-sq. ft. minimum lot size)

## 6. Project Description:

The applicant is proposing a 16-unit condominium project (16 individual residential ownerships) with one common owned parcel for vehicle access, parking and open space on two adjoining vacant parcels that encompass 1.59 acres. All residential units would be within a single three-story building not to exceed 35 feet in height. The first story would contain parking for 17 vehicles and storage spaces. Residential units would be located on the second and third stories with eight units on each floor. Each unit would have two bedrooms and two bathrooms. All units will be designed to be accessible. In addition, two stairways and an elevator in the center of the building would serve each floor. The floor areas of 8 units would be 1,140 sq. ft. (Type B unit) and the remaining 8 units would be 1,080 sq. ft. (Type B). All units would have private outdoor space. Eight dwelling units would have 68-sq. ft. outdoor balconies, and four units would have 168-sq. ft. balconies. The remaining four units would each have a 440-sq. ft. patio that extend from a 45-sq. ft. deck at the ground level of the rear of the building. Two units will be designated as affordable.

The 1.59-acre common parcel would be owned by the homeowners of the 16 units. This parcel would include the first story of the building, a new hammerhead-style driveway, 20 unenclosed parking spaces and storm drainage improvements. The remainder of the lot would be retained as open space, most of it on a steep slope at the rear of the site. Project site design locates development at the front of the site near Scotts Valley Drive and open space at the rear near existing dwellings in the Scotts Valley Heights subdivision. Open space would also be located on the east side of the site near the Terrace townhouse project. This 5,000-sq. ft. area would be minimally developed as useable community outdoor space for the project residents. In addition, a 731-sq. ft. patio that extends from the building’s community room would also be community outdoor space. Both outdoor community spaces would be accessible to residents with physical limitations. Grading of 2,137 cubic yards would be required to construct the project.

Required project entitlements include Tentative Subdivision Map, Use Permit and Design Review approvals. The project is subject to the California Environmental Quality Act (CEQA) and the CEQA Guidelines, which requires this environmental review. The project entitlements and environmental review will be presented at two public hearings. The Planning Commission and subsequently

the City Council will hold public hearings to discuss and act upon the requested entitlement and this environmental review. The project will also need the approval of the U.S. Fish and Wildlife Service for the approval of a Habitat Conservation Plan. However, this approval is not required prior to City action on the project.

7. **Project Location:**

The project site is a vacant forested property located on the southeast side of Scotts Valley Drive 777 feet northeast from Mt. Hermon Road in the central area of the City of Scotts Valley (See the Location Map on following page). The property is adjacent to a single-family residential neighborhood, Scotts Valley Heights, to the southeast and multi-family residential uses to the northeast and southwest. The Terrace townhouses adjoin the southwest edge of the site and an apartment complex, Scotts Valley Apartments, adjoins the opposite side of the site. Residential uses and Scotts Valley Middle School are located to the northwest on the opposite side of Scotts Valley Drive. These features are shown on the location map (Figure 1).

The property slopes downward towards the northwest (towards Scotts Valley Drive) with an overall gradient of 19%. On the lower portion of the property, where development is proposed, the inclination reduces to a range of 10%--15%. Existing site improvements are limited to a concrete retaining wall along the property frontage. Figures 2 and 3 show some of these features.

8. **Location Map:** See next page

## Location Map

## Figure 1


**Notation for Figure:** The project site is located 777 feet northeast of the Mt. Hermon Road/Scotts Valley Drive intersection shown in the aerial photo above. The building on the adjoining parcel to the northeast contains the Scotts Valley Apartments. The date of this aerial photo preceded the development of the Terrace Townhouse project adjacent to the southwest side of the project site. This is why the adjoining site appears as vacant forested land.

# II. Environmental Checklist

This section includes the CEQA check list and an expansion of responses made to questions on the CEQA checklist, mitigation measures where necessary to reduce impacts to less than significant levels, and a finding of significance for each potentially adverse impact.

## A. Aesthetics

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Except as provided in Public Resources Code Section 21099, would the project:** | | | | |
| a) Have a substantial adverse effect on a scenic vista? | | | | X |
| a) Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway? | | | | X |
| b) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | | | | X |
| c) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | | | | X |

Data Sources: 4 & 5

## Discussion

**Scenic Vista**. This project would not block any scenic vista nor substantially change an important view from a scenic vantage point.

**Scenic Resources and Visual Character** The vacant site contains a mixed evergreen forest on a north east facing slope within a surrounding developed area. The existing condition of the site does not include physical conditions that are unique or representative of special aesthetic features. Typical views of the site are shown below and on the following page.

**Figure 2**

**Typical View of the Project Site from Scotts Valley Drive**

**Figure 3**

**Typical View of the Project Site from Interior of Site Looking Towards Scotts Valley Drive**

**Light and Glare.** Exterior lighting for the proposed project consists of 10 light standards mounted at 8 feet above grade. Lighting would be affixed to the front of the building or located on fencing in the outdoor parking area. The lighting would be This type of lighting will be visible to motorists and pedestrians on Scotts Valley Drive but will not create glares that would interfere with normal vision for people passing by the project site. A photometric plan (Exhibit A; Sheet C3.2) has been prepared that shows this lighting will not project glares nor direct illumination beyond the site.

## Finding

For the "Aesthetics" category, the project will not generate any significant visual impacts or impacts to aesthetic resources. Therefore, no mitigation is required.

## B. Agriculture and Forestry Resources

| ENVIRONMENTAL IMPACTS<br>Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:** | | | | |
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | | | | X |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | | | | X |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | | | | X |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | | | | X |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest | | | | X |

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| use? | | | | |

Data Sources: 1&2

### Discussion

The project site is not located on land that is classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the Farmland Mapping and Monitoring Program of the California Resources Agency. While the 1.59-acre is in forest habitat, it is surrounded by developed urban uses and therefore, cannot be considered productive forest land. The site is located in a portion of the city zoned for developed uses. Therefore, no impacts would occur as a result of the project.

### Finding

For the "Agricultural" category, the thresholds of significance have not been exceeded. There would be no impact on agricultural resources. Therefore, no mitigation is required.

## C. Air Quality

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:** | | | | |
| a) Conflict with or obstruct implementation of the applicable air quality plan? | | | | X |
| b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? | | X | | |

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| c) Expose sensitive receptors to substantial pollutant concentrations? | | X | | |
| d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people? | | | | X |

Data Sources: 1, 3, 4, 5 & 13

## Significant Impacts

Impact AQ-1: Project grading on approximately 41,434 sq. ft. (0.95 acre) of the 1.59-acre site will generate substantial airborne dust that will affect surrounding properties, including people residing in dwellings surrounding the site. This is a potentially significant impact during the construction phase of the project.

## Discussion

**Air Quality Plan and Air Quality Standards.** The project site is located within the North Central Coast Air Basin (NCCAB), which includes Monterey County, San Benito County, and Santa Cruz County, The Monterey Bay Air Resources District (MBARD) is responsible for local control and monitoring of criteria air pollutants throughout the NCCAB.

MBARD has developed the *2012 Air Quality Management Plan for the Monterey Bay Region* (2012 AQMP) which limits the emissions that can be generated by various uses and/or activities, and identifies specific pollution reduction measures which must be implemented in association with various uses and activities. Emission sources subject to these rules are regulated through the MBARD's permitting process. Any emissions sources that would be generated as part of the proposed project would be subject to the MBARD rules and regulations.

The 2012 AQMP is a transitional plan shifting focus of MBARD's efforts from achieving the 1-hour component of the State ozone ambient air quality standards (AAQS) to achieving the 8-hour ozone requirement. The Plan includes an updated air quality trends analysis, which reflects both the 1- and 8-hour standards, as well as an updated emission inventory, which includes the latest information on stationary, area and mobile emission sources.

In March 2017, MBARD adopted the *2012-2015 Triennial Plan Revision*, which assesses and updates elements of the 2012 AQMP, including the air quality trends analysis, emission inventory, and mobile source programs. The 2017 AQMP Revision only addresses attainment of

the State ozone standard. In 2012, EPA designated the NCCAB as in attainment of the current national 8-hour ozone standard of 0.075 ppm[1].

The following MBARD rules would limit emissions of air pollutants from construction and operation of residential development pursuant to the project:

- *Rule 400 (Visible Emissions)* – Discharge of visible air pollutant emissions into the atmosphere from any emission source for a period or periods aggregating more than 3minutes in any 1 hour, as observed using an appropriate test method, is prohibited.

- *Rule 402 (Nuisances)* - No person shall discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or which endanger the comfort, repose, health, or safety of any such persons or the public; or which cause, or have a natural tendency to cause, injury or damage to business or property.

- *Rule 425 (Use of Cutback Asphalt)* – The use of cutback asphalt (asphalt cement that has been blended with petroleum solvents) is restricted.

- *Rule 426 (Architectural Coatings)* – This rule limits the emissions of ROGs from the use of architectural coatings.

The MBARD's 2008 CEQA Air Quality Guidelines provides criteria for determining cumulative impacts and consistency. The CEQA Air Quality Guidelines note that a project which is inconsistent with an Air Quality Plan would have a significant cumulative impact on regional air quality. Any emissions sources that would be generated as part of the project would be subject to the MBARD rules and regulations. The proposed development (the point source) does not include any processes or activities that would emit air pollutants. The proposed development (the point source) does not include any processes or activities that would emit air pollutants. Therefore, the proposed use does not have the potential for significant impacts that would conflict with the AQMP.

For non-point source pollutants such as traffic, which is regulated by the State Air Resources Board (ARB), the project will generate emissions from automobiles associated with regular vehicular travel. The applicant's traffic consultant determined the project will generate an average of 87 vehicle trips/day which is the normal trip generation for a multi-family residential

[1] On October 1, 2015, U.S. EPA adopted a new 8-hour ozone standard of 0.070 ppm. However, U.S. EPA has not yet reviewed recent NCCAB emissions to determine attainment with the current 0.070 ppm standard. Therefore, this attainment status is based upon U.S. EPA's prior 0.075 ppm standard.

project of this size. As such, these impacts will not be significant. Please refer to Section II.P. "Transportation and Traffic" for further discussion. Therefore, the proposed use does not have the potential for significant impacts that would conflict with the AQMP. Therefore, the project would be consistent with the AQMP for the Monterey Bay Region.

**Cumulative Increase and Exposure of Sensitive Receptors to Pollutants.** Project plans show construction of the site will requires 2,137 cubic yards of grading over an area of about 0.95 acre. This grading will occur as close as 50 feet from rear yards of the Scotts Valley Heights residential neighborhood to the northeast and 10 feet from the Scotts Valley apartment building directly northeast of the project site. Other residential uses and Scotts Valley Middle School are located on the opposite side of Scotts Valley Drive as close as 100 feet.

MBARD CEQA Guidelines state that construction activities (e.g., excavation, grading, on-site vehicles) that emit 82 pounds per day or more of $PM_{10}$ would have a significant impact on local air quality when they are located nearby and upwind of sensitive receptors. Regardless of exceeding this threshold, grading activities during construction could cause dust accumulation in the project area. Implementation of best management practices would be required to ensure potential impacts are reduced to a less-than-significant level.

Project grading could cause substantial dust accumulation in this area. Similarly, airborne dust could reduce visual abilities of motorists, bicyclists and pedestrians using the proximate segment of Scotts Valley Drive thereby creating traffic safety problems. The amount of dust generation from project construction may cause air quality impacts to surrounding areas. This impact can be mitigated by implementing standard best management practices during grading to minimize dust generation from vehicular equipment and wind. MBARD specifies a list of BMPs during construction which are included in the mitigation measure below. Otherwise, there is nothing unusual about the construction grading for this project that would necessitate extraordinary BMPs.

Mitigation Measure AQ-1: To reduce dust generation from project grading and construction to minimal levels, the project proponent shall require the grading contractor to implement best management practices for dust control, including the following:

- Excavation of the site shall be done in phases by grading only those areas where immediate activity will take place, leaving the remaining areas in their original condition with ground cover.
- A water truck, using recycled water, shall be available on a repeated basis each day throughout the grading phase of the project to spray exposed earth surfaces.
- In addition to regular water spraying, a biodegradable chemical palliative shall be sprayed on any graded areas that will remain exposed without additional grading for three or more days in succession.

- The site entrance shall be base rocked to avoid or minimize tracking mud on roadways by construction vehicles.
- Roadway(s) along the project frontage shall be mechanically swept at the end of each work day when any dirt or mud has been tracked on the street.
- No grading activities shall occur during days of high wind velocity.
- Finished graded areas that are designated as open space and landscape areas of project, shall be covered with an accepted erosion control substance such as straw mulch or hydro mulch with a tackifier.
- Construction staff shall monitor daily all areas that have received a chemical palliative spray or application of mulch to determine if these areas remain in a dust-free condition and take corrective action as needed to maintain a dust-free environment.

These requirements shall be included in the construction contract for the project.

**Odor.** The proposed project does not have the potential to create objectionable odors. There would not be any known sources of objectionable odors associated with the long-term operational use and therefore there would be no impact.

### Finding

A significant air quality impact is defined as any violation of an ambient air quality standards, any substantial contribution to an existing or projected air quality violation, or any exposure of sensitive receptors to substantial pollutant concentrations. As discussed above, for this "Air Quality" category, the thresholds of significance may be exceeded by the substantial generation of dust during the construction phase of the project. This is a potentially significant construction impact. This impact can be mitigated by requiring best management dust control practices as part of the construction requirements for the project. This mitigation will reduce the impact to less than significant levels.

## D. Biological Resources

| ENVIRONMENTAL IMPACTS<br>Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Would the project:** | | | | |
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special | | X | | |

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | | | | |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? | | | | X |
| c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological | | | | X |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | | | | X |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | | X | | |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | | X | | |

Data Sources: 2, 4, 5 ,6, 7, & 8

## Significant Impacts

Impact BIO-1: The removal of 61 mature native trees for project construction has the potential to disrupt the nesting period for raptors and special status song birds, two avian wildlife groups that are protected by State and federal laws. This is a potentially significant biotic impact.

Impact BIO-2: Project construction will remove approximately 0.95 acre of potential habitat of the Mt. Hermon June beetle (*Polyphylla barbata*), an insect listed as an endangered species by the federal Endangered Species Act. This is a significant biotic impact.

Impact BIO-3: The project will remove 60 trees/tree groups that are protected by Section 17.44.080 of the Scotts Valley Municipal Code by meeting the criteria as a "protected tree". These include 21 coast live trees (*Quercus agrifolia*) and 23 Ponderosa pine trees (*Pinus ponderosa*) with trunk diameters of 8 inches or greater. This is a significant biotic impact.

Impact BIO-4: Project grading and construction will occur up to the tree canopy or within a few feet from several trees proposed to be retained by the project. This could damage the root zone of these trees resulting in tree deaths. This is a potential significant biotic impact.

## Discussion

**Adverse Effect on Special Status Species-birds:** A biological report has been prepared for the project by Biotic Resources Group. (Exhibit B). The report states there is a potential impact to bird species if they are nesting on or near the site during construction. The project's arborist, Kurt Fouts, has reviewed the project plans and the project site and prepared a tree resource/construction impact assessment and tree protection plan (Exhibit C). This report states the project will remove a total of 61 native trees or tree groups. There are also several mature trees in adjoining residential properties located east of the site. These trees are potential nesting sites for raptors (birds of prey) and migratory passerines (song birds), which are two groups of bird species that are protected by State and federal laws. Raptors are protected by the California Fish and Game Code. Passerines are protected by the federal Migratory Treaty Act. Adults and juveniles of these bird species could be injured or killed if nesting is occurring during tree removal. Similarly, nesting birds on adjoining properties could be impacted by construction noise and activity that adults could respond by abandoning their nest. This potential impact can be avoided by implementing the following mitigation measure.

Mitigation Measure BIO-1: To avoid impacting nesting raptors or passerine species, the project applicant shall schedule all construction outside of the nesting season of August 1 to February 1. If this is not feasible, the applicant shall implement the following alternative measure. To minimize impacts to nesting raptors or migratory passerines on the site, a qualified wildlife biologist, under contract to the project proponent, shall conduct pre-construction surveys for nesting raptors and migratory passerines to determine if they occur on the site or in close proximity to the site. The surveys shall be conducted no earlier than 30 days prior to

commencement of construction. If raptors or migratory passerines are observed nesting on the site, or on an adjoining site within 300 feet, the project proponent shall postpone construction within 300 feet of a raptor nest site and 50 feet from a migratory passerine nest site until all young have fledged. The wildlife biologist shall document that the young have fledged prior to commencement of proximate construction work.

**Adverse Effect on Special Status Species-insects:** Some areas of Scotts Valley contain habitat that supports a federally endangered insect species-the Mt. Hermon June beetle (*Polyphylla barbata*) and this species has been observed inhabiting the project property. An entomological habitat assessment was conducted on this property by Dr. Richard Arnold, in 2020 and incorporated into a Draft Habitat Conservation Plan (HCP) he prepared for the project (Exhibit D). The assessment concludes that the species inhabits the site and the entire site provides suitable habitat for the species. The project will permanently remove 0.95 acre of this habitat and construction activities may kill or harm individual Mt. Hermon June beetles.

The City and the County of Santa Cruz have adopted a regional Habitat Conservation Plan (HCP) that addresses preservation of this species and other protected species within the City and surrounding areas of the unincorporated county. The regional HCP has been approved by the U.S. Fish and Wildlife Service (USFWS). It provides a mitigation formula for impacts to protected species for smaller projects (e.g. construction of a single dwelling) and allows such projects that disturb an area of 15,000 sq. ft. or less to be exempt from preparing an additional project-specific HCP or needing an Incidental Take Permit. However, this project does not qualify for the exemption due to the size of habitat disturbance. Therefore, the applicant has employed Dr. Arnold to prepare an HCP for the project. A Draft HCP has been submitted to the USFWS for review and approval. The agency is currently reviewing the document. This impact can be mitigated through implementation of the mitigation measure below, which includes implementing an approved HCP.

Mitigation Measure BIO-2: To compensate for the loss of about 0.95 acre of habitat for the endangered species, Mt. Hermon June beetle, the applicant shall complete the HCP/Incidental Take Permit process with the USFWS as specified by Section 10 of the Endangered Species Act and continue to employ a qualified entomologist to implement the approved HCP according to the requirements and schedule specified by USFWS and the approved HCP for this project. Written documentation of USFWS approval of the HCP and Take Permit for this project shall be submitted to the City of Scotts Valley Planning Department prior to commencing any ground disturbance at the project property.

**Conflict with Local Policies Protecting Biological Resources.** As depicted in Figures 2 and 3 in Section II.A, the majority of the parcel is a forest habitat. The forest is dominated by Ponderosa pine (*Pinus ponderosa*) and coast live oak (*Quercus agrifolia*). Section 17.44.080 of the Scotts Valley Municipal Code (Tree Preservation Ordinance) restricts the removal of various mature trees, including coast live oaks and Ponderosa pine trees, with trunk diameters of 8 inches or greater. All tree removal will be within an area with an overall slope range of 9% -- 16%. An

arborist report, that included a construction impact assessment and tree protection plan, was prepared by the project arborist, Kurt Fouts, dated March 16, 2021 (Exhibit C). The report concludes the following:

| | |
|---|---|
| Total number of trees assessed for health on the site = | 123 |
| Total number of trees meeting the City criteria for "Protected Tree" = | 109 |
| Trees suitable for retention or incorporation into project = | 62 |
| Number of trees proposed for removal = | 61* |
| Removed trees in poor condition recommended for removal = | 23* |
| Removed trees in good condition = | 38 |

All but 1 of these trees in poor condition meet the criteria as City Protected. Therefore, a total of 60 trees proposed for removal are City Protected.

The report states that of the 38 trees in good health proposed for removal all meet the criteria as trees protected by the Ordinance. Of the trees in declining health, all but one meets the criteria. In addition to identifying tree loss, the report recommends measures to compensate for tree loss primarily by planting new coast live oaks propagated from acorns collected from the site. An additional recommendation identified to compensate for native tree loss is removal of 11 Blue gum eucalyptus trees (E*ucalyptus globulus*) on the site, most of which are large mature trees covering the southeast corner of the site. Eucalyptus are non-native invasive species that prevent other trees or understory plants from growing in their vicinity. As such, removal of eucalyptus on the site would be a beneficial impact.

The report also identifies existing trees proposed to remain but will be in jeopardy of harm due to proximate construction activities, including grading to alter the topography and trenching for new utilities. This is a second impact regarding tree resources on the site. This impact and the loss of City Protected Trees discussed in the preceding paragraph can both be mitigated by the following two mitigation measures.

Mitigation Measure BIO-3: To compensate for the loss of 60 City Protected Trees, the project applicant shall implement one or more of the following mitigation strategies as approved by the Community Development Director:

a) Planting of new trees at a 2:1 replacement ratio on-site or at another site approved by the project arborist and the Community Development Director prior to any occupancy of the project building. In this case, replacement trees shall include ornamental trees shown on the project landscaping plan (Exhibit A, Sheet L1.0) and native tree seedlings propagated from seed stock gathered on the site. Monitoring of all replacement trees

at a frequency of 6 months or greater, shall be conducted by a qualified biologist for five years with remedial actions, as specified by the monitoring biologist, to ensure a 100% survival of all replacement plantings on site and a 60% or better survival rate for off-site plantings.

b) Removal of all Blue gum eucalyptus trees on the site and treatment of the cut stumps that will prevent tree re-sprouting. In this case, the removal of each eucalyptus tree shall be given compensatory credit for a multiple number of native trees removed as determined by the Community Development Director. Monitoring of the areas where eucalyptus removal occurred at a frequency of 6 months or greater, shall be conducted by a qualified biologist for five years with remedial actions, as specified by the monitoring biologist to prevent recolonization by eucalyptus.

c) Payment into the City Tree Replacement fund according to the fee schedule specified by the fund. In this case, contribution into the fund shall be used only if complete compensatory mitigation cannot be achieved by the other two strategies of this measure.

Mitigation Measure BIO-4: To protect trees retained on the site from project construction impacts the applicant shall install construction exclusion fencing as recommended by the project arborist prior to any site disturbance. Plan specifications to protect retained trees shall be included in the construction contracts with all project contractors involved with land alteration, and foundation construction. The project arborist shall inspect the site prior to any grading activities and thereafter on a weekly basis to ensure tree preservation measures are in place throughout the construction phase of this project.

**Conflict with an Adopted Habitat Conservation Plan.** USFWS has approved a regional HCP for the City and nearby areas of the unincorporated portion of the County. The project applicant has hired a qualified entomologist, Dr. Richard Arnold, to prepare a project specific HCP as required by the regional HCP. Implementation of Mitigation Measure BIO-2 will ensure the project complies with the regional HCP.

## Finding

For the "Biological Resources" category, the thresholds of significance have been exceeded or potentially exceeded regarding four impacts to various sensitive wildlife species, including a federally listed endangered insect species, and impacts to City Protected trees. With the implementation of the four mitigation measures above, all impacts can be reduced or otherwise mitigated to levels of less than significance.

## E. Cultural Resources

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Would the project:** | | | | |
| a) Cause a substantial adverse change in the significance of a historical resource pursuant to in § 15064.5? | | | | X |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5? | | X | | |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | | X | | |
| d) Disturb any human remains, including those interred outside of dedicated cemeteries? | | | | X |

Data Sources: 1, 2, 5 & 12

### Significant Impacts

Impact CUL-1: Although not expected, it is possible that historical or archaeological resources could be accidently encountered during project grading. The destruction or otherwise lack of adequate protection of such resources during project grading is a potentially significant impact to archaeological resources.

Impact CUL-2: The geologic stratigraphy in the immediate area indicates a high sensitivity for buried paleontological resources. These resources, if present, could be destroyed during project grading. The possible destruction of these resources is a potentially significant impact to paleontological resources.

### Discussion

**Historical Resources.** The site does not contain any visible historical resources and none are expected to occur on the site. The accidental discovery of any buried resources during project construction is discussed in the following subsection.

**Cultural Resources**. General Plan, Figure OS-2 ("Archeological Sensitivity Zones"), indicates that the project site is located within areas of moderate and high archaeological sensitivity. An archaeological assessment has not been conducted for this property. General Plan policy OSA-400 requires avoiding or substantially reducing adverse effects to archaeological resources from development. A mitigation measure which is consistent with this policy is provided below. Implementation of this mitigation measure will mitigate the potential impact to less than significant for archaeological resources.

Mitigation Measure CUL-1: To ensure that archaeological resources are not destroyed if accidentally discovered during project grading or other subsurface work, the contractor shall immediately halt all work activities within a 150 foot radius of the discovery and the City Planning Department contacted immediately and an archaeologist retained to examine the find and make appropriate recommendations to conserve the resource. The project proponent shall include this requirement in the contract for all contractors involved with grading and subsurface work.

**Paleontological Resources**. A geotechnical report was prepared for the project by Dees and Associates dated September 9, 2020 (Exhibit E). According to the report, the subject parcel is underlain by the weathered quartz dorite and Santa Margarita sandstone which is an indicator for paleontological sensitivity.

A paleontological resource assessment has not been conducted for the property. To mitigate the potential impact of accidently destroying paleontological resources, the grading plans should be reviewed a qualified paleontologist and site monitoring conducted during all grading to determine if resources are encountered. Implementation of this type of mitigation measure with performance standards, as specified below, will effectively mitigate the potential impact t0 paleontological resources to a less than significant level.

Mitigation Measure CUL-2: To ensure that paleontological resources are not destroyed during project grading, the project proponent will include the following measures:

a) Provide the project paleontologist with a copy of the final grading plans for review prior to any project grading;
b) Provide for daily monitoring during grading activities by the project paleontologist to determine if paleontological resources are encountered in excavated areas;
c) Allow for the recovery of any discovered paleontological resources according to a recovery plan and methods specified by the project paleontologist, including the donation of the recovered resources to a suitable repository (museum, school, etc.);
d) If recovery occurs, ensure that the project paleontologist prepare a recovery report that

details the type of resources recovered and the repository locations where they were taken; and

e) Specify in the construction contract with the project grading contractor(s), that grading personnel are to cooperate with and assist the project paleontologist during monitoring and any recovery activities, including assisting with recovery efforts if necessary.

**Human remains**. A cemetery or known burial site does not exist on the property. If human remains are unexpectedly encountered during project grading, the actions required to mitigate for impacts to cultural resources will be followed. This will effectively preserve any human remains for proper burial.

### Finding

For the "Cultural Resources" category, the thresholds of significance have been potentially exceeded regarding impacts to archaeological and paleontological resources. As discussed above, the two mitigation measures stated above will reduce potential impacts to these resources to levels of less than significant.

## F. Energy

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Would the project:** | | | | |
| a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | | | | X |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | | | | X |

Data Sources: 13

### Discussion

Energy consumption associated with construction of the project would be temporary and short-term. Project design and operation will comply with State Building Energy Efficiency Standards,

appliance efficiency regulations, and green building standards. Additionally, the project includes other design features including efficient low-energy lighting, and solar generated electricity.

The project will also be required to be built according to City and State energy efficiency standards. The project would be required to comply with existing regulations, including applicable measures from the City's General Plan. Vehicle trips and energy consumption would be less carbon intensive as compared to historic levels due to statewide compliance with future low carbon fuel standard amendments and increasingly stringent Renewable Portfolio Standards.

### Findings

The project would comply with existing State energy standards and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. All dwelling units will be supplied with solar generated electricity. There will be no impacts regarding energy.

## G. Geology and Soils

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| | | | | |
| a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: | | X | | |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | | | | X |
| ii) Strong seismic ground shaking? | | X | | |

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| iii) Seismic-related ground failure, including liquefaction? | | | X | |
| iv) Landslides? | | | X | |
| b) Result in substantial soil erosion or the loss of topsoil? | | X | | |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | | X | | |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? | | | | X |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | | | | X |

Data Sources: 1, 2, 4, 5, 11

## Significant Impacts

Impact GEO-1: The development and use of 16-dwelling units within a seismically active area will subject the dwellings and their inhabitants to periodic seismic shaking associated with the San Andreas Fault and other active faults within the Monterey Bay area. This is a potentially significant seismic impact.

Impact GEO-2: The grading of 2,137 cubic yards over approximately 0.95-acre of the 1.59-acre site includes removal of 1,876 cu. yds. of material from the site. This will result in the loss of

valuable top soil and vegetation that could generate erosion and damage project improvements. This is a potentially significant soils impact.

Impact GEO-3: The site contains loose soils at the surface that that could generate structural failure if used as the substrate to support foundations. This is a potentially significant soils impact.

## Discussion

**Geotechnics**. A geotechnical report was prepared for the project by Dees and Associates, dated September 9, 2020. The report includes a general discussion on seismic issues. The report states the project site is located 4 miles southwest of the Zayante fault zone and 7.5 miles southwest of the San Andreas Fault. It is also located 9 miles southwest of the Sargent Fault. In addition, two off-shore faults are located 12 miles of less from the site. The Tularcitos Fault is located 10 southwest from the site in the Monterey Bay and the San Gregorio Fault is located 12 mile west of the site in the Pacific Ocean. While the San Andreas Fault is the largest and most active of these faults, each fault zone is considered capable of generating moderate to severe ground shaking that could affect the site. According to the Dees report, it is reasonable to assume that the project will be affected by, at least, one moderate to severe earthquake during the next fifty years. This is a potentially significant impact. Liquefaction occurs during seismic events due to groundwater mixing with fine grained soils resulting in soils becoming saturated with water up to the surface. Such instability causes structures to sink. The report concludes there is a very low potential for liquefaction at the site. This is due to the density of the subsoil and the lack of a shallow groundwater table.

Mitigation Measure GEO-1: To reduce the effects of seismic shaking to acceptable levels, the project proponent shall have the dwelling structure designed to California Building Code standards for the design level earthquake for the area. The design details shall be provided on the building plans submitted to the City for a Building Permit for the condominium building.

**Erosion**. The project includes 2,137 cubic yards of grading for development of the condominium building, the new driveway, parking spaces and drainage improvements. This grading will occur over about 60% of the 1.59-acre site. All grading will occur on portions of the site with slopes of less than 16%. No grading will occur on the steeper portion of the site located at the eastern and southern edge of the parcel. (Refer to Exhibit A, sheets C1.1 & C3.1.) Grading will include removal of all trees and understory vegetation within the 0.95-acre development area. The root systems of this vegetation serve an important erosion control function by its uptake of water in the soil and their stabilizing ability. The project proposes to replant the cleared portions surrounding the building with trees, shrubs and groundcover to re-create an absorbing root system. The proposed planting can prevent long-term erosion problems from occurring on the site. However, the majority of the site will remain as erosion-prone bare exposed soil during the construction phase. This potential impact can be mitigated by mitigation measure specified below.

Grading of the site is below the threshold of the National Pollution Discharge Elimination System (NPDES) which requires a Storm Water Pollution Prevention Plan (SWPPP) for all projects that disturb 1 acre or more. However, Section 15.06.070 of the City's municipal code requires a Grading Permit for all land division projects of 4 lots or more and erosion control plans to be included with grading plans. Therefore, a plan showing temporary (during construction) and permanent erosion control measures will need to be submitted to the City Building Department for review and approval.

Mitigation Measure GEO-2: To prevent erosion from occurring during or after grading and development of the project site, the project proponent shall have a qualified professional prepare an erosion control plan and submit it to City Building Department for review and approval prior to approval of the final subdivision map. The approved plan shall be implemented with grading of the site. The erosion control measures should be functional prior, during and after construction. Specific measures shall be identified in the project plans and specifications should include the following features: use of silt fencing and straw bales to prevent sediments from entering drainageways, erosion control seeding and mulching following construction and other measures as appropriate.

**Slope Instability.** The geotechnical engineer did not observe any physical signs of past landslide activity on the site. The report states there are no mapped landslides on or near the site and concludes there is a very low potential for landsliding to occur.

**Expansive Soils.** The geotechnical report does not identify expansive clays on the site. However, the report concludes the upper 2.5--6 feet of soil at the proposed structure is loose and not suitable for support a building foundation. It states that foundations must penetrate these loose soils and be supported on deeper native soils. Alternatively, engineering fill could be imported for the foundation. Geotechnical review of the foundation and drainage plans will be necessary to ensure the adequacy of the foundation design and construction.

Mitigation Measure GEO-3: To prevent foundation instability or settlement of the new building, a design level geotechnical report shall be prepared by a qualified geotechnical engineer to address any challenging soil characteristics for construction and submitted to the City Building Department staff with applications for Building Permits for the dwellings. The building plans and drainage plans for the condominium building shall be reviewed and approved by the project geotechnical prior to submitting the plans to the City for a Building Permit. Construction of the condominium building and its storm drainage system shall meet the recommendations of the approved geotechnical report.

**Sewage Disposal.** All proposed dwellings will be served by the City domestic sewer system. Therefore, soil capability for on-site sewage disposal is not an issue for this project.

## Finding

There are three impacts in the "Geology & Soils" category which are significant or potentially significant. However, the mitigation measures specified above will reduce all impacts to levels of less than significant.

## H. Greenhouse Gas Emissions

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Would the project:** | | | | |
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | | | X | |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | | | X | |

Data Sources: 4 &, 13

### Discussion

**Construction**

Construction of the project would result in direct emissions of carbon dioxide, nitrous oxide and methane ($CO_2$, $N_2O$, & $CH_4$) from the operation of construction equipment and the transport of materials. MBARD does not have a threshold for construction GHG emissions, which will be one-time, short-term emissions and therefore would not significantly contribute to long-term cumulative GHG emissions impacts of the project. In the absence of quantitative significance thresholds in CEQA guidance, this analysis turns to other programs. For example, the State's CARB Mandatory Reporting Program requirements are triggered for sources of GHG emissions exceeding 2,500 million tonnes of carbon dioxide equivalents ($MTCO_2e$) per year.

The law created by AB 32 requires California agencies to take actions that will reduce GHG emissions by 2020 to the levels of 1990, and then substantially further reduce emissions by 2050. Most individual projects do not generate sufficient GHGs to create a project-specific impact to significantly influence climate change. Therefore, this impact typically involves an analysis to determine if a project's GHG emissions are cumulatively considerable (significant cumulative impact). Once construction is complete, the generation of construction-related GHG

emissions would cease. Due to its relatively small scale, the project is not expected to exceed the CARB Mandatory Reporting applicability level of 2,500 $MTCO_2e$ per year. As a result, the short-term emissions of GHGs during construction would less than significant.

**Operational**

Operational or long-term emissions would occur over the project's life. GHG emissions would result from direct emissions such as project generated vehicular traffic, on-site combustion of natural gas, and operation of any landscaping equipment. Operational GHG emissions would also result from indirect sources, such as off-site generation of electrical power over the life of the project, the energy required to convey water to, and wastewater from the project site, the emissions associated with solid waste generated from the project site, and any fugitive refrigerants from air conditioning or refrigerators. The project would meet CalGreen and CBC standards for energy efficiency standards including passive solar design and natural ventilation and natural lighting.

Additionally, the project includes water-efficient landscape, water-reducing features, and low-impact development practices to reduce water use. The project is an example of "smart growth" strategies based on infill, density, and unit types that reduce emissions from reduced motor vehicle trips. Energy use of the completed residential units will be less than similar units constructed in previous years because their construction is required to comply with the energy efficiency standards of the California Building Code. All these factors result in a project that will not significantly contribute to a cumulative GHG impact. Thus, impacts would be considered less than significant.

### Findings

While some GHGs will be generated as a result of development of the project, its contribution to GHGs would not be cumulatively considerable and there would not be any significant impacts associated with GHGs. Therefore, the project would result in a less than significant GHG impact, and no mitigation is required.

## I. Hazards and Hazardous Materials

| ENVIRONMENTAL IMPACTS<br>Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Would the project:** | | | | |
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous | | | | X |

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| materials? | | | | |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | | X | | |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | | X | | |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | | | | X |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? | | | | X |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | | | | X |
| g) Expose people or structures, either directly or indirectly, to a significant risk | | | X | |

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| of loss, injury or death involving wildland fires? | | | | |

Data Sources: 1, 3 & 12

## Significant Impacts

Impact HAZ-1: The use of construction vehicles and machinery will bring oils, lubricants, fuels and similar hazardous substances to the site during the construction phase of the project. The regular use of these materials could include accidental release of these substances into steep slopes, the roadway or other areas of the site. This is a potentially significant impact during the construction phase of the project.

## Discussion

**Hazardous Substances**. The proposed project is for residential and open space uses. These uses do not involve the use or storage of hazardous/combustible materials. Therefore, the risk of accidental explosion and/or release of a hazardous substance is remote.

**Release of Hazardous Substances.** Residential uses, like that proposed for this project, are not generators of hazardous emissions. During the construction phase of this project dust will be generated and vehicle exhaust will be emitted. But the release of these pollutants will be reduced to minimal levels by implementation of Mitigation Measure AQ-1 to protect air quality during construction.

It is likely that oils, lubricants and similar materials may be used to maintain and/or fuel construction vehicles and machinery during the construction phase of the project. Implementation of Mitigation Measure GEO-2 in combination with a plan to contain any hazardous materials stored and used on the site during construction. This will protect against the accidental release of such substances.

Mitigation Measure HAZ-1: To prevent sedimentation and discharge of contaminants into the right-of-way of Scotts Valley Drive, the project proponent shall have the construction contractor implement the approved erosion control plan discussed in mitigation measure GEO-2 and implement a best management practice/hazardous materials containment plan during the entire time construction activities are occurring. The hazardous materials containment plan shall be approved by City Planning staff prior to commencement of land alteration and construction activities for the project. It shall contain the following elements:

a) Stationary equipment such as motors, pumps, welding equipment shall be place over drip pans or other containment apparatus;
b) Construction materials shall not be stockpiled or stored where they could be accidently displaced into the adjoining right-of-way; and
c) Any petroleum lubricants or other hazardous materials used during construction shall be stored in a special storage location equipped with double containment and this location shall be shown on the erosion control plan and approved by the City staff who review this plan.

**Release of Substances Near Schools**. Scotts Valley Middle School is located on the opposite side of Scotts Valley Drive from the site. Implementation of the mitigation measure discussed above will be adequate to prevent any problematic hazardous material releases affecting this school.

**Located on a Hazardous Materials Site**. According to information provided by the State and the County, the subject parcel is not identified as a hazardous materials site. The subject parcel is located a minimum of 1,500 feet from the closest, known hazardous materials site at the intersection of Glen Canyon Road and Scotts Valley Drive. Given the considerable distance from the subject parcel, impacts from the known hazardous site to the subject parcel and the proposed use are remote.

**Public Airport or Private Airstrip.** There is no public airport or private airstrip in Scotts Valley or the nearby unincorporated portion of the County

**Emergency Response Plan.** Scotts Valley Drive is a primary Evacuation Routes in the City's Emergency Response Plan. The project does not propose any changes to the Emergency Response Plan.

**Wildland Fires**. The site is not adjacent or near a wildland or substantial forested area. While about 0.4-acre will be retained in forested open space, it will be surrounded by developed uses. The project includes installation of a fire hydrant.

## Finding

For this "Hazards and Hazardous Substances" category, the project would have 1 potentially significant impact. However, this potential impact is effectively mitigated by the one mitigation measure described above.

## J. Hydrology and Water Quality

| ENVIRONMENTAL IMPACTS<br>Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Would the project:** | | | | |
| a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? | | | | X |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | | X | | |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: | | | | X |
| i. Result in substantial erosion or siltation on- or off-site? | | X | | |
| ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite? | | | | X |
| iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | | | | X |

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| iv. Impede or redirect flood flows? | | | | |
| d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? | | | | X |
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | | | | X |

Data Sources: 1, 4, 5, 12 & 14

## Significant Impacts

Impact HYD-1: The creation of at least 23,043 (0.53 acre) of impervious surfacing to construct the project building, street, and related improvements will substantially reduce the area available for groundwater recharge on the property. This is a significant cumulative impact on the Santa Margarita aquifer and the City's water supply.

Impact HYD-2: The use of heavy construction vehicles to grade of 2,137 cubic yards over a 0.95-acre area on a northwest facing slope will generate a high potential for accelerated erosion to add sediment into the right-of-way of Scotts Valley Drive and a potential to discharge vehicle lubricants off-site. This is a significant potential impact during the construction phase of the project.

## Discussion

**Water Quality and Waste Discharge Standards.** Site grading and development activities have the potential to place sediment, motor vehicle lubricants and motorized equipment fuel into the street and sidewalk from soil erosion and accidents. This is a potentially significant impact that can be mitigated by implementing Mitigation Measure GEO-2.

**Groundwater Supply**. Scotts Valley overlies the Santa Margarita aquifer which is experiencing groundwater overdraft. The General Plan map OS-5 shows a portion of the project site as a potential groundwater recharge area. General Plan policy OSA-343 requires developer to mitigate for the loss of aquifer recharge areas. Policy OSA-344 requires a recharge plan to be evaluated by a qualified hydrological engineer to mitigate the loss of recharge.

The project building will have a footprint of 11,145 sq. ft. The construction of the project street associated curb, gutter and sidewalk will cover 11,898 sq. ft. of the site with asphalt or concrete. The conversion of 23,043 sq. ft. (0.53 acre) of open ground to impervious surfaces (building, driveway and parking spaces) will substantially reduce the recharge ability of this portion of the site. This is a significant cumulative impact on the City's water supply. As discussed in more detail in the following subsection, the project has been designed to collect and convey storm drainage into an underground detention chamber that will percolate some stormwater into the soil before conveying it into the City's storm drainage system.

Mitigation Measure HYD-1: To compensate for the loss of groundwater recharge area, the project proponent shall design and install drainage facilities that provides for the same rate of rainwater percolation as occurs currently on the site.

**Alteration of Drainage and Erosion**. Site grading and development will alter the existing drainage pattern of the site but the project drainage plan has been designed to capture site drainage in a manner that will not increase the rate (cubic feet per second) or velocity (feet per second) of storm runoff into the City's storm drainage system.

The use of heavy construction vehicles to grade of 2,137 cubic yards over a 0.95-acre area on a northwest facing slope will generate a high potential for accelerated erosion to add sediment into the right-of-way of Scotts Valley Drive and a potential to discharge vehicle lubricants off-site. This is considered a potentially significant impact during the construction phase of the project and has been discussed above in Section II. G "Geology and Soils". Implementation of Mitigation Measure GEO-1 will reduce this impact to an insignificant level.

Mitigation Measure HYD-2: Implement Mitigation Measure GEO-2.

**Runoff Exceeding Storm Drain Capacity**. The project will be conditioned to require that the construction of storm drain facilities be in conformance with the City of Scotts Valley Storm Drain Master Plan, December 1989, as required by the City Public Works Department.

**Otherwise Degrade Water Quality.** This issue is discussed under "Water Quality and Waste Discharge Standards" subsection above.

**Floodplain and Housing**. The project site not within a floodplain

**Flow Impedance in a Floodplain**. The project site is not within a floodplain

**Dam or Levee Failure**. There is no dam or levee within the vicinity of the project site.

**Sieche, Tsunami and Mudflow Related Hazards**. The project site is not located on or near a lake or seacoast where sieches and tsunamis can occur. The geotechnical report prepared for the project concludes the site does not contain evidence of an old landslide that would facilitate

mudflows. The steepest portion of the site, containing a 20% slope, is beyond the grading limit line and will not be developed.

### Finding

For this "Hydrology and Water Resources" category, there is one cumulative impact and one potential impact. The mitigation measures discussed above can mitigate these two impacts to levels of less than significant.

## K. Land Use and Planning

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Would the project:** | | | | |
| a) Physically divide an established community? | | | | X |
| b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | | | | X |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | | | | X |

Data Sources: 1, 2 & 4

### Discussion

**Divide a Community**. The 1.59-acre project property is located within a developed area and on a major arterial street. The proposed project will be located between an existing residential apartment use and the Terrace townhouses and directly northwest from a residential neighborhood of single-family dwellings. It therefore an urban infill project. No community will be physically divided by the project.

**Conflict with Plans**. The General Plan designates the property as “Medium High Residential” land use with a density range of 5--9 dwelling units/acre. Fourteen dwellings are consistent with the high end of this density range for this 1.59-acre parcel. The project employs the

density bonus provided in Municipal Code 17.62.030.C which, for this project, allows an increase of 2 dwelling units beyond the normal density range. Therefore, the number of units can be increased from 14 dwellings units to 16 unit if 2 units are designated as affordable dwellings, as proposed.

**Conflict with Conservation Plans**. As discussed in the "Biological Resources" section above, implementation of Mitigation Measure BIO-2 will ensure the project complies with the regional Habitat Conservation Plan.

### Finding

The proposed condominium project, including a residential subdivision, is consistent with surrounding land uses and the land use designation of the City's General Plan. For this "Land Use and Planning" category, the project would have no impacts and therefore no mitigation is required.

## L. Mineral Resources

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Would the project:** | | | | |
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | | | | X |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | | | | X |

Data Sources: 1 & 4

### Discussion

**Loss of Mineral Resource and Mineral Designation on the General Plan.** The site has not been used for mining in the past. The Scotts Valley General Plan does not designate the site for mineral resource extraction. General Plan Figure OS-4, indicates that the site is in an area where mineral deposits are present but their significance is unknown. However, mining in this

residential area is not feasible due to lack of available land for mining and the impacts mining would generate to current land uses surrounding the site.

### Finding

**Finding**. For this "Mineral Resources" category, the project would not have any impacts and therefore no mitigation is required.

## M. Noise

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Would the project result in:** | | | | |
| a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | | | X | |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | | | X | |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | | | X | |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | | X | | |
| e) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, | | | | X |

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| would the project expose people residing or working in the project area to excessive noise levels? | | | | |

Data Sources: 1, 2, 4 & 14

## Significant Impacts

Impact N-1: Grading and construction activities will increase ambient noise levels during the construction phase of the project. This additional construction related noise will be heard by residents living in the residences that surround the site as well as people at Scotts Valley Middle School. This is a significant noise impact during the construction phase of the project.

## Discussion

**Exposure to Noise Levels Exceeding Standards.** The Noise Element of the Scotts Valley General Plan utilizes the 24-hour average day-night noise level (DNL) for defining community noise impacts. The maximum standard is 60 decibels (dB) DNL of exterior noise and 45 dB DNL for interior noise. A traffic noise assessment was conducted for this project by Edward Pack Associates (Exhibit F). The study analyzed the effect of traffic noise at the proposed units closest to the noise source, Scotts Valley Drive. The study determined traffic noise heard outdoor next to these future units would be 58 dB DNL and 43 dB DNL inside these future dwellings. Both levels are below the thresholds established by the City General Plan. Therefore, no mitigation measure is necessary.

**Exposure to Groundborne Vibrations and Noise.** The inhabitants of homes may experience occasional groundborne vibrations from nearby traffic on Scotts Valley Drive when large trucks or busses use the roadway. But this vibration is not expected to be frequent nor at high levels. This impact is less than significant.

**Generate a Permanent Increase in Ambient Noise.** The placement of 16 dwellings on this vacant property will generate greater human activity than occurs on the site presently. However, the residential activities that are expected to occur will be the same as those occurring at the existing residential neighborhood surrounding the site. This impact will be less than significant.

**Generate a Temporary Increase in Ambient Noise.** The grading and construction activities to build project improvements and dwellings will include large vehicles, heavy machinery, power generators and power tools; all of which will generate substantial noise that will travel beyond the boundaries of the property. People residing in the dwellings surrounding the site will be potentially affected by this new source of noise. This is a significant temporary impact that will be limited to the construction phase of the project. This impact cannot be avoided but it can be minimized to reduce its affect to neighboring inhabitants to acceptable levels.

Mitigation Measure N-1: To reduce construction noise emanating beyond the site to acceptable levels, the project proponent shall require all contractors to limit their work to 8:00 A.M. to 5:00 P.M. weekdays. Any work on weekends shall be limited to 9:00-5:00 p.m. on Saturdays only. If gasoline generators are used, they shall be contained in an enclosure that prevents their noise from being heard at properties beyond the project site. In addition, the applicant shall post a sign clearly visible to pedestrians on Scotts Valley Drive displaying the

name and phone number of the person designated as the project “disturbance coordinator”. Resident calls to voice noise concerns and complaints shall be returned and resolved to a reasonable level by the disturbance coordinator in 24 hours.

**Located near an Airport or Private Airstrip.** The project site is not located near an airport nor a private airstrip.

### Finding

As discussed above, the proposed project would exceed noise thresholds during the construction phase only. A mitigation measure has been provided to reduce noise related impacts to a level of insignificance during the construction phase. Therefore, for this "Noise" section, noise impacts can be reduced to levels of less than significance.

## N. Population and Housing

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Would the project:** | | | | |
| a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | | | X | |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | | | | X |

Data Sources: 1& 4

### Discussion

**Population Growth**. The project will provide 16 new dwellings. Project plans show these dwellings will be relatively small at 1,080--1,143 sq. ft. and have two bedrooms. This will generate a maximum population increase of about 32--48 persons. This is not a significant increase in the population of the City. The Land Use Element of the General Plan anticipates a population range for parcels designated as “Medium High Residential” as 12.5--22.5

persons/acre or 20--36 persons for this site. The maximum projected population is not significantly higher than that anticipated by the General Plan.

**Displace People or Existing Housing.** Currently the site is vacant land. Therefore, the project will not displace any housing or residents.

### Finding

The amount of anticipated growth generated by this project will be minimal and will be insignificantly greater than anticipated by the General Plan. There is no potential for displacing housing or people either directly or indirectly. For this "Population and Housing" category, the project will have either a less than significant impact or no impact. Therefore, no mitigation is required.

## O. Public Services

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Would the project result in:** | | | | |
| a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: | | | | |
| i) Fire protection? | | | X | |
| ii) Police protection? | | | X | |
| iii) Schools? | | | X | |
| iv) Parks? | | | X | |

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| v) Other public facilities? | | | X | |

Data Sources: 1, 4, 5 & 14

## Discussion

**Fire Services**. The Scotts Valley Fire Protection District has reviewed the project and concludes there are no significant fire prevention issues with the proposed project on the site. The project will include an emergency vehicle turn-around design in the project driveway and the installation of a new fire hydrant.

**Police Services**. The project will add new residents to the City who will occasionally need police services, but this additional service will not generate a demand beyond what the police department can accommodate. The Scotts Valley Police Department has reviewed the project and determined that it is in compliance with City police protection regulations.

**Schools.** The project is expected to add 32--48 new residents to the City, some of which will have children that will be students at schools within the Scotts Valley School District. However, these additional students will not generate educational demands beyond what the schools can accommodate.

**Parks**. The project will add new residents to the City who will occasionally utilize City parks and recreational programs, but this additional use will not generate a demand beyond what the City Parks Department can accommodate. This issue is also discussed in the following section.

**Other Public Facilities**. The project does not have the potential to affect other public facilities, in excess of that previously considered by the General Plan.

## Finding

For this "Public Service" category, the project would not have any significant impacts and therefore no mitigation is required.

## P. Recreation

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Would the project:** | | | | |
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | | | X | |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | | | | X |

Data Sources: 1, 5 & 11

### Discussion

**Increased Use of Parks.** Scotts Valley has a total of seven parks, ranging in size from a 0.5 acre to 7.5 acres. Recreational facilities and activities are also available at local schools, the Vine Hill Recreation area and the Scotts Valley Senior Center. The additional population generated by this project will add new users to these parks but the increased use will be minimal compared to the existing user population of these facilities. This increased demand is less than significant.

**New Facilities that Could Affect the Environment**. The project does not include the construction of public recreational facilities or require the expansion of existing public recreational facilities. A 5,000 sq. ft. area (approx.) of the common area parcel will be developed for outdoor recreational use of the dwelling unit owners. It will be owned and maintained by the owners. This area will be minimally developed with picnic tables, free-standing bar-be-ques and an accessible walkway; none of which will generate environmental impact.

### Finding

For this "Recreation" category, the project would not have any significant impacts and therefore no mitigation is required.

## Q. Transportation

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Would the project:** | | | | |
| a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? | | | | X |
| b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b) regarding adopted thresholds of significance? | | | X | |
| c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | | X | | |
| d) Result in inadequate emergency access? | | | | X |

Data Sources: 1, 2, 4, 12 & 14

### Significant Impacts

Impact T-1: An existing masonry retaining wall at the project site frontage would create a traffic hazard due to it reducing the sight distance less than the 250-ft. for northbound motorists planning to enter the project driveway. This is a significant impact.

### Discussion

**Conflict with City Policies or Programs, Increase Hazards, Impair Emergency Access**. A traffic analysis study was prepared by W-Trans (Exhibit G) which concludes traffic generated by the

project will be 87 average daily trips (ADTs). Of these trips, 6 trips will occur during the A.M peak period (7:00--9:00 A.M.) and 7 trips will occur during the P.M. peak period (4:00--6:00 P.M.). According to the traffic report, these additional vehicle trips will not result in reducing the operational capacity of any nearby roadways or intersections. ADTs is discussed further in the following subsection.

Both site inspection and the W-Trans report confirm the project site is served by adequate sidewalk, bicycle lane and transit service. A continuous 4-foot wide concrete sidewalk exists along the project frontage which continues northeast and southwest to connect with sidewalk along Mt. Hermon Road. Scotts Valley Drive includes a bicycle lane that connects with bikes lanes on intersecting arterial roadways. Scotts Valley Drive is a transit route with bus stops.

**CEQA Guidelines** S**ection 15064.3 (b) Regarding Significance Thresholds.** Vehicle Miles Traveled (VMT) is a measure of total vehicular travel that accounts for the number of vehicle trips and the length of those trips. The City of Scotts Valley has not formally adopted VMT significance criteria. In the interim, this CEQA analysis uses guidance per the City of Scotts Valley's VMT Implementation Guidelines (Kimley-Horn and Associates, July 2020). These guidelines use a screening criteria threshold of 110 ADTs as the threshold that must be exceeded to trigger a VMT analysis. This threshold avoids unnecessary analysis and findings for non-significant transportation impacts or small projects.

According to the traffic study (Exhibit G), the project is expected to generate 87 ADTs. This is below the City's current threshold for requiring a VMT analysis. Project trip generation was estimated by applying to the proposed type of development to the appropriate trip generation rates published in the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition (2012)*. The ITE estimated rate for mid-rise multi-family dwellings (3--10 floor levels) is 5.5 daily trips/dwelling (ITE Land Use Code 221). Therefore, it can be concluded that, while the project will add to the total VMTs in areas traffic, it will not be a significant increase

**increase Hazards due to a Geometric Design Feature**. The traffic study determined the existing masonry retaining wall at the project site frontage reduces sight distance less than the 250-ft. recommended minimum at the proposed project entrance. The study recommends lowering the height of the wall to a maximum height of 3.5 feet to provide adequate sight distance for motorists. Plan Sheet C2.1 (Exhibit A) has now been revised to show the sight distance triangle where this wall lowering needs to occur.

Mitigation Measure T-1: To provide adequate sight distance for motorists driving northbound on Scotts Valley Drive and those intending to exit the project driveway, the project proponent shall reduce the height of the existing masonry retaining wall along the project frontage to a maximum of 3.5 feet. The reduced height shall occur from the southwest corner of the project site northeastward to the project entry drive as shown on Sheet C2.1 of the project plans. The

reduction in wall height shall occur before completion of the grading work in project construction.

**Result in inadequate emergency access.** The project street will be 242 feet in length and designed as an enlarged hammer-head emergency vehicle turn-around area. The proposed design would accommodate the parking of a single fire engine and ambulance at the same time. The project building will be located 67 feet from Scotts Valley Drive. Standard fire truck hoses could reach this building from fire trucks parked on Scotts Valley Drive. The Scotts Valley Fire District has reviewed and accepted the project plans.

### Finding

The project would not conflict with City policies or programs regarding the circulation system, including transit, roadway, bicycle and pedestrian facilities. The project would not impair emergency access. The thresholds of significance have not been exceeded for VMT and therefore, additional traffic generated by this project will be less than significant. The one significant impact in this topical area is regarding sight visibility. It can be effectively mitigated by the mitigation measure discussed above to a level of insignificance

## R. Tribal Cultural Resources

| ENVIRONMENTAL IMPACTS<br>Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Would the project:** | | | | |
| a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: | | | | X |
| i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of | | | | X |

| ENVIRONMENTAL IMPACTS<br>Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| historical resources as defined in Public Resources Code section 5020.1(k)? | | | | |
| ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe? | | | | X |
| b) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: i) Listed or eligible for listing in the California | | | | X |

Data Sources: 1 &, 13

## Discussion

**All checklist items**. Section 21080.3.1(b) of the California Public Resources Code (AB 52) requires a lead agency to formally notify a California Native American tribe that is traditionally and culturally affiliated within the geographic area of the discretionary project when formally requested.

As of this writing, no California Native American tribes traditionally and culturally affiliated with the Santa Cruz County region have formally requested a consultation with the City of Scotts Valley (as Lead Agency under CEQA) regarding Tribal Cultural Resources. As a result, no Tribal Cultural Resources are known to occur in or near the project area.

### Findings

No California Native American tribes traditionally and culturally affiliated with the Santa Cruz County region have formally requested a consultation with the City of Scotts Valley. Therefore, no impact to the significance of a Tribal Cultural Resource is anticipated and no mitigation is required.

## S. Utilities and Service Systems

| ENVIRONMENTAL IMPACTS<br>Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Would the project:** | | | | |
| a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? | | | X | |
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | | | X | |
| c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | | | X | |

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? | | | X | |
| e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? | | | | X |

Data Sources: 1 & 13

## Discussion

**Electric Power, Natural Gas, or Telecommunications.** The project would require new connections to PG&E for electricity and natural gas. In addition, the project would require new telecommunication connections with the respective service providers. The project site is surrounded by residential uses and a school, which are serviced by various dry utility providers. Because these utilities would be readily extended from existing infrastructure adjacent to the project site, impacts from the project would be less than significant, and no mitigation is required.

**All other checklist items**. The proposed project does not have the potential to affect utility services, in excess of that previously considered by the General Plan. The Scotts Valley Water District has reviewed the application and has determined that existing water resources will support the proposed development. The Wastewater Department has reviewed the proposed development and has determined that the existing wastewater treatment facilities will support the proposed development. The project will not generate solid waste in excess of that typically generated by 16 multi-family dwellings.

## Finding

For this "Utility and Service Systems" category, the project would not generate any significant impacts and therefore no mitigation is required.

## T. Wildfire

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

Data Sources: 1, 5, 6 & 13

### Discussion

**Emergency Response Plan or Evacuation Route**. Scotts Valley Drive is designated as an emergency evacuation route. The project will not interfere with the uses of this roadway for emergency and/or evacuation purposes. The traffic sight visibility issue identified in Section II.P above will be mitigated by Mitigation Measure T-1 discussed in that section.

**All other checklist items** The California Department of Forestry and Fire Protection (CAL FIRE) has mapped the relative wildfire risk in areas of large population by intersecting residential housing density with proximate fire threat according to three risk levels, namely Moderate, High, and Very High. Wildfires are large-scale brush and grass fires in undeveloped areas. The project is within an urbanized area and not within a Very-High Fire Hazard Severity Zone as mapped by CALFIRE. Additionally, the project would incorporate all applicable fire safety code requirements, including fire protection devices in all residential units and appropriate fire-resistant landscaping on the project site, as required by the Scotts Valley Fire District, and therefore there would be no impact.

### Findings

The project would not affect emergency response/evacuation plans, would not expose residents or structures to a wildfire risk, and would not exacerbate fire risk. Therefore, the project would have no impact to wildfires, and no mitigation is required.

## U. Mandatory Findings of Significance

| ENVIRONMENTAL IMPACTS<br>Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Does the project:** | | | | |
| a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | | X | | |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively | | X | | |

| ENVIRONMENTAL IMPACTS Issues | Potentially Significant Issues | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | | | | |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | | X | | |

## Discussion and Findings

The project will generate significant impacts and potentially significant impacts to the environment in the areas of air quality, biological resources, cultural resources, geology and soils and hydrology and water quality. The potential to significantly degrade the quality of the environment, including effects on animals or plants; the cumulative significant impact on the overdraft of the Santa Margarita aquifer and the City's water supply and traffic hazard can all be reduced or otherwise mitigated to levels of less than significant with the mitigation measures provided in this Initial Study.

Impacts to human beings generated by excessive noise during construction and inadequate sight visibility for northward driving motorists on Scotts Valley Drive can be mitigated as discussed in the "Noise" and "Traffic and Transportation" sections. Each impact and corresponding mitigation measure to address the impact are described in detail under the appropriate subheading in the Environmental Checklist above.

# III. DETERMINATION

On the basis of this initial evaluation:

| | |
|---|---|
| I find that the project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. | |
| I find that although the project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. | X |
| I find that the project MAY have a significant effect on the environment and an ENVIRONMENTAL IMPACT REPORT is required. | |
| I find that the project MAY have a potentially significant or a potentially significant unless mitigated impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. | |
| I find that although the project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required. | |

Kim Tschantz _____May17, 2021_____

Kim Tschantz, MSP, CEP Date

Cypress Environmental and Land Use Planning

# IV. DATA SOURCES

1. City of Scotts Valley, General Plan 1994
2. City of Scotts Valley, Municipal Code
3. Monterey Bay Air Resources District, CEQA Air Quality Guidelines, 2012
4. Project plans, prepared by C2G Civil Consultants, dated April 8, 2021; RAB Lighting, dated March 8, 20121; William Kempf, Architect, dated March 4, 2021 and MBLA, dated April 26, 2021
5. Site inspection conducted by Cypress Environmental and Land Use Planning

6. Biotic report prepared by Biotic Resources Group, dated June 18, 2020
7. Arborist Report prepared by Kurt Fouts, dated April 13, 2020
8. Low-effect Habitat Conservation Plan report prepared by Dr. Richard Arnold, dated August 2020
9. Geotechnical Report prepared by Dees and Associates, dated September 9, 2020
10. Traffic noise assessment study prepared by Edward Pack Associates, dated October 28, 2020
11. Traffic Impact Study prepared by W-Trans, dated April 5, 2021
12. Initial Study prepared for the Terrace Townhouse project in Scotts Valley by Cypress Environmental, dated July 15, 2015
13. Initial Study for Bay Village Planned Development in Scotts Valley prepared by Kimley-Horn Associates
14. Comments from public agency representatives at the City's Project Review Committee meeting on January 12, 2020 and associated project review comment sheets

# V. EXHIBITS

A - Project plans, prepared by C2G Civil Consultants, dated April 8, 2021; RAB Lighting, dated March 8, 20121; William Kempf, Architect, dated March 4, 2021 and MBLA, dated April 26, 2021

B - Biotic report prepared by Biotic Resources Group, dated June 18, 2020

C - Arborist Report prepared by Kurt Fouts, dated March 16, 2021

D - Low-effect Habitat Conservation Plan report prepared by Dr. Richard Arnold, dated August 2020

E - Geotechnical Report prepared by Dees and Associates, dated September 9, 2020

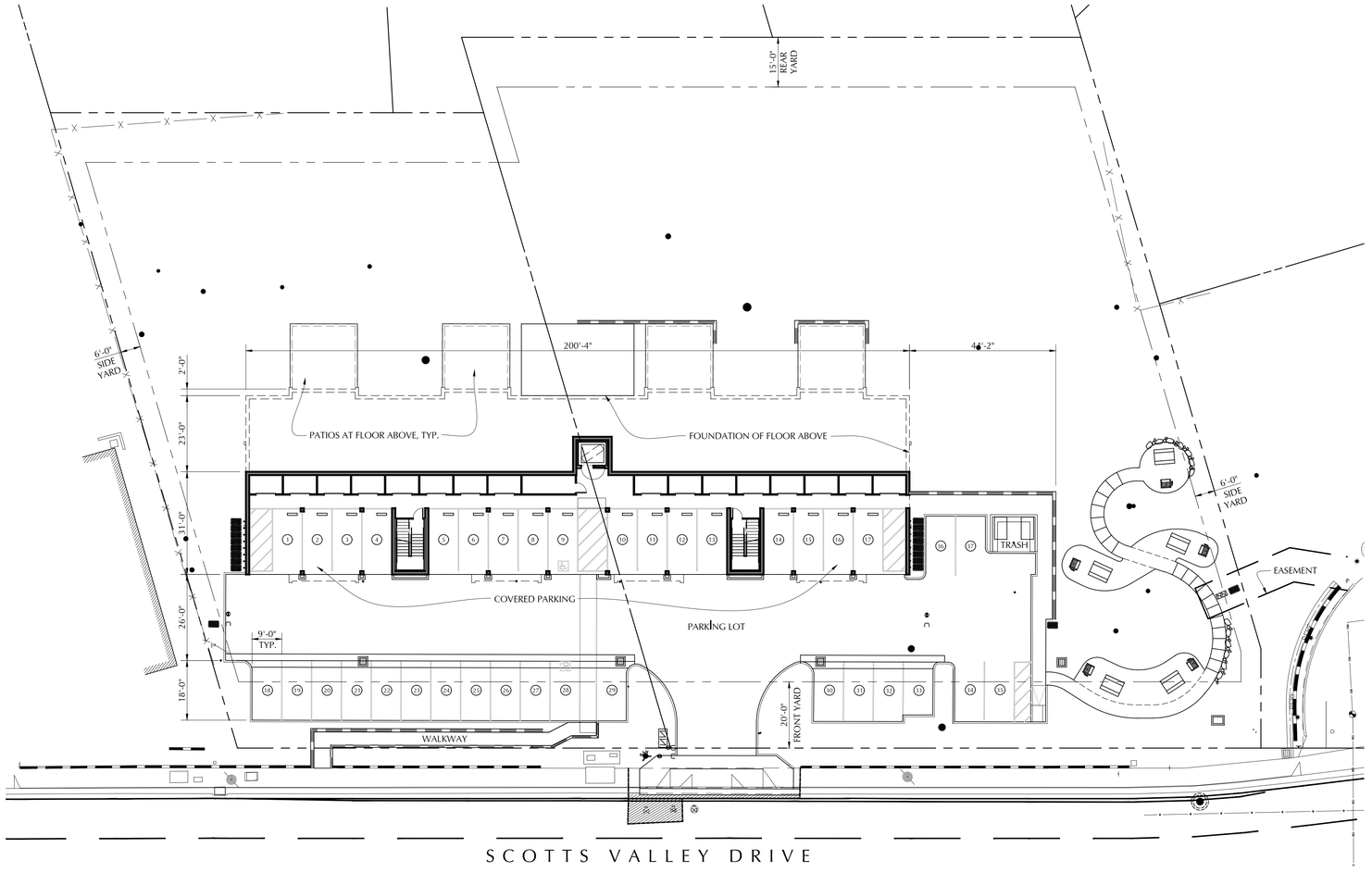
F - Traffic noise assessment study prepared by Edward Pack Associates, dated October 28, 2020

G - Traffic Impact Study prepared by W-Trans, dated April 5, 2021

NEW CONDOMINIUM BUILDING

# THE ENCORE AT 4104

SCOTTS VALLEY DRIVE, SCOTTS VALLEY, CALIFORNIA




1 PROPOSED SITE PLAN

SCALE: 1" = 20'-0"

NORTH

| Third Floor | | | |
|---|---|---|---|
| Space | Heated Area | Unheated Area | Deck or Balcony |
| Unit 9 (Type 'A') | 1,134 | | 68 |
| Unit 10 (Type 'A') | 1,134 | | 162 |
| Unit 11 (Type 'B') | 1,080 | | 162 |
| Unit 12 (Type 'B') | 1,080 | | 68 |
| Unit 13 (Type 'B') | 1,080 | | 68 |
| Unit 14 (Type 'B') | 1,080 | | 162 |
| Unit 15 (Type 'A') | 1,134 | | 162 |
| Unit 16 (Type 'A') | 1,134 | | 68 |
| Indoor Community Space | 323 | | |
| Corridor | | 1,048 | |
| Elevator | | 80 | |
| Stairs | | 388 | |
| | | | |
| Second Floor Total | 9,179 | 1,516 | 920 |

| Building - Total | | | |
|---|---|---|---|
| Heated | 18,358 | | |
| Un-heated | | 9,365 | |
| Deck or Balcony | | | 3,564 |
| Additional community oudoor space provided at West edge of property | | | 2,750 s.f. |
| * each unit is provided with its own individual 570 cu. ft. storage room | | | |

| Building Areas | | | |
|---|---|---|---|
| Space | Heated Area | Unheated Area | Deck or Balcony |
| **Parking Level** | | | |
| Storage Rooms* | | 1,166 | |
| Evel. & Elev. Mech. | | 227 | |
| Stairs | | 374 | |
| Parking Aera | | 4,566 | |
| | | | |
| Prking Level Total | 0 | 6,333 | 0 |
| | | | |
| **Second Floor** | | | |
| Unit 1 (Type 'A') | 1,134 | | 68 |
| Unit 2 (Type 'A') | 1,134 | | 409 |
| Unit 3 (Type 'B') | 1,080 | | 409 |
| Unit 4 (Type 'B') | 1,080 | | 68 |
| Unit 5 (Type 'B') | 1,080 | | 68 |
| Unit 6 (Type 'B') | 1,080 | | 409 |
| Unit 7 (Type 'A') | 1,134 | | 409 |
| Unit 8 (Type 'A') | 1,134 | | 68 |
| Indoor Community Space | 323 | | |
| Outdoor Community Space | | | 736 |
| Corridor | | 1,048 | |
| Elevator | | 80 | |
| Stairs | | 388 | |
| | | | |
| Second Floor Total | 9,179 | 1,516 | 2,644 |

## PROJECT DATA

| | |
|---|---|
| OWNER: | APPLE HOMES DEVELOPMENT<br>15 SHERMAN COURT<br>SCOTTS VALLEY, CA 95066<br>CHRIS PERRI: 831 239-9269 |
| PROJECT SITE: | APN: 022-732-01 & 48<br>SCOTTS VALLEY DRIVE<br>SCOTTS VALLEY, CA 95066 |
| SITE AREA: | 022-732-48: 40,000 S.F.<br>022-732-01: 29,057 S.F.<br>TOTAL: 69,057 S.F. (±1.59 ACRES) |
| ZONING: | RM-6 (MULTI-FAMILY RESIDENTIAL) |
| CONSTRUCTION TYPE: | TYPE V-A |
| SPRINKLERS: | THROUGHOUT (NFPA 13-R) |
| PROJECT DESCRIPTION: | PROPOSAL TO CREATE A NEW 16 UNIT CONDO BUILDING |

STATE DENSITY BONUS CALCULATION

THIS LOT IS ZONED 'R-M-6' ZONING STANDARDS. 'R-M-6' ZONING PERMITS AN ALLOWED DENSITY OF 1 UNIT PER 5,000 S.F. OF SITE AREA.

PERMITTED DENSITY

69,057 S.F. [SITE AREA] x 1 UNIT PER 5,000 S.F [ZONING DENSITY] = 13 UNITS ALLOWED [13.8 ROUND DOWN]

DENSITY BONUS

THE PROJECT PROPOSES TO PROVIDE 2 UNIT AT MODERATE INCOME

UNDER THE DENSITY BONUS ALLOWED UNIT MAY BE ROUND UP (SECT. 17.12.040) THIS ALLOWS FOR 14 UNITS

2 MODERATE INCOME UNITS / 14 ALLOWED UNITS x (100%) = 14% MODERATE INCOME UNITS

14% MODERATE INCOME UNITS RESULTS IN 9% DENSITY BONUS PER SVMC TABLE 17.62.0030.C.3

14 ALLOWED UNITS [13.8 ROUND UP] x 1.09 [DENSITY BONUS] = 16 UNITS [15.26 ROUND UP]

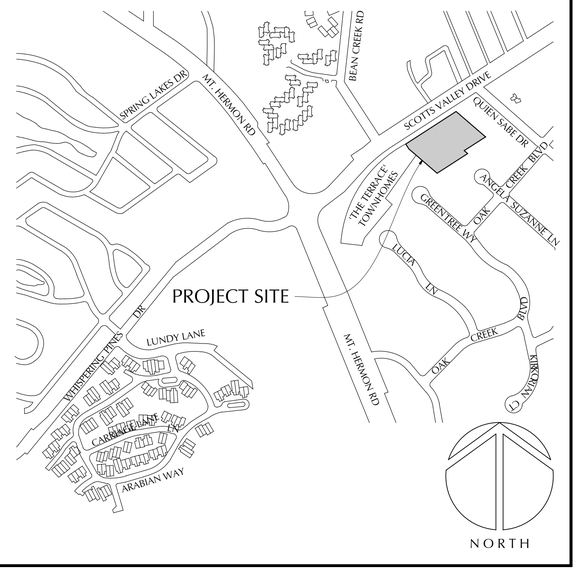
16 UNITS ARE PERMITTED WHEN PROVIDING 2 MODERATE INCOME UNITS

PARKING SPACE REQUIREMENTS

2.2 PER UNIT x 16 UNITS = 35.2 SPACES

TOTAL SPACES REQUIRED = 36 SPACES
TOTAL SPACES PROVIDED = 37 SPACES

## VICINITY MAP





WILLIAM C. KEMPF
ARCHITECT
911 Center Street, Suite F
Santa Cruz, CA 95060
831 459-0951
www.wckempf.com


NEW RESIDENTIAL DEVELOPMENT FOR:
THE ENCORE AT 4104
SCOTTS VALLEY, CALIFORNIA

ARCHITECTURAL SITE PLAN

DRAWING DATE: MARCH 4, 2021

A.P.N. 022-732-48 & 022-732-01

CLIENT NAME: CHRIS PERRI

PROJECT NAME: THE ENCORE AT 4104

| REVISIONS | | |
|---|---|---|
| No. | DESCRIPTION | DATE |
| 1 | PLANNING | 3/4/21 |

APPROVAL STAMP

STAMP



SHEET A1

# TENTATIVE PLANS FOR THE ENCORE
# SCOTTS VALLEY, CA
# APN# 022-732-01 & 48

4104 SCOTTS VALLEY DRIVE
SCOTTS VALLEY, CA 95066

## CONTRACTOR RESPONSIBILITY

CONTRACTOR AGREES THAT HE SHOULD ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY, DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, AND THAT REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED DURING WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE DESIGN PROFESSIONALS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR DESIGN PROFESSIONAL.

## DISCREPANCIES

IF THERE ARE ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND EXISTING CONDITIONS WHICH WILL AFFECT THE WORK, THE CONTRACTOR SHALL BRING SUCH DISCREPANCIES TO THE DESIGN PROFESSIONAL FOR ADJUSTMENT BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FITTING OF ALL WORK AND FOR THE COORDINATION OF ALL TRADES, SUBCONTRACTORS, AND PERSONS ENGAGED UPON THIS CONTRACT.

## EROSION CONTROL NOTE

IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE AND MAINTAIN EROSION CONTROL MEASURES AS REQUIRED THROUGHOUT THE LIFE OF THE PROJECT IN CONFORMANCE WITH THE CITY OF SCOTTS VALLEY AND THE ASSOCIATION OF BAY AREA GOVERNMENTS

CONTRACTOR TO PROVIDE BACK-UP EROSION PREVENTION MEASURES (SOIL STABILIZATION) WITH SEDIMENT CONTROL MEASURES SUCH AS STRAW WATTLES, SILT FENCE, GRAVEL INLET FILTERS, AND/OR SEDIMENT TRAPS OR BASINS. ENSURE CONTROL MEASURES ARE ADEQUATE, IN PLACE, AND IN OPERABLE CONDITIONS. SEDIMENT CONTROLS, INCLUDING INLET PROTECTION, ARE NECESSARY BUT SHOULD BE A SECONDARY DEFENSE BEHIND GOOD EROSION CONTROL MEASURES.

ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED THROUGHOUT THE SEASON. REPLACEMENT SUPPLIES SHOULD BE KEPT ON SITE.

SITE INSPECTIONS SHALL BE CONDUCTED BEFORE AND AFTER EACH STORM EVENT, AND EVERY 24 HOURS FOR EXTENDED STORM EVENTS, TO IDENTIFY AREAS THAT CONTRIBUTE TO EROSION AND SEDIMENT PROBLEMS OR ANY OTHER POLLUTANT DISCHARGES. IF ADDITIONAL MEASURES ARE NEEDED, REVISE THE EROSION CONTROL PLAN AND IMPLEMENT THE MEASURES IMMEDIATELY. DOCUMENT ALL INSPECTION FINDINGS AND ACTIONS TAKEN.

CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICES DURING CONSTRUCTION FOR CONTROL OF STORM WATER RUNOFF (E.G. GRAVEL BAGS AT CATCH BASIN INLETS).

## CONSTRUCTION SURVEYING / STAKING

CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL SURVEYING AND OR STAKING BY A LICENSED SURVEYOR FOR ALL CONSTRUCTION PURPOSES.

## GENERAL NOTES

NO CHANGE TO THE GRADING PLAN SHALL BE PERMITTED WITHOUT PRIOR APPROVAL BY THE OWNER OR OWNERS REPRESENTATIVES.

CONTRACTOR SHALL VERIFY LOCATIONS, ELEVATIONS AND INVERTS OF EXISTING UTILITY PRIOR TO COMMENCEMENT OF WORK AND SHALL NOTIFY OWNER OR OWNERS REPRESENTATIVES OF VARIANCE FROM THOSE SHOWN ON THE PLANS.

UNDERGROUND FACILITIES AND UTILITIES HAVE BEEN SHOWN BASED ON RECORD DRAWINGS AND VISIBLE EVIDENCE FOUND IN FIELD. NO WARRANTY IS MADE REGARDING THE COMPLETENESS OR ACCURACY OF SUCH INFORMATION. PRIOR TO CONSTRUCTION, DETERMINE THE EXACT LOCATION OF UNDERGROUND FACILITIES AND UTILITIES, AND PRESERVE SAME FROM DAMAGE. PRIOR TO CONSTRUCTION, VERIFY LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AT THE CROSSING POINTS WITH PROPOSED UTILITIES. THE CONTRACTOR SHALL NOTIFY THE OWNER OR OWNERS REPRESENTATIVES IF CONDITIONS DIFFER FROM THOSE SHOWN ON THE DRAWINGS AND SHALL NOT BEGIN CONSTRUCTION UNTIL THE CHANGED CONDITION HAS BEEN EVALUATED. CONTACT UNDERGROUND SERVICES ALERT (USA) (1-800-227-2600) TWO (2) WEEKS PRIOR TO DIGGING. REPAIR UNDERGROUND UTILITIES DAMAGED BY CONSTRUCTION OPERATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES ASSOCIATED WITH CONTRACTOR'S FAILURE TO EXACTLY LOCATED AND PRESERVE UNDERGROUND FACILITIES AND UTILITIES.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION WITH THE APPROPRIATE UTILITY COMPANIES AND/OR AGENCIES TO VERIFY THE EXISTENCE AND/OR LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO COMMENCEMENT OF WORK. AND SHALL NOTIFY U.S.A. @ (800) 227-2600 AT LEAST 48-HOURS IN ADVANCE OF EXCAVATION.

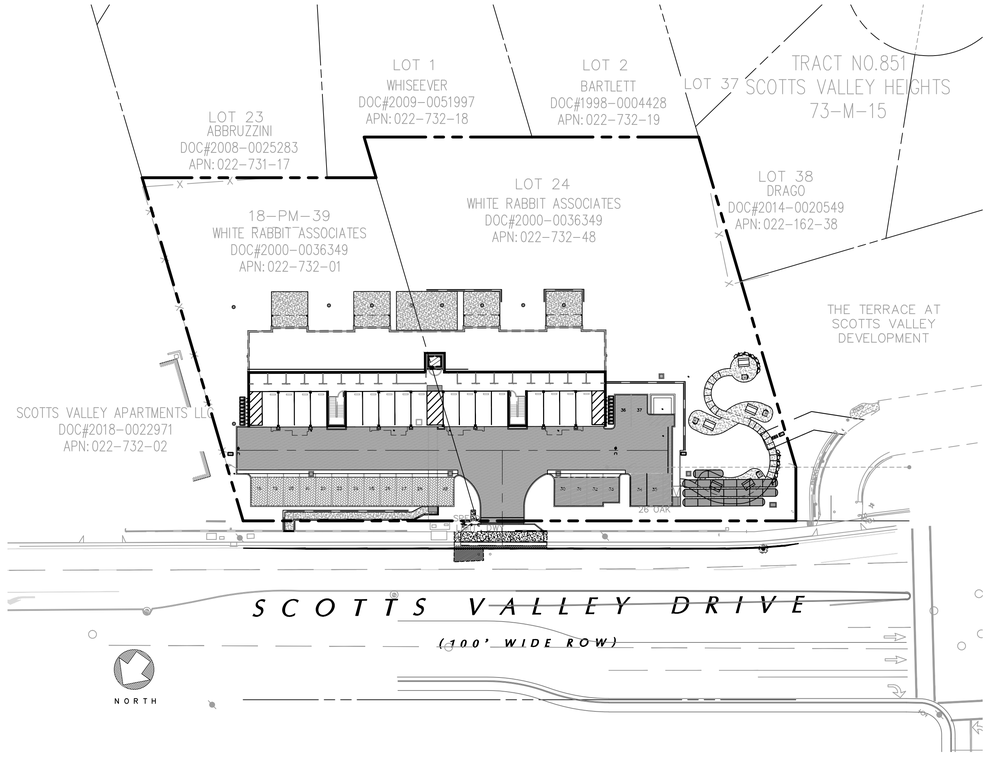
IF ANY INDICATIONS OF ARCHEOLOGICAL REMIANS ARE ENCOUNTERED DURING GRADING ACTIVITIES FOR ANY DEVELOPMENT WITHIN THE PROJECT SITE, ALL WORK SHALL BE HALTED WITHIN 200 FOOT RADIUS OF THE FIND. OWNER SHALL RETAIN A QUALIFIED ARCHEOLOGIST RETAINED TO DETERMINE THE NATURE OF THE DISCOVERY AND RECOMMEND APPROPRATE EVALUATION PROCEDURES.

## ADDITIONAL NOTES

- CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS. CALL USA (800) 642-2444. CONTRACTOR TO NOTIFY ENGINEER OF ANY APPARENT CONFLICTS FOR RESOLUTION PRIOR TO START OF CONSTRUCTION.
- CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
- THE STANDARD SPECIFICATIONS AND DETAILS, LATEST EDITION, OF THE CITY OF SCOTTS VALLEY SHALL GOVERN UNLESS OTHERWISE SPECIFIED HEREIN.

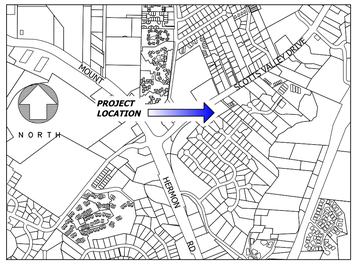
### (N) IMPERVIOUS AREAS TABLE

| DESCRIPTION | AREA (SQ. FT.) | AREA (ACRES) |
|---|---|---|
| EXISTING | 0 | 0 |
| BUILDING & GARAGE | 0 | 0 |
| ASPHALT & CONCRETE | 0 | 0 |
| | | |
| TOTAL (N) IMPERVIOUS AREA | 23,043 | 0.529 |
| TOTAL LOT AREA | 64,773 | 1.487 |
| IMPERVIOUS % OF TOTAL LOT | 24.4% | |




## UNDERGROUND NOTES

1. STORMDRAIN PIPE SHALL BE SDR-26 P.V.C., A.D.S. N-12 SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE OR APPROVED SUBSTITUTE, OR AS NOTED ON PLAN;. ALL DRAINAGE PIPE SHALL BE SHIPPED, STORED, AND INSTALLED PER THE PIPE MANUFACTURER'S RECOMMENDATIONS.
2. ALL CONCRETE DRAINAGE INLETS CALLED OUT ON THE PLANS SHALL BE CHRISTY BRAND PRECAST CONCRETE OR EQUIVALENT. ALL STRUCTURES SHALL BE STORED, HANDLED, AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. ALL GRATES IN PAVEMENT AREAS SHALL BE ADA COMPLIANT.
3. ALL CONCRETE DRAINAGE INLETS CALLED OUT ON THE PLANS SHALL HAVE A HEAVY RATED FRAME WITH A ADA COMPLIANT GRATE. CATCH BASINS THAT HAVE SILT AND GREASE TRAPS SHALL BE INCLUDED IN THE PROJECT MONITORING AND MAINTENANCE PLAN.
4. JETTING OF BACKFILL MATERIALS TO ACHIEVE COMPACTION IS NOT ALLOWED.
5. ALL THE WATER PIPING SHALL BE AWWA CLASS 150 OR APPROVED EQUAL, ALL VALVES, ANGLES, AND THRUST BLOCKS SHALL BE INSTALLED PER CURRENT SVWD SPECIFICATIONS.
6. ALL FIRE SERVICE PIPING AND APPURTENANCES SHALL CONFORM TO NFPA STANDARDS AND SPECIFICATIONS
7. ANY EXISTING UTILITIES THAT ARE REQUIRED TO BE RELOCATED AS A PART OF THIS CONSTRUCTION SHALL BE RELOCATED AT THE DEVELOPER'S EXPENSE.




VICINITY MAP
SCALE: NTS

## UNAUTHORIZED CHANGES AND USES

**CAUTION:** THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THE PLANS

### DEVELOPER:
APPLE HOMES DEVELOPMENT
15 SHERMAN COURT
SCOTTS VALLEY, CA 95066
OFFICE: (831) 464-3380

### ARCHITECT:
BILL KEMPF ARCHITECTS
911 CENTER STREET STE. F
SANTA CRUZ, CA 95060
OFFICE: (831) 459-0951

### LANDSCAPE ARCHITECT:
GREGORY LEWIS LANDSCAPE ARCHITECT
736 PARK WAY
SANTA CRUZ, CA 95065
OFFICE: (831) 425-4747

### CIVIL ENGINEER:
C2G/CIVIL CONSULTANTS GROUP, INC
4444 SCOTTS VALLEY DRIVE STE. 6
SCOTTS VALLEY, CA 95066
OFFICE: (831) 438-4420

### GEOTECHNICAL ENGINEER:
BECKY DEES AND ASSOCIATES
501 MISSION STREET
SANTA CRUZ, CA 95060
OFFICE: (831) 427-1770

### ARBORIST:
KURT FOUTS
826 MONTEREY AVE.
CAPITOLA, CA 95010
OFFICE: (831) 359-3607

## ABBREVIATIONS

| | |
|---|---|
| AB | AGGREGATE BASE |
| AC | ASPHALT CONCRETE |
| ACCP | SPUN CONCRETE PIPE |
| BFC | BOTTOM FACE OF CURB |
| BFP | BACK FLOW PREVENTER |
| BFS | BOTTOM FACE OF STEP |
| BLDG | BUILDING |
| BO | BLOW OFF VALVE |
| CONC | CONCRETE |
| CATV | CABLE TELEVISION |
| CB | CATCH BASIN |
| CIP | CAST IRON PIPE |
| CL | CENTERLINE |
| CONC | CONCRETE |
| COR | CORNER |
| DCDA | DOUBLE CHECK DETECTOR ASSEMBLY |
| DI | DROP INLET/DRAINAGE INLET |
| DIP | DUCTILE IRON PIPE |
| DWY | DRIVEWAY |
| EC | EDGE OF CONCRETE |
| EP | EDGE OF PAVEMENT |
| EG | EXISTING GRADE |
| ER | END OF RETURN |
| (E) | EXISTING |
| FF | FINISH FLOOR |
| FG | FINISH GRADE |
| FH | FIRE HYDRANT |
| FL | FLOW LINE |
| FS | FINISH SURFACE |
| GB | GRADE BREAK |
| GF | GARAGE FINISH FLOOR @ GARAGE DOOR |
| HP | HIGH POINT |
| INV | INVERT |
| JP | JOINT POLE |
| LP | LOW POINT |
| MAX | MAXIMUM |
| ME | MATCH EXISTING |
| MIN | MINIMUM |
| NAP | NOT A PART |
| NTS | NOT TO SCALE |
| NG | NATURAL GROUND |
| P/L | PROPERTY LINE |
| PSE | PUBLIC SERVICE EASEMENT |
| R/W | RIGHT OF WAY |
| SD | STORM DRAIN |
| SDMH | STORM DRAIN MANHOLE |
| SF | SQUARE FEET |
| SS | SANITARY SEWER |
| SSMH | SANITARY SEWER MANHOLE |
| STD | STANDARD |
| TC | TOP OF CURB |
| TYP | TYPICAL |
| WV | WATER VALVE |

## LEGEND

| DESCRIPTION | PROPOSED | EXISTING |
|---|---|---|
| PROPERTY LINE | | |
| EASEMENT LINE | | |
| CENTERLINE | | |
| CURB AND GUTTER | | |
| SIDEWALK | | |
| STANDARD HOODED INLET | | |
| FIRE HYDRANT | | |
| STREET LIGHT | | |
| WATER METER | | |
| DOMESTIC WATER SERVICE | | |
| SANITARY SEWER | | |
| STORM DRAIN | | |
| SANITARY MANHOLE | | |
| STORM MANHOLE | | |
| DRIVEWAY | | |
| HANDICAP RAMP | | |
| IRRIGATION METER AND BACK FLOW PREVENTER | | |
| MONUMENT WELLS | | |

## INDEX OF SHEETS:



USA NORTH 811 Call 811 Before You Dig

| REVISIONS | BY |
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COVER SHEET

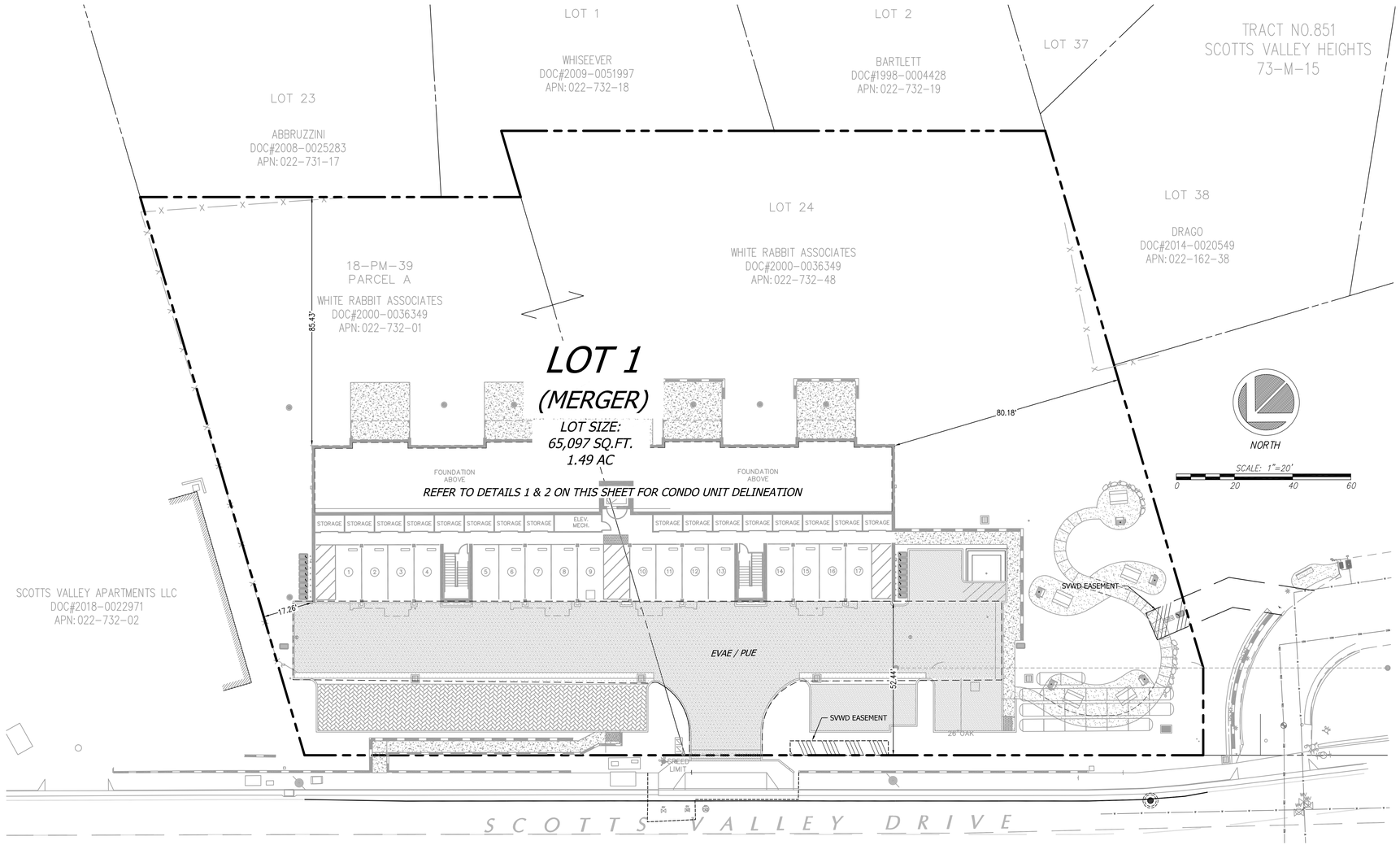
REGISTERED PROFESSIONAL ENGINEER
TODD R. CREAMER
No. C 64561
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA


C2G/CIVIL CONSULTANTS GROUP, INC.
Engineers/Planners
4444 Scotts Valley Drive / Suite 6
Scotts Valley, CA 95066
T (831) 438-4420 F (831) 438-4420


THE ENCORE
SCOTTS VALLEY, CALIFORNIA
APN #022-732-01 & 48

| | |
|---|---|
| Date: | 03.08.21 |
| Scale: | 1"=40' |
| Drawn: | DD |
| Job: | 249-60 |
| Sheet: | C0.1 |
| Of | 26 Sheets |

Drawing: Z:\Shared\CAD\249-60 Print - White Rabbit\Design\CAD\Sheets\C01 - COVER.dwg Layout: C01 Last Saved: Wed Mar 03, 2021 - 9:45am Last Plotted: Mon Mar 08, 2021 - 7:49am By: jamie




## LEGEND

- EVAE / PUE
- SVWD USE EASEMENT
- BOUNDARY LINE
- LOT LINE
- EXCLUSIVE USE EASEMENT (E.U.E.)

## EASEMENT NOTES

THE AREA DESIGNATED AS EMERGENCY VEHICLE ACCESS EASEMENT (EVAE) IS FOR EMERGENCY VEHICLE ACCESS.

THE PUBLIC UTILITIES EASEMENT (PUE) IS DEDICATED FOR PUBLIC USE OF UTILITIES, INCLUDING ACCESS, CONSTRUCTION, INSTALLATION AND MAINTENANCE OF WORKS, IMPROVEMENTS AND THEIR APPURTENANCES FOR THE PURPOSES OF INSTALLATION AND MAINTENANCE OF PUBLIC UTILITY FACILITIES.

## SURVEYOR'S STATEMENT

THE SUBJECT PROJECT SITE WAS SURVEYED (BOTH BOUNDARY AND TOPOGRAPHIC) BY ALPHA LAND SURVEYS, INC.

## ABBREVIATIONS

| | |
|---|---|
| PUE | PUBLIC UTILITY EASEMENT |
| EVAE | EMERGENCY VEHICLE ACCESS EASEMENT |
| SVWD | SCOTTS VALLEY WATER DISTRICT |
| APN | ASSESSORS PARCEL NUMBER |
| DOC | DOCUMENT |
| PM | PARCEL NUMBER |

## ZONING

EXISTING

THE EXISTING LOT IS ZONED R-M-6 (MULTI-FAMILY RESIDENTIAL)
(SEE SCOTTS VALLEY, CALIFORNIA - CODE OF ORDINANCES CHAPTER 17.24)

| MINIMUM SETBACKS: | |
|---|---|
| FRONT | 20' |
| REAR | 15' |
| SIDE | 6' |

MAXIMUM LOT COVERAGE: 55%

PROPOSED

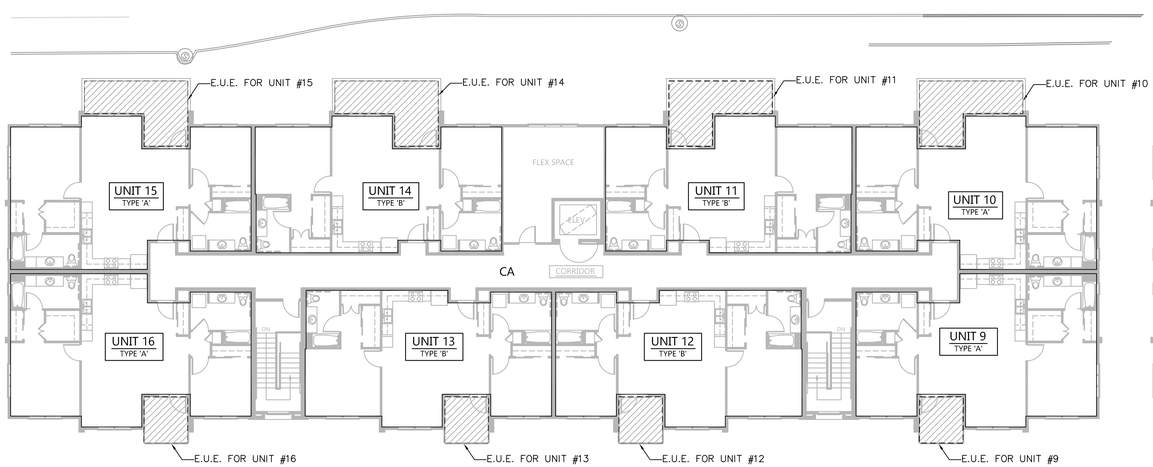
THE PROPOSED LOT IS ZONED MEDIUM DENSITY R-M-6

| MINIMUM SETBACKS: | |
|---|---|
| FRONT | 20' |
| REAR | 15' |
| SIDE | 6' |

MAXIMUM BUILDING COVERAGE: 16%

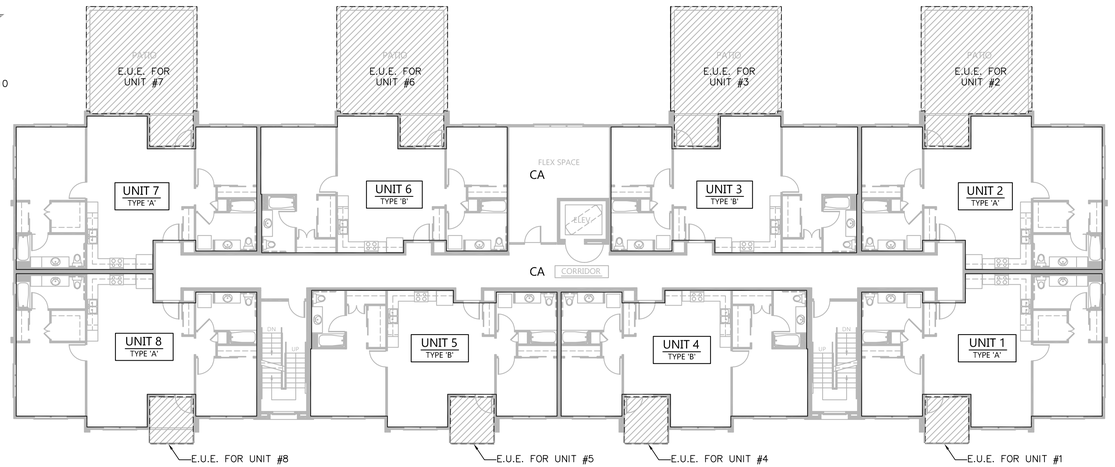
## UNIT COUNT

TOTAL OF 16 CONDOMINIUM UNITS




2 THIRD FLOOR - CONDOMINIUM PLAN

Scale: NTS




1 SECOND FLOOR - CONDOMINIUM PLAN

Scale: NTS

| REVISIONS | BY |
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# TENTATIVE MAP FOR CONDOMINIUMS

REGISTERED PROFESSIONAL ENGINEER
TODD R. CREAMER
No. C 64561
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

C2G /CIVIL CONSULTANTS GROUP, INC.
Engineers/Planners
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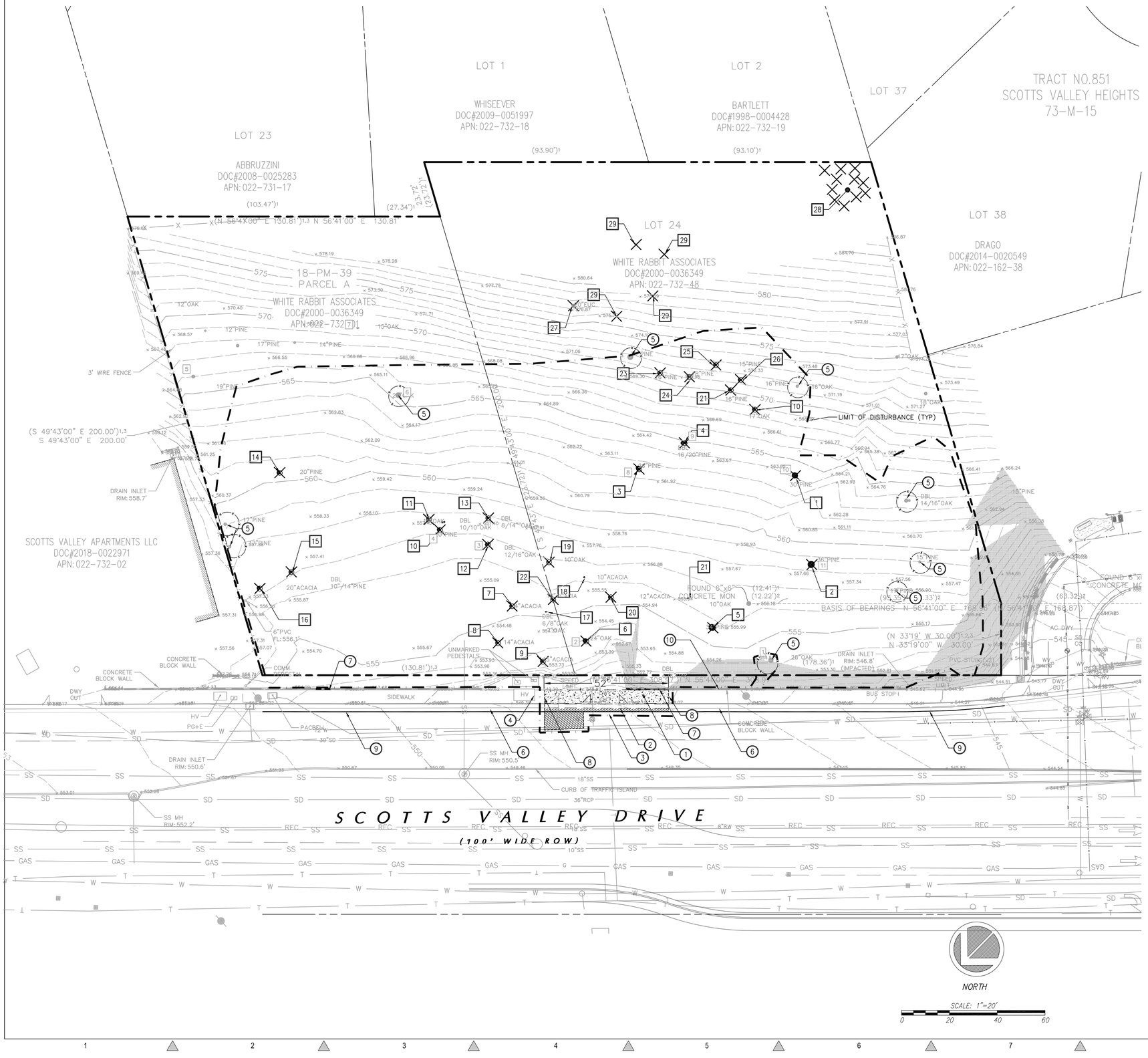
Scotts Valley, CA 95066
T (831) 438-4420 F (831) 438-4420

# THE ENCORE
## SCOTTS VALLEY, CALIFORNIA
## APN #022-732-01 & 48

| | |
|---|---|
| Date: | 03.08.21 |
| Scale: | NTS |
| Drawn: | DD |
| Job: | 249-60 |
| Sheet: | C0.2 |
| Of | 26 Sheets |

Drawing: Z:\Shared\CAD\249-60 Penn - White Rabbit\Design\CAD\Sheets\C0.2 - TENTATIVE MAP.dwg Layout: C0.2 Last Saved: Thu Mar 04, 2021 - 5:08pm Last Plotted: Tue Mar 09, 2021 - 8:47am By: Dave




## ABBREVIATIONS

| | |
|---|---|
| AB | AGGREGATE BASE |
| AC | ASPHALT CONCRETE |
| BLDG | BUILDING |
| CONC | CONCRETE |
| EP | EDGE OF PAVEMENT |
| EL | ELEVATION |
| FL | FLOWLINE |
| GB | GRADE BRAKE |
| G | GROUND |
| INV | INVERT ELEVATION |
| LP | LOW POINT |
| NAP | NOT A PART |
| NG | NATURAL GROUND |
| PSDE | PRIVATE STORM DRAIN EASEMENT |
| PUE | PUBLIC UTILITY EASEMENT |
| PL | PROPERTY LINE |
| SD | STORM DRAIN |
| SDDI | STORM DRAIN DROP INLET |
| SDMH | STORM DRAIN MANHOLE |
| SS | SANITARY SEWER |
| SSCO | SANITARY SEWER CLEAN OUT |
| TG | TOP OF GRATE |
| UG | UNDREGROUND |
| W | WATER |

## LEGEND

- EXISTING CONCRETE TO BE REMOVED
- EDGE GRIND EXISTING AC PER CITY STANDARD
- REMOVE EXISTING TREE
- 25% OR GREATER SLOPES
- TREE PROTECTIVE FENCING (1)

## (X) DEMOLITION KEY NOTES

1. REMOVE EXISTING CONCRETE
2. SAWCUT AND REMOVE EXISTING CURB AND GUTTER
3. SAWCUT AND REMOVE PORTION OF EXISTING AC
4. EXISTING TRANSFORMER AND PEDESTAL TO REMAIN
5. EXISTING TREE TO REMAIN - PROTECT IN PLACE PER DETAIL 1 THIS SHEET
6. EXISTING CURB AND GUTTER TO REMAIN
7. REMOVE EXISTING PORTION OF WALL
8. SAWCUT EXISTING PORTION OF SIDEWALK
9. REMOVE EXISTING BIKE LANE STRIPING
10. PORTION OF EXISTING WALL TO BE LOWERED IN ORDER TO PROVIDE 300' SIGHT VISIBILITY (SEE SHEET C2.1). CONTRACTOR SHALL REMOVE CONCRETE V-DITCH @ TBW & REGRADE AS NECESSARY TO PROVIDE 6" @ TBW

## [X] TREE DEMOLITION SCHEDULE

| | |
|---|---|
| 1. 30" PINE | 15. 10"/14" PINE |
| 2. 36" PINE | 16. 20" ACACIA |
| 3. 26" PINE | 17. DBL 6"/8" OAK |
| 4. 16"/20" PINE | 18. 10" ACACIA |
| 5. 34" PINE | 19. 10" OAK |
| 6. 24" OAK | 20. 12" ACACIA |
| 7. 14" ACACIA | 21. 16" PINE |
| 8. 14" ACACIA | 22. 10" ACADIA |
| 9. 15" ACACIA | 23. 16" PINE |
| 10. 17" OAK | 24. 18" PINE |
| 11. 12" OAK | 25. 15" PINE |
| 12. 12"/16" OAK | 26. 16" PINE |
| 13. 8"/14" OAK | 27. 20" EUC. |
| 14. 20" PINE | 28. EUC GROVE (11) |
| | 29. EUC TREE (SMALL) |

NOTE: EUCALYPTUS TREE REMOVAL IS PROPOSED AS MITIGATION

## BASIC OF BEARINGS

BEARINGS FOR THIS SURVEY ARE BASED ON FOUND 6"x6" CONCRETE MONUMENTS AS SHOWN ON THAT MAP ENTITLED TRACT NO.851 SCOTTS VALLEY HEIGHTS, FILED IN VOLUME 73 OF MAPS, PAGE 15 SANTA CRUZ COUNTY RECORDS.

NORTH 56°41'00" EAST

## BASIC OF ELEVATIONS

ELEVATIONS ARE BASED ON AN ASSUMED DATUM.

## TREE NOTES

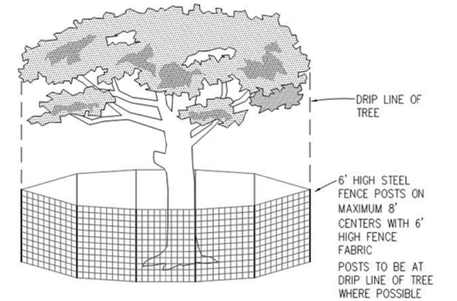
TREE SPECIES AND SIZES HEREON HAVE BEEN IDENTIFIED TO THE BEST OF THE SURVEYORS'S KNOWLEDGE.

TREE DIAMETERS ARE MEASURED AT APPROXIMATELY CHEST HEIGHT, USE CAUTION WHEN DESIGNING CLOSELY TO TREE TRUNKS BY TAKING INTO CONSIDERATION THE POSSIBLE "SPREAD" OR "LEAN" OF TREES.

## UTILITY NOTES

UTILITIES SHOWN ON THIS MAP WERE DETERMINED FROM SURFACE EVIDENCE OF UNDERGROUND LOCATIONS, DURING A SURVEY BY ALPHA SURVEYS N MARCH OF 2019. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND DEPTH OF THESE UTILITIES PRIOR TO CONSTRUCTION, AND TO NOTIFY THE PROJECT ENGINEER IN CASE OF CONFLICT.

CALL U.S.A. (UNDERGROUND SERVICE ALERT) (800) 642-2444 BEFORE ANY EXCAVATION.




1 EXISTING TREE PROTECTION
SCALE: NONE

| REVISIONS | BY |
|---|---|
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| | |
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| | |

# EXISTING SITE & DEMOLITION PLAN

REGISTERED PROFESSIONAL ENGINEER
TODD R. CREAMER
No. C 64561
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

C2G /CIVIL CONSULTANTS GROUP, INC.
Engineers/Planners
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THE ENCORE
SCOTTS VALLEY, CALIFORNIA
APN #022-732-01 & 48

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| Date: | 03.08.21 |
| Scale: | 1" = 20' |
| Drawn: | DD |
| Job: | 249-60 |
| Sheet: | C1.1 |
| Of 26 Sheets | |

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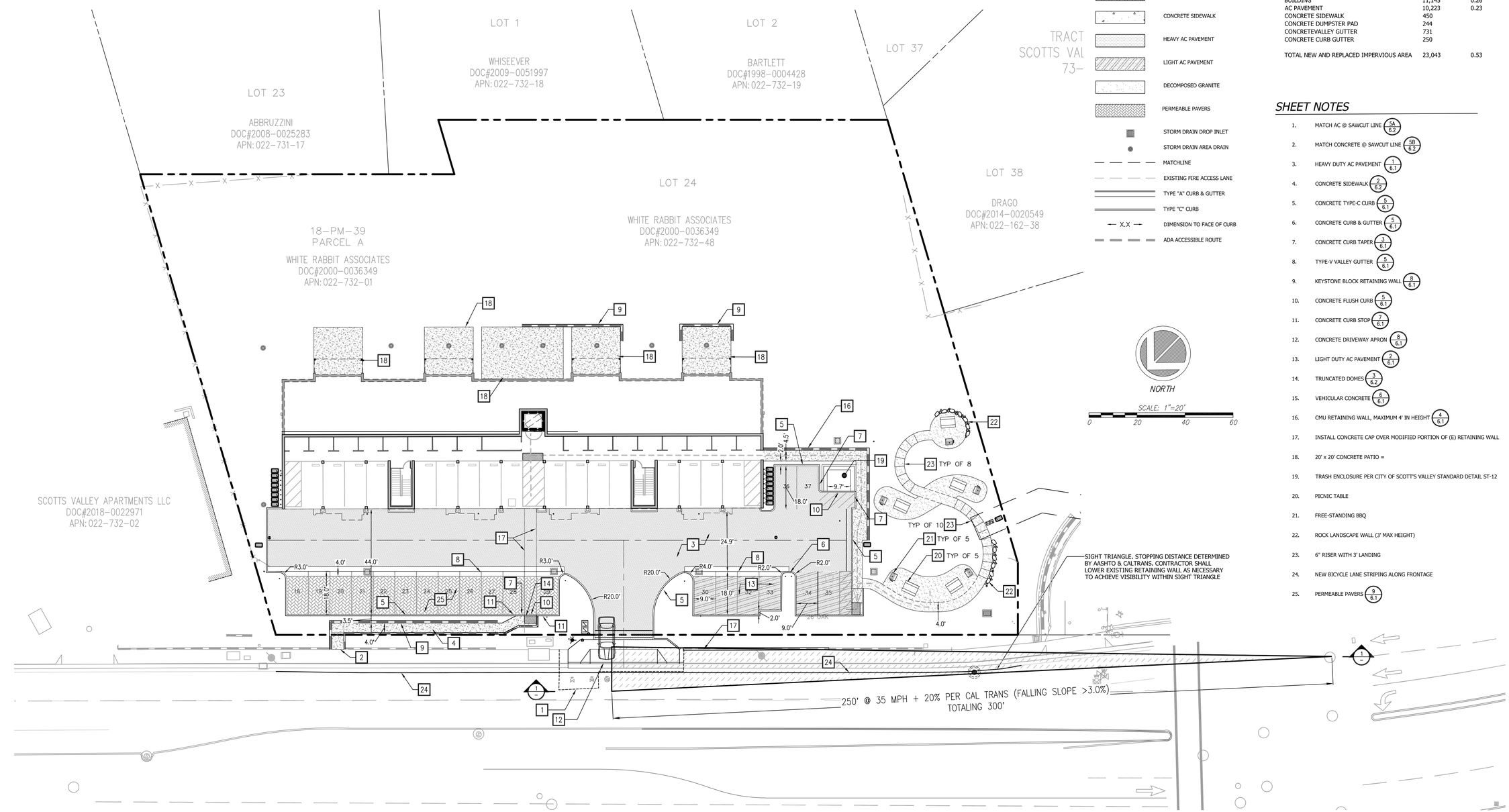



## LEGEND

- VEHICULAR CONCRETE
- CONCRETE SIDEWALK
- HEAVY AC PAVEMENT
- LIGHT AC PAVEMENT
- DECOMPOSED GRANITE
- PERMEABLE PAVERS
- STORM DRAIN DROP INLET
- STORM DRAIN AREA DRAIN
- MATCHLINE
- EXISTING FIRE ACCESS LANE
- TYPE "A" CURB & GUTTER
- TYPE "C" CURB
- X.X — DIMENSION TO FACE OF CURB
- ADA ACCESSIBLE ROUTE

NORTH

SCALE: 1"=20'

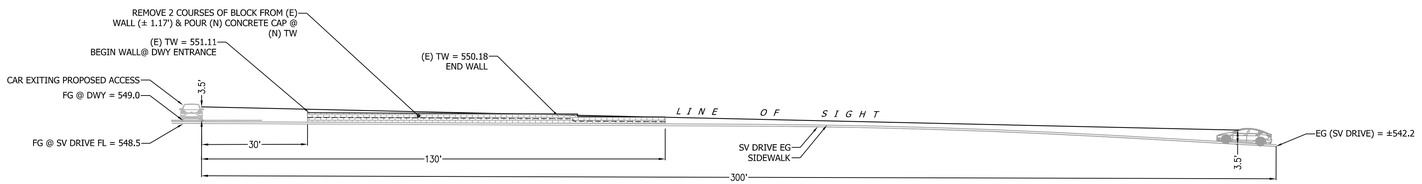
0 20 40 60

## IMPERVIOUS AREA CALCULATIONS

| | SQ FT | ACRES |
|---|---|---|
| NEW | | |
| BUILDING | 11,145 | 0.26 |
| AC PAVEMENT | 10,223 | 0.23 |
| CONCRETE SIDEWALK | 450 | |
| CONCRETE DUMPSTER PAD | 244 | |
| CONCRETEVALLEY GUTTER | 731 | |
| CONCRETE CURB GUTTER | 250 | |
| TOTAL NEW AND REPLACED IMPERVIOUS AREA | 23,043 | 0.53 |

## SHEET NOTES

1. MATCH AC @ SAWCUT LINE (5A 6.2)
2. MATCH CONCRETE @ SAWCUT LINE (5B 6.2)
3. HEAVY DUTY AC PAVEMENT (1 6.1)
4. CONCRETE SIDEWALK (2 6.2)
5. CONCRETE TYPE-C CURB (5 6.1)
6. CONCRETE CURB & GUTTER (5 6.1)
7. CONCRETE CURB TAPER (3 6.1)
8. TYPE-V VALLEY GUTTER (5 6.1)
9. KEYSTONE BLOCK RETAINING WALL (8 6.1)
10. CONCRETE FLUSH CURB (5 6.1)
11. CONCRETE CURB STOP (7 6.1)
12. CONCRETE DRIVEWAY APRON (8 6.1)
13. LIGHT DUTY AC PAVEMENT (2 6.1)
14. TRUNCATED DOMES (3 6.2)
15. VEHICULAR CONCRETE (6 6.1)
16. CMU RETAINING WALL, MAXIMUM 4' IN HEIGHT (4 6.1)
17. INSTALL CONCRETE CAP OVER MODIFIED PORTION OF (E) RETAINING WALL
18. 20' x 20' CONCRETE PATIO =
19. TRASH ENCLOSURE PER CITY OF SCOTT'S VALLEY STANDARD DETAIL ST-12
20. PICNIC TABLE
21. FREE-STANDING BBQ
22. ROCK LANDSCAPE WALL (3' MAX HEIGHT)
23. 6" RISER WITH 3' LANDING
24. NEW BICYCLE LANE STRIPING ALONG FRONTAGE
25. PERMEABLE PAVERS (9 6.1)




1 LINE OF SIGHT ELEVATION

Scale: 1":20'

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SITE PLAN

REGISTERED PROFESSIONAL ENGINEER TODD R. CREAMER No. C 64561 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

C2G /CIVIL CONSULTANTS GROUP, INC.
Engineers/Planners
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THE ENCORE
SCOTTS VALLEY, CALIFORNIA
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| Of | 26 Sheets |

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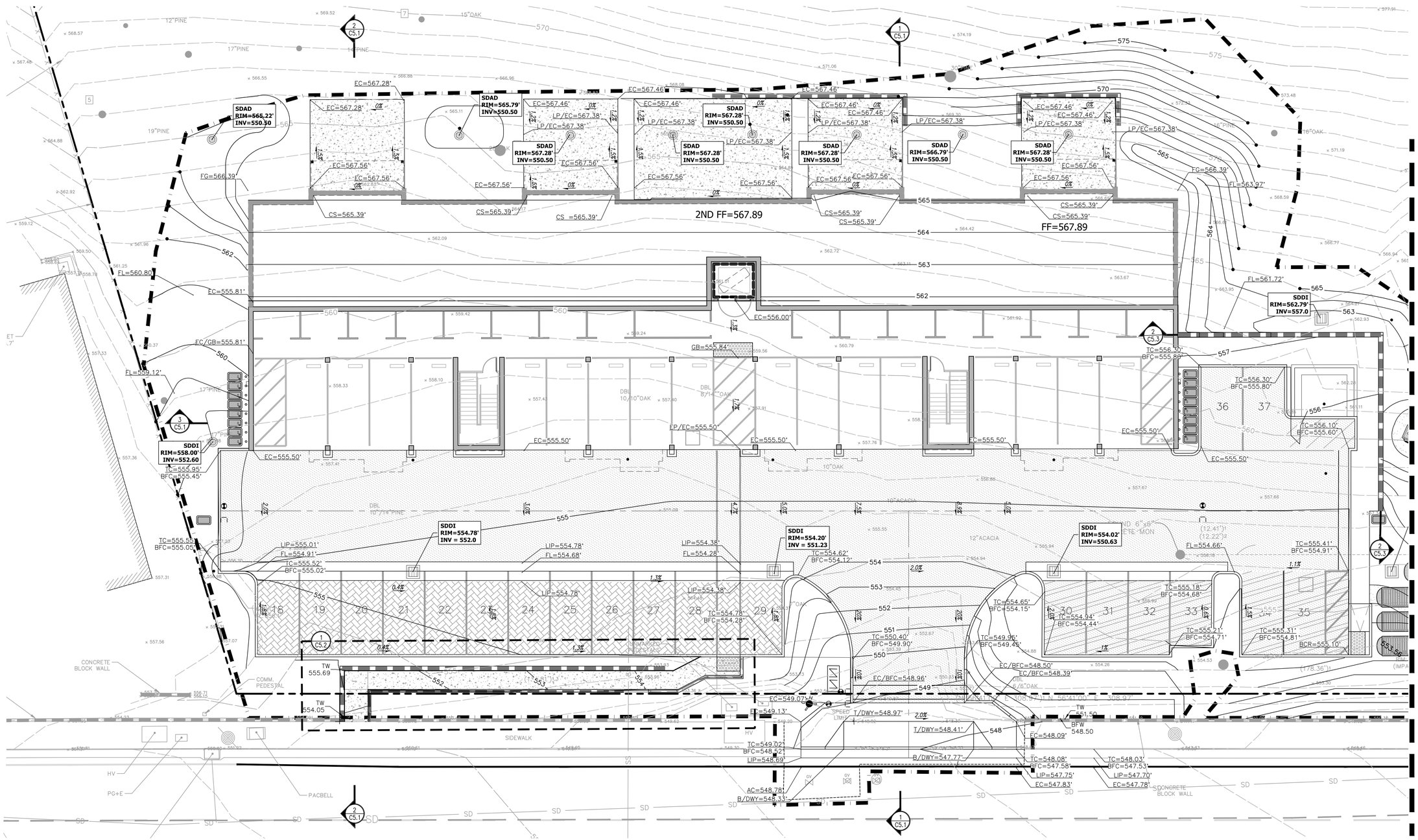


## GENERAL GRADING NOTES

1. SURFACE VEGETATION PRESENT AT THE TIME OF CONSTRUCTION SHOULD BE STRIPPED TOGETHER WITH ORGANIC LADEN TOPSOIL. THE ACTUAL DEPTH SHOULD BE DETERMINED BY THE GEOTECHNICAL ENGINEER AT THE TIME OF CONSTRUCTION. FOR PLANNING PURPOSES THE AVERAGE DEPTH MAY BE ASSUMED TO BE 3-INCHES IN VEGETATED AREAS.
2. ALL MATERIAL TO BE USED AS FILL WITHIN BUILDING PAD AREAS & PARKING OR DRIVEWAY AREAS TO BE FREE OF ALL VEGETATION & FOREIGN MATTER AND SHALL BE APPROVED BY THE SOILS ENGINEER.
3. THESE SOILS WILL NEED TO BE PROCESSED; MOISTURE CONDITIONED AND RE-COMPACTED AS ENGINEERED FILL. AT A MINIMUM, SUBGRADE SHOULD BE SCARIFIED TO A DEPTH OF 8-INCHES; MOISTURE CONDITIONED AND RE-COMPACTED AS RECOMMENDED IN THE GEOTECHNICAL REPORT.
4. BUILDING PAD TO BE LEVEL SIDE-TO-SIDE, FRONT-TO-REAR, UNLESS OTHERWISE SHOWN.
5. STRIPPINGS MAY BE PLACED IN PLANTING AREAS; ALL EXCESS STRIPPING SHALL BE HAULED OFF. PAVING DEBRIS SHALL BE HAULED OFF TO AN APPROVED DISPOSAL SITE.
6. ALL WORK SHOWN OR NOTED IN THESE PLANS SHALL BE IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER, ALL LOCAL, STATE AND FEDERAL MINIMUM STANDARDS AND THE LATEST ADDITION OF THE UNIFORM BUILDING CODE.
7. CONTRACTOR SHALL PROTECT ALL EXISTING SITE IMPROVEMENTS NOT IDENTIFIED FOR REMOVAL DURING CONSTRUCTION. THEY SHALL REPAIR ANY DAMAGE TO NEW CONDITION AT THEIR EXPENSE.
8. VERIFY ALL EXISTING SITE CONDITIONS, SITE DIMENSIONS AND GRADES PRIOR TO THE START OF CONSTRUCTION.
9. ALL GRADING AND RELATED WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING STUDY UPDATE, DATED APRIL 11, 2019, BY GEOSPHERE CONSULTANTS, INC.
10. GRADING SLOPES FOR BOTH CUT AND FILL SHALL NOT EXCEED 2(H):1(V) UNLESS OTHERWISE DIRECTED BY THE GEOTECHNICAL ENGINEER.
11. ALL SOFTSCAPE GRADES ADJACENT TO (N) BUILDINGS SHALL BE 8" (MIN.) BELOW FINISH FLOOR.
12. CONTRACTOR SHALL GRADE TO ENSURE DRAINAGE FLOWS AWAY FROM (N) BUILDINGS.
13. FOR ALL ACCESS ROADS, CONTRACTOR SHALL EXTEND SUBGRADE PREPARATION 1' MIN. BEYOND FACE-OF-CURB. OVER-EX AND RE-COMPACTION SHALL BE 18" DEEP

## EARTHWORK QUANTITIES

NOTE: THE EARTHWORK QUANTITIES SHOWN HEREON ARE EXCLUSIVE OF WALL FOOTINGS, EXISTING PAVEMENT REMOVAL AND OVER EXCAVATION AND RECOMPACTION, UTILITY TRENCH SPOILS & SOIL EXPANSION AND CONTRACTION FACTORS.

| ITEM | DESCRIPTION | CUT (cu.yds) | FILL (cu.yds) |
|---|---|---|---|
| 1 | EG VS. FG | 2137 | 261 |

***NET VOLUME = 1876 CU.YDS. OF CUT***

THE ABOVE QUANTITIES ARE FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE THE NECESSARY CUT AND FILL TO ACCOMPLISH FINISH GRADE SHOWN ON THESE PLANS.

## LEGEND

- PERF — PERFORATED PIPE
- SD — STORM DRAIN PIPE
- SD — PORTION OF (E) STORM DRAIN PIPE TO REMAIN
- STORM DRAIN INLET
- STORM DRAIN MANHOLE
- 250 — GRADING CONTOUR
- 250 — EXISTING CONTOUR
- RETAINING WALL

NORTH

SCALE: 1"=10'

0 10 20 30

| REVISIONS | BY |
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# GRADING PLAN

REGISTERED PROFESSIONAL ENGINEER
TODD R. CREAMER
No. C 64561
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

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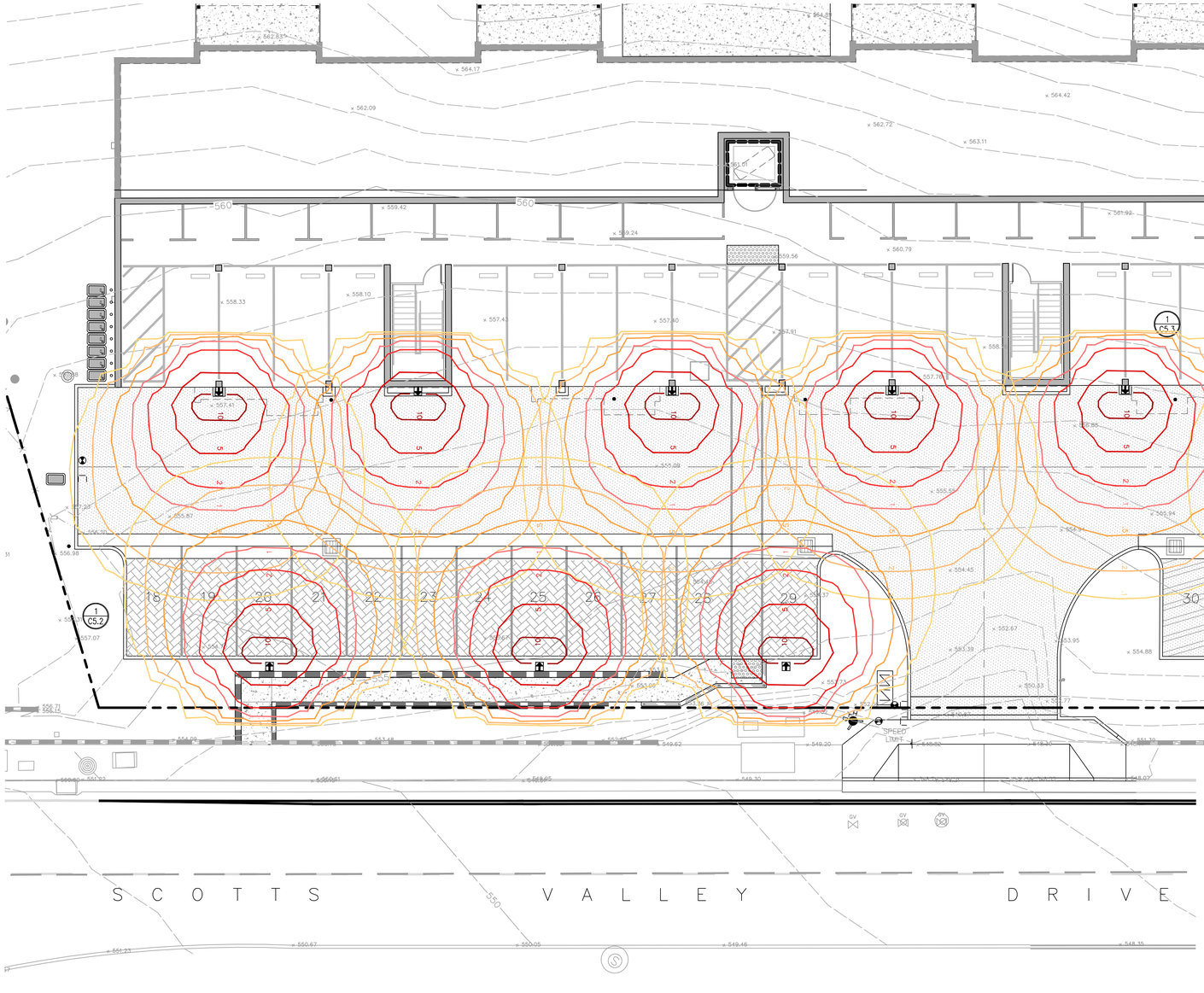



RAB LIGHTING

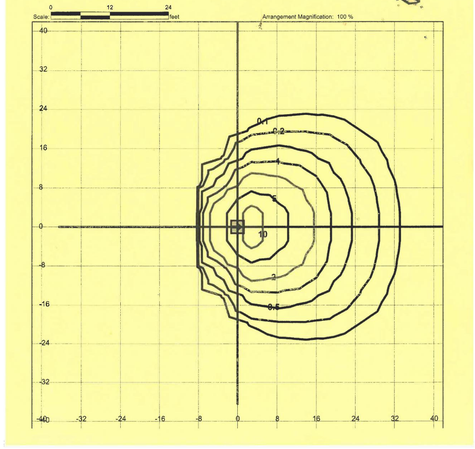
**Luminaire**

**Date :** 23 Jul 2019
**Title :** Enter the title here...
**Desc :** Enter the description here...

**For :** Client's name or company...
**By :** Your name or company...

IES Filename : rab04258mod50.ies
Description : SLIM18
CAST BROWN PAINTED FINNED METAL HOUSING,
1 CIRCUIT BOARD WITH 1 LED,
ONE WHITE MULTI-CHIP LIGHT EMITTING DIODE

Light Loss Factor : 1.00
Number of Lamps : 1
Lamp Lumens : -1 lms
Luminaire Watts : 18 W




NOTE: LIGHT FIXTURE INTEGRATED IN 8' TALL FENCE POSTS OR AFFIXED TO BUILDING.

1 8' TALL LIGHT FIXTURE

Scale: NTS

| REVISIONS | BY |
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PHOTOMETRIC PLAN

REGISTERED PROFESSIONAL ENGINEER
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| Job: | 249-60 |
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| Of | 26 Sheets |

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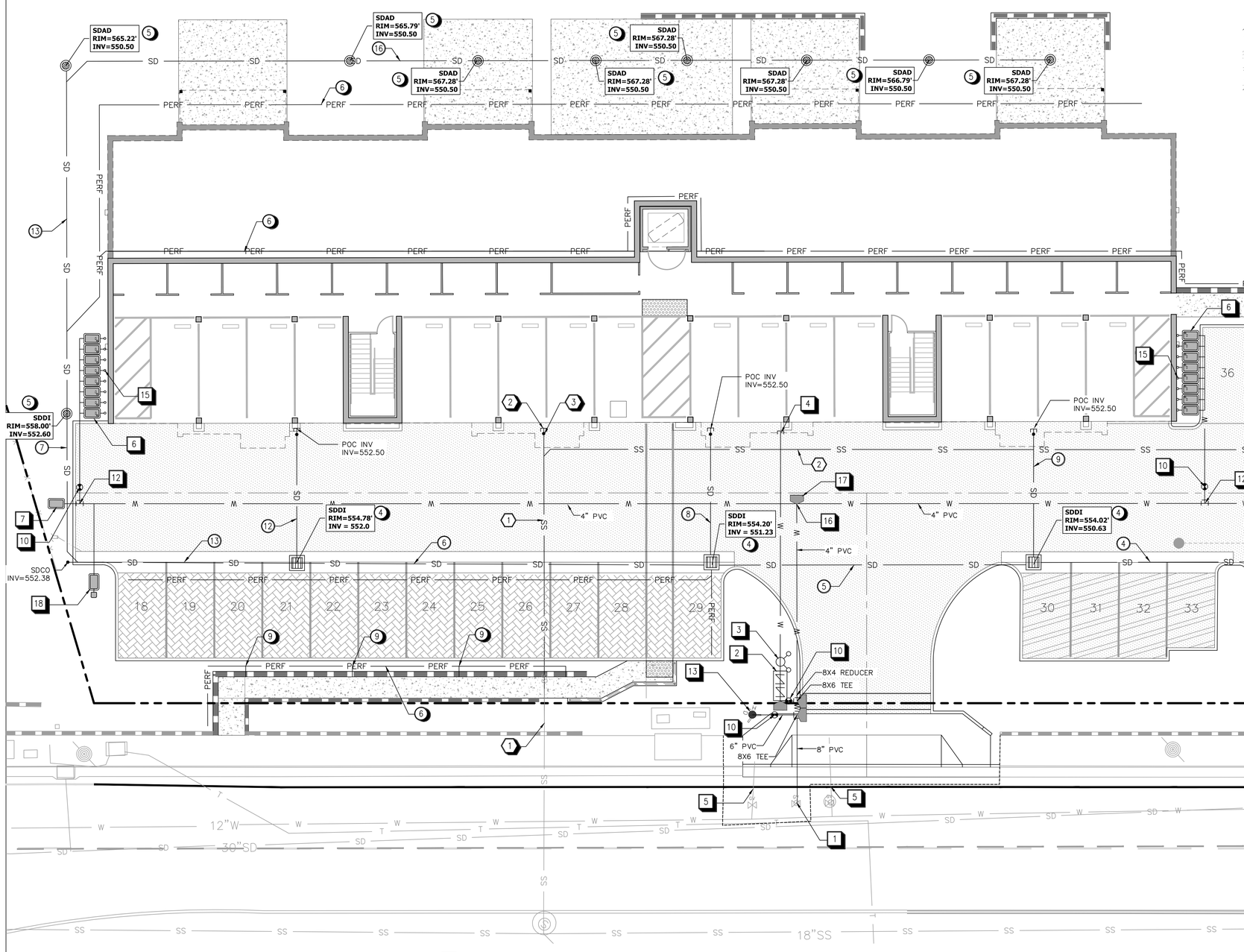


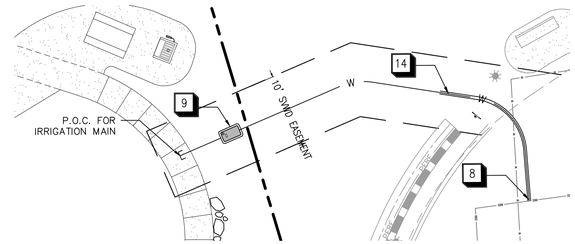


1 ENLARGED PLAN

Scale: 1"=10'

## WATER NOTES

1. P.O.C. TO EXISTING 8"Φ WATER STUB. CONTRACTOR TO VERIFY EXACT LOCATION, DEPTH, SIZE & MATERIAL PRIOR TO CONSTRUCTION. PROVIDE AND INSTALL COUPLER FOR DISIMILAR SIZE AND/OR MATERIAL.
2. INSTALL 4" BACKFLOW PREVENTER WITH CONCRETE PAD & ENCLOSURE
3. INSTALL FDC (2-WAY PER CITY OF SV FIRE). SIAMESE CONNECTION ON BACK OF BFP
4. P.O.C. TO BUILDING FIRE RISER SERVICE
5. ABANDON EXISTING 2" WATER SERVICE PER THE SCOTTS VALLEY WATER DISTRICT.
6. INSTALL (8) 5/8 METER & BOX FOR DOMESTIC WATER SERVICE
7. INSTALL 2" BLOW OFF VALVE IN METER BOX
8. P.O.C. TO EXISTING RECYCLED WATER LINE. CONTRACTOR SHALL SADDLE TAP W/ (N) 1 IRRIGATION WATER SERVICE.
9. INSTALL 5/8 METER & BOX FOR IRRIGATION SERVICE
10. INSTALL GATE VALVE PER WATER DISTRICT DETAIL
11. NA
12. INSTALL 2" SERVICE MANIFOLD
13. INSTALL FIRE HYDRANT
14. INSTALL FULL STANDARD SLEEVES UP TO 10 FEET BEYOND THE NEAREST DOMESTIC WATER PIPING CROSSING PER SVWD RW-21B. RECYCLED WATER SUPPLY LINE TO BE AT LEAST 12" BELOW POTABLE WATER LINE WHERE CROSSING,
15. INSTALL WALL HANGING BACKFLOW PREVENTER EQUIVALENT TO WATER DISTRICT DETAIL. THE DISTRICT WILL NEED TO REVIEW AND APPROVE THE BACKFLOW DESIGN PRIOR TO INSTALLATION.
16. INSTALL 4"x4" TEE (FLxFL W/ 2104)
17. INSTALL THRUST BLOCK (TYP)
18. INSTALL BELOW-GRADE AIR VALVE INSTALLATION PER SVWD STANDARD DETAIL 25

## STORM DRAIN NOTES

1. P.O.C. TO EXISTING 30" STORM DRAIN LINE. CONTRACTOR SHALL VERIFY EXACT LOCATION, DEPTH, SIZE & MATERIAL PRIOR TO CONSTRUCTION. INSTALL 48Φ CAST IN PLACE MANHOLE
2. UNDERGROUND CHAMBERS
3. P.O.C. TO DOWNSPOUT. REFER TO PLUMBING PLANS FOR EXACT LOCATIONS OF DOWNSPOUTS
4. U23 DROP INLET
5. 8" AREA DRAIN
6. FOUNDATION DRAIN
7. RESTRICTOR MANHOLE W/ INTERNAL BYPASS
8. U43 DROP INLET
9. 4" WEEP HOLE

## STORM DRAIN PIPE DATA

1. 22 LF OF 12"Φ HDPE (DOUBLE WALL) SD PIPE @ 4.0% SLOPE
2. 4 LF OF 24"Φ HDPE (DOUBLE WALL) SD PIPE @ 1.0% SLOPE
3. N/A
4. 70 LF OF 12"Φ HDPE (DOUBLE WALL) SD PIPE @ 1.0% SLOPE
5. 58 LF OF 8"Φ HDPE (DOUBLE WALL) SD PIPE @ 1.0% SLOPE
6. 78 LF OF 8"Φ HDPE (DOUBLE WALL) SD PIPE @ 1.0% SLOPE
7. 32 LF OF 6"Φ HDPE (DOUBLE WALL) SD PIPE @ 1.0% SLOPE
8. 26 LF OF 6"Φ HDPE (DOUBLE WALL) SD PIPE @ 5.0% SLOPE
9. 26 LF OF 6"Φ HDPE (DOUBLE WALL) SD PIPE @ 7.5% SLOPE
10. NA
11. NA
12. 25 LF OF 6"Φ HDPE (DOUBLE WALL) SD PIPE @ 2.0% SLOPE
13. 38 LF OF 8"Φ HDPE (DOUBLE WALL) SD PIPE @ 14.0% SLOPE
14. 60 LF OF 6"Φ HDPE (DOUBLE WALL) SD PIPE @ 16.0% SLOPE
15. 45 LF OF 6"Φ HDPE (DOUBLE WALL) SD PIPE @ 16.0% SLOPE
16. 115 LF OF 6"Φ HDPE (DOUBLE WALL) SD PIPE @ 16.0% SLOPE

## SANITARY SEWER NOTES

1. POINT OF CONNECTION TO EXISTING SS LATERAL. CONTRACTOR SHALL POTHOLE TO VERIFY EXACT LOCATION, DEPTH, SIZE, & MATERIAL PRIOR TO THE START OF CONSTRUCTION.
2. POINT OF CONNECTION TO BUILDING SEWER LATERAL. SEE PLUMBING PLANS FOR CONTINUATION.
3. SANITARY SEWER CLEANOUT (SSCO)

## SAN. SEWER PIPE DATA

1. 47 LF OF 6"Φ SDR-35 @ 1.0% SLOPE MIN.
2. 159 LF OF 6"Φ SDR-35 @ 1.0% SLOPE MIN.
3. 13 LF OF 6"Φ SDR-35 @ 1.0% SLOPE MIN.

## GENERAL RECYCLED WATER NOTES

ALL WORK SHALL COFORM TO EXISTING REGULATIONS INCLUDING BUT NOT LIMITED TO:

1. SCOTTS VALLEY WATER DISTRICT (SVWD) WATER RECYCLING PROGRAM RULES AND REGULATIONS
2. SVWD CUSTOMER ON-SITE DESIGN MANUAL
3. DEPARTMENT OF HEALTH SERVICES REGULATIONS.

NORTH

SCALE: 1"=10'

0 10 20 30

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# UTILITY PLAN

REGISTERED PROFESSIONAL ENGINEER
TODD R. CREAGER
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STATE OF CALIFORNIA

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| Of | 26 Sheets |

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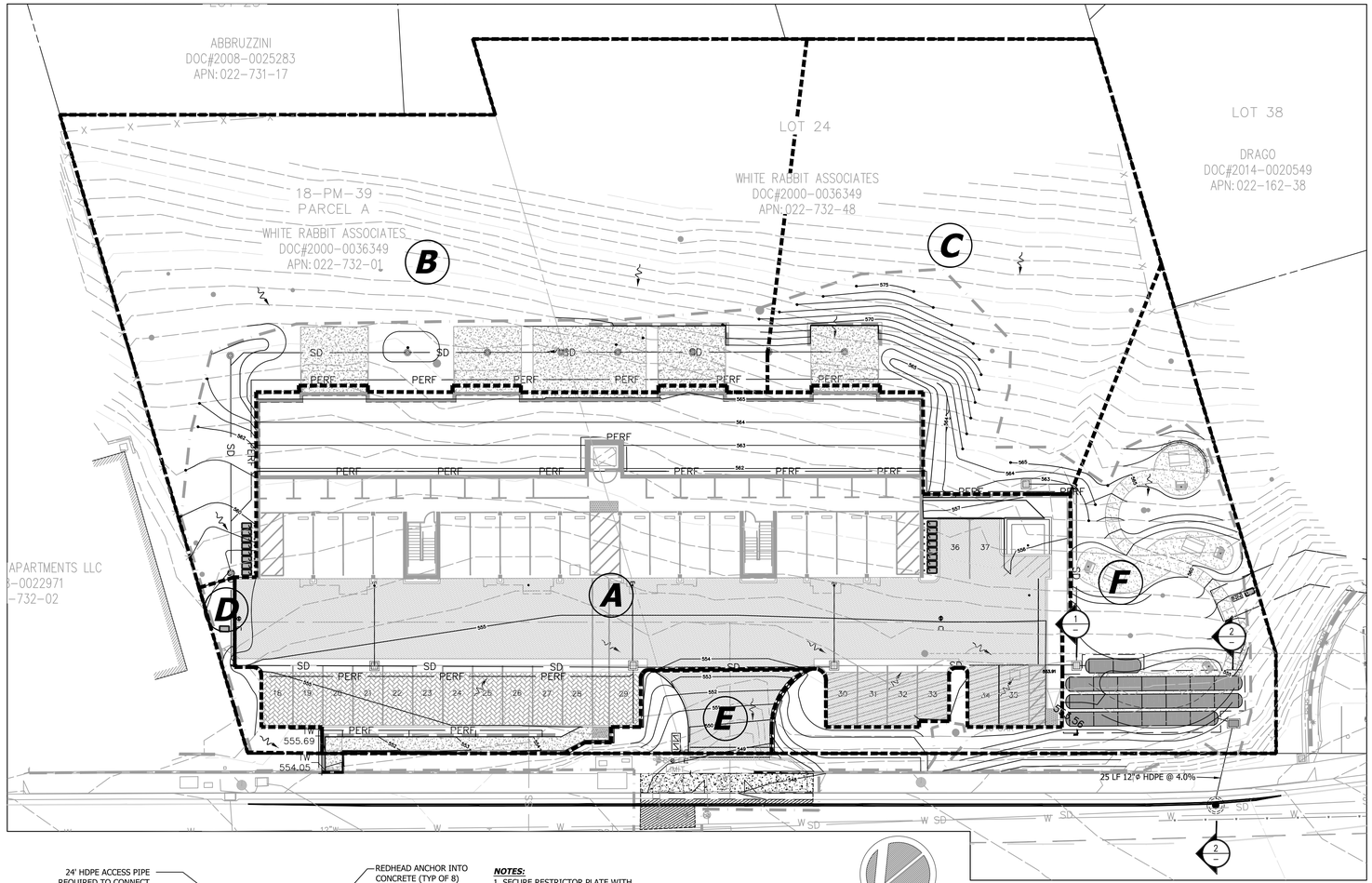



NORTH

SCALE: 1"=20'

0 20 40 60

| DRAINAGE MANAGEMENT AREAS | | | |
|---|---|---|---|
| ID | IMPERVIOUS AREA (SF) | PERVIOUS AREA (SF) | TOTAL AREA (SF) |
| A | 22,295 | 178 | 22,472 |
| B | 1,950 | 18,417 | 20,367 |
| C | 400 | 12,084 | 12,484 |
| D | 0 | 532 | 532 |
| E | 748 | 407 | 1,155 |
| F | 1,453 | 6,437 | 7,890 |
| TOTAL | 23,043 | 41,731 | 64,773 |

## LEGEND

- B — DMA ID
- DROP INLET
- AREA DRAIN
- UNDERGROUND CHAMBER
- STORMDRAIN MANHOLE
- SD — STORMDRAIN PIPE
- DMA BOUNDARY

## STORM WATER POST-CONSTRUCTION REQUIREMENTS

NET IMPERVIOUS AREA = 23,043

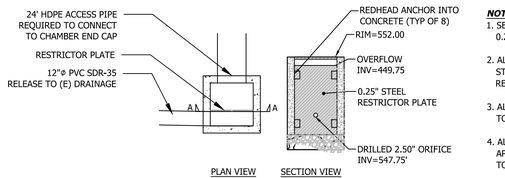
PERFORMANCE REQUIREMENTS 1 THROUGH 4 ARE REQUIRED FOR THIS PROJECT

PERFORMANCE REQUIREMENT 1 : SITE DESIGN AND RUNOFF REDUCTION
- DIRECT ROOF RUNOFF INTO CIESTERNS OR RAIN BARRELS FOR REUSE
- DIRECT RUNOFF FROM WALKWAYS ONTO VEGETATED AREAS
- DIRECT RUNOFF FROM DRIVEWAYS ONTO VEGETATED AREAS

PERFORMANCE REQUIREMENT 2 : WATER QUALITY TREATMENT
- LOW IMPACT DEVELOPMENT TREATMENT SYSTEM BY MEANS OF GROUNDWATER INFILTRATION.
- BASED ON WEB SOIL SURVEY MAPS, SOILS BELOW INFILTRATION SYSTEM ARE MADE ENTIRELY OF ELDER SANDY LOAM, 2 TO 9 PERCENT SLOPES, WITH A KSAT VALUE OF 2.83 TO 9.92 IN/HR (MEDIAN 6.38 IN/HR)
- TREATMENT AREA REQUIREMENT IS 4% OF NET IMPERVIOUS AREA
  - 52,129 SF x 0.04 = 921.7 (REQUIRED INFILTRATION AREA)
  - PROVIDED INFILTRATION AREA = 1,017 SF

PERFORMANCE REQUIREMENT 3 : RUNOFF RETENTION
- RETENTION WITHIN ROCKED SECTION OF BIOFILTRATION SYSTEM
- PER CENTRAL COAST REGION STORM CONTROL MEASURE SIZING CALCULATOR, REQUIRED RETENTION VOLUME = 625 CF
- SEE SWM-24 FROM STORMWATER CONTROL PLAN

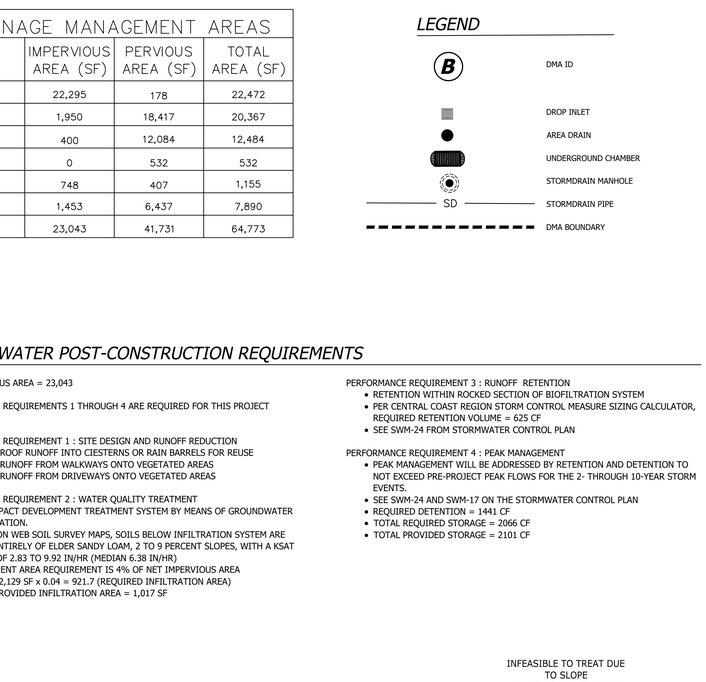
PERFORMANCE REQUIREMENT 4 : PEAK MANAGEMENT
- PEAK MANAGEMENT WILL BE ADDRESSED BY RETENTION AND DETENTION TO NOT EXCEED PRE-PROJECT PEAK FLOWS FOR THE 2- THROUGH 10-YEAR STORM EVENTS.
- SEE SWM-24 AND SWM-17 ON THE STORMWATER CONTROL PLAN
- REQUIRED DETENTION = 1441 CF
- TOTAL REQUIRED STORAGE = 2066 CF
- TOTAL PROVIDED STORAGE = 2101 CF




**NOTES:**
1. SECURE RESTRICTOR PLATE WITH 0.25" REDHEAD FASTENERS.
2. ALL STEEL COMPONENTS TO BE STAINLESS OR TREATED TO RESIST CORROSION.
3. ALL STEEL TO CONCRETE JOINTS TO BE SEALED WATER-TIGHT.
4. ALL SUBSTITUTIONS TO BE APPROVED BY ENGINEER PRIOR TO IMPLEMENTATION.

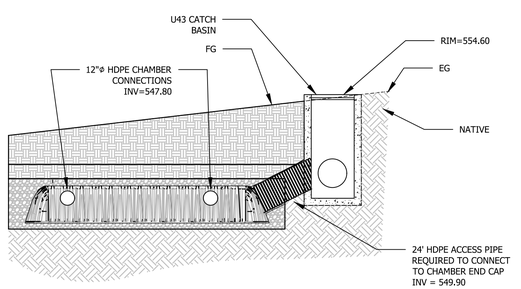
## 4 RESTRICTOR DIAGRAM

Scale: NTS



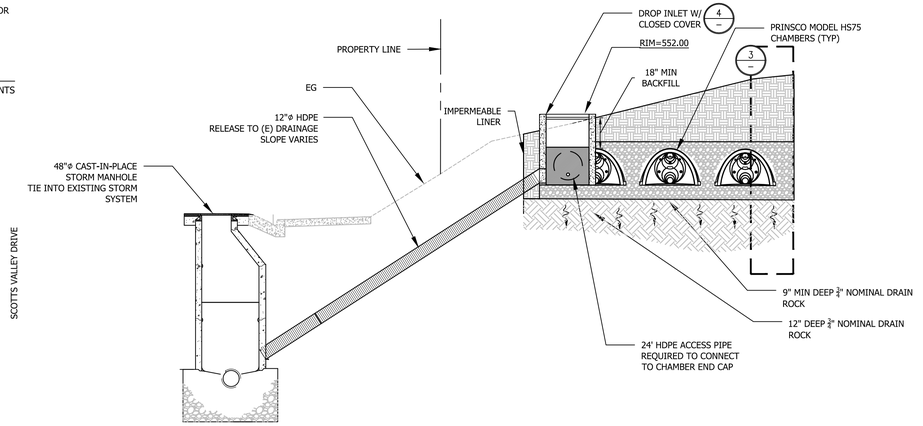

## 5 ONSITE DRAINAGE DIAGRAM

Scale: NTS



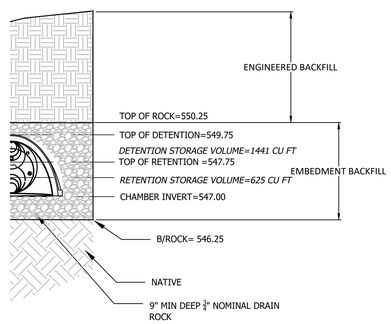

## 1 TREATMENT/DETENTION/RETENTION CHAMBERS SECTION

Scale: 1"=5'




## 2 TYPICAL RUNOFF TREATMENT/DETENTION/RETENTION CHAMBER TYPICAL PROFILE

Scale: 1"=5'




## 3 STORAGE CHAMBER SECTION

Scale: 1"=3'

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# STORMWATER CONTROL PLAN

REGISTERED PROFESSIONAL ENGINEER
TODD R. CREAMER
No. C 64561
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

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THE ENCORE
SCOTTS VALLEY, CALIFORNIA
APN #022-732-01 & 48

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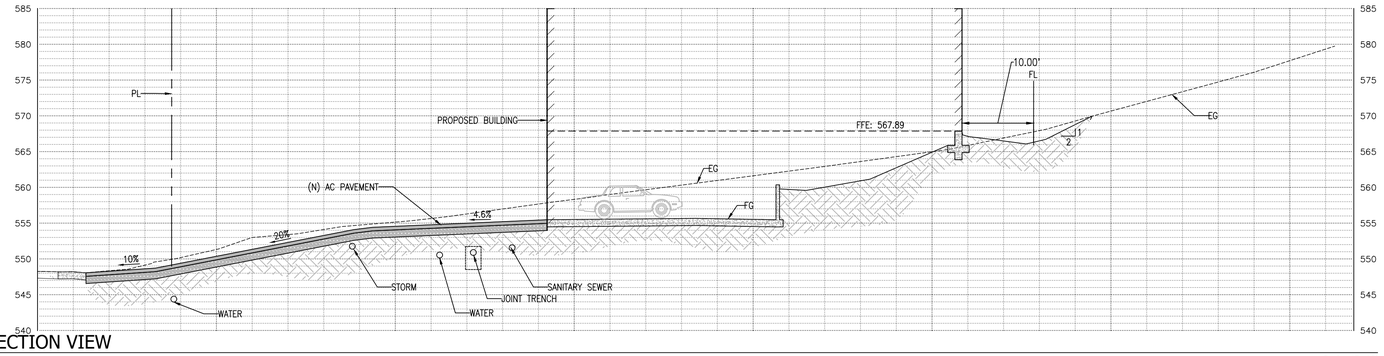
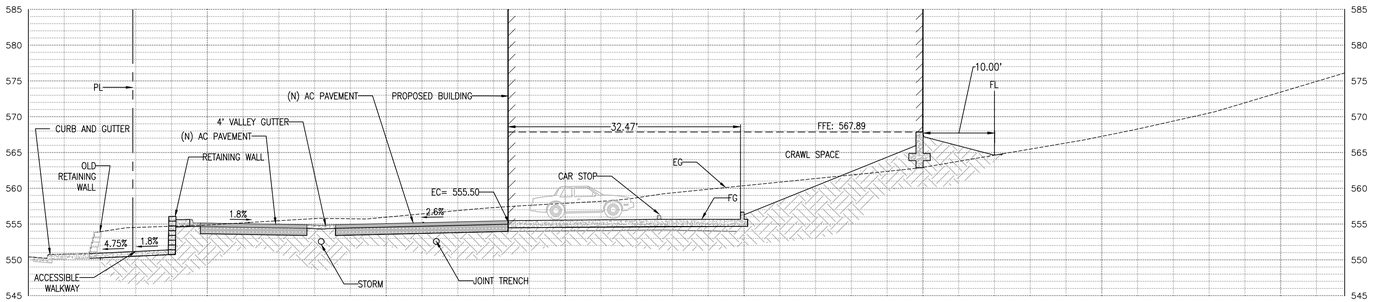
| Drawn: | DD |
| Job: | 249-60 |
| Sheet: | C4.2 |
| Of | 26 Sheets |

Drawing: Z:\Shared\CAD\249-60 Post - White Rabbit\Design\CAD\Sheets\C4.2 - STORMWATER CONTROL PLAN.dwg Layout: C4.2 SWCP Last Saved: Fri Mar 05, 2021 - 7:53am Last Plotted: Mon Mar 08, 2021 - 7:53am By: jamie



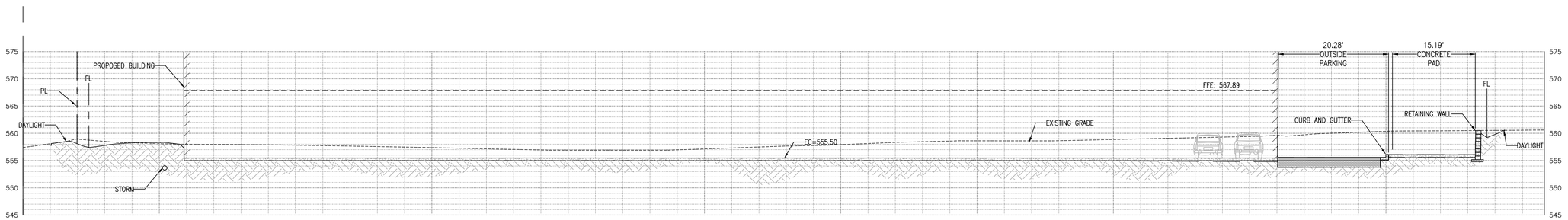

1 SECTION VIEW

Scale: 1"=10'




2 SECTION VIEW

Scale: 1"=10'




3 SECTION VIEW

Scale: 1"=10'

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# SITE CROSS SECTIONS

REGISTERED PROFESSIONAL ENGINEER
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No. C 64561
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APN #022-732-01 & 48

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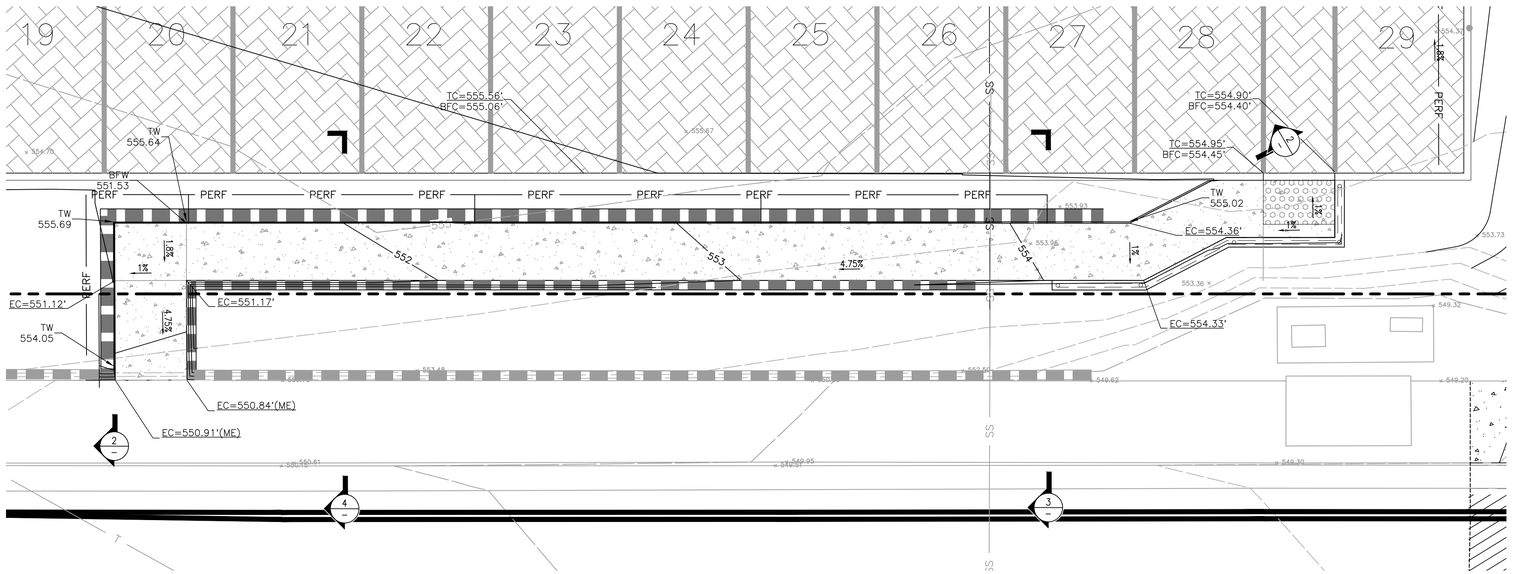
| Date: | 03.08.21 |
| Scale: | 1" = 10' |
| Drawn: | DD |
| Job: | 249-60 |

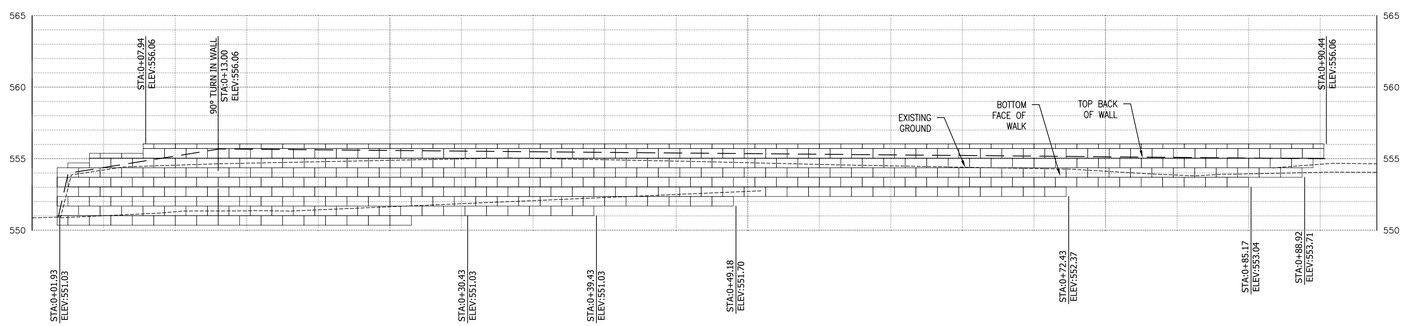
Sheet:
C5.1
Of 26 Sheets

Drawing: Z:\Shared\CAD\249-60 Encore - White Rabbit\Design\CAD\Sheets\C5.1 - SITE SECTIONS.dwg Layout: C5.1 Last Saved: Tue Feb 02, 2021 - 4:58pm Last Plotted: Mon Mar 08, 2021 - 7:55am By: jamie



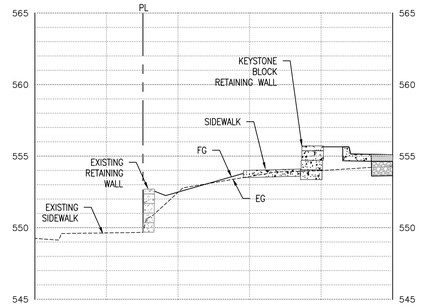

## 1 ENLARGED GRADING PLAN

Scale: 1"=5'



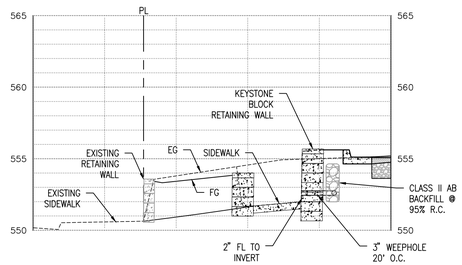

## 2 NORTH RETAINING WALL

Scale: 1"=5'




## 3 ACCESSIBLE WALK SECTION

Scale: 1"=5'




## 4 ACCESSIBLE WALK SECTION

Scale: 1"=5'

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# WALL PLAN & PROFILE

REGISTERED PROFESSIONAL ENGINEER
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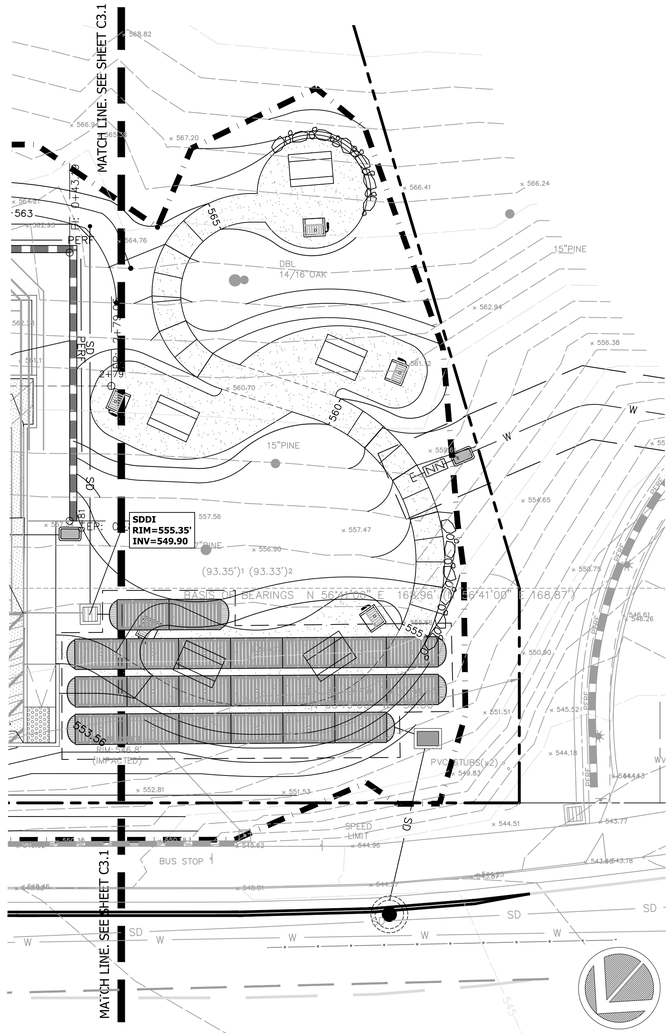
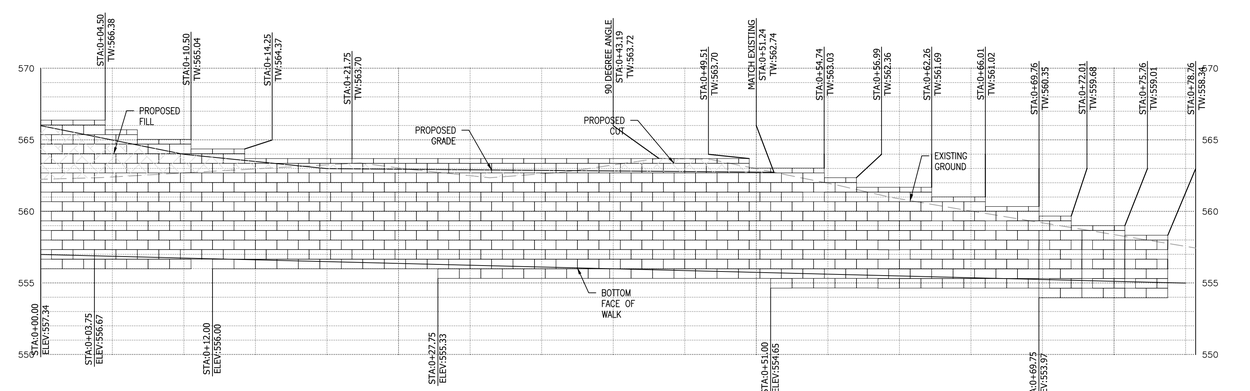
| Date: | 03.08.21 |
| Scale: | 1" = 5' |
| Drawn: | DD |
| Job: | 249-60 |
| Sheet: | C5.2 |
| Of | 26 Sheets |

Drawing: Z:\Shared\CAD\249-60 Encr - White Rabbit\Design\CAD\Sheets\C5.2 - WALL SECTIONS.dwg Layout: C5.2 Last Saved: Tue Dec 22, 2020 - 9:16am Last Plotted: Mon Mar 08, 2021 - 7:51am By: jamie




1 OUTDOOR COMMON AREA GRADING PLAN

Scale: 1"=10'




2 SOUTH RETAINING WALL PROFILE

Scale: 1"=5'

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# WALL PROFILE & PLANS

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| Drawn: | DD |
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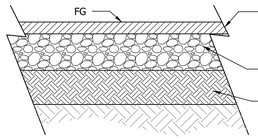
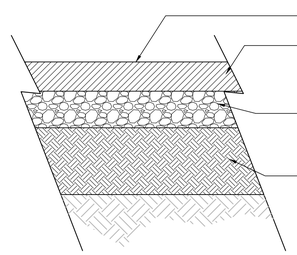
| Sheet: | C5.3 |
| | of 26 Sheets |

Drawing: Z:\Drawn\249-60 Pave\Work\Design\CAD\Sheets\C5.3 - WALL SECTIONS.dwg Layout: C5.3 Last Saved: Mon Mar 01, 2021 - 1:09pm Last Plotted: Mon Mar 08, 2021 - 7:55am By: jamie



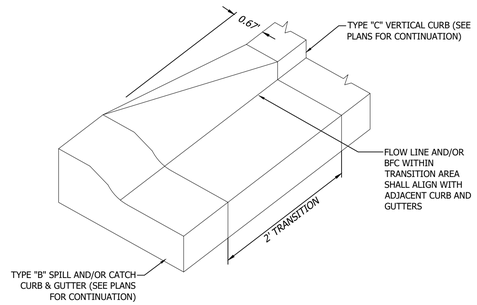

## 1 HEAVY DUTY PAVEMENT SECTION

Scale: NTS




## 2 LIGHT DUTY PAVEMENT SECTION (PARKING STALLS ONLY)

Scale: NTS

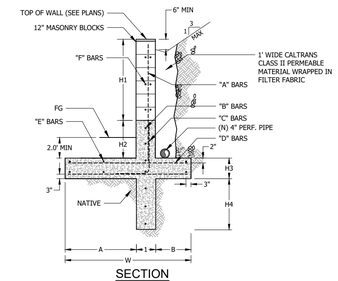



## 3 CURB TRANSITION

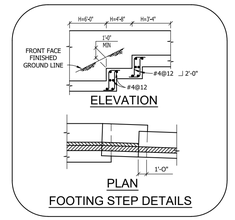
Scale: NTS

RETAINING WALL SCHEDULE

| DESC. | H1 | H2 | H3 | H4 | W | A | B | "A" BARS | "B" BARS | "C" BARS | "D" BARS | "E" BARS | "F" BARS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2'-8" SLOPED | 0 | 3'-4" | 1'-8" | 1'-0" | 4'-0" | 2'-0" | 1'-0" | #5 @ 32"O.C. | #5 @ 32"O.C. | #5 @ 32"O.C. | #6 @ 16"O.C. | #7 @ 16"O.C. | #5 @ 32"O.C |
| 5'-9" SLOPED | 2'-0" | 3'-4" | 1'8" | 1'-0" | 4'-0" | 2'-0" | 1'-0" | #5 @ 32"O.C. | #5 @ 32"O.C. | #5 @ 32"O.C. | #6 @ 16"O.C. | #7 @ 16"O.C. | #5 @ 32"O.C. |



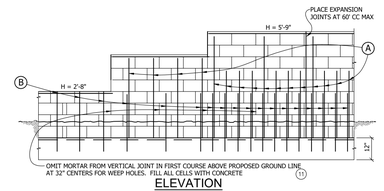

SECTION




ELEVATION

PLAN

FOOTING STEP DETAILS



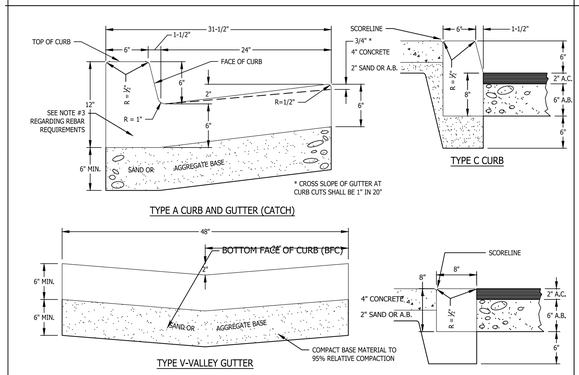

ELEVATION

NOTES:

1. WHERE WALL HEIGHT FALLS BETWEEN CALCULATED HEIGHTS, CONTRACTOR SHALL BUILD PER THE NEXT HIGHER HEIGHT.
2. FOOTING CONCRETE SHALL BE CALTRANS CLASS "A",6 SACK MIX.
3. REINFORCEMENT SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 40.
4. HOLLOW CONCRETE MASONRY UNITS SHALL BE GRADE "N" UNITS CONFORMING TO ASTM C-90. STYLE OF BLOCK(ie. SLUMPED, SPLIT FACE, ETC.) IS OPTIONAL.
5. MORTAR SHALL BE TYPE M OR S CONFORMING TO UBC TABLE 24-A.
6. ALL CELLS SHALL BE GROUTED SOLID WITH GROUT CONFORMING TO UBC TABLE 24-B.
7. ALL WORK SHALL BE IN CONFORMANCE WITH APPLICABLE REQUIREMENTS OF CHAPTER 24 "MASONRY" OF THE UBC, LATEST EDITION.
8. SAFETY HANDRAIL OR GUARD RAIL NOT SHOWN AT TOP OF WALL MAY BE REQUIRED AND IS RESPONSIBILITY OF BUILDER.
9. DESIGN DATA: E.F.P. = 35 PCF, LEVEL; E.F.P. = 50 PCF, SLOPED; Qu = 2,500 PSF; PASSIVE PRESSURE = 400 PCF; =0.35
10. ALTERNATE DRAINAGE MAY BE PROVIDED BY 2"ø WEEPS AT 4' C.C. SET 2" ABOVE FRONT FACE GROUND LINE OR BY 4"ø PERFORATED DRAIN PIPE IN BOTTOM OF ROCK POCKET AND SLOPED TO DAYLIGHT WITH APPROVAL OF THE DEPARTMENT OF PUBLIC WORKS.
11. WITH THE WRITTEN APPROVAL OF A GEOTECHNICAL ENGINEER, THE PERMEABLE MATERIAL BACKFILL MAY BE REPLACED WITH MIRARAIN (PREFABRICATED DRAINAGE STRUCTURE), OR APPROVED EQUAL, BACKED WITH A MINIMUM 4-INCH THICK SAND BLANKET.
12. WALL TO BE FOUNDED ENTIRELY ON BEDROCK OR ENGINEERED FILL AS PER GEOTECH REPORT.
13. BACKFILL FOR ALL CMU WALLS TO BE GNEISSIC GRANODIORITE

## 4 CMU BLOCK RETAINING WALL

Scale: NTS




TYPE A CURB AND GUTTER (CATCH)

TYPE C CURB



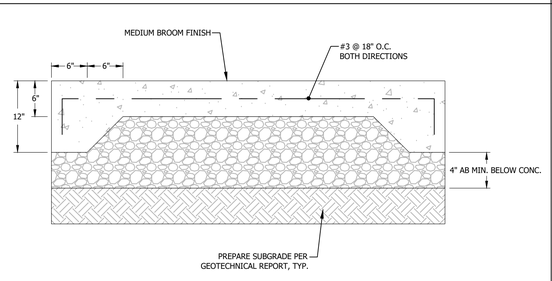

TYPE V-VALLEY GUTTER

FLUSH CURB

1. TYPE A, B & C CURB, GUTTER & SIDEWALK ARE TO BE CONSTRUCTED OF CLASS B CONCRETE, 6 SACK MINIMUM.
2. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT 20ø INTERVALS, AND AT THE ENDS OF RETURNS. EXPANSION JOINTS SHALL BE AT MAXIMUM 60 FEET SPACING.
3. IF SIDEWALK IS NOT INSTALLED MONOLITHICALLY WITH CURB & GUTTER, PLACE #4 DOWELS 18" LONG AT 4' O.C. IN BACK OF CURB 2" DOWN FROM TOP OF CURB, 6" IN CONCRETE.

## 5 CONCRETE CURBS & GUTTERS

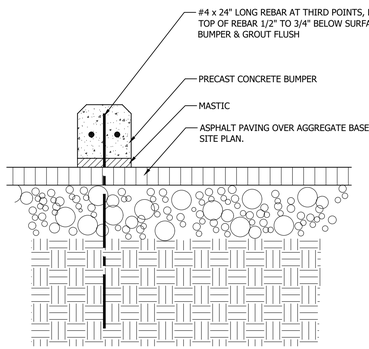
Scale: NTS




NOTE:
1. TYPE OF CONCRETE: CLASS A
2. MINIMUM 6" CLASS 2 AB, COMPACTED TO 95%.
3. SEE LANDSCAPE PLAN FOR LOCATION OF SCORING AND EXPANSION JOINTS.
4. DOWEL WITH #4 BARS, 12" LONG, AT 24" ON CENTERS, EMBEDDED 4" WITH EPOXY IN EDGE OF EXISTING CONCRETE.
5. DOWELING & REINFORCING TO BE PROVIDED AT JOINTS.

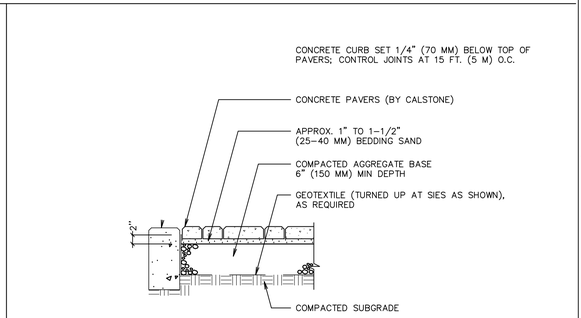
## 6 VEHICULAR CONCRETE SECTION

Scale: NTS




## 7 CONCRETE WHEEL STOP

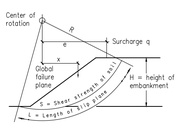
Scale: NTS



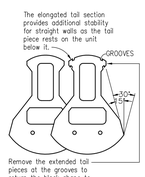

NOTES:
1. THICKNESS OF BASE VARIES DEPENDING ON SUBGRADE AND CLIMATE.
2. CONCRETE PAVERS SHOULD BE PLACED ON A CEMENT TREATED BASE IF SOIL IS EXTREMELY WEAK OR CONSTANTLY SATURATED. PAVERS CAN BE OVERLAID OR INLAID ON EXISTING ASPHALT OR CONCRETE DRIVEWAYS.
3. PLASTIC, STEEL, ALUMINUM OR PRECAST CONCRETE EDGING MAY BE USED.

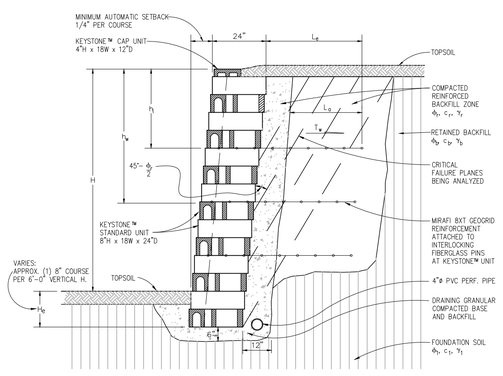
## 9 CONCRETE PAVERS

Scale: NTS




Slope stability analysis diagram




TYPICAL WALL SECTION TERMS

BASIC GEOGRID PLACEMENT CHART *

| WALL HEIGHT FEET | CASE | GRID TYPE * | NUMBER OF LAYERS | GEOGRID LENGTH FEET | GEOGRID LAYER NUMBER 1 | 2 | 3 | 4 | |
|---|---|---|---|---|---|---|---|---|---|
| 4.67 | B | 8XT | 2 | 5 | 1.47 | 2.98 | | | EMBEDMENT DEPTH IN FEET |
| 4.67 | C | 8XT | 2 | 5.5 | 0.79 | 3.00 | | | |
| 6 | B | 8XT | 3 | 6 | 1.57 | 3.02 | 4.48 | | |
| 6 | C | 8XT | 3 | 6.5 | 1.25 | 3.05 | 4.85 | | |
| 7.33 | B | 2XT | 4 | 6.86 | 0.67 | 2.0 | 4.0 | 6.0 | |
| 7.33 | C | 2XT | 4 | 6.86 | 0.67 | 2.0 | 4.0 | 6.0 | |
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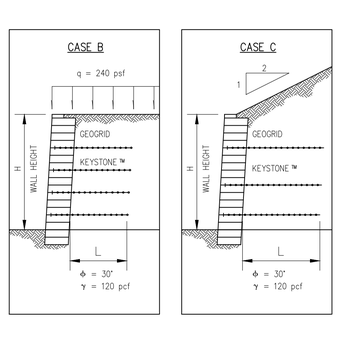


NOTE: RETAINING WALL TO BE FOUNDED ON ENTIRELY BEDROCK OR ENGINEERED FILL AS PER SOILS REPORT.

## 8 KEYSTONE BLOCK RETAINING WALL

Scale: NTS

| REVISIONS | BY |
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DETAILS

REGISTERED PROFESSIONAL ENGINEER TODD R. CREAMER No. C 64561 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

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|---|---|
| Date: | 03.08.21 |
| Scale: | NTS |
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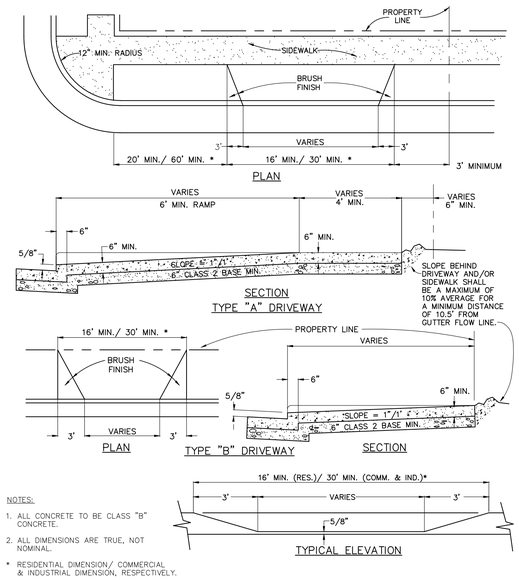
| Job: | 249-60 |
| Sheet: | C6.1 |
| Of | 26 Sheets |

Drawing: Z:\Shared\CAD\249-60 Encr - White Rabbit\Design\CAD\Sheets\C6.1 - DETAILS.dwg Layout: C6.1 Last Saved: Thu Feb 18, 2021 - 5:30pm Last Plotted: Mon Mar 08, 2021 - 7:53am By: jamie



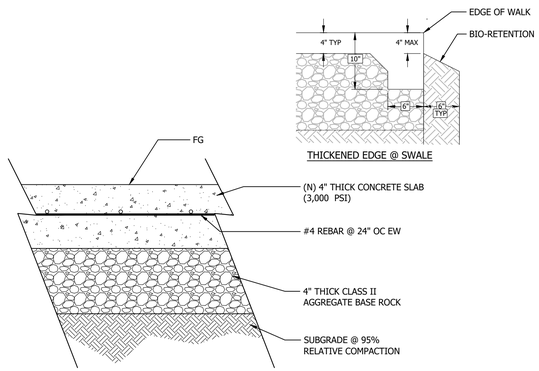

NOTES:

1. ALL CONCRETE TO BE CLASS "B" CONCRETE.
2. ALL DIMENSIONS ARE TRUE, NOT NOMINAL.

* RESIDENTIAL DIMENSION/ COMMERCIAL & INDUSTRIAL DIMENSION, RESPECTIVELY.

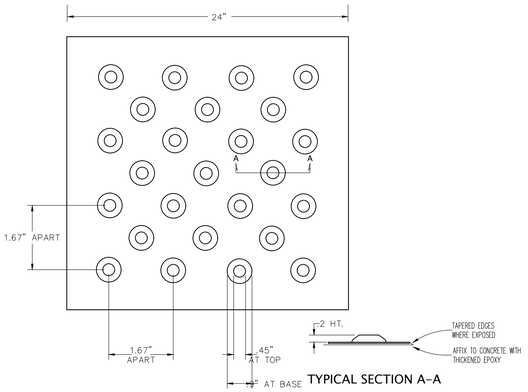
## 1 DRIVEWAY APRON

Scale: NTS



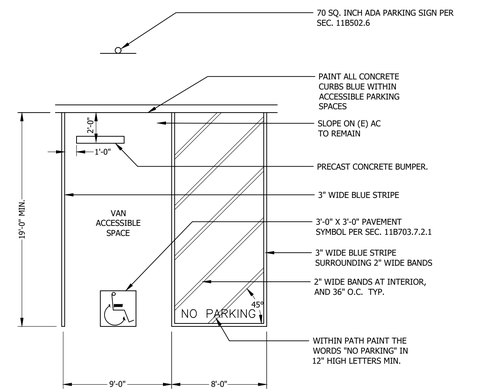

## 2 CONCRETE SIDEWALK SECTION

Scale: NTS



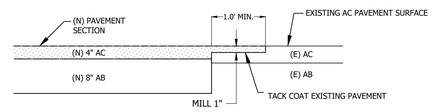

## 3 TRUNCATED DOMES, OFF-SET PATTERN

Scale: NTS



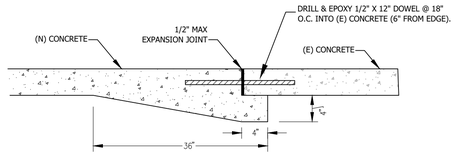

## 4 ACCESIBLE PARKING STALL IMPROVEMENTS

Scale: NTS




## 5A ASPHALT TIE-IN DETAIL

Scale: NTS




## 5B CONCRETE TIE-IN DETAIL

Scale: NTS

| REVISIONS | BY |
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# DETAILS

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| Job: | 249-60 |
| Sheet: | C6.2 |
| Of | 26 Sheets |

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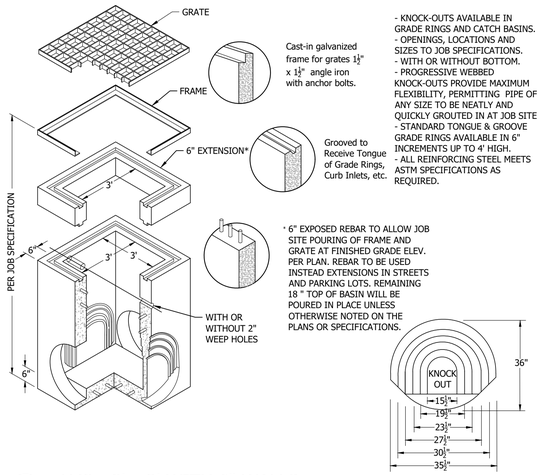
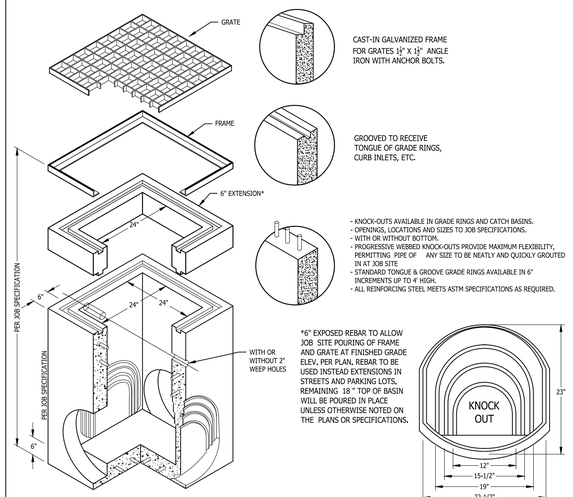


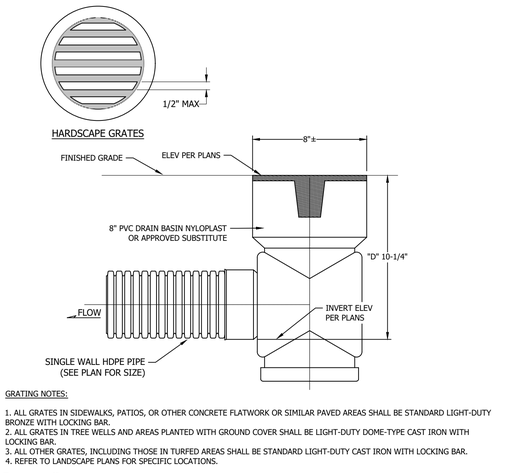

1 U43 - 3' x 3' WITH 6" WALLS

Scale: NTS



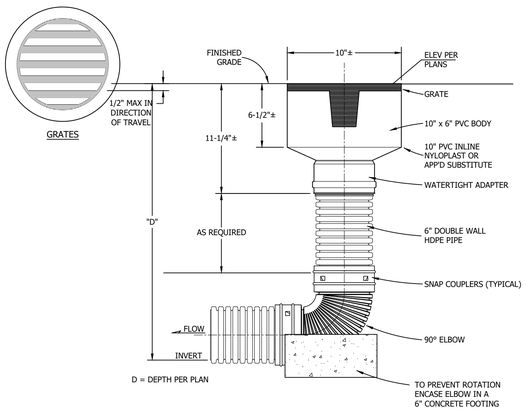

2 U23 CHRISTY BOX DROP INLET (2' X 2')

Scale: NTS



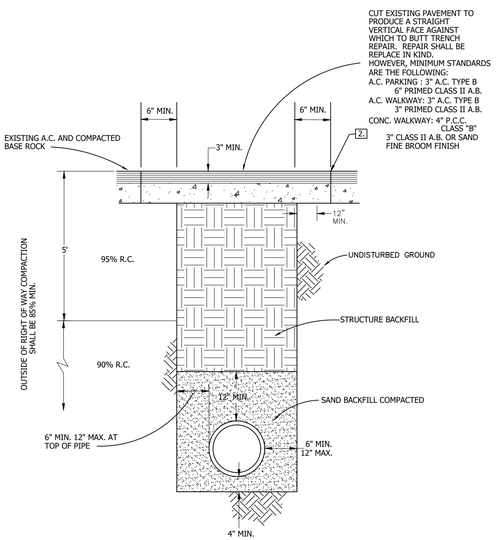

3 8" TERMINAL AREA DRAIN

Scale: NTS




4 SEWER CLEANOUT

Scale: NTS




5 STANDARD UTILITY TRENCH

Scale: NTS

| REVISIONS | BY |
|---|---|
| | |
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| | |

# DETAILS

REGISTERED PROFESSIONAL ENGINEER
TODD R. CREAMER
No. C 64561
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

C2G /CIVIL CONSULTANTS, INC.
Engineers/Planners
4444 Scotts Valley Drive / Suite 6
Scotts Valley, CA 95066
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THE ENCORE
SCOTTS VALLEY, CALIFORNIA
APN #022-732-01 & 48

| | |
|---|---|
| Date: | 03.08.21 |
| Scale: | NTS |
| Drawn: | DD |
| Job: | 249-60 |
| Sheet: | C6.3 |
| | Of 26 Sheets |

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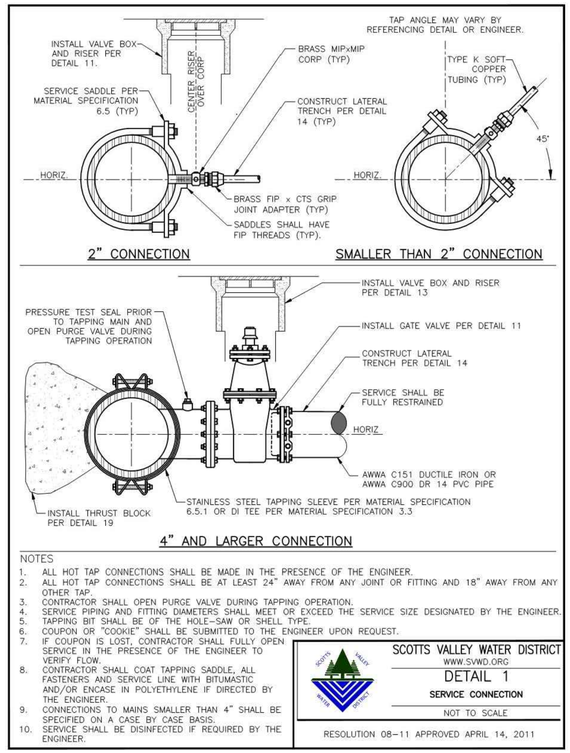
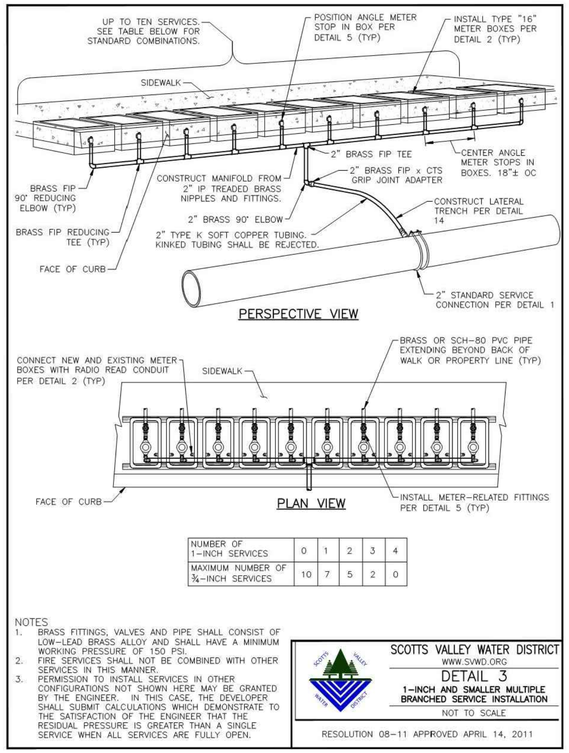



NOTES

1. ALL HOT TAP CONNECTIONS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER.
2. ALL HOT TAP CONNECTIONS SHALL BE AT LEAST 24" AWAY FROM ANY JOINT OR FITTING AND 18" AWAY FROM ANY OTHER TAP.
3. CONTRACTOR SHALL OPEN PURGE VALVE DURING TAPPING OPERATION.
4. SERVICE PIPING AND FITTING DIAMETERS SHALL MEET OR EXCEED THE SERVICE SIZE DESIGNATED BY THE ENGINEER.
5. TAPPING BIT SHALL BE OF THE HOLE-SAW OR SHELL TYPE.
6. COUPON OR "COOKIE" SHALL BE SUBMITTED TO THE ENGINEER UPON REQUEST.
7. IF COUPON IS LOST, CONTRACTOR SHALL FULLY OPEN SERVICE IN THE PRESENCE OF THE ENGINEER TO VERIFY FLOW.
8. CONTRACTOR SHALL COAT TAPPING SADDLE, ALL FASTENERS AND SERVICE LINE WITH BITUMASTIC AND/OR ENCASE IN POLYETHYLENE IF DIRECTED BY THE ENGINEER.
9. CONNECTIONS TO MAINS SMALLER THAN 4" SHALL BE SPECIFIED ON A CASE BY CASE BASIS.
10. SERVICE SHALL BE DISINFECTED IF REQUIRED BY THE ENGINEER.

SCOTTS VALLEY WATER DISTRICT
WWW.SVWD.ORG
DETAIL 1
SERVICE CONNECTION
NOT TO SCALE
RESOLUTION 08-11 APPROVED APRIL 14, 2011

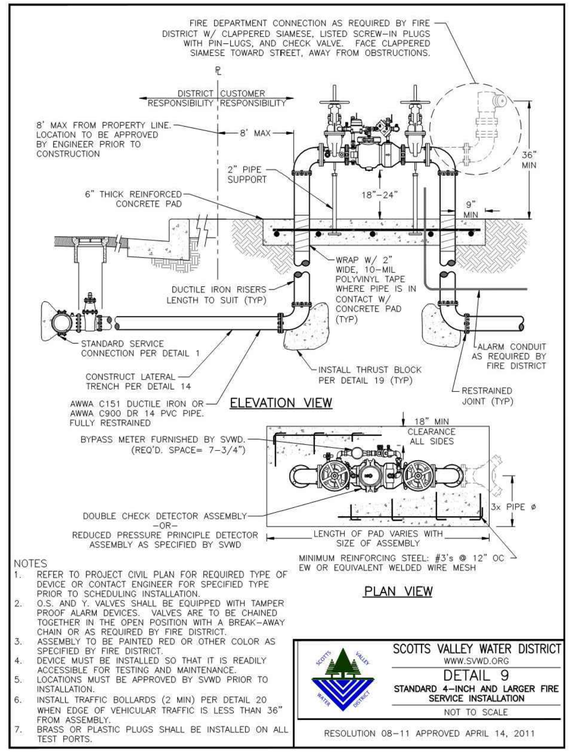



| NUMBER OF 1-INCH SERVICES | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| MAXIMUM NUMBER OF ¾-INCH SERVICES | 10 | 7 | 5 | 2 | 0 |

NOTES

1. BRASS FITTINGS, VALVES AND PIPE SHALL CONSIST OF LOW-LEAD BRASS ALLOY AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI.
2. FIRE SERVICES SHALL NOT BE COMBINED WITH OTHER SERVICES IN THIS MANNER.
3. PERMISSION TO INSTALL SERVICES IN OTHER CONFIGURATIONS NOT SHOWN HERE MAY BE GRANTED BY THE ENGINEER. IN THIS CASE, THE DEVELOPER SHALL SUBMIT CALCULATIONS WHICH DEMONSTRATE TO THE SATISFACTION OF THE ENGINEER THAT THE RESIDUAL PRESSURE IS GREATER THAN A SINGLE SERVICE WHEN ALL SERVICES ARE FULLY OPEN.

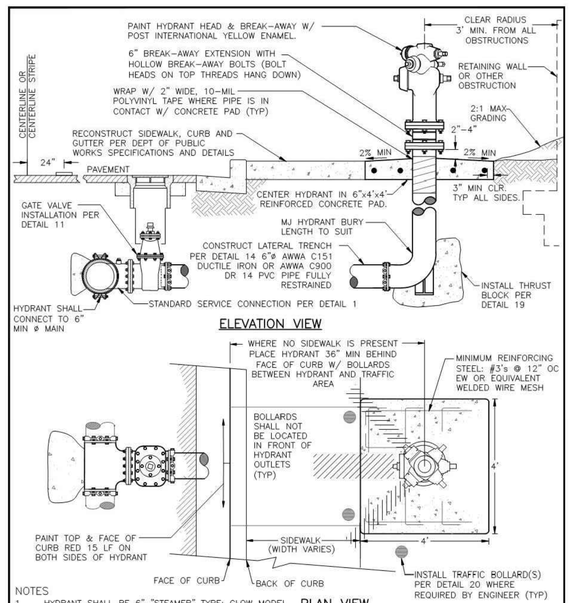
SCOTTS VALLEY WATER DISTRICT
WWW.SVWD.ORG
DETAIL 3
1-INCH AND SMALLER MULTIPLE BRANCHED SERVICE INSTALLATION
NOT TO SCALE
RESOLUTION 08-11 APPROVED APRIL 14, 2011




NOTES

1. REFER TO PROJECT CIVIL PLAN FOR REQUIRED TYPE OF DEVICE OR CONTACT ENGINEER FOR SPECIFIED TYPE PRIOR TO SCHEDULING INSTALLATION.
2. O.S. AND Y. VALVES SHALL BE EQUIPPED WITH TAMPER PROOF ALARM DEVICES. VALVES ARE TO BE CHAINED TOGETHER IN THE OPEN POSITION WITH A BREAK-AWAY CHAIN OR AS REQUIRED BY FIRE DISTRICT.
3. ASSEMBLY TO BE PAINTED RED OR OTHER COLOR AS SPECIFIED BY FIRE DISTRICT.
4. DEVICE MUST BE INSTALLED SO THAT IT IS READILY ACCESSIBLE FOR TESTING AND MAINTENANCE.
5. LOCATIONS MUST BE APPROVED BY SVWD PRIOR TO INSTALLATION.
6. INSTALL TRAFFIC BOLLARDS (2 MIN) PER DETAIL 20 WHEN EDGE OF VEHICULAR TRAFFIC IS LESS THAN 36" FROM ASSEMBLY.
7. BRASS OR PLASTIC PLUGS SHALL BE INSTALLED ON ALL TEST PORTS.

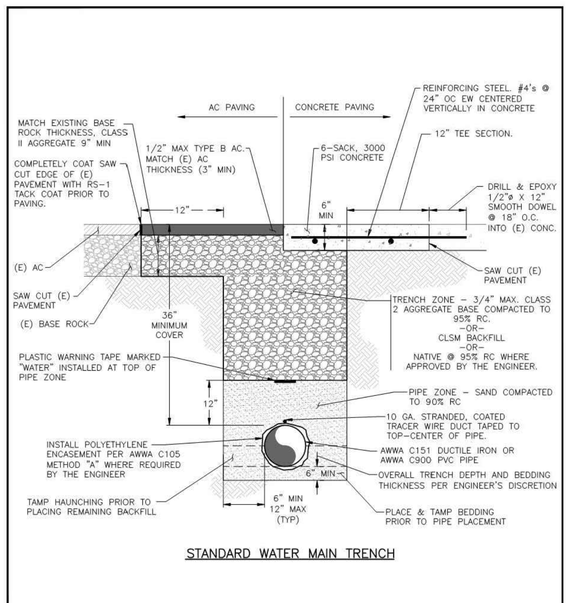
SCOTTS VALLEY WATER DISTRICT
WWW.SVWD.ORG
DETAIL 9
STANDARD 4-INCH AND LARGER FIRE SERVICE INSTALLATION
NOT TO SCALE
RESOLUTION 08-11 APPROVED APRIL 14, 2011




NOTES

1. HYDRANT SHALL BE 6" "STEAMER" TYPE; CLOW MODEL 860, OR APPROVED EQUAL.
2. REMOVE HYDRANT OUTLET CAP CHAINS PERMANENTLY.
3. HYDRANT SHALL BE COVERED WITH BURLAP SACK OR APPROVED ORANGE BAG WHEN NOT IN SERVICE.
4. FIRE HYDRANT LOCATION SHALL BE APPROVED ON A CASE BY CASE BASIS PRIOR TO CONSTRUCTION AND SHALL INCLUDE FIRE AGENCY APPROVED PLANS, CITY OR COUNTY ENCROACHMENT PERMIT, AND FIELD VERIFICATION BY THE APPROPRIATE FIRE AGENCY, CITY OR COUNTY PUBLIC WORKS DEPARTMENT AND SVWD, PER SVWD HYDRANT INSTALLATION PERMIT REQUIREMENTS PRIOR TO CONSTRUCTION.
5. SEE APPENDIX 1 FOR FURTHER HYDRANT INSTALLATION REQUIREMENTS.

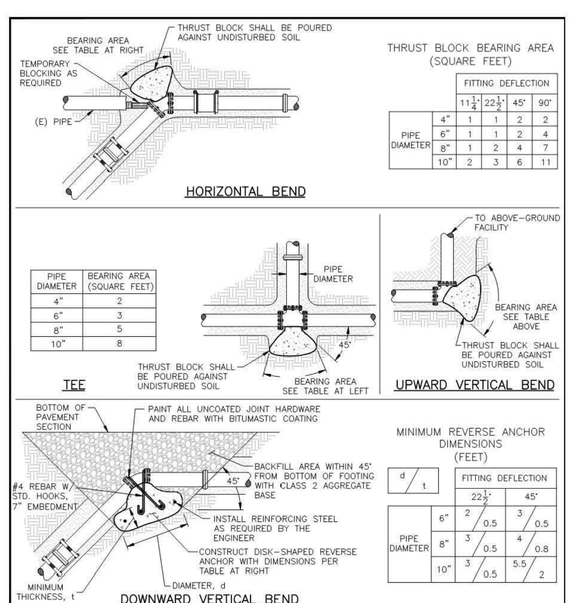
SCOTTS VALLEY WATER DISTRICT
WWW.SVWD.ORG
DETAIL 10
FIRE HYDRANT INSTALLATION
NOT TO SCALE
RESOLUTION 08-11 APPROVED APRIL 14, 2011




NOTES

1. IF ANY PORTION OF (E) PAVEMENT WITHIN SAWCUT LIMITS IS CONCRETE AT THE SURFACE, ENTIRE TRENCH SHALL BE RE-PAVED WITH CONCRETE AS SHOWN.
2. WHERE WATER MAIN INSTALLATION CANNOT MEET MINIMUM COVER REQUIREMENTS, THE ENGINEER MAY APPROVE ALTERNATE INSTALLATION PER DETAIL 16.
3. REFER TO SVWD TECHNICAL SPECIFICATIONS FOR COMPACTION TESTING REQUIREMENTS.
4. FOR SERVICE LATERALS, REFER TO DETAIL 14.

SCOTTS VALLEY WATER DISTRICT
WWW.SVWD.ORG
DETAIL 15
STANDARD WATER MAIN TRENCH
NOT TO SCALE
RESOLUTION 08-11 APPROVED APRIL 14, 2011




NOTES

1. CONCRETE THRUST BLOCKS SHALL BE INSTALLED WHEN INDICATED BY THE CONTRACT DOCUMENTS OR AT THE DISCRETION OF THE ENGINEER.
2. THRUST BLOCKING IS REQUIRED WHERE IT IS UNKNOWN IF PIPE IS RESTRAINED; SUCH AS AT A CONNECTION TO EXISTING PIPE.
3. ALL CONCRETE SHALL BE 3000 PSI MINIMUM 28 DAYS COMPRESSIVE STRENGTH.
4. FOR PIPELINES LARGER THAN 10" IN DIAMETER, PIPELINES INSTALLED AT DEPTHS LESS THAN 36 INCHES, OR IN POOR SOILS, THRUST BLOCK DESIGN SHALL BE APPROVED BY THE ENGINEER ON A CASE BY CASE BASIS.

SCOTTS VALLEY WATER DISTRICT
WWW.SVWD.ORG
DETAIL 19
THRUST BLOCK INSTALLATION
NOT TO SCALE
RESOLUTION 08-11 APPROVED APRIL 14, 2011

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SCOTTS VALLEY WATER DISTRICT DETAILS

REGISTERED PROFESSIONAL ENGINEER TODD R. CREAMER No. C 64561 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

C2G CONSULTANTS GROUP, INC.
C2G /CIVIL CONSULTANTS GROUP, INC.
Engineers/Planners
4444 Scotts Valley Drive / Suite 6
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THE ENCORE
SCOTTS VALLEY, CALIFORNIA
APN #022-732-01 & 48

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|---|---|
| Date: | 03.08.21 |
| Scale: | NTS |
| Drawn: | DD |
| Job: | 249-60 |
| Sheet: | C6.4 |
| Of | 26 Sheets |

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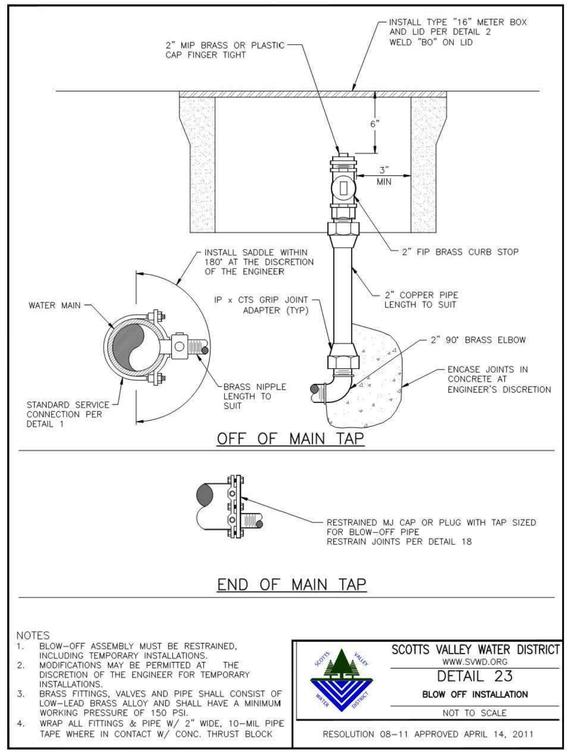
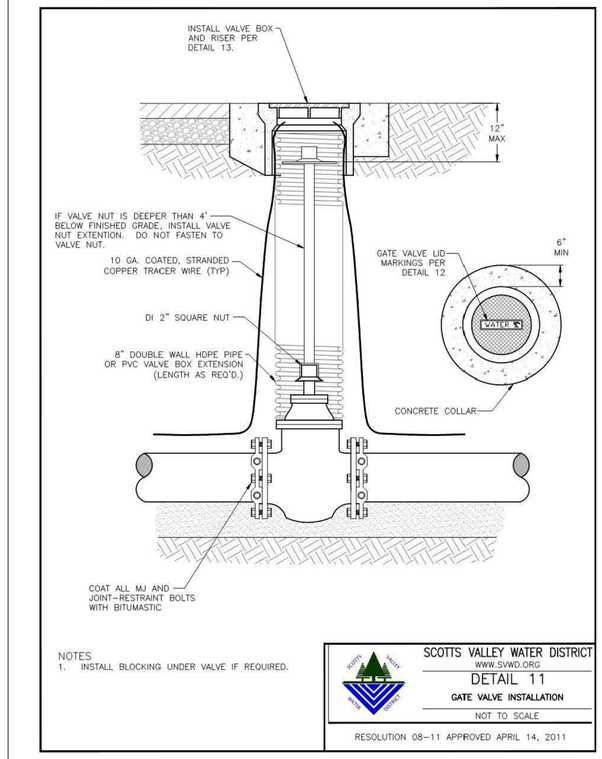


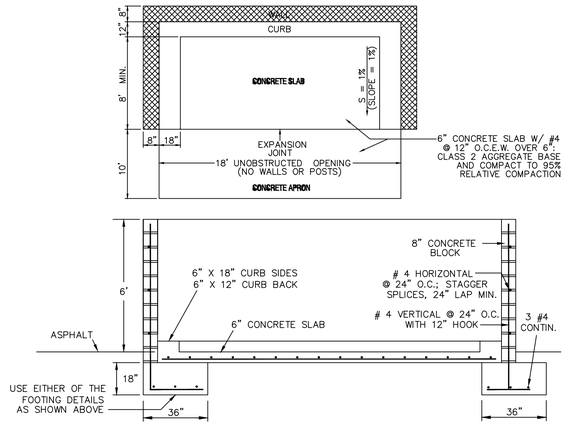

NOTES
1. BLOW-OFF ASSEMBLY MUST BE RESTRAINED, INCLUDING TEMPORARY INSTALLATIONS.
2. MODIFICATIONS MAY BE PERMITTED AT THE DISCRETION OF THE ENGINEER FOR TEMPORARY INSTALLATIONS.
3. BRASS FITTINGS, VALVES AND PIPE SHALL CONSIST OF LOW-LEAD BRASS ALLOY AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI.
4. WRAP ALL FITTINGS & PIPE W/ 2" WIDE, 10-MIL PIPE TAPE WHERE IN CONTACT W/ CONC. THRUST BLOCK

SCOTTS VALLEY WATER DISTRICT
WWW.SVWD.ORG
DETAIL 23
BLOW OFF INSTALLATION
NOT TO SCALE
RESOLUTION 08-11 APPROVED APRIL 14, 2011




NOTES
1. INSTALL BLOCKING UNDER VALVE IF REQUIRED.

SCOTTS VALLEY WATER DISTRICT
WWW.SVWD.ORG
DETAIL 11
GATE VALVE INSTALLATION
NOT TO SCALE
RESOLUTION 08-11 APPROVED APRIL 14, 2011




1. ENCLOSURES SHALL BE DESIGNED TO STORE THE REQUIRED NUMBER OF 1-8 YARD WASTE, RECYCLING, AND FOOD WASTE BINS OR CARTS. THE MINIMUM DEPTH SHALL BE 5' AND THE WIDTH SHALL DEPEND ON THE NUMBER OF CONTAINERS.
2. CONSIDERATION SHALL BE GIVEN TO THE LOCATION OF THE ENCLOSURE, OVERHEAD OBSTRUCTIONS, AND FRONT LOAD TRUCK SERVICE.
3. ENCLOSURES FOR RESTAURANTS REQUIRE A DRAIN CONNECTED TO THE SANITARY SEWER.
4. PROVIDE A PERSONNEL DOOR FOR LARGE OR SHARED ENCLOSURES.
5. CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 2,500 PSI.

CITY OF SCOTTS VALLEY STANDARD DETAIL
SOLID WASTE ENCLOSURE
SCOTT HAMBY
DIRECTOR OF PUBLIC WORKS
DRAWING NO: ST-12
SCALE: NONE
DATE: 12/06/17

| REVISIONS | BY |
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SCOTTS VALLEY
WATER DISTRICT
DETAILS

REGISTERED PROFESSIONAL ENGINEER
TODD R. CREAMER
No. C 64561
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

C2G /CIVIL CONSULTANTS GROUP, INC.
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THE ENCORE
SCOTTS VALLEY, CALIFORNIA
APN #022-732-01 & 48

Date: 03.08.21
Scale: NTS
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Job: 249-60
Sheet: C6.5
Of 26 Sheets

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1 STREET RENDERING

2 STREET RENDERING

3 STREET RENDERING

4 STREET RENDERING

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RENDERINGS


Animatehouse
515 La Honda Drive
Aptos, CA
(831) 295 2719

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THE ENCORE
SCOTTS VALLEY, CALIFORNIA
APN #022-732-01 & 48

Date: 12.22.20
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Job: 249-60
Sheet: C7.1
Of 24 Sheets


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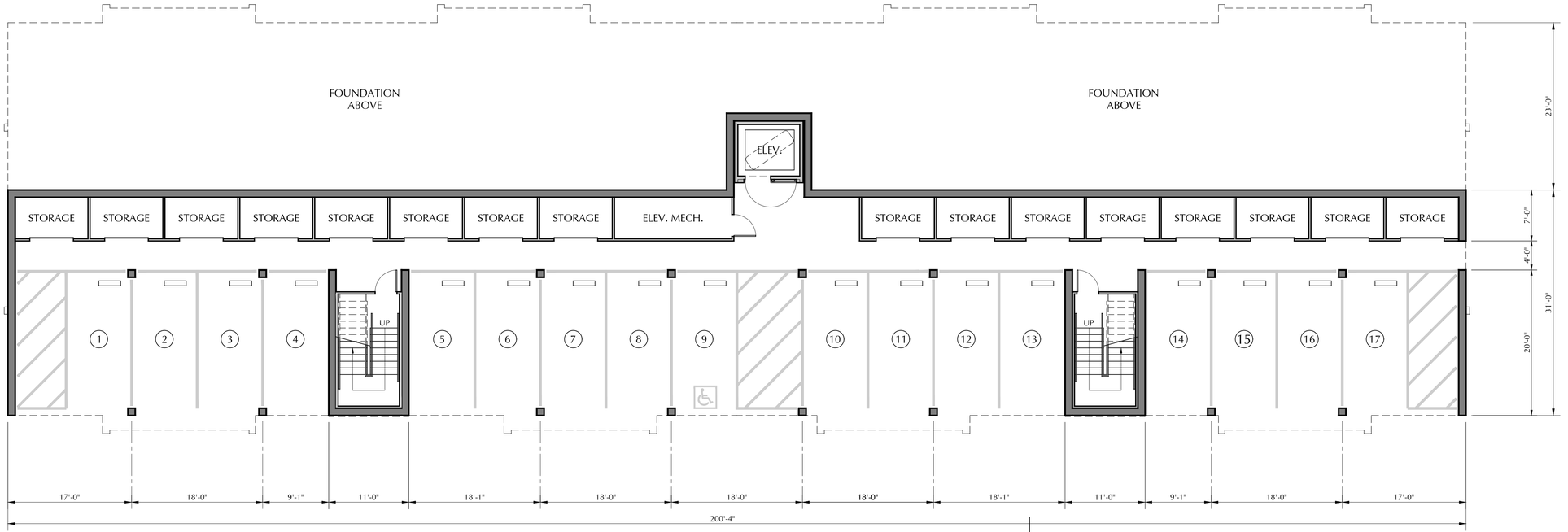


1 PARKING LEVEL PLAN

SCALE: 1/8" = 1'-0"

NORTH

3
A6

WILLIAM C. KEMPF
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Santa Cruz, CA 95060
831 459-0951
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NEW RESIDENTIAL DEVELOPMENT FOR:

# THE ENCORE AT 4104

SCOTTS VALLEY, CALIFORNIA

PARKING LEVEL PLAN

DRAWING DATE:
MARCH 4, 2021

A.P.N.
022-732-48 & 022-732-01

CLIENT NAME:
CHRIS PERRI

PROJECT NAME:
THE ENCORE AT 4104

REVISIONS

| No. | DESCRIPTION | DATE |
|---|---|---|
| 1 | PLANNING | 3/4/21 |

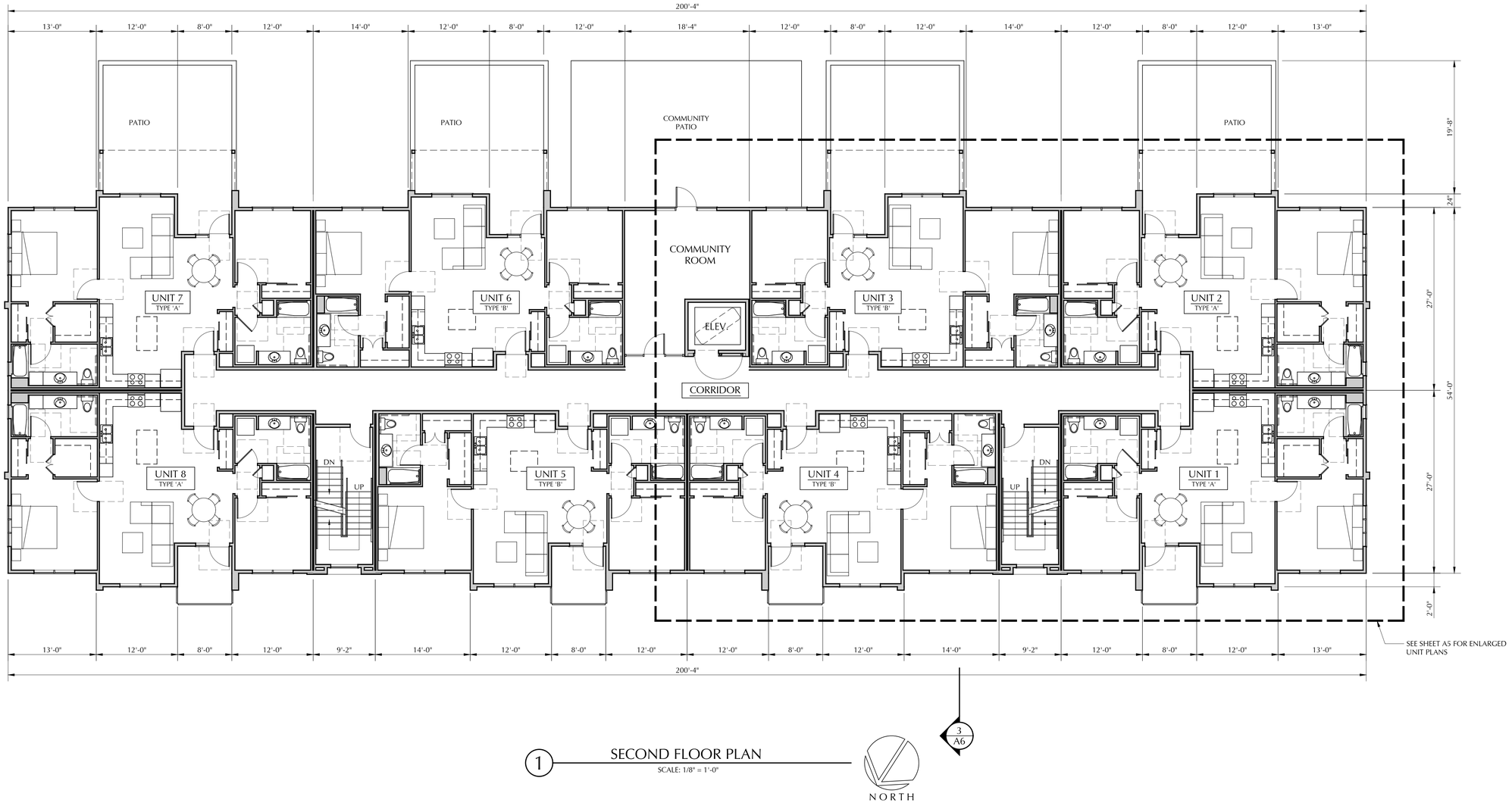
APPROVAL STAMP

STAMP



SHEET

A2




1 SECOND FLOOR PLAN

SCALE: 1/8" = 1'-0"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NEW RESIDENTIAL DEVELOPMENT FOR:

# THE ENCORE AT 4104

SCOTTS VALLEY, CALIFORNIA

## SECOND FLOOR PLAN

| | |
|---|---|
| DRAWING DATE: | MARCH 4, 2021 |
| A.P.N. | 022-732-48 & 022-732-01 |
| CLIENT NAME: | CHRIS PERRI |
| PROJECT NAME: | THE ENCORE AT 4104 |

REVISIONS

| No. | DESCRIPTION | DATE |
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SHEET

A3


1 THIRD FLOOR PLAN

SCALE: 1/8" = 1'-0"

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# THE ENCORE AT 4104

SCOTTS VALLEY, CALIFORNIA

THIRD FLOOR PLAN

| | |
|---|---|
| DRAWING DATE: | MARCH 4, 2021 |
| A.P.N. | 022-732-48 & 022-732-01 |
| CLIENT NAME: | CHRIS PERRI |
| PROJECT NAME: | THE ENCORE AT 4104 |

REVISIONS

| No. | DESCRIPTION | DATE |
|---|---|---|
| 1 | PLANNING | 3/4/21 |

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SHEET

A4


1 ENLARGED UNIT PLANS

SCALE: 1/4"=1'-0"

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NEW RESIDENTIAL DEVELOPMENT FOR:

# THE ENCORE AT 4104

SCOTTS VALLEY, CALIFORNIA

ENLARGED UNIT PLANS

| | |
|---|---|
| DRAWING DATE: | MARCH 4, 2021 |
| A.P.N. | 022-732-48 & 022-732-01 |
| CLIENT NAME: | CHRIS PERRI |
| PROJECT NAME: | THE ENCORE AT 4104 |

REVISIONS

| No. | DESCRIPTION | DATE |
|---|---|---|
| 1 | PLANNING | 3/4/21 |

APPROVAL STAMP

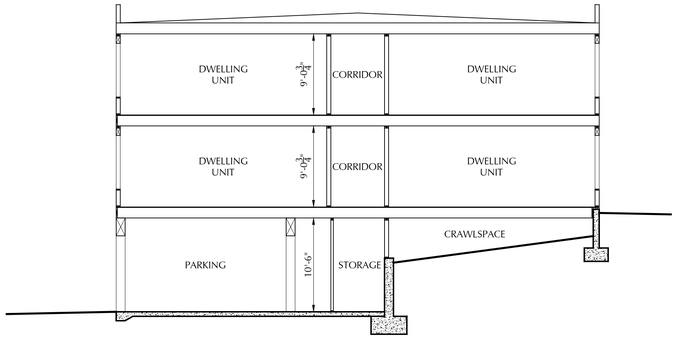
STAMP



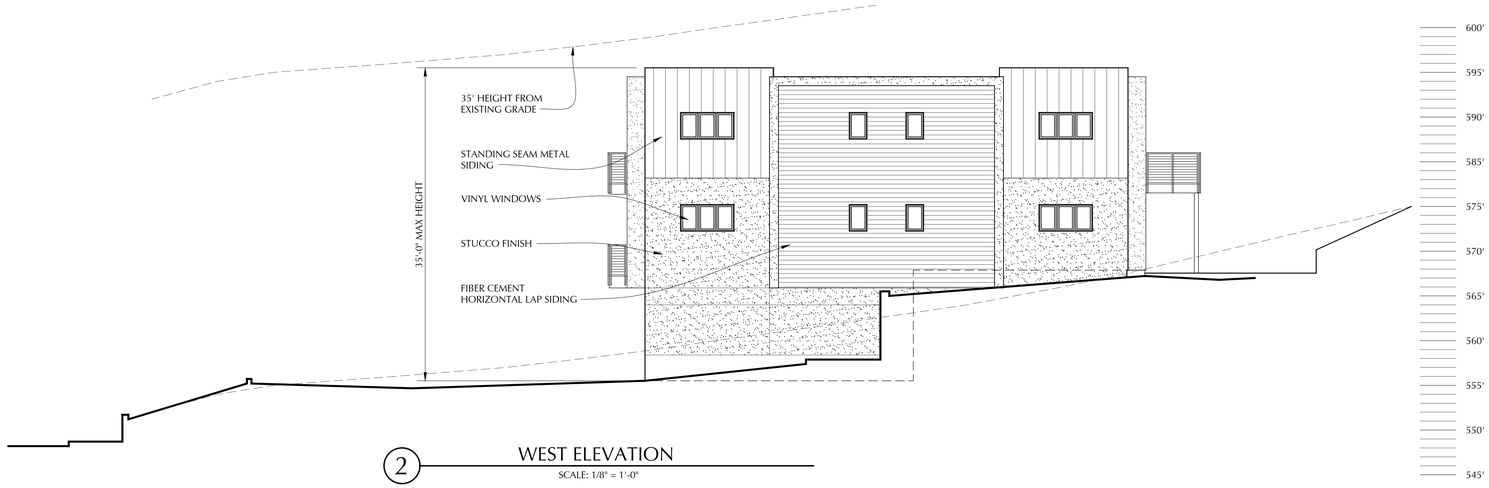
SHEET

A5


1 NORTH ELEVATION
SCALE: 1/8" = 1'-0"




3 SCHEMATIC BUILDING SECTION
SCALE: 1/8" = 1'-0"




2 WEST ELEVATION
SCALE: 1/8" = 1'-0"

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NEW RESIDENTIAL DEVELOPMENT FOR:
THE ENCORE AT 4104
SCOTTS VALLEY, CALIFORNIA
EXTERIOR ELEVATIONS

DRAWING DATE:
MARCH 4, 2021

A.P.N.
022-732-48 & 022-732-01

CLIENT NAME:
CHRIS PERRI

PROJECT NAME:
THE ENCORE AT 4104

REVISIONS

| No. | DESCRIPTION | DATE |
|---|---|---|
| 1 | PLANNING | 3/4/21 |

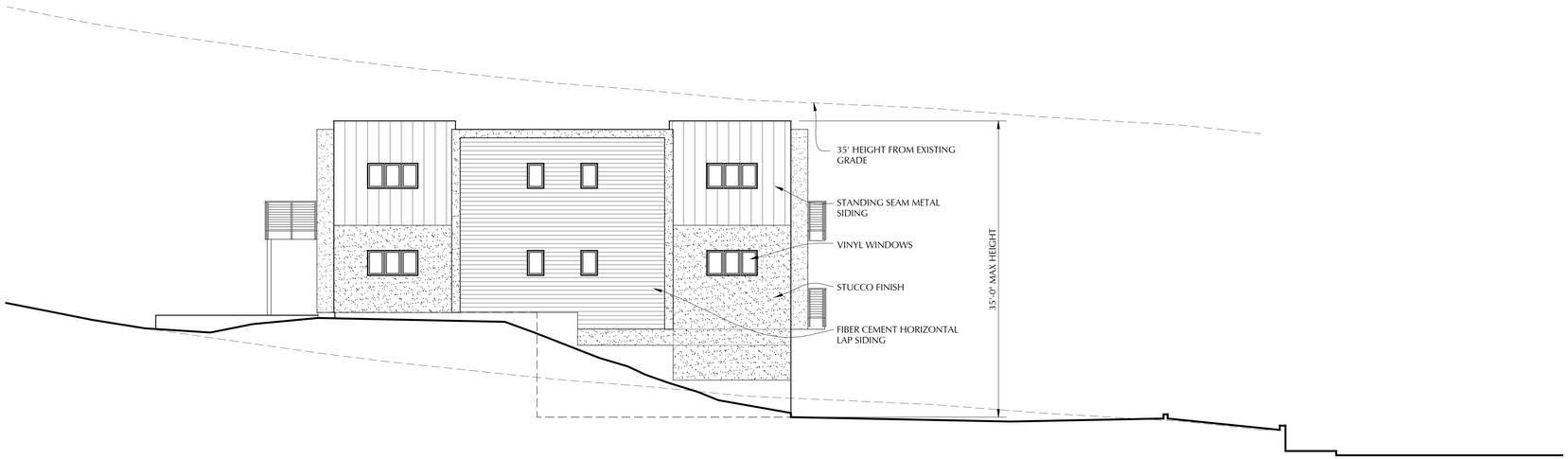
APPROVAL STAMP

STAMP



SHEET
A6


1 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"




2 EAST ELEVATION
SCALE: 1/8" = 1'-0"

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NEW RESIDENTIAL DEVELOPMENT FOR:
THE ENCORE AT 4104
SCOTTS VALLEY, CALIFORNIA

EXTERIOR ELEVATIONS

DRAWING DATE:
MARCH 4, 2021

A.P.N.
022-732-48 & 022-732-01

CLIENT NAME:
CHRIS PERRI

PROJECT NAME:
THE ENCORE AT 4104

| REVISIONS | | |
|---|---|---|
| No. | DESCRIPTION | DATE |
| 1 | PLANNING | 3/4/21 |

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A7

3 NORTH ELEVATION

4 VIEW 4

5 VIEW 5

1 VIEW 1

2 VIEW 2


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NEW RESIDENTIAL DEVELOPEMENT FOR:

# THE ENCORE AT 4104

SCOTTS VALLEY, CALIFORNIA

## PERSPECTIVE VIEWS

DRAWING DATE:
MARCH 4, 2021

A.P.N.
022-732-48 & 022-732-01

CLIENT NAME:
CHRIS PERRI

PROJECT NAME:
THE ENCORE AT 4104



SHEET

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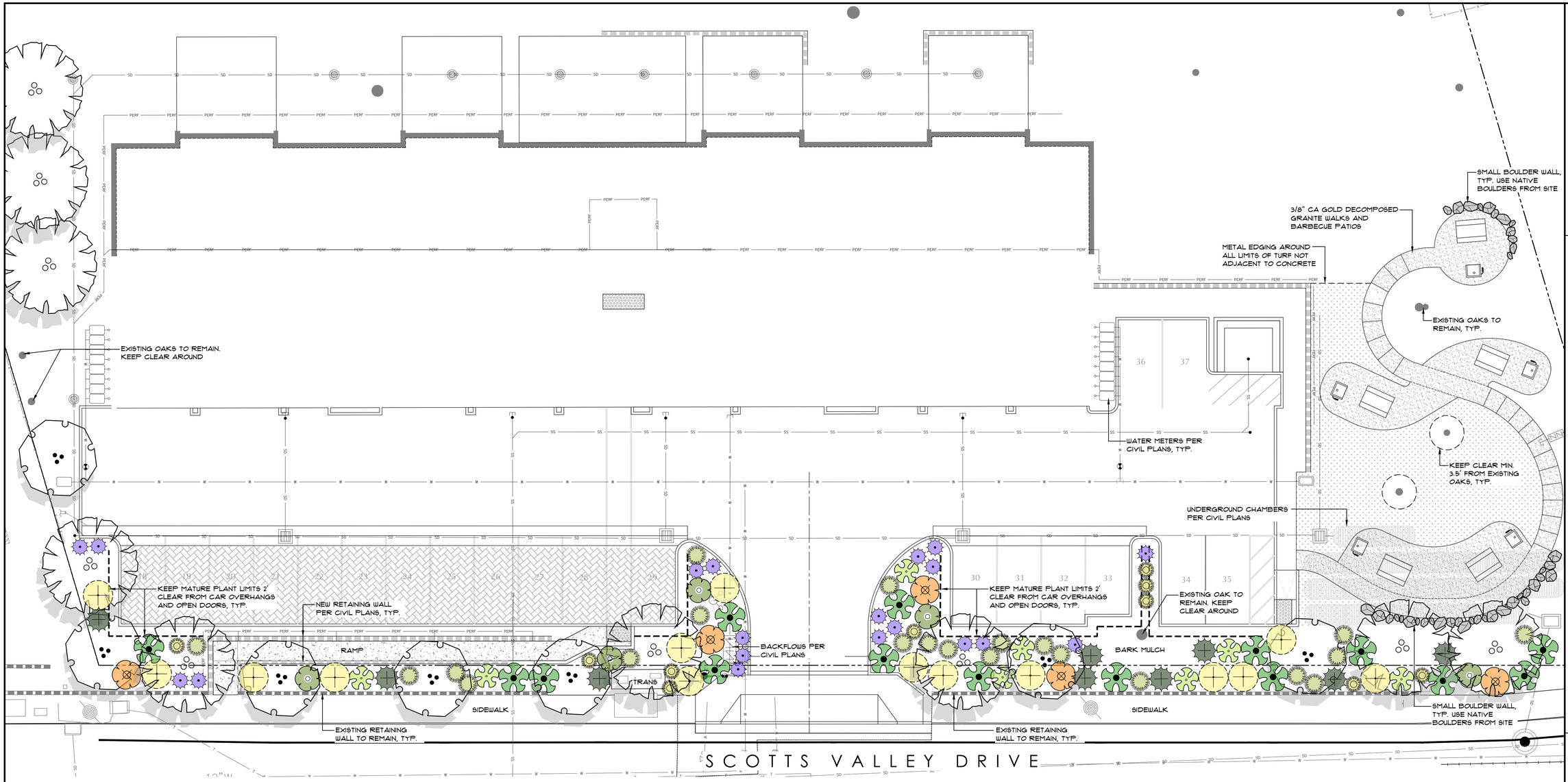


## PLANTING LEGEND

| | TREES | BOTANICAL NAME / COMMON NAME | SIZE | QTY | MATURE HT/WIDTH | WUCOLS |
|---|---|---|---|---|---|---|
| | | LAGERSTROEMIA INDICA 'MUSKOGEE' / MUSKOGEE CRAPE MYRTLE (MULTI-TRUNK) | 15 GAL | 7 | 20' X 20' | L |
| | | LAGERSTROEMIA INDICA 'NATCHEZ' / WHITE CRAPE MYRTLE (MULTI-TRUNK) | 15 GAL | 9 | 18' X 15' | L |
| | SHRUBS AND PERENNIALS | BOTANICAL NAME / COMMON NAME | SIZE | QTY | MATURE HT/WIDTH | WUCOLS |
| | | AGAVE ATTENUATA 'RAY OF LIGHT' / RAY OF LIGHT AGAVE | 2 GAL | 8 | 4' X 6' | L |
| | | AGAVE ATTENUATA / FOXTAIL AGAVE | 1 GAL | 15 | 4' X 6' | L |
| | | LAVANDULA X INTERMEDIA 'HIDCOTE GIANT' / HIDCOTE LAVENDER | 1 GAL | 19 | 18" X 42" | L |
| | | LANTANA X 'SUNBURST' / SUNBURST SPREADING YELLOW | 1 GAL | 13 | 2' X 1' | L |
| | | LEUCADENDRON 'SAFARI GOLDSTRIKE' / YELLOW CONEBUSH | 1 GAL | 5 | 5' X 5' | L |
| | | LEUCOSPERMUM 'SUNRISE' / EARLY SALMON PINCUSHION | 5 GAL | 5 | 6' X 6' | L |
| | GRASSES | BOTANICAL NAME / COMMON NAME | SIZE | QTY | MATURE HT/WIDTH | WUCOLS |
| | | CHONDROPETALUM ELEPHANTINUM / LARGE CAPE RUSH | 5 GAL | 9 | 4' X 5' | L |
| | | MUHLENBERGIA RIGENS / DEERGRASS | 1 GAL | 23 | 4' X 4' | L |
| | | RHODOCOMA CAPENSIS / GIANT CAPE RESTIO | 1 GAL | 15 | 5' X 3' | M |
| | | NO-MOW FINE FESCUE PER CONTRACTOR. SHADE TOLERANT. | SOD | 1,450 SF | | M |

### WUCOLS WATER USE CLASSIFICATION

H - HIGH WATER USE
M - MODERATE WATER USE
L - LOW WATER USE
VL - VERY LOW WATER USE

## PLANTING NOTES

1. TOTAL LANDSCAPED AREA = 2,809 SF
2. MULCH TO BE A 3" THICK LAYER OF BARK MULCH EQUAL TO REDWOOD, FIR, CEDAR, OR A COMBINATION OF THESE. THE COMPOSITION OF THE MULCH SHALL BE A MIX OF SHREDDED BARK, WOOD AND SAWDUST, 0-4". NO GORILLA HAIR SHALL BE USED.
3. SOIL TO BE TESTED BY ACCREDITED SOIL TESTING LABORATORY. CONTRACTOR SHALL THOROUGHLY INCORPORATE SOIL ADDITIVES AND FERTILIZERS IN ALL PLANTING AND TURF AREAS AT RATES AND DEPTHS RECOMMENDED BY SOILS LAB. SOIL ADDITIVES SHALL BE THOROUGHLY MIXED INTO EXISTING SOILS IN PLANTING PITS ONLY. ALL SOIL SHALL BE CLEAR OF DEBRIS AND CONSTRUCTION SPOILS.
4. SOIL SHALL BE TILLED TO A DEPTH OF 6" AND AMENDED WITH 6 CY OF ORGANIC MATERIAL PER 1,000 SF TO PROMOTE INFILTRATION AND WATER RETENTION.
5. THE INSTALLED LANDSCAPE SHALL BE MAINTAINED FREE OF INVASIVE PLANTS.

## IRRIGATION EQUIPMENT

DRIP (POINT-SOURCE) EMITTERS EQUAL TO RAIN BIRD XERI-BUG XB SINGLE OUTLET WITH DIFFUSER CAP AND STAKE CONFIGURATION RAIN BIRD DBC-025. MIN. TWO (2) 1.0 GPH EMITTERS PER PLANT.

DRIP VALVE EQUAL TO RAIN BIRD XCZ-100-PRB-COM - BELOW GRADE IN VALVE BOXES (CAN FIT FOUR IN ONE VALVE BOX). LOW-FLOW

TREE BUBBLERS TO BE EQUAL TO: RAIN BIRD RWS-M-B-C-1402 (0.5 GPM) TREE ROOT BUBBLERS 18" DEEP

ROTARY SPRAY (NO-MOW TURF) TO BE HUNTER MP ROTATER NOZZLES SPRAY BODIES TO HAVE CHECK VALVES

IRRIGATION SUBMETER EQUAL TO RAIN BIRD FM0625B. INSTALLED PER MANUFACTURER AND IN VALVE BOX BELOW GRADE. MINIMUM 8 PIPE DIAMETERS IN LENGTH BEFORE / AFTER METER

MASTER VALVE EQUAL TO RAIN BIRD 100 PGA - IN VALVE BOX BELOW GRADE. INLET PRESSURE 15-150 PSI

PRESSURE REGULATOR (IF NECESSARY) EQUAL TO WATTS LF MODEL CONTRACTOR TO SIZE

BACKFLOW DEVICE (REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER) EQUAL TO WILKINS 975XL 3/4" PER CITY STANDARDS

IRRIGATION CONTROLLER EQUAL TO RAIN BIRD ESP4SMTI WEATHER-BASED CONTROLLER MOUNTED TO SIDE OF BUILDING.

MAINLINE PIPE - SCHEDULE 40 PVC, 1"

LATERAL PIPE - CLASS 200, 3/4"

## IRRIGATION NOTES

1. THE INTENT OF THIS IRRIGATION SYSTEM IS TO PROVIDE THE MINIMUM AMOUNT OF WATER REQUIRED TO SUSTAIN GOOD PLANT HEALTH.
2. SITE WATERED WITH POTABLE WATER FROM SCOTTS VALLEY DRIVE.
3. LOCATE EQUIPMENT IN NEAREST ADJACENT PLANTERS AS FEASIBLE AND INDICATE EXACT LOCATION ON RECORD DRAWINGS.
4. CONTRACTOR SHALL USE EXTREME CARE WHERE IT IS NECESSARY TO TRENCH NEAR EXISTING TREES. EXCAVATION IN AREAS EXHIBITING ROOTS 2" AND LARGER SHALL BE DONE BY HAND. ROOTS 1" OR LARGER IN DIAMETER DAMAGED IN CONSTRUCTION SHALL BE CLEANLY CUT AND NOT LEFT IN A RAGGED CONDITION. TREE ROOTS SHALL BE COVERED WITH WET BURLAP WHILE EXPOSED.
5. NO POTABLE WATER SHALL BE APPLIED DURING AND WITHIN 48 HOURS FOLLOWING MEASURABLE RAINFALL
6. IRRIGATION SYSTEM SHALL BE INSPECTED REGULARLY FOR LEAKS, MISALIGNED HEADS AND BAD VALVES, BROKEN EQUIPMENT SHALL BE REPAIRED PROMPTLY WITH IDENTICAL OR EQUIVALENT EQUIPMENT, AND WATERING SCHEDULES SHALL BE ADJUSTED TO REFLECT VARIATIONS IN WATER NEED BASED ON SEASON OR PLANT MATURITY.


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STATE OF CALIFORNIA

THIS SHEET TO BE PRINTED AT 24" X 36"

# THE ENCORE

SCOTTS VALLEY DRIVE
SCOTTS VALLEY, CA 95066
APN: 022-732-01 & 48

NORTH

0 5 10 20
SCALE: 1" = 10'-0"

PLAN REVISIONS

| | |
|---|---|
| 3/3/2021 | DESIGN REVISIONS |
| 4/26/2021 | DESIGN REVISIONS |

DATE • 12/21/2020
JOB • 2017

SHEET TITLE

LANDSCAPE PLAN

SHEET NUMBER

L1.0

# WHITE RABBIT PROPERTIES
## City of Scotts Valley, CA

## Biological Report

Biotic Resources Group

Biotic Assessments ♦ Resource Management ♦ Permitting

Biotic Resources Group
Biotic Assessments • Resource Management • Permitting

# WHITE RABBIT PROPERTIES
# City of Scotts Valley, CA

# Biological Report

*Prepared for*
Apple Homes Development, Inc.
15 Sherman Court
Scotts Valley, CA 95066
Attn: Chris Perri

*Prepared by:*

Biotic Resources Group
Kathleen Lyons, Plant Ecologist
with
Dana Bland & Associates
Dana Bland, Wildlife Biologist

June 18, 2020

2551 S. Rodeo Gulch Road #12 • Soquel, California 95073 • (831) 476-4803 • brg@cruzio.com

# 1.0 INTRODUCTION

Biotic Resources Group, with Dana Bland & Associates, documented and evaluated the biotic resources of a proposed residential housing project in the City of Scotts Valley in Santa Cruz County.

Specific tasks conducted for this study include:

- Characterize and map the major plant communities on the properties.
- Identify sensitive biotic resources, including habitats, plant or wildlife species of concern. (Note: Issues relating to Mt. Hermon June beetle, a federally listed species are subject to separate review by Dr. Richard Arnold through a separate agreement with the landowner).
- Evaluate the potential effects of the proposed project activities on sensitive biotic resources and recommend measures to avoid or reduce such impacts.

## 1.1 PROPOSED PROJECT

The project is located on Scotts Valley Drive near the intersection of Bean Creek Road in the City of Scotts Valley, north of Highway 17 and northeast east of Mt. Hermon Road as shown on Figure 1. The proposed project site is currently undeveloped and encompasses two parcels, totally approximately 1.5 acres (APN 022-732-48 and APN 022-732-01).

The proposed project, as per a site grading plan prepared by C2G Civil Consultants Group, dated 10-14-19, depicts the construction of a multi-residential development with roadway access from Scotts Valley Drive. The majority of the property will be re-graded to accommodate the proposed development; the proposed site grading plan is presented in Appendix A.

The proposed work requires the removal of forest trees and understory vegetation to accommodate the new residential buildings, access road, and parking. Approximately80% of the approximately 1.5-acre project area (on two properties) will be graded/affected to accommodate the proposed project.

## 1.2 INTENDED USE OF THIS REPORT

The findings presented in this biological report are intended for the sole use of Apple Homes Development, Inc. and the City of Scotts Valley in evaluating the proposed project. The findings presented in this report are for information purposes only; they are not intended to represent the interpretation of any State, Federal or City law or ordinance pertaining to permitting actions within sensitive habitat or endangered species. The interpretation of such laws and/or ordinances is the responsibility of the applicable governing body.

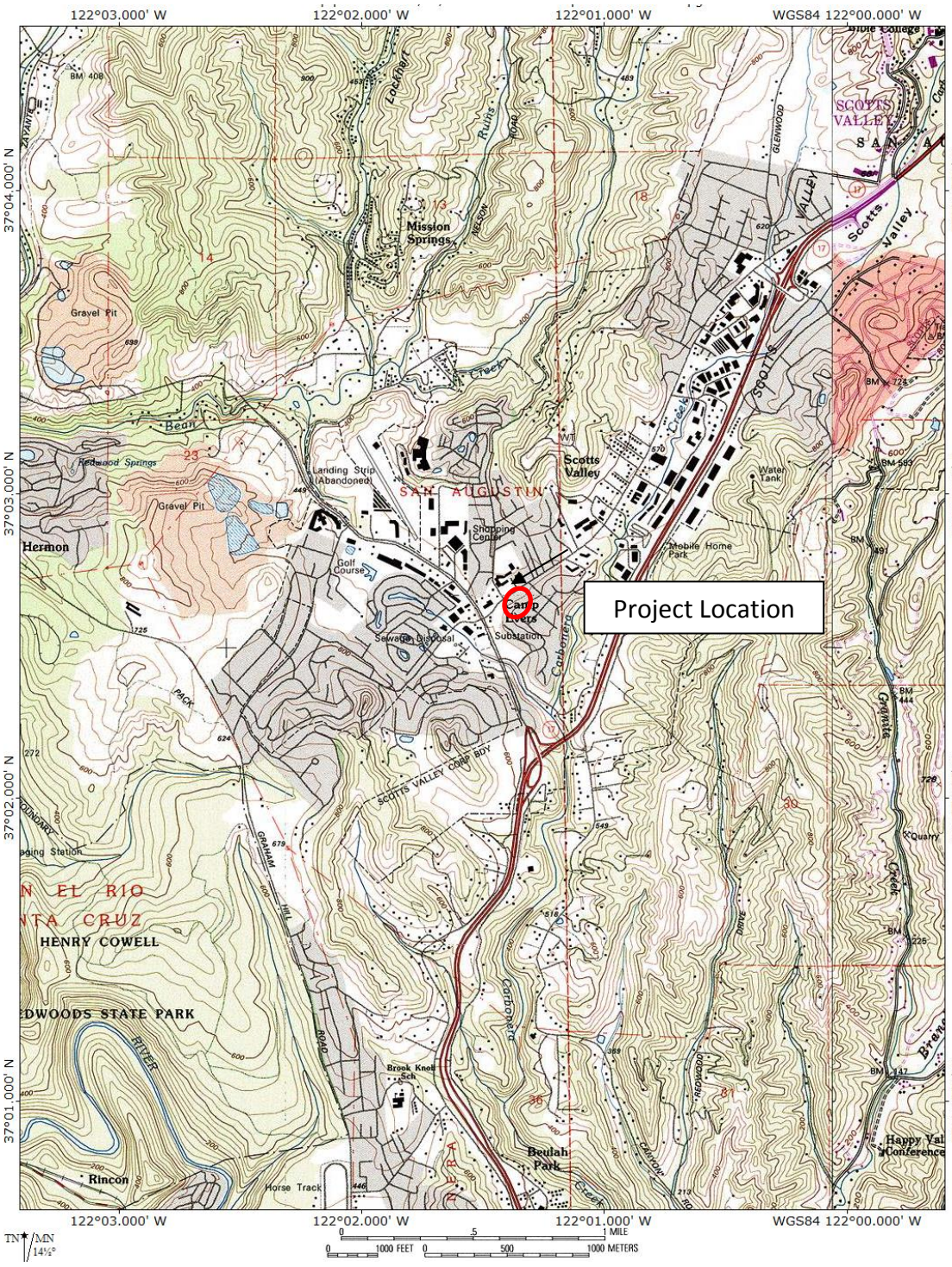


**Figure 1. Location of Project Site on USGS Topographic Map**
(USGS Felton Quadrangle)

# 2.0 EXISTING BIOTIC RESOURCES

## 2.1 METHODOLOGY

The biotic resources of the project site were assessed through literature review and field observations. Site observations were made on April 13, 2020 by Kathleen Lyons (plant ecologist) and Dana Bland (wildlife biologist).

Vegetation mapping of the property was conducted from review of aerial photos, a topographic map, and field observations. The major plant communities within the project area, based on the classification system developed by *California Terrestrial Natural Communities (*California Department of Fish and Game, 2003 and 2010) and *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995) and as amended to reflect site conditions, were identified during the field surveys. Modifications to the classification system's nomenclature were made, as necessary, to accurately describe the site's resources. The plant communities were mapped onto an aerial photo. All plant species observed were recorded and identified to a level sufficient to determine their rarity; species observed are listed in the narrative section of this report. Plant nomenclature follows The *Jepson Manual Vascular Plants of California* (2012); the *An Annotated Checklist of the Vascular Plants of Santa Cruz County, California* (CNPS, 2013) was also reviewed.

To assess the potential occurrence of special status biotic resources, two electronic databases were accessed to determine recorded occurrences of sensitive plant communities and sensitive species. Information was obtained from the California Native Plant Society's (CNPS) Electronic Inventory (2020) and California Department of Fish & Wildlife (CDFW) RareFind database (CDFW, 2020) for the Felton USGS quadrangle and surrounding quadrangles.

This report summarizes the findings of the biotic assessment for the proposed project. The potential impacts of the proposed residential project on sensitive biological resources are discussed below. Measures to reduce significant impacts to a level of less-than-significant are recommended, as applicable.

## 2.2 ENVIRONMENTAL SETTING

### *2.2.1 Geographic Setting*

The project is located on the Felton USGS quadrangle (see Figure 1). The project is located west of State Highway 17 and adjacent to existing residential developments; the site is located across the street from the Scotts Valley Middle School. There are no watercourses on the property. The Santa Cruz County Soil Survey (USDA, 1980) identifies one soil type within the project area. The area is mapped as Pfeiffer gravelly sandy loam, 15-30% slopes (159). The project site supports ponderosa pine forest and non-native tree groves (acacia and eucalyptus). The distribution of vegetation types within the project area is depicted on Figure 2. Each vegetation type, its California vegetation code, and state ranking (rarity), is listed in Table 1.


**Figure 2. Vegetation Types on Aerial Photograph**
(Google Earth)

**Table 1. Vegetation Types at White Rabbit Properties**

| CaCode[1] | Vegetation Type | Plant Association | State Ranking[2] |
|---|---|---|---|
| 87.010.00 | Ponderosa Pine Forest | Ponderosa Pine/Madrone/Coast Live Oak – California Blackberry | S4* |
| None | Non-native Tree Groves | Acacia/ Eucalyptus | None |

[1] – California vegetation code as per CDFG/CNDDB (2010); [2]- Vegetation types are ranked between S1 and S5. For vegetation types with ranks of S1-S3, all associations within the type are considered to be highly imperiled. * Ponderosa pine on inland sandhills is high priority in CNDDB

### *2.2.2 Vegetation and Wildlife Habitats*

#### Ponderosa Pine Forest

The property is dominated by ponderosa pine forest. The forest is characterized by the presence of ponderosa pine (*Pinus ponderosa)*, with associated trees species of madrone (*Arbutus menziesii)*, coast live oak (*Quercus agrifolia*), and California bay (*Umbellularia californica)*. The forest supports several large-size pine and oak trees. There are a few non-native eucalyptus (*Eucalyptus sp.)* on the upper slope

of the pine forest. The understory shows evidence of recent brush-cutting, yet plant re-growth was evident on the cut trees, shrubs, and herbaceous plant cover. The understory vegetation supports a high diversity of native shrubs, such as California blackberry (*Rubus ursinus),* poison oak (*Toxicodendron diversilobum)*, toyon (*Heteromeles arbutifolia)*, bracken fern (*Pteridium aquilinum)*, snowberry (*Symphoricarpos mollis)*, wood rose (*Rosa gymnocarpa)*, and a few silver bush lupine (*Lupinus albifrons)*. Small-stature trees include blue elderberry (*Sambucus nigra)*, hazel nut (*Corylus cornuta)*, and re-sprouting coast live oak. The herbaceous cover is comprised of native and non-native species, such as wild cucumber (*Marah fabacea)*, miner's lettuce (*Claytonia perfoliata)*, yerba buena (*Clinopodium douglasii)*, hedge nettle (*Stachys sp.)*, wood fern (*Dryopteris arguta)*, forget-me-not (*Myosotis latifolia)*, and phacelia (*Phacelia sp.).* Non-native acacia trees (*Acacia sp.)* abut the pine forest near Scotts Valley Drive and some seedlings occur within the pine forest. The character of the ponderosa pine forest is depicted in Figures 3 and 4.


**Figure 3. Ponderosa pine forest**


**Figure 4. Ponderosa pine forest, showing re-growth of understory**

### Non-native Tree Groves

The northeast corner of APN 022-732-01, paralleling Scotts Valley Drive, supports a grove of non-native acacia. The trees had been cut prior to the field survey; however, re-growth was evident on the cut stumps and numerous seedlings were observed. The southern corner of APN 022-732-48 supports a grove of blue gum eucalyptus (*Eucalyptus globulus)*.


**Figure 5. Eucalyptus grove on APN 022-732-48**

### Wildlife Resources

The vegetative communities on this property are relatively small and fragmented by residential and retail development and busy roadways. The value to native wildlife of the forested site is further degraded by the recent removal of the understory plants and limbing up of the trees. Nonetheless, there are common native wildlife species that can tolerate the high human presence surrounding the site, and may utilize the site for seasonal forage, nesting, or cover, such as western fence lizard (*Sceloporus occidentalis*), rock dove (*Columba livia*), Pacific-slope flycatcher (*Empidonax difficilis*), American crow (*Corvus brachyrhynchos*), western scrub-jay (*Aphelocoma californica*), chestnut-backed chickadee (*Poecile rufescens*), and Botta's pocket gopher (*Thomomys bottae*).

Although the site is not mapped in the Santa Cruz County Soil Survey as supporting Zayante series soils, there are Ponderosa pines present and sandy loam soils. Dr. Richard Arnold, entomologist, observed the federally endangered Mt. Hermon June beetle throughout the adjacent property which is now developed as The Terrace townhomes (Dr. Richard Arnold, pers. comm. 2014), suggesting the beetle may also occur on the subject property.

## 2.3 SENSITIVE BIOTIC RESOURCES

### *2.3.1 Regulated Habitats*

California Department of Fish and Wildlife (CDFW) is a trustee agency that has jurisdiction under Section 1600 et seq. of the CDFW Code. Under Sections 1600-1603 of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake which supports fish or wildlife. CDFW also regulates alterations to ponds and

impoundments; CDFW jurisdictional limits typically extend to the top of bank or to the edge of riparian habitat if such habitat extends beyond top of bank (outer drip line), whichever is greater. There are no CDFW jurisdictional water features on the properties.

Water quality in California is governed by the Porter-Cologne Water Quality Control Act and certification authority under Section 401 of the Clean Water Act, as administered by the Regional Water Quality Control Board (RWQCB). The Section 401 water quality certification program allows the State to ensure that activities requiring a Federal permit or license comply with State water quality standards. Water quality certification must be based on a finding that the proposed discharge will comply with water quality standards which are in the regional board's basin plans. The Porter-Cologne Act requires any person discharging waste or proposing to discharge waste in any region that could affect the quality of the waters of the state to file a report of waste discharge. The RWQCB issues a permit or waiver that includes implementing water quality control plans that take into account the beneficial uses to be protected. Waters of the State subject to RWQCB regulation extend beyond top of bank to the outer edge of riparian vegetation if riparian vegetation is present. RWQCB jurisdiction may extend beyond the top of bank in the absence of riparian vegetation if there are other indications of water having flowed above top of bank, such as debris deposits. RWQCB also has jurisdiction on isolated water/wetland features and saline waters. Should there be no Section 404 nexus (i.e., isolated feature not subject to USACE jurisdiction); a report of waste discharge (ROWD) is filed with the RWQCB. The RWQCB interprets waste to include fill placed into water bodies. There are no RWQCB jurisdictional water features on the properties.

The US Army Corps of Engineers (USACE) regulates activities within waters of the United States pursuant to congressional acts: Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (1977, as amended). Section 10 of the Rivers and Harbors Act requires a permit for any work in, over, or under navigable waters of the United States. Navigable waters are defined as those waters subject to the ebb and flow of the tide to the Mean High Water mark (tidal areas) or below the Ordinary High Water mark (freshwater areas). The properties have no watercourses within the USACE's jurisdiction.

### *2.3.2 Sensitive Habitats*

Sensitive habitats are defined by local, State, or Federal agencies as those habitats that support special status species, provide important habitat values for wildlife, represent areas of unusual or regionally restricted habitat types, and/or provide high biological diversity.

CDFW classifies and ranks the State's natural communities to assist in the determining the level of rarity and imperilment. Vegetation types are ranked between S1 and S5. For vegetation types with ranks of S1-S3, all associations within the type are considered to be highly imperiled. If a vegetation alliance is ranked as S4 or S5, these alliances are generally considered common enough to not be of concern; however, it does not mean that certain associations contained within them are not rare (CDFG, 2007 and 2010). The proposed project area supports ponderosa pine forest; local stands occurring within the Zayante sandhills are considered to have imperiled status.

The property is not mapped as supporting Zayante sandhill substrate in the Santa Cruz County Soil Survey and the site is not identified in the City of Scotts Valley Interim Programmatic Habitat Conservation Plan (IPHCP, 2001). The IPHCP was developed to address development within areas supporting two federally listed insects (i.e., Mt. Hermon June beetle and/or Zayante band-winged grasshopper) and to provide a permitting mechanism for certain developments consistent with the Federal Endangered Species Act (FESA). Dr. Richard Arnold, entomologist, is evaluating the potential for the federally endangered Mt. Hermon June beetle on the subject property; his work will determine potential

take of the species pursuant to FESA. The IPHCP area consists of 10 project units. In order to be eligible for coverage under the IPHCP and the City's Incidental Take Permit (ITP) the parcel to be developed must be located in one of these units and the parcel must meet size requirements. The subject property, encompassing approximately 1.5 acres, is not located within one of the IPHCP project unit and is too large in size to be covered under the City's ITP. Potential impacts to the habitat for the federally listed Mt. Hermon June beetle will likely require a project-specific Habitat Conservation Plan/ITP. (Note: Issues relating to Mt. Hermon June beetle, a federally listed species are subject to separate review by Dr. Richard Arnold through a separate agreement with the landowner).

The City has requirements for the protection of tree resources. The topographic map, dated 3-13-19 (Alpha Land Surveys, Inc.) demarcated the location of tree greater than 12 inches in diameter (measured as DBH, diameter at breast height). Numerous smaller diameter trees are also present on site. The topographic survey documented fifty-two (52) trees/tree groups within the proposed development area (limits of grading) (Alpha Land Surveys). A preliminary evaluation of the grading plan found 44 native trees (23 ponderosa pines and 21 coast live oaks) and 6 non-native trees (eucalyptus and acacia) are slated for removal. Several of the trees meet the City's protected tree criteria (i.e., acacias do not quality as protected trees). An arborist report will be required to identify specific measures to avoid, minimize and compensate for the expected tree removal.

### *2.3.3 Special Status Plant Species*

Plant species of concern include those listed by either the Federal or State resource agencies as well as those identified as rare by CNPS (List 1B). The search of the CNPS and CNDDB inventories for the Felton and eight surrounding quadrangles identified the special status plant species with potential to occur in the project area. Species evaluated for potential occurrence within the proposed project area as per CNDDB and CNPS records are listed on Table 2. This evaluation included a review of the habitat requirements for each species, the presence of specialized microhabitats required for such species within the project site, and field observations.

The spring 2020 field survey was sufficient in determining presence or absence of special status woody, perennial species and the presence or absence of specialized microhabitats required by several special status species (i.e., Zayante sandhills, coastal prairie/grassland, limestone outcrops, pine forest, rocky outcrops, or serpentine substrate). The April field survey was conducted during the identification period of several special status sandhill species (i.e., Ben Lomond spineflower and Santa Cruz wallflower in distinctive seedling stage) and none were detected on the property. In summary, no species status plant species were observed, or are expected to occur, in the project development area.

**Table 2. Special Status Plant Species Evaluated for Potential Presence on White Rabbit Properties**

| Scientific Name | Common Name | Lifeform | CNPS Rare Plant Rank | CESA | FESA | Observation and/or Potential to Occur on Site |
|---|---|---|---|---|---|---|
| *Agrostis blasdalei* | Blasdale's bent grass | Perennial herb | 1B.2 | None | None | Grasslands. No suitable habitat; not observed; presumed absent |
| *Amsinckia lunaris* | bent-flowered fiddleneck | annual herb | 1B.2 | None | None | Polo Ranch, Scotts Valley; rich soils in grassland<br>No suitable habitat; presumed absent |
| *Arctostaphylos andersonii* | Anderson's manzanita | perennial evergreen shrub | 1B.2 | None | None | Nisene Marks SP, N end of Redwood Drive, Aptos<br>No suitable habitat; not observed; absent from site |
| *Arctostaphylos glutinosa* | Schreiber's manzanita | perennial evergreen shrub | 1B.2 | None | None | Not observed; absent from site |
| *Arctostaphylos ohloneana* | Ohlone manzanita | perennial evergreen shrub | 1B.1 | None | None | Not observed; absent from site |
| *Arctostaphylos pajaroensis* | Pajaro manzanita | perennial evergreen shrub | 1B.1 | None | None | No suitable habitat; not observed; absent from site |
| *Arctostaphylos regismontana* | Kings Mountain manzanita | perennial evergreen shrub | 1B.2 | None | None | No suitable habitat; not observed; absent from site |
| *Arctostaphylos silvicola* | Bonny Doon manzanita | perennial evergreen shrub | 1B.2 | None | None | N of Redwood Glen Camp in Zayante sandhills; Lockwood Lane and Conference Drive area<br>Not observed; absent from site |
| *Arenaria paludicola* | marsh sandwort | perennial stoloniferous herb | 1B.1 | CE | FE | Rich marsh area; historic record from Camp Evers, Scotts Valley<br>No suitable habitat; presumed absent |
| *Calyptridium parryi var. hesseae* | Santa Cruz Mountains pussypaws | annual herb | 1B.1 | None | None | Zayante sandhills; lack of sandhill substrate; presumed absent; not observed |
| *Campanula californica* | swamp harebell | perennial rhizomatous herb | 1B.2 | None | None | Rich seasonally marshy area; historic record from Camp Evers, Scotts Valley<br>No suitable habitat; presumed absent |
| *Carex saliniformis* | deceiving sedge | perennial rhizomatous herb | 1B.2 | None | None | Historic record from Camp Evers, Scotts Valley; Forested area in UCSC<br>No suitable habitat; not observed |

**Table 2. Special Status Plant Species Evaluated for Potential Presence on White Rabbit Properties**

| Scientific Name | Common Name | Lifeform | CNPS Rare Plant Rank | CESA | FESA | Observation and/or Potential to Occur on Site |
|---|---|---|---|---|---|---|
| *Chorizanthe pungens var. hartwegiana* | Ben Lomond spineflower | annual herb | 1B.1 | None | FE | Zayante sandhills; no suitable substrate/open areas presumed absent; not observed during survey |
| *Chorizanthe pungens var. pungens* | Monterey spineflower | annual herb | 1B.2 | None | FT | Mar Monte area, Aptos<br>Sandy soils on oak woodland, scrub, maritime chaparral; no suitable substrate; presumed absent; not observed during survey |
| *Chorizanthe robusta var. hartwegii* | Scotts Valley spineflower | annual herb | 1B.1 | None | FE | Scotts valley grassland/sandstone outcrops<br>No suitable habitat; presumed absent; not observed during survey |
| *Chorizanthe robusta var. robusta* | robust spineflower | annual herb | 1B.1 | None | FE | Freedom Blvd area, Aptos, sandy soils<br>No suitable substrate; presumed absent; not observed during survey |
| *Cirsium fontinale var. campylon* | Mt. Hamilton thistle | perennial herb | 1B.2 | None | FE | Serpentine seeps, Sierra Azul<br>No suitable habitat; not observed |
| *Collinsia multicolor* | San Francisco collinsia | annual herb | 1B.2 | None | None | Moist, shady slopes; found in north coast /Swanton and Scotts creek<br>Shady hillside present yet too dry; presumed absent |
| *Dacryophyllum falcifolium* | tear drop moss | perennial herb | 1B.3 | None | None | Moist bedrock outcrops<br>No suitable habitat; presumed absent |
| *Dudleya abramsii ssp. setchellii* | Santa Clara Valley dudleyi | perennial herb | 1B.2 | None | None | Serpentine chaparral<br>No suitable habitat; not observed |
| *Eriogonum nudum var. decurrens* | Ben Lomond buckwheat | perennial herb | 1B.1 | None | None | Zayante sandhills; no suitable substrate; not observed |
| *Erysimum teretifolium* | Santa Cruz wallflower | perennial herb | 1B.1 | CE | FE | Zayante sands; no suitable habitat; presumed absent; not observed during survey |
| *Fissidens pauperculus* | minute pocket moss | moss | 1B.2 | None | None | Nisene Marks SP, redwood forest<br>No suitable; presumed absent |
| *Fritillaria liliacea* | Fragrant fritillary | perennial herb | 1B.2 | None | None | Moist areas, serpentine grassland<br>No suitable habitat; not observed |
| *Grimmia torenii* | Toren's grimmia | moss | 1B.3 | None | None | Openings, rocky, boulder and rock walls, carbonate, volcanic; Chaparral; woodland; coniferous forest; marginally suitable habitat; not observed |
| *Grimmia vaginulata* | Vaginulate grimmia | moss | 1B.1 | None | None | Rocky, boulder and rock walls, carbonate; Chaparral (openings); no suitable habitat; not observed |

**Table 2. Special Status Plant Species Evaluated for Potential Presence on White Rabbit Properties**

| Scientific Name | Common Name | Lifeform | CNPS Rare Plant Rank | CESA | FESA | Observation and/or Potential to Occur on Site |
|---|---|---|---|---|---|---|
| *Hesperevax sparsiflora var. brevifolia* | Short-leaved evax | annual herb | 1B.2 | None | None | Coastal bluff scrub (sandy); coastal dunes; coastal prairie; no suitable habitat; not observed |
| *Hesperocyparis abramsiana var. abramsiana* | Santa Cruz cypress | perennial evergreen tree | 1B.2 | CE | FE | Pine forest on sandstone outcrops, sandy soils; Majors Creek, Boulder Creek; No suitable habitat; not observed |
| *Hesperocyparis abramsiana var. butanoensis* | Butano Ridge cypress | perennial evergreen tree | 1B.2 | CE | FE | Pine forest on sandstone outcrops, sandy soils; Butano Ridge; No suitable habitat; not observed |
| *Hoita strobilina* | Loma Prieta hoita | perennial herb | 1B.1 | None | None | Serpentine chaparral, Loma Prieta<br>No suitable habitat; not observed |
| *Holocarpha macradenia* | Santa Cruz tarplant | annual herb | 1B.1 | CE | FT | Coastal terrace grassland; Soquel area, Twin Lakes, Arana Gulch, Watsonville<br>No suitable habitat; presumed absent |
| *Horkelia cuneata var. sericea* | Kellogg's horkelia | perennial herb | 1B.1 | None | None | Sandy soil, UCSC grassland<br>No suitable habitat; presumed absent; not observed during survey |
| *Horkelia marinensis* | Point Reyes horkelia | perennial herb | 1B.2 | None | None | Coastal prairie, UCSC grassland<br>No suitable habitat; presumed absent; not observed during survey |
| *Lasthenia californica ssp. macrantha* | Perennial goldfields | perennial herb | 1B.2 | None | None | Coastal bluff scrub; coastal dunes; coastal scrub; no suitable habitat; not observed |
| *Lessingia micradenia var. glabrata* | smooth lessingia | annual herb | 1B.2 | None | None | Serpentine chaparral, Loma Prieta<br>No suitable habitat; presumed absent |
| *Malacothamnus arcuatus* | arcuate bush-mallow | perennial evergreen shrub | 1B.2 | None | None | Mt. Bache Road area, chaparral<br>No suitable habitat; not observed |
| *Microseris paludosa* | marsh microseris | perennial herb | 1B.2 | None | None | Moist areas in coastal prairie, Graham Hill Road area<br>No suitable habitat; presumed absent |
| *Monardella sinuata ssp. nigrescens* | northern curly-leaved monardella | annual herb | 1B.2 | None | None | Zayante sandhills; no suitable substrate; presumed absent; not observed during survey |
| *Monolopia gracilens* | woodland woolythreads | annual herb | 1B.2 | None | None | Sandy openings in chaparral, Quail Hollow County Park; No suitable habitat; presumed absent |

**Table 2. Special Status Plant Species Evaluated for Potential Presence on White Rabbit Properties**

| Scientific Name | Common Name | Lifeform | CNPS Rare Plant Rank | CESA | FESA | Observation and/or Potential to Occur on Site |
|---|---|---|---|---|---|---|
| *Orthotrichum kellmanii* | Kellman's bristle moss | moss | 1B.2 | None | None | Sandstone, carbonate; chaparral; woodland; no suitable habitat; not observed |
| *Pedicularis dudleyi* | Dudley's lousewort | perennial herb | 1B.2 | CR | None | Redwood forest; extirpated from County; historic record from headwaters of Aptos Creek<br>No suitable habitat; presumed absent; not observed during survey |
| *Penstemon rattanii var. kleei* | Santa Cruz Mountains beardtongue | perennial herb | 1B.2 | None | None | Burned or disturbed areas in chaparral and woodland; historic record from Empire Grade area<br>No suitable habitat; presumed absent; not observed during survey |
| *Pentachaeta bellidiflora* | white-rayed pentachaeta | annual herb | 1B.1 | CE | FE | Beach cliffs near Santa Cruz (historic); grassland<br>No suitable habitat; presumed absent |
| *Pinus radiata* | Monterey pine | evergreen tree | 1B.1 | None | None | Native stands at Ano Nuevo and Monterey Peninsula; none observed on site; outside of native range |
| *Piperia candida* | White-flowered rein orchid | perennial herb | 1B.2 | None | None | Open to shady site in coniferous forests<br>Shady hillside present yet unlikely due to dry conditions on slope; presumed absent; not observed during survey |
| *Plagiobothrys chorisianus var. chorisianus* | Choris' popcorn-flower | annual herb | 1B.2 | None | None | Moist depressions in grassland; Polo Ranch Scotts Valley, Watsonville area<br>No suitable habitat; presumed absent |
| *Plagiobothrys diffusus* | San Francisco popcorn-flower | annual herb | 1B.1 | CE | None | Seasonally moist grassland on coastal terrace, Moore Creek area, Fairway Drive area, Polo Ranch Scotts Valley, Pogonip; SVUSD Preserve<br>No suitable habitat; presumed absent |
| *Plagiobothrys glaber* | Hairless popcorn-flower | annual herb | 1A | CE | None | Seasonally moist alkaline soils in marshes, meadows, swamps; No suitable habitat; presumed absent |
| *Polygonum hickmanii* | Scotts Valley polygonum | annual herb | 1B.1 | CE | FE | Grasslands with sandstone outcrops, Scotts Valley<br>No suitable habitat; presumed absent |
| *Sanicula saxatilis* | Rock sanicle | perennial herb | 1B.2 | None | None | Rocky, scree, talus; upland forest; chaparral; valley and foothill grassland; no suitable substrate; not observed |

**Table 2. Special Status Plant Species Evaluated for Potential Presence on White Rabbit Properties**

| Scientific Name | Common Name | Lifeform | CNPS Rare Plant Rank | CESA | FESA | Observation and/or Potential to Occur on Site |
|---|---|---|---|---|---|---|
| *Silene verecunda ssp. verecunda* | San Francisco campion | perennial herb | 1B.2 | None | None | Exposed mudstone in north part of County<br>No suitable habitat; presumed absent |
| *Stebbinsoseris decipiens* | Santa Cruz microseris | annual herb | 1B.2 | None | None | Coastal Prairie, Chaparral, Mixed Evergreen Forest, Closed-cone Pine Forest, Northern Coastal Scrub; no suitable openings; presumed absent |
| *Strepthanthus albidus ssp. albidus* | Metcalf Canyon jewel flower | annual herb | 1B.2 | None | FE | Serpentine chaparral and grassland<br>No suitable habitat; presumed absent |
| *Strepthanthus albidus ssp. peramoenus* | most beautiful jewel flower | annual herb | 1B.2 | None | None | Serpentine chaparral and grassland,<br>No suitable habitat; presumed absent |
| *Trifolium buckwestiorum* | Santa Cruz clover | annual herb | 1B.1 | None | None | Moist depressions in grassland; Soquel area, UCSC<br>No suitable habitat; presumed absent |
| *Trifolium polyodon* | Pacific Grove clover | annual herb | 1B.1 | None | None | Mesic, sometimes granitic; closed-cone coniferous forest; coastal prairie; meadows and seeps; valley and foothill grassland; pine forest too dry and no mesic areas noted; presumed absent |

**CNPS Status: List 1B:** These plants (predominately endemic) are rare through their range and are currently vulnerable or have a high potential for vulnerability due to limited or threatened habitat, few individuals per population, or a limited number of populations. List 1B plants meet the definitions of Section 1901, Chapter 10 of the CDFW Code.

### *2.3.4 Special Status Wildlife Species*

Special status wildlife species include those listed, proposed or candidate species by either the Federal or the State resource agencies as well as those identified as State species of special concern. In addition, all raptor nests are protected by Fish and Game Code, and all migratory bird nests are protected by the Federal Migratory Bird Treaty Act. Special status wildlife species were evaluated for their potential presence in the project area as described in Table 3 below.

The special status wildlife species that are likely to occur within the project area include Mt. Hermon June beetle and nesting birds. Measures are given below to avoid or minimize potential impacts to these species. There is no suitable habitat for the remaining special status wildlife species listed in Table 3.

**Table 3. Special status wildlife species and their predicted occurrence at White Rabbit Property, Scotts Valley, Felton Quad, June 2020**

| SPECIES | STATUS[1] | HABITAT | POTENTIAL OCCURRENCE ON SITE |
|---|---|---|---|
| **Invertebrates** | | | |
| Ohlone tiger beetle *Cicindela ohlone* | FE | Coastal terrace prairie with sparse vegetation and openings, Watsonville loam soils | None, no suitable habitat on site. |
| Mt. Hermon June beetle *Polyphylla barbata* | FE | Chaparral and ponderosa pine with Zayante sandy soils | Observed on site by Dr. R. Arnold. |
| Zayante band-winged grasshopper *Trimerotropis infantilis* | FE | Openings in sand hills parkland habitat with Zayante sandy soils | No suitable habitat on site. |
| Smith's blue butterfly *Euphilotes enoptes smithi* | FE | Coastal dunes and coastal sage scrub with buckwheat plants | No suitable habitat on site. |
| **Fish** | | | |
| Coho salmon *Oncorhynchus kisutch* | FE, SE | Perennial creeks and rivers with gravels for spawning | No suitable habitat in project area. |
| Steelhead *Oncorhynchus mykiss* | FT | Perennial creeks and rivers with gravels for spawning | No suitable habitat in project area. |
| **Amphibians** | | | |
| Santa Cruz black salamander *Aenides flavipunctatus niger* | CSC | Mesic forests of fog belt; terrestrial, lives under logs, rocks, etc. | No suitable habitat on site; closest known location is > 5 miles away.. |
| California giant salamander *Dicamptodon ensatus* | CSC | Wet coastal forests near streams and seeps; breed in streams | No suitable habitat on site, no perennial waterways; closest known sites are > 5 miles. |
| California red-legged frog *Rana aurora draytonii* | FT, CSC | Riparian, marshes, estuaries and ponds with still water at least into June. | No suitable habitat in project area. |
| Foothill yellow-legged frog *Rana boylii* | CSC | Creeks and rivers with cobble substrate | No suitable habitat on site. |
| **Reptiles** | | | |

**Table 3. Special status wildlife species and their predicted occurrence at White Rabbit Property, Scotts Valley, Felton Quad, June 2020**

| SPECIES | STATUS[1] | HABITAT | POTENTIAL OCCURRENCE ON SITE |
|---|---|---|---|
| Western pond turtle<br>*Actinemys marmorata* | CSC | Creeks and ponds with water of sufficient depth for escape cover, and structure for basking; grasslands or bare areas for nesting. | No suitable habitat in project area. |
| **Birds** | | | |
| Osprey<br>*Pandion haliaetus* | None | Nests in tall trees adjacent to reservoirs and rivers | None, no suitable habitat on site. |
| White-tailed kite<br>*Elanus leucurus* | FP | Nests in tall riparian trees adjacent to open lands for foraging | None, no suitable habitat on site. |
| **Mammals** | | | |
| Pallid bat<br>*Antrozous pallidus* | CSC | Roosts in caves, hollow trees, mines, buildings, bridges, rock outcroppings | None. No suitable habitat on site. |
| Santa Cruz kangaroo rat<br>*Dipodomys venustus venustus* | None | Manzanita chaparral with sandy soils | None. No suitable habitat on site. |
| San Francisco dusky-footed woodrat<br>*Neotoma fuscipes annectens* | CSC | Woodlands including oaks, willow riparian, Eucalyptus | None observed; understory of forest has been removed. |
| American badger<br>*Taxidea taxus* | CSC | Grasslands with friable soils | None, no suitable habitat on site; grasslands on site too small in area and isolated to support this medium sized mammal. |

[1] Key to status: FE=Federally listed as endangered species; FT=Federally listed as threatened species; SE=State listed endangered; FP=Fully protected species by State; CSC=California species of special concern

# 3.0 IMPACT AND MITIGATION DISCUSSION

## 3.1 IMPACT CRITERIA

### *3.1 Thresholds of Significance*

The thresholds of significance presented in the CEQA Guidelines, updated December 2018, were used to evaluate project impacts and to determine if implementation of the proposed Project would pose significant impacts to botanical resources. For this analysis, significant impacts are those that substantially affect, either directly or through habitat modifications:

a) A species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
b) Riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
c) State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation plan, or other approved local, regional, or state habitat conservation plan.

## 3.2 ENVIRONMENTAL IMPACTS, MITIGATION MEASURES AND SIGNIFICANCE DETERMINATION FOR THE PROPOSED PROJECT

The proposed residential development project was evaluated for its potential direct and indirect impacts to biotic resources. Impacts to sensitive habitats/resources were considered potentially significant.

**a) Special Status Species**

As noted in Section 2.3.4, the project site is likely occupied habitat for the federally endangered Mt. Hermon June beetle, which were documented on the adjacent property now developed as The Terrace townhouses (R. Arnold, pers. comm.., 2014). Because the size of the property exceeds the limits imposed by the IPHCP, this project may not qualify to be included in the existing Programmatic HCP for this species. The developer should consult with the US Fish and Wildlife Service to determine if this project requires issuance of an individual project-specific ITP or if it qualifies to pay in-lieu fees under the IPHCP. Measures to minimize impacts to this beetle are listed below.

The removal of vegetation, grading and construction of the proposed residential development will permanently remove approximately1.2 acres of potentially-known occupied Mt. Hermon June beetle habitat. The construction has the potential to kill or injure individuals of this June beetle species. These are significant impacts under both CEQA and FESA.

**Recommendation BIO-1.** The applicant shall develop a Habitat Conservation Plan for the Mt. Hermon June beetle at this site, as allowed under Section 10.a.1.B of the federal Endangered Species Act OR pay in-lieu fees into a mitigation bank for the beetle if approved by the USFWS. The plan will describe measures to avoid and minimize impacts to individual beetles during and after construction, as well as compensatory

mitigation sufficient to offset the permanent loss of this occupied beetle habitat. The HCP shall be approved by the U. S. Fish and Wildlife Service prior to any site disturbance for the proposed project.

**b) Sensitive Habitat**

The project will impact approximately 1.2 acres of ponderosa pine forest, a sensitive habitat type. Impacts to sensitive habitat are considered significant under CEQA.

Fifty-two (52) trees/tree groups were documented within the proposed development area (limits of grading) (Alpha Land Surveys). A preliminary evaluation of the grading plan found 44 native trees (23 ponderosa pines and 21 coast live oaks) and 6 non-native trees (eucalyptus and acacia) are slated for removal. Several of the trees meet the City's protected tree criteria (i.e., acacias do not quality as protected trees). An arborist report will be required to identify specific measures to avoid, minimize and compensate for the expected tree removal and loss of the ponderosa pine urban forest.

**Recommendation BIO-2.** The following measures are recommended to reduce impacts to the ponderosa pine forest, a sensitive habitat, to a less-than significant level.

The applicant shall have an arborist prepare a report on the trees on the property and an evaluation of trees to be removed. The applicant shall implement all measures contained within the arborist report for the avoidance and mitigation for tree removal. Measures include implementing a tree protection plan, maintenance of trees to remain, and implementing a tree replacement program that is subject to review and approval by the City of Scotts Valley.

The applicant shall confer with regulatory agencies regarding acceptable compensatory mitigation for the loss of ponderosa pine forest, in conjunction with Habitat Conservation Plan for the Mt. Hermon June beetle. This could include contributing to the Zayante Sandhills Conservation bank wherein ponderosa pine forest is protected, enhanced and managed.

**Recommendation BIO-3.** The applicant shall have an arborist prepare a report on the trees on the properties and an evaluation of trees to be removed. The applicant shall implement all measures contained within the arborist report for the avoidance and mitigation for tree removal. Measures include implementing a tree protection plan, maintenance of trees to remain, and implementing a tree replacement program that is subject to review and approval by the City of Scotts Valley.

**c) Wetlands.**

None on site. No impact.

**d) Nesting Birds and Wildlife**

Nesting birds may occur in the forest habitat types on the project site. Because most nesting birds are protected by the Migratory Bird Treaty Act, measures are listed below to avoid potentially significant impacts if any are present during construction. The removal of trees and other vegetation has the potential to injure or kill bird eggs or chicks, if any birds are actively nesting at the time of vegetation removal.

**Recommendation BIO-4.** To avoid impacting breeding birds, if present, schedule construction to occur between August 1 and February 1 of any given year, which is outside the bird breeding season. If this schedule is not feasible, have a qualified biologist conduct a pre-construction survey for nesting birds no more than 14 days prior to vegetation removal. If any active bird nests are found within 50 feet of the

work area for passerines, or 100 feet for raptors, either create a suitable buffer zone or postpone construction until the biologist has determined that all young have fledged.

**e) Local Policies.**

A preliminary evaluation of the grading plan found 44 native trees (23 ponderosa pines and 21 coast live oaks) and 6 non-native trees (eucalyptus and acacia) are slated for removal. Several of the trees meet the City's protected tree criteria (i.e., acacias do not quality as protected trees).

**Recommendation BIO-5.** An arborist report is needed to identify specific measures to avoid, minimize and compensate for the expected tree removal and loss of the ponderosa pine urban forest.

**f) Conflict with HCP.**

The properties are not located within the boundaries of the Interim Sandhills HCP. There are no other HCP or Conservation plans that include the subject properties.

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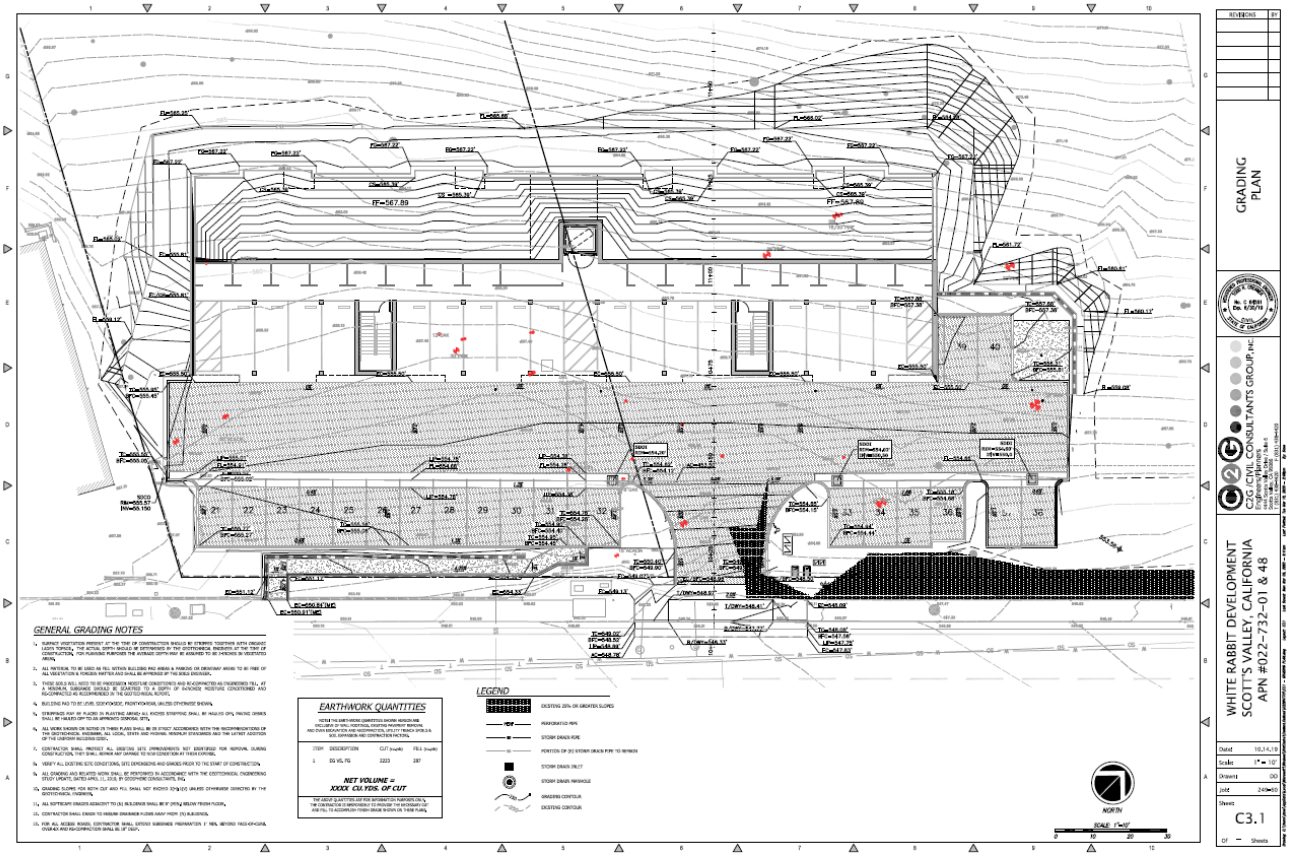
# Appendix A

**Proposed Grading Plan**
**(Source: C2G Civil Consultants Group, Inc.)**



# *ARBORIST REPORT-*

## Tree Inventory & Preliminary Impact Assessment

**White Rabbit Development, APN: 022-732-48 & 022-732-01**

Scotts Valley, CA

April 13, 2020

Revised 3/8/2021 &
3/14/2021

Prepared for:

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# SUMMARY

This report provides the following information:

1. A summary of the health and structural condition of 123 trees.
2. A preliminary evaluation of anticipated construction impacts to the trees.
3. Recommendations for retention or removal of assessed trees based on their condition and anticipated construction impacts.

- The *Tree Assessment Chart*, Appendix A is the condensed reference guide to inform all tree management decisions for the trees evaluated.
- A new multi-unit housing development is proposed for two undeveloped parcels.
- One hundred twenty- five trees within the parcel boundaries were inventoried. One hundred and nine were “protected”.
- Sixty-four trees are suitable for preservation and can be incorporated in the proposed project.
- Twenty-three trees are in poor condition and are not suitable for retention in the project.
- Thirty-eight trees are recommended for removal due to anticipated high construction impacts.
- A total of sixty-one trees are recommended for removal.
- Sixty of sixty-one trees recommend for removal are “protected”.
- If removals are permitted, replacement trees will be required.
- This is a preliminary evaluation, once final plans are completed, tree protection specifications based on the final plans will be required.

## Background

Plans will be submitted to the City of Scotts Valley, to develop the two parcels into a multi-unit housing complex. Apple Homes Development Inc. has requested my services, to assess the condition of trees on the applicant’s property and the construction impacts that may affect them. Further, to provide a report with my findings and recommendations to meet City of Scotts Valley planning requirements.

## Assignment

Provide an arborist report that includes an assessment of the trees within the project area. The assessment is to include the species, size (trunk diameter, height and canopy spread), condition (health and structure), and suitability for preservation ratings. Further, to review the preliminary development plans and assess the potential construction impacts.

To complete this assignment, the following services were performed:

- **Tree Resource Evaluation:** Tag with metal tags, inventory, evaluate and assign suitability for preservation ratings for subject trees.

## Assignment continued:

- **Plan Review: Reviewed provided plans including:** Grading Plan, by C2G Civil Consultants, dated 10/14/2019, and Topographic Map, by Alpha Land Surveys, dated, 3/13/2019.
- **Construction Impact Assessment:** Combine tree resource data with anticipated construction impacts, to provide recommendations for removal or retention of trees.
- **Mapping:** Tree locations were plotted onto: Grading Plan, by C2G Civil Consultants, dated 10/14/2019, and a Tree Location Map was created.

## Limits of the Assignment

The information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection on 3/20/2020 and 4/3/2020.

The inspection is limited to visual examination of accessible items without climbing, dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the trees in questions may not arise in the future.

## Purpose and use of the report

The report is intended to identify all the trees within the plan area that could be affected by a project. The report is to be used by the developer, their agents, the City of Scotts Valley, as a reference for existing tree conditions and to help satisfy the City of Scotts Valley planning requirements.

## Resources

All information within this report is based on site plans as of the date of this report. Resources are as follows:

- Grading Plan, by C2G Civil Consultants, dated 10/14/2019.
- Topographic Map, by Alpha Land Surveys, dated, 3/13/2019.
- Site Visit, Tree Inventory & Condition Evaluation at White Rabbit Parcels, Scotts Valley Drive, Scotts Valley, dates 3/20/2020 & 4/3/2020
- City of Scotts Valley Municipal Code –Section 17.44.080 Tree Protection Regulations (applicable sections).

# OBSERVATIONS

The two parcels make up 1.5 acres of wooded, undeveloped property. Topography varies from fairly level, to gently sloping, to moderately sloped. The base of the property is retained and is roughly 3-5 feet above Scotts Valley Drive (Image #1).


**Image #1 –Project area along Scotts Valley Drive.**

I inventoried 123 trees in the forested area dominated by three species, coast live oak (*Quercus agrifolia*), ponderosa pine (*Pinus ponderosa*), and madrone (Arbutus menziesii). Coast live oak (48 trees), was the dominant species, with 42 ponderosa pine and 11 madrone inventoried. Thirteen blue gum eucalyptus (*Eucalyptus globulus*), four California bay laurel *(Umbellularia californica*), three Monterey pine (*Pinus radiata*) and, two Douglas fir (*Pseudotsuga menziesii*), were also inventoried. Seventy-eight trees were tagged and assessed, and forty-five trees were assessed but not tagged.

The structure of the forested stand includes the dominant (tallest), ponderosa pine and the codominant (medium height) coast live oak (Images #2 & 3).

**Image #2 - View from Scotts Valley Drive. Taller ponderosa pine (circled red) and medium height coast live oak (circled blue).**

**Image #3 – View looking west from Scotts Valley Drive. Taller trees are ponderosa pines with coast live oak in foreground.**

Growing conditions for the trees was good with ample bare soil rooting area. The sloped site appears well drained.

Roughly three-quarters of the coast live oaks are in fair condition, with the remaining trees in poor condition. They vary in age from young to mature. A few larger specimens are located along Scotts Valley Drive (Image #3).


**Image #3 – Trees T33 and T34, coast live oak.**

Two  of the mature oaks along Scotts Valley Drive have over extended limbs growing above the road (Image #4). Including T29 and T33.


**Image #4 – Tree T29, coast live oak. Overextended limb above Scotts Valley Drive.**

Many of the oaks have strong trunk leans and reduced foliar canopies because of competition for sunlight with the taller ponderosa pine (Image #5).

**Image #5 – A group of coast live oak with strong trunks leans and reduced foliar canopies.**

The most common defect for the oaks was a limited branching structure and reduced foliar canopy, as noted above. This condition was found in about one-third of the oaks and occurred more often on the younger trees.

Other defects found on coast live oak include co-dominant trunks, overextended limbs, unbalanced canopies, trunk bows, foliar canopy dieback, deadwood, decay, and one semi-fallen tree.

The ponderosa pines were mature to over mature (> 80% of useful life) specimens. About 65% were in fair condition (Image #6), and 35% in poor condition. Many had a low live crown ratio (Image #7). Live crown ratio is the ratio if the crown length (live foliage), to total tree height.


**Image #6 – Tree T2, ponderosa pine in fair condition.**

Many had a low live crown ratio. (Image #7). Live crown ratio is the ratio if the crown length (live foliage), to total tree height.

**Image # 7 – Ponderosa pine with reduced live crown area (circled).**

These trees have shed their lower branches over time so that that live foliar canopy is in the top half of the tree.

A group trees on the west side of the property were topped. As a result, their trunks fork at 35 feet above grade.

One pine shows sign of a previous fungal infection, with significant dieback in the upper canopy. The terminal has died, and the tree has regrown two trunks (Image #8).

**Image #8 – Tree T42, ponderosa pine. The tree has suffered significant dieback due to a previous fungal infection. Copious sap flows on the tree are typical of a pitch canker (*Fusarium circinatum*), infection.**

Other defects found on the ponderosa pines include co-dominant trunks, and one tree with a poorly developed lower trunk lacking structural wood.

About half of the eleven madrone trees were in fair condition, and half in poor condition. Most trees in poor condition had excessive trunk leans and one had recently fallen.

Forty-five trees upslope (east), of the grading limits, but within the parcel boundary, were inventoried, but not tagged. Trees in this group include California bay laurel, Monterey pine, blue gum eucalyptus (not protected), coast live oak, madrone and ponderosa pine. Most trees in this group are in fair condition. Four trees are in poor condition including one fallen Madrone (mentioned above), and two dead ponderosa pine.

# DISCUSSION

## Species List

**TOTAL SUBJECT TREES: 123 Trees**

**Protected: 109**

| | | |
|---|---|---|
| 47 | Coast Live Oak | (*Quercus agrifolia*) |
| 42 | Ponderosa pine | (*Pinus ponderosa*) |
| 11 | Madrone | (*Arbutus menziesii*) |
| 4 | California bay laurel | (*Umbellularia californica*) |
| 3 | Monterey Pine | (*Pinus radiata*) |
| 2 | Douglas fir | (*Pseudotsuga menziesii*) |

**Not Protected: 14**

| | | |
|---|---|---|
| 13 | Blue Gum Eucalyptus | (*Eucalyptus globulus*) |
| 1 | Coast Live Oak | (*Quercus agrifolia*) |

## Tree Evaluation and Recording Methods

Site evaluations were made on 3/20/2020 and 4/3/2020. *The inventory included trees on two parcels within the project limits.* The health and structural **condition** of each tree was assessed and recorded. Based on the trees health and structural condition, each trees **suitability for preservation** was rated and recorded.

The recorded data is included in the *Tree Assessment Chart, Appendix A,* of this report. Tree numbers were plotted on the attached *Tree Location Map sheet, T1*. **To correlate the data in the Tree Assessment Chart to the tree's location on the site, refer to the Tree Location Map sheet - Appendix C.**

## Condition Rating

A trees condition is determined by an assessing both the **health** and **structure**, then combining the two factors to reach a *condition rating*. If the health rating and the structure rating differ, the lower rating becomes the default *condition rating*. Tree condition is rated as poor, fair or good. The quantity of trees assigned for each category (good, fair or poor), is indicated below:

**Tree Condition Rating**

- Good - 4
- Fair - 93
- Poor - 26

## Suitability for Preservation

A trees suitability for preservation is determined based on its health, structure, age, species characteristics and longevity using a scale of good, fair or poor. The quantity of trees assigned to each category (good, fair or poor), is listed below.

**Suitability Rating**

- Good - 4
- Fair – 96
- Poor - 23

## Trees Recommended for Removal Due to Poor Condition

- Twenty-Three Trees

| | | | |
|---|---|---|---|
| 10 | T7, 11,T14,T17,T19,T22, T27,T28,T34 & T58 | Coast Live Oak | (*Quercus agrifolia*) |
| 10 | T4,T42,T45,T49-51 & T53-56 | Ponderosa pine | (*Pinus ponderosa*) |
| 2 | T41, no tag 18” diameter fallen tree | Madrone | (*Arbutus menziesii*) |
| 1 | T72 | Monterey Pine | (*Pinus radiata*) |

## Tree Protection Zone

The tree protection zone (TPZ), is a defined area within which certain activities are prohibited or restricted to minimize potential injury to designated trees during construction.

The size of the optimal TPZ can be determined by a formula based on 1) trunk diameter 2) species tolerance to construction impacts, and 3) tree age (Matheny, N. and Clark, J 1998). In some instances, tree drip line is used as the TPZ. Development constraints can also influence the final size of the tree protection zone.

Fencing is installed to delineate the (TPZ), and to protect tree roots, trunk, and scaffold branches from construction equipment. *The fenced protection area may be smaller than the optimal or designated TPZ area in some circumstances.* Tree protection may also involve the armoring of the tree trunk and/or scaffold limbs with barriers to prevent mechanical damage from construction equipment. *See Tree Protection Guidelines & Restrictions* – Appendix E.

Once the TPZ is delineated and fenced (prior to any site work, equipment and materials move in), construction activities are only to be permitted within the TPZ if allowed for and specified by the project arborist.

Where tree protection fencing cannot be used, or as an additional protection from heavy equipment, tree wrap may be used. Wooden slats at least one inch thick are to be bound securely, edge to edge, around the trunk. A single layer or more of orange plastic construction fencing is to be wrapped and secured around the outside of the wooden slats. Major scaffold limbs may require protection as determined by the City arborist or Project arborist. Straw wattle may also be used as a trunk wrap and secured with orange plastic fencing.

Data has been entered in the *Tree Assessment Chart – Appendix A,* which indicates the optimal Tree Protection Zone for each tree.

## Critical Root Zone

Critical Root Zone (CRZ) is the area of soil around the trunk of a tree where roots are located that provide critical stability, uptake of water and nutrients required for a tree's survival. The CRZ is the minimum distance from the trunk that trenching that requires root cutting should occur and can be calculated as three to the five times the trunk Diameter at Breast Height (DBH). For example, if a tree is one foot in trunk diameter then the CRZ is three to five feet from the trunk location. We will often average this as four times the trunk diameter or 1ft. DBH = 4ft. CRZ (Smiley, E.T., Fraedrich, B. and Hendrickson, N. 2007).

## Root Disturbance Distance

No one can estimate and predict with absolute certainty, what distance from a tree a soil disturbance such as excavation for construction should be, to ensure it will not significantly affect tree stability or health. Or to what degree, (low, moderate or high), a tree might be impacted. There are simply too many variables involved that we cannot see or anticipate. However, three times the D.B.H. (diameter at breast height), is a widely accepted minimum used in the industry for root disturbance, *on one side of the trunk*, and is supported by several research studies including (Smiley, Fraedich & Hendrickson 2002, Bartlett Tree Research Laboratories). This distance is often used during the design and planning phases of a project in order to estimate root loss due to construction activities. This distance is a guideline only and should be increased for trees with significant leans, decay or other structural problems.

The ISA, International Society of Arboriculture- Root Management (2017) publication recommends, “cutting roots at a distance greater than six times the trunk diameter (DBH) minimizes the likelihood of affecting both health and stability. This recommendation is given further direction by the companion publication, A.N.S.I. (*American National Standard*) A300 (Part 8)- 2013 Root Management, when roots are cut in a *non-selective* manner, i.e. in a straight line on one side of a tree. It says, if the cutting is “within six times the trunk diameter (DBH), mitigation shall be recommended”. Further, A.N.S.I. recommends the “minimum distance from the trunk for root cutting should be adjusted according to trunk diameter, species tolerance to root loss, tree age, health and site condition”.

In general, root cutting that occurs at a distance less than six times the diameter of a tree should be undertaken by hand digging and hand (or Sawzall), root pruning. These methods help mitigate root loss impacts.

## Tree Replacement

This is a preliminary project submittal. The final number of trees could vary slightly depending on the final design. At present, sixty “protected” trees are recommended for removal, thirty-eight due to construction impacts and twenty-two due to poor condition. Total tree replacement for 38 trees at a two to one ratio to equal 76 replacement trees.

Compensation for tree removal necessary to construct the project include:

- Preservation and protection of the retained trees during construction.
- Pre-construction treatments for specific trees.
- Tree planting specified in the landscape design for this project.
- Reforestation
    - Coast live oak acorns will be collected and propagated by Central Coast Wilds Nursery and the Project Developer/Applicant.
    - Once final plans are submitted, a seed collection and planting window shall be identified for reforestation within the parcel boundaries.
- Removal of 15 mature blue gum eucalyptus (*Eucalyptus globulus*), in the southeast quadrant of Lot 24, APN: 022-732-48.

A follow-up site visit was made on 2/17/2021. The area above the project limits in the southeast quadrant of lot 24, was identified as a good location for replanting trees, as there is a wide swath that is absent of any trees, and removal of fifteen blue gum eucalyptus trees in this area, will increase the size of the replanting area. This location includes the area that abuts Lot 38 and Lot 2 (see *Topographic Map*, dated 3/13/2009, by Alpha Land Surveys. Four additional eucalyptus were identified in the area outside the project limits. The total number of eucalyptus to be removed is 15 trees.

A calculation was made for the number native trees that could be replanted in this area. The species to be replanted are coast live oak, (*Quercus agrifolia*). New planting spacing was based on 20-25 centers for coast live oak. A total of 8 coast live oak could occupy this space, provide screening from the adjacent neighbors and habitat for local wildlife (Image #9).

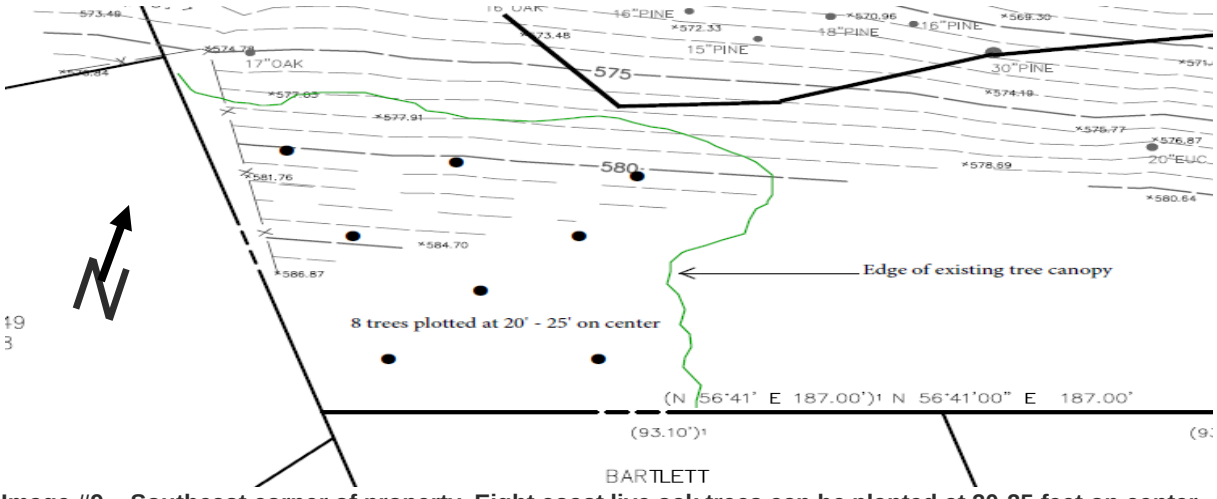


**Image #9 – Southeast corner of property. Eight coast live oak trees can be planted at 20-25 feet on center.**

Planting locations for an additional 8 coast live oak was identified around the perimeter of the new building (see Tree Location Map, sheet T1 for planting locations). The spacing criteria for this area include 25 feet on center planting, 20 feet from the new building and a minimum of 15 feet from the canopy of existing trees.

A survey taken of the neighbors in adjacent homes regarding the removal of the existing blue gums was well received. Removal of the mature blue gums averaging 80-90 feet in height will eliminate a significant risk to both the neighbors and the new project and increase available light and space for tree replacement. (Image #10).

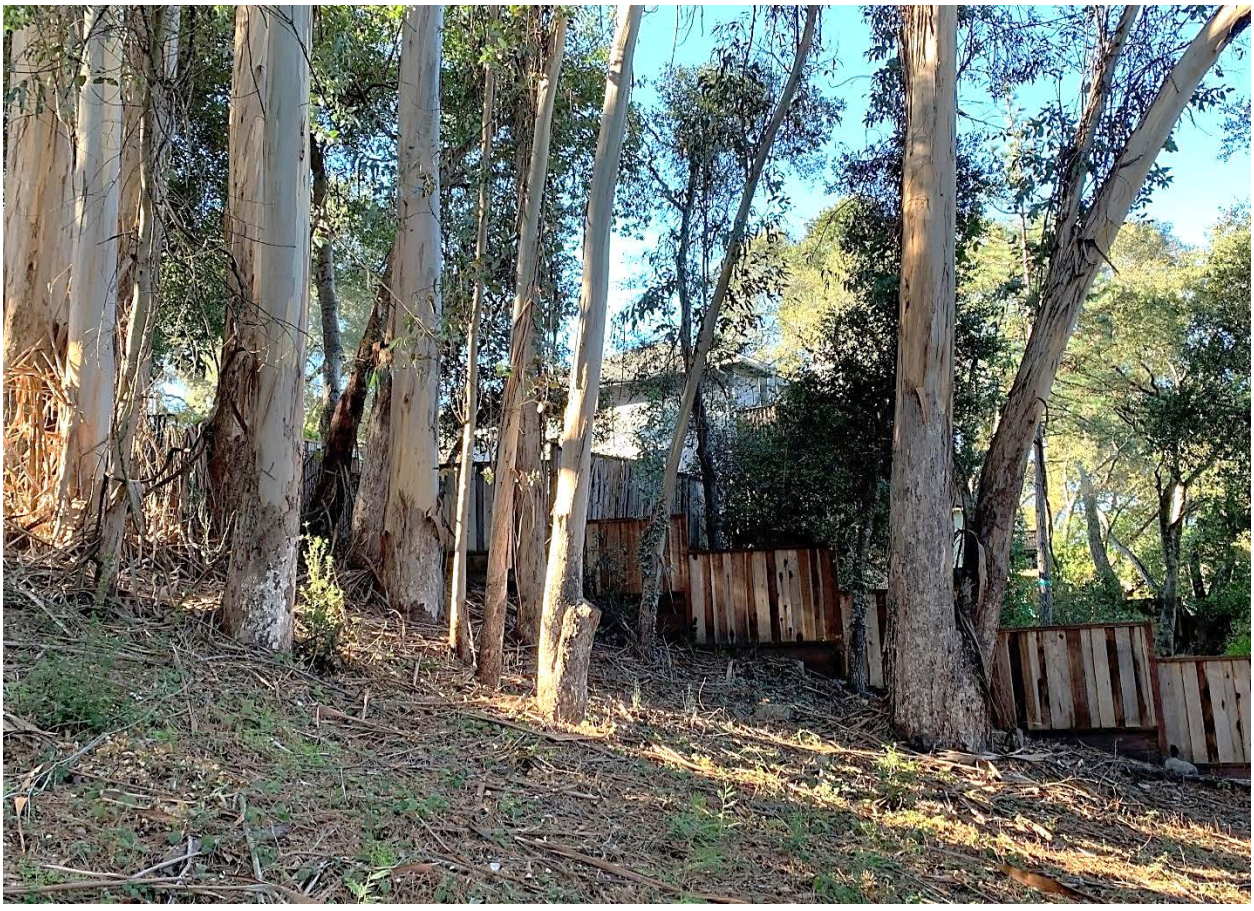

Image #10. Trees T79 -T93, blue gum eucalyptus. Note, some of the eucalyptus T79-T93, are outside of this image.

The blue gum is classified as an invasive species by the California Invasive Plant Council (Cal-IPC), and removal of the eucalyptus was suggested by Mr. Kim Tschantz, in his application completeness review comments for the City of Scotts Valley Planning, dated 2/2/2021, as compensation for trees removed for the project. Is it recommended that removal of one eucalyptus tree amount to credit for the replanting of 3 replacement trees, for a total credit of 45 trees (15 trees removed X 3 = 45 trees).

## Tree Replacement Continued,

As a methodology for equating eucalyptus tree removal to tree replanting, the cost of replanting three trees for contribution to the City of Scotts Valley Tree Fund, was compared to the cost of eucalyptus tree removal. The average cost of removal of one eucalyptus is estimated conservatively at $3,000. The cost of contributing to the replanting fund for 3 trees is $120.

Is it recommended that removal of one eucalyptus tree amount to credit for the replanting of 3 replacement trees, for a total credit of 45 trees (15 trees removed X 3 = 45 trees).

In summary, the removal of 38 “protected” trees for the new project requires 76 new trees, (2 to 1 replacement ratio). Proposed compensation for tree removal includes replanting 26 trees including 10 landscape trees as shown on landscape plan (Sheet L1.0), 8 coast live oak trees replanted around the perimeter of the new building (as shown on Tree Location Map, Sheet T1), and 8 coast live oak planted in southeast quadrant. Additional mitigation includes the removal of fifteen mature blue gum eucalyptus to be credited as 45 replacement trees. Total on-site compensation to equal 71 replacement trees (26 + 45).

The developer will contribute $200 ($40 per tree), to the City of Scotts Valley Tree Fund, as compensation for 5 replacement trees.

Total tree replacement compensation includes 76 trees, 71 on-site and 5 to Scotts Valley Tree Fund.

There is replanting space on the perimeter of the proposed project on all four sides.

The preliminary grading plan by C2G Engineers indicates a planting strip between the new parking lot and Scotts Valley Drive. There is planting area to the south of the project where new trees could be planted within the existing stand of oaks and pines.

There is planting space to the northeast of the project adjacent to the apartment complex at Scotts Valley Drive. Finally, there are areas upslope (east), where replanting can occur amongst existing trees.

The City of Scotts Valley recommends a minimum ratio of two trees are to be replanted (15 gallon or 24-inch box size), for every “protected” tree removed. Currently, thirty-eight trees will require removal due to construction impacts. Therefore, a combination of 15-gallon trees and oak seedlings should be installed to total a minimum of 76 trees.

# CONCLUSION

- The *Tree Assessment Chart*, Appendix A is the condensed reference guide to inform all tree management decisions for the trees evaluated.
- A new multi-unit housing development is proposed for two undeveloped parcels.
- One hundred twenty-five trees within the parcel boundaries were inventoried. One hundred and nine were “protected”.
- Three-quarters of the trees inventoried are in fair condition.
- Sixty-four trees are suitable for preservation and can be incorporated in the proposed project.
- Twenty-three trees (listed on page 13), are in poor condition and are not suitable for retention in the project.
- Thirty-eight trees (listed on page 18), are recommended for removal due to anticipated high construction impacts.
- A total of sixty-one trees are recommended for removal.
- Sixty of sixty-one trees recommend for removal are “protected”, including twenty-two trees in poor condition and thirty-eight trees due to construction impacts.
- One tree T27, coast live oak, is recommended for removal, due to poor condition, and is not protected.
- If removals are permitted, replacement trees will be required at a ratio of two trees replanted for each tree removed. The replacement count is 76 trees, based on thirty-eight trees recommended for removal due to construction impacts.
- Proposed compensation for tree removal includes replanting 26 trees including 10 trees shown on landscape plan (Sheet L1.0), 8 coast live oak trees replanted in around the perimeter of the new building (as shown on Tree Location Map, Sheet T1), and 8 coast live oak planted in southeast quadrant.
- Additional mitigation includes the removal of fifteen mature blue gum eucalyptus to equal compensation for replanting 45 trees (three to one ratio).
- Total on site tree replacement compensation to equal 71 trees (26 trees replanted + 45 trees credit for removal of 15 eucalyptus trees).
- The developer will contribute $200 ($40 per tree), to the City of Scotts Valley Tree Fund, as compensation for 5 replacement trees.
- Total tree replacement compensation includes 76 trees, 71 on-site and 5 to Scotts Valley Tree Fund.
- This is a preliminary evaluation, once final plans are completed, tree protection specifications based on the final plans will be required.

# RECOMMENDATIONS

1. Obtain all necessary permits prior to removing or significantly altering any trees on site.
2. Remove trees recommended for removal.
3. Prune overextended limbs on coast live oak trees T29 and T33.
4. Determine if trees T29 and/or T33 can be preserved with a realignment of the parking entrance and parking lot.
5. Tree protection specifications will be required once final plan sets are completed.

Respectfully submitted,

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## White Rabbit Development, Scotts Valley Drive, Scotts Valley

Tree Assessment Chart - Appendix A

**Suitability for Preservation Ratings:**

**Good:** Trees in good health and structural condition with potential for longevity on the site

**Fair:** Trees in fair health and/or with structural defects that may be reduced with treatment procedures

**Poor:** Trees in poor health and/or with poor structure that cannot be effectively abated with treatment

**Retention or Removal Code:**

**RT:** Retain Tree
**RI:** Remove Due to Construction Impacts
**I.M.** Impacts Can Be Mitigated With Pre-Construction Treatments
**R.C.** Remove Due to Condition

**Protected Tree City of Scotts Valley** Any tree 13 inches or greater in diameter measured at 4.5 feet above grade. Any oak 8 inches or greater. Any multi-trunk oak with one trunk 4 inches or greater. Any tree 8 inches or greater, if located within 20 feet of a slope > 20%. Certain undesirable species exempt.

| Tree # | Species | Trunk Diameter @ 54 inches a.g. | Protected Tree | Crown Height & Spread | Health Rating | Structural Rating | Suitability for Preservation (Based Upon Condition) | Tree Protection Zone (radius from trunk) | Construction Impacts (Rating & Description) | Retention or Removal Code | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **T1** | coast live oak (*Quercus agrifolia* ) | 10" | Yes | 40'X10' | Fair | Fair | Fair | 8' | High (within grading limits) | R.I. | |
| **T2** | ponderosa pine (*Pinus ponderosa* ) | 14",10" | Yes | 75'X15' | Fair | Fair | Fair | 11' | High (within grading limits) | R.I. | Co-dominant trunks at grade. |
| **T3** | ponderosa pine | 21" | Yes | 80'X15' | Fair | Fair | Fair | 15' | High (within grading limits) | R.I. | Poison oak on lower trunk. |

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## White Rabbit Development, Scotts Valley Drive, Scotts Valley

### Tree Assessment Chart - Appendix A

| Tree # | Species | Trunk Diameter @ 54 inches a.g. | Protected Tree | Crown Height & Spread | Health Rating | Structural Rating | Suitability for Preservation (Based Upon Condition) | Tree Protection Zone (radius from trunk) | Construction Impacts (Rating & Description) | Retention or Removal Code | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **T4** | ponderosa pine | 10" | Yes | 40'X10' | Poor | Poor | Poor | 8' | High (within grading limits) | R.C. | Co-dominant trunks at 15' above grade. Very thin canopy. |
| **T5** | ponderosa pine | 20" | Yes | 85'X15' | Fair | Fair | Fair | 15' | High (within grading limits) | R.I. | |
| **T6** | coast live oak | 8" | Yes | 25'X10' | Fair | Good | Fair | 6' | High (within grading limits) | R.I. | |
| **T7** | coast live oak | 11" | Yes | 40'X20' | Poor | Poor | Poor | 10' | High (within grading limits) | R.C. | |
| **T8** | ponderosa pine | 12" | Yes | 65'X10' | Fair | Fair | Fair | 10' | High (Root loss - excavation) | R.I. | 3' outside grading limit. |
| **T9** | ponderosa pine | 17" | Yes | 85'X15' | Good | Fair | Fair | 13' | Moderate - High (within grading limits) | R.T., I.M. or R.I. | |

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## White Rabbit Development, Scotts Valley Drive, Scotts Valley

Tree Assessment Chart - Appendix A

| Tree # | Species | Trunk Diameter @ 4.5' | Protected Tree | Crown Height & Spread | Health Rating | Structural Rating | Suitability for Preservation (Based Upon Condition) | Tree Protection Zone (radius from trunk) | Construction Impacts (Rating & Description) | Retention or Removal Code | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **T10** | ponderosa pine | 17" | Yes | 80'X15' | Good | Fair | Fair | 13' | Moderate - High (within grading limits) | R.I., I.M. or R.I. | |
| **T11** | coast live oak | 9" | Yes | 35'X10' | Poor | Fair | Poor | 8' | Low (Root loss-excavation) | R.C. | 12' outside grading limits.<br>< 15% live canopy. All foliage at outside edge of canopy. |
| **T12** | Douglas fir (*Pseudotsuga menziesii* ) | 10" | Yes | 70'X15' | Fair | Fair | Fair | 17" | High (Root loss-excavation) | R.I. | 3' outside grading limit. Live crown ratio 35% |
| **T13** | coast live oak | 32" (at 3' above grade) | Yes | 55'X35' | Fair | Fair | Fair | 24' | Moderate - High (within grading limits) | R.T., I.M. or R.I. | Retaining wall cut within 7' of trunk. Existing grade to increase by 2' (fill). Could be retained with tree protection measures. Co-dominant trunks at 8' above grade. Unbalanced canopy with weight bias to northwest. |
| **T14** | coast live oak | 10" | Yes | 40'X10' | Fair | Poor | Poor | 8' | High (within grading limits) | R.C. | Semi-fallen tree with 35 degree lean. Soil heaving opposite lean. Canopy supported by trees below. |
| **T15** | coast live oak | 9" | Yes | 20'X10' | Fair | Poor | Fair | 8' | High (within grading limits) | R.I. | Co-dominant trunks at 5' above grade. Unbalanced canopy with weight bias to west. Partially callused trunk tear out at grade. |

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**White Rabbit Development, Scotts Valley Drive, Scotts Valley**

Tree Assessment Chart - Appendix A

| Tree # | Species | Trunk Diameter @ 4.5' | Protected Tree | Crown Height & Spread | Health Rating | Structural Rating | Suitability for Preservation (Based Upon Condition) | Tree Protection Zone (radius from trunk) | Construction Impacts (Rating & Description) | Retention or Removal Code | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **T16** | coast live oak | 10",8" | Yes | 35'X15' | Fair | Fair | Fair | 12' | High (within grading limits) | R.I. | Co-dominant trunks at grade. |
| **T17** | coast live oak | 11" | Yes | 35'X10' | Fair | Poor | Poor | 10' | High (within grading limits) | R.C. | Trunk lean, 35 degree to north. All limb structure and canopy growth in top 20% of tree. |
| **T18** | ponderosa pine | 20" | Yes | 60'X15' | Fair | Fair | Fair | 15' | High (within grading limits) | R.I. | Live crown ratio 40%. |
| **T19** | coast live oak | 9",8",7",6",5" | Yes | 35'X20' | Poor | Fair | Poor | 12' | High (within grading limits) | R.C. | Stump sprout, clump of 5 stems. One stem dead, with deadwood, decay and wood decay fungi. |
| **T20** | coast live oak | 11",8" | Yes | 35'X10' | Fair | Fair | Fair | 12' | High (within grading limits) | R.I. | Co-dominant trunks at grade. Trunk bows to southeast. |
| **T21** | coast live oak | 19",10" | Yes | 40'X35' | Fair | Fair | Fair | 17' | High (within grading limits) | R.I. | Co-dominant trunks at grade. Unbalanced canopy with weight bias to southwest. |

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## White Rabbit Development, Scotts Valley Drive, Scotts Valley

Tree Assessment Chart - Appendix A

| Tree # | Species | Trunk Diameter @ 4.5' | Protected Tree | Crown Height & Spread | Health Rating | Structural Rating | Suitability for Preservation (Based Upon Condition) | Tree Protection Zone (radius from trunk) | Construction Impacts (Rating & Description) | Retention or Removal Code | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **T22** | coast live oak | 9" | Yes | 20'x10' | Poor | Poor | Poor | 8' | High (within grading limits) | R.C. | Minimal live canopy. Deadwood and decay in branches up to 3" in diameter. Trunk leans 25 degrees to south. |
| **T23** | coast live oak | 8" | Yes | 20'X10' | Fair | Fair | Fair | 8' | High (within grading limits) | R.I. | |
| **T24** | coast live oak | 9" | Yes | 20'x10' | Fair | Poor | Fair | 8' | High (within grading limits) | R.I. | Trunk lean 20 degree to west. |
| **T25** | coast live oak | 12" (at 3' above grade) | Yes | 25'x10' | Fair | Fair | Fair | 10' | High (within grading limits) | R.I. | Co-dominant trunks at 4' above grade. |
| **T26** | coast live oak | 9" | Yes | 25'x10' | Fair | Fair | Fair | 8' | High (within grading limits) | R.I. | |
| **T27** | coast live oak | 7" | No | 20'X10' | Poor | Poor | Poor | 8' | High (within grading limits) | R.C. | Minimal live canopy. Trunk leans 45 degrees to south. |

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4/13/2020

## White Rabbit Development, Scotts Valley Drive, Scotts Valley

### Tree Assessment Chart - Appendix A

| Tree # | Species | Trunk Diameter @ 4.5' | Protected Tree | Crown Height & Spread | Health Rating | Structural Rating | Suitability for Preservation (Based Upon Condition) | Tree Protection Zone (radius from trunk) | Construction Impacts (Rating & Description) | Retention or Removal Code | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **T28** | coast live oak | 8" | Yes | 25'X10' | Fair-Poor | Fair-Poor | Poor | 8' | High (within grading limits) | R.C. | Minimal structure and live canopy. Broken stem at 15' above grade. |
| **T29** | coast live oak | 22" (at 2' above grade) | Yes | 35'X35' | Fair | Fair | Fair | 17' | High (within grading limits) | R.I. | Co-dominant trunks at 5' above grade. 6' from existing entry road cut at Scotts Valley Drive. Overextended limb(s) above Scotts Valley Drive. Requires end weight reduction pruning. |
| **T30** | coast live oak | 10" | Yes | 30'X15' | Fair | Fair | Fair | 10' | High (within grading limits) | R.I. | |
| **T31** | ponderosa pine | 34" | Yes | 90'X40' | Fair | Fair | Fair | 26' | High (within grading limits) | R.I. | |
| **T32** | coast live oak | 11",8" | Yes | 30'X20' | Fair | Fair-Poor | Fair | 12' | High (within grading limits) | R.I. | Co-dominant trunks at 1' above grade. Bowed trunk with weight bias to east. |
| **T33** | coast live oak | 25" (at 3' above grade) | Yes | 50'X50' | Fair | Fair | Fair | 25' | High Root loss-excavation) | R.I. | < one foot outside grading limits. At edge of cut slope above Scotts Valley Drive and 10' from retaining wall. Co-dominant trunks at 5' above grade. Canopy extends out over Scotts Valley Drive and requires end weight reduction pruning. Remove 4" diameter California bay laurel growing into canopy. |

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## White Rabbit Development, Scotts Valley Drive, Scotts Valley

Tree Assessment Chart - Appendix A

| Tree # | Species | Trunk Diameter @ 4.5' | Protected Tree | Crown Height & Spread | Health Rating | Structural Rating | Suitability for Preservation (Based Upon Condition) | Tree Protection Zone (in feet) | Construction Impacts (Rating & Description) | Retention or Removal Code | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **T34** | coast live oak | 10" | Yes | 25'X15' | Fair | Poor | Poor | 10' | High (within grading limits) | R.C. | Limited foliar canopy. Suppressed growth by larger adjacent trees. |
| **T35** | coast live oak | 14" | Yes | 30'X15' | Fair | Fair | Fair | 11' | High (within grading limits) | R.I. | Co-dominant trunks at 5' above grade. Unbalanced canopy with weight bias to northwest. At southwest edge of grove. |
| **T36** | ponderosa pine | 40" | Yes | 85'X30' | Fair | Fair | Fair | 30' | High (within grading limits) | R.I. | Mature to over mature (greater than 80% life expectancy). Live crown ratio 50%. All limbs in lower half of tree have failed. |
| **T37** | ponderosa pine | 33" | Yes | 85'X20' | Fair | Fair | Fair | 24' | High (within grading limits) | R.I. | Mature to over mature . Live crown ratio 50%. All limbs in lower half of tree have failed. |
| **T38** | ponderosa pine | 8" | Yes | 40'X8' | Fair | Fair | Fair | 8' | High (within grading limits) | R.I. | |
| **T39** | madrone (*Arbutus menziesii* ) | 14" (at 3' above grade) | Yes | 40'X20' | Good | Good | Good | 14' | High (within grading limits) | R.I. | |

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## White Rabbit Development, Scotts Valley Drive, Scotts Valley

### Tree Assessment Chart - Appendix A

| Tree # | Species | Trunk Diameter @ 4.5' | Protected Tree | Crown Height & Spread | Health Rating | Structural Rating | Suitability for Preservation (Based Upon Condition) | Tree Protection Zone (in feet) | Construction Impacts (Rating & Description) | Retention or Removal Code | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **T40** | ponderosa pine | 9" | Yes | 40'X8' | Fair | Fair | Fair | 8' | High (within grading limits) | R.I. | |
| **T41** | madrone | 14" (at 3' above grade) | Yes | 25'X25' | Poor | Fair | Poor | 14' | High (Root loss-excavation) | R.C. | 7' outside grading limits. Signifincant dieback over 30% of canopy, with limbs up to 3" in diameter. Co-dominant trunks at 3' above grade. |
| **T42** | ponderosa pine | 30" | Yes | 70'X20' | Poor | Poor | Poor | 22' | High (within grading limits) | R.C. | Live crown ratio 45%. Previous fungal infection (Pitch canker?), with dieback of terminal. Limb dieback over 2/3 of trunk on west side. |
| **T43** | madrone | 10" | Yes | 30'x10' | Fair | Fair | Fair | 10' | High (within grading limits) | R.I. | Limited branching structure. Trunk lean 20 degrees to north. |
| **T44** | coast live oak | 11" | Yes | 25'X10' | Fair | Fair | Fair | 10' | High (within grading limits) | R.I. | |
| **T45** | ponderosa pine | 22",16" | Yes | 80'X25' | Fair | Fair-Poor | Poor | 16' | High (within grading limits) | R.C. | Co-dominant trunks with included bark at 2' above grade are at risk of failure. Live crown ratio of 25-35%. |

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4/13/2020

## White Rabbit Development, Scotts Valley Drive, Scotts Valley

Tree Assessment Chart - Appendix A

| Tree # | Species | Trunk Diameter @ 4.5' | Protected Tree | Crown Height & Spread | Health Rating | Structural Rating | Suitability for Preservation (Based Upon Condition) | Tree Protection Zone (in feet) | Construction Impacts (Rating & Description) | Retention or Removal Code | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **T46** | coast live oak | 8" | Yes | 25'X10' | Fair | Fair | Fair | 8' | High (within grading limits) | R.I. | |
| **T47** | coast live oak | 10" | Yes | 40'x10' | Fair | Fair | Fair | 10' | High (within grading limits) | R.I. | Trunk bows to northwest. Deadwood in lower trunk from old trauma. |
| **T48** | ponderosa pine | 38" | Yes | 85'x30' | Fair | Fair | Fair | 14' | High (within grading limits) | R.I. | Overmature (greater than 80% life expectancy). Live crown ratio 40%. All lower limbs dropped. |
| **T49** | ponderosa pine | 17" | Yes | 80'X6' | Poor | Poor | Poor | 13' | High (within grading limits) | R.C. | Overmature. Limited branching structure. Live crown ratio less than 15%. |
| **T50** | ponderosa pine | 18" | Yes | 85'X10' | Fair | Poor | Poor | 13' | High (within grading limits) | R.C. | Old trauma in lower trunk area. Missing structural wood in trunk at grade, creating poor trunk stability. Live crown ration less than 20%. |
| **T51** | ponderosa pine | 12" | Yes | 50'X1' | Poor | Poor | Poor | 10' | High (within grading limits) | R.C. | Dead |

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4/13/2020

## White Rabbit Development, Scotts Valley Drive, Scotts Valley

Tree Assessment Chart - Appendix A

| Tree # | Species | Trunk Diameter @ 4.5' | Protected Tree | Crown Height & Spread | Health Rating | Structural Rating | Suitability for Preservation (Based Upon Condition) | Tree Protection Zone (in feet) | Construction Impacts (Rating & Description) | Retention or Removal Code | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **T52** | ponderosa pine | 24" | Yes | 80'X10' | Fair | Fair | Fair | 18' | High (within grading limits) | R.I. | Over mature. Live crown ratio less than 15%. |
| **T53** | ponderosa pine | 13" | Yes | 50'X5' | Poor | Poor | Poor | 11' | High (within grading limits) | R.C. | Forked trunk due to topping at 35' above grade. |
| **T54** | ponderosa pine | 14" | Yes | 50'X5' | Poor | Poor | Poor | 11' | High (within grading limits) | R.C. | Forked trunk due to topping at 35' above grade. |
| **T55** | ponderosa pine | 15" | Yes | 60'X10' | Fair | Poor | Poor | 11' | High (within grading limits) | R.C. | Forked trunk due to topping at 35' above grade. |
| **T56** | ponderosa pine | 14" | Yes | 60'X10' | Fair | Poor | Poor | 11' | High (within grading limits) | R.C. | Forked trunk due to topping at 35' above grade. |
| **T57** | madrone | 22",16" | Yes | 60'X30' | Fair | Poor | Fair | 22' | High Root loss-excavation) | R.I. | < 1' outside grading limits. Co-dominant trunks at 3' above grade. Both trunks with strong bow to southwest creating unbalanced canopy and weight bias to southwest. |

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## White Rabbit Development, Scotts Valley Drive, Scotts Valley

### Tree Assessment Chart - Appendix A

| Tree # | Species | Trunk Diameter @ 4.5' | Protected Tree | Crown Height & Spread | Health Rating | Structural Rating | Suitability for Preservation (Based Upon Condition) | Tree Protection Zone (in feet) | Construction Impacts (Rating & Description) | Retention or Removal Code | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **T58** | coast live oak | 14" | Yes | 30'X20' | Fair | Fair-Poor | Poor | 11' | High Root loss-excavation) | R.C. | < 1' outside grading limits. Co-dominant trunks at 7' above grade. Limited branch structure with weight bias to south. Suppressed growth by larger T57. |
| **T59** | coast live oak | 14" | Yes | 30'X10' | Fair | Fair-Poor | Fair | 11' | High Root loss-excavation) | R.T., I.M. or R.I. | < 6' outside grading limits. Trunk lean 45 degrees. Strong weight bias to south. |
| **T60** | coast live oak | 17" | Yes | 45'X20' | Fair | Fair | Fair | 12' | High (within grading limits) | R.I. | |
| **T61** | coast live oak | 16" | Yes | 50'X15' | Fair | Fair | Fair | 12' | High (within grading limits) | R.I. | Co-dominant trunks at 6' above grade. |
| **T62** | ponderosa pine | 11" | Yes | 50'X10' | Fair | Fair | Fair | 10' | High (within grading limits) | R.I. | Live crown ratio 50%. |
| **T63** | coast live oak | 18",13" | Yes | 45'X40' | Good | Good | Good | 18' | Moderate (Root loss-excavation) | R.T.,I.M. | 16' outside of grading limits. Co-dominant trunks at 2' & 4' above grade. Lowest limb to north is 20' above grade. May require clearance pruning from grading equipment. |

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Tree Assessment Chart - Appendix A

| Tree # | Species | Trunk Diameter @ 4.5' | Protected Tree | Crown Height & Spread | Health Rating | Structural Rating | Suitability for Preservation (Based Upon Condition) | Tree Protection Zone (in feet) | Construction Impacts (Rating & Description) | Retention or Removal Code | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **T64** | Monterey pine (*Pinus radiata* ) | 10" | Yes | 35'X8' | Good | Fair | Fair | 8' | Low (Root loss-excavation) | R.T. | 14' outside grading limits. Trunk canker with response growth at 3' above grade. |
| **T65** | ponderosa pine | 18" | Yes | 45'X10' | Good | Good | Good | 14' | Moderate (Root loss-excavation) | R.T. | 8' outside grading limits. |
| **T66** | ponderosa pine | 16" | Yes | 60'X10' | Fair | Fair | Fair | 12' | Low (Root loss-excavation) | R.T. | 13' outside grading limits. Missing mark in lower trunk from old trauma. Live crown ratio 40%. |
| **T67** | ponderosa pine | 9" | Yes | 40'X10' | Fair | Fair-Poor | Fair | 8' | Low to None | R.T. | All branch structure on one side. |
| **T68** | coast live oak | 23" | Yes | 45'X35' | Fair | Fair | Fair | 18' | Low to None | R.T. | Co-dominant trunks at 8' above grade. Recommend cabling two leaders. |
| **T69** | coast live oak | 19" | Yes | 40'X25' | Fair | Fair | Fair | 14' | Low to None | R.T. | Dieback in limbs up to 3" in diameter. |

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## White Rabbit Development, Scotts Valley Drive, Scotts Valley

Tree Assessment Chart - Appendix A

| Tree # | Species | Trunk Diameter @ 4.5' | Protected Tree | Crown Height & Spread | Health Rating | Structural Rating | Suitability for Preservation (Based Upon Condition) | Tree Protection Zone (in feet) | Construction Impacts (Rating & Description) | Retention or Removal Code | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **T70** | coast live oak | 11" | Yes | 35'X25' | Fair | Fair | Fair | 8' | Low (Root loss-excavation) | R.T. | 14' outside grading limits |
| **T71** | ponderosa pine | 19" | Yes | 70'x20' | Fair | Fair | Fair | 14' | Moderate (Root loss-excavation) | R.T. | 17' outside grading limits |
| **T72** | Monterey pine | 13" | Yes | 70'X15' | Fair | Poor | Poor | 10' | Low to None | R.C. | Missing bark in lower trunk from old trauma or disease (pine pitch canker?).Trunk bend at 20 above grade , original terminal was killed, (Pine pitch canker?). |
| **T73** | ponderosa pine | 16" | Yes | 70'X10' | Fair | Fair | Fair | 12' | Moderate (Root loss-excavation) | R.T. | 14' outside grading limits |
| **T74** | coast live oak | 15" | Yes | 45'X20' | Fair | Fair | Fair | 12' | Moderate (Root loss-excavation) | R.T. | 16' outside grading limits. Trunk bows to north. |
| **T75** | coast live oak | 13" | Yes | 35'X15' | Fair | Fair | Fair | 10' | Moderate (Root loss-excavation) | R.T. | 14' outside grading limits. Trunk bows to northeast. |

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4/13/2020

## White Rabbit Development, Scotts Valley Drive, Scotts Valley

### Tree Assessment Chart - Appendix A

| Tree # | Species | Trunk Diameter @ 4.5' | Protected Tree | Crown Height & Spread | Health Rating | Structural Rating | Suitability for Preservation (Based Upon Condition) | Tree Protection Zone (in feet) | Construction Impacts (Rating & Description) | Retention or Removal Code | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **T76** | Douglas fir | 13" | Yes | 45'X20' | Good | Good | Good | 10' | Moderate-(Root loss-excavation) | R.T. | 15' outside grading limits |
| **T77** | coast live oak | 13" | Yes | 35'X15' | Fair | Fair | Fair | 10' | Low- (Root loss-excavation) | R.T. | 25' outside grading limits |
| **T78** | blue gum eucalyptus (*Eucalyptus globulus* ) | 23" | No | 90'X15' | Fair | Fair | Fair | 18' | Moderate - (Root loss-excavation) | R.T. | 20' outside grading limits. Live crown ratio 20%. |
| Trees Inventoried Outside Grading Limits - Partial Assessment Only (All 8 inches in diameter or greater) | | | | | | | | | | | |
| **T79-93 (No tag)** | blue gum eucalyptus | | No | 15 Trees | 7-Fair, 8- Poor | 15-Fair | Fair | N/A | Low-None | R.T. | One group of 8 mature trees in southeast corner of property, with dieback of limbs up to 3" in diameter. Total of 15 trees. |
| **T94-97 (No tag)** | California bay laurel *(Umbellularia californica* ) | | Yes | 4 Trees | Fair | Fair | Fair | N/A | Low-None | R.T. | |
| **T98-106 (No tag)** | coast live oak | | Yes | 9 Trees | Fair | Fair | Fair | N/A | Low-None | R.T. | |
| **T107-113 (No tag)** | madrone | | Yes | 7 Trees | 5-Fair, 2-Poor | 3-Fair, 4-Poor | 5-Fair, 2-Poor | N/A | Low-None | R.T. | One 18" diameter fallen tree, encroaching into grading limits, remove. Three trees with 45-50 degree lean. |
| **T114 (No tag)** | Monterey pine | | Yes | 1 Tree | Fair | Fair | Fair | N/A | Low-None | R.T. | |
| **T115-125 (No tag)** | ponderosa pine | | Yes | 12 Trees | 10 Fair, 2 - Poor | 5- Fair, 7-Poor | 10- Fair, 2-Poor | N/A | Low-None | R.T. | Two 9 & 10" diameter trees dead. Five trees with forked trunks. |

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4/13/2020

## APPENDIX B – CRITERIA FOR TREE ASSESSMENT CHART

Following is an explanation of the data used in the tree evaluations. The data is incorporated in the *Tree Assessment Chart, Appendix A.*

Trunk Diameter and Number of Trunks:

Trunk diameter as measured at 4.5 feet above grade. The number of trunks refers to a single or multiple trunked tree. Multiple trunks are measured at 4.5 feet above grade.

Health Ratings:

Good: A healthy, vigorous tree, reasonably free of signs and symptoms of disease

Fair: Moderate vigor, moderate twig and small branch dieback, crown may be thinning and leaf color may be poor

Poor: Tree in severe decline, dieback of scaffold branches and/or trunk, most of foliage from epicormics

Structure Ratings:

Good: No significant structural defects. Growth habit and form typical of the species

Fair: Moderate structural defects that might be mitigated with regular care

Poor: Extensive structural defects that cannot be abated.

Suitability for Preservation Ratings:

Rating factors:

Tree Health: Healthy vigorous trees are more tolerant of construction impacts such as root loss, grading and soil compaction, then are less vigorous specimens.

Structural integrity: Preserved trees should be structurally sound and absent of defects or have defects that can be effectively reduced, especially near structures or high use areas.

Tree Age: Over mature trees have a reduced ability to tolerate construction impacts, generate new tissue and adjust to an altered environment. Young to maturing specimens are better able to respond to change.

Species response: There is a wide variation in the tolerance of individual tree species to construction impacts.

Rating Scale:

Good: Trees in good health and structural condition with potential for longevity on the site

Fair: Trees in fair health and/or with structural defects that may be reduced with treatment procedures.

Poor: Trees in poor health and/or with poor structure that cannot be effectively abated with treatment. Trees can be expected to decline or fail regardless of construction impacts or management . The species or individual may possess characteristics that are incompatible or undesirable in landscape settings or unsuited for the intended use of the site.

Construction Impacts:

Rating Scale:

High: Development elements proposed that are located within the Tree Protection Zone that would severely impact the health and /or stability of the tree. The tree impacts cannot be mitigated without design changes. The tree may be located within the building footprint.

Moderate: Development elements proposed that are located within the Tree Protection Zone that will impact the health and/or stability of the tree and can be mitigated with tree protection treatments.

Low: Development elements proposed that are located within or near the Tree Protection Zone that will have a minor impact on the health of the tree and can be mitigated with tree protection treatments.

None: Development elements will have no impact on the health and stability of the Tree.

**Tree Protection Zone (TPZ):**

Defined area within which certain activities are prohibited or restricted to prevent or minimize potential injury to designated trees, particularly during construction or development.

Fourty Five (45), Trees Inventoried Above This Line Were Not Tagged

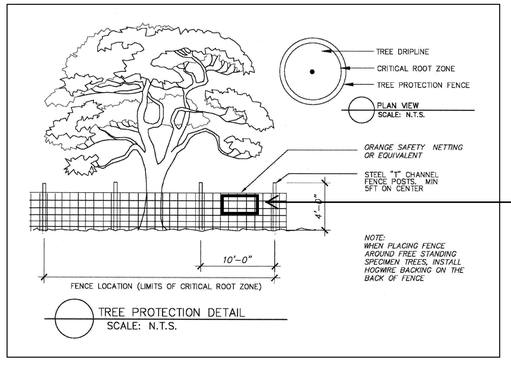
T72 MONTEREY PINE DBH 13"
T73 PONDEROSA PINE DBH 16"
T8 PONDEROSA PINE DBH 12"
T71 PONDEROSA PINE DBH 19"
T70 COAST LIVE OAK DBH 11"
T7 COAST LIVE OAK DBH 11"
T6 COAST LIVE OAK DBH 8"
T5 PONDEROSA PINE DBH 20"
T4 PONDEROSA PINE DBH 10"
T3 PONDEROSA PINE DBH 21"
T9 PONDEROSA PINE DBH 17"
T10 PONDEROSA PINE DBH 17"
T11 COAST LIVE OAK DBH 9"
T12 DOUGLAS FIR DBH 10"
T74 COAST LIVE OAK DBH 15"
T75 COAST LIVE OAK DBH 13"
T77 COAST LIVE OAK DBH 13"
T76 DOUGLAS FIR DBH 13"
T78 BLUE GUM DBH 23"
T41 MADRONE DBH 14"
T42 MADRONE DBH 10"
T48 PONDEROSA PINE DBH 18"
T49 PONDEROSA PINE DBH 17"
T50 PONDEROSA PINE DBH 18"
T52 PONDEROSA PINE DBH 24"
T53 PONDEROSA PINE DBH 13"
T54 PONDEROSA PINE DBH 14"
T55 PONDEROSA PINE DBH 15"
T56 PONDEROSA PINE DBH 12"
T45 PONDEROSA PINE DBH 22",16"
T46 COAST LIVE OAK DBH 8"
T44 COAST LIVE OAK DBH 11"
T43 MADRONE DBH 10"
T60 COAST LIVE OAK DBH 17"
T61 COAST LIVE OAK DBH 16"
T62 PONDEROSA PINE DBH 11"
T63 COAST LIVE OAK DBH 18",13"
T37 PONDEROSA PINE DBH 33"
T67 PONDEROSA PINE DBH 9"
T36 PONDEROSA PINE DBH 40"
T64 MONTEREY PINE DBH10"
T65 PONDEROSA PINE DBH 18"
T66 PONDEROSA PINE DBH 16"
T68 COAST LIVE OAK DBH 19"
T69 COAST LIVE OAK DBH 19"
T39 COAST LIVE OAK DBH 14"
T58 COAST LIVE OAK DBH 14"
T59 MADRONE DBH 22",16"
T34 COAST LIVE OAK DBH 10"
T35 COAST LIVE OAK DBH 14"
T33 COAST LIVE OAK DBH 25"
T2 PONDEROSA PINE DBH 14",10"
T1 COAST LIVE OAK DBH 10"
T13 COAST LIVE OAK DBH 32"
T14 COAST LIVE OAK DBH 10"
T17 COAST LIVE OAK DBH 11"
T19 COAST LIVE OAK DBH 9",8",7",6"
T18 PONDEROSA PINE DBH 20"
T16 COAST LIVE OAK 10",8"
T15 COAST LIVE OAK DBH 9"
T23 COAST LIVE OAK DBH 8"
T24 COAST LIVE OAK DBH 9"
T25 COAST LIVE OAK DBH 12"
T20 COAST LIVE OAK DBH 11",8"
T21 COAST LIVE OAK DBH 19",10"
T22 COAST LIVE OAK DBH 9"
T42 PONDEROSA PINE DBH30"
T41 MADRONE DBH14"
T40 PONDEROSA PINE DBH 9"
T39 MADRONE DBH 14"
T38 PONDEROSA PINE DBH 8"
T30 COAST LIVE OAK DBH 10"
T31 PONDEROSA PINE DBH 34"
T32 COAST LIVE OAK DBH 32"
T26 COAST LIVE OAK DBH 9"
T27 COAST LIVE OAK DBH 7"
T28 COAST LIVE OAK DBH 8"
T29 COAST LIVE OAK DBH22"
T30 COAST LIVE OAK DBH 10"

FL=565.25'
FL=565.68'
FL=566.02'
FL=564.28'
FL=561.72'
FL=560.17'
FL=559.08'
FL=554.66'
FG=567.22'
CS=565.39'
FF=567.89
EC=555.81'
EC/GB=555.81'
EC=555.50'
EC=555.50'
EC=555.50'
EC=555.50'
TC=555.95'
BFC=555.45'
TC=555.55'
BFC=555.05'
TC=555.77'
BFC=555.27'
TC=555.56'
BFC=555.06'
TC=554.78'
BFC=554.28'
TC=554.90'
BFC=554.40'
TC=554.95'
BFC=554.45'
TC=554.65'
BFC=554.15'
TC=554.94'
BFC=554.44'
TC=555.18'
BFC=554.68'
TC=557.86'
BFC=557.38'
TC=557.88'
BFC=557.38'
TC=556.31'
BFC=555.81'
TC=554.12'
BFC=553.62'
TC=550.40'
BFC=549.90'
TC=549.95'
BFC=549.45'
EC=551.17'
EC=551.12'
EC=550.84'(ME)
EC=550.91'(ME)
EC=554.36'
EC=554.33'
EC=549.13'
EC=549.07'
EC/BFC=548.96'
EC/BFC=548.50
T/DWY=548.97'
T/DWY=548.41'
EC=548.39'
EC=548.09'
LIP=555.01'
FL=554.91'
TC=555.52'
BFC=555.02'
LIP=554.78'
FL=554.68'
LIP=554.38'
FL=554.28'
LIP=554.78'
LIP=554.38'
SDCO RIM=555.57 INV=55.150
SDDI RIM=554.20'
SDDI RIM=554.02' INV=550.50
SDDI RIM=554.60' INV=550.0
( T67 IS + 25' SOUTH)
( T36 IS + 25' SOUTH)
16/20"PINE
24" OAK
15" ACACIA
20" ACACIA
10" OAK
36" PINE
30" PINE
CS =565.39'
CS=565.39'
CS=565.39'
CS=565.39'
11+25
10+75
10+00
10+25
0%
1.3%
0.4%
1%
2.0%
5.1%
4.75%
9.0%
1.6%
2.6%
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

## Legend

- Tree Location
- Tree Protection Fencing
- Tree Canopy Extents
- Hand Trenching & Root Pruning
- Remove Tree

Replant with oak seedling




TREE PROTECTION DETAIL
SCALE: N.T.S.

# Warning

## Tree Protection Zone

## Keep Out

NOTICE: PROTECTIVE FENCING IS REQUIRED ON THIS JOB SITE.
NO STORAGE OF MATERIALS OF ANY TYPE IS ALLOWED WITHIN THE FENCED AREA.

This sign must be prominently displayed. Fencing may not be moved or removed without permission of the Project Arborist.
Failure to comply with all precautions may result in a STOP WORK order being issue by the regulating agency.

No Entry without Project Arborist Authorization
Kurt Fouts –Arborist Consultant- 831 – 359 -3607

Base map provided by C2G - Civil Consultants, Scotts Valley

NORTH

SCALE: 1"=10'
0 10 20 30

10

K.F.
4/11/2020

APN: 022-732-39 & 022-732-48

Page T1 of 1 Sheet

# Tree Location Map

White Rabbit Development, Scotts Valley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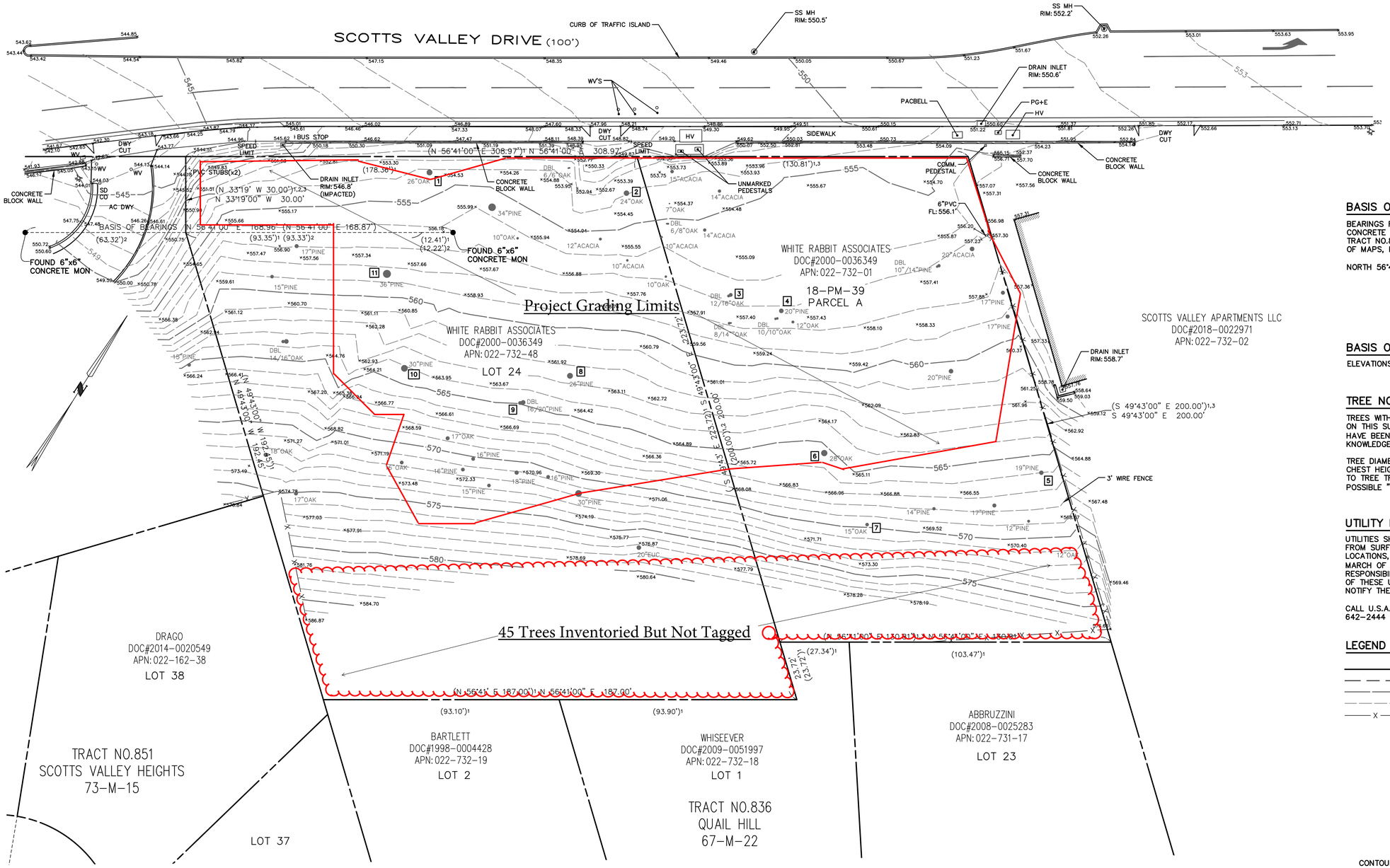


## BASIS OF BEARINGS

BEARINGS FOR THIS SURVEY ARE BASED ON FOUND 6"x6" CONCRETE MONUMENTS AS SHOWN ON THAT MAP ENTITLED TRACT NO.851 SCOTTS VALLEY HEIGHTS, FILED IN VOLUME 73 OF MAPS, PAGE 15 SANTA CRUZ COUNTY RECORDS.

NORTH 56°41'00" EAST

## BASIS OF ELEVATIONS

ELEVATIONS ARE BASED ON AN ASSUMED DATUM.

## TREE NOTE

TREES WITH A DIAMETER OF 12" OR GREATER ARE SHOWN ON THIS SURVEY. TREE SPECIES AND SIZES HEREON HAVE BEEN IDENTIFIED TO THE BEST OF THE SURVEYORS'S KNOWLEDGE.

TREE DIAMETERS ARE MEASURED AT APPROXIMATELY CHEST HEIGHT. USE CAUTION WHEN DESIGNING CLOSELY TO TREE TRUNKS BY TAKING INTO CONSIDERATION THE POSSIBLE "SPREAD" OR "LEAN" OF TREES.

## UTILITY NOTE

UTILITIES SHOWN ON THIS MAP WERE DETERMINED FROM SURFACE EVIDENCE OF UNDERGROUND LOCATIONS, DURING A SURVEY BY ALPHA SURVEYS N MARCH OF 2019. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND DEPTH OF THESE UTILITIES PRIOR TO CONSTRUCTION, AND TO NOTIFY THE PROJECT ENGINEER IN CASE OF CONFLICT.

CALL U.S.A. (UNDERGROUND SERVICE ALERT) (800) 642-2444 BEFORE ANY EXCAVATION.

## LEGEND

| | |
|---|---|
| ——— | PROPERTY LINE |
| — — — | EASEMENT LINE |
| ——— | CONTOUR INTERVAL, MAJOR |
| ——— | CONTOUR INTERVAL, MINOR |
| ——X——X—— | FENCE LINE |
| 100 | DISTANCE MEASURED |
| (100)[1] | RECORD DATA PER 67-M-22 |
| (100)[2] | RECORD DATA PER 73-M-15 |
| (100)[3] | RECORD DATA PER 18-M-39 |
| ● | FOUND MONUMENT, AS NOTED |
| △ | RANDOM CONTROL POINT |
| ● | TREE, AS NOTED |
| 3 | TREE IDENTIFICATION TAG NUMBER |
| +99.99 | SPOT ELEVATION |

CONTOUR INTERVAL = 1 FOOT

DIMENSIONS ARE SHOWN IN FEET AND DECIMALS THEREOF

## TITLE REPORT NOTE

THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT WITH REGARD TO ANY RECORDED EASEMENTS OR RIGHT OF WAYS AFFECTING THE SUBJECT PROPERTY. NO ADDITIONAL RESEARCH REGARDING THE EXISTENCE OF EASEMENTS, RESTRICTIONS, OR OTHER MATTERS OF RECORD HAS BEEN PERFORMED BY THE SURVEYOR. EASEMENTS SHOWN ARE BASED SOLELY ON THE REFERENCE DOCUMENTS AS LISTED HEREON.

# Map of Inventoried Trees (Not Tagged)

LICENSED LAND SURVEYOR
ALAN BRODIE FRENCH
L 9301
STATE OF CALIFORNIA

PRELIMINARY

GRAPHIC SCALE

20 0 10 20 40 80

( IN FEET )
1 inch = 20 ft.

| ALPHA LAND SURVEYS, INC. | | | |
|---|---|---|---|
| 4444 SCOTTS VALLEY DR. #7<br>SCOTTS VALLEY, CA 95066<br>(831) 438-4453 | P.O. BOX 1146<br>MORGAN HILL, CA 95038<br>(831) 438-4453 | TOPOGRAPHIC MAP<br>2 VACANT LOTS<br>SCOTTS VALLEY DRIVE,<br>SCOTTS VALLEY, CA 95066 | SHEET<br>1<br>OF ONE |
| 1" = 20' | DATE: 3/13/2019 | JOB#: 2019-026 | |

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# Glossary of Terms

**Basal rot:** decay of the lower trunk, trunk flare, or buttress roots.

**Canker:** Localized diseased area on stems, roots and branches. Often sunken and discolored.

**Critical Root Zone (CRZ):** Area of soil around a tree where a minimum number of roots considered critical to the structural stability or health of the tree are located. CRZ determination is sometimes based on the drip line or a multiple of the DBH, but because root growth can be asymmetric due to site conditions, on-site investigation may be required.

**Codominant branches/stems:** Forked branches (or trunks), nearly the same size in diameter, arising from a common junction and lacking a normal branch union, may have included bark.

**Crown:** Upper part of a tree, measured from the lowest branch, including all branches and foliage.

**Defect:** An imperfection, weakness, or lack of something necessary. In trees defects are injuries, growth patterns, decay, or other conditions that reduce the tree's structural strength.

**Diameter at breast height (DBH):** Measurement of trunk diameter at 4.5 feet above grade.

**Frass:** Fecal material and/or wood shavings produced by insects.

**Included Bark Attachments (crotches):** Branch/limb or limb /trunk, or codominant trunks originating at acute angles from each other. Bark remains between such crotches, preventing the development of axillary wood. The inherent weakness of such attachments increases with time, through the pressure of opposing growth and increasing weight of wood and foliage, often resulting in failure.

**Live Crown Ratio (LCR):** Ratio of the  the crown length (live foliage), to total tree height.

**Scaffold branches:** Permanent or structural branches that form the scaffold architecture or structure of a tree.

**Suppressed:** Trees that have been overtopped and occupy an understory position within a group or grove of trees. Suppressed trees often have poor structure.

**Tree Protection Zones (TPZ):** Defined area within which certain activities are prohibited of restricted to prevent or minimize potential injury to designated trees, especially during construction or development.

**Trunk flare:** Transition zone from trunk to roots where the trunk expands into the buttress or structural roots.

This Glossary of Terms was adapted from the *Glossary of Arboricultural Terms* (ISA, 2015)

## Appendix G- TREE PROTECTION GUIDELINES AND RESTRICTIONS

## Protecting Trees During Construction:

1) Before the start of site work, equipment or materials move in, clearing, excavation, construction, or other work on the site, every tree to be retained shall be securely fenced- off as delineated in approved plans. Such fences shall remain continuously in place for the duration of the work undertaken in connection with the development.

2) If the proposed development, including any site work, will encroach upon the tree protection zone, special measures shall be utilized, as approved by the project arborist, to allow the roots to obtain necessary oxygen, water, and nutrients.

3) Underground trenching shall avoid the major support and absorbing tree roots of protected trees. If avoidance is impractical, hand excavation undertaken under the supervision of the project arborist may be required. Trenches shall be consolidated to service as many units as possible. Boring/tunneling under roots should be considered as an alternative to trenching.

4) Concrete or asphalt paving shall not be placed over the root zones of protected trees, unless otherwise permitted by the project arborist.

5) Artificial irrigation shall not occur within the root zone of native oaks, unless deemed appropriate on a temporary basis by the project arborist to improve tree vigor or mitigate root loss.

6) Compaction of the soil within the tree protection zone shall be avoided.

7) Any excavation, cutting, or filling of the existing ground surface within the tree protection zone shall be minimized and subject to such conditions as the project arborist may impose. Retaining walls shall likewise be designed, sited, and constructed to minimize their impact on protected trees.

8) Burning or use of equipment with an open flame near or within the tree protection zone shall be avoided. All brush, earth, and other debris shall be removed in a manner that prevents injury to the tree.

9) Oil, gas, chemicals, paints, cement, stucco or other substances that may be harmful to trees shall not be stored or dumped within the tree protection zone of any protected tree, or at any other location on the site from which such substances might enter the tree protection zone of a protected tree.

10) Construction materials shall not be stored within the tree protection zone of a protected tree.

## Project Arborist Duties and Inspection Schedule:

The project arborist is the person(s) responsible for carrying out technical tree inspections, assessment of tree health, structure and risk, arborist report preparation, consultation with designers and municipal planners, specifying tree protection measures, monitoring, progress reports and final inspection.
A qualified project arborist (or firm) should be designated and assigned to facilitate and insure tree preservation practices. He/she/they should perform the following inspections:

Inspection of site: Prior to equipment and materials move in, site work, demolition, landscape construction and tree removal: The project arborist will meet with the general contractor, architect / engineer, and owner or their representative to review tree preservation measures, designate tree removals, delineate the location of tree protection fencing, specify equipment access routes and materials storage areas, review the existing condition of trees and provide any necessary recommendations.

Inspection of site: During excavation or any activities that could affect trees: Inspect site during any activity within the Tree Protection Zones of preserved trees and any recommendations implemented. Assess any changes in the health of trees since last inspection.

Final Inspection of Site: Inspection of site following completion of construction. Inspect for tree health and make any necessary recommendations.

Kurt Fouts shall be the Project Arborist for this project. All scheduled inspections shall include a brief Tree Monitoring report, documenting activities and provided to the City Arborist.

## Tree Protection Fencing

Tree Protection fencing shall be installed prior to the arrival of construction equipment or materials. Fence shall be comprised of six -foot chain link fence mounted on eight - foot tall, 1 and 7/8-inch diameter galvanized posts, driven 24 inches into the ground and spaced on a minimum of 10-foot centers. Once established, the fence must remain undisturbed and be maintained throughout the construction process until final inspection.

A final inspection by the City Arborist at the end of the project will be required prior to removing any tree protection fencing.

## Tree Protection Signs

All sections of fencing should be clearly marked with signs stating that all areas within the fencing are Tree Protection Zones and that disturbance is prohibited.

## Monitoring

Any trenching, construction or demolition that is expected to damage or encounter tree roots should be monitored by the project arborist or a qualified ISA Certified Arborist and should be documented.

The site should be evaluated by the project arborist or a qualified ISA Certified Arborist after construction is complete, and any necessary remedial work that needs to be performed should be noted.

## Root Pruning

Root pruning shall be supervised by the project arborist. When roots over two inches in diameter are encountered they should be pruned by hand with loppers, handsaw, reciprocating saw, or chain saw rather than left crushed or torn. Roots should be cut beyond sinker roots or outside root branch junctions and be supervised by the project arborist. When completed, exposed roots should be kept moist with burlap or backfilled within one hour.

## Tree Work Standards and Qualifications

All tree work, removal, pruning, planting, shall be performed using industry standards of workmanship as established in the Best Management Practices of the International Society of Arboriculture (ISA) and the American National Standards Institute series, *Safety Requirements in Arboriculture Operations* ANSI Z133-2017,

Contractor licensing and insurance coverage shall be verified.

During tree removal and clearance, sections of the Tree Protection Fencing may need to be temporarily dismantled to complete removal and pruning specifications. After each section is completed, the fencing is to be re-installed.

Trees to be removed shall be cut into smaller manageable pieces consistent with safe arboricultural practices, and carefully removed so as not to damage any surrounding trees or structures. The trees shall be cut down as close to grade as possible. Tree removal is to be performed by a qualified contractor with valid City Business/ State Licenses and General Liability and Workman's Compensation insurance.

## Development Site Tree Health Care Measures

*RECOMMENDED TO PROVIDE OPTIMUM GROWING CONDITIONS, PHYSIOLOGICAL INVIGORATION AND STAMINA, FOR PROTECTION AND RECOVERY FROM CONSTRUCTION IMPACT.*

Establish and maintain TPZ fencing, trunk and scaffold limb barriers for protection from mechanical damage, and other tree protection requirements as specified in the arborist report.

Project arborist to specify site-specific soil surface coverings (wood chip mulch or other) for prevention of soil compaction and loss of root aeration capacity.

Soil, water and drainage management is to follow the ISA BMP for "Managing Trees During Construction" and the ANSI Standard A300(Part 2)- 2011 Soil Management (a. Modification, b. 'Fertilization, c. Drainage.)

Fertilizer / soil amendment product(s) amounts and method of application to be specified by certified arborist.

# City of Scotts Valley - Protected Tree List*

**A.** Any size tree located within five (5) feet of a public right-of-way or street.

**B.** Any single-trunk **oak tree** greater than or equal to eight (8) inch diameter (25 inch circumference).**

**C.** Any multi-trunk **oak tree** with any trunk greater than or equal to four (4) inches diameter (12 inch circumference).**

**D.** Any tree greater than or equal to eight (8) inch diameter (25 inch circumference)** if located within 20 feet of a moderate slope (greater than 20% slope).

**E.** Any single-trunk tree greater than or equal to 13-inch diameter (40 inch circumference).**

**F.** Any multi-trunk tree with any trunk greater than or equal to eight (8) inch diameter (25 inch circumference).**

**G.** Any tree, regardless of size, required as part of a permit approved by the Planning Department, Planning Commission or City Council, or required as a replacement tree for a removed tree.

**H.** Any **Heritage Tree**, as specified in Municipal Code Section 17.44.080 and Exhibit A. A list and map of Heritage Trees are available at the Planning Department. Fees for removal of Heritage Trees are higher than other protected tree removals and applications must be approved at a public hearing before the Planning Commission.

*** Note:** No tree removal permit is required to remove:

- Monterey Pine trees that are infected with pitch canker; ***proof of infection is required***;
- Blue Gum Eucalyptus or Acacia trees;
- Bay Laurel trees ***if*** they are growing under the drip-line of an established oak tree; or,
- Fruit trees.

****** Tree measurement shall be taken 4½ feet (54 inches) above the ground.

## ASSUMPTIONS AND LIMITING CONDITIONS

1. Any legal description provided by the appraiser/consultant is assumed to be correct. No responsibility is assumed for matters legal in character nor is any opinion rendered as the quality of any title.
2. The appraiser/consultant can neither guarantee nor be responsible for accuracy of information provided by others.
3. The appraiser/consultant shall not be required to give testimony or to attend court by reason of this appraisal unless subsequent written arrangements are made, including payment of an additional fee for services.
4. Loss or removal of any part of this report invalidates the entire appraisal/evaluation.
5. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person(s) to whom it is addressed without written consent of this appraiser/consultant.
6. This report and the values expressed herein represent the opinion of the appraiser/consultant, and the appraiser/consultant's fee is in no way contingent upon the reporting of a specified value nor upon any finding to be reported.
7. Sketches. Diagrams. Graphs. Photos. Etc., in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering reports or surveys.
8. This report has been made in conformity with acceptable appraisal/evaluation/diagnostic reporting techniques and procedures, as recommended by the International Society of Arboriculture.
9. When applying any pesticide, fungicide, or herbicide, always follow label instructions.
10. No tree described in this report was climbed, unless otherwise stated. We cannot take responsibility for any defects which could only have been discovered by climbing. A full root collar inspection, consisting of excavating around the tree to uncover the root collar and major buttress roots, was not performed, unless otherwise stated. We cannot take responsibility for any root defects which could only have been discovered by such an inspection.

## CONSULTING ARBORIST DISCLOSURE STATEMENT

Arborists are tree specialists who use their education. Knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce risk of living near trees, Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like medicine, cannot be guaranteed.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

Kurt Fouts
Arborist Consultant
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MEMBER
INTERNATIONAL SOCIETY OF ARBORICULTURE
ISA
™

# Low-Effect Habitat Conservation Plan

# for the White Rabbit Properties project

# in the City of Scotts Valley (Santa Cruz County), California


***Prepared for:***
**Mr. Chris Perri**
**Apple Homes Development, Inc.**
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**applehomesdevelopment@gmail.com**

***Prepared by:***
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**August 2020**

# EXECUTIVE SUMMARY

Apple Homes Development, Inc., a California based corporation (hereafter referred to as "Apple Homes") has applied for a permit pursuant to section 10(a)(1)(B) of the Endangered Species Act of 1973 as amended (16 U.S.C. 153101544, 87 Stat. 884), from the U.S. Fish & Wildlife Service (USFWS) for the incidental take of the endangered Mount Hermon June beetle (MHJB) (*Polyphylla barbata*: Coleoptera: Scarabaeidae). The potential taking would occur incidental to vegetation clearing, grading, and construction of 16 apartments at a 1.487-acre (64,773 ft.$^2$) project site, which is comprised of two neighboring parcels (APNs 022-732-48 and 022-732-01). This project site is located on the southeastern side of Scotts Valley Drive near its intersection with Bean Creek Road in the City of Scotts Valley (Santa Cruz County), CA. This residential development project is known as the White Rabbit Properties project.

Although the project site is situated in a portion of the Zayante Sandhills that historically supported endemic plant communities, extensive residential and commercial development during the past 50 years throughout this portion of the Santa Cruz County has substantially degraded the original native habitat values. Prior to residential and commercial development of this portion of the City of Scotts Valley, portions of this neighborhood supported Ponderosa Pine forest with sand parkland vegetation. Today the primary plant communities at the property are Ponderosa Pine (*Pinus ponderosa*) forest and groves of non-native trees (acacia and eucalyptus). The understory of the Ponderosas consists native shrubs, plus a mixture of non-native and native herbaceous plants.

No presence-absence survey for the MHJB has been conducted at this project site. Rather, due to the observations of the MHJB on the neighboring Terrace of Scotts Valley property and across Scotts Valley Drive at the campus of the Scotts Valley Middle School, the endangered beetle is assumed to also be present at the White Rabbit project site. For this reason, Apple Homes has applied for a section 10(a)(1)(B) permit and proposes to implement the habitat conservation plan (HCP) described herein, which provides for measures for mitigating adverse effects on the MHJB for activities associated with the site grading and construction of the 16 new apartments. Apple Homes is requesting issuance of the section 10(a)(1)(B) permit for a period of five (5) years after permit issuance.

This HCP summarizes information about the project and identifies the responsibilities of the USFWS and Apple Homes for implementing the actions described herein to benefit the MHJB. The biological goals of the HCP are:

a) to avoid and minimize, to the extent practical, take of the MHJB within the project site; and
b) to replace the degraded MHJB habitat impacted by the construction project at a secure site in perpetuity.

For mitigation, Apple Homes will purchase prior to permit issuance 64,773 (1.487 acres X 43,560 ft.$^2$/acre) conservation credits for the endangered MHJB from the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank. This conservation bank is operated by PCO, LLC and is located in Ben Lomond, CA. This HCP also describes measures that ensure the elements of the HCP are implemented in a timely manner. Funding sources for implementation of the HCP, actions to be taken for unforeseen events, alternatives to the proposed permit action,

and other measures required by the USFWS are also discussed.

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Section 1
# Introduction and Background

## 1.1 Overview/Background

This Habitat Conservation Plan (HCP) is for the proposed construction of 16 new apartments at a 1.487-acre project site known as the White Rabbit Properties of Scotts Valley. The project site (APNs 022-732-48 and 022-732-01) is located on the southeastern side of Scotts Valley Drive, near its intersection at Bean Creek Road in the City of Scotts Valley (Santa Cruz County), California.

This HCP has been prepared pursuant to the requirements of section 10(a) of the Federal Endangered Species Act (ESA). The HCP is intended to provide the basis for issuance of a section 10(a)(1)(B) permit to Apple Homes Development, Inc. (hereafter "Apple Homes"), the permit applicant, to authorize incidental take (see section 4) of the Mount Hermon June beetle (MHJB) (*Polyphylla barbata*: Coleoptera: Scarabaeidae), a federally-listed endangered species, that may potentially result from the grading and construction activities at the aforementioned project site. The U.S. Fish & Wildlife Service (USFWS) has concluded that the project site provides habitat for this beetle. Apple Homes requests a permit for a period of five (5) years commencing on the date of permit issuance.

This HCP provides an assessment of the existing habitat conditions at the project site for the MHJB, evaluates the effects of the proposed project on this beetle, and presents a conservation program to offset habitat losses and/or direct harm to this beetle that could result from site preparation, construction, habitat restoration, and habitat management activities at the project site. The biological goals of this HCP are to avoid and minimize, to the extent practical, take of the MHJB within the project site and to replace the MHJB habitat impacted by the development of the parcel at a secure site in perpetuity. Specifically, a total of 64,773 (1.487 acres X 43,560 $ft.^2$/acre) MHJB conservation credits will be purchased prior to permit issuance from the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank. Because habitat quality at the Ben Lomond Sandhills Preserve is superior to that at the project site, and habitat at the conservation bank is protected in perpetuity via a conservation easement, this mitigation solution will provide greater long term conservation value to the MHJB and its habitat than would on-site mitigation.

## 1.2 Permit Holder/Permit Duration

Apple Homes Development, Inc. will be the holder of the section 10(a) permit. Mr. Chris Perri is the representative for Apple Homes. Mr. Perri can be contacted via mail at 15 Sherman Court, Scotts Valley, CA 95066, or via telephone and fax at (831) 464-3380, via cell phone at (831) 239-9269, or via email at applehomesdevelopment@gmail.com .

Since there may be delays in securing local permits and the sale of apartments upon completion of construction, Apple Homes requests a permit for a period of five (5) years commencing on the date of permit issuance.

## 1.3 Permit Boundary/Covered Lands

Apple Homes requests an incidental take permit to authorize take of the MHJB within the project's impact area, which is the entire project site measuring 1.487 acres. The project site is located in the City of Scotts Valley, CA in a neighborhood that has both commercial and residential properties. The site is located on the southeastern side of Scotts Valley Drive, near its intersection with Bean Creek Road and across from the Scotts Valley Middle School. Road. The White Rabbit Properties project site is located within the boundaries of the Felton 7.5' U.S. Geological Survey (USGS) topographic quadrangle, specifically in Township 10S, Range 2W, Section 24 of the Mt. Diablo Meridian (Figure 1).

The requested permit boundaries ("covered lands") are the same as the property boundaries of the 1.487-acre project site (i.e., adjacent APNs 022-732-48 and 022-732-01). These boundaries are illustrated in Figure 1.

## 1.4 Species to be Covered by Permit

The following insect species is referred to as a "covered species" in this HCP and its related incidental take permit.

| Covered Species | Federal Status/State Status |
|---|---|
| Mount Hermon June beetle (*Polyphylla barbata*) | Federally Endangered/ no State status |

## 1.5 Regulatory Framework

### 1.5.1 Federal Endangered Species Act

Section 9 of the Endangered Species Act (ESA) and Federal regulations pursuant to

section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Harm is further defined by the USFWS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. Harass is defined by the USFWS as intentional or negligent actions that create the likelihood of injury to listed species by annoying them to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of the carrying out of an otherwise lawful activity.

Pursuant to section 11(a) and (b) of the ESA, any person who knowingly violates section 9 of the ESA or any permit, certificate, or regulation related to section 9, may be subject to civil penalties of up to $25,000 for each violation or criminal penalties up to $50,000 and/or imprisonment of up to one year.

Individuals and state and local agencies proposing an action that is expected to result in the take of federally listed species are encouraged to apply for an incidental take permit under section 10 (a)(1)(B) of the ESA to be in compliance with the law. Such permits are issued by the USFWS when take is not the intention of and is incidental to otherwise legal activities. An application for an incidental take permit must be accompanied by a habitat conservation plan, commonly referred to as an HCP. The regulatory standard under section 10 (a)(1)(B) of the ESA is that the effects of authorized incidental take must be minimized and mitigated to the maximum extent practicable. Under section 10 (a)(1)(B) of the ESA, a proposed project also must not appreciably reduce the likelihood of the survival and recovery of the species in the wild, and adequate funding for a plan to minimize and mitigate impacts must be ensured.

Section 7 of the ESA requires Federal agencies to ensure that their actions, including issuing permits, do not jeopardize the continued existence of listed species or destroy or adversely modify listed species' critical habitat. "Jeopardize the continued existence of…," pursuant to 50 CFR 402.2, means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species. Issuance of an incidental take permit under section 10 (a)(1)(B) of the ESA by the USFWS is a Federal action subject to section 7 of the ESA. As a Federal agency issuing a discretionary permit, the USFWS is required to consult with itself (i.e., conduct an internal consultation). Delivery of the HCP and a section 10 (a)(1)(B) permit application initiates the section 7 consultation process within the USFWS.

The requirements of section 7 and section 10 substantially overlap. Elements unique to section 7 include analyses of impacts on designated critical habitat, analyses of impacts on listed

plant species, if any, and analyses of indirect and cumulative impacts on listed species. Cumulative effects are effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area, pursuant to section 7 (a)(2) of the ESA. The action area is defined by the influence of direct and indirect impacts of covered activities. The action area may or may not be solely contained within the HCP boundary. These additional analyses are included in this HCP to meet the requirements of section 7 and to assist the USFWS with its internal consultation.

#### 1.5.1.1. The Section 10(a)(1)(B) Process - HCP Requirements and Guidelines.

The section 10(a)(1)(B) process for obtaining an incidental take permit has three primary phases:

1) the HCP development phase;
2) the formal permit processing phase; and
3) the post-issuance phase.

During the HCP development phase, the project applicant prepares a plan that integrates the proposed project or activity with the protection of listed species. An HCP submitted in support of an incidental take permit application must include the following information:

- impacts likely to result from the proposed taking of the species for which permit coverage is requested;
- measures that will be implemented to monitor, mitigate for, and minimize impacts;
- funding that will be made available to undertake such measures;
- procedures to deal with unforeseen circumstances;
- alternative actions considered that would not result in take; and
- additional measures the USFWS may require as necessary or appropriate for purposes of the plan.

The HCP development phase concludes and the permit-processing phase begins when a complete application package is submitted to the appropriate permit-issuing office of USFWS. The complete application package for a low-effect HCP consists of:

1) an HCP;
2) a completed permit application;

3) an Implementing Agreement (IA), if applicable; and
4) a $100 permit fee from the applicant.

The USFWS must publish a Notice of Availability of an HCP and its permit application package in the Federal Register to allow for public comment. The USFWS also prepares an Intra-Service Section 7 Biological Opinion; and prepares a Set of Findings, which evaluates the Section 10(a)(1)(B) permit application in the context of permit issuance criteria (see below). An Environmental Action Statement, Environmental Assessment, or Environmental Impact Statement serves as the USFWS's record of compliance with the National Environmental Policy Act (NEPA), which has gone out for a 30-day, 60-day, or 90-day public comment period; and prepare an Environmental Action Statement, a brief document that serves as the USFWS's record of compliance with NEPA for categorically excluded actions (see below). An implementing agreement is not required for a low-effect HCP. A section 10 (a)(1)(B) incidental take permit is granted upon determination by USFWS that all requirements for permit issuance have been met. Statutory criteria for issuance of an incidental take the permit specify that:

- the taking will be incidental;
- the impacts of incidental take will be minimized and mitigated to the maximum extent practicable;
- adequate funding for the HCP and procedures to handle unforeseen circumstances will be provided;
- the taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild;
- the applicant will provide additional measures that USFWS requires as being necessary or appropriate; and
- the USFWS has received assurances, as may be required, that the HCP will be implemented.

During the post-issuance phase, the permittee and other responsible entities implement the HCP and the USFWS monitors the permittee's compliance with the HCP and the long-term progress and success of the HCP. The public is notified of permit issuance through publication in the Federal Register.

### 1.5.2 National Environmental Policy Act

The purpose of the National Environmental Policy Act (NEPA) is two-fold: to ensure that

Federal agencies examine environmental impacts of their actions (in this case deciding whether to issue an incidental take permit) and to utilize public participation. NEPA serves as an analytical tool on direct, indirect, and cumulative impacts of the proposed project alternatives to help the USFWS decide whether to issue an incidental take permit (ITP or section 10(a)(1)(B) permit). NEPA analysis must be done by the USFWS for each HCP as part of the incidental take permit application process.

### 1.5.3 National Historic Preservation Act

All Federal agencies are required to examine the cultural impacts of their actions (e.g., issuance of a permit). This may require consultation with the State Historic Preservation Office (SHPO) and appropriate American Indian tribes. All incidental take permit applicants are requested to submit a Request for Cultural Resources Compliance form to the USFWS. To complete the compliance, in certain cases the applicants may need to complete cultural resource surveys and possibly mitigation.

### 1.5.4 California Endangered Species Act (CESA)

The California Endangered Species Act (CESA) provides for the designation of native species or subspecies of fish, wildlife, and plants as endangered or threatened (CESA Sections 2062-2067). However, insects are specifically excluded as a type of animal that may be designated as endangered or threatened species. Thus the MHJB is not listed under CESA and this HCP will not further address CESA permitting requirements.

### 1.5.5 California Environmental Quality Act (CEQA)

In many ways the California Environmental Quality Act, commonly known as CEQA (Public Resources Code Section 21000 *et seq*.), is analogous at the State level as NEPA is to the Federal level. CEQA requires State and local governmental agencies to complete an environmental review of discretionary projects that might impact environmental resources. CEQA differs from NEPA in that it requires that a project's significant environmental impacts be reduced to a less than significant level through the adoption of feasible avoidance, minimization, and/or mitigation measures, unless overriding considerations are identified and documented. With regard to wildlife and plants, those that are already listed by any State or Federal governmental agency are presumed to be endangered for the purposes of CEQA (Section 15380) and impacts to such species and their habitats may be considered significant.

The project presented in this HCP may be subject to CEQA review, with the City of Scotts Valley as the lead agency. The City's CEQA review is currently in progress.

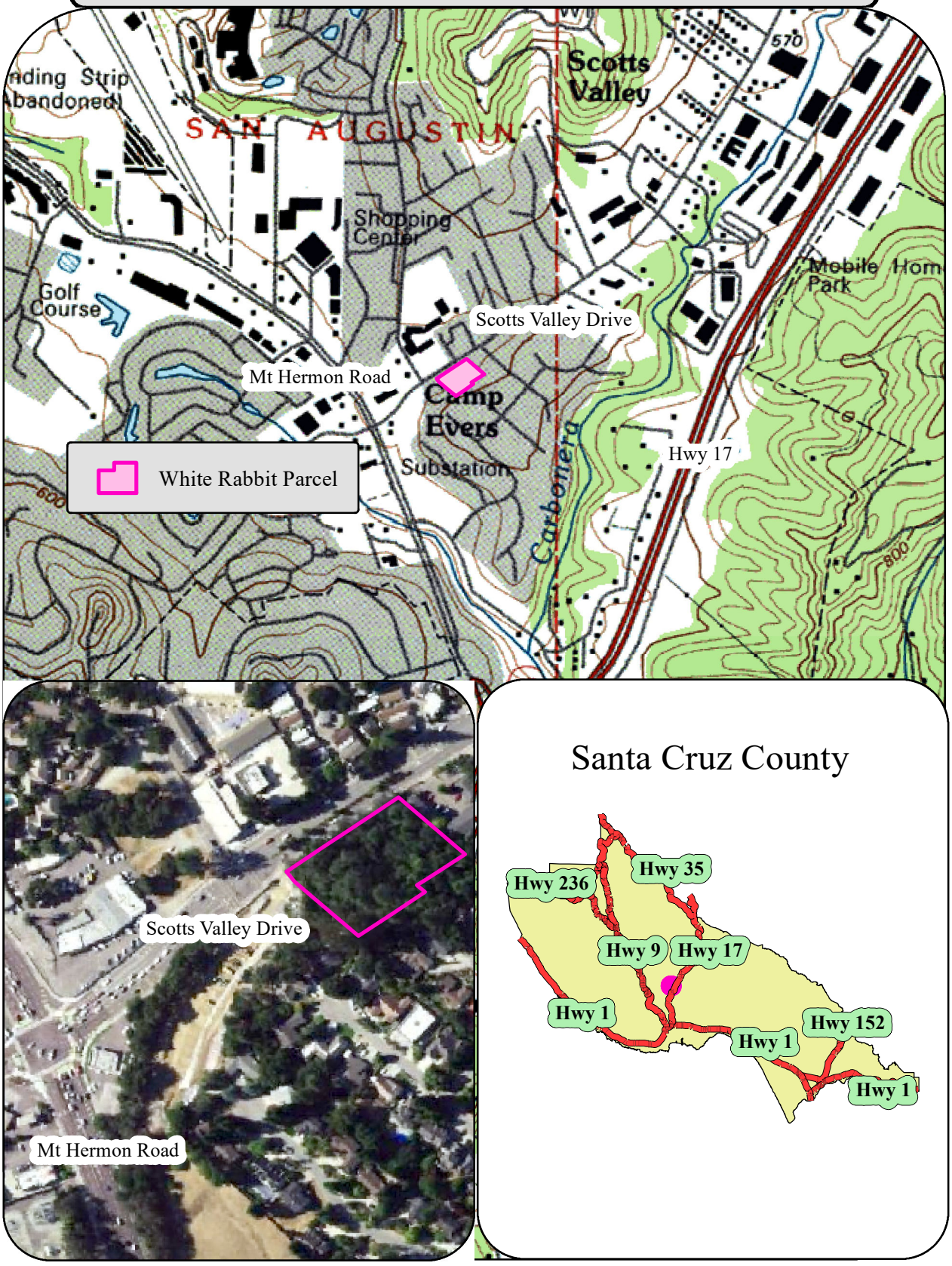
### 1.5.6 California Public Resources Code

Public Resources Code 4291 requires homeowners living in or adjacent to forest or brush-covered lands to maintain a firebreak of not less than 30 feet on all sides around all structures, or to the property line, whichever is nearer. The Scotts Valley Fire District enforces this code in the City of Scotts Valley and surrounding areas. See Section 7.1.6 of this HCP for a discussion of how this code affects the management of habitat at the project site.

### 1.5.7 City of Scotts Valley Tree Ordinance

Native trees that currently grow at the project site include Ponderosa Pine (*Pinus ponderosa*), Pacific Madrone (*Arbutus menziesii*), California Bay (*Umbellularia californica*), and Coast Live Oaks (*Quercus agrifolia*). Non-native trees that currently grow at the site include acacia (*Acacia* sp.) and eucalyptus (*Eucalyptus* sp.). Arborist Kurt Fouts inventoried and mapped the trees and identified those that will be removed due to poor health or other concerns (see Appendix A). Temporary fencing will be used throughout the grading and construction periods to protect those trees that will be conserved and maintained as part of future landscaping for the new apartments. The proposed project will mitigate for the anticipated impacts to these trees as described in Section 5.2.2.2 of this HCP and the attached tree report (Appendix A). The City of Scotts Valley generally requires impacted trees to be mitigated by planting 2 replacement trees for each impacted tree at the project site. If this is not possible due to space constraints or some other factor, then the applicant can pay a fee to the City's tree fund as determined by the City.

# Figure 1. Location Map for the White Rabbit Properties - Residential Development Project




Richard A Arnold
August 27, 2020

Section 2

# Project Description/Activities Covered by Permit

## 2.1 Project Description

The project site is currently vacant land with no existing buildings. Sixteen (16) single-family apartments will be built at the project site. The "impact area", where ground disturbing activities such as vegetation removal, grading, excavation, construction, and revegetation will occur, is the same as the boundaries of the entire 1.487-acre project site. Figure 2, prepared by C2G Civil Consultants Group, illustrates the existing topography, the project's site plan, and the limits of grading. The new apartments will have a common driveway that accesses Scotts Valley Drive near its intersection with Bean Creek Road.

The new apartments will be plumbed with domestic water and sanitary sewer. Since the sanitary sewer lines drain to a public sewer line, no septic or cesspool systems will be required. Electrical power is fed from overhead power lines. Likewise, natural gas is also provided by the local utility provider via underground connection at the property line. All trenching for the connection of underground utilities will occur within the impact area.

To the extent practical, native Pacific Madrone, California Bay, Coast Live Oak and Ponderosa Pine trees will be protected during grading and construction activities and incorporated into future landscaping. The arborist's tree report (Appendix A) provides details on the specific trees to be protected and maps that illustrate their locations at the project site. The maintained trees will not be disturbed except as needed to conform to any fire clearance regulations of the Scotts Valley Fire District.

Table 1 itemizes the expected areas of ground disturbance for each of the aforementioned features of this project. Ground disturbing activities included grading to prepare the site for construction and the removal of exotics to prepare the undeveloped portions of the site for revegetation after all construction activities have been completed.

| Table 1. Estimated Ground Disturbance | | |
|---|---|---|
| Project Activity | Area of Ground Disturbance | |
| | Square feet | Acres |
| Grading | 34,057 | 0.782 |
| Exotics removal and revegetation | 30,716 | 0.705 |
| ***Totals*** | ***64,773*** | ***1.487*** |

## 2.2 Activities Covered by Permit

An incidental take permit is requested to cover impacts to the MHJB that could result from removal of existing vegetation, grading, excavation, construction, and revegetation at the site. All covered activities are further described in Section 4 of this HCP, which assess their impacts on the covered species.

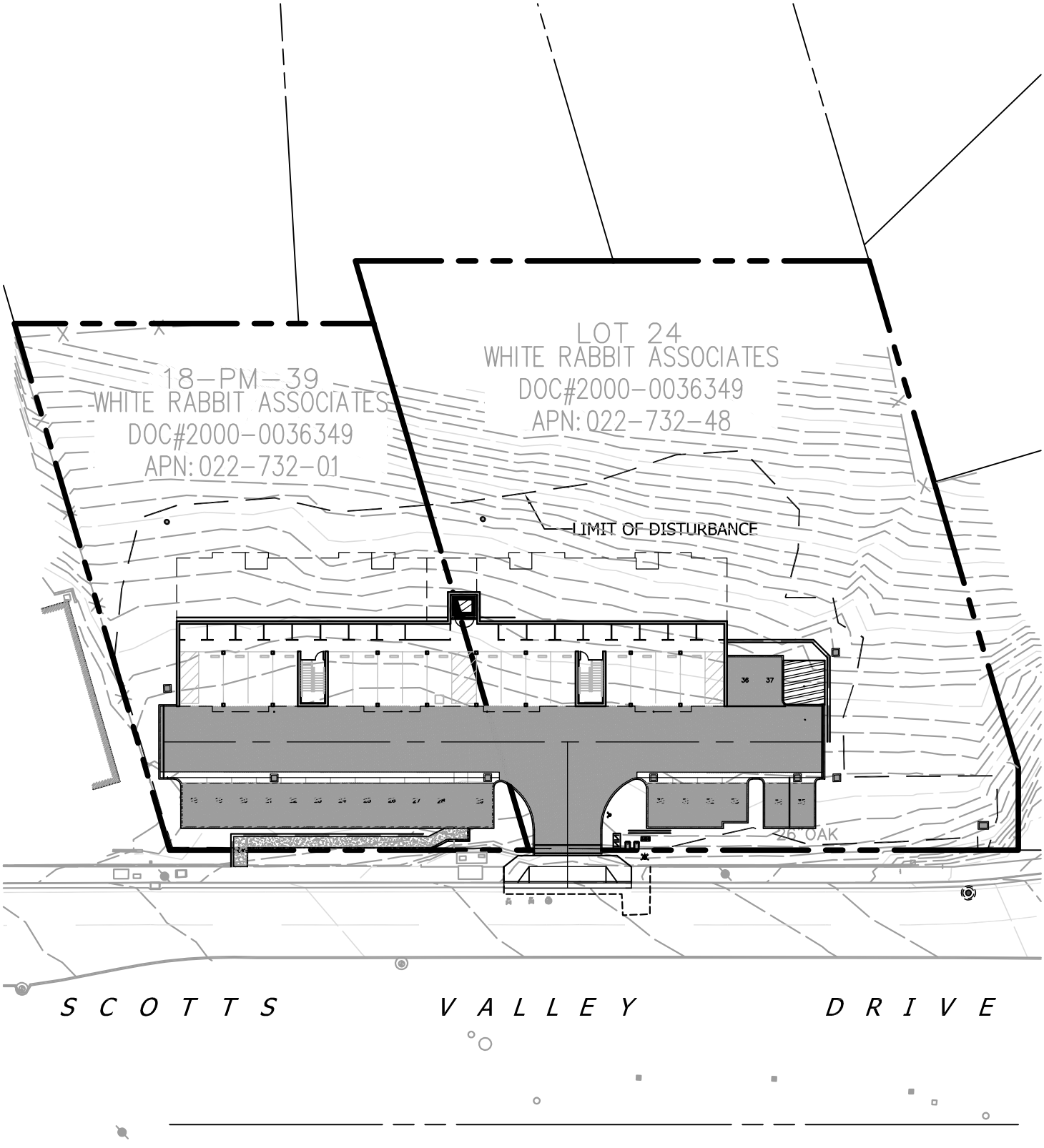



Figure 2. Site Plan and Limits of Disturbance (dashed line)

C2G /CIVIL CONSULTANTS GROUP, INC.
Engineers/Planners
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# WHITE RABBIT DEVELOPMENT

SCOTTS VALLEY, CA

| | |
|---|---|
| DATE: | 08.18.20 |
| DRAWN: | DD |
| SCALE: | 1"=50' |
| SHEET: | 1 OF 1 |

Drawing: W:\249-60 Perri - White Rabbit\Design\CAD\Sheets\C2.1 - SITE PLAN_.dwg Layout: C2.1 Last Saved: Thu Aug 20, 2020 - 9:42am Last Plotted: Thu Aug 20, 2020 - 10:03am By: Dove

# Section 3
# Environmental Setting/Biological Resources

## 3.1 Environmental Setting

### 3.1.1 Climate

The greater Scotts Valley area is characterized by a Mediterranean climate. In the plan area, the summer temperature range is generally from 45°F to 95 °F and average is 68 °F. Winter temperature range from 36 °F to 65 °F and average is 51 °F.

Annual precipitation is 44 inches. Most precipitation falls as rain, although some localities may also receive some fog drip. The rainy season is from October to May, with the majority of the rainfall occurring between December and March.

### 3.1.2 Topography/Geology

Topography slopes generally from the rear of the property towards Scotts Valley Drive with elevations ranging from approximately 520 to 590 feet. Nearly all of project site is characterized by Pfeiffer gravelly sandy loam soil, while a narrow strip of Elder sandy loam soil runs parallel to Scotts Valley Drive (Bowman and Estrada 1980). Zayante sandy soils occur nearby on the west side of Mt. Hermon Road, so the soils on-site are probably more transitional between these three soils types rather than pure.

### 3.1.3 Hydrology/Streams, Rivers, Drainages

The project site lies with the San Lorenzo River basin. Carbonero Creek lies approximately 1,300 ft. east of the project site. No wetlands or wetland habitats occur on site.

### 3.1.4 Existing Land Use

The project site is undeveloped, vacant land located in a neighborhood of the City of Scotts Valley that supports a mixture of residential and commercial properties. Surrounding properties support single-family homes, townhomes, and an office building. Scotts Valley Middle School is located directly across the street.

### 3.1.5 Habitats

Native habitat values at the project site have been somewhat degraded as various non-native plants, exotics, and ornamentals have colonized the site. A single native plant community, Ponderosa Pine forest covers approximately 80% of the site, while two, non-native tree groves collectively cover about 20%. Figure 3 is a map of the plant communities and was prepared by the Biotic Resources Group (2020). See Appendix B for the entire Biological Report.

## 3.2 Covered Wildlife Species: Mount Hermon June Beetle (*Polyphylla barbata*: Coleoptera, Scarabaeidae)

### 3.2.1 Status and Distribution

The MHJB is a federally-listed endangered species. Throughout most of its range, the primary threats to the beetle are sand mining and urbanization. In a few instances, other types of land uses, such as agricultural conversion, recreation activities, plus pesticide use, alteration of fire cycles, and possibly even collectors, have also threatened the beetle. For these reasons, the beetle was recognized as an endangered species by the USFWS (1997) in 1997 and a recovery plan was published by the USFWS (1998) in 1998. Critical habitat has not yet been proposed by the USFWS for the MHJB. The beetle has also referred to by the common name of Barbate June beetle.

The State of California does not recognize insects as endangered or threatened species pursuant to the State's Fish & Game Code. However, the MHJB does receive consideration under the California Environmental Quality Act (CEQA) since it satisfies the definition of a rare species under this statute.

The MHJB is restricted to areas in and around the Zayante sandy soils that are found in the Scotts Valley-Mount Hermon-Felton-Ben Lomond-Santa Cruz area of the Santa Cruz Mountains. During the summer of 2008 it was also observed at a couple of locations in the Bonny Doon area (Arnold, pers. observ.; McGraw, 2009). Historically, MHJB localities were referred to as sandhills (Cazier 1938; Young 1988), but more recently this area has been called the Zayante Sandhills (USFWS 1998). Arnold (2004) reviewed museum specimens and other reported records for the beetle and determined that it had been observed at about 70 locations within this area.

### 3.2.2 Habitat Characteristics

Habitats in and around the Zayante sandhills where MHJB has been found include Northern Maritime chaparral, Mixed Oak woodland, Ponderosa Pine forest, Sand Parkland (which is a mixture of the aforementioned habitats with a shrub/subshrub and grass/forb

understory), and mixed Deciduous-Evergreen forest. In addition, adults have been found in disturbed sandy areas where remnants of these habitats still occur. Ponderosa Pine occurs at all known MHJB locations and for this reason was formerly a presumed larval food plant of the beetle. However, analyses of partially-digested plant fragments in fecal pellets of MHJB larvae by Kirsten Hill (2005) indicate that larvae feed on other plant species. Even if Ponderosa Pine is not a food plant, it is a useful indicator of suitable habitat for the MHJB.

### 3.2.3 Occurrences at the Project Area

Usually a presence-absence survey for the MHJB is conducted to determine the status of the beetle at a proposed project site. However, in this case no presence-absence survey was conducted due to the observations of the MHJB on the neighboring Terrace of Scotts Valley property and across Scotts Valley Drive at the campus of the Scotts Valley Middle School. Due to the immediate proximity of both these known MHJB locations, the endangered beetle is assumed to also occur at the White Rabbit project site. Additionally, it has been found at other nearby properties in the surrounding Scotts Valley area (BUGGY Data Base 2020; California Natural Diversity Data Base 2020).

### 3.2.4 Life History

Adult males measure about 0.75 inch in length and females are slightly longer. The adult male has a black head and dark brown elytra (leathery forewings) that are covered with brown hairs. The elytra also have stripes that are broken and irregular rather than continuous and well-defined as in related species of June beetles. Larvae are grub-shaped (scarabaeiform) and vary in color from cream to pale yellow for the body segments and darker brown for the head.

The MHJB is univoltine, i.e., it has only one generation per year. As its common name suggests, adult emergence and seasonal activity normally starts in May or June and continues through about mid-August; although, seasonal activity may vary from year to year depending on weather conditions. Adults are crepuscular, being active between about 8:45 and 9:30 pm. Adult males actively fly low to the ground in search of females, which are flightless. Presumably the female emits a pheromone for the males to find her.

Lifespan data from a brief capture-recapture study suggest that adult males live no longer than one week (Arnold 2004). Dispersal data from the same capture-recapture study indicate that most adult males are quite sedentary, with home ranges of no more than a few acres. Similar data on lifespan and dispersal of females is lacking at this time since they are less frequently observed.

Specific life history information for the MHJB is unknown, but can be inferred from related species. Presumably the entire life cycle (egg, larva, pupa, and adult) takes two to three

years to complete. The majority of the life cycle is spent as a subterranean larval stage that feeds on plant roots (Furniss and Carolin 1977).

## 3.3 Other Zayante Sandhills Endangered Species

The Zayante sandhills region near the proposed project site support several special status plant and animal taxa, including four federally endangered species. Table 2 lists these taxa and their federal and state conservation statuses. Although a complete floristic inventory of the entire project site has not been undertaken, no special-status plant taxa were observed or are expected to occur in the proposed impact area during botanical surveys conducted during the spring of 2020 (Biotic Resources Group, 2020).

**Table 2. Special-status Species of the Zayante Sandhills**

| Common Name | Scientific Name | Conservation Status | | |
|---|---|---|---|---|
| | | Federal | State | CNPS |
| Mount Hermon June beetle | *Polyphylla barbata* | Endangered | | |
| Zayante Band-Winged grasshopper | *Trimerotropis infantilis* | Endangered | | |
| Ben Lomond spineflower | *Chorizanthe pungens* var. *hartwegiana* | Endangered | | |
| Santa Cruz wallflower | *Erysimum teretifolium* | Endangered | Endangered | 1B |
| Santa Cruz cypress | *Cupressus abramsiana* | Endangered | Endangered | |
| Silverleaf manzanita | *Arctostaphylos silvicola* | | | 1B |
| Ben Lomond buckwheat | *Eriogonum nudum* var. *decurrens* | | | 1B |

Note: CNPS is the California Native Plant Society, whose lists of rare plants are often treated as endangered species by resource agencies.

Due to the absence of the open sand parkland plant community, the endangered Zayante Bank Winged grasshopper would not occur at this project site. Also, the endangered Ohlone Tiger beetle (*Cicindela ohlone*: Coleoptera, Cicindelidae) is known to occur within the City of Scotts Valley in an area characterized by Watsonville loam soils and coastal prairie habitat (Knisley and Arnold 2013). Because the soils and habitat types that characterize the project site are not suitable to support the beetle, it would not be expected to occur there.


**Figure 3. Vegetation Types on Aerial Photograph** (Google Earth)
(From Biological Report for White Rabbit Properties)

Section 4

# Potential Biological Impacts/Take Assessment

## 4.1 Direct and Indirect Impacts

Direct and indirect impacts, including both temporary and permanent impacts are anticipated to occur due to project-related activities at the project site. The remainder of this section identifies the specific activities that could result in impacts to the MHJB as well as its habitat.

### 4.1.1 Direct Impacts

The proposed project has the potential to directly impact life stages of the MHJB by causing mortality of eggs, larvae, pupae, and adult life stages wherever soils are disturbed within the impact area (i.e., the entire project site). Permanent habitat loss will occur as a result of these activities.

#### 4.1.1.1 Permanent Habitat Loss

Permanent habitat loss will result from grading, excavation, construction of the 16 new apartments, driveways, parking areas, and other hardscape at the project site. These ground-disturbing activities will remove roots of vegetation, which may be fed upon by larvae of the MHJB, as well as kill, injure, or remove life stages of the MHJB. The total area of permanent habitat loss is approximately 34,057 $ft.^2$ (0.782 acres), as detailed in Table 3. Because of the degraded site condition and small size of the impact area, incidental take of the MHJB as a result of these activities is expected to be limited but will occur throughout 1.487 acre project site. Since the MHJB is currently known to occur in an approximately 10 $mi.^2$ area, the impacted acreage at this project site represents about 0.0002% of the beetle's known geographic range.

#### 4.1.1.2 Temporary Habitat Loss

Temporary habitat loss will occur during the removal of non-native vegetation and revegetation of undeveloped portions of the impact area after completion of all construction activities. Temporary impacts may also occur when protective fencing to demarcate the maintained trees is installed, repaired, or ultimately removed. The total area of temporary habitat loss is 30,716 $ft.^2$ (0.705 acre), as detailed in Table 3.

The Fire Department of the City of Scotts Valley will ultimately determine the fire clearance requirements, if any, for the new apartments. According to the Fire Department, fire clearance requirements depend on the type of construction materials used to build the structures, the location of the proposed structures within the building envelope, and the presence of sensitive habitat on site. At this time, it is anticipated that no additional fire clearance will be necessary within the impact area; however, it is possible that at a later date the Fire Department may require clearing or pruning of vegetation between the new apartments and the property boundaries.

### 4.1.2 Indirect Impacts

Indirect impacts are those caused by covered activities that may occur at a different time or in a different place than the direct impacts. This project is designed to avoid indirect effects on the MHJB. For example, any outdoor lights that are installed will use bulbs designed to not attract-nocturnally-active insects. If any construction occurs during the flight season for adult MHJB (mid-May through mid-August), any exposed soil will be covered between the hours of 7:00 pm and 7:00 am with erosion control fabric, tarps, or a similar impervious material. This precaution will prevent males from burrowing into soils and subsequently being impacted by construction activities.

**Table 3. Areas of temporary and permanent impacts to Mt. Hermon June beetle habitat resulting from features of the proposed project.**

| Project Activities | Type of Impact | Area of Impact | |
|---|---|---|---|
| | | Square feet | Acres |
| Grading, Excavation, and Construction | Permanent | 34,057 | 0.782 |
| | ***Subtotal Permanent*** | ***34,057*** | ***0.782*** |
| Invasive plant removal and revegetation | Temporary | 30,716 | 0.705 |
| | ***Subtotal Temporary*** | ***30,716*** | ***0.705*** |
| ***Grand Totals*** | | ***64,773*** | ***1.487*** |

## 4.2 Anticipated Take of Covered Wildlife Species

Since there are no accurate estimates of the numbers of MHJB that reside at the proposed project site, it is not possible to quantify the exact number of individual animals that could be

taken by the removal of its degraded habitat within the impact area. For these reasons, the level of take of the MHJB is expressed as the affected acreage, i.e., the 1.487-acre impact area of the property. Thus, take due to injury or mortality of MHJB life stages could result from disturbance to approximately 1.487-acre of degraded habitat within the impact area.

## 4.3 Effects on Critical Habitat

Critical habitat has not been designated for the MHJB. Thus, the proposed project will not cause any impacts to critical habitat. The Zayante Sandhills Conservation Bank is located within the critical habitat (USFWS 2001) for the federally-listed endangered Zayante band-winged grasshopper (*Trimerotropis infantilis*). The Zayante band-winged grasshopper is not covered in this HCP because suitable habitat for this species does not exist at this project site due to the extensive tree and shrub cover.

## 4.4 Cumulative Impacts

The USFWS has recently published notices in the Federal Register for several other small projects in the Zayante Sandhills that include new residential construction, plus remodels and additions to existing homes. Older HCPs that were previously approved in the sandhills included sand mining at the now closed Hanson Aggregates' Felton Sand Plant and at the Quail Hollow Quarry, and two small development projects for single-family homes in Scotts Valley. More recently, HCPs for the City of Santa Cruz's Graham Hill Water Treatment Plant, The Terrace of Scotts Valley condominium project, and renovation of the Scotts Valley Middle School were approved. As of October 2011, residents of 11 sandhill neighborhoods are able to participate in the Interim Programmatic HCP (IPHCP) that was approved by the County of Santa Cruz, the City of Scotts Valley, and USFWS. However, the White Rabbit project is not eligible to participate in the IPHCP because the amount of ground disturbance exceeds the 15,000 ft.$^2$ limit.

Impacts of the proposed townhouse project on the long term persistence of the MHJB are low because of the degraded quality of the habitat there, apparent absence of Zayante sands at the project site, and its location within an existing residential and commercial neighborhood. These losses are not expected to affect the range-wide survival of the beetle due to the occurrence and abundance of this species and its habitat at several nearby locations, as well as elsewhere throughout its entire geographic range. Furthermore, MHJB has been observed inhabiting soils in residential yards and less disturbed habitats that occur in close proximity to the apartment project site (Arnold, personal observation), so it can presumably co-exist in such habitat once soil disturbance has ceased. Thus, some MHJBs may ultimately recolonize the less disturbed and revegetated portions of the impact area, where loose, sandy soils remain after all construction activities have been completed.

Future commercial development, residential additions and remodels in the surrounding neighborhood would reduce the amount of available habitat for the beetle. Nonetheless,

significant portions of the sandhills in the Scotts Valley area have been protected and support populations of the endangered beetle, including the former Hansen Quarry.

Section 5

# Conservation Program/Measures to Minimize and Mitigate for Impacts

## 5.1 Biological Goals

Section 10(a)(2)(A) of the Act requires that an HCP specify the measures that the permittee will take to minimize and mitigate to the maximum extent practicable the impacts of the taking of any federally listed animal species as a result of activities addressed by the plan. As part of the "Five Point" Policy adopted by the USFWSs in 2000, HCPs must also establish biological goals and objectives (65 *Federal Register* 35242, June 1, 2000). The purpose of the biological goals is to ensure that the operating conservation program in the HCP is consistent with the conservation and recovery goals established for the species. The goals are also intended to provide to the applicant an understanding of why these actions are necessary. These goals are developed based upon the species' biology, threats to the species, the potential effects of the covered activities, and the scope of the HCP.

The following biological goals and objectives were developed based on the MHJB's biology and potential impacts of the covered activities within the scope of this HCP. They include on-site measures that will minimize take of the MHJB at the project site and off-site measures that will protect habitat with high conversation value for the beetle in perpetuity.

**Goal 1: Avoid and minimize, to the extent practical, take of the MHJB within the project site.**

Objective 1.1: Cover exposed soils nightly if construction activities occur during the MHJB's flight season (mid-May through mid-August).

Objective 1.2: Revegetate portions of the project site that are temporarily disturbed due to the project with plant taxa indigenous to the Zayante Sandhills and avoid landscaping with turf grass, weed matting, aggregate, and mulch.

Objective 1.3: Minimize outdoor night lighting during the flight season of the MHJB or use light bulbs that are certified to not attract nocturnally-active insects.

**Goal 2: Protect habitat for the MHJB at an off-site location with high conservation value for the beetle.**

Objective 2.1: Provide funds, through the purchase of conservation credits at the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank, to protect, manage, and monitor habitat of the MHJB in perpetuity.

## 5.2 Minimization and Mitigation Measures

Section 10 of the Endangered Species Act requires that all applicants submit HCPs that "minimize and mitigate" the impacts of take authorized by an incidental take permit, and that issuance of the permit will not "appreciably reduce the likelihood of the survival and recovery of the species in the wild." In general, HCPs should include mitigation programs that are based on sound biological rationale, practicable, and commensurate with the impacts of the project on species for which take is requested. Additionally, the USFWS encourages applicants to develop HCPs that contribute to the recovery of a listed species. If the proposed project is expected to result in permanent habitat loss, then the mitigation strategy must include compensatory mitigation consisting of the permanent preservation of suitable habitat or similar measures.

In accordance with these guidelines and the requirements of the Endangered Species Act, the conservation program of this HCP is intended to achieve its biological goals and objectives and to ensure that the impacts of covered activities on the MHJB are minimized and mitigated to the maximum extent practicable.

### 5.2.1 Measures to Minimize Impacts

The following measures are designed to minimize the indirect effects of the covered activities on the MHJB by reducing incidental take of individuals and the degradation of habitat adjacent to the project area and existing development.

#### 5.2.1.1 Delineate Boundaries of the Impact Area

Temporary fencing and signs will be erected before any vegetation clearing, or excavation activities occur to clearly delineate the boundaries of the project's impact area. Warning signs will be posted on the temporary fencing to alert excavators and other construction workers not to proceed beyond the fence. All protective fencing will remain in place until all construction and other site improvements have been completed. Signs will include the following language:

**"NOTICE: SENSITIVE HABITAT AREA. DO NOT ENTER."**

#### 5.2.1.2 Cover Exposed Soils

Adult males of the MHJB actively search for breeding females during the evenings between about May 15 and August 15. During this period, both sexes burrow into duff and soils during the daytime. If grading or construction occurs during any portion of the MHJB flight season, all exposed soils within the impact area will be covered by tarps, plywood, erosion control fabric, or another suitable impervious material. Exposed sandy soils should be covered between the hours of 7 pm and 7 am daily. Once grading has been completed, gravel will be laid in the locations of the planned new road, driveways, and pads for the new apartments. These materials will prevent adult males from burrowing into the exposed soils and subsequently being injured or killed by soil disturbance (i.e., digging, grading, covering, etc.).

#### 5.2.1.3 Relocate Observed Life Stages of the Covered Species

During the pre-construction training session, all construction personnel will be shown pictures of the MHJB larval and adult life stages, and instructed to cease construction activities and call an entomologist qualified and permitted to handle and translocate the endangered beetle should any be observed during the covered activities. If the life stage is buried, then it will be reburied outside of the impact area at the approximate depth at which it was unearthed. If an adult MHJB is found on the soil surface, then it will be relocated and released outside of the impact area on the soil surface. This measure will minimize take of the MHJB by reducing the number of larvae and adults that could otherwise be injured or killed as a result of project-related activities.

#### 5.2.1.4 Dust Control

Dust can clog the spiracles of adult beetles and accumulated dust on plants may cause them to experience a decline in vigor or even die, which would affect the roots that larvae of the MHJB may feed upon. Appropriate dust control measures, such as periodically wetting down the work areas, will be used as necessary during excavation for the new foundations in of the impact area, site grading, or any other project-related activities that generate dust.

#### 5.2.1.5 New Outdoor Lighting

Adult MHJBs are active at dusk and may be distracted by incandescent, mercury vapor, sodium, and black light sources, which can disrupt normal behaviors and breeding activities. Thus any outdoor lighting installed as part of this project will use bulbs certified to not attract nocturnal insects.

#### 5.2.1.6 Landscaping Elements That Degrade MHJB Habitat

Because MHJB adults emerge from the soil to attract and search for mates, turf grass, dense ground covers (such as ivy), weed matting, aggregate, and mulch can degrade habitat conditions and will not be used in this project.

### 5.2.2 Measures to Mitigate Unavoidable Impacts

To mitigate for unavoidable impacts of their project, Apple Homes will purchase conservation credits and revegetate the area of temporary habitat loss with native sandhill plants. The next two sections describe these mitigation measures in more detail.

#### 5.2.2.1 Purchase Conservation Credits at the Zayante Sandhills Conservation Bank

Project construction will temporarily and permanently remove 64,773 ft.$^2$ (1.487 acres) of habitat that could potentially be used by the MHJB (Table 3). Apple Homes will compensate for these impacts by purchasing at a 1:1 ratio, a total of 64,773 ft.$^2$ (1.487 acres) of conservation credits from the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank. This level of mitigation (i.e., conservation credits) is clearly commensurate with the level of impacts to MHJB habitat at this property because the habitat quality at the conservation bank is prime compared to the degraded habitat within the impact area of this property; thus the conservation value of the bank habitat is much greater than that of the impact area.

The Zayante Sandhills Conservation Bank was approved by the USFWS and the County of Santa Cruz to provide mitigation for impacts to the MHJB and other special-status plants and animals of the Zayante sandhills from projects within the Felton USGS quad. Figure 4 is a map that illustrates the location of the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank operated by PCO, LLC and its service area. A copy of the sales agreement between Apple Homes and PCO, LLC is attached to this HCP in Appendix C.

The operator of the conservation bank, PCO, LLC, will be responsible for all species monitoring, habitat management, and other conservation related activities that occur at the Ben Lomond Sandhills Preserve. An annual monitoring report will be prepared for submission to the USFWS and the County of Santa Cruz as described in Section 5.3.2 of this HCP.

#### 5.2.2.2 Revegetation of Temporarily Disturbed Portions of the Project Site

Portions of the impact area that are temporarily disturbed will be revegetated with plants native to the Zayante sandhills, including Ponderosa Pines and Coast Live Oak trees. However, because of the uncertainty about future vegetation pruning or clearing activities that may be required by City of Scotts Valley Fire Department, the permanent protection of temporarily-disturbed portions the project site that will be revegetated cannot be assured. Also, the revegetated portions will probably be too small for a land trust to accept a conservation easement

for their protection. Finally, no post-construction monitoring will occur in the protected habitat area of the project site. It is for these reasons that off-site mitigation is being utilized to compensate for all anticipated and potential project-related impacts.

## 5.3 Monitoring

Monitoring tracks compliance with the terms and conditions of the HCP and permit. This project will include compliance, effects, and effectiveness monitoring. Compliance monitoring will track the permit holder's compliance with the requirements specified in the HCP and permit, as described below. Effects monitoring tracks the impacts of the covered activities on the covered species. Compliance and effects monitoring will be conducted by the permitted entomologist. All biological effectiveness monitoring, which tracks the progress of the conservation program in meeting the HCP's biological goals and objectives, will be conducted at the Zayante Sandhills Conservation Bank's Ben Lomond Sandhills Preserve, where the off-site mitigation will occur. This latter monitoring will be the responsibility of the bank operator.

### 5.3.1 Construction and Compliance Monitoring

Prior to construction, a USFWS-approved biologist will conduct a training session for all construction workers involved with the project. The program will include a brief presentation about the biology of the MHJB, its habitats, and the terms of the HCP. The orientation will also inform equipment operators and other workers about the impact area's boundaries, equipment storage locations, materials laydown areas, construction activity restrictions, and identify other habitat protection and work procedures. Workers will be directed to immediately cease work if a MHJB is observed within the designated impact area and contact the biologist who can handle and relocate the beetle as authorized by the USFWS.

Throughout the construction and the other covered activities the USFWS-approved biologist will conduct regular inspections of the project site during all phases of the project to ensure that the perimeter fencing and signs that delineate the impact area remain in place, that exposed soils are properly covered by impervious materials, and to salvage and relocate and MHJB life stages.

### 5.3.2 Effects Monitoring

To quantify the amount of incidental take at the end of the project, the USFWS-approved biologist will calculate the area of soil disturbance (i.e., incidental take), and tally the number of MHJB life stages that were found and translocated during the project. This information will be summarized in the Compliance Monitoring Report (see Section 5.4.1).

### 5.3.3 Access to Project Site

The permit holder shall allow representatives from the USFWS access to the project site to monitor compliance with the terms and conditions of this HCP and the effects of the covered activities of this project.

## 5.4 Reporting

### 5.4.1 Compliance Report

By January 31st following each year of the permit, the USFWS-approved biologist will submit a report to the Ventura Fish and Wildlife Office of the USFWS and the City of Scotts Valley Planning Department to document the status of the project. The report will provide the following information:

1. Brief summary or list of project activities accomplished during the reporting year (e.g. this includes development/construction activities, and other covered activities)
2. Project impacts (e.g. number of acres graded, number of buildings constructed, etc.)
3. Description of any take that occurred for each covered species (includes cause of take, form of take, take amount, location of take and time of day, and deposition of dead or injured individuals)
4. Brief description of conservation strategy implemented
5. Monitoring results (compliance, effects and effectiveness monitoring) and survey information (if applicable)
6. Description of circumstances that made adaptive management necessary and how it was implemented. Please include a table including the cumulative totals; by reporting period all adaptive management changes to the HCP, including a very brief summary of the actions.
7. Description of any changed or unforeseen circumstances that occurred and how they were dealt with
8. Funding expenditures, balance, and accrual
9. Description of any minor or major amendments.

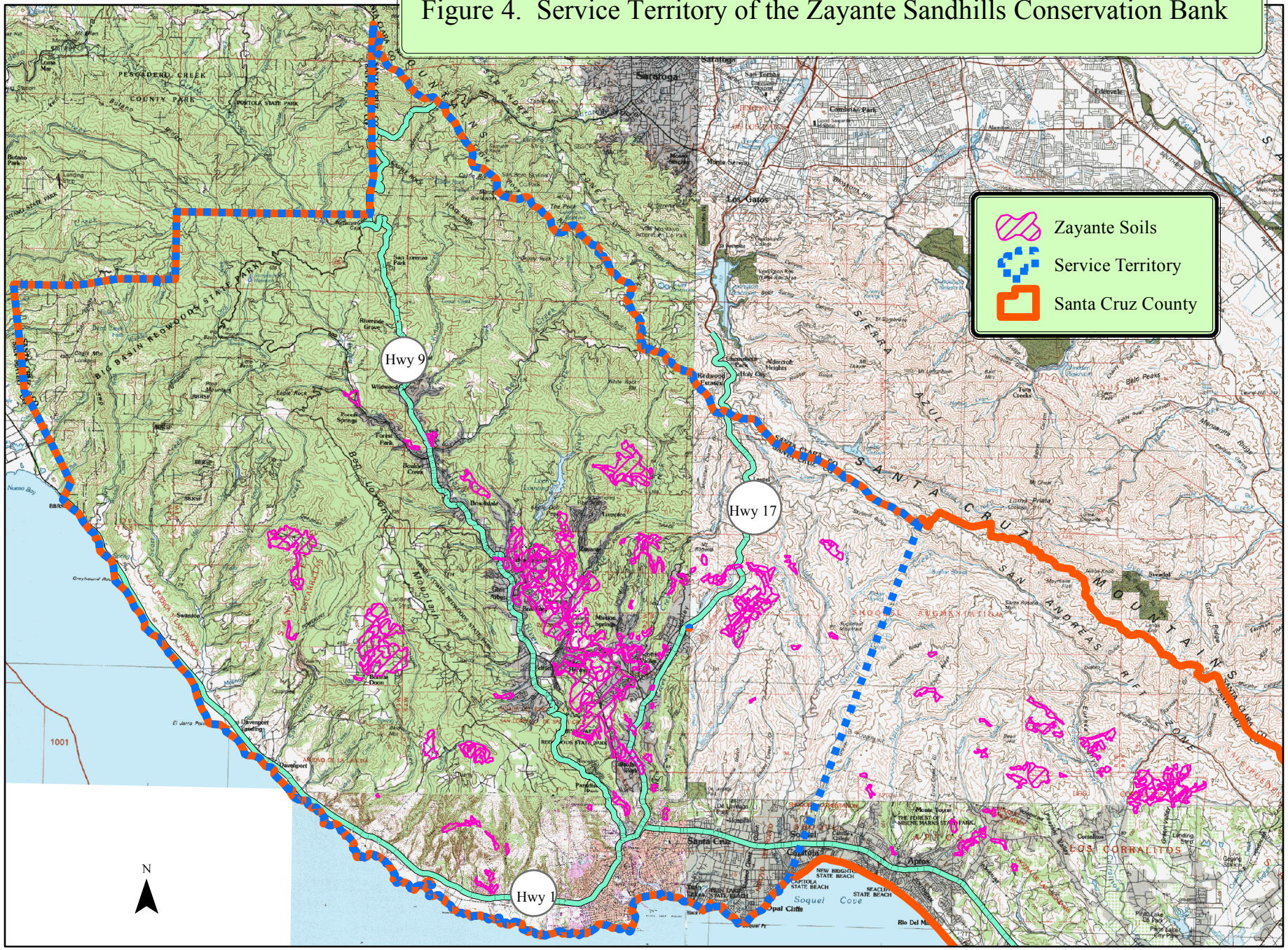
### 5.4.2 Annual Mitigation Monitoring Reports

PCO, LLC must submit an annual monitoring report to the Ventura Fish and Wildlife Office of the USFWS, describing activities performed to benefit the MHJB as part of its agreement to sell conservation credits and operate a conservation bank. Thus, mitigation monitoring reports will be prepared annually by PCO, LLC. This report shall be submitted to USFWS by December 31st of the monitoring year. This report shall include:

1. a general assessment of the condition of the habitat at the Ben Lomond Sandhills Preserve;
2. a description of all management actions taken on the Preserve along with an assessment of

their effectiveness toward enhancing the biological goals and objectives;
3. a description of any problems encountered in managing the Preserve;
4. results of monitoring studies for the endangered species and/or communities conducted during the year and an assessment of their implications for the biological goals and objectives; and
5. a description of other activities designed to enhance the Preserve.

Figure 4. Service Territory of the Zayante Sandhills Conservation Bank




Aug. 20, 2020
Richard A. Arnold

Section 6
# Plan Implementation

## 6.1 Plan Implementation

Apple Homes is the owner of the property and is the applicant for the incidental take permit. Apple Homes will also purchase of conservation credits needed to complete the mitigation strategy. The schedule of implementation of the covered activities will depend on the timing of issuance of the incidental take permit and local building permits, as well as seasonal constraints.

## 6.2 Changed Circumstances

### 6.2.1 Summary of Circumstances

Section 10 regulations [(69 *Federal Register* 71723, December 10, 2004 as codified in 50 Code of Federal Regulations (C.F.R.), Sections 17.22(b)(2) and 17.32(b)(2))] require that an HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. In addition, the HCP No Surprises Rule [50 CFR 17.22 (b)(5) and 17.32 (b)(5)] describes the obligations of the permittee and the USFWS. The purpose of the No Surprises Rule is to provide assurance to the non-Federal landowners participating in habitat conservation planning under the Act that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee.

Changed circumstances are defined in 50 CFR 17.3 as changes in circumstances affecting a species or geographic area covered by an HCP that can reasonably be anticipated by plan developers and the USFWS and for which contingency plans can be prepared (e.g., the new listing of species, a fire, or other natural catastrophic event in areas prone to such event). If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's operating conservation program (e.g., the conservation management activities or mitigation measures

expressly agreed to in the HCP or IA), then the permittee will implement those measures as specified in the plan. However, if additional conservation management and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the plan's operating conservation program, the USFWS will not require these additional measures absent the consent of the permittee, provided that the HCP is being "properly implemented" (properly implemented means the commitments and the provisions of the HCP and the IA have been or are fully implemented).

Foreseeable changed circumstances within the project area of this HCP including the following:

- the new listing of a species;
- the discovery of the Zayante Band-winged grasshopper, Santa Cruz wallflower, Ben Lomond spineflower, Ben Lomond buckwheat, or Santa Cruz Cypress within the impact area of the project site; or
- natural disasters.

### 6.2.2 Listing of New Species

If a new species that is not covered by the HCP but that may be affected by activities covered by the HCP is listed under the Act during the term of the section 10(a)(1)(B) permit, the section 10 permit will be reevaluated by the USFWS and the HCP covered activities may be modified, as necessary, to insure that the activities covered under the HCP are not likely to jeopardize or result in the take of the newly listed species or adverse modification of any newly designated critical habitat. Apple Homes shall implement the modifications to the HCP covered activities identified by the USFWS as necessary to avoid the likelihood of jeopardy to or take of the newly listed species or adverse modification of newly designated critical habitat. Apple Homes shall continue to implement such modifications until such time as the Permittee has applied for and the USFWS has approved an amendment of the Section 10(a)(1)(B) permit, in accordance with applicable statutory and regulatory requirements, to cover the newly listed species or until the USFWS notifies Apple Homes in writing that the modifications to the HCP covered activities are no longer required to avoid the likelihood of jeopardy of the newly listed species or adverse modification of newly designated critical habitat.

The occurrence of a newly listed species at Apple Homes's project site during the 5-year permit is unlikely due to the small size of the project site and impact area, the existing habitat conditions there and in the surrounding neighborhood, and the short duration of the incidental take permit.

### 6.2.3 Discovery of Other Currently Listed Species at the Project Site

In the unlikely event that one or more currently listed endangered or threatened species are found at the project site, the applicant will cease project activities that would likely result in take

of the newly-discovered listed species and apply for a permit amendment. Because of the degraded habitat conditions within the impact area of the project site, the distance to nearest known populations, and the short duration of the project permit, this circumstance is unlikely to actually happen.

### 6.2.4 Natural Disasters

As to other potential changed circumstances, Apple Homes has applied for a permit for incidental take of the MHJB throughout the entire 1.487-acre impact area at this project site. Therefore, Apple Homes does not anticipate that any additional changed circumstances will occur during the 5-year life of the incidental take permit in the area covered by this HCP that will result in unanticipated levels of take of the covered species.

Additional changed circumstances, e.g., wildfire, erosion, extended drought, earthquake or other natural disaster, may occur at the off-site conservation bank. However, the short duration of the permit (i.e., five years) lessens the likelihood that one of these phenomena may cause substantial changes to the off-site conservation bank during the permit period. Furthermore, some types of changed circumstances, for example a wildfire, may actually enhance habitat values in the long term because Ponderosa Pine and other members of the indigenous sandhill plant communities are adapted to, and regenerate well after such fires. Winter storms or earthquakes could cause landslide or erosion problems in habitat areas that would require subsequent repairs, such as slope stabilization, repair of fencing, and revegetation. A portion of the fees paid by the permittee for the MHJB conservation credits include contingency funds to cover the costs of unexpected repairs, or habitat restoration that may be required as a result of any natural disasters occurring at the off-site conservation bank.

## 6.3 Unforeseen Circumstances

Unforeseen circumstances are defined in 50 CFR 17.3 as changes in circumstances that affect a species or geographic area covered by the HCP that could not reasonably be anticipated by plan developers and the USFWS at the time of the HCP's negotiation and development and that result in a substantial and adverse change in status of the covered species. The purpose of the No Surprises Rule is to provide assurances to non-Federal landowners participating in habitat conservation planning under the Act that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee.

In case of an unforeseen event, the permittee shall immediately notify the USFWS staff who have functioned as the principal contacts for the proposed action. In determining whether such an event constitutes an unforeseen circumstance, the USFWS shall consider, but not be limited to, the following factors: size of the current range of the affected species; percentage of range adversely affected by the HCP; percentage of range conserved by the HCP; ecological

significance of that portion of the range affected by the HCP; level of knowledge about the affected species and the degree of specificity of the species' conservation program under the HCP; and whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

If the USFWS determines that additional conservation and mitigation measures are necessary to respond to the unforeseen circumstances where the HCP is being properly implemented, the additional measures required of the permittee must be as close as possible to the terms of the original HCP and must be limited to modifications within any conserved habitat area or to adjustments within lands or waters that already set-aside in the HCP's operating conservation program. Additional conservation and mitigation measures shall involve the commitment of additional land or financial compensation or restrictions on the use of land or other natural resources otherwise available for development or use under original terms of the HCP only with the consent of the permittee.

Thus, in the event that unforeseen circumstances adversely affecting the MHJB occur during the term of the requested incidental take permit, Apple Homes would not be required to provide additional financial mitigation or implement additional land use restrictions above those measures specified in the HCP, provided that the HCP is being properly implemented. This HCP expressly incorporates by reference the permit assurances set forth in the revised (USFWS 2004) Habitat Conservation Plan Assurances ("No Surprises") Rule (50 CFR Part 17).

## 6.4 Amendments

### 6.4.1 Minor Amendments

Minor amendments are changes that do not affect the scope of the HCP's impact and conservation strategy, change amount of take, add new species, and change significantly the boundaries of the HCP. Examples of minor amendments include correction of spelling errors or minor corrections in boundary descriptions. The minor amendment process is accomplished through an exchange of letters between the permit holder and the USFWS's Ventura Field Office.

### 6.4.2 Major Amendments

Major amendments to the HCP and permit are changes that do affect the scope of the HCP and conservation strategy, increase the amount of take, add new species, and change significantly the boundaries of the HCP. Major amendments often require amendments to the USFWS's decision documents, including the NEPA document, the biological opinion, and findings and recommendations document. Major amendments will often require additional public review and comment.

## 6.5 Suspension/Revocation

The USFWS may suspend or revoke their respective permits if Apple Homes fails to implement the HCP in accordance with the terms and conditions of the permits or if suspension or revocation is otherwise required by law. Suspension or revocation of the Section 10(a)(1)(B) permit, in whole or in part, by the USFWS shall be in accordance with 50 CFR 13.27-29, 17.32 (b)(8).

## 6.6 Permit Renewal

The applicant requests a permit duration of five (5) years. This period of time should ensure that the covered activities associated with the proposed project can be completed prior to permit expiration.

Upon expiration, the Section 10(a)(1)(B) permit may be renewed without the issuance of a new permit, provided that the permit is renewable, and that biological circumstances and other pertinent factors affecting covered species are not significantly different than those described in the original HCP. To renew the permit, Apple Homes shall submit to the USFWS, in writing:

- a request to renew the permit, along with reference to the original permit number;
- certification that all statements and information provided in the original HCP and permit application, together with any approved HCP amendments, are still true and correct, and inclusion of a list of changes;
- a description of any take that has occurred under the existing permit; and
- a description of any portions of the project still to be completed, if applicable, or what activities under the original permit the renewal is intended to cover.

If the USFWS concurs with the information provided in the request, it shall renew the permit consistent with permit renewal procedures required by Federal regulation (50 CFR 13.22). If Apple Homes files a renewal request and the request is on file with the issuing USFWS office at least 30 days prior to the permits expiration date, the permit shall remain valid while the renewal is being processed, provided the existing permit is renewable. However, Apple Homes may not take listed species beyond the quantity authorized by the original permit. If Apple Homes fails to file a renewal request within 30 days prior to permit expiration, the permit shall become invalid upon expiration. Apple Homes and the conservation bank operator must have complied with all annual reporting requirements to qualify for a permit renewal.

## 6.7 Permit Transfer

In the event of a sale or transfer of ownership of the property during the life of the

permit, the following will be submitted to the USFWS by the new owner(s): a new permit application, permit fee, a receipt for conservation credits purchased from the Zayante Sandhills Conservation Bank, and written documentation providing assurances pursuant to 50 CFR 13.25 (b)(2) that the new owner(s) will provide sufficient funding for the HCP and will implement the relevant terms and conditions of the incidental take permit, including any outstanding minimization and mitigation. The new owner(s) will commit to all requirements regarding the take authorization and mitigation obligations of this HCP unless otherwise specified in writing and agreed to in advance by the USFWS.

Section 7
# Funding

## 7.1 Costs of HCP Implementation

Costs to implement the conservation strategy described in this HCP are listed in Table 4.

**Table 4. Estimated costs to implement Apple Homes' conservation program.**

| Item or Activity | Conservation Strategy | Units | | Costs ($) | |
|---|---|---|---|---|---|
| | | Type | Number | Per Unit | Total |
| **Minimization and Mitigation Measures** | | | | | |
| Minimization Measure 5.2.1.2 | Install construction fencing | Construction fencing | 2,000 ft. | Apple Homes has these materials | --- |
| | Install signs | signs | 30 signs | 30.00 | 900.00 |
| Minimization Measure 5.2.1.3 | Cover exposed soils | Tarps, plastic sheeting, geojute, etc. | To be determined | Apple Homes has these materials | --- |
| Minimization Measure 5.2.1.4 | Relocate MHJB life stages | Labor/hrs. | 100 | 200.00 | 20,000.00 |
| Minimization Measure 5.2.1.5 | Dust control | Spray water | 100 | 20.00 | 2,000.00 |
| Minimization Measure 5.2.1.6 | Outdoor lights | Non-attracting insect light bulbs | 25 | 10.00 | 250.00 |
| Mitigation Measure 5.3.2.1 | Compensation | Conservation credits | 64,773 | 9.00 | 582,957.00 |
| Mitigation Measure | Revegetation with sandhill | 5-gal. Plant stock | 100 | 10 | 1,000.00 |

| Table 4. Estimated costs to implement Apple Homes' conservation program. | | | | | |
|---|---|---|---|---|---|
| Item or Activity | Conservation Strategy | Units | | Costs ($) | |
| | | Type | Number | Per Unit | Total |
| 5.2.2.3 | plants | | | | |
| ***Subtotal*** | | | | | ***$607,107.00*** |
| | | | | | |
| **Monitoring** | | | | | |
| Compliance monitoring | USFWS-approved biologist to conduct compliance monitoring | Labor/hrs. | 40 | 200 | 8,000.00 |
| Effects monitoring | USFWS-approved biologist to conduct effects monitoring | Labor/hrs. | 40 | 200 | 8,000.00 |
| ***Subtotal*** | | | | | ***$16,000.00*** |
| | | | | | |
| Reporting | USFWS-approved biologist to complete annual project reports | Labor/hrs./ | 40 | 200 | 8,000.00 |
| ***Subtotal*** | | | | | ***$8,000.00*** |
| | | | | | |
| ***Grand Total*** | | | | | ***$631,107.00*** |

## 7.2 Funding Source

The applicant, Apple Homes, will pay for all costs associated with implementing this HCP's conservation strategies, including minimization measures, conservation credits, plus effects and compliance monitoring as itemized in Table 4. In recognition of the fact that the costs for these activities in Table 4 are estimates, the actual incurred costs may be less or more than these estimates. However, if the actual costs for any of the aforementioned activities are higher than estimated in Table 4, Apple Homes agrees to pay the actual costs.

## 7.3 Funding Mechanism and Management

Apple Homes will provide all funds needed to implement the conservation program measures itemized in Table 4. Apple Homes, the permit applicant, understands that failure to

provide adequate funding and consequent failure to implement the terms of this HCP in full could result in temporary permit suspension or permit revocation.

To demonstrate its ability to cover these costs, Apple Homes will provide a bank statement or letter of credit to the USFWS. A copy of the sales receipt for the purchase of conservation credits will be provided to the USFWS prior to permit issuance and a copy will be included in this HCP (Appendix C).

# Section 8
# Alternatives

## 8.1 Summary

Section 10(a)(2)(A)(iii) of the Endangered Species Act of 1973, as amended, [and 50 CFR 17.22(b)(1)(iii) and 17.32(b)(1)(iii)] requires that alternatives to the taking of species be considered and reasons why such alternatives are not implemented be discussed. Three alternatives for the proposed project are discussed.

## 8.2 Alternative #1: No Action

Under the No Action Alternative, construction of the new apartments at White Rabbit project site would not occur and Apple Homes would not request an incidental take permit, and an incidental take permit would not be issued by the USFWS. This property would remain vacant.

Furthermore, the conservation measures described in this HCP would not be implemented and the purchase of 64,773 conservation credits for the MHJB would not occur. This would reduce funding for preservation, management, and monitoring of the MHJB and its high quality sandhills habitat at the Ben Lomond Sandhills Preserve. Thus, the No-Action Alternative is concluded to be of lesser conservation value to the covered species than the proposed project and accompanying HCP and does meet the goal of the applicant. For these reasons, it has been rejected.

## 8.3 Alternative #2: Redesigned Project (Reduced Take)

Under this alternative, the impact area of the construction project would be reduced at the project site, which presumably would result in reduced take of the MHJB. Since the project is proposed at a site that is not known to have Zayante sands, the applicant has already designed this project to minimize impacts to the MHJB and its habitat. Thus, the Redesigned Project Alternative is not practical and no reduced take can actually be realized. The proposed project provides greater habitat conservation benefits than the Redesigned Project Alternative. For these reasons the Redesigned Project Alternative has been rejected.

## 8.4 Alternative #3: Proposed Action

Under the Proposed Action Alternative, Apple Homes will complete the proposed construction of 16 new, apartments as described in section 2. This alternative would require the issuance of a section 10(a)(1)(B) permit to allow construction of the project. The project would

cause the loss of approximately 64,773 $ft^2$ (1.487 acres) of degraded habitat for the MHJB and mortality of any beetles living within this impact area. However, the conservation measures proposed in this HCP would result in greater conservation value for the MHJB than either the No Action or Redesigned Project alternatives, while best meeting the needs of the applicant. Therefore, the Proposed Action is the preferred alternative.

Section 9
# References Cited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Section 10
# Appendices

# Appendix A:

# Tree Report

# Appendix B:

# Biological Report

# Appendix C:

# Conservation Credit Sales Receipt from the

# Zayante Sandhills Conservation Bank

# GEOTECHNICAL INVESTIGATION
# For
# PROPOSED FIVE UNIT CONDOMINIUM
**Scotts Valley Drive**
**APN 022-732-48**
**Scotts Valley, California**

**Prepared**
**For**
**CHRIS PERRI**
**Scotts Valley, California**

**Prepared By**
## DEES & ASSOCIATES, INC.
**Geotechnical Engineers**
**Project No. SCR-1494**
**September 2020**

**Dees & Associates, Inc.**
*Geotechnical Engineers*
501 Mission Street, Suite 8A Santa Cruz, CA 95060 Phone (831) 427-1770 www.deesgeo.com

September 9, 2020 Project No. SCR-1494

CHRIS PERRI
15 Sherman Court
Scotts Valley, California 95066

Subject: Geotechnical Investigation

Reference: Proposed Five Unit Condominium
Scotts Valley Drive
APN 022-732-48
Scotts Valley, California

Dear Mr. Perri:

As requested, we have completed a geotechnical investigation for the five-unit condominium building proposed at the above referenced site. The purpose of our investigation was to evaluate the soil conditions in the vicinity of the proposed improvements and provide geotechnical recommendations and criteria for their design and construction.

This report presents the results, conclusions and recommendations of our investigation. If you have any questions regarding this report, please call our office.

Very truly yours,

**DEES & ASSOCIATES, INC.**

Rebecca L Dees

Rebecca L. Dees
Geotechnical Engineer
G.E. 2623


Copies: 1 to Addressee

## TABLE OF CONTENTS

## GEOTECHNICAL INVESTIGATION

### Introduction

This report presents the results of our geotechnical investigation for a five-unit condominium building proposed at APN 022-732-48 on Scotts Valley Drive in the City of Scotts Valley, California, Figure 1.

### Purpose and Scope

The purpose of our investigation was to explore and evaluate surface and near surface soil conditions in the vicinity of the proposed improvements and provide geotechnical recommendations for their design and construction.

The specific scope of our services was as follows:

1. Site reconnaissance and review of available data in our files pertinent to the site and vicinity.

2. Exploration of subsurface conditions consisting of logging and sampling of six (6) exploratory test borings drilled to depths of 10 and 30.5 feet beneath the surface.

3. Laboratory testing to evaluate the engineering properties of the subsoils.

4. Engineering analysis and evaluation of the resulting field and laboratory test data. Based on our findings, we have developed geotechnical design criteria for general site grading, building foundations, retaining walls, concrete slabs-on-grade, pavements and general site drainage.

5. Preparation of this report presenting the results of our investigation.

### Project Location and Description

The site is located on the east side of Scotts Valley Drive just north of Bean Creek Road in the City of Scotts Valley, California, Figure 1. The 0.9-acre site is bordered by Scotts Valley Drive to the west, a townhouse development to the south, an undeveloped lot to the north, and single-family residences to the east.

The undeveloped site is situated on a west facing slope above Scotts Valley Drive. The slope is gentle at the base with slope gradients on the order of 10 to 20 percent. The slope gradually steepens as you move up the hillside until the slopes become steep with slope gradients of about 30 percent at the top. The top of the slope is gently sloping and developed with single family residences. A 2 to 4 feet high block retaining wall supports a cut made into the slope adjacent to the sidewalk along Scotts Valley Drive. An opening in the retaining wall at the north end of the parcel provides access to the site. The parcel is vegetated with a mixture of medium to large trees and low-lying grasses. Site drainage is by sheet flow towards Scotts Valley Drive.

The project consists of building a three-story, five-unit, condominium building on the

gentler slopes near Scotts Valley Drive.

## Field Investigation

Subsurface conditions at the site were explored on 22 July 2020 with six (6) exploratory borings drilled with 6-inch diameter continuous flight auger equipment advanced with truck mounted drilling equipment. Our borings were drilled to depths between 10 and 30.5 feet. The approximate locations of the exploratory borings are indicated on Figure 2.

The soils observed in the test borings were logged in the field and described in accordance with the Unified Soil Classification System (D2487 and D2488), Figure 3. The Test Boring Logs, Figures 4 through 9, denote subsurface conditions at the locations and times observed, and it is not warranted they are representative of subsurface conditions at other locations or times.

Representative soil samples were obtained from the exploratory borings at selected depths, or at major strata changes. These samples were recovered using the 3.0-inch O.D. Modified California Sampler (L) or the Standard Terzaghi Sampler (T). The penetration resistance blow counts for the (L) and (T) noted on the boring logs were obtained as the sampler was dynamically driven into the in situ soil. The process was performed by dropping a 140-pound hammer a 30-inch free fall distance and driving the sampler 6 to 18 inches and recording the number of blows for each 6-inch penetration interval. The blows recorded on the boring logs present the accumulated number of blows that were required to drive the last 12 inches. The blow counts for the large samples indicated on the logs have been converted to equivalent field standard penetration test values.

## Laboratory Testing

The laboratory testing program was directed toward a determination of the physical and engineering properties of the soils underlying the site. Moisture content and dry densities were performed on representative soil samples to determine the consistency of the soil and the moisture variation throughout the explored soil profile. Grain size analysis was performed to aid in soil classification. Direct shear testing was performed to evaluate the shear strength of the soil. The results of our field and laboratory testing appear on the "Log of Test Boring", opposite the sample tested.

## Subsurface Soil Conditions

The Santa Cruz County Geologic Map indicates the downslope portion of the site is underlain by Alluvial deposits and the upslope portion is underlain by Quartz Diorite. Although the geologic map indicates there should be alluvial deposits in the lower areas of the site, our borings indicate the lower areas of the site are underlain by a 10 to 15 feet layer of weathered quartz diorite with 2.5 to 6 feet of loose silty sand on top. The quartz diorite consists of medium dense to very dense coarse silty sand with fine gravels. Alluvial deposits or possibly Santa Margarita sandstone was encountered below the quartz diorite. Santa Margarita sandstone was encountered along the east and west of Scotts Valley Drive in the vicinity of the site during previous investigations in the area. But the soils below the quartz diorite at the project site consisted of coarse to poorly graded sand

and it was a darker color than what is normally expected for Santa Margarita Sandstone.

The steeper section of slope near the back of the site is expected to consist of quartz diorite with little to no soil cover. Very dense and cemented bedrock was encountered on the same slope to the south.

**Groundwater**

Groundwater was encountered in Boring 5, 29 feet below grade. Our other borings were not drilled deep enough to encounter groundwater but groundwater should be expected at similar depths along the downslope side of the parcel.

Groundwater levels denote groundwater conditions at the locations and times observed, and it is not warranted they are representative of groundwater conditions at other locations or times. Groundwater levels can vary due to seasonal variations and other factors not evident at the time of our investigation.

There is shallow granitic bedrock at the site and groundwater may perch on the granitic rock during and following rainfall. Subdrains should be used where grading or foundation excavations expose the contact between the upper soils and the granitic bedrock.

**Seismicity**

The following is a general discussion of seismicity in the project area. A more detailed study of seismicity and faulting is beyond the scope of our investigation.

**Seismicity**

The project site is located in a seismically active region and several active and potentially active faults are located in the vicinity of the site. The following is a general discussion of seismicity in the project area. A more detailed discussion of faulting and seismicity is beyond the scope of our services.

The closest faults to the site are the Zayante-Vergeles Fault, San Andreas Fault, the offshore San Gregorio Fault and the offshore Monterey Bay-Tularcitos Fault, Figure 10. The San Andreas Fault is the largest and most active of the faults in the site vicinity. However, each fault is considered capable of generating moderate to severe ground shaking. It is reasonable to assume that the proposed development will be subject to at least one moderate to severe earthquake from one of the faults during the next fifty years.

| Fault | Zayante-Vergeles | San Andreas | San Gregorio | Monterey Bay-Tularcitos |
|---|---|---|---|---|
| Distance (mi.) | 4.1 | 7.4 | 11.8 | 10.2 |
| Direction | N | NE | WSW | SW |

Structures designed according to the 2019 California Building Code may use the following parameters in their analysis. The following ground motion parameters may be used in seismic design and were determined using the OSHPD Ground Motion Maps, ASCE 7-

16 and a Risk Category II.

| Design Parameter | ASCE 7-16<br>2019 CBC |
|---|---|
| Site Class | D |
| Mapped Spectral Acceleration for Short Periods | Ss = 1.92 g |
| Mapped Spectral Acceleration for 1-second Period | $S_1$ = 0.754 g |
| 5% Damped Spectral Response Acceleration for Short Period | $S_{DS}$ = 1.536 g |
| 5% Damped Spectral Response Acceleration for 1-Second Period | $S_{D1}$ = Null See Section 11.4.8 |
| Seismic Design Category | Null See Section 11.4.8 |
| PGAm | 0.978 g |

## Liquefaction

Liquefaction occurs when saturated fine-grained sands, silts and sensitive clays are subject to shaking during an earthquake and the water pressure within the pores build up leading to loss of strength.

There is a very low potential for liquefaction to affect the proposed development due to the density of the subsoils below the groundwater table.

## Landsliding

There are no landslides mapped on or near the site on the Cooper-Clark Landslide map and there were no landslides observed or reported during our investigation. The site is underlain by shallow granitic bedrock and there is a low potential for landslides to affect the development.

## DISCUSSIONS AND CONCLUSIONS

Based on the results of our investigation the proposed development is feasible provided the recommendations presented in this report are incorporated into the design and construction of the project.

Primary geotechnical concerns for the project include embedding foundations into the quartz diorite or engineered fill, mitigating loose compressible soils below improvements, controlling site drainage and designing structures to resist strong seismic shaking.

The upper 2.5 to 6 feet of soil below the proposed structures is loose and not suitable for support of shallow foundations. Foundations should penetrate the loose soil or the loose soil should be removed and replaced as compacted engineered fill. Structures must be supported entirely on firm native soil (quartz diorite) or entirely on compacted engineered fill, not a combination of both. The depths to firm quartz diorite are indicated on Figure 2.

Concrete slab-on-grade foundations should be supported on engineered fill. Slab-on-grade floors used in conjunction with spread footings that are separated from the foundation with felt may be supported on 12 inches of compacted engineered fill.

If fill is used to create building pads or roadways/parking areas, the existing loose soil should be removed from below any new fill material. Foundations should be setback at least 8 feet from the top of fill slopes. Footings may be deepened to accommodate the setback.

Runoff from the slope above the improvements and runoff from the improvements should be collected and discharged in a controlled manner. Due to the shallow depth to granitic bedrock under the proposed structures, collected water should not be discharged back into the ground near the proposed structure. Runoff should be collected and dispersed on the gentle slopes below the structure using bio-retention structures, dispersion pits or other means of dispersing runoff.

The proposed structures will most likely experience strong seismic shaking during the design lifetime. The structure and foundations should be designed utilizing current seismic design standards.

## RECOMMENDATIONS

The following recommendations should be used as guidelines for preparing project plans and specifications:

### General Site Grading

1. The soil engineer should be notified **at least four (4) working days** prior to any site clearing or grading so that the work in the field can be coordinated with the grading contractor and arrangements for testing and observation can be made. The recommendations of this report are based on the assumption that the soil engineer will perform the required testing and observation during grading and construction. It is the owner's responsibility to make the necessary arrangements for these required services.

2. Areas to receive foundations or to be graded should be cleared of obstructions, vegetation, and other unsuitable material. Surface vegetation, roots and organically contaminated soil should be removed from areas to be graded. A stripping depth of 8 inches is anticipated.

3. Where fill is planned to raise grade, the existing loose soil should be removed to expose firm soil then the area to receive engineered fill should be scarified 6 inches, moisture conditioned to about 1 to 2 percent over optimum moisture content and compacted to at least 90 percent relative compaction.

4. Temporary cut slopes should be inclined no steeper than 1:1 (horizontal to vertical) during the summer dry season and no steeper than 2:1 during or immediately following the rainy season.

5. Fill slopes greater than 3 feet in height should be keyed and benched into firm native soil. Keys should be at least 6 feet wide and embedded at least 12 inches into firm native soil for fill slopes up to 6 feet in height. Keys should be at least 10 feet wide and embedded at least 18 inches into firm native soil for fill slopes more than 6 feet high. The base of the key should be sloped into the hillside at least 2 percent.

6. Fill slopes less than 3 feet high should be placed on a firm bench sloped about 2 percent into the hillside.

7. Subdrains should be used at the back of keys and fill slopes where the contact between the granitic bedrock and soil becomes exposed. Subdrains should consist of a minimum 12-inch wide column of Caltrans Class 2, Type A permeable material that extends 6 inches below the base of the key or granitic bedrock. A 4-inch perforated rigid collector pipe should be placed about 2 to 4 inches from the base of the gravel. The height of the gravel drain should be determined in the field during construction. The actual locations and depths of subdrains should be determined in the field by the soils engineer at the time of construction.

8. The face of cut and fill slopes should be groomed to remove any loose soil and create a firm, uniform slope surface.

9. Permanent cut and fill slopes should be inclined no steeper than 2:1 (horizontal to vertical).

10. If foundations will be embedded into engineered fill, the engineered fill should extend to a depth of at least 12 inches below the base of the proposed footings and extend 3 feet beyond the edges of the foundation. All existing loose soil should be removed from below any new fill placed to support structures.

11. In pavement areas, the upper 2 feet of loose soil should be replaced with compacted engineered fill. The upper 12 inches of subgrade below driveway pavements should be moisture conditioned to about 1 to 2 percent over optimum moisture content and compacted to at least 95 percent relative compaction. The aggregate base below pavements should also be compacted to at least 95 percent relative compaction.

12. At a minimum, the top 8 inches of subgrade soil below non-load bearing concrete slabs-on-grade should be moisture conditioned to about 1 to 2 percent over optimum moisture content and compacted to at least 90 percent relative compaction.

13. Engineered fill should be moisture conditioned to about 1 to 2 percent over optimum moisture content, placed in thin lifts not to exceed 8-inches in loose thickness and compacted to at least 90 percent relative compaction.

14. The relationship between moisture content and dry unit weight shall be based on ASTM Test Designation D1557. The relative density and moisture content of the compacted soil shall be based on ASTM D2922.

15. The on-site soils are suitable for use as engineered fill. Soils used for engineered fill should be non-expansive, have a Plasticity Index less than 15, be free of organic material, and contain no rocks or clods greater than 6 inches in diameter, with no more than 15 percent larger than 4 inches.

16. Engineered fill should be observed and tested by our firm. Engineered fill over 12 inches in thickness should be continuously observed during fill placement. In-place density tests should be performed as follows: one test for every 12 inches of material placed for fill slopes, in trenches or around structures; one test for every 1,000 square feet for relatively thin fill sections and one test whenever there is a definite suspicion of a change in the quality of moisture control or effectiveness in compaction. The actual testing schedule should be determined by a representative from our firm at the time of grading.

17. After the earthwork operations have been completed and the soil engineer has finished their observation of the work, no further earthwork operations shall be performed except with the approval of and under the observation of the soil engineer.

## Spread Footing Foundations

18. The building foundation should be embedded entirely into firm quartz diorite or engineered fill not a combination of both. Firm native soil was encountered 2.5 to 6 feet below existing grades.

19. If foundations are embedded into engineered fill, all the existing loose soil under the foundation should be removed and replaced as engineered fill and there should be at least 12 inches of fill below all footings.

20. Footings should be a minimum of 12 inches deep and 12 inches wide for one story structures, 18 inches deep and 15 inches wide for two story structures and 18 inches deep and 18 inches wide for three story structures. Footing depths shall be measured from the lowest adjacent grade.

21. Foundations designed in accordance with the above may be designed for an allowable soil bearing pressure of 3,000 psf for footings embedded into quartz diorite and 2,000 psf for footings embedded into engineered fill. The allowable bearing capacities may be increased by 1/3 for short term seismic and wind loads.

22. Lateral load resistance for structures supported on footings may be developed in friction between the foundation bottom and the supporting subgrade. A friction coefficient of 0.35 is considered applicable where footings are supported on firm quart bedrock. A friction coefficient of 0.30 is considered applicable where footings are supported on engineered fill.

23. Where footings are poured neat against engineered fill, a passive lateral earth pressure of 300 pcf may be used. The top 12 inches of soil should be neglected in passive design.

24. Total and differential settlements under the proposed light building loads are anticipated to be less than 1 inch and 1/2 inch respectively.

25. Footings located adjacent to other footings or utility trenches should have their bearing surfaces founded below an imaginary 1.5:1 plane projected upward from the bottom edge of the adjacent footings or utility trenches.

26. Prior to placing concrete, foundation excavations should be cleaned and observed by the soils engineer.

## Pier and Grade Beam Foundations

27. Drilled piers may be used to support structures. Piers should penetrate the upper loose soils and be embedded at least 3 feet into firm native soil (quartz diorite) which varies from 2.5 to 6 feet below existing grades.

28. Piers embedded into firm native soil may be designed using an allowable skin friction of 220 psf. The top foot of pier and all loose soil should be neglected in friction design.

29. Piers embedded at least 3 feet into quartz diorite may be designed using an allowable end bearing of 8,000 psf. The base of the pier shall be cleaned of all slough and loose soil prior to placing steel reinforcement and concrete.

30. Piers should be at least 12 inches in diameter and be spaced at least 3 pier diameters apart, measured center to center.

31. Total and differential settlements for foundations supported on pier foundations are anticipated to be less than 1 and 1/2 inch, respectively.

32. For passive lateral resistance an equivalent fluid weight (EFW) of 150 pcf times 1.5 pier diameters may be used for portions of the pier embedded into loose silty sand and a passive lateral resistance an equivalent fluid weight (EFW) of 350 pcf times 2.5 pier diameters may be used for portions of the pier embedded into quartz diorite.

33. Prior to placing concrete, foundation excavations should be thoroughly cleaned and observed by the soils engineer.

**Retaining Wall Lateral Pressures**

34. Retaining walls should be designed to resist both lateral earth pressures and any additional surcharge loads.

35. The above lateral pressures assume that the walls are fully drained to prevent hydrostatic pressure behind the walls. Drainage materials behind the wall may consist of ¾-inch drainrock wrapped in filter cloth; Class 2, Type A permeable material (Caltrans Specification 68-1.025) or an approved equivalent. The drainage material should be at least 12 inches thick. The drains should extend from the base of the walls to within 12 inches of the top of the backfill. A perforated pipe should be placed (holes down) about 4 inches above the bottom of the wall and be sloped towards and tied into a suitable drain outlet. Where interior floor slabs will be located in front of retaining walls, the perforated pipe should be placed behind the retaining wall footing. Wall backdrains should be plugged at the surface with clayey material to prevent infiltration of surface runoff into the backdrains.

36. Retaining walls may be designed using the following active and passive pressures:

| Slope | Active Pressure | Passive Pressure |
|---|---|---|
| Level | 30 pcf EFW | 350 pcf EFW |
| 3:1 (h:v) | 30 pcf EFW | 300 pcf EFW |
| 2:1 (h:v) | 40 pcf EFW | 250 pcf EFW |

37. Retaining walls requiring seismic design should include an added seismic component of 24 pcf, equivalent fluid weight. Dynamic surcharges should be added to the above active lateral earth pressures. The resultant dynamic pressure may be applied at a point 0.6 H above the base of the wall.

**Concrete Slabs-on-Grade**

38. At a minimum the top 8 inches of subgrade soil below exterior non-load bearing concrete slabs-on-grade should be moisture conditioned to about 1 to 2 percent over optimum moisture content and compacted to at least 90 percent relative compaction.

39. All the existing loose soil below interior floor slabs should be moisture conditioned to about 1 to 2 percent over optimum moisture content and compacted to at least 90 percent relative compaction; or a minimum of 12 inches of subgrade soil below concrete slabs-on-grade should be moisture conditioned to about 1 to 2 percent over optimum moisture content and compacted to at least 90 percent relative compaction and the slabs should be separated from the foundation with felt.

40. All slabs-on-grade can be expected to suffer some cracking and movement. However, thickened exterior edges, a well prepared subgrade including thorough wetting prior to placing concrete, adequately spaced expansion joints and good workmanship should reduce cracking and movement.

41. Dees & Associates, Inc. are not experts in the field of moisture proofing and vapor barriers. In areas where floor wetness would be undesirable, an expert, experienced with moisture transmission and vapor barriers should be consulted. At a minimum, a blanket of 4 inches of free-draining gravel should be placed beneath the floor slab to act as a capillary break. In order to minimize vapor transmission, an impermeable membrane (minimum thickness 10 mil.) should be placed over the gravel.

**Pavements**

42. To have the selected pavement sections perform to their greatest efficiency, the grading recommendations provided in this report should be closely followed. Subgrade preparation is very important to the life of pavement.

43. In pavement areas, the upper 2 feet of loose soil should be replaced with compacted engineered fill. The upper 12 inches of subgrade below driveway pavements should be moisture conditioned to about 1 to 2 percent over optimum moisture content and compacted to at least 95 percent relative compaction. The aggregate base below pavements should also be compacted to at least 95 percent relative compaction.

44. Only quality materials of the type and thickness (minimum) specified should be used. Baserock (R=78 minimum) should meet CALTRANS Standard Specifications for Class 2 Untreated Aggregate Base. Subbase (R=50 minimum) should meet CALTRANS Standard Specifications for Class 2 Untreated Aggregate Subbase.

45. Sufficient gradients should be provided for rapid runoff of storm water and to prevent ponding water on or adjacent to the pavement.

## Utility Trenches

46. Utility trenches placed parallel to structures should not extend within an imaginary 1.5:1 (horizontal to vertical) plane projected downward from the bottom edge of the adjacent footing.

47. Trenches may be backfilled with compacted engineered fill placed in accordance with the grading section of this report. The backfill material should not be jetted in place.

48. The portion of utility trenches that extend below foundations should be sealed with 2-sack sand slurry (or equivalent) to prevent subsurface seepage from flowing under buildings

## Site Drainage

49. Controlling surface and subsurface runoff is important to the performance of the project.

50. Runoff from the slopes above the structure should be collected or diverted around improvements.

51. Surface drainage should include provisions for positive gradients so that surface runoff is not permitted to pond adjacent to foundations or other improvements. Where bare soil or pervious surfaces are located next to the foundation, the ground surface within 10 feet of the structure should be sloped at least 5 percent away from the foundation. Where impervious surfaces are used within 10 feet of the foundation, the impervious surface within 10 feet of the structure should be sloped at least 2 percent away from the foundation. Swales should be used to collect and remove surface runoff where the ground cannot be sloped the full 10 foot width away from the structure. Swales should be sloped at least 2 percent towards the discharge point.

52. Full roof gutters should be placed around the eves of the structure. Discharge from the roof gutters should be conveyed away from the downspouts and discharged in a controlled manner.

53. Due to the shallow depth to granitic bedrock under the proposed structures, collected water should not be discharged back into the ground adjacent to the proposed structure. Concentrated runoff should be discharged at least 10 feet downslope of the proposed building.

54. Runoff should be collected and dispersed on the gentle slopes below the structure using bio-retention structures, dispersion pits or other means of dispersing runoff.

## Plan Review, Construction Observation, and Testing

55. Dees & Associates, Inc. should be provided the opportunity for a general review of the final project plans prior to construction to evaluate if our geotechnical recommendations have been properly interpreted and implemented. If our firm is not accorded the opportunity of making the recommended review, we can assume no

responsibility for misinterpretation of our recommendations. We recommend that our office review the project plans prior to submittal to public agencies, to expedite project review. Dees & Associates, Inc. also requests the opportunity to observe and test grading operations and foundation excavations at the site. Observation of grading and foundation excavations allows anticipated soil conditions to be correlated to those actually encountered in the field during construction.

## LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed in the borings. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that planned at the time, our firm should be notified so that supplemental recommendations can be given.

2. This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information and recommendations contained herein are called to the attention of the Architects and Engineers for the project and incorporated into the plans, and that the necessary steps are taken to ensure that the Contractors and Subcontractors carry out such recommendations in the field. The conclusions and recommendations contained herein are professional opinions derived in accordance with current standards of professional practice. No other warranty expressed or implied is made.

3. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or to the works of man, on this or adjacent properties. In addition, changes in applicable or appropriate standards occur whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or partially, by changes outside our control. Therefore, this report should not be relied upon after a period of three years without being reviewed by a soil engineer.

# APPENDIX A

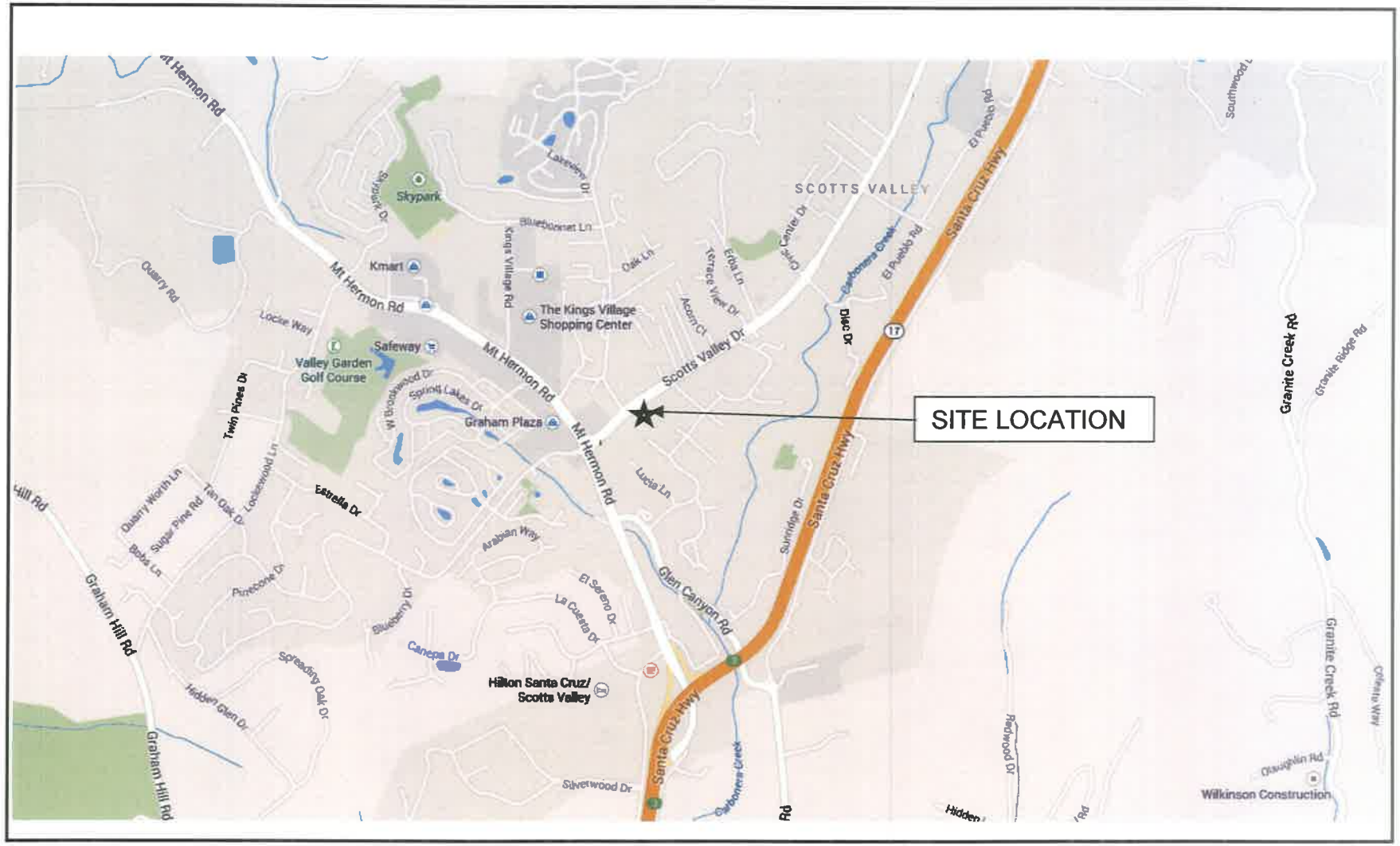
Site Vicinity Map

Boring Site Plan

Unified Soil Classification System

Logs of Test Borings

Fault Map




**SITE VICINITY MAP**
**Figure 1**


**BORING SITE PLAN**
**Figure 2**

# THE UNIFIED SOIL CLASSIFICATION SYSTEM

| MAJOR DIVISIONS | | | GROUP SYMBOLS | TYPICAL NAMES | CLASSIFICATION CRITERIA | |
|---|---|---|---|---|---|---|
| COARSE-GRAINED SOILS** MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE (THE NO. 200 SIEVE SIZE IS ABOUT THE SMALLEST PARTICLE VISIBLE TO THE NAKED EYE) | GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE | CLEAN GRAVELS (< 5% FINES) | GW | Well-graded gravels, gravel-sand mixtures, little or no fines | Wide range in grain sizes and substantial amounts of all intermediate particle sizes | |
| | | | GP | Poorly graded gravels, gravel-sand mixtures, little or no fines | Predominantly one size or a range of sizes with some intermediate sizes missing<br>Not meeting all gradation requirements for GW | |
| | | GRAVELS WITH FINES (>12% FINES) | GM | Silty gravels, gravel-sand-silt mixtures | Non plastic fines or fines with low plasticity<br>Atterberg limits below "A" line or PI < 4 | Above "A" line with 4 < PI < 7 are borderline cases requiring use of dual symbols |
| | | | GC | Clayey gravels, gravel-sand-clay mixtures | Plastic fines<br>Atterburg limits above "A" line with PI > 7 | |
| | SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE | CLEAN SANDS (<5% FINES) | SW | Well-graded sands, gravelly sands, little or no fines | Wide range in grain sizes and substantial amounts of all intermediate sizes missing | |
| | | | SP | Poorly graded sands, gravelly sands, little or no fines | Predominantly one size or a range of sizes with some intermediate sizes missing<br>Not meeting all gradation requirements for SW | |
| | | SANDS WITH FINES (>12% FINES) | SM | Silty sands, sand-silt mixtures | Non plastic fines or fines with low plasticity<br>Atterburg limits below "A" line or PI < 4 | Limits plotting in hatched zone with 4 < PI < 7 are borderline cases requiring use of dual symbols |
| | | | SC | Clayey sands, sand-clay mixtures | Plastic fines<br>Atterburg limits above "A" line with PI > 7 | |
| FINE-GRAINED SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE (THE NO. 200 SIEVE SIZE IS ABOUT THE SMALLEST PARTICLE VISIBLE TO THE NAKED EYE) | SILTS AND CLAYS (LIQUID LIMIT < 50) | | ML | Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity | | |
| | | | CL | Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays | | |
| | | | OL | Organic silts and organic silty clays of low plasticity | | |
| | SILTS AND CLAYS (LIQUID LIMIT > 50) | | MH | Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts | | |
| | | | CH | Inorganic clays of medium to high plasticity, organic silts | | |
| | | | OH | Organic clays of medium to high plasticity, organic silts | | |

**Figure 3**

**Gravels and sands with 5% to 12 % fines are borderline cases requiring use of dual symbols.

**RELATIVE DENSITY OF SANDS AND GRAVELS**

| DESCRIPTION | BLOW / FT* |
|---|---|
| VERY LOOSE | 0 – 4 |
| LOOSE | 4 – 10 |
| MEDIUM DENSE | 10 – 30 |
| DENSE | 30 – 50 |
| VERY DENSE | OVER 50 |

**CONSISTENCY OF SILTS AND CLAYS**

| DESCRIPTION | BLOWS / FT* |
|---|---|
| VERY SOFT | 0 – 2 |
| SOFT | 2 – 4 |
| FIRM | 4 – 8 |
| STIFF | 8 – 16 |
| VERY STIFF | 16 – 32 |
| HARD | OVER 32 |

*Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O.D. 12 vertical inches.

# TEST BORING LOG

SCR-1494
Scotts Valley Drive

LOGGED BY: SC | DATE DRILLED: 7/22/2020 | BORING TYPE: 6" SOLID STEM | BORING NO: 1

| | SAMPLE NO. | SOIL DESCRIPTION | USCS SOIL TYPE | FIELD BLOW COUNT | SPT BLOW COUNT* | DRY DENSITY (PCF) | MOISTURE (%) IN-SITU | MOISTURE (%) SATURATED | COHESION (PSF) | PHI ANGLE | % PASSING 200 SIEVE | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1-1-1 L | Dark brown Silty fine SAND, damp, very loose | SM | 2 2 3 | 3 | | | | | | | |
| 2 | | | | | | | | | | | | |
| 3 | 1-2 T | Dark brown Silty fine SAND with trace Gravel to 1", damp, loose | | 2 2 5 | 7 | | 7.1 | | | | | |
| 4 | | | | | | | | | | | | |
| 5 | 1-3-1 L | Yellowish-brown Silty SAND with trace Gravel, damp, very dense | SM | 50'2" | 50/2" | | 2.7 | | | | | |
| 6 | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | |
| 9 | 1-4 T | Yellowish-brown Silty SAND, damp, very dense | | 50/1" | 50/1" | | | | | | | |
| 10 | | Boring Terminated at 10 Feet<br>No Groundwater Encountered | | | | | | | | | | |
| 11 | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | |
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| 18 | | | | | | | | | | | | |
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**Figure 5**

* Blow count converted:
L = Field Blow Count / 2
M = Field Blow Count / 1.5

# TEST BORING LOG

SCR-1494
Scotts Valley Drive

LOGGED BY: SC | DATE DRILLED: 7/22/2020 | BORING TYPE: 6" SOLID STEM | BORING NO: 2

| | SAMPLE NO. | SOIL DESCRIPTION | USCS SOIL TYPE | FIELD BLOW COUNT | SPT BLOW COUNT* | DRY DENSITY (PCF) | MOISTURE (%) IN-SITU | MOISTURE (%) SATURATED | COHESION (PSF) | PHI ANGLE | % PASSING 200 SIEVE | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2-1-1 L | Dark brown Silty fine SAND, damp, very loose | SM | 3<br>3<br>4 | 4 | | | | | | | |
| 3 | 2-2 T | Pale yellowish-brown well-graded Silty SAND, damp, very dense | SM | 12<br>19<br>30 | 49 | | 5.8 | | | | | |
| 5 | 2-3 T | Yellowish-brown Silty coarse SAND, damp, very dense | | 4<br>22<br>22 | 44 | | | | | | | |
| 10 | 2-4 T | Brown to gray Silty SAND with trace Gravel, moist, very dense | | 50/4" | 50/4" | | | | | | | |
| 15 | 2-5 T | Brown to gray well-graded Silty SAND with trace Gravel, moist, very dense | | 50/5" | 50/5" | | | | | | | |
| 16 | | Terminated at 15.5 Feet<br>No Groundwater Encountered | | | | | | | | | | |

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**Figure 6**

* Blow count converted:
L = Field Blow Count / 2
M = Field Blow Count / 1.5

# TEST BORING LOG

SCR-1494
Scotts Valley Drive

LOGGED BY: SC | DATE DRILLED: 7/22/2020 | BORING TYPE: 6" SOLID STEM | BORING NO: 3

| | SAMPLE NO. | SOIL DESCRIPTION | USCS SOIL TYPE | FIELD BLOW COUNT | SPT BLOW COUNT* | DRY DENSITY (PCF) | MOISTURE (%) IN-SITU | MOISTURE (%) SATURATED | COHESION (PSF) | PHI ANGLE | % PASSING 200 SIEVE | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3-1-1 L | Dark brown Silty fine SAND, damp, loose | SM | 3<br>4 | | | | | | | | |
| 2 | | | | 6 | 5 | | | | | | | |
| 3 | 3-2 T | | | 7<br>8 | | | | | | | | |
| 4 | | Yellow fine Silty SAND with trace Gravel, damp, medium dense | | 14 | 22 | | | | | | | |
| 5 | | | SM | | | | | | | | | |
| 6 | | | | 9 | | | | | | | | |
| 7 | 3-3-1 L | Yellow fine Silty SAND with trace Gravel, damp, medium dense | | 20<br>30 | 25 | 93.0 | 7.2 | 28.9 | 523 | 36.5 | | |
| 8 | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | |
| 10 | | | | 7 | | | | | | | | |
| 11 | 3-4 T | Yellowish-brown Silty SAND, damp, dense | | 11<br>18 | 29 | | | | | | | |
| 12 | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | |
| 15 | | | | 20 | | | | | | | | |
| 16 | 3-5 T | Yellowish-brown Silty SAND with Gravels to ½-inch, damp, medium dense | | 23<br>30/3" | 30/3" | | | | | | | |
| 17 | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | |
| 20 | | | | 10 | | | | | | | | |
| 21 | 3-6 T | Yellowish-brown fine (Silty?) SAND with Gravel, damp, very dense | SM/ SP | 18<br>32 | 50 | | | | | | | |
| 22 | | Terminated at 21.5 Feet<br>No Groundwater Encountered | | | | | | | | | | |
| 23 | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | |

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**Figure 6**

* Blow count converted:
L = Field Blow Count / 2
M = Field Blow Count / 1.5

# TEST BORING LOG

SCR-1494
Scotts Valley Drive

LOGGED BY: SC | DATE DRILLED: 7/22/2020 | BORING TYPE: 6" SOLID STEM | BORING NO: 4

| | SAMPLE NO. | SOIL DESCRIPTION | USCS SOIL TYPE | FIELD BLOW COUNT | SPT BLOW COUNT* | DRY DENSITY (PCF) | MOISTURE (%) IN-SITU | MOISTURE (%) SATURATED | COHESION (PSF) | PHI ANGLE | % PASSING 200 SIEVE | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | |
| 2 | 4-1-1 L | Dark brown Silty fine SAND, damp, very loose | SM | 3<br>3<br>4 | 4 | 72.9 | 7.8 | | | | | |
| 3 | 4-2 T | Dark brown Silty SAND with trace Gravel, damp, loose to medium dense | | 2<br>3<br>5 | 8 | | 8.4 | | | | 18.2 | |
| 4 | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | |
| 6 | 4-3-1 L | Yellow brown well-graded Silty SAND with trace Gravel to 2.5", damp, loose | | 3<br>7<br>10 | 9 | | | | | | | |
| 7 | | Yellowish-brown Silty SAND, damp, loose | | | | | | | | | | |
| 8 | | | SM | 12 | | | | | | | | |
| 9 | 4-4 T | Yellowish/reddish brown fine Silty SAND, moist, dense | | 15<br>30 | 45 | | | | | | | |
| 10 | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | |
| 13 | | Color change at 13 feet | | | | | | | | | | |
| 14 | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | |
| 16 | 4-5 T | Reddish brown Silty SAND, moist, very dense | | 50/3" | 50/3" | | | | | | | |
| 17 | | Drilling Refusal at 16 Feet<br>No Groundwater Encountered | | | | | | | | | | |
| 18 | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | |

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**Figure 7**

* Blow count converted:
L = Field Blow Count / 2
M = Field Blow Count / 1.5

# TEST BORING LOG

SCR-1494
Scotts Valley Drive

LOGGED BY: SC | DATE DRILLED: 7/22/2020 | BORING TYPE: 6" SOLID STEM | BORING NO: 5

| SAMPLE NO. | SOIL DESCRIPTION | USCS SOIL TYPE | FIELD BLOW COUNT | SPT BLOW COUNT* | DRY DENSITY (PCF) | MOISTURE (%) IN-SITU | MOISTURE (%) SATURATED | COHESION (PSF) | PHI ANGLE | % PASSING 200 SIEVE | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5-1-1 L | Very dark gray brown Silty fine SAND, slightly damp, very loose | SM | 2<br>4<br>5 | 5 | | | | | | | |
| 5-2 T | Very dark gray brown Silty fine SAND, slightly damp, medium dense at 4 feet | | 2<br>2<br>10 | 12 | | | | | | | |
| 5-3 T | Yellow Silty fine SAND, damp, medium dense | SM | 4<br>5<br>6 | 11 | | 5.3 | | | | 12.5 | |
| 5-4-1 L | Pale brown Silty fine SAND, damp, very dense | | 17<br>50/6" | 50/6" | | | | | | | |
| 5-5 T | Pale brown Silty fine SAND, damp, medium dense | | 8<br>8<br>18 | 26 | | | | | | | |
| 5-6 T | Yellow poorly graded SAND with Coarse SAND layers ~2" thick, damp, medium dense | SP | 10<br>12<br>15 | 27 | | | | | | | |
| 5-8 T | Strong brown poorly graded SAND, moist, dense | | 15<br>14<br>20 | 39 | | | | | | | |

DEES & ASSOCIATES, INC.
501 MISSION ST. STE. 8A | SANTA CRUZ, CA 95060
www.deesgeo.com | (831) 427-1770

**Figure 8**

* Blow count converted:
L = Field Blow Count / 2
M = Field Blow Count / 1.5

# TEST BORING LOG

SCR-1494
Scotts Valley Drive

LOGGED BY: SC | DATE DRILLED: 7/22/2020 | BORING TYPE: 6" SOLID STEM | BORING NO: 5 con't.

| | SAMPLE NO. | | SOIL DESCRIPTION | USCS SOIL TYPE | FIELD BLOW COUNT | SPT BLOW COUNT* | DRY DENSITY (PCF) | MOISTURE (%) IN-SITU | MOISTURE (%) SATURATED | COHESION (PSF) | PHI ANGLE | % PASSING 200 SIEVE | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 27 | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | |
| 29 | | | ▼ Groundwater at 29 feet | | | | | | | | | | |
| 30 | 5-8 T | | Mottled reddish-brown poorly graded SAND, saturated, very dense | | 50/6" | 50/6" | | | | | | | |
| 31 | | | | | | | | | | | | | |
| 32 | | | Terminated at 30.5 Feet<br>Groundwater Encountered at 29 Feet | | | | | | | | | | |
| 33 | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | |
| 41 | | | | | | | | | | | | | |
| 42 | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | |
| 45 | | | | | | | | | | | | | |
| 46 | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | |
| 49 | | | | | | | | | | | | | |
| 50 | | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | |

DEES & ASSOCIATES, INC.
501 MISSION ST. STE. 8A | SANTA CRUZ, CA 95060
www.deesgeo.com | (831) 427-1770

**Figure 8a**

* Blow count converted:
L = Field Blow Count / 2
M = Field Blow Count / 1.5

# TEST BORING LOG

SCR-1494
Scotts Valley Drive

LOGGED BY: SC | DATE DRILLED: 7/22/2020 | BORING TYPE: 6" SOLID STEM | BORING NO: 6

| | SAMPLE NO. | SOIL DESCRIPTION | USCS SOIL TYPE | FIELD BLOW COUNT | SPT BLOW COUNT* | DRY DENSITY (PCF) | MOISTURE (%) IN-SITU | MOISTURE (%) SATURATED | COHESION (PSF) | PHI ANGLE | % PASSING 200 SIEVE | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 6-1-1 L | Dark brown Silty fine SAND, damp, loose | SM | 2<br>4<br>5 | 5 | | | | | | | |
| 4 | 6-2 T | Very dark gray brown Silty SAND with trace Gravel (1/2-1"), damp, medium dense | | 2<br>5<br>6 | 11 | | | | | | | |
| 6 | 6-3 T | | | 3<br>4<br>5 | 9 | | | | | | | |
| 7 | | Yellowish-brown Silty fine SAND, damp, medium dense | SM | | | | | | | | | |
| 11 | 6-4 T | Yellow brown Silty SAND, damp, medium dense | | 9<br>11<br>15 | 26 | | | | | | | |
| 15 | 6-5-1 L | Mottled reddish-brown Silty SAND, moist, very dense, some cementation | | 50/6" | 50/6" | | | | | | | |
| | | Boring Terminated at 15.5 Feet<br>No Groundwater Encountered | | | | | | | | | | |

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**Figure 9**

* Blow count converted:
L = Field Blow Count / 2
M = Field Blow Count / 1.5


**FAULT MAP**
**Figure 10**

**EDWARD L. PACK ASSOCIATES. INC.**

1975 HAMILTON AVENUE
SUITE 26
SAN JOSE, CA 95125

*Acoustical Consultants*

TEL: 408-371-1195
FAX: 408-371-1196
www.packassociates.com

October 28, 2020
Project No. 52-048

Mr. Chris Perri
Apple Homes Development, Inc.
15 Sherman Court
Scotts Valley, CA 95066

Subject: Traffic Noise Assessment Study for the Planned "The Encore" Condominiums, 4104 Scotts Valley Drive, Scotts Valley

Dear Mr. Perri:

This report presents the results of a noise assessment study for the planned "The Encore" condominiums at 4104 Scotts Valley Drive in Scotts Valley, as shown on the Site Plan, Ref. (a). The noise exposures at the site were evaluated against the standards of the City of Scotts Valley General Plan Noise Element, Ref. (b), and the State of California Code of Regulations, Title 24, Ref. (c), which applies to all new multi-family housing in California. The analysis of the on-site sound level measurements indicates that the existing noise environment is due primarily to vehicular traffic sources on Scotts Valley Drive. The results of the analysis reveal that the noise exposures at the exterior and living spaces are within the limits of the standards. Noise mitigation measures will not be required.

Section I of this report contains a summary of our findings. Subsequent sections contain the site, traffic and project descriptions, analyses, and evaluations. Attached hereto are Appendices A, B and C, which include the list of references, descriptions of the applicable standards, definitions of the terminology, descriptions of the acoustical instrumentation used for the field survey, general building shell controls, and the on-site noise measurement data and calculation tables.

# I. Summary of Findings

## A. Noise Standards

### City of Scotts Valley Noise Element

The noise assessment results presented in the findings are shown in reference to the City of Scotts Valley Noise Element, which utilizes the Day-Night Level (DNL) 24-hour noise descriptor to define community noise impacts, and specifies that exterior noise exposures at residential areas are limited to 60 dB DNL. In addition, interior noise exposures are limited to 45 dB DNL.

### State of California Title 24

Title 24 also uses the DNL noise descriptor and specifies an interior limit of 45 dB DNL from noise due to exterior sources.

The Title 24 standards also specify minimum noise insulation ratings for common partitions separating different dwelling units and dwelling units from common spaces. The standards specify that common walls and floor/ceiling assemblies must have a design Sound Transmission Class (STC) rating of 50 or higher. An analysis of the interior common partitions will be provided in a subsequent study.

**This study was prepared during the COVID-19 pandemic when traffic volumes on local roadways were not normal. Therefore, three traffic scenarios are identified. The current scenario describes the noise environment under COVID-19 conditions. The existing scenario describes the noise environment for year 2020 assuming non-COVID-19 conditions. The future scenario describes the noise environment for year 2034 estimated from historical data and information. The methodologies describing the development of these scenarios are provided in Section III of this report.**

The noise exposures shown below are without the application of mitigation measures and represent the noise environment for existing and proposed site conditions.

## C. Exterior Noise Exposures

- The existing exterior noise exposure at the most impacted planned building setback and balconies from Scotts Valley Drive, 102 ft. from the centerline of the road, is 58 dB DNL. Under future traffic conditions, the noise exposure is predicted to increase to 59 dB DNL.

The exterior noise exposures in the private exterior living spaces will be within the 60 dB DNL limit of the City of Scotts Valley Noise Element standard. Noise mitigation measures for exterior areas of the project will not be required.

## D. Interior Noise Exposures

- The interior noise exposures in the most impacted living spaces closest to Scotts Valley Drive will be up to 43 and 44 dB DNL under existing and future traffic conditions, respectively.

The interior noise exposures will be within the 45 dB DNL limit of the City of Scotts Valley Noise Element and Tile 24 standards. Noise mitigation measures for the interior living spaces will not be required.

Although the noise exposures in the dwelling units will be within the limits of the standards, general building shell controls to assure maximum noise reduction from the building shell are provided in Appendix B.

## II. Site, Traffic and Project Descriptions

The planned development site is a vacant parcel located on the east side of Scotts Valley Drive, north of Mt. Hermon Road in Scotts Valley. The site slopes up to the south away from the Scotts Valley Drive. Surrounding land uses include the Terraces at Scotts Valley townhomes under construction to the west, single-family residential and the Scotts Valley Middle School across Scotts Valley Drive to the north, multi-family residential adjacent to the east, and single-family residential adjacent to the south.

The on-site noise environment is controlled primarily by traffic sources on Scotts Valley Drive. The most recent traffic volume data from 2012 indicates the Scotts Valley Drive carries an Average Daily Traffic (ADT) of 16,382 vehicles, as reported by the City of Scotts Valley, Ref. (d). Using a 1% per year growth rate, the estimated 2020 **existing** (non-COVID-19) traffic volume is 17,740 vehicles ADT. However, because of the COVID-19 pandemic, PM peak hour traffic volume counts revealed that the **current** traffic volume is 15,400 vehicles ADT.

The planned project includes the construction of 16 condominium units in a single two-story building over tuck under parking. There will be 8 dwelling units on each floor. Each unit will have a balcony. An at-grade parking strip will be located along the property line contiguous with Scotts Valley Drive. Ingress and egress to the site will be by way of a project driveway off of Scotts Valley Drive. The Site Plan is shown in Figure 1 on page 5.

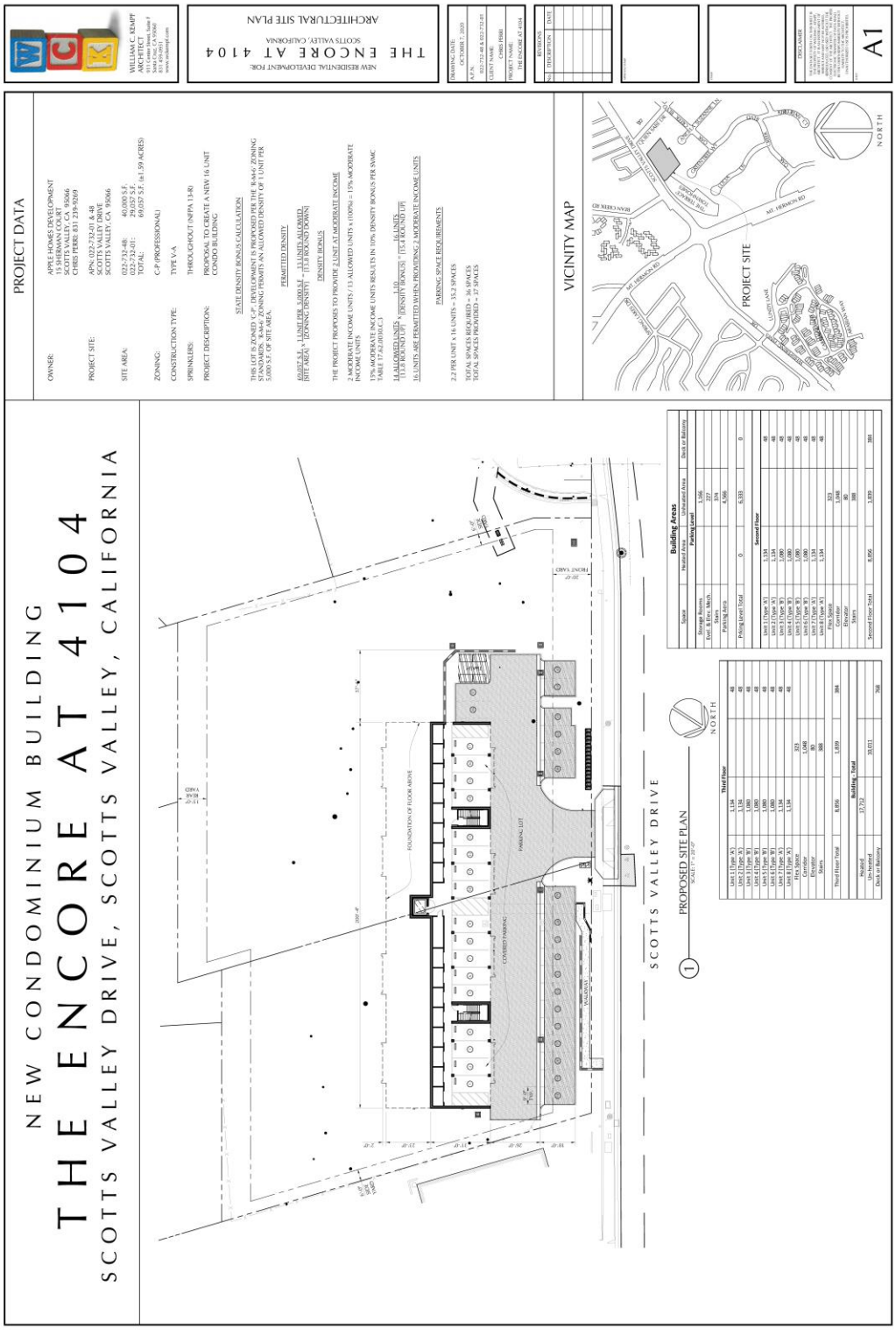


**FIGURE 1 – Site Plan**

## III. Analysis of the Noise Levels

### A. Current and Existing Noise Levels

To determine the **current** noise environment at the site, continuous recordings of the sound levels were made at a location 102 ft. from the centerline of Scotts Valley Drive corresponding to the planned minimum setback of the building from the roadway. The measurement location is shown Figure 2 on page 7. The measurements were made on October 20-21, 2020. The noise levels were recorded and processed using a Larson-Davis LDL 812 Precision Integrating Sound Level Meter. The meter yields, by direct readout, a series of descriptors of the sound levels versus time, as described in Appendix B. The measured descriptors include the $L_1$, $L_{10}$, $L_{50}$, and $L_{90}$, i.e., those levels that are exceeded 1%, 10%, 50%, and 90% of the time. Also measured were the maximum and minimum levels, and the continuous equivalent-energy levels ($L_{eq}$), which are used to calculate the DNL. The measurements were made for a total period of 24 hours and included recordings of the noise levels during representative hours of the daytime and nighttime periods of the DNL index. The results of the measurements are shown on the data table in Appendix C.

As shown in the data tables, the $L_{eq}$'s at the measurement location 102 ft. from the centerline of Scott Valley Drive ranged from 52.3 to 64.0 dBA during the daytime and from 42.9 to 58.3 dBA at night.

Traffic noise dissipates at the rate of 3 to 6 dB for each doubling of distance from the source. Therefore, other locations on the site at greater distances from the roadway will have lower noise levels.

Vehicular noise contains a wide spectrum of frequency components (from 100 to 10,000 Hz), which are associated with engine, tire, drive-train, exhaust, and other sources. The frequency components of the primary noise contributors are centered in the 250 to 500 Hz octave bands.


**FIGURE 2 – Noise Measurement Location**

Manual traffic counts of Scotts Valley Drive traffic volumes were made during the PM peak hour during the noise measurement period. The PM peak hour is typically between 4:30 and 5:30 PM. Therefore, two ½ hour sets of counts were made.

| | |
|---|---|
| Scotts Valley Drive | 4:30-5:00 PM = 774 vehicles |
| | 5:00-5:35 PM = 766 vehicles |
| Volume per hour | = 1,540 vehicles |
| Average Daily Traffic | = 15,400 vehicles |

The 2012 traffic volume was 16,382 vehicles ADT. The estimated expected existing (non-COVID-19) traffic volume was calculated to be 17,740 vehicles ADT. The difference in the noise levels between the estimated **existing** traffic conditions and the **current** (measured) traffic conditions is 0.6 decibels.

### B. Future Noise Levels

Future traffic volume data for Scotts Valley Drive were not available from the City of Scotts Valley. A review of previous projects in the area indicate that the traffic volumes have reduced over the past few years due to economic conditions. However, the traffic volumes from the mid-90's were approximately the same as they were for 2012. For the purposes of this study, we are estimating an annual average traffic volume growth rate of 1% per year. Over a 14 year horizon, a 1% per growth is equivalent to a 15% increase in traffic volume. Thus, the future 2034 traffic volume is estimated to be 19,989 vehicles ADT. This increase in traffic volume yields a 1 dB increase in the traffic noise levels, for both **current** and **existing** conditions.

## V. Evaluation of the Noise Exposures

### A. Exterior Noise Exposures

To evaluate the on-site noise exposures against the 60 dB DNL standard of the City of Scotts Valley Noise Element, the DNL for the survey location was calculated as decibel averages of the measured $L_{eq}$'s as they apply to the daily subperiods of the DNL index. A Nighttime weighting factor was applied to account for the increased human sensitivity to noise during nighttime hours. The DNL was calculated using the standard formula shown in Appendix B and the results are shown in Appendix C.

The results of the calculations reveal that the existing noise exposure at the measurement location, planned building setback and in the balconies facing Scotts Valley Drive, 102 ft. from the centerline of Scotts Valley Drive, is 58 dB DNL for both **current** and **existing** conditions. Under future conditions, the noise exposure is estimated to increase to 59 dB DNL.

The exterior noise exposures at the site are within the 60 dB DNL limit of the City of Scotts Valley Noise Element standards. Noise mitigation measures for the exterior areas will not be required.

**B. Interior Noise Exposures**

To determine the interior noise exposures, a 15 dB reduction was applied to the exterior noise exposure at the building façade to represent the attenuation provided by a typical building shell under an *annual-average* condition. The annual-average condition assumes that residential living units will have standard dual-pane thermal insulating windows that are kept open up to 50% of the time for natural ventilation.

The interior noise exposures in the most impacted living spaces closest to Scotts Valley Drive will be up to 43 and 44 dB DNL under **current/existing** and future traffic conditions, respectively. Thus, the interior noise exposures will be within the 45 dB DNL standard of the City of Scotts Valley Noise Element and Title 24. Noise mitigation measures for the interior living spaces will not be required.

The above report presents a noise assessment study for the planned "The Encore" condominiums development at 4104 Scotts Valley Drive in Scotts Valley. The study findings for current conditions are based on field measurements and other data and are correct to the best of our knowledge. Future noise exposures were based on estimates made by Edward L. Pack Associates, Inc. from information provided by the City of Scotts Valley. However, significant deviations in the future traffic volumes, changes in motor vehicle technology, speed limits, noise regulations, or other future changes beyond our control may produce long-range noise results different from our estimates.

If you have any questions or would like an elaboration on this report, please call me.

Sincerely,

EDWARD L. PACK ASSOC., INC.

Jeffrey K. Pack
President

Attachments: Appendices A, B, and C

## APPENDIX A

References:

(a) Site Plan, The Encore, by William C. Kempt Architect, October 7, 2020

(b) Noise Element of the General Plan, City of Scotts Valley, 1993

(c) California Code of Regulations, Title 24, Volume 1, Part 2, Section 1206 “Sound Transmission”, Subsection 1206.4 (Allowable Interior Noise Levels), Revised 2019

(d) Information on Existing and Future Traffic Volumes Provided by Ms. Kimarie Jones, City of Scotts Valley Transportation Department, by Telephone to Edward L. Pack Associates, Inc., September 22, 2014

# APPENDIX B

## Noise Standards, Terminology, Instrumentation, and General Building Shell Controls

### 1. Noise Standards

#### A. City of Scotts Valley Noise Element Standards

The Noise Element of the Scotts Valley General Plan specifies the use of the Day-Night Level (DNL) 24-hour noise descriptor to describe the noise environment for residential land use.

The noise standards specify a limit of 60 dB DNL for exterior areas at residential locations. For interior living spaces of residences, a limit of 45 dB DNL is specified.

## B. Title 24 Noise Standards

**2019 California Building Code, Volume 1, Part 2**
**SECTION 1206 – SOUND TRANSMISSION**

**1206.1 Scope**. This section shall apply to common interior walls, partitions and floor/ceiling assemblies between adjacent dwelling units and sleeping units or between dwelling units and sleeping units and adjacent public areas such as halls, corridors, stairways or service areas.

**1206.2 Air-borne sound**. Walls, partitions and floor/ceiling assemblies separating dwelling units and sleeping units from each other or from public or service areas shall have a sound transmission class of not less than 50, or not less than 45 if field tested, for air-borne noise when tested in accordance to ASTM E-90. Alternatively, the sound transmission class of walls, partitions and floor-ceiling assemblies shall be established by engineering analysis based on a comparison of walls, partitions and floor-ceiling assemblies having sound transmission class ratings as determined by the test procedures in ASTM E90. Penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed lined, insulated or otherwise treated to maintain the required ratings. The requirement shall not apply to entrance doors; however, such doors shall be tight fitting to the frame and sill.

**1206.3 Structure-borne sound.** Floor/ceiling assemblies between dwelling units and sleeping units or between a dwelling unit or sleeping unit and a public or service area with the structure shall have an impact insulation class rating of not less than 50, or not less than 45 if field tested, when tested in accordance with ASTM E-492. Alternatively, the impact insulation class of floor-ceiling assemblies shall be established by engineering analysis based on a comparison of floor-ceiling assemblies having impact insulation class ratings as determined by the test procedures in ASTM E492.

***Exception:*** *Impact sound insulation is not required for floor/ceiling assemblies over non-habitable rooms or spaces not designed to be occupied, such as garages, mechanical rooms or storage areas.*

***1206.4 Allowable interior noise levels.*** *Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either the day-night average sound level (Ldn) or the community noise equivalent level (CNEL), consistent with the noise element of the local general plan.*

***1206.5 Acoustical control. [BSC-CG]*** *See California Green Building Standards code, Chapter 5, Division 5.5 for additional sound transmission requirements.*

## 2. Terminology

### A. Statistical Noise Levels

Due to the fluctuating character of urban traffic noise, statistical procedures are needed to provide an adequate description of the environment. A series of statistical descriptors have been developed which represent the noise levels exceeded a given percentage of the time. These descriptors are obtained by direct readout of the Sound Level Meters. Some of the statistical levels used to describe community noise are defined as follows:

$L_1$ - A noise level exceeded for 1% of the time.

$L_{10}$ - A noise level exceeded for 10% of the time, considered to be an "intrusive" level.

$L_{50}$ - The noise level exceeded 50% of the time representing the "mean" sound level.

$L_{90}$ - The noise level exceeded 90 % of the time, designated as a "background" noise level.

$L_{eq}$ - The continuous equivalent-energy level is that level of a steady-state noise having the same sound energy as a given time-varying noise. The $L_{eq}$ represents the decibel level of the time-averaged value of sound energy or sound pressure squared and is used to calculate the DNL and CNEL.

## B. Day-Night Level (DNL)

Noise levels utilized in the standards are described in terms of the Day-Night Level (DNL). The DNL rating is determined by the cumulative noise exposures occurring over a 24-hour day in terms of A-Weighted sound energy. The 24-hour day is divided into two subperiods for the DNL index, i.e., the daytime period from 7:00 a.m. to 10:00 p.m., and the nighttime period from 10:00 p.m. to 7:00 a.m. A 10 dB weighting factor is applied (added) to the noise levels occurring during the nighttime period to account for the greater sensitivity of people to noise during these hours. The DNL is calculated from the measured $L_{eq}$ in accordance with the following mathematical formula:

$$DNL = \left[[(10\log_{10}(10^{\Sigma Leq(7\text{-}10)})) \times 15] + [((10\log_{10}(10^{\Sigma Leq(10\text{-}7)})) + 10) \times 9]\right]/24$$

## C. A-Weighted Sound Level

The decibel measure of the sound level utilizing the "A" weighted network of a sound level meter is referred to as "dBA". The "A" weighting is the accepted standard weighting system used when noise is measured and recorded for the purpose of determining total noise levels and conducting statistical analyses of the environment so that the output correlates well with the response of the human ear.

## 3. Instrumentation

The on-site field measurement data were acquired by the use of one or more of the sound analyzer listed below. The instrumentation provides a direct readout of the L exceedance statistical levels including the equivalent-energy level ($L_{eq}$). Input to the meters was provided by microphones extended to a height of 5 ft. above the ground. The "A" weighting network and the "Fast" response setting of the meters were used in conformance with the applicable standards. The Larson-Davis meters were factory modified to conform to the Type 1 performance standards of ANSI S1.4. All instrumentation was acoustically calibrated before and after field tests to assure accuracy.

Bruel & Kjaer 2231 Precision Integrating Sound Level Meter
Larson Davis LDL 812 Precision Integrating Sound Level Meter
Larson Davis 2900 Real Time Analyzer
Larson Davis 831 Precision Integrating Sound Level Meter

## 5. Building Shell Controls

The following additional precautionary measures are required to assure the greatest potential for exterior-to-interior noise attenuation by the recommended mitigation measures. These measures apply at those units where closed windows are required:

- Unshielded entry doors having a direct or side orientation toward the primary noise source must be 1-5/8" or 1-3/4" thick, insulated metal or solid-core wood construction with effective weather seals around the full perimeter. Mail slots should not be used in these doors or in the wall of a living space, as a significant noise leakage can occur through them.

- If any penetrations in the building shell are required for vents, piping, conduit, etc., sound leakage around these penetrations can be controlled by sealing all cracks and clearance spaces with a non-hardening caulking compound.

- Ventilation openings shall not compromise the acoustical integrity of the building shell.

- Spray-in or expandable foams are not acceptable as acoustical sealant or as sound absorptive material in walls and ceilings.

# APPENDIX C

## On-Site Noise Measurement Data and Calculation Tables

# DNL CALCULATIONS

CLIENT: APPLE HOMES DEVELOPMENT
FILE: 52-048
PROJECT: THE ENCORE CONDOMINIUMS
DATE: 10/20-21/2020
SOURCE: SCOTTS VALLEY DR.

| LOCATION 1 | Scotts Valley Dr. | | | |
|---|---|---|---|---|
| Dist. To Source | 102 ft. | | | |
| | | | | |
| TIME | Leq | 10^Leq/10 | | |
| 7:00 AM | 59.0 | 794328.2 | | |
| 8:00 AM | 59.5 | 891250.9 | | |
| 9:00 AM | 58.9 | 776247.1 | | |
| 10:00 AM | 58.7 | 741310.2 | | |
| 11:00 AM | 59.5 | 891250.9 | | |
| 12:00 PM | 59.8 | 954992.6 | | |
| 1:00 PM | 59.9 | 977237.2 | | |
| 2:00 PM | 59.7 | 933254.3 | | |
| 3:00 PM | 64.0 | 2511886.4 | | |
| 4:00 PM | 64.0 | 2511886.4 | | |
| 5:00 PM | 60.0 | 1000000.0 | | |
| 6:00 PM | 58.3 | 676083.0 | | |
| 7:00 PM | 56.5 | 446683.6 | | |
| 8:00 PM | 54.0 | 251188.6 | | |
| 9:00 PM | 52.3 | 169824.4 | SUM= | 867696.6 |
| 10:00 PM | 50.4 | 109647.8 | Ld= | 59.4 |
| 11:00 PM | 50.5 | 112201.8 | | |
| 12:00 AM | 48.8 | 75857.8 | | |
| 1:00 AM | 44.6 | 28840.3 | | |
| 2:00 AM | 44.4 | 27542.3 | | |
| 3:00 AM | 42.9 | 19498.4 | | |
| 4:00 AM | 48.6 | 72443.6 | | |
| 5:00 AM | 53.3 | 213796.2 | | |
| 6:00 AM | 58.3 | 676083.0 | SUM= | 1335911.3 |
| | | | Ld= | 61.3 |
| | | | | |
| | Daytime Level= | 59.4 | | |
| | Nighttime Level= | 71.3 | | |
| | **DNL=** | **58** | | |
| | 24-Hour Leq= | 49.6 | | |

# Final Traffic Impact Study for The Encore Project


Prepared for the City of Scotts Valley

Submitted by
**W-Trans**

April 5, 2021

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# Table of Contents

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# Executive Summary

The proposed project would include the construction of 16 condominiums and 37 parking spaces on a lot that is currently vacant. An estimated 87 trips would be generated daily, including six trips during the a.m. peak hour and seven during the p.m. peak hour.

The study area includes Scotts Valley Drive and the intersections of Scotts Valley Drive-Whispering Pines Drive/Mount Hermon Road and Scotts Valley Drive/Bean Creek Road. Traffic volumes collected in 2018 were adjusted through applying a 1.6-percent annual growth factor for two years to arrive at estimated non-pandemic 2020 volumes. Additionally, trips from the adjacent Terrace at Scotts Valley project that was constructed after the 2018 volumes were collected were included in the analysis. Together, these volumes form the Adjusted 2020 scenario. The two study intersections were assessed per these volumes and determined to operate acceptably under the Adjusted 2020 scenario.

The anticipated project trip generation and distribution was added to the Adjusted 2020 scenario to create the Adjusted 2020 plus Project scenario. With the project traffic added, the two study intersections would be expected to continue operating acceptably.

Queue lengths in the turn pockets at these intersections were also assessed. While the addition of project traffic would increase several of these queues, the increase in queue length would not result in an adverse impact.

The existing pedestrian, bicycle, and transit facilities serving the project site are adequate. Sight distance for drivers departing the project site was assessed and determined to be obstructed by the existing retaining wall along the project frontage to the south of the project driveway. This obstruction could be remedied through either reducing the height of the retaining wall or stepping the top portion of the retaining wall away from the roadway, such that no portion of the retaining wall obstructs a sight line drawn 3.5 feet above the ground between the eye of a driver in the driveway and an approaching driver on Scotts Valley Drive.

The project as proposed includes 37 parking spaces; 36 spaces are required per City ordinance and it is estimated the peak parking demand would be 33 spaces. Two accessible parking spaces are shown on the site plan, matching the requirement for two accessible spaces.

A traffic impact fee analysis determined that payment of $2,640 would be required based on project-generated trips through the intersection of Scotts Valley Drive-Whispering Pines Drive/Mount Hermon Road. The proposed project would not generate enough trips passing through the intersection of Mount Hermon Road/La Madrona Drive to warrant payment of development fees.

The California Office of Planning and Research recommends screening projects that generate fewer than 110 trips per day from quantitative Vehicle Miles Traveled (VMT) analysis. As the proposed project would generate 87 daily trips, it would be considered to have a less-than-significant impact on VMT.

# Introduction

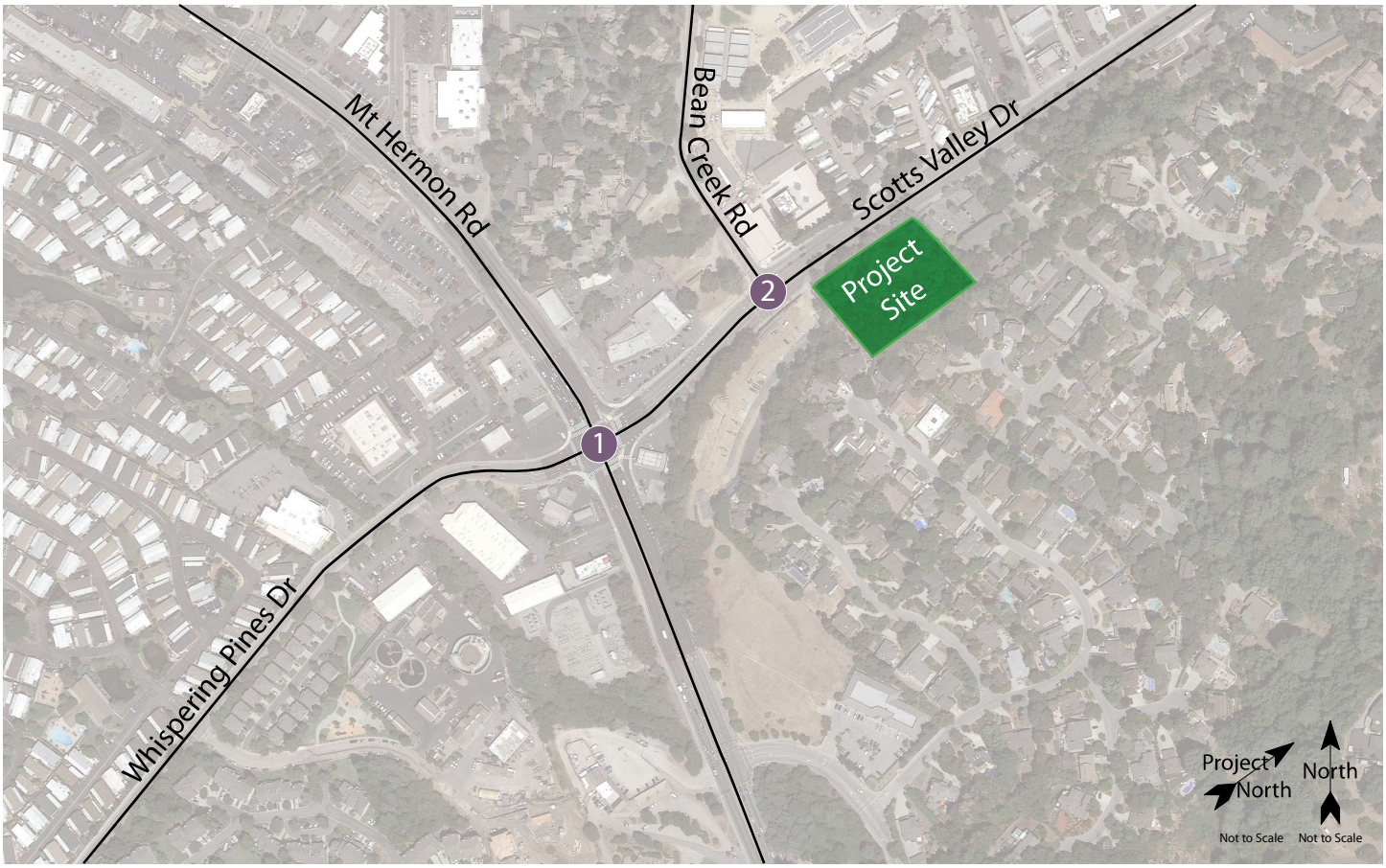
This report presents an analysis of the potential traffic impacts associated with development of a proposed condominium complex to be located on APN 002-732-01 and 002-732-48 in the City of Scotts Valley, on Scotts Valley Drive approximately 700 feet northeast of Mount Hermon Road. The traffic study was completed in accordance with the criteria established by the City of Scotts Valley, and is consistent with standard traffic engineering techniques.

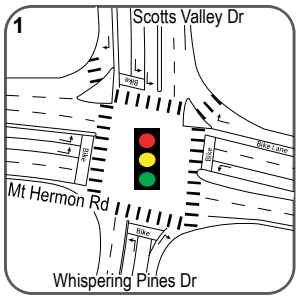
## Prelude

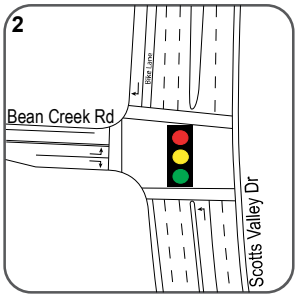
The purpose of a traffic impact study is to provide City staff and policy makers with data they can use to make an informed decision regarding the potential traffic impacts of a proposed project, and any associated improvements that would be required in order to mitigate these impacts to an acceptable level under CEQA, the City's General Plan, or other policies. While no longer a part of the CEQA review process, vehicular traffic service levels at key intersections were evaluated for consistency with General Plan policies by determining the number of new trips that the proposed use would be expected to generate, distributing these trips to the surrounding street system based on anticipated travel patterns specific to the proposed project, then analyzing the impact the new traffic would be expected to have on the study intersections. Impacts relative to access for pedestrians, bicyclists, and to transit are addressed.

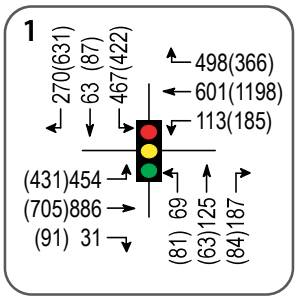
## Project Profile

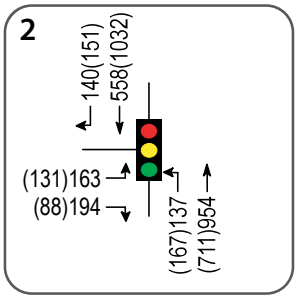
The proposed project would include 16 condominium units and 37 parking spaces. As shown in Figure 1, the project site is located on Scotts Valley Drive approximately 700 feet northeast of Mount Hermon Road.




LEGEND
- Study Intersection
- xx AM Peak Hour Volume
- (xx) PM Peak Hour Volume

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Traffic Impact Study for The Encore Project

**Figure 1 – Study Area, Lane Configurations and Adjusted 2020 Traffic Volumes**

# Transportation Setting

## Operational Analysis

### Study Area and Periods

The study area consists of the following intersections:

1. Scotts Valley Drive-Whispering Pines Drive/Mount Hermon Road
2. Scotts Valley Drive/Bean Creek Road

Operating conditions during the a.m. and p.m. peak periods were evaluated to capture the highest potential impacts for the proposed project as well as the highest volumes on the local transportation network. The morning peak hour occurs between 7:00 and 9:00 a.m. and reflects conditions during the home to work or school commute, while the p.m. peak hour occurs between 4:00 and 6:00 p.m. and typically reflects the highest level of congestion during the homeward bound commute.

### Study Intersections

**Scotts Valley Drive-Whispering Pines Drive/Mount Hermon Road** is a four-legged signalized intersection with protected left-turn phasing on Mount Hermon Road and split phasing on the Whispering Pine Drive and Scotts Valley Drive approaches. There are crosswalks and pedestrian signals for each leg, bicycle boxes at each stop bar, and bicycle lanes on each leg. There is a pair of rectangular rapid flashing beacons on each side of the crosswalk across the channelized right turn from southbound Scotts Valley Drive to westbound Mount Hermon Road. These are actuated independently from the traffic signal.

**Scotts Valley Drive/Bean Creek Road** is a signalized tee intersection. A protected left-turn phase is provided on Scotts Valley Drive, and there are crosswalks and pedestrian signals for each leg. There are bicycle lanes on Scotts Valley Drive and Bean Creek Road.

The locations of the study intersections and the existing lane configurations and controls are shown in Figure 1.

The intersection of **Scotts Valley Drive/Quien Sabe Road** was also qualitatively reviewed for potential inclusion in the study area. It was determined in the *Scotts Valley Townhomes Traffic Study Supplement*, W-Trans, 2015, that the minimal U-turn volumes of a nearby larger project would not adversely impact operations at this intersection. Likewise, project trips would not be taken through the neighborhoods accessed via Quien Sabe Road to and from Mount Hermon Road. Based on these conclusions from this prior analysis it was determined that further study of this location was not warranted for this project.

## Collision History

The collision history for the study area was reviewed to determine any trends or patterns that may indicate a safety issue. Collision rates were calculated based on records available from the California Highway Patrol as published in their Statewide Integrated Traffic Records System (SWITRS) reports. The most current five-year period available is January 1, 2015 through December 31, 2019.

As presented in Table 1, the calculated collision rates for the study intersections were compared to average collision rates for similar facilities statewide, as indicated in *2016 Collision Data on California State Highways*, California Department of Transportation (Caltrans). The collision rate calculations are provided in Appendix A.

| Table 1 – Collision Rates for the Study Intersections | | | |
|---|---|---|---|
| **Study Intersection** | **Number of Collisions (2015-2019)** | **Calculated Collision Rate (c/mve)** | **Statewide Average Collision Rate (c/mve)** |
| 1. Scotts Valley Dr-Whispering Pines Dr/ Mount Hermon Rd | 27 | **0.35** | 0.24 |
| 2. Scotts Valley Dr/Bean Creek Rd | 7 | 0.17 | 0.19 |

Note: c/mve = collisions per million vehicles entering; **bold** text indicates an average rate that is higher than the statewide rate

The intersection of Scotts Valley Drive-Whispering Pines Drive/Mount Hermon Road had a collision rate higher than the statewide average for similar facilities. Of the 27 collisions reported for this intersection during the study period, 12 were attributed to speeding, including ten that resulted in a rear-end crash. Six collisions were specifically caused by westbound speeding drivers colliding with other westbound drivers. Increased enforcement and measures to reduce travel speeds along Mount Hermon Road may be considered by the City as a means to potentially reduce the incidence of these types of collisions, though it is noted that the incidence of injuries and fatalities were below the respective Statewide averages, so there does not appear to be a substantial safety issue.

# Alternative Modes

## Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. In general, a network of sidewalks, crosswalks, pedestrian signals, and curb ramps provide access for pedestrians in the vicinity of the proposed project site.

## Bicycle Facilities

The *Highway Design Manual*, Caltrans, 2017, classifies bikeways into four categories:

- **Class I Multi-Use Path** – a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- **Class II Bike Lane** – a striped and signed lane for one-way bike travel on a street or highway.
- **Class III Bike Route** – signing only for shared use with motor vehicles within the same travel lane on a street or highway.
- **Class IV Bikeway** – also known as a separated bikeway, a Class IV Bikeway is for the exclusive use of bicycles and includes a separation between the bikeway and the motor vehicle traffic lane. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

In the project area, Class II bike lanes exist on Scotts Valley Drive between Mount Hermon Road and Vine Hill School Road with gaps of bike lane on the northbound direction between Victor Square (north) and 6014 Scotts Valley Drive. There are also existing Class II bike lanes along the entirety of Mount Hermon Road within the city limits between Lockhart Gulch Road and La Madrona Drive, along Bean Creek Road between Bluebonnet Lane and Scotts Valley Drive, and along Whispering Pines Drive between Estrella Drive and Mount Hermon Road. Table 2 summarizes the existing bicycle facilities in the project vicinity.

| Table 2 – Bicycle Facility Summary | | | | |
|---|---|---|---|---|
| **Status<br>Facility** | **Class** | **Length (miles)** | **Begin Point** | **End Point** |
| **Existing** | | | | |
| Scotts Valley Drive | II | 2.3 | Mount Hermon Road | Vine Hill School Road |
| Mount Hermon Road | II | 1.3 | City Limits | La Madrona Drive |
| Bean Creek Road | II | 0.4 | Bluebonnet Lane | Scotts Valley Drive |
| Whispering Pines Drive | II | 0.5 | Estrella Drive | Mount Hermon Road |

Source: *City of Scotts Valley Bicycle Transportation Plan*, City of Scotts Valley, 2012

## Transit Facilities

The Santa Cruz Metro Transit District (METRO) provides fixed route bus service in Santa Cruz County. Several routes have stops within a half-mile of the project site and are detailed in Table 3.

| Table 3 – Transit Routes | | | | | |
|---|---|---|---|---|---|
| **Transit Agency Route** | **Distance to Stop (mi)[1]** | **Service** | | | **Connection** |
| | | **Days of Operation** | **Time** | **Frequency** | |
| **Santa Cruz METRO** | | | | | |
| Route 17 | 0.27 | Weekdays<br>Weekends | 5:20 AM – 10:40 PM<br>7:00 AM – 11:00 PM | 40-160 min<br>30-155 min | Diridon Station (Caltrain), Cavallaro Transit Center (Scotts Valley), Santa Cruz Metro Center |
| Route 35 | 0.19 | Weekdays<br>Weekends | 5:35 AM – 11:55 PM<br>7:30 AM – 11:30 PM | 30-90 min<br>60-90 min | Boulder Creek, Ben Lomond, Scotts Valley, Santa Cruz |
| Route 35A | 0.09 | Weekdays<br>Weekends | 5:35 AM – 11:55 PM<br>7:30 AM – 11:30 PM | 30-90 min<br>60-90 min | Boulder Creek, Ben Lomond, Scotts Valley, Santa Cruz |

Note: [1] Defined as the shortest walking distance between the project site and the nearest bus stop

Three bicycles can be carried on most METRO buses. Bike rack space is on a first come, first served basis. Additional bicycles are allowed on METRO buses at the discretion of the driver.

Dial-a-ride, also known as paratransit, or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. METRO ParaCruz is designed to serve the needs of individuals with disabilities within Scotts Valley and the greater Santa Cruz County area.

# Capacity Analysis

## Intersection Level of Service Methodologies

Level of Service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, Level of Service A represents free flow conditions and Level of Service F represents forced flow or breakdown conditions. A unit of measure that indicates a level of delay generally accompanies the LOS designation.

The study intersections were analyzed using the signalized methodology published in the *Highway Capacity Manual* (HCM), Transportation Research Board, 2010. This source contains methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle. The signalized methodology is based on factors including traffic volumes, green time for each movement, phasing, whether the signals are coordinated or not, truck traffic, and pedestrian activity. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology. For purposes of this study, delays were calculated using signal timing obtained from the City of Scotts Valley for Scotts Valley Drive/Bean Creek Road. Traffic signal timing for the Scotts Valley Drive-Whispering Pines Drive/Mount Hermon Road intersection was also acquired; however, this timing plan did not reflect completion of intersection modifications that resulted in new phasing patterns. As a result, this analysis used an optimized timing plan based on the current signal configuration in order to more accurately replicate current traffic operations.

The ranges of delay associated with the various levels of service are indicated in Table 4.

| Table 4 – Signalized Intersection Level of Service Criteria | |
|---|---|
| LOS A | Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all. |
| LOS B | Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop. |
| LOS C | Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping. |
| LOS D | Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop. |
| LOS E | Delay of 55 to 80 seconds. Most, if not all, vehicles must stop and drivers consider the delay excessive. |
| LOS F | Delay of more than 80 seconds. Vehicles may wait through more than one cycle to clear the intersection. |

Reference: *Highway Capacity Manual*, Transportation Research Board, 2010

## Traffic Operation Standards

The Circulation Element of the *Scotts Valley General Plan*, City of Scotts Valley, 1994, states that the Level of Service standard for the intersection of Scotts Valley Drive-Whispering Pines Drive/Mount Hermon Road is LOS D, while a minimum of LOS C is accepted for other intersections within the City of Scotts Valley.

The threshold for an adverse effect for an intersection that is already operating deficiently without project traffic is not defined in the *General Plan*. In these cases, it is common to apply an increase in average intersection delay of five seconds or greater as the threshold for an adverse effect.

The *General Plan* does not prescribe thresholds of significance regarding queue lengths. However, an increase in queue length due to project traffic was considered a potential impact if the increase would cause the queue to

extend beyond a dedicated turn lane into a through traffic lane, or if the back of queue would extend into a visually restricted area such as a blind corner.

## Adjusted 2020 Conditions

The Adjusted 2020 Conditions scenario provides an evaluation of operations that would have been anticipated to occur in 2020 without the changes to travel patterns resulting from the COVID-19 pandemic. These traffic volumes are based on existing traffic counts collected in October 2018 during typical weekday a.m. and p.m. peak periods while local schools were in session. These volumes were then factored up using an annual growth rate of 1.6 percent derived from the anticipated growth in volumes from 2015 to 2030 included in the *Aviza Site General Plan Amendment and Zone Change Draft EIR*, Kimley Horn, 2018. Additionally, the trip generation for the adjacent Terrace at Scotts Valley was included as determined in the *Traffic Impact Study for the Scotts Valley Townhomes*, W-Trans, 2015, as this project was not yet completed at the time of the 2018 traffic volume collection. Together, the October 2018 counts, two years of the annual growth rate from the Aviza Draft EIR, plus anticipated volumes from the Scotts Valley Townhomes project, form the basis of the Adjusted 2020 Conditions scenario. This scenario does not include project-generated traffic volumes.

Under Adjusted 2020 Conditions, the intersection of Scotts Valley Drive-Whispering Pines Drive/Mount Hermon Road would operate at an acceptable LOS D during both peak hours, while the intersection of Scotts Valley Drive/Bean Creek Road would operate acceptably at LOS B during the morning peak hour and LOS A during the evening peak hour. The Adjusted 2020 traffic volumes are shown in Figure 1. A summary of the intersection level of service calculations is contained in Table 5, and copies of the Level of Service calculations are provided in Appendix B.

**Table 5 – Adjusted 2020 Peak Hour Intersection Levels of Service**

| **Study Intersection** ***Approach*** | **AM Peak** | | **PM Peak** | |
|---|---|---|---|---|
| | **Delay** | **LOS** | **Delay** | **LOS** |
| 1. Scotts Valley Dr-Whispering Pines Dr/Mount Hermon Rd | 39.3 | D | 35.5 | D |
| 2. Scotts Valley Dr/Bean Creek Rd | 10.5 | B | 9.9 | A |

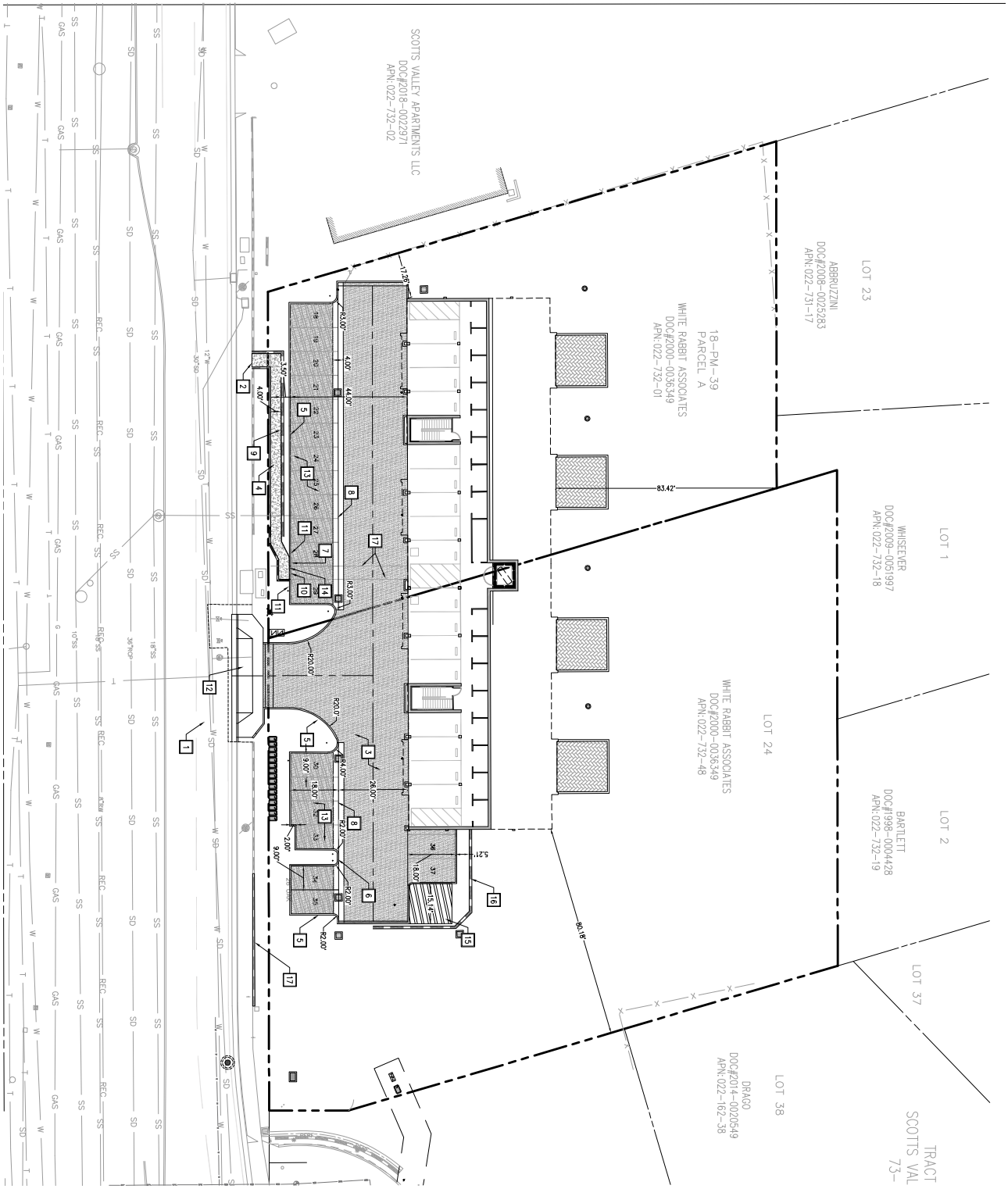
Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service

## Project Description

The project consists of 16 condominiums and 37 parking spaces on a lot that is currently vacant. The proposed project site plan is shown in Figure 2.

## Trip Generation

The anticipated trip generation for the proposed project was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 10th Edition, 2017 for "Multifamily Housing (Mid-Rise)" (ITE LU 221). The proposed project is expected to generate an average of 87 trips per day, including six trips during the a.m. peak hour and seven during the p.m. peak hour. The expected trip generation potential for the project is indicated in Table 6.




North

Not to Scale

Source: C2G Civil Consultants Group, 11/20

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**Traffic Impact Study for The Encore Project**

**Figure 2 – Site Plan**

W-Trans

| Table 6 – Trip Generation Summary | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Land Use** | **Units** | **Daily** | | **AM Peak Hour** | | | | **PM Peak Hour** | | | |
| | | **Rate** | **Trips** | **Rate** | **Trips** | **In** | **Out** | **Rate** | **Trips** | **In** | **Out** |
| Multifamily (Mid-Rise) | 16 du | 5.44 | 87 | 0.36 | 6 | 1 | 5 | 0.44 | 7 | 4 | 3 |

Note: du = dwelling unit

## Trip Distribution

The pattern suggested to allocate new project trips to the street network was based on home-to-work trips data from the 2015 Census. The proposed distribution ratios are consistent with the analysis applied for the *Traffic Impact Study for Scotts Valley Townhomes*, W-Trans, 2015 for the adjacent Terrace at Scotts Valley development that was approved and constructed. The trip distribution assumptions and resulting trips are shown in Table 7.

| Table 7 – Trip Distribution Assumptions | | | | |
|---|---|---|---|---|
| **Route** | **Percent** | **Daily Trips** | **AM Trips** | **PM Trips** |
| Scotts Valley Drive North of Quien Sabe Road | 40% | 35 | 2 | 3 |
| Mount Hermon Road West of Scotts Valley Drive | 30% | 26 | 2 | 2 |
| Mount Hermon Road East of Scotts Valley Drive | 30% | 26 | 2 | 2 |
| **TOTAL** | **100%** | **87** | **6** | **7** |

# Intersection Operation

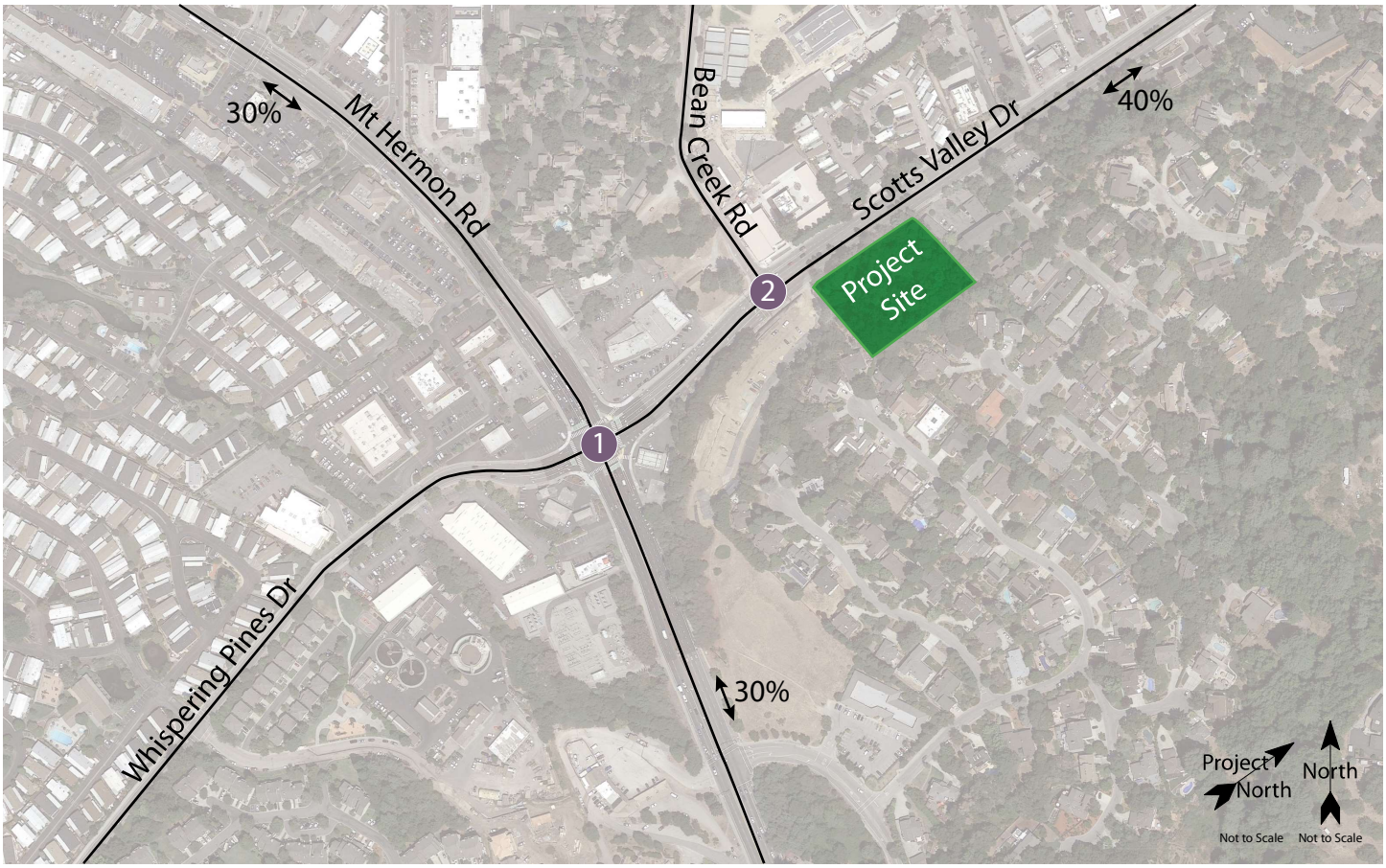
## Adjusted 2020 plus Project Conditions

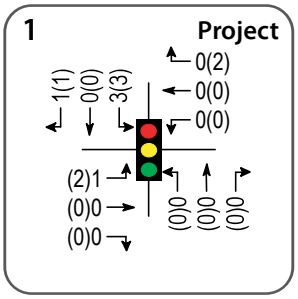
Upon the addition of project-related traffic to the Adjusted 2020 volumes, the study intersections are expected to operate at the same levels of service as without project-related vehicles. These results are summarized in Table 8. Project traffic volumes and Adjusted 2020 plus Project volumes are shown in Figure 3.

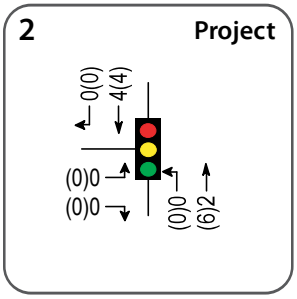
| Table 8 – Adjusted 2020 and Adjusted 2020 plus Project Peak Hour Intersection Levels of Service | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Study Intersection** ***Approach*** | **Adjusted 2020 Conditions** | | | | **Adjusted 2020 plus Project** | | | |
| | **AM Peak** | | **PM Peak** | | **AM Peak** | | **PM Peak** | |
| | **Delay** | **LOS** | **Delay** | **LOS** | **Delay** | **LOS** | **Delay** | **LOS** |
| 1. Scotts Valley Dr-Whispering Pines Dr/ Mount Hermon Rd | 39.3 | D | 35.5 | D | 39.4 | D | 35.8 | D |
| 2. Scotts Valley Dr/Bean Creek Rd | 10.5 | B | 9.9 | A | 10.9 | B | 9.9 | A |

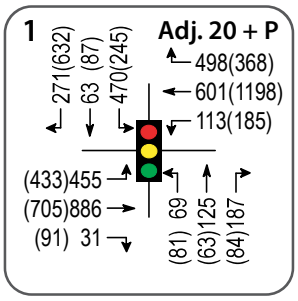
Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service

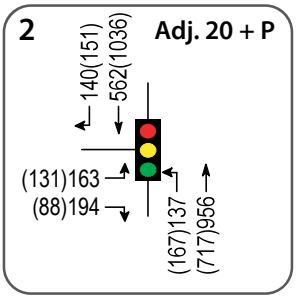
**Finding** – The study intersections are expected to continue operating acceptably at the same levels of service upon the addition of project-generated traffic as without it.




LEGEND

- Study Intersection
- xx AM Peak Hour Volume
- (xx) PM Peak Hour Volume

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Traffic Impact Study for The Encore Project

**Figure 3 – Project Traffic Volumes, Trip Distribution and Adjusted 2020 plus Project Traffic Volumes**

W-Trans

## Queuing

Under each scenario, the projected maximum queues in turn pockets at the study intersections were determined using the SIMTRAFFIC application of Synchro, averaging the maximum projected queue for each of ten runs. Summarized in Table 9 are the predicted queue lengths for approaches to intersections where queues are expected to exceed the existing available storage capacity. Copies of the SIMTRAFFIC projections are contained in Appendix C.

**Table 9 – Maximum Queue Lengths and Available Storage**

| Study Intersection<br>Lane | Available Storage | Maximum Queues | | | |
|---|---|---|---|---|---|
| | | AM Peak Hour | | PM Peak Hour | |
| | | A | A+P | A | A+P |
| Scotts Valley Dr-Whispering Pines Dr/ Mount Hermon Rd | | | | | |
| Northbound Left-Turn | 185 | 113 | 112 | 160 | 136 |
| Northbound Right-Turn | 150 | 136 | 143 | 57 | 54 |
| Southbound Left-Turn | 315 | 266 | 259 | **399** | **319** |
| Eastbound Left-Turn | 300 | 265 | 269 | **328** | **302** |
| Westbound Left-Turn | 305 | 154 | 145 | **346** | **342** |
| Scotts Valley Dr/Bean Creek Rd | | | | | |
| Northbound Left-Turn | 135 | 135 | 128 | **155** | **153** |
| Southbound Right-Turn | 195 | 68 | 73 | 185 | 169 |
| Eastbound Right-Turn | 75 | **102** | **103** | **88** | **88** |

Notes: Maximum Queue based on the average of the maximum value from ten SIMTRAFFIC runs; all distances are measured in feet; A = Adjusted 2020 Conditions; A+P = Adjusted 2020 plus Project Conditions; **Bold** text = queue length exceeds available storage

During the p.m. peak hour, the queues at Scotts Valley Drive-Whispering Pines Drive/Mount Hermon Road would extend past the provided storage for the southbound, eastbound, and westbound left-turn lanes under Adjusted 2020 volumes without project traffic; the addition of project traffic would not be expected to result in any new excess queuing. In several instances, the addition of project traffic was predicted to decrease the queue length for a certain movement. This is likely a result of the random seeding nature of SIMTRAFFIC and how minor changes in traffic volumes (plus or minus) can lead to different traffic patterns arriving at or departing from an intersection, and does not reflect the expectation that adding project traffic would reduce the queue length.

**Finding** – Queues that would be contained within a turn pocket without project traffic would not extend outside the turn pocket with the addition of project traffic. For queues that already extend past the available stacking distance without project traffic, the addition of project traffic would result in a nominal increase in queue length.

# Alternative Modes

Given the proximity of shopping, dining, and other commercial uses in the vicinity of the site, it is reasonable to assume that some project residents would want to walk, bicycle, and/or use transit for some trips.

## Pedestrian Facilities

Sidewalks exist along the project frontage on Scotts Valley Drive. A walkway is shown on the site plan along the building frontage, and another walkway is depicted connecting the sidewalk in front of the project site to the parking lot. A marked crosswalk is shown connecting this walkway across the parking lot to the building.

**Finding** – Pedestrian facilities on Scotts Valley Drive are adequate, and a pedestrian route would be provided between Scotts Valley Drive and the building.

## Bicycle Facilities

Existing bicycle facilities, including bike lanes on Scotts Valley Drive, Mount Hermon Road, Whispering Pines Drive, and Bean Creek Road, together with shared use of minor streets provide adequate access for bicyclists.

**Finding** – Bicycle facilities serving the project site are adequate.

## Transit

Existing transit routes are adequate to accommodate project-generated transit trips which would be spread out over several bus routes and occur at different times. Existing stops are within acceptable walking distance of the site.

**Finding** – Transit facilities serving the project site are adequate.

# Access and Circulation

## Site Access

Site access would be provided by a driveway on Scotts Valley Drive in the middle of the project site frontage, approximately where the existing driveway curb cut in the sidewalk is located. This driveway would provide access into the project site, including access to the parking areas. Due to the landscaped median on Scotts Valley Drive, use of this driveway would be restricted to right-in/right-out operation.

### Sight Distance

Sight distances along Scotts Valley Drive at the proposed project driveway location were evaluated based on sight distance criteria and methodology contained in the *Highway Design Manual* (HDM) published by Caltrans. The recommended sight distance for minor street approaches that are either a private road or a driveway is based on stopping sight distance and the approach travel speed. As the driveway would be right-in/right-out only such that the site is only accessible in the northbound direction on Scotts Valley Drive, sight distance was only considered facing south towards oncoming northbound traffic.

The speed limit on Scotts Valley Drive is posted at 35 miles per hour (mph), resulting in a recommended minimum stopping sight distance of 250 feet, although greater sight distances can be provided to increase visibility of oncoming traffic. This sight distance is available for the inside (median) northbound lane. However, sight distance to the outside (sidewalk) northbound lane from the driveway is partially restricted by the retaining wall along the frontage of the project site. Reducing the height of this retaining wall or stepping the top portion back away from the roadway would open up sight lines between the driveway and the outside northbound lane on Scotts Valley Drive.

A sight distance triangle diagram is provided in Appendix D, which shows the direct line of sight between a driver leaving the project site and oncoming traffic on Scotts Valley Drive, and the portion of the retaining wall that would need to be modified to achieve adequate sight distance. A distance of 300 feet is shown along the path of travel for oncoming traffic to provide additional sight distance. This is more than the minimum requirement of 250 feet; the additional distance would conservatively provide longer sight lines and increased visibility of oncoming traffic.

The HDM recommends assessing sight distance using a driver's eye height of 3.5 feet. As this sight distance would be between two drivers, an unobstructed line of sight should be maintained between a point 3.5 feet off the ground at the driveway, and 3.5 feet off the ground along the roadway along the path of travel. The retaining wall within the sight distance triangle should be either reduced to less than 3.5 feet in height or moved away from the roadway out of the sight distance triangle.

**Finding** – Sight distance at the proposed driveway location is less than the 250 feet required for the posted speed limit of 35 mph on Scotts Valley Drive, as it is restricted by the existing retaining wall on the frontage of the project site. This conflict is demonstrated by the overlap between the sight distance triangle and retaining wall on the site plan included in Appendix D.

**Recommendation** – It is recommended that the existing retaining wall south of the project driveway be modified to allow for adequate sight lines between drivers leaving the driveway and on northbound Scotts Valley Drive. This could be accomplished through either reducing the height of the wall or stepping back the top portion away from the road such that no portion of the retaining wall within the sight distance triangle shown in Appendix D is taller than 3.5 feet.

# Parking

The project was analyzed to determine whether the proposed parking supply would be sufficient for the anticipated parking demand. The project site as proposed would provide a total of 37 standard parking spaces. Jurisdiction parking supply requirements are based on the Scotts Valley Municipal Code, Chapter 17.44.030; *Off-street parking and loading requirements*. Parking demand was also estimated using standard rates published by ITE in *Parking Generation*, 5th Edition, 2019. The parking demand of the project was estimated using the published standard rates for Multifamily Housing (Mid-Rise) (ITE LU#221).

The proposed parking supply, City requirements and expected demand are shown in Table 10.

**Table 10 – Parking Analysis Summary**

| Land Use | Units | Supply (spaces) | City Requirements | | ITE Parking Generation | |
|---|---|---|---|---|---|---|
| | | | Rate | Spaces Required | Rate | Est. Parking Demand |
| Multifamily Housing | 16 du | 37 | 2 per du + 1 per 5 du* | 36 | 2.05 | 33 |

Notes: du = dwelling unit; * In addition to two spaces per unit, the *Municipal Code* requires one space per five units or fraction thereof, for four extra spaces in this case.

As shown in the table, the proposed parking supply of 37 spaces exceeds both the City's Code requirement of 36 spaces as well as the expected parking demand for 33 spaces. The site plan includes two accessible spaces, one of which would be van accessible. Per the *2010 ADA Standards for Accessible Design*, U.S. Department of Justice, 2010, Section 208.2, at least two accessible parking spaces must be provided for a parking lot with 37 spaces, including one that is van accessible.

**Finding** – The proposed parking supply for the project would accommodate the anticipated parking demand in addition to satisfying the *Municipal Code*. The site plan includes the two accessible parking spaces that are required, including one that is van accessible.

# Impact Fee Analysis

In March of 2010 the City of Scotts Valley City Council adopted the *Mt. Hermon Road Traffic Mitigation Fair Share Contribution Policy*. This policy states that a project which generates at least five peak hour trips summed between the a.m. and p.m. peak hours through the Scotts Valley Drive-Whispering Pines Drive/Mount Hermon Road intersection shall pay a fee of $240 per peak hour trip. Additionally, a project which generates at least five peak hour trips during the p.m. peak hour through the Mount Hermon Road/La Madrona Drive intersection shall pay $712 per p.m. peak hour trip.

For Scotts Valley Drive-Whispering Pines Drive/Mount Hermon Road, the project is anticipated to generate 11 trips during the a.m. and p.m. peak hours, including southbound U-turns. At $240 per trip, this translates to a fee of $2,640.

The project is estimated to send two trips through the Mount Hermon Road/La Madrona Drive intersection during the p.m. peak hour, per Table 7. As this is below the threshold of five p.m. peak hour trips, no additional traffic impact fees would be required.

**Finding** – The project would be expected to generate 11 a.m. and p.m. peak hour trips through the intersection of Scotts Valley Drive-Whispering Pines Drive/Mount Hermon Road, requiring payment of $2,640 in development fees at $240 per peak hour trip. The project would not be required to pay development fees for trips added at the intersection of Mount Hermon Road/La Madrona Drive.

**Recommendation** – The project applicant should pay the applicable development fees, including the $2,640 fee for trips generated through Scotts Valley Drive-Whispering Pines Drive/Mount Hermon Road.

# Vehicle Miles Traveled Analysis

The California Office of Planning and Research (OPR) publication *Technical Advisory on Evaluation Transportation Impacts in CEQA*, December 2018, provides guidance on the types of projects that can typically be screened from requiring quantitative Vehicle Miles Traveled (VMT) analysis. The advisory indicates that developments that would generate fewer than 110 trips per day may generally be presumed to have a less-than-significant impact on VMT. As this project would generate 87 daily trips per Table 6, it would be screened from requiring further VMT analysis.

**Finding** – The project would generate 87 daily trips, which is fewer than the screening threshold of 110 daily trips defined by OPR and therefore would be considered to have a less-than-significant impact on VMT.

# Conclusions and Recommendations

## Conclusions

- The proposed 16-units of multifamily mid-rise housing is anticipated to generate an average of 87 daily trips, including six during the a.m. peak hour and seven during the p.m. peak hour.

- Adjusted 2020 volumes were derived from traffic volumes collected in 2018 that were modified by applying an annual growth rate of 1.6 percent applied for two years obtained from the Aviza Draft EIR, as well as adding trips estimated to be generated by the adjacent Terrace at Scotts Valley project.

- Operations for Scotts Valley Drive-Whispering Pines Drive/Mount Hermon Road and Scotts Valley Drive/Bean Creek Road were assessed, and both intersections would operate acceptably under Adjusted 2020 volumes.

- The study intersections would continue to operate acceptably at the same levels of service with the addition of project-generated traffic to Adjusted 2020 volumes.

- The addition of project-generated traffic would increase the queue lengths in several turn pockets at the study intersections. However, queues that would be within the provided turn lane storage capacity without project traffic would continue to be within the provided capacity with project traffic added. No queues would be expected to exceed available stacking space as a result of adding project-generated traffic, resulting in a less-than-significant impact.

- The existing pedestrian, bicycle, and transit facilities serving the project site are adequate. A pedestrian route would be provided between the sidewalk on Scotts Valley Drive and the project building.

- The project driveway would provide right-in/right-out access in the northbound direction on Scotts Valley Drive. Sight distance from the proposed driveway is insufficient for the 35-mph speed limit on Scotts Valley Drive as the existing retaining wall along the project frontage blocks sight lines, as shown in Appendix D.

- The project site plan includes 37 parking spaces, which is greater than the 36 spaces required by the City Code, and also greater than the anticipated demand of 33 spaces. Two accessible spaces, including one that is van accessible, are shown on the site plan, matching federal requirements.

- The project would be required to pay $2,640 in development fees for adding an anticipated 11 a.m. and p.m. peak hour trips through the intersection of Scotts Valley Drive-Whispering Pines Drive/Mount Hermon Road based on a rate of $240 per peak hour trip. The project would not meet the prescribed minimum threshold for paying development fees for the intersection of Mount Hermon Road/La Madrona Drive.

- OPR recommends screening projects that generate fewer than 110 daily trips from quantitative VMT analysis. The proposed project would generate 87 daily trips and therefore be screened from further analysis; as such the project would have a less-than-significant impact on VMT.

## Recommendations

- It is recommended that the retaining wall along the project frontage south of the project driveway be modified to provide adequate sight distance for drivers leaving the project site to observe oncoming traffic on northbound Scotts Valley Drive. This could be accomplished by either reducing the height of the retaining

wall to less than 3.5 feet within the sight distance triangle shown in Appendix D, or moving any conflicting portion away from the roadway and out of the sight distance triangle.

- The project applicant should pay applicable development fees, including the $2,640 fee for trips added to the Scotts Valley Drive-Whispering Pines Drive/Mount Hermon Road intersection.

# Study Participants and References

## Study Participants

| | |
|---|---|
| **Principal in Charge** | Mark E. Spencer, TE |
| **Associate Engineer** | Kevin Carstens, PE, TE |
| **Assistant Engineer** | Allison Woodworth, EIT |
| **Graphics** | Hannah Yung-Boxdell |
| **Editing/Formatting** | Hannah Yung-Boxdell |
| **Quality Control** | Dalene J. Whitlock, PE, PTOE |

## References


*2010 ADA Standards for Accessible Design*, US Department of Justice, September 2010
*2016 Collision Data on California State Highways*, California Department of Transportation, 2018
*Aviza Site General Plan Amendment and Zone Change Draft EIR*, Kimley Horn, 2018
*City of Scotts Valley Bicycle Transportation Plan*, City of Scotts Valley, 2012
*Highway Capacity Manual*, Transportation Research Board, 2010
*Highway Design Manual,* 6th Edition, California Department of Transportation, 2017
*Mt. Hermon Road Traffic Mitigation Fair Share Contribution Policy*, City of Scotts Valley, 2010
*Parking Generation Handbook, 5th Edition*, Institute of Transportation Engineers, 2019
Santa Cruz Metropolitan Transit District, https://scmtd.com/en/
*Scotts Valley General Plan*, City of Scotts Valley, 1994
*Scotts Valley Municipal Code*, Municipal Code Corporation, 2017
*Statewide Integrated Traffic Records System (SWITRS)*, California Highway Patrol, 2015-2019
*Technical Advisory on Evaluating Transportation Impacts in CEQA*, Governor's Office of Planning and Research, 2018
*Traffic Impact Study for the Scotts Valley Townhomes*, W-Trans, 2015
*Trip Generation Manual*, 10th Edition, Institute of Transportation Engineers, 2017


SVA014

# Appendix A

## Collision Rate Calculations

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## Intersection Collision Rate Worksheet

**Traffic Impact Study for The Encore Project**

**Intersection # 1:** Mount Hermon Road & Scotts Valley Drive
**Date of Count:** Thursday, October 11, 2018

**Number of Collisions:** 27
**Number of Injuries:** 9
**Number of Fatalities:** 0
**Average Daily Traffic (ADT):** 42000
**Start Date:** January 1, 2015
**End Date:** December 31, 2019
**Number of Years:** 5

**Intersection Type:** Four-Legged
**Control Type:** Signals
**Area:** Urban

$$\text{Collision Rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x Days per Year x Number of Years}}$$

$$\text{Collision Rate} = \frac{27 \times 1{,}000{,}000}{42{,}000 \times 365 \times 5}$$

| | Collision Rate | Fatality Rate | Injury Rate |
|---|---|---|---|
| **Study Intersection** | **0.35 c/mve** | **0.0%** | **33.3%** |
| **Statewide Average*** | **0.24 c/mve** | **0.5%** | **44.6%** |

**Notes**
ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2016 Collision Data on California State Highways, Caltrans

**Intersection # 2:** Scotts Valley Drive & Bean Creek Road
**Date of Count:** Thursday, October 11, 2018

**Number of Collisions:** 7
**Number of Injuries:** 1
**Number of Fatalities:** 0
**Average Daily Traffic (ADT):** 22000
**Start Date:** January 1, 2015
**End Date:** December 31, 2019
**Number of Years:** 5

**Intersection Type:** Tee
**Control Type:** Signals
**Area:** Urban

$$\text{Collision Rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x Days per Year x Number of Years}}$$

$$\text{Collision Rate} = \frac{7 \times 1{,}000{,}000}{22{,}000 \times 365 \times 5}$$

| | Collision Rate | Fatality Rate | Injury Rate |
|---|---|---|---|
| **Study Intersection** | **0.17 c/mve** | **0.0%** | **14.3%** |
| **Statewide Average*** | **0.19 c/mve** | **0.4%** | **46.8%** |

**Notes**
ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2016 Collision Data on California State Highways, Caltrans

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# Appendix B

## Intersection Level of Service Calculations

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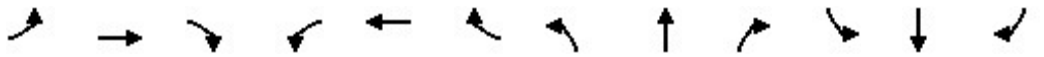


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 454 | 886 | 31 | 113 | 601 | 498 | 69 | 125 | 187 | 467 | 63 | 270 |
| Future Volume (veh/h) | 454 | 886 | 31 | 113 | 601 | 498 | 69 | 125 | 187 | 467 | 63 | 270 |
| Number | 1 | 6 | 16 | 5 | 2 | 12 | 7 | 4 | 14 | 3 | 8 | 18 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.96 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 493 | 963 | 34 | 123 | 653 | 0 | 75 | 136 | 203 | 508 | 68 | 0 |
| Adj No. of Lanes | 2 | 2 | 0 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 553 | 1520 | 54 | 149 | 1272 | 569 | 96 | 309 | 252 | 567 | 516 | 438 |
| Arrive On Green | 0.16 | 0.58 | 0.44 | 0.08 | 0.48 | 0.00 | 0.05 | 0.17 | 0.17 | 0.16 | 0.28 | 0.00 |
| Sat Flow, veh/h | 3442 | 3487 | 123 | 1774 | 3539 | 1583 | 1774 | 1863 | 1520 | 3442 | 1863 | 1583 |
| Grp Volume(v), veh/h | 493 | 489 | 508 | 123 | 653 | 0 | 75 | 136 | 203 | 508 | 68 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1721 | 1770 | 1841 | 1774 | 1770 | 1583 | 1774 | 1863 | 1520 | 1721 | 1863 | 1583 |
| Q Serve(g_s), s | 16.0 | 20.9 | 21.2 | 7.8 | 14.5 | 0.0 | 4.8 | 7.5 | 14.7 | 16.5 | 3.1 | 0.0 |
| Cycle Q Clear(g_c), s | 16.0 | 20.9 | 21.2 | 7.8 | 14.5 | 0.0 | 4.8 | 7.5 | 14.7 | 16.5 | 3.1 | 0.0 |
| Prop In Lane | 1.00 | | 0.07 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 553 | 771 | 802 | 149 | 1272 | 569 | 96 | 309 | 252 | 567 | 516 | 438 |
| V/C Ratio(X) | 0.89 | 0.63 | 0.63 | 0.82 | 0.51 | 0.00 | 0.78 | 0.44 | 0.81 | 0.90 | 0.13 | 0.00 |
| Avail Cap(c_a), veh/h | 664 | 771 | 802 | 202 | 1272 | 569 | 156 | 359 | 293 | 664 | 556 | 472 |
| HCM Platoon Ratio | 1.00 | 1.33 | 1.00 | 1.00 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.93 | 0.93 | 0.00 |
| Uniform Delay (d), s/veh | 46.9 | 17.9 | 18.4 | 51.4 | 22.8 | 0.0 | 53.3 | 42.8 | 45.8 | 46.6 | 30.9 | 0.0 |
| Incr Delay (d2), s/veh | 11.4 | 3.9 | 3.8 | 13.4 | 1.5 | 0.0 | 5.2 | 0.4 | 11.3 | 11.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.5 | 10.9 | 11.6 | 4.4 | 7.3 | 0.0 | 2.5 | 3.9 | 6.9 | 8.7 | 1.6 | 0.0 |
| LnGrp Delay(d),s/veh | 58.3 | 21.8 | 22.2 | 64.7 | 24.3 | 0.0 | 58.5 | 43.1 | 57.1 | 58.2 | 31.0 | 0.0 |
| LnGrp LOS | E | C | C | E | C | | E | D | E | E | C | |
| Approach Vol, veh/h | | 1490 | | | 776 | | | 414 | | | 576 | |
| Approach Delay, s/veh | | 34.0 | | | 30.7 | | | 52.8 | | | 55.0 | |
| Approach LOS | | C | | | C | | | D | | | D | |

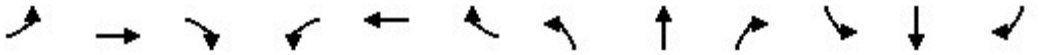
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Phs Duration (G+Y+Rc), s | 22.3 | 46.0 | 22.8 | 22.9 | 13.6 | 54.7 | 10.1 | 35.6 |
| Change Period (Y+Rc), s | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 |
| Max Green Setting (Gmax), s | 22.0 | 31.0 | 22.0 | 22.0 | 13.0 | 40.0 | 10.0 | 34.0 |
| Max Q Clear Time (g_c+I1), s | 18.0 | 16.5 | 18.5 | 16.7 | 9.8 | 23.2 | 6.8 | 5.1 |
| Green Ext Time (p_c), s | 0.3 | 4.9 | 0.3 | 0.3 | 0.0 | 7.9 | 0.0 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 2010 Ctrl Delay | 39.3 |
| HCM 2010 LOS | D |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 163 | 194 | 137 | 954 | 558 | 140 |
| Future Volume (veh/h) | 163 | 194 | 137 | 954 | 558 | 140 |
| Number | 7 | 14 | 5 | 2 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 0.92 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 187 | 223 | 157 | 1097 | 641 | 161 |
| Adj No. of Lanes | 1 | 1 | 1 | 2 | 3 | 1 |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 354 | 316 | 209 | 2150 | 1946 | 558 |
| Arrive On Green | 0.20 | 0.20 | 0.12 | 0.61 | 0.38 | 0.38 |
| Sat Flow, veh/h | 1774 | 1583 | 1774 | 3632 | 5253 | 1459 |
| Grp Volume(v), veh/h | 187 | 223 | 157 | 1097 | 641 | 161 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1583 | 1774 | 1770 | 1695 | 1459 |
| Q Serve(g_s), s | 4.4 | 6.1 | 4.0 | 8.2 | 4.2 | 3.6 |
| Cycle Q Clear(g_c), s | 4.4 | 6.1 | 4.0 | 8.2 | 4.2 | 3.6 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 354 | 316 | 209 | 2150 | 1946 | 558 |
| V/C Ratio(X) | 0.53 | 0.71 | 0.75 | 0.51 | 0.33 | 0.29 |
| Avail Cap(c_a), veh/h | 951 | 848 | 760 | 3034 | 4359 | 1251 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.7 | 17.4 | 19.9 | 5.2 | 10.2 | 10.0 |
| Incr Delay (d2), s/veh | 1.2 | 2.9 | 5.4 | 0.2 | 0.1 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.2 | 5.4 | 2.3 | 4.0 | 1.9 | 1.5 |
| LnGrp Delay(d),s/veh | 17.9 | 20.3 | 25.3 | 5.4 | 10.3 | 10.3 |
| LnGrp LOS | B | C | C | A | B | B |
| Approach Vol, veh/h | 410 | | | 1254 | 802 | |
| Approach Delay, s/veh | 19.2 | | | 7.9 | 10.3 | |
| Approach LOS | B | | | A | B | |

| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Assigned Phs | | 2 | | 4 | 5 | 6 | | |
| Phs Duration (G+Y+Rc), s | | 33.3 | | 13.3 | 10.5 | 22.9 | | |
| Change Period (Y+Rc), s | | 5.0 | | 4.0 | 5.0 | 5.0 | | |
| Max Green Setting (Gmax), s | | 40.0 | | 25.0 | 20.0 | 40.0 | | |
| Max Q Clear Time (g_c+I1), s | | 10.2 | | 8.1 | 6.0 | 6.2 | | |
| Green Ext Time (p_c), s | | 9.2 | | 1.2 | 0.3 | 5.5 | | |

| Intersection Summary | |
|---|---|
| HCM 2010 Ctrl Delay | 10.5 |
| HCM 2010 LOS | B |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 431 | 705 | 91 | 185 | 1198 | 366 | 81 | 63 | 84 | 422 | 87 | 631 |
| Future Volume (veh/h) | 431 | 705 | 91 | 185 | 1198 | 366 | 81 | 63 | 84 | 422 | 87 | 631 |
| Number | 1 | 6 | 16 | 5 | 2 | 12 | 7 | 4 | 14 | 3 | 8 | 18 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 444 | 727 | 94 | 191 | 1235 | 0 | 84 | 65 | 87 | 435 | 90 | 0 |
| Adj No. of Lanes | 2 | 2 | 0 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 447 | 1469 | 190 | 222 | 1636 | 732 | 106 | 169 | 139 | 506 | 331 | 281 |
| Arrive On Green | 0.13 | 0.62 | 0.47 | 0.13 | 0.61 | 0.00 | 0.06 | 0.09 | 0.09 | 0.15 | 0.18 | 0.00 |
| Sat Flow, veh/h | 3442 | 3145 | 406 | 1774 | 3539 | 1583 | 1774 | 1863 | 1535 | 3442 | 1863 | 1583 |
| Grp Volume(v), veh/h | 444 | 409 | 412 | 191 | 1235 | 0 | 84 | 65 | 87 | 435 | 90 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1721 | 1770 | 1782 | 1774 | 1770 | 1583 | 1774 | 1863 | 1535 | 1721 | 1863 | 1583 |
| Q Serve(g_s), s | 12.9 | 12.6 | 13.5 | 10.6 | 25.1 | 0.0 | 4.7 | 3.3 | 5.5 | 12.3 | 4.2 | 0.0 |
| Cycle Q Clear(g_c), s | 12.9 | 12.6 | 13.5 | 10.6 | 25.1 | 0.0 | 4.7 | 3.3 | 5.5 | 12.3 | 4.2 | 0.0 |
| Prop In Lane | 1.00 | | 0.23 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 447 | 827 | 832 | 222 | 1636 | 732 | 106 | 169 | 139 | 506 | 331 | 281 |
| V/C Ratio(X) | 0.99 | 0.49 | 0.50 | 0.86 | 0.75 | 0.00 | 0.79 | 0.39 | 0.63 | 0.86 | 0.27 | 0.00 |
| Avail Cap(c_a), veh/h | 447 | 827 | 832 | 248 | 1636 | 732 | 106 | 335 | 276 | 619 | 559 | 475 |
| HCM Platoon Ratio | 1.00 | 1.33 | 1.00 | 1.00 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.84 | 0.84 | 0.00 |
| Uniform Delay (d), s/veh | 43.5 | 12.5 | 13.8 | 42.9 | 15.2 | 0.0 | 46.4 | 42.8 | 43.8 | 41.6 | 35.5 | 0.0 |
| Incr Delay (d2), s/veh | 40.4 | 2.1 | 2.1 | 21.3 | 3.3 | 0.0 | 29.5 | 0.5 | 1.7 | 7.4 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.6 | 6.6 | 7.0 | 6.5 | 12.9 | 0.0 | 3.2 | 1.7 | 2.4 | 6.4 | 2.2 | 0.0 |
| LnGrp Delay(d),s/veh | 83.9 | 14.6 | 15.9 | 64.1 | 18.5 | 0.0 | 75.9 | 43.4 | 45.6 | 49.0 | 35.7 | 0.0 |
| LnGrp LOS | F | B | B | E | B | | E | D | D | D | D | |
| Approach Vol, veh/h | | 1265 | | | 1426 | | | 236 | | | 525 | |
| Approach Delay, s/veh | | 39.3 | | | 24.6 | | | 55.8 | | | 46.7 | |
| Approach LOS | | D | | | C | | | E | | | D | |

| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Phs Duration (G+Y+Rc), s | 17.0 | 51.2 | 18.7 | 13.1 | 16.5 | 51.7 | 10.0 | 21.8 |
| Change Period (Y+Rc), s | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 |
| Max Green Setting (Gmax), s | 13.0 | 34.0 | 18.0 | 18.0 | 14.0 | 33.0 | 6.0 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 14.9 | 27.1 | 14.3 | 7.5 | 12.6 | 15.5 | 6.7 | 6.2 |
| Green Ext Time (p_c), s | 0.0 | 5.1 | 0.4 | 0.2 | 0.0 | 6.6 | 0.0 | 0.2 |

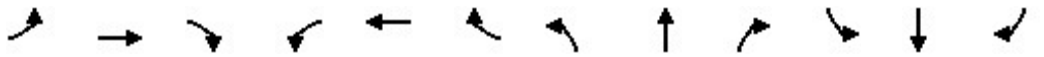
| Intersection Summary | |
|---|---|
| HCM 2010 Ctrl Delay | 35.5 |
| HCM 2010 LOS | D |

Notes

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 131 | 88 | 167 | 711 | 1032 | 151 |
| Future Volume (veh/h) | 131 | 88 | 167 | 711 | 1032 | 151 |
| Number | 7 | 14 | 5 | 2 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1569 | 1863 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 138 | 93 | 176 | 748 | 1086 | 159 |
| Adj No. of Lanes | 1 | 1 | 1 | 2 | 3 | 1 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 221 | 198 | 221 | 2401 | 2142 | 647 |
| Arrive On Green | 0.12 | 0.12 | 0.15 | 0.68 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1774 | 1583 | 1494 | 3632 | 5253 | 1536 |
| Grp Volume(v), veh/h | 138 | 93 | 176 | 748 | 1086 | 159 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1583 | 1494 | 1770 | 1695 | 1536 |
| Q Serve(g_s), s | 3.4 | 2.5 | 5.2 | 3.9 | 7.2 | 3.1 |
| Cycle Q Clear(g_c), s | 3.4 | 2.5 | 5.2 | 3.9 | 7.2 | 3.1 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 221 | 198 | 221 | 2401 | 2142 | 647 |
| V/C Ratio(X) | 0.62 | 0.47 | 0.80 | 0.31 | 0.51 | 0.25 |
| Avail Cap(c_a), veh/h | 970 | 866 | 654 | 3096 | 4449 | 1343 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.0 | 18.6 | 18.8 | 3.0 | 9.7 | 8.5 |
| Incr Delay (d2), s/veh | 2.9 | 1.7 | 6.5 | 0.1 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 2.3 | 2.5 | 1.9 | 3.4 | 1.3 |
| LnGrp Delay(d),s/veh | 21.8 | 20.3 | 25.3 | 3.1 | 9.9 | 8.7 |
| LnGrp LOS | C | C | C | A | A | A |
| Approach Vol, veh/h | 231 | | | 924 | 1245 | |
| Approach Delay, s/veh | 21.2 | | | 7.3 | 9.8 | |
| Approach LOS | C | | | A | A | |

| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Assigned Phs | | 2 | | 4 | 5 | 6 | | |
| Phs Duration (G+Y+Rc), s | | 36.0 | | 9.7 | 11.8 | 24.3 | | |
| Change Period (Y+Rc), s | | 5.0 | | 4.0 | 5.0 | 5.0 | | |
| Max Green Setting (Gmax), s | | 40.0 | | 25.0 | 20.0 | 40.0 | | |
| Max Q Clear Time (g_c+I1), s | | 5.9 | | 5.4 | 7.2 | 9.2 | | |
| Green Ext Time (p_c), s | | 5.7 | | 0.6 | 0.4 | 9.7 | | |

| Intersection Summary | |
|---|---|
| HCM 2010 Ctrl Delay | 9.9 |
| HCM 2010 LOS | A |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 455 | 886 | 31 | 113 | 601 | 498 | 69 | 125 | 187 | 470 | 63 | 271 |
| Future Volume (veh/h) | 455 | 886 | 31 | 113 | 601 | 498 | 69 | 125 | 187 | 470 | 63 | 271 |
| Number | 1 | 6 | 16 | 5 | 2 | 12 | 7 | 4 | 14 | 3 | 8 | 18 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.96 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 495 | 963 | 34 | 123 | 653 | 0 | 75 | 136 | 203 | 511 | 68 | 0 |
| Adj No. of Lanes | 2 | 2 | 0 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 555 | 1517 | 54 | 149 | 1267 | 567 | 96 | 309 | 252 | 570 | 517 | 440 |
| Arrive On Green | 0.16 | 0.58 | 0.44 | 0.08 | 0.48 | 0.00 | 0.05 | 0.17 | 0.17 | 0.17 | 0.28 | 0.00 |
| Sat Flow, veh/h | 3442 | 3487 | 123 | 1774 | 3539 | 1583 | 1774 | 1863 | 1520 | 3442 | 1863 | 1583 |
| Grp Volume(v), veh/h | 495 | 489 | 508 | 123 | 653 | 0 | 75 | 136 | 203 | 511 | 68 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1721 | 1770 | 1841 | 1774 | 1770 | 1583 | 1774 | 1863 | 1520 | 1721 | 1863 | 1583 |
| Q Serve(g_s), s | 16.1 | 21.0 | 21.2 | 7.8 | 14.6 | 0.0 | 4.8 | 7.5 | 14.7 | 16.6 | 3.1 | 0.0 |
| Cycle Q Clear(g_c), s | 16.1 | 21.0 | 21.2 | 7.8 | 14.6 | 0.0 | 4.8 | 7.5 | 14.7 | 16.6 | 3.1 | 0.0 |
| Prop In Lane | 1.00 | | 0.07 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 555 | 770 | 801 | 149 | 1267 | 567 | 96 | 309 | 252 | 570 | 517 | 440 |
| V/C Ratio(X) | 0.89 | 0.63 | 0.63 | 0.82 | 0.52 | 0.00 | 0.78 | 0.44 | 0.81 | 0.90 | 0.13 | 0.00 |
| Avail Cap(c_a), veh/h | 664 | 770 | 801 | 202 | 1267 | 567 | 156 | 359 | 293 | 664 | 556 | 472 |
| HCM Platoon Ratio | 1.00 | 1.33 | 1.00 | 1.00 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.93 | 0.93 | 0.00 |
| Uniform Delay (d), s/veh | 46.8 | 18.0 | 18.5 | 51.4 | 23.0 | 0.0 | 53.3 | 42.8 | 45.8 | 46.6 | 30.9 | 0.0 |
| Incr Delay (d2), s/veh | 11.5 | 4.0 | 3.8 | 13.4 | 1.5 | 0.0 | 5.2 | 0.4 | 11.3 | 11.7 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.5 | 10.9 | 11.6 | 4.4 | 7.3 | 0.0 | 2.5 | 3.9 | 6.9 | 8.8 | 1.6 | 0.0 |
| LnGrp Delay(d),s/veh | 58.3 | 21.9 | 22.3 | 64.7 | 24.5 | 0.0 | 58.5 | 43.1 | 57.1 | 58.3 | 30.9 | 0.0 |
| LnGrp LOS | E | C | C | E | C | | E | D | E | E | C | |
| Approach Vol, veh/h | | 1492 | | | 776 | | | 414 | | | 579 | |
| Approach Delay, s/veh | | 34.1 | | | 30.9 | | | 52.8 | | | 55.1 | |
| Approach LOS | | C | | | C | | | D | | | E | |

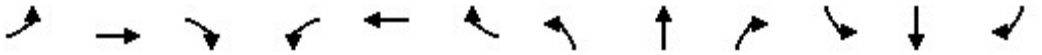
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Phs Duration (G+Y+Rc), s | 22.4 | 45.8 | 22.9 | 22.9 | 13.6 | 54.6 | 10.1 | 35.7 |
| Change Period (Y+Rc), s | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 |
| Max Green Setting (Gmax), s | 22.0 | 31.0 | 22.0 | 22.0 | 13.0 | 40.0 | 10.0 | 34.0 |
| Max Q Clear Time (g_c+I1), s | 18.1 | 16.6 | 18.6 | 16.7 | 9.8 | 23.2 | 6.8 | 5.1 |
| Green Ext Time (p_c), s | 0.3 | 4.9 | 0.3 | 0.3 | 0.0 | 7.9 | 0.0 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 2010 Ctrl Delay | 39.4 |
| HCM 2010 LOS | D |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 163 | 194 | 137 | 956 | 562 | 140 |
| Future Volume (veh/h) | 163 | 194 | 137 | 956 | 562 | 140 |
| Number | 7 | 14 | 5 | 2 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 0.92 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 187 | 223 | 157 | 1099 | 646 | 161 |
| Adj No. of Lanes | 1 | 1 | 1 | 2 | 3 | 1 |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 354 | 316 | 209 | 2151 | 1948 | 559 |
| Arrive On Green | 0.20 | 0.20 | 0.12 | 0.61 | 0.38 | 0.38 |
| Sat Flow, veh/h | 1774 | 1583 | 1774 | 3632 | 5253 | 1459 |
| Grp Volume(v), veh/h | 187 | 223 | 157 | 1099 | 646 | 161 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1583 | 1774 | 1770 | 1695 | 1459 |
| Q Serve(g_s), s | 4.4 | 6.1 | 4.0 | 8.3 | 4.2 | 3.6 |
| Cycle Q Clear(g_c), s | 4.4 | 6.1 | 4.0 | 8.3 | 4.2 | 3.6 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 354 | 316 | 209 | 2151 | 1948 | 559 |
| V/C Ratio(X) | 0.53 | 0.71 | 0.75 | 0.51 | 0.33 | 0.29 |
| Avail Cap(c_a), veh/h | 949 | 847 | 759 | 3030 | 4354 | 1250 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.7 | 17.4 | 19.9 | 5.2 | 10.2 | 10.0 |
| Incr Delay (d2), s/veh | 1.2 | 2.9 | 5.4 | 0.2 | 0.1 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 5.4 | 2.3 | 4.0 | 1.9 | 1.5 |
| LnGrp Delay(d),s/veh | 18.0 | 20.3 | 25.3 | 5.4 | 10.3 | 10.3 |
| LnGrp LOS | B | C | C | A | B | B |
| Approach Vol, veh/h | 410 | | | 1256 | 807 | |
| Approach Delay, s/veh | 19.2 | | | 7.9 | 10.3 | |
| Approach LOS | B | | | A | B | |

| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Assigned Phs | | 2 | | 4 | 5 | 6 | | |
| Phs Duration (G+Y+Rc), s | | 33.4 | | 13.3 | 10.5 | 22.9 | | |
| Change Period (Y+Rc), s | | 5.0 | | 4.0 | 5.0 | 5.0 | | |
| Max Green Setting (Gmax), s | | 40.0 | | 25.0 | 20.0 | 40.0 | | |
| Max Q Clear Time (g_c+I1), s | | 10.3 | | 8.1 | 6.0 | 6.2 | | |
| Green Ext Time (p_c), s | | 9.2 | | 1.2 | 0.3 | 5.5 | | |

| Intersection Summary | |
|---|---|
| HCM 2010 Ctrl Delay | 10.6 |
| HCM 2010 LOS | B |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 433 | 705 | 91 | 185 | 1198 | 368 | 81 | 63 | 84 | 425 | 87 | 632 |
| Future Volume (veh/h) | 433 | 705 | 91 | 185 | 1198 | 368 | 81 | 63 | 84 | 425 | 87 | 632 |
| Number | 1 | 6 | 16 | 5 | 2 | 12 | 7 | 4 | 14 | 3 | 8 | 18 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 446 | 727 | 94 | 191 | 1235 | 0 | 84 | 65 | 87 | 438 | 90 | 0 |
| Adj No. of Lanes | 2 | 2 | 0 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 447 | 1466 | 189 | 222 | 1634 | 731 | 106 | 169 | 139 | 509 | 332 | 283 |
| Arrive On Green | 0.13 | 0.62 | 0.47 | 0.13 | 0.61 | 0.00 | 0.06 | 0.09 | 0.09 | 0.15 | 0.18 | 0.00 |
| Sat Flow, veh/h | 3442 | 3145 | 406 | 1774 | 3539 | 1583 | 1774 | 1863 | 1535 | 3442 | 1863 | 1583 |
| Grp Volume(v), veh/h | 446 | 409 | 412 | 191 | 1235 | 0 | 84 | 65 | 87 | 438 | 90 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1721 | 1770 | 1782 | 1774 | 1770 | 1583 | 1774 | 1863 | 1535 | 1721 | 1863 | 1583 |
| Q Serve(g_s), s | 13.0 | 12.7 | 13.5 | 10.6 | 25.1 | 0.0 | 4.7 | 3.3 | 5.5 | 12.4 | 4.2 | 0.0 |
| Cycle Q Clear(g_c), s | 13.0 | 12.7 | 13.5 | 10.6 | 25.1 | 0.0 | 4.7 | 3.3 | 5.5 | 12.4 | 4.2 | 0.0 |
| Prop In Lane | 1.00 | | 0.23 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 447 | 825 | 831 | 222 | 1634 | 731 | 106 | 169 | 139 | 509 | 332 | 283 |
| V/C Ratio(X) | 1.00 | 0.50 | 0.50 | 0.86 | 0.76 | 0.00 | 0.79 | 0.39 | 0.63 | 0.86 | 0.27 | 0.00 |
| Avail Cap(c_a), veh/h | 447 | 825 | 831 | 248 | 1634 | 731 | 106 | 335 | 276 | 619 | 559 | 475 |
| HCM Platoon Ratio | 1.00 | 1.33 | 1.00 | 1.00 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.84 | 0.84 | 0.00 |
| Uniform Delay (d), s/veh | 43.5 | 12.5 | 13.9 | 42.9 | 15.2 | 0.0 | 46.4 | 42.8 | 43.8 | 41.6 | 35.5 | 0.0 |
| Incr Delay (d2), s/veh | 41.7 | 2.1 | 2.1 | 21.3 | 3.3 | 0.0 | 29.5 | 0.5 | 1.7 | 7.5 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.7 | 6.6 | 7.1 | 6.5 | 12.9 | 0.0 | 3.2 | 1.7 | 2.4 | 6.4 | 2.2 | 0.0 |
| LnGrp Delay(d),s/veh | 85.1 | 14.7 | 16.0 | 64.1 | 18.6 | 0.0 | 75.9 | 43.4 | 45.6 | 49.1 | 35.6 | 0.0 |
| LnGrp LOS | F | B | B | E | B | | E | D | D | D | D | |
| Approach Vol, veh/h | | 1267 | | | 1426 | | | 236 | | | 528 | |
| Approach Delay, s/veh | | 39.9 | | | 24.7 | | | 55.8 | | | 46.8 | |
| Approach LOS | | D | | | C | | | E | | | D | |

| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Phs Duration (G+Y+Rc), s | 17.0 | 51.2 | 18.8 | 13.1 | 16.5 | 51.6 | 10.0 | 21.8 |
| Change Period (Y+Rc), s | 4.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 |
| Max Green Setting (Gmax), s | 13.0 | 34.0 | 18.0 | 18.0 | 14.0 | 33.0 | 6.0 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 15.0 | 27.1 | 14.4 | 7.5 | 12.6 | 15.5 | 6.7 | 6.2 |
| Green Ext Time (p_c), s | 0.0 | 5.1 | 0.4 | 0.2 | 0.0 | 6.6 | 0.0 | 0.2 |

| Intersection Summary | |
|---|---|
| HCM 2010 Ctrl Delay | 35.8 |
| HCM 2010 LOS | D |

Notes

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 131 | 88 | 167 | 717 | 1036 | 151 |
| Future Volume (veh/h) | 131 | 88 | 167 | 717 | 1036 | 151 |
| Number | 7 | 14 | 5 | 2 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1569 | 1863 | 1863 | 1863 |
| Adj Flow Rate, veh/h | 138 | 93 | 176 | 755 | 1091 | 159 |
| Adj No. of Lanes | 1 | 1 | 1 | 2 | 3 | 1 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 221 | 197 | 221 | 2403 | 2147 | 648 |
| Arrive On Green | 0.12 | 0.12 | 0.15 | 0.68 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1774 | 1583 | 1494 | 3632 | 5253 | 1536 |
| Grp Volume(v), veh/h | 138 | 93 | 176 | 755 | 1091 | 159 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1583 | 1494 | 1770 | 1695 | 1536 |
| Q Serve(g_s), s | 3.4 | 2.5 | 5.2 | 4.0 | 7.2 | 3.1 |
| Cycle Q Clear(g_c), s | 3.4 | 2.5 | 5.2 | 4.0 | 7.2 | 3.1 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Lane Grp Cap(c), veh/h | 221 | 197 | 221 | 2403 | 2147 | 648 |
| V/C Ratio(X) | 0.62 | 0.47 | 0.80 | 0.31 | 0.51 | 0.25 |
| Avail Cap(c_a), veh/h | 968 | 864 | 652 | 3088 | 4438 | 1340 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.0 | 18.7 | 18.9 | 3.0 | 9.7 | 8.5 |
| Incr Delay (d2), s/veh | 2.9 | 1.7 | 6.5 | 0.1 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 2.3 | 2.5 | 1.9 | 3.4 | 1.3 |
| LnGrp Delay(d),s/veh | 21.9 | 20.4 | 25.4 | 3.1 | 9.9 | 8.7 |
| LnGrp LOS | C | C | C | A | A | A |
| Approach Vol, veh/h | 231 | | | 931 | 1250 | |
| Approach Delay, s/veh | 21.3 | | | 7.3 | 9.8 | |
| Approach LOS | C | | | A | A | |

| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Assigned Phs | | 2 | | 4 | 5 | 6 | | |
| Phs Duration (G+Y+Rc), s | | 36.1 | | 9.7 | 11.8 | 24.4 | | |
| Change Period (Y+Rc), s | | 5.0 | | 4.0 | 5.0 | 5.0 | | |
| Max Green Setting (Gmax), s | | 40.0 | | 25.0 | 20.0 | 40.0 | | |
| Max Q Clear Time (g_c+I1), s | | 6.0 | | 5.4 | 7.2 | 9.2 | | |
| Green Ext Time (p_c), s | | 5.8 | | 0.6 | 0.4 | 9.7 | | |

| Intersection Summary | |
|---|---|
| HCM 2010 Ctrl Delay | 9.9 |
| HCM 2010 LOS | A |

# Appendix C

## Queuing Calculations

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## Intersection: 1: Whispering Pines Dr/Scotts Valley Dr & Mt. Hermon Rd

| Movement | EB | EB | EB | EB | WB | WB | WB | WB | NB | NB | NB | SB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Directions Served | L | L | T | TR | L | T | T | R | L | T | R | L |
| Maximum Queue (ft) | 249 | 300 | 314 | 310 | 188 | 269 | 244 | 238 | 149 | 220 | 158 | 284 |
| Average Queue (ft) | 144 | 186 | 187 | 192 | 80 | 168 | 129 | 82 | 55 | 86 | 71 | 153 |
| 95th Queue (ft) | 227 | 265 | 285 | 284 | 154 | 246 | 219 | 187 | 113 | 167 | 136 | 235 |
| Link Distance (ft) | | | 803 | 803 | | 743 | 743 | 743 | | 359 | | |
| Upstream Blk Time (%) | | | | | | | | | | | | |
| Queuing Penalty (veh) | | | | | | | | | | | | |
| Storage Bay Dist (ft) | 300 | 300 | | | 305 | | | | 185 | | 140 | 315 |
| Storage Blk Time (%) | 0 | 0 | 0 | | | 0 | | | | 2 | 0 | 0 |
| Queuing Penalty (veh) | 0 | 0 | 1 | | | 0 | | | | 5 | 1 | 0 |

## Intersection: 1: Whispering Pines Dr/Scotts Valley Dr & Mt. Hermon Rd

| Movement | SB | SB | SB |
|---|---|---|---|
| Directions Served | L | T | R |
| Maximum Queue (ft) | 300 | 115 | 136 |
| Average Queue (ft) | 180 | 43 | 6 |
| 95th Queue (ft) | 266 | 91 | 56 |
| Link Distance (ft) | 509 | 509 | 509 |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | |
| Storage Blk Time (%) | 0 | | |
| Queuing Penalty (veh) | 0 | | |

## Intersection: 2: Scotts Valley Dr & Bean Creek Rd

| Movement | EB | EB | NB | NB | NB | SB | SB | SB | SB |
|---|---|---|---|---|---|---|---|---|---|
| Directions Served | L | R | L | T | T | T | T | T | R |
| Maximum Queue (ft) | 181 | 100 | 152 | 213 | 200 | 200 | 134 | 150 | 81 |
| Average Queue (ft) | 73 | 54 | 79 | 74 | 89 | 92 | 22 | 58 | 37 |
| 95th Queue (ft) | 140 | 102 | 135 | 160 | 158 | 161 | 75 | 113 | 68 |
| Link Distance (ft) | 283 | | | 509 | 509 | 332 | 332 | 332 | |
| Upstream Blk Time (%) | 0 | | | | | | | | |
| Queuing Penalty (veh) | 0 | | | | | | | | |
| Storage Bay Dist (ft) | | 75 | 135 | | | | | | 195 |
| Storage Blk Time (%) | 6 | 1 | 2 | 1 | | | | 0 | |
| Queuing Penalty (veh) | 11 | 1 | 8 | 1 | | | | 0 | |

## Network Summary

Network wide Queuing Penalty: 29

## Intersection: 1: Whispering Pines Dr/Scotts Valley Dr & Mt. Hermon Rd

| Movement | EB | EB | EB | EB | WB | WB | WB | WB | NB | NB | NB | SB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Directions Served | L | L | T | TR | L | T | T | R | L | T | R | L |
| Maximum Queue (ft) | 312 | 323 | 631 | 567 | 330 | 609 | 544 | 197 | 180 | 169 | 72 | 326 |
| Average Queue (ft) | 178 | 206 | 205 | 193 | 184 | 314 | 275 | 38 | 80 | 54 | 30 | 180 |
| 95th Queue (ft) | 313 | 328 | 501 | 428 | 346 | 521 | 469 | 129 | 160 | 119 | 57 | 321 |
| Link Distance (ft) | | | 803 | 803 | | 743 | 743 | 743 | | 359 | | |
| Upstream Blk Time (%) | | | 2 | 0 | | 0 | | | | 0 | | |
| Queuing Penalty (veh) | | | 0 | 0 | | 0 | | | | 0 | | |
| Storage Bay Dist (ft) | 300 | 300 | | | 305 | | | | 185 | | 140 | 315 |
| Storage Blk Time (%) | 1 | 8 | 0 | | 3 | 8 | | | 3 | 0 | | 2 |
| Queuing Penalty (veh) | 5 | 29 | 0 | | 20 | 15 | | | 4 | 1 | | 4 |

## Intersection: 1: Whispering Pines Dr/Scotts Valley Dr & Mt. Hermon Rd

| Movement | SB | SB | SB |
|---|---|---|---|
| Directions Served | L | T | R |
| Maximum Queue (ft) | 444 | 286 | 500 |
| Average Queue (ft) | 220 | 76 | 308 |
| 95th Queue (ft) | 399 | 201 | 542 |
| Link Distance (ft) | 509 | 509 | 509 |
| Upstream Blk Time (%) | 1 | 0 | 2 |
| Queuing Penalty (veh) | 4 | 0 | 7 |
| Storage Bay Dist (ft) | | | |
| Storage Blk Time (%) | 7 | | |
| Queuing Penalty (veh) | 14 | | |

## Intersection: 2: Scotts Valley Dr & Bean Creek Rd

| Movement | EB | EB | NB | NB | NB | SB | SB | SB | SB |
|---|---|---|---|---|---|---|---|---|---|
| Directions Served | L | R | L | T | T | T | T | T | R |
| Maximum Queue (ft) | 168 | 100 | 157 | 218 | 190 | 240 | 285 | 338 | 220 |
| Average Queue (ft) | 66 | 40 | 95 | 57 | 73 | 107 | 94 | 179 | 68 |
| 95th Queue (ft) | 127 | 88 | 155 | 156 | 151 | 194 | 240 | 313 | 185 |
| Link Distance (ft) | 283 | | | 509 | 509 | 332 | 332 | 332 | |
| Upstream Blk Time (%) | | | | | | 0 | 1 | 2 | |
| Queuing Penalty (veh) | | | | | | 0 | 0 | 0 | |
| Storage Bay Dist (ft) | | 75 | 135 | | | | | | 195 |
| Storage Blk Time (%) | 5 | 1 | 3 | 0 | | | | 6 | 0 |
| Queuing Penalty (veh) | 5 | 1 | 12 | 1 | | | | 10 | 0 |

## Network Summary

Network wide Queuing Penalty: 131

## Intersection: 1: Whispering Pines Dr/Scotts Valley Dr & Mt. Hermon Rd

| Movement | EB | EB | EB | EB | WB | WB | WB | WB | NB | NB | NB | SB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Directions Served | L | L | T | TR | L | T | T | R | L | T | R | L |
| Maximum Queue (ft) | 263 | 305 | 309 | 312 | 174 | 277 | 252 | 212 | 148 | 216 | 164 | 253 |
| Average Queue (ft) | 149 | 189 | 187 | 191 | 80 | 171 | 133 | 86 | 56 | 89 | 75 | 152 |
| 95th Queue (ft) | 237 | 269 | 286 | 288 | 145 | 253 | 226 | 187 | 112 | 173 | 143 | 231 |
| Link Distance (ft) | | | 803 | 803 | | 743 | 743 | 743 | | 359 | | |
| Upstream Blk Time (%) | | | | | | | | | | | | |
| Queuing Penalty (veh) | | | | | | | | | | | | |
| Storage Bay Dist (ft) | 300 | 300 | | | 305 | | | | 185 | | 140 | 315 |
| Storage Blk Time (%) | 0 | 0 | 0 | | | 0 | | | 0 | 3 | 1 | 0 |
| Queuing Penalty (veh) | 0 | 1 | 1 | | | 0 | | | 0 | 7 | 1 | 0 |

## Intersection: 1: Whispering Pines Dr/Scotts Valley Dr & Mt. Hermon Rd

| Movement | SB | SB | SB |
|---|---|---|---|
| Directions Served | L | T | R |
| Maximum Queue (ft) | 288 | 116 | 114 |
| Average Queue (ft) | 177 | 45 | 5 |
| 95th Queue (ft) | 259 | 95 | 49 |
| Link Distance (ft) | 509 | 509 | 509 |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | |
| Storage Blk Time (%) | 0 | | |
| Queuing Penalty (veh) | 0 | | |

## Intersection: 2: Scotts Valley Dr & Bean Creek Rd

| Movement | EB | EB | NB | NB | NB | SB | SB | SB | SB |
|---|---|---|---|---|---|---|---|---|---|
| Directions Served | L | R | L | T | T | T | T | T | R |
| Maximum Queue (ft) | 188 | 100 | 147 | 188 | 193 | 193 | 147 | 126 | 92 |
| Average Queue (ft) | 77 | 55 | 72 | 73 | 93 | 87 | 28 | 57 | 40 |
| 95th Queue (ft) | 148 | 103 | 128 | 151 | 161 | 153 | 89 | 104 | 73 |
| Link Distance (ft) | 283 | | | 509 | 509 | 332 | 332 | 332 | |
| Upstream Blk Time (%) | | | | | | | | | |
| Queuing Penalty (veh) | | | | | | | | | |
| Storage Bay Dist (ft) | | 75 | 135 | | | | | 195 | |
| Storage Blk Time (%) | 6 | 1 | 1 | 1 | | | | | |
| Queuing Penalty (veh) | 11 | 2 | 5 | 1 | | | | | |

## Network Summary

Network wide Queuing Penalty: 28

## Intersection: 1: Whispering Pines Dr/Scotts Valley Dr & Mt. Hermon Rd

| Movement | EB | EB | EB | EB | WB | WB | WB | WB | NB | NB | NB | SB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Directions Served | L | L | T | TR | L | T | T | R | L | T | R | L |
| Maximum Queue (ft) | 295 | 308 | 482 | 422 | 330 | 566 | 525 | 243 | 154 | 116 | 64 | 322 |
| Average Queue (ft) | 157 | 195 | 178 | 173 | 182 | 316 | 275 | 39 | 71 | 47 | 30 | 158 |
| 95th Queue (ft) | 284 | 302 | 402 | 346 | 342 | 513 | 474 | 170 | 136 | 93 | 54 | 276 |
| Link Distance (ft) | | | 803 | 803 | | 743 | 743 | 743 | | 359 | | |
| Upstream Blk Time (%) | | | 0 | | | 0 | 0 | 0 | | | | |
| Queuing Penalty (veh) | | | 0 | | | 0 | 0 | 0 | | | | |
| Storage Bay Dist (ft) | 300 | 300 | | | 305 | | | | 185 | | 140 | 315 |
| Storage Blk Time (%) | 1 | 5 | 0 | | 0 | 11 | | | 0 | 0 | | 1 |
| Queuing Penalty (veh) | 4 | 16 | 0 | | 3 | 20 | | | 1 | 0 | | 1 |

## Intersection: 1: Whispering Pines Dr/Scotts Valley Dr & Mt. Hermon Rd

| Movement | SB | SB | SB |
|---|---|---|---|
| Directions Served | L | T | R |
| Maximum Queue (ft) | 397 | 259 | 509 |
| Average Queue (ft) | 188 | 68 | 302 |
| 95th Queue (ft) | 319 | 158 | 518 |
| Link Distance (ft) | 509 | 509 | 509 |
| Upstream Blk Time (%) | 0 | | 1 |
| Queuing Penalty (veh) | 0 | | 3 |
| Storage Bay Dist (ft) | | | |
| Storage Blk Time (%) | 2 | | |
| Queuing Penalty (veh) | 4 | | |

## Intersection: 2: Scotts Valley Dr & Bean Creek Rd

| Movement | EB | EB | NB | NB | NB | SB | SB | SB | SB |
|---|---|---|---|---|---|---|---|---|---|
| Directions Served | L | R | L | T | T | T | T | T | R |
| Maximum Queue (ft) | 157 | 99 | 157 | 217 | 188 | 218 | 279 | 347 | 219 |
| Average Queue (ft) | 67 | 39 | 90 | 53 | 69 | 102 | 75 | 169 | 62 |
| 95th Queue (ft) | 126 | 88 | 153 | 146 | 139 | 185 | 202 | 291 | 169 |
| Link Distance (ft) | 283 | | | 509 | 509 | 332 | 332 | 332 | |
| Upstream Blk Time (%) | | | | | | 0 | 0 | 1 | |
| Queuing Penalty (veh) | | | | | | 0 | 0 | 0 | |
| Storage Bay Dist (ft) | | 75 | 135 | | | | | | 195 |
| Storage Blk Time (%) | 6 | 1 | 3 | 0 | | | | 5 | 0 |
| Queuing Penalty (veh) | 5 | 1 | 9 | 1 | | | | 7 | 0 |

## Network Summary

Network wide Queuing Penalty: 75

# Appendix D

## Sight Distance Triangle Exhibit

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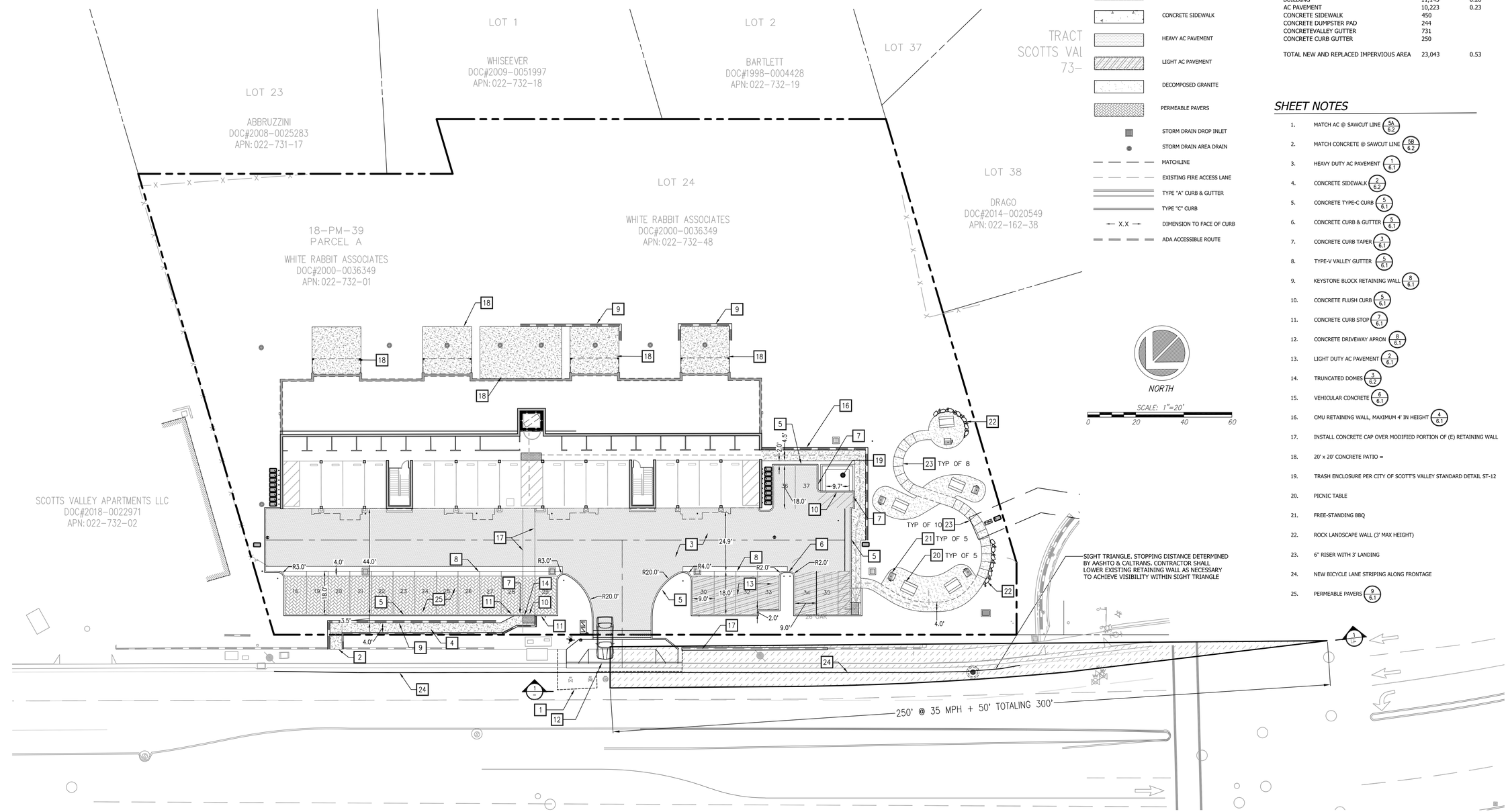



## LEGEND

- VEHICULAR CONCRETE
- CONCRETE SIDEWALK
- HEAVY AC PAVEMENT
- LIGHT AC PAVEMENT
- DECOMPOSED GRANITE
- PERMEABLE PAVERS
- STORM DRAIN DROP INLET
- STORM DRAIN AREA DRAIN
- MATCHLINE
- EXISTING FIRE ACCESS LANE
- TYPE "A" CURB & GUTTER
- TYPE "C" CURB
- X.X — DIMENSION TO FACE OF CURB
- ADA ACCESSIBLE ROUTE

NORTH

SCALE: 1"=20'

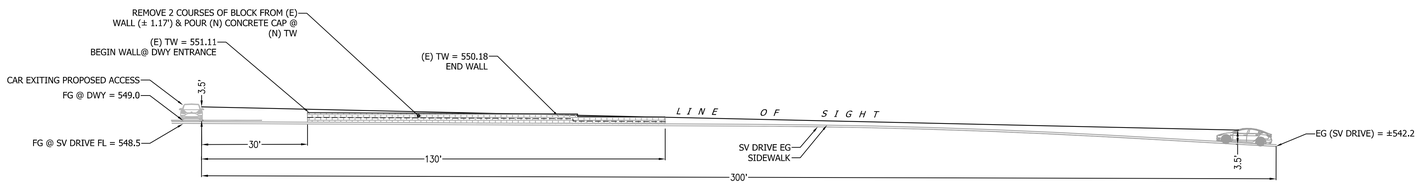
0 20 40 60

## IMPERVIOUS AREA CALCULATIONS

| | SQ FT | ACRES |
|---|---|---|
| NEW | | |
| BUILDING | 11,145 | 0.26 |
| AC PAVEMENT | 10,223 | 0.23 |
| CONCRETE SIDEWALK | 450 | |
| CONCRETE DUMPSTER PAD | 244 | |
| CONCRETEVALLEY GUTTER | 731 | |
| CONCRETE CURB GUTTER | 250 | |
| TOTAL NEW AND REPLACED IMPERVIOUS AREA | 23,043 | 0.53 |

## SHEET NOTES

1. MATCH AC @ SAWCUT LINE (5A 6.2)
2. MATCH CONCRETE @ SAWCUT LINE (5B 6.2)
3. HEAVY DUTY AC PAVEMENT (1 6.1)
4. CONCRETE SIDEWALK (2 6.2)
5. CONCRETE TYPE-C CURB (5 6.1)
6. CONCRETE CURB & GUTTER (5 6.1)
7. CONCRETE CURB TAPER (3 6.1)
8. TYPE-V VALLEY GUTTER (5 6.1)
9. KEYSTONE BLOCK RETAINING WALL (8 6.1)
10. CONCRETE FLUSH CURB (5 6.1)
11. CONCRETE CURB STOP (7 6.1)
12. CONCRETE DRIVEWAY APRON (8 6.1)
13. LIGHT DUTY AC PAVEMENT (2 6.1)
14. TRUNCATED DOMES (3 6.2)
15. VEHICULAR CONCRETE (6 6.1)
16. CMU RETAINING WALL, MAXIMUM 4' IN HEIGHT (4 6.1)
17. INSTALL CONCRETE CAP OVER MODIFIED PORTION OF (E) RETAINING WALL
18. 20' x 20' CONCRETE PATIO =
19. TRASH ENCLOSURE PER CITY OF SCOTT'S VALLEY STANDARD DETAIL ST-12
20. PICNIC TABLE
21. FREE-STANDING BBQ
22. ROCK LANDSCAPE WALL (3' MAX HEIGHT)
23. 6" RISER WITH 3' LANDING
24. NEW BICYCLE LANE STRIPING ALONG FRONTAGE
25. PERMEABLE PAVERS (9 6.1)




1 LINE OF SIGHT ELEVATION

Scale: 1":20'

| REVISIONS | BY |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

SITE PLAN

REGISTERED PROFESSIONAL ENGINEER TODD R. CREAMER No. C 64561 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

C2G /CIVIL CONSULTANTS GROUP, INC.
Engineers/Planners
4444 Scotts Valley Drive / Suite 6
Scotts Valley, CA 95066
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THE ENCORE
SCOTTS VALLEY, CALIFORNIA
APN #022-732-01 & 48

| | |
|---|---|
| Date: | 03.08.21 |
| Scale: | 1" = 20' |
| Drawn: | DD |
| Job: | 249-60 |
| Sheet: | C2.1 |
| Of | 26 Sheets |

Drawing: Z:\Shared\CAD\249-60 Penn - White Rabbit\Design\CAD\Sheets\C2.1 - SITE PLAN_.dwg Layout: C2.1 Last Saved: Thu Mar 11, 2021 - 3:45pm Last Plotted: Thu Mar 11, 2021 - 4:18pm By: Dane