COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT F

GEOTECHNICAL INVESTIGATION
SULLIVAN RESIDENCE
APN 082-160-130
SAN MATEO COUNTY, CALIFORNIA

THIS REPORT HAS BEEN PREPARED FOR:

TIM SULLIVAN

6175 LA HONDA ROAD

LA HONDA, CALIFORNIA 94102

JANUARY 2015

MURRAY ENGINEERS INC
GEOTECHNICAL SERVICES

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INTRODUCTION

This report presents the results of our geotechnical investigation relating to the design and construction of a new residence and associated improvements on your property, APN 082-160-130 in unincorporated San Mateo County. The project location is indicated on the Vicinity Map, Figure A-1. The purpose of our investigation was to evaluate the subsurface conditions on the site in the area of the proposed improvements and to provide geotechnical design criteria and recommendations for the project.

Project Description

The project consists of constructing a new, 2,200 square foot, prefabricated Blu Homes residence ("Balance Vista" model) in the central northwestern portion of the property. The residence will include a 2,135 square-foot daylighting, custom, site-built full basement and a 960 square foot detached, custom, site-built garage. Raised wood decking is planned along the northwest and east sides of the house, totaling 1,015 square feet. A new gravel-surfaced driveway with a fire truck turn-around is planned from the house site to a shared driveway which extends to La Honda Road. We anticipate that structural loads for the improvements will be relatively light and typical of residential construction. The layout of the existing and proposed improvements is shown on the Site Plan, Figure A-2

Scope of Services

We performed the following services in accordance with our agreement with you dated November 21, 2014 (executed on December 3, 2014):

- Reviewed geologic and seismic conditions in the site vicinity and commented on the geologic hazards that could potentially impact the site and the proposed improvements
- Performed a reconnaissance of the site in the area of the proposed improvements
- Explored the subsurface by advancing and logging two exploratory borings in the vicinity of the proposed improvements
- Performed laboratory analysis of select soil samples for soil classification and to evaluate engineering properties of the subsurface materials
- Performed geotechnical engineering analyses to develop geotechnical engineering design criteria for the proposed improvements
- Prepared this report containing a summary of our investigation and our geotechnical conclusions and recommendations

GEOLOGIC & SEISMIC CONDITIONS

Geologic Overview

The subject property is located along the western side of the central Santa Cruz Mountains, a northwest-trending range within the California Coast Ranges geomorphic province. The site is situated on a gently to moderately sloping, south-facing hillside. Elevations across the property vary from a high of approximately 290 feet above mean sea level along the northwestern side of the property down to a low of approximately 210 feet along the south portion of the property (see Figure A-1).

According to the Preliminary Geologic Map of the La Honda and San Gregorio Quadrangle (Brabb, 1980), the site is located in an area underlain at depth by Pliocene age (approximately 1.8 to 5.3 million years old) Pomponio Mudstone bedrock of the Purisma Formation (Tpp). This bedrock material consists of gray to white porcelaneous shale and mudstone in places rhythmically bedded with alternating layers of non-siliceous mudstone, and resembles Santa Cruz Mudstone and Lambert Shale units. The relevant portion of this preliminary geologic map is included on Figure A-3, Vicinity Geologic Map. This older mapping is consistent with the more recent Geologic Map of the Onshore Part of San Mateo County (Brabb and others, 1998).

According to the Preliminary Map of Landslide Deposits in San Mateo County (Brabb and Pampeyan, 1972), no landslides are mapped on the property. The map does indicate that a landslide scarp is located approximately 1,000 feet northeast of the proposed house site; however, in our opinion this feature appears to be more of an erosional feature than a deep-seated landslide. The relevant portion of the landslide deposit map is included as Figure A-4, Vicinity Landslide Map.

Faulting & Seismicity

The San Francisco Bay Area, which is affected by the San Andreas Fault system, is recognized by geologists and seismologists as one of the most active seismic regions in the United States. In the Bay Area there are three major faults trending in a northwest direction within the San Andreas Fault system, which have generated about 12 earthquakes per century large enough to cause significant structural damage. These faults include the San Andreas, Hayward, and Calaveras faults. The San Gregorio fault is located approximately 3.9 miles southwest of the site and the San Andreas fault is located approximately 7.2 miles northeast of the site. The Hayward and Calaveras faults are located approximately 26 and 30 miles northeast of the site, respectively.

Seismologic and geologic experts convened by the U. S. Geological Survey, California Geological Survey, and the Southern California Earthquake Center conclude that there is a

63 percent probability for at least one "large" earthquake of magnitude 6.7 or larger in the Bay Area before the year 2038. The northern portion of the San Andreas fault is estimated to have a 21 percent probability of producing a magnitude 6.7 or larger earthquake by the year 2038 (2007 WGCEP, 2008).

SITE EXPLORATION & RECONNAISSANCE

Exploration Program

Our field investigation was performed on December 19, 2014 and included a site reconnaissance and the excavation and logging of two exploratory borings to depths ranging from approximately 5 feet to 8.1 feet at the locations shown on Figure A-2. The boring locations were approximately determined by measuring distance from known points on the supplied site plan and should be considered accurate only to the degree implied by the mapping technique used.

The borings were advanced using portable sampling equipment. Soil samples were collected with split-spoon samplers that were driven with a 140-pound hammer repeatedly dropped from a height of 30 inches with a rope and cathead attached to a sampling tripod. The split-spoon samplers included 3-inch and 2.5-inch outside diameter (OD) samplers, and a 2-inch OD Standard Penetration Test sampler. The sampler types used are indicated on the logs at the appropriate depths. The number of hammer blows required to drive the samplers were recorded in 6-inch increments for the length of the 24-inch long sampler barrels. The associated blow count data, which is the sum of the second and third 6-inch increment, is presented on the boring logs as sampling resistance in blows per foot. The field blow counts for the 2.5-inch and 3-inch OD samplers have been standardized to Standard Penetration Test blow counts for sampler size; however, the blow count data has not been adjusted for other factors such as hammer efficiency. The logs of our borings are presented in Appendix B as Figures B-1 and B-2. Also included in Appendix B is Figure B-3, Key to Boring Logs; Figure B-4, Unified Soil Classification System; and Figure B-5, Key to Bedrock Descriptions.

Our staff geologist logged the borings in general accordance with the Unified Soil Classification System. The boring logs show our interpretation of the subsurface conditions at the location and on the date indicated and it is not warranted that these conditions are representative of the subsurface conditions at other locations and times. In addition, the stratification lines shown on the logs represent approximate boundaries between the soil materials; however, the transitions may be gradual.

MURRAY ENGINEERS INC
GEOTECHNICAL SERVICES

January 28, 2015
Project No. 2150-1R1

Tim Sullivan
6175 La Honda Road
La Honda, California 94102

RE: GEOTECHNICAL INVESTIGATION,
SULLIVAN RESIDENCE,
APN 082-160-130,
SAN MATEO COUNTY, CALIFORNIA

Dear Mr. Sullivan:

We are pleased to present the results of our geotechnical investigation relating to the design and construction of a new residence and associated improvements on your property, APN 082-160-130 in unincorporated San Mateo County, California. This report summarizes the results of our field, laboratory, and engineering work, and presents conclusions and recommendations concerning the geotechnical engineering aspects of the project.

The conclusions and recommendations presented in this report are contingent on our review and approval of the project plans and our observation and testing of the geotechnical aspects of the construction.

If you have any questions concerning our investigation, please call.

Sincerely,
MURRAY ENGINEERS, INC.

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Staff Geologist

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Project Engineer

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Copies: Addressee (3)
Blu Homes (3)
Attn: Mark Westlake

Site Description

The undeveloped, irregular-shaped, gently to moderately sloping hillside property is located north of La Honda Road (State Route 84) in a rural area of unincorporated San Mateo County. The site is bounded by developed rural residential properties to the north and south, an unnamed shared driveway to the east, and by undeveloped lands to the west. The site is vegetated with grasses, bushes, and shrubs. The southern, eastern, and western property boundaries are linear and measure approximately 837 feet, 320 feet, and 553 feet, respectively. The northern property boundary is marked by four changes in orientation. Overall site grades generally slope gently to moderately from the northern property boundary down to the southern property boundary.

The site is accessed by a shared driveway that extends northeast from La Honda Road and is surfaced with baserock. A cleared travel way on the site is located along the northern boundary of the property and extends west to a relatively flat, cleared area (location of proposed detached garage) in the central northwest portion of the site. To the north of the cleared area and uphill of the proposed building pad for the residence and garage, the ground surface slopes down at an average gradient of approximately 4:1 (horizontal to vertical). To the south of the cleared area, the ground surface gently slopes at an average gradient of approximately 5:1 (horizontal to vertical). The ground surface in the eastern portion of the site slopes down to the south at an average gradient of approximately 8:1 (horizontal to vertical). A sharply-incised drainage is located immediately west of the western property boundary.

We did not observe any evidence of active landsliding on the site during our investigation; however, we did note evidence of shallow erosion at the ground surface in the central northwest portion of the site. Drainage across the property is generally characterized as uncontrolled sheet flow to the south-southwest.

Subsurface Conditions

Boring B-1, located within the southwest portion of the proposed residence footprint, encountered approximately 1 foot of colluvium consisting of medium stiff silty clay underlain by mudstone bedrock which persisted to the bottom of the boring at a depth of approximately 8.1 feet.

Boring B-2, located in the area of the proposed garage, encountered approximately 1 foot of colluvium consisting of medium stiff silty clay underlain by approximately 2.5 feet of colluvium consisting of hard silty clay. At a depth of approximately 3.5 feet, the colluvium is underlain by sandstone bedrock which persisted to the bottom of the boring at a depth of approximately 5 feet.

Groundwater

Groundwater was encountered at a depth of approximately 2 feet below existing site grades while drilling Boring B-2. No groundwater was encountered in Boring B-1. We note that the weather was rainy on the day of drilling. Both borings were backfilled prior to leaving the site on the drill date. We note that fluctuations in the level of groundwater can occur due to variations in temperature, rainfall, and other factors that may not have been evident at the time our observations were made.

CONCLUSIONS

Based on our investigation, it is our opinion that the site is suitable for the proposed residential development provided that the recommendations presented in this report are incorporated in the design and construction of the project. In our opinion, the primary geotechnical constraints to the project are the potential for downhill creep of the surficial colluvial soil on the moderately sloping portions of the site and the potential for very strong ground shaking during a moderate to large earthquake on one of the nearby faults.

Based on our investigation, it appears that the area of the proposed residence and garage is blanketed by roughly one to 3.5 feet of colluvial soil overlying bedrock. Based on our investigation, the surficial colluvial soil is relatively weak and may be subject to future consolidation and downhill creep under the force of gravity. In addition, based on clay content, the colluvial soil material appears to be moderately expansive. In our opinion, the colluvial soil should not be relied on for support of the proposed residence and garage. The colluvial soil is underlain by fractured bedrock. In our opinion, the underlying competent bedrock should provide adequate support for foundations associated with the proposed residence and garage.

Geologic Hazards

As part of this investigation, we evaluated the potential for geologic hazards to impact the proposed development. The results of our evaluation are presented below:

- Expansive Soils – Based on our laboratory testing, portions of the near-surface material is moderately expansive. In general, expansive soil can undergo volume changes with changes in moisture content. Specifically, when wetted as during the rainy season, expansive soil tends to swell and when dried as during the summer months, this material shrinks. Structures and flatwork supported on expansive soil tend to experience cyclic, seasonal heave and settlement. In our opinion, shrink and swell of the surficial soil should not have a significant impact on the structural integrity of the proposed improvements, provided that they are designed and constructed in accordance with the recommendations presented in this report. In

our opinion, these recommendations should mitigate the potential for significant heave, but will not eliminate this potential.

- Landsliding – Based on our investigation, we did not observe any evidence of active landsliding in the site improvement area but we did note evidence of shallow erosion at the ground surface in the central northwestern portion of the site. Because of the presence of colluvium blanketing the site and the moderate slopes across portions of the site, the occurrence of a new shallow landslide or shallow sloughing involving these materials cannot be excluded. A new shallow landslide could be triggered by excessive precipitation, erosion, and/or strong ground shaking associated with an earthquake. In our opinion, a new shallow landslide should not pose a significant hazard to the proposed improvements, provided that the improvements are designed and constructed in accordance with the recommendations of this report.

  It should be noted that although our knowledge of the causes and mechanisms of landslides has greatly increased in recent years, it is not yet possible to predict with certainty exactly when and where all landslides will occur. At some time over the span of thousands of years, most hillsides will experience landslide movement as mountains are reduced to plains. Therefore, an unknown level of risk is always present to structures located in hilly terrain. Owners of property located in these areas must be aware of and be willing to accept this risk.

- Fault Rupture – Based on our site reconnaissance and our review of published maps, it is our opinion that no active or potentially active faults cross the property. Therefore, in our opinion, the potential for fault rupture to occur at the site is very low.

- Ground Shaking - As noted in the Seismicity section above, moderate to large earthquakes are probable along several active faults in the greater Bay Area. Therefore, strong ground shaking should be expected at some time during the design life of the proposed development. The improvements should be designed in accordance with current earthquake resistant standards, including the 2013 California Building Code (CBC) guidelines and design parameters presented in this report. It should be clearly understood that these guidelines and parameters will not prevent damage to structures; rather they are intended to prevent catastrophic collapse.

- Differential Compaction – During moderate and large earthquakes, soft or loose, natural or fill soils can settle, often unevenly across a site. In general, we encountered competent bedrock at relatively shallow depths within the area of the proposed residence and garage during our investigation. However, some of the colluvial soil materials encountered above the bedrock were medium stiff and may be susceptible to a moderate degree of differential compaction. Therefore, the colluvial

soil should not be relied upon for support of the residence or garage and thus, in our opinion differential compaction should not pose a significant risk to the structural integrity of the proposed residence or garage as long as they are designed and constructed in accordance with the recommendations contained herein.

- Liquefaction – Liquefaction is a soil softening response, by which an increase in the excess pore water pressure results in partial to full loss of soil shear strength. In order for liquefaction to occur, the following four factors are required: 1) saturated soil or soil situated below the groundwater table; 2) undrained loading (strong ground shaking), such as by earthquake; 3) contractive soil response during shear loading, which is often the case for a soil which is initially in a loose or uncompacted state; and 4) susceptible soil type; such as clean, uniformly graded sands, non-plastic silts, or gravels. Structures situated above temporarily liquefied soils may sink or tilt, potentially resulting in significant structural damage. Due to the relatively cohesive nature of the surfical soil materials and because we encountered competent bedrock at relatively shallow depths during our investigation, in our opinion the likelihood of liquefaction occurring and affecting the proposed improvements is very low.

RECOMMENDATIONS

We recommend that the proposed daylighting basement level beneath the proposed residence, its retaining walls, and all loads overlying the daylighting basement be supported on a reinforced concrete mat foundation bearing in the underlying competent bedrock. If required for sliding resistance by the structural engineer, the mat slab may include a down-turned edge along the downhill edge of the basement mat slab that extends at least 24 inches into competent bedrock. In addition, if colluvium is exposed at the bottom of the new basement excavation, the colluvium should be removed and replaced with well compacted select granular fill, such as Class 2 aggregate baserock.

We anticipate that zones of perched subsurface water, not necessarily representative of a regional groundwater level, may be present on the site. Due to the daylighting nature of the proposed basement, in our opinion, groundwater should not significantly impact the basement design but the potential for some perched ground water entering into the basement excavation should be taken into account by the building contractor. Basement retaining walls and the basement mat slab should be provided with subdrainage to alleviate the potential for buildup of hydrostatic pressures against the walls or beneath the mat slab. The building contractor should take the appropriate precautions to shore the proposed basement excavations. The design and construction of any temporary shoring or dewatering is the responsibility of the building contractor. In addition, we strongly encourage the use of a waterproofing consultant and/or waterproofing subcontractor to assure adequate

protection from surface water that will accumulate adjacent to the basement walls and bottom of mat slab.

We recommend that any at-grade portions of the residence, including any accessory features such as entrance steps, porches, and overhangs structurally tied to the residence, be either supported on drilled, cast-in-place, reinforced, concrete friction piers or else cantilevered off the retaining walls associated with the daylighting basement level for the residence to limit the potential for differential movement between the daylighting basement and the at-grade portions of the residence. Wood decks that are structurally connected to the residence should preferably be supported on drilled piers; however, given the nature of the proposed deck improvements, in our opinion it is reasonable to support structurally connected wood decks on spread footings provided that the owner is aware of and willing to accept the potential for differential foundation movement between attached decks and the residence that may result in slight shifting of the deck supports and structure over time.

The proposed detached garage may be supported either on drilled piers or on spread footings bearing in the underlying bedrock. Although, in our opinion, piers will perform better than footings in terms of limiting differential foundation movement, spread footings can be expected to perform reasonably well at this site provided that spread footings are founded in competent bedrock.

In general, we recommend that proposed site retaining walls, such as will be required along portions of the driveway perimeter, be supported on drilled piers gaining support in the competent bedrock underlying the site. However, site retaining walls supporting cuts into bedrock may be supported on either spread footings or drilled piers. Although in our opinion piers will perform slightly better than footings in terms of limiting differential foundation movement, spread footings can be expected to perform reasonably well at this site.

In general, slabs-on-grade and flexible pavements should be underlain by a section of compacted Class 2 aggregate baserock over a prepared subgrade. Any slabs-on-grade planned adjacent to the basement walls should be designed to span the area underlain by the planned basement retaining wall backfill (approximately 10-feet) to mitigate the concerns for backfill settlement. Where existing fill is present within areas of new hardscape, portions of the fill should be removed and replaced as a properly engineered fill as deemed necessary by our field representative during construction.

Because of the complexity of the project and the potential for design and layout changes, we should review the proposed layout and design, prior to completion of the final plans, to verify that the following recommendations are appropriate. Detailed foundation, grading, and drainage recommendations and geotechnical design criteria are presented below.

2013 CBC EARTHQUAKE DESIGN PARAMETERS

Site-specific earthquake design parameters have been developed based on the procedures described in Chapter 16, Section 1613 of the 2013 California Building Code (California Building Standards Commission, 2013). These procedures utilize State standardized spectral acceleration values for maximum considered earthquake ground motion taking into account historical seismicity, available paleoseismic data, and activity rates along known fault traces, as well as site-specified soil and landslide deposit response characteristics. Contour maps of Class B bedrock horizontal spectral acceleration values for the State of California are included as figures in Chapter 16 of the 2013 CBC, representing both short (0.2 seconds) and long (1.0 second) periods of spectral response and taking into account 5 percent of critical damping. The U.S. Geological Survey (2014) has prepared an online seismic design value application tool, based on the 2010 ASCE with a July 2013 CBC errata, for public use, that allows for site-specific adjustments of these acceleration values for different subsurface conditions, which are defined by site classes. Based on coordinates derived from Google Earth, the approximate location of the proposed residence will be latitude 37.3196 and longitude -122.3310. Given these coordinates and based on our subsurface investigation, in accordance with guidelines presented in the 2013 CBC, the following seismic design parameters will apply for this site:

- Site Class C – Soil Profile Name: Very Dense Soil and Soft Rock (Table 1613.5.2)
- Mapped Spectral Accelerations for 0.2 second Period: S_S= 1.652 (Site Class B)
- Mapped Spectral Accelerations for a 1-second Period: S_1= 0.676 (Site Class B)
- Design Spectral Accelerations for 0.2 second Period: S_{DS}= 1.102 (Site Class C)
- Design Spectral Accelerations for a 1-second Period: S_{D1}= 0.586 (Site Class C)

FOUNDATIONS

Basement Mat Foundation

In our opinion, the daylighting basement level beneath the proposed residence and associated retaining walls may be supported on a reinforced concrete mat slab foundation bearing on the underlying competent bedrock. If required for sliding resistance by the structural engineer, the mat slab may include a down-turned edge along the downhill edge of the basement mat slab that extends at least 24 inches into competent bedrock. Because we anticipate the downhill edge of the basement mat slab may overlie a small wedge of non-supportive colluvium, we recommend the mat slab include a down-turned edge extending a minimum of 24-inches into bedrock. In addition, if colluvium is exposed at the bottom of the basement excavation it should be removed and replaced with well compacted select granular fill, such as Class 2 aggregate baserock. We recommend that the bottom of the mat

slab be waterproofed and that the waterproofing be designed and constructed by qualified professionals.

Mat foundations may be designed for allowable bearing pressures of 2,500 pounds per square foot for combined dead plus live loads, with a one-third increase allowed for transient loads, including wind or seismic forces. If the structural engineer will utilize a modulus of subgrade reaction in the mat design, we estimate that the modulus of vertical subgrade reaction for a 1-foot square plate (based on Terzaghi's method - Figure 6 of the Navy Design Manual, Chapter 5, NAVFAC DM 7.1) for the bedrock anticipated at mat slab subgrade elevation to be approximately 75 pounds per cubic inch (pounds per square inch per inch).

Lateral loads may be resisted by friction between the mat slab and the supporting subgrade. A frictional resistance of 0.30 can be used. In addition to the above, lateral resistance may be provided by passive pressures acting against the lower two-thirds of the embedded portions of the basement retaining walls using an equivalent fluid pressure of 350 pounds per cubic foot.

The mat foundation should be reinforced with grids of steel reinforcing bars. The project structural engineer should determine actual mat reinforcing based on anticipated loading and the design criteria presented in this report.

We recommend that the basement mat slab foundation be provided with a subdrain system integrally designed with the basement retaining wall drainage system. Figures A-5 and A-6 present schematic details for alternative subdrain systems for basement retaining walls and mat foundations. We recommend that mat slab be underlain by a minimum of approximately 8 inches of ½- to ¾-inch clean crushed rock, underlain by filter fabric. To facilitate drainage, the subgrade soils beneath the mat should be sloped at an inclination of approximately 1.5 percent to a perimeter trench where the retaining wall drainage pipe will be located. Please also refer to the Retaining Wall Drainage section of this report.

Our representative should observe the basement excavation upon its completion and prior to placement of the slab subdrainage system to evaluate the condition of the subgrade materials and to make sure that the conditions are consistent with those anticipated from our borings. It may be necessary to compact the subgrade material in the excavations if loose or disturbed areas are created or encountered during construction.

Based on our engineering judgment, thirty-year differential foundation movement due to static loads is not expected to exceed ¾-inch across any 20-foot horizontal span of the mat-supported improvements.

Drilled Pier & Grade Beam

We recommend that any at-grade portions of the residence, including attached porches, balconies and/or overhangs, be supported on drilled, reinforced, cast-in-place, concrete friction pier and grade beam foundations gaining support in the underlying bedrock. Site retaining walls, decks and the detached garage may also be supported on drilled piers. Drilled piers for at-grade portions of the residence and the garage should be at least 16 inches in diameter, should extend at least 10 feet below bottom of grade beam elevation, and should achieve at least 8 feet of embedment into the underlying competent bedrock. Note that piers which are drilled through basement retaining wall backfill and/or basement access ramp backfill will need to extend at least 8 feet into bedrock beneath any backfill. Drilled piers for site retaining walls should be at least 12 inches in diameter and should extend at least 6 feet into bedrock and to a depth into bedrock equal to the retained height of the wall plus the depth of any non-supportive soil at the top of the pier, whichever is deeper. Drilled piers for exterior decks should be at least 12 inches in diameter and should extend at least 4 feet into bedrock. Please note, that these are recommended minimum pier dimensions and that other structural criterion, such as the need to resist lateral forces, may force the pier design depths to be greater. In general, drilled piers should be spaced no closer than about three pier-diameters, center-to-center.

The piers should be designed to resist dead plus live loads using an allowable skin friction value of 500 pounds per square foot for the depth of the pier in bedrock with a one-third increase allowed for transient loads, including wind and seismic forces. Any portion of the piers in non-engineered fill and unsupportive soil, and any point-bearing resistance should be neglected for support of vertical loads.

Piers on or within 10 feet of a slope steeper than 5:1 should be designed to resist active loads from downhill creep of soil. Active loads from soil creep may be calculated based on an equivalent fluid weight of 75 pcf acting over 2-pier diameters for the upper depth of the piers in the colluvium or fill. The depth of the active loads will likely vary between approximately one to three feet at individual pier locations.

Active loads from soil creep and other lateral loads may be resisted by passive earth pressure based upon an equivalent fluid pressure of 400 pounds per cubic foot, acting on 1.5 times the projected area for the depth of the pier in bedrock. Any passive resistance corresponding to the creep zone described above should be neglected. In addition, piers located within 10 feet of the basement walls should neglect passive resistance above a 1:1 plane projected upward from the base of the basement retaining wall. The structural engineer should determine pier reinforcing, based on the preceding design criteria and structural requirements.

To prevent mushrooming of the concrete at the tops of the piers and the potential for uplift from the moderately expansive surficial soil, we recommend that the upper approximately 2 feet of piers be formed with Sonotubes, where located in areas of expansive surficial soil.

The contractor should be advised that hard bedrock may be encountered while excavating the foundation piers. "Refusal" to drilling with lightweight equipment (e.g. augers mounted on a backhoe tractor) should be evaluated by our field representative and may not be considered acceptable, necessitating heavier equipment being brought to the site to demonstrate "refusal".

The bottoms of the pier excavations should be substantially free of loose cuttings and soil slough prior to the installation of reinforcing steel and the placement of concrete. In addition, any significant amounts of accumulated water in the pier excavations should be pumped out prior to placing concrete or displaced using the tremie method when placing concrete. A representative of Murray Engineers, Inc. should observe the pier excavations to evaluate whether the piers are founded in the supportive material and whether the pier excavations are properly prepared. The pier depths recommended above may require adjustment, if differing conditions are encountered during excavation. Pier excavations should be filled with concrete as soon as practical after drilling to minimize the potential for caving.

Grade beams should be incorporated between piers as required by the structural engineer. Perimeter foundations should extend at least 6 inches below the crawlspace grade or bottom of slab subgrade to mitigate the potential for infiltration of surface runoff under the at-grade portions of the structures. Grade beam reinforcing should be determined by the project structural engineer based on the preceding design criteria and structural requirements.

Based on our engineering judgment, thirty-year differential foundation movement due to static loads is not expected to exceed approximately ½-inch across any 20-foot span of the pier-supported improvements.

Spread Footings

The detached garage, wood decking surrounding the residence, and site retaining walls retaining cuts into bedrock may be supported on spread footings. Continuous spread footings for the garage should have a minimum width of 15 inches and isolated footings should be at least 18 inches square. Spread footings for the garage should extend at least 24 inches below lowest adjacent grade; at least 12 inches below bottom of garage slab, and extend at least 6 inches into competent bedrock, whichever is deeper. Spread footings supporting wood decking should extend at least 18 inches below lowest adjacent grade and at least 6 inches into competent bedrock. Site retaining walls retaining cuts into bedrock and

sufficiently away from descending slopes may also be supported on spread footings bearing in the underlying bedrock. New continuous footings for site retaining walls should have a minimum width of 15 inches, should extend at least 18 inches below final adjacent exterior grade, and be embedded at least 6 inches into bedrock, whichever is deeper.

Spread footings supported in bedrock may be designed for an allowable bearing pressure of 2,500 pounds per square foot for dead plus live loads, with a one-third increase allowed for total loads including wind and seismic forces. The weight of the footings may be neglected for design purposes.

Lateral loads may be resisted by friction between the footings and the supporting subgrade using a coefficient of friction of 0.3. In addition to the above, lateral resistance may be provided by passive pressures acting against foundations poured neat in the footing excavations within the bedrock zone using an equivalent fluid pressure of 350 pounds per cubic foot.

Final footing dimensions and steel reinforcing should be determined by the project structural engineer based on the preceding design criteria and structural requirements. In addition, footings located adjacent to utility trenches should bear below a 1:1 plane extended upward from the bottom edge of the utility trench.

The footing excavations should be substantially free of all loose soil, prior to placing reinforcing steel and concrete. Our representative should observe the footing excavations prior to placing concrete forms and reinforcing steel to see that they are founded in competent bearing materials and have been properly cleaned. In addition, any loose soil in the footing excavations resulting from the placement of forms and reinforcing steel should be removed prior to placing concrete.

Based on our engineering judgment, thirty-year differential foundation movement due to static loads is not expected to exceed approximately 1-inch across any 20-foot span of the footing-supported improvements.

BASEMENT & SITE RETAINING WALLS

Basement and site retaining walls should be supported on foundations designed in accordance with the recommendations provided above. Waterproofing or damp-proofing of retaining walls should be included in areas where wall moisture would be undesirable, such as at living spaces or where wall finishes could be impacted by moisture. The project architect or a waterproofing consultant should provide detailed recommendations for waterproofing or damp proofing, as necessary. As noted above, the basement mat slab waterproofing should be designed and constructed to be integral with the basement wall waterproofing.

Lateral Earth Pressures

Basement and site retaining walls should be designed to resist lateral earth pressure from the adjoining natural soils, backfill, and any anticipated surcharge loads. Assuming that the backfill behind the wall will be level (e.g., not sloping upward) and that adequate drainage will be incorporated as recommended below, we recommend that unrestrained retaining walls be designed to resist an equivalent fluid pressure of 45 pounds per cubic foot (pcf) plus one-third of any anticipated surcharge loads. Walls restrained from movement at the top should be designed to resist an equivalent fluid pressure of 45 pcf plus a uniform pressure of 8H pounds per square foot (psf), where H is the height in feet of the retained soil. Restrained walls should also be designed to resist an additional uniform pressure equal to one-half of any surcharge loads applied at the surface.

Where backfill behind the wall will be sloping upward from the wall, we recommend that the equivalent fluid pressures provided above be increased by 3 pcf for each 4-degree increase in slope inclination.

In accordance with the 2013 CBC, where applicable, retaining walls should also be designed to resist lateral earth pressure from seismic loading. We recommend that the seismic loading be based on a uniform pressure of 8H pounds per square foot (psf)/foot of wall height, where H is the height in feet of the retained soil. In our opinion, site retaining walls less than 6 feet high do not need to be designed for seismic loading. The allowable passive pressures provided for retaining wall foundations may be increased by one-third for short-term seismic forces.

Retaining Wall Drainage

We recommend that retaining walls include a subsurface drainage system to mitigate the buildup of water pressure from surface water infiltration and other possible sources of water. As noted above, the basement wall drainage system for the proposed residence should be integral with the basement mat slab foundation drainage system.

Retaining wall backdrains should consist of a minimum 4-inch diameter, perforated rigid pipe, Schedule 40 or SDR 35 (or equivalent) with the perforations facing down, resting on about a 2- to 3-inch thick layer of crushed rock. The perforated pipe should be placed within a minimum 8-inch deep by 12-inch wide trench excavated below basement subgrade elevation at the perimeter of the basement walls. Subdrain pipes should be bedded and backfilled with ½- to ¾-inch clean crushed rock separated from the native soil with a geotextile filter fabric, such as TC Mirafi 140N or equivalent. The crushed rock backfill should extend vertically to within approximately 18 inches of the finished grade and laterally at least approximately 12 inches from the rear face of the wall. The crushed rock should be compacted with a jumping jack or vibratory plate compactor in lifts not exceeding roughly

12 inches in loose thickness. The upper roughly 18 inches of backfill should consist of native soil, which should be compacted in accordance with the Compaction section of this report to mitigate infiltration of surface water into the subdrain systems. The preceding recommendations are presented schematically on Figure A-5, Basement Subdrain System Alternative A.

As an alternative to crushed rock, Miradrain, Enkadrain, or other geosynthetic drainage panels approved by this office may be used for retaining wall drainage. If used, the drainage panels should extend from a depth of approximately 18 inches below finish grade to the base of the retaining wall. An approximate 2-foot section of crushed rock wrapped in filter fabric should be placed around the drainpipe, as discussed previously. Geosynthetic drainage panels should be installed in strict compliance with manufacturer's recommendations with filter fabric against the crushed rock and soil backfill. The preceding recommendations are presented schematically on Figure A-6, Basement Subdrain System Alternative B.

Subdrain pipes should be sloped at a minimum of approximately 1.5 percent and should be connected to rigid, solid (non-perforated) discharge pipes to convey any collected water to a suitable discharge location away from the walls. The subdrain pipes for site retaining walls should be provided with cleanout risers at their up-gradient ends and at most sharp directional changes to facilitate maintenance. We recommend against the use of cleanout risers associated with the basement retaining wall subdrain pipes because of the future risk that cleanout pipes might be accidentally connected to a surface drain or roof downspout, thereby risking flooding of the basement light well and subsequently the basement itself. In general, downspouts and surface area drains should be kept completely separate from the retaining wall drainage system.

Retaining Wall Backfill

Backfill placed behind the walls should be compacted in accordance with the specifications outlined in Table 1 of the Compaction section of this report using light compaction equipment. If heavy compaction equipment is used, the walls should be temporarily braced. Please refer also to the Earthwork section of this report for important recommendations regarding wall backfill.

CONCRETE SLABS-ON-GRADE

We anticipate that concrete slabs-on-grade will be utilized for the garage floor and possibly also for miscellaneous concrete patios and walkways. Concrete slabs-on-grade for the garage floor should be underlain by at least 12 inches of Class 2 aggregate baserock. Other exterior hardscape should be underlain by at least 8 inches of Class 2 aggregate baserock. If non-expansive bedrock is exposed at subgrade level, the baserock thickness beneath slabs-on-grade may be reduced to 6 inches. Any slabs-on-grade planned adjacent to the basement

walls should be designed to span the area underlain by the planned basement retaining wall backfill (approximately 10-feet) to mitigate the concerns for backfill settlement. Where existing fill is present within areas of new hardscape, portions of the fill should be removed and replaced as a properly engineered fill as deemed necessary by our field representative during construction. The preceding recommendations are intended to mitigate significant slab movement and cracking. We note that minor slab movement or localized cracking of slabs may still occur.

Prior to placement of the baserock, the subgrade soils should be scarified and moisture conditioned, as necessary, to a depth of approximately 6 inches and recompacted in accordance with the Compaction section of this report. In addition, if highly expansive subgrade soils are encountered, the subgrade should be scarified to a depth of approximately 6 to 12 inches, moisture conditioned to at least 3 percent over optimum moisture content, and compacted to between 87 percent to 90 percent relative compaction. Over-compaction of highly expansive material should be avoided. In our opinion, these recommendations should mitigate the potential for significant heave, but will not eliminate this potential.

In general, exterior slabs-on-grade should be designed as "free-floating" slabs, structurally isolated from adjacent foundations. We recommend that exterior slabs be provided with control joints at spacing of not more than about 10 feet. The project structural engineer should determine slab reinforcement based on anticipated use and loading.

Select granular fill should be compacted in accordance with the Compaction section of this report. Where slab surface moisture would be a significant concern, such as for the garage floor, we recommend that the slabs be underlain by a vapor retarder consisting of a highly durable membrane not less than 15 mils thick (such as Stego Wrap Vapor Barrier by Stego Industries, LLC or equivalent), underlain by a capillary break consisting of 4 inches of ½- to ¾-inch crushed rock. The capillary break may be considered the equivalent thickness as the upper 4 inches of select granular fill recommended above. Please also refer to the Vapor Retarder Considerations section below for additional information. Please note that these recommendations do not comprise a specification for "waterproofing." For greater protection against concrete dampness, we recommend that a waterproofing consultant be retained.

Vapor Retarder Considerations

Based on our understanding, two opposing schools of thought currently prevail concerning protection of the vapor retarder during construction. Some believe that 2 inches of sand should be placed above the vapor retarder to protect it from damage during construction and also to provide a small reservoir of moisture (when slightly wetted just prior to concrete placement) to benefit the concrete curing process. Still others believe that protection of the

vapor retarder and/or curing of concrete are not as critical design considerations when compared to the possibility of entrapment of moisture in the sand above the vapor retarder and below the slab. The presence of moisture in the sand could lead to post-construction absorption of the trapped moisture through the slab and result in mold or mildew forming at the upper surface of the slab.

We understand that recent trends are to use a highly durable vapor retarder membrane (at least 15 mils thick) without the protective sand covering for interior slabs surfaced with floor coverings including, but not limited to, carpet, wood, or glued tiles and linoleum. However, it is also noted that several special considerations are required to reduce the potential for concrete edge curling if sand will not be used, including slightly higher placement of reinforcement steel and a water-cement ratio not exceeding 0.5 (Holland and Walker, 1998). We recommend that you consult with other members of your design team, such as your structural engineer, architect, and waterproofing consultant for further guidance on this matter.

FLEXIBLE PAVEMENTS

Gravel or Baserock Driveway

We understand that the new driveway extending from the existing shared driveway along the eastern property boundary to the new detached garage, including the fire truck turnaround, will be surfaced with gravel or will have an unfinished baserock surface. We recommend that the driveway be underlain by at least 12 inches of compacted Class 2 aggregate baserock, with or without a landscaping gravel covering. Prior to placement of the baserock, the subgrade soils should be scarified and moisture conditioned to a depth of at least 6 inches, as necessary, and compacted in accordance with the Compaction section of this report. If soft subgrade conditions are encountered during construction, it may be necessary to thicken the baserock section or place a geotextile strength fabric, such as MirafiRS380i or equivalent, on the subgrade soil. A representative from our office should observe the subgrade conditions at the driveway prior to placement of baserock.

While we anticipate that a 12-inch thick section of Class 2 aggregate baserock would be capable of handling occasional fire or garbage truck loading, we note that some localized rutting or yielding may still occur along the driveway as a result of surface water infiltrating into the underlying subgrade soils; however, in our opinion the driveway would remain serviceable. If it is desired to reduce the potential for rutting/yielding, the thickness of the baserock could be increased or a geotextile strength fabric such as MirafiRS380i or equivalent could be incorporated between the subgrade and the overlying Class 2 aggregate baserock.

Sand Set Pavers or Flagstones

We anticipate that sand-set pavers or flagstones may be used for exterior hardscape. We generally recommend that they be placed in accordance with the manufacturer's recommendations. At a minimum, we generally recommend that pavers be underlain by at least 6 inches of compacted Class 2 aggregate baserock for pedestrian loads. A representative from our office should observe the subgrade conditions of the hardscape prior to placement of baserock. Prior to placement of the baserock, the subgrade soils should be scarified and moisture conditioned to a depth of at least 6 inches and compacted in accordance with the Compaction section of this report.

EARTHWORK

A moderate amount of earthwork is anticipated as part of the proposed construction, including site grading, basement excavation, excavation of drilled pier and spread footing foundations, retaining wall drainage and backfill, subgrade preparation beneath hardscape, placement and compaction of engineered fill, backfill in utility trenches, and installation of final surface drainage controls. Earthwork should be performed in accordance with the following recommendations.

Clearing & Site Preparation

Initially, the proposed improvement areas should be cleared of obstructions, including existing flatwork, utilities, and trees not designated to remain. Holes or depressions resulting from the removal of underground obstructions below proposed subgrade levels, such as root balls, should be backfilled with engineered fill, placed and compacted in accordance with the recommendations provided below. After clearing, the proposed improvement areas should be adequately stripped to remove surface vegetation and organic-laden topsoil. The stripped material should be used as engineered fill; however, it may be stockpiled and used for landscaping purposes.

Material for Fill

All on-site soils below the stripped layer having an organic content of less than 3 percent organic material by volume (ASTM D 2974) may be suitable for use as engineered fill contingent upon review by our firm. In general, fill material should not contain rocks or pieces larger than 6 inches in greatest dimension, and should contain no more than 15 percent larger than 2.5 inches. Any required imported fill should be predominantly granular material or low plasticity material with a plasticity index of less than approximately 15 percent. Any proposed fill for import should be approved by Murray Engineers, Inc. prior to importing to the site. Our approval process may require index testing to establish the expansive potential of the soil; therefore, it is important that we receive samples of any proposed import material at least 3 days prior to planned importing. Class 2 aggregate

baserock should meet the specifications outlined in the Caltrans Standard Specifications, latest edition.

Location & Backfill of Temporary Basement

In planning the location for any temporary access ramps for the basement, the contractor should consider the future location of any at-grade structures or hardscape. If possible, we recommend that ramp excavations be kept approximately 5 feet away from proposed at-grade structures and hardscape. If placement of the ramp within this zone is unavoidable, it is imperative that the backfilled soils be compacted in accordance with the specifications outlined in Table 1 of the Compaction section of this report. A representative of Murray Engineers, Inc. should observe and test the compaction of the ramp backfill. In addition, we recommend that a note be included on the structural plans referencing these recommendations.

Compaction

Prior to placing engineered fill, the subgrade soil should be scarified and compacted, as necessary. Material used for fill should be placed in uniform lifts, no more than 8-inches in uncompacted thickness. The fill material should be moisture conditioned, as necessary, and compacted in accordance with the specifications listed in Table 1 below. The relative compaction and moisture content specified in Table 1 are relative to ASTM D 1557 (latest edition). Compacted lifts should be firm and non-yielding under the weight of compaction equipment prior to the placement of successive lifts.

Table 1 Compaction Specifications

Fill Element	Relative Compaction*	Moisture Content*
General fill for raising of site grades, driveway, patio areas, and retaining wall backfill (for fills up to 4 feet thick)	90 percent	Near optimum
For fills greater than 4 feet thick	93 percent (entire fill)	Near optimum
Upper 6 inches of relatively non-expansive subgrade beneath hardscape	90 percent	Near optimum
Upper 6 to 12 inches of relatively expansive subgrade beneath hardscape	87 to 90 percent	≥3% over optimum
Aggregate baserock under hardscape	95 percent	Near optimum
½- to ¾-inch Crushed Rock - Compact with at least 3 passes of a vibratory plate with lift-thickness ≤ 12 inches.	see note at left	Not critical
Backfill of utility trenches using on-site soil	90 percent	Near optimum
Backfill of utility trenches using imported sand	90 percent	Near optimum

*Relative to ASTM D 1557, latest edition.

Keying & Benching

Unretained fill placed on slopes that are flatter than 5:1 should be supported on level benches bearing in supportive bedrock, as determined by this office in the field during construction. Unretained fill placed on slopes that are steeper than 5:1 should be keyed and benched into supportive material to provide a firm, stable surface on which to support the fill.

Prior to fill placement on slopes steeper than 5:1, a construction keyway should be excavated at the toe of the fill. The keyway should be a minimum of 8 feet wide or of a width equal to half the height of the fill slope, whichever is greater. The keyway should be excavated a minimum of 2 feet into competent supportive bedrock material, as measured on the downhill side of the excavation. The depth to supportive material should be determined by this office in the field during construction. The base of the keyway excavation should have a nominal slope of approximately 2 percent dipping toward the back (uphill side) of the key. Subsequent construction benches should be excavated to remove any non-supportive surficial soil and should also have a nominal slope of approximately 2 percent dipping in the uphill direction. Our representative should observe the completed keyway and bench excavations to confirm that they are founded in materials with sufficient supporting capacity.

Fill Subdrainage

In general, fills exceeding approximately 5 feet in depth should be provided with subdrainage as established in the field by our firm's representative. Subdrains should consist of a 4-inch diameter, rigid, heavy-duty, perforated pipe (Schedule 40, SDR 35 or equivalent), approved by the soil engineer, embedded in ½- to ¾-inch clean crushed rock placed along the upslope side of keyways and benches for the full height of the keyway or bench cut. The crushed rock should be separated from the fill and the native material by a geotextile filter fabric. The perforated subdrain pipe should be placed with the perforations down on a 2- to 3-inch bed of drain rock. Subdrain pipes should be provided with clean-out risers at their up-gradient ends and at all sharp changes in direction. Subdrain systems should be provided with a minimum 1 percent gradient and should discharge onto an energy dissipater at an appropriate downhill location.

Final Slopes

In general, any proposed cut slopes in the surficial soil and any proposed fill slopes should have gradients no steeper than approximately 2:1 (horizontal to vertical). In general, new fill slopes should be over-filled and then cut back to proposed final slope gradients. All graded surfaces or areas disturbed by construction should be revegetated prior to the onset of the rainy season following construction to mitigate excessive soil erosion. If vegetation is not established, other erosion control provision should be employed. Ground cover, once established should be properly maintained to provide long-term erosion control.

Temporary Slopes & Trench Excavations

The contractor should be responsible for the stability of all temporary cut slopes and trenches excavated at the site, and design and construction of any required shoring. Shoring and bracing should be provided in accordance with all applicable local and state safety regulations, including the current OSHA excavation and trench safety standards. Because of the potential for variable soil conditions, field modifications of temporary cut slopes may be required. Unstable materials encountered on the slopes during the excavation should be trimmed off, even if this requires cutting the slope back at flatter inclinations.

SITE DRAINAGE

Control of surface drainage is critical for projects on hillsides and in expansive soil areas. Roof run-off, rain, and irrigation water should not be allowed to pond near the residence, detached garage or on exterior hardscape. The proposed residence and detached garage should be provided with roof gutters and downspouts. Water collected in the gutters should not be allowed to discharge freely onto the ground surface adjacent to the foundations and should be conveyed away from the structures via buried closed conduits and routed to a suitable discharge outlet. The finished grades around the structures should be designed to drain surface water away from the structures, slabs, and yard areas to suitable discharge points. Where such surface gradients are difficult to achieve, we recommend that area drains or surface drainage swales be installed to collect surface water and convey it away from the residence.

Surface runoff should be prevented from flowing over the top of any artificial slope. The ground surface at the top of any artificial slopes should be graded to slope away from the slope or a berm or lined drainage ditch should be provided at the top of the slope. In addition, retaining walls at the bases of descending slopes should be provided with lined drainage swales along their uphill side to collect surface water from above. All collected water should be conveyed away from structures by buried closed conduit and discharged onto an energy dissipater at an appropriate downslope location.

We recommend that annual maintenance of the surface drainage systems be performed. This maintenance should include inspection and testing to make sure that roof gutters and downspouts are in good working order and do not leak; inspection and flushing of area drains to make sure that they are free of debris and are in good working order; and inspection of surface drainage outfall locations to verify that introduced water flows freely through the discharge pipes and that no excessive erosion has occurred. If erosion is detected, this office should be contacted to evaluate its extent and to provide mitigation recommendations, if needed.

REQUIRED FUTURE SERVICES

Plan Review

To better assure conformance of the final design documents with the recommendations contained in this report, and to better comply with the building department's requirements, Murray Engineers, Inc. must review the completed project plans prior to construction. The plans should be made available for our review as soon as possible after completion so that we can better assist in keeping your project schedule on track. We recommend that the following note be added to the architectural, structural, and civil plans:

- All earthwork and site drainage, including site grading, basement excavation, excavation of drilled pier and spread footing foundations, retaining wall drainage and backfill, subgrade preparation beneath hardscape, placement and compaction of engineered fill, backfill in utility trenches, and installation of final surface drainage controls should be performed in accordance with the geotechnical report prepared by Murray Engineers, Inc., dated January 28, 2015. Murray Engineers, Inc. should be provided at least 48 hours advance notification of any earthwork operations and should be present to observe and test, as necessary, the earthwork, foundation, and drainage installation phases of the project.

Construction Observation Services

Murray Engineers, Inc. should observe and test (as necessary) the earthwork and foundation phases of construction in order to a) confirm that subsurface conditions exposed during construction are substantially the same as those interpolated from our limited subsurface exploration, on which the analysis and design were based; b) evaluate compliance with the geotechnical design concepts, specifications, and recommendations; and c) allow design changes in the event that subsurface conditions differ from those anticipated. The recommendations in this report are based on limited subsurface information. The nature and extent of variation across the site may not become evident until construction. If variations are exposed during construction, it may be necessary to re-evaluate our recommendation.

LIMITATIONS

This report has been prepared for the sole use of Tim Sullivan, specifically for developing geotechnical design criteria relating to design and construction of the proposed residence and associated improvements on the property, APN 082-160-130 in unincorporated San Mateo County, California. The opinions presented in this report are based upon borings at widely separated locations, site reconnaissance, review of field data made available to us, and upon local experience and engineering judgment. Our opinions have been formulated in accordance with generally accepted engineering geologic and geotechnical engineering

practices that exist in the San Francisco Bay Area at the time this report was prepared. The recommendations presented in this report are based on the assumption that soil and geologic conditions at or between borings do not deviate substantially from those encountered. It should be understood that geotechnical issues may become apparent during the course of construction that were not apparent at the time this report was prepared. No warranty, expressed or implied, is made or should be inferred. In addition, we are not responsible for data presented by others.

The recommendations provided in this report are based on the assumption that we will be retained to provide the Required Future Services described above to better evaluate the site conditions and to evaluate compliance with our recommendations. If we are not retained for these services, Murray Engineers, Inc. cannot assume any responsibility for any potential claims that may arise during or after construction as a result of misuse or misinterpretation of this report by others. Furthermore, if another geotechnical consultant is retained for follow-up service to this report, Murray Engineers, Inc. will at that time cease to be the Engineer-of-Record.

The opinions presented in this report are valid as of the present date for the property evaluated. Changes in the condition of a property can occur with the passage of time, whether due to natural processes or the works of man, on this or adjacent properties. In addition, changes in applicable standards of practice can occur, whether from legislation or the broadening of knowledge. Accordingly, the opinions presented in this report may be invalidated, wholly or partially, by changes outside of our control. Therefore, this report is subject to review and should not be relied upon after a period of three years, nor should it be used, or is it applicable, for any property other than that evaluated.

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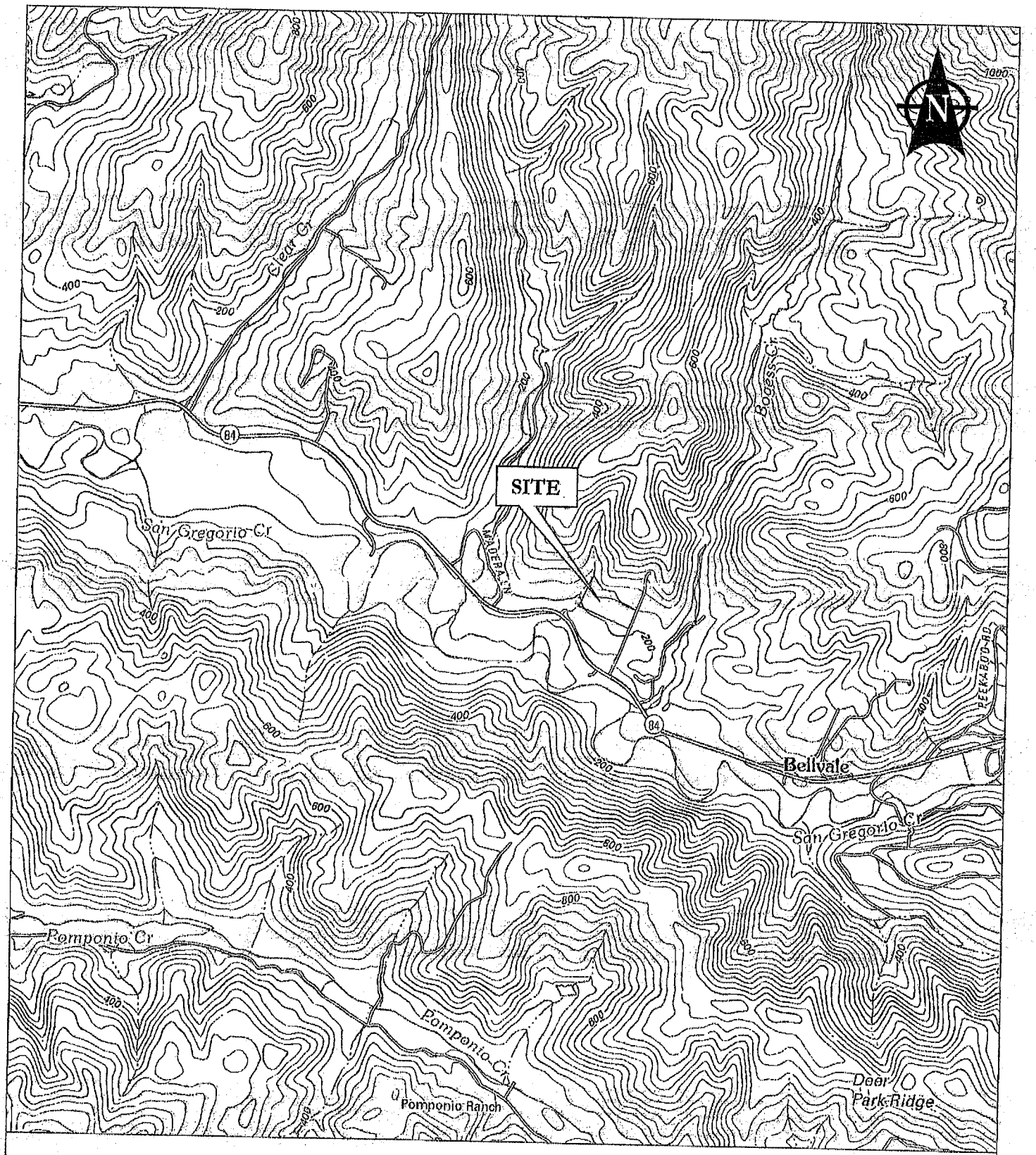
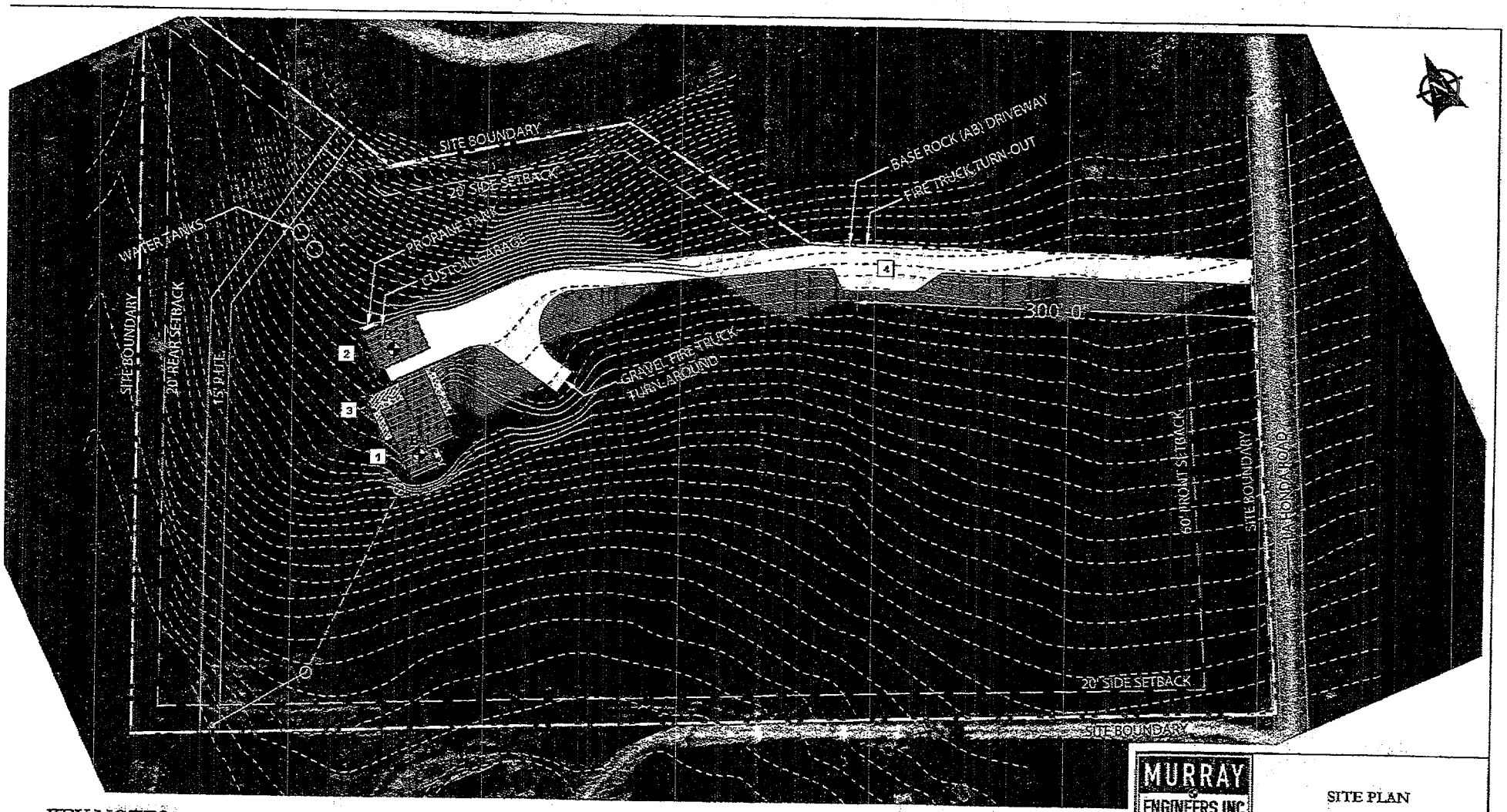


Base: USGS La Honda Quadrangle, 7.5 Minute Series (Topographic), 2012 Scale: 1 inch = 2,000 feet

MURRAY & ENGINEERS INC GEOTECHNICAL SERVICES	SULLIVAN RESIDENCE APN 082-160-130 SAN MATEO COUNTY, CALIFORNIA	VICINITY MAP
PROJECT NO. 2150-1R1	JANUARY 2015	FIGURE A-1



KEY NOTES

1. Outline of (N) Residence with Daylighting Basement Level Beneath (Dashed)
2. Outline of (N) Garage (Dashed)
3. Area of (N) Exterior Wood Decking (Hatched)
4. Area of (N) Driveway (Shaded)

LEGEND

B-1 ⊕ Approximate Location of Soil Boring by Murray Engineers, Inc., dated December 19, 2014

Base: Conceptual Site Plan by Blu Homes, dated November 18, 2014

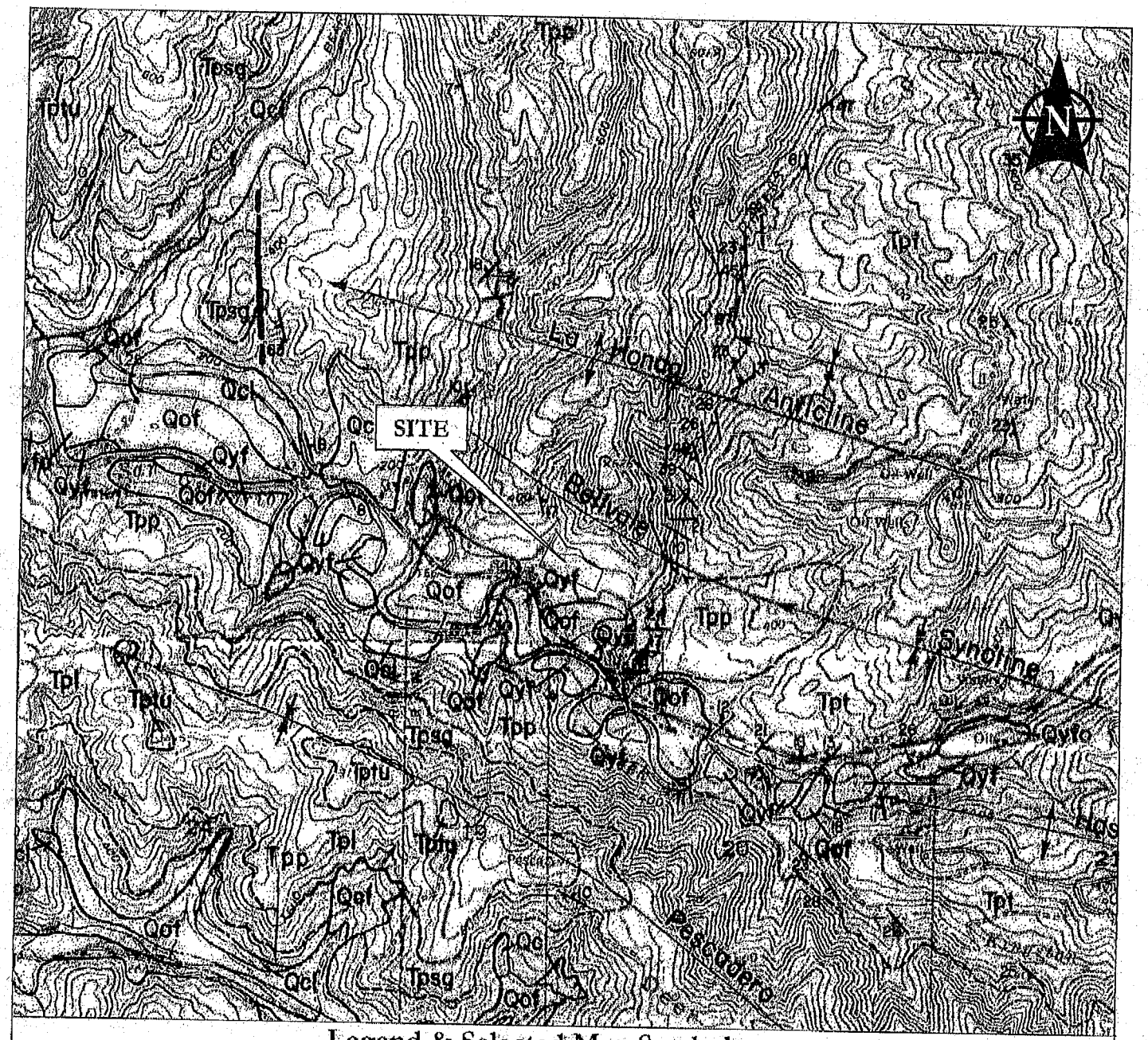
Approximate Scale: 1 inch = 70 feet

MURRAY ENGINEERS INC
GEOTECHNICAL SERVICES

SITE PLAN

SULLIVAN RESIDENCE
APN 082-160-130
SAN MATEO COUNTY, CALIFORNIA

PROJECT NO.		
2150-1R1	JANUARY 2015	FIGURE A-2



Legend & Selected Map Symbols

Qyf Younger Alluvial Deposits

Qof Coarse-Grained Older Alluvial Fan and Stream Terrace Deposits

Tpp Purisma Formation (Upper Miocene and Pliocene)

Contact, dashed where approximately located

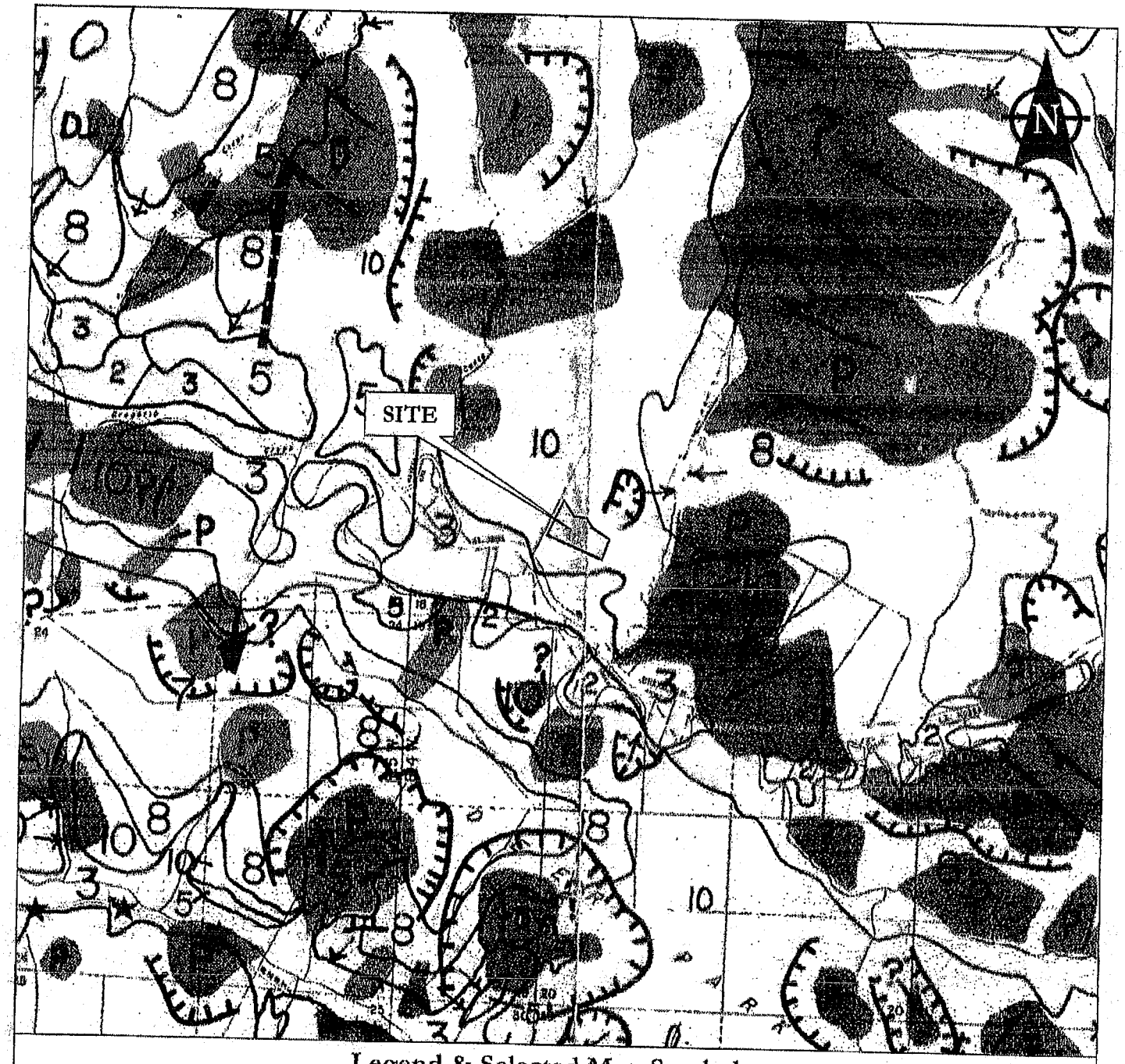
Anticline

Syncline

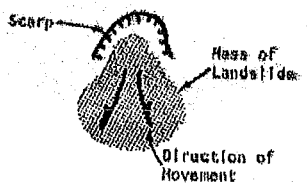
Inclined

Base: Preliminary Geologic Map of the La Honda & San Gregorio Quadrangle, Earl E. Brabb, 1980
Approximate Scale: 1 inch = 2,000 feet

MURRAY ENGINEERS INC GEOTECHNICAL SERVICES	SULLIVAN RESIDENCE APN 082-160-130 SAN MATEO COUNTY, CALIFORNIA	VICINTY GEOLOGIC MAP
	PROJECT NO. 2150-1R1 | JANUARY 2015	FIGURE A-3



Legend & Selected Map Symbols



D = Definite landslide
A = Active
F = Mapped in the field
P = Probable landslide deposit
Small landslide (50-500 ft. max. dimension mapped by photointerpretation)
Small landslide (50-500 ft.) mapped in the field
? Suspected or conjectured landslide.

Base: Preliminary Map of Landslide Deposits in San Mateo County, California, 1972
Approximate Scale: 1 inch = 2,000 feet

MURRAY ENGINEERS INC GEOTECHNICAL SERVICES	SULLIVAN RESIDENCE APN 082-160-130 SAN MATEO COUNTY, CALIFORNIA	VICINITY LANDSLIDE MAP
	PROJECT NO. 2150-1R1 | JANUARY 2015	FIGURE A-4

Date(s) Drilled: December 19, 2014	Logged By: CT	Checked By: KK
Drilling Method: Continuous Sampling & Flight Auger	Drill Bit Size/Type: 4 inch diameter drill bit	Total Depth of Borehole: 8.1 feet bgs
Drill Rig Type: Sampling Tripod & Minuteman	Drilling Contractor: Exploration Geoservices, Inc.	Approximate Surface Elevation: ""
Groundwater Level and Date Measured: Not Encountered ATD	Sampling Method(s): 3" OD, 2.5" OD, & 2" OD SPT Split Spoon Samplers	Hammer Data: 140 lb, 30 in drop, rope & cathead
Borehole Backfill: Cuttings	Location: Southwest portion of proposed residence	

Elevation, feet	Depth, feet	Sample Type	Sampling Resistance, blows/foot	Relative Consistency	USCS Symbol	MATERIAL DESCRIPTION	Water Content, %
	0			Medium Stiff	CL	SILTY CLAY, dark brown, homogeneous, medium plasticity, trace mudstone gravels, moist (Colluvium)	30
	6			Soft*	BR	MUDSTONE, yellowish brown, severely weathered, moderately fractured, moist (Purisima Formation)	29
						*designates hardness of bedrock (see Figure B-5)	21
			39/3"				23
			50/3"				28
	5						
			50/1"				
	10					Refusal at 8.1 feet bgs	

MURRAY ENGINEERS INC
GEOTECHNICAL SERVICES

SULLIVAN RESIDENCE
APN 082-160-130
SAN MATEO COUNTY, CALIFORNIA

LOG OF BORING B-1

PROJECT NO. 2150-1R1 | JANUARY 2015 | FIGURE B-1

Y:\BORINGS\Sullivan - 2150-1.bgs [123 Murray 10. WC.tpl]

Date(s) Drilled: December 19, 2014	Logged By: CT	Checked By: KK
Drilling Method: Continuous Sampling & Flight Auger	Drill Bit Size/Type: 4 inch diameter drill bit	Total Depth of Borehole: 5 feet bgs
Drill Rig Type: Sampling Tripod & Minuteman	Drilling Contractor: Exploration Geoservices, Inc.	Approximate Surface Elevation: --
Groundwater Level and Date Measured: 2 feet ATD	Sampling Method(s): 3" OD, 2.5" OD, & 2" OD SPT Split Spoon Samplers	Hammer Data: 140 lb, 30 in drop, rope & cathead
Borehole Backfill: Cuttings	Location: Area of proposed garage	

Elevation, feet	Depth, feet	Sample Type	Sampling Resistance, blows/foot	Relative Consistency	USCS Symbol	MATERIAL DESCRIPTION	Water Content, %
	0			Medium Stiff	CL	SILTY CLAY, dark brown, homogeneous, medium plasticity, trace mudstone gravels, moist (Colluvium)	27
			7	Hard	CL	SILTY CLAY, yellowish brown, homogeneous, medium plasticity, minor fine-grained sand, trace mudstone gravels, moist (Colluvium)	19
						PI=22%; LL=36% (sample from 1 to 2 feet) (ATD) ▽	
							19
			65	Soft*	BR	SANDSTONE, light yellowish brown, severely weathered, moderately fractured, moist (Purisima Formation)	19
			50/1"			*designates hardness of bedrock (see Figure B-5)	32
	5					Refusal at 5 feet bgs.	
	10						

Y:\BORINGS\Sullivan - 2150-1.bgs [123 Murray 10, WC.tpl]

MURRAY ENGINEERS INC
GEOTECHNICAL SERVICES

SULLIVAN RESIDENCE
APN 082-160-130
SAN MATEO COUNTY, CALIFORNIA

LOG OF BORING B-2

PROJECT NO. 2150-1R1 | JANUARY 2015 | FIGURE B-2

Elevation, feet	Depth, feet	Sample Type	Sampling Resistance, blows/foot	Relative Consistency	USCS Symbol	MATERIAL DESCRIPTION	Water Content, %
1	2	3	4	5	6	7	8

COLUMN DESCRIPTIONS

1. **Elevation, feet:** Elevation (MSL, feet)
2. **Depth, feet:** Depth in feet below the ground surface.
3. **Sample Type:** Type of soil sample collected at the depth interval shown.
4. **Sampling Resistance, blows/foot:** Number of blows required to advance the sampler 12 inches or the distance shown. Blow counts for the 3.0-inch O.D. and 2.5-inch O.D. samplers have been corrected for sampler size to SPT values using conversion factors of 0.66 and 0.77, respectively.
5. **Relative Consistency:** Relative consistency of the subsurface material.
6. **USCS Symbol:** USCS symbol of the subsurface material.
7. **MATERIAL DESCRIPTION:** Description of material encountered. May include consistency, moisture, color, and other descriptive text.
8. **Water Content, %:** Water content of the soil sample, expressed as percentage of dry weight of sample.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

TYPICAL MATERIAL GRAPHIC SYMBOLS

- Sandstone
- Well graded GRAVEL (GW)
- Poorly graded GRAVEL (GP)
- Well graded GRAVEL with Silt (GW-GM)
- Well graded GRAVEL with Clay (GW-GC)
- Poorly graded GRAVEL with Silt (GP-GM)
- Poorly graded GRAVEL with Clay (GP-GC)
- Silty GRAVEL (GM)
- Clayey GRAVEL (GC)
- Well graded SAND (SW)
- Poorly graded SAND (SP)
- Well graded SAND with Silt (SW-SM)
- Well graded SAND with Clay (SW-SC)
- Poorly graded SAND with Silt (SP-SM)
- Poorly graded SAND with Clay (SP-SC)
- Silty SAND (SM)
- Clayey SAND (SC)
- SILT, SILT w/SAND, SANDY SILT (ML)
- Lean CLAY, CLAY w/SAND, SANDY CLAY (CL)
- SILT, SILT w/SAND, SANDY SILT (MH)
- Fat CLAY, CLAY w/SAND, SANDY CLAY (CH)
- SILT, SILT with SAND, SANDY SILT (ML-MH)
- Lean-Fat CLAY, CLAY w/SAND, SANDY CLAY (CL-CH)
- SILTY CLAY (CL-ML)
- Lean CLAY/PEAT (CL-OL)
- Fat CLAY/SILT (CH-MH)
- Fat CLAY/PEAT (CH-OH)
- Silty SAND to Sandy SILT (SM-ML)
- Silty SAND to Sandy SILT (SM-MH)
- Clayey SAND to Sandy CLAY (SC-CL)
- Clayey SAND to Sandy CLAY (SC-CH)
- SILT to CLAY (CL/ML)
- Silty to Clayey SAND (SC/SM)

TYPICAL SAMPLER GRAPHIC SYMBOLS

- 2 inch-OD Unlined Split Spoon (SPT)
- 2.5 inch-OD Unlined Split Spoon
- 3 inch-OD Unlined Split Spoon
- Shelby Tube (thin-walled, fixed head)
- Grab Sample
- Bulk Sample
- Pitcher Sample
- Other Sampler

OTHER GRAPHIC SYMBOLS

- Water level (at time of drilling, ATD)
- Water level (after waiting a given time)
- Minor change in material properties within a stratum
- Inferred or gradational contact between strata
- Queried contact between strata

GENERAL NOTES

1. Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2. Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

V:\BORINGS\Sullivan - 2150-1.bgs [123 Murray 10 - WC.tpl]

MURRAY ENGINEERS INC
GEOTECHNICAL SERVICES

SULLIVAN RESIDENCE
APN 082-160-130
SAN MATEO COUNTY, CALIFORNIA

KEY TO BORING LOGS

PROJECT NO. 2150-1R1 | JANUARY 2015 | FIGURE B-3

PRIMARY DIVISIONS			SOIL TYPE	SECONDARY DIVISIONS
COARSE GRAINED SOILS *(<50% Fines)*	GRAVEL	CLEAN GRAVEL *(<5% Fines)*	GW	Well graded gravel, gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravel or gravel-sand mixtures, little or no fines.
		GRAVEL *with* FINES	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines.
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines.
	SAND	CLEAN SAND *(<5% Fines)*	SW	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SAND *with* FINES	SM	Silty sands, sand-silt mixtures, non-plastic fines.
			SC	Clayey sands, sand-clay mixtures, plastic fines.
FINE GRAINED SOILS *(>50% Fines)*	SILT AND CLAY *Liquid limit <50%*		ML	Inorganic silts and very fine sands, with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, lean clays.
			OL	Organic silts and organic clays of low plasticity.
	SILT AND CLAY *Liquid limit >50%*		MH	Inorganic silt, micaceous or diatomaceous fine sandy or silty soil.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils.

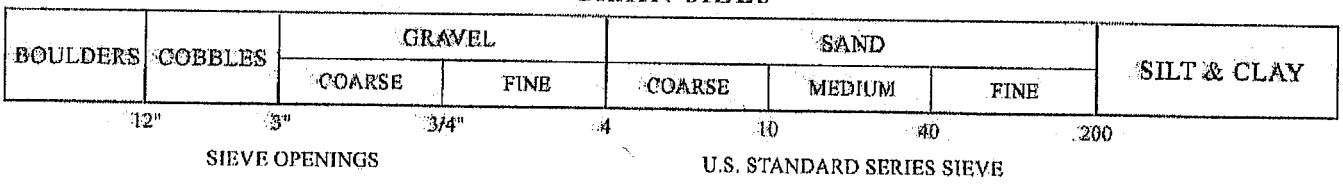
RELATIVE DENSITY

SAND & GRAVEL	BLOWS/FOOT*
VERY LOOSE	0 to 4
LOOSE	4 to 10
MEDIUM DENSE	10 to 30
DENSE	30 to 50
VERY DENSE	OVER 50

CONSISTENCY

SILT & CLAY	STRENGTH^	BLOWS/FOOT*
VERY SOFT	0 to 0.25	0 to 2
SOFT	0.25 to 0.5	2 to 4
MEDIUM STIFF	0.5 to 1	4 to 8
STIFF	1 to 2	8 to 16
VERY STIFF	2 to 4	16 to 32
HARD	OVER 4	OVER 32

GRAIN SIZES



Classification is based on the Unified Soil Classification System; fines refer to soil passing a No. 200 sieve.

*Standard penetration test (SPT) resistance using a 140-pound hammer falling 30 inches on a 2-inch outside diameter split spoon sampler; blow counts for the 3.0-inch O.D. and 2.5-inch O.D. samplers have been corrected for sampler size to SPT values using conversion factors of 0.65 and 0.77, respectively.

^ Shear strength in tons/sq. ft. as estimated by SPT resistance, field and laboratory tests, and/or visual observation.

MURRAY ENGINEERS INC
GEOTECHNICAL SERVICES

SULLIVAN RESIDENCE
APN 082-160-130
SAN MATEO COUNTY, CALIFORNIA

UNIFIED SOIL CLASSIFICATION SYSTEM

PROJECT NO. 2150-1R1 | JANUARY 2015 | FIGURE B-4

WEATHERING

Fresh
Rock fresh, crystals bright, few joints may show slight staining. Rock rings under hammer if crystalline.

Very Slight
Rock generally fresh, joints stained, some joints may show thin clay coatings, crystals in broken face show bright. Rock rings under hammer if crystalline.

Slight
Rock generally fresh, joints stained, and discoloration extends into rock up to 1 inch. Joints may contain clay. In granitoid rocks some occasional feldspar crystals are dull and discolored. Crystalline rocks ring under hammer.

Moderate
Significant portions of rock show discoloration and weathering effects. In granitoid rocks, most feldspars are dull and discolored; some are clayey. Rock has dull sound under hammer and shows significant loss of strength as compared with fresh rock.

Moderately Severe
All rock except quartz discolored or stained. In granitoid rocks, all feldspars dull and discolored and majority show kaolinization. Rock shows severe loss of strength and can be excavated with geologist's pick. Rock goes "clunk" when struck.

Severe
All rock except quartz discolored or stained. Rock "fabric" clear and evident, but reduced in strength to strong soil. In granitoid rocks, all feldspars kaolinized to some extent. Some fragments of strong rock usually left.

Very Severe
All rock except quartz discolored and stained. Rock "fabric" discernible, but mass effectively reduced to "soil" with only fragments of strong rock remaining.

Complete
Rock reduced to "soil". Rock fabric not discernible or discernible only in small scattered locations. Quartz may be present as dikes or stringers.

HARDNESS

Very Hard
Cannot be scratched with knife or sharp pick. Hand specimens requires several hard blows of geologist's hammer.

Hard
Can be scratched with knife or pick only with difficulty. Hard blow of hammer required to detach hand specimen.

Moderately Hard
Can be scratched with knife or pick. Gouges or grooves to 1/4 inch deep can be excavated by hard blow of point of a geologist's pick. Hard specimen can be detached by moderate blow.

Medium
Can be grooved or gouged 1/16 inch deep by firm pressure on knife or pick point. Can be excavated in small chips to pieces about 1 inch maximum size by hard blows of the point of geologist's pick.

Soft
Can be gouged or grooved readily with knife or pick point. Can be excavated in chips to pieces several inches in size by moderate blows of a pick point. Small thin pieces can be broken by finger pressure.

Very Soft
Can be carved with knife. Can be excavated readily with point of pick. Pieces 1 inch or more in thickness can be broken with finger pressure. Can be scratched readily by fingernail.

JOINT BEDDING & FOLIATION SPACING

Spacing	Joints	Bedding & Foliation
Less than 2 in.	Very Close	Very Thin
2 in to 1 ft.	Close	Thin
1 ft. to 3 ft.	Moderately Close	Medium
3 ft. to 10 ft.	Wide	Thick
More than 10 ft.	Very Wide	Very Thick

ROCK QUALITY DESIGNATOR (RQD)

RQD, as a percentage	Descriptor
Exceeding 90	Excellent
90 to 75	Good
75 to 50	Fair
50 to 25	Poor
Less than 25	Very Poor

MURRAY ENGINEERS INC
GEOTECHNICAL SERVICES

SULLIVAN RESIDENCE
APN 082-160-130
SAN MATEO COUNTY, CALIFORNIA

KEY TO BEDROCK DESCRIPTIONS

PROJECT NO. 2150-1R1 | JANUARY 2015 | FIGURE B-5

APPENDIX C

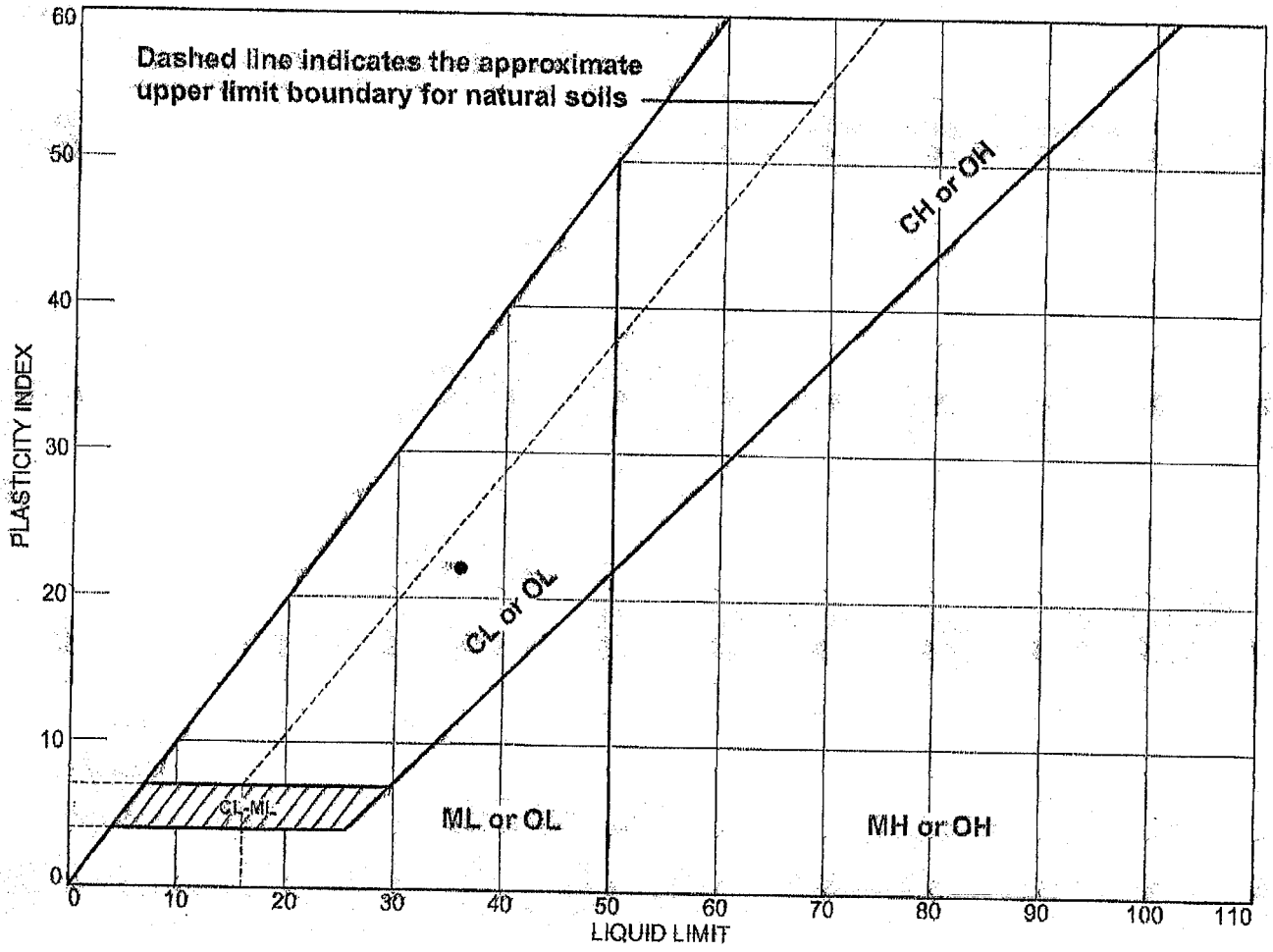
LABORATORY TESTS

Samples from the subsurface exploration were selected for tests to evaluate the physical and engineering properties of the soils. The tests performed are briefly described below.

The natural moisture content was evaluated in general accordance with ASTM D 2216 on most samples recovered from the borings. This test determines the moisture content representative of field conditions at the time the samples were collected. The results are presented on the boring logs, at the appropriate sample depths.

The Atterberg Limits were evaluated on one sample in accordance with ASTM D 4318. The Atterberg limits are the moisture content within which the soil is workable or plastic. The results are presented in Figure C-1 and on the boring logs, at the appropriate sample depth.

LIQUID & PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	Boring 2	1	1' to 2'	19.3	14	36	22	CL

MURRAY ENGINEERS INC GEOTECHNICAL SERVICES	SULLIVAN RESIDENCE APN 082-160-130 SAN MATEO COUNTY, CALIFORNIA		LIQUID & PLASTIC LIMITS TEST REPORT
	PROJECT NO. 2150-1R1	JANUARY 2015	FIGURE C-1

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT G

CALIFORNIA COASTAL COMMISSION
NORTH CENTRAL COAST DISTRICT OFFICE
45 FREMONT STREET, SUITE 2000
SAN FRANCISCO, CA 94105
PHONE: (415) 904-5260
FAX: (415) 904-5400
WEB: WWW.COASTAL.CA.GOV

November 6, 2018

Carmelisa Morales, Project Planner
County of San Mateo – Planning and Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063-1662

RE: PLN2018-00401 (Jamie Verdura) La Honda Road, San Gregorio

Dear Ms. Morales:

Thank you for forwarding the above-referenced Project Referral (dated October 17, 2018) which we received in our San Francisco office on October 19, 2018. The Applicant is requesting a Planned Agricultural District (PAD) Permit, Coastal Development Permit (CDP), and Grading Permit for the construction of a new two-story, 4,388-square-foot residence with a three-car garage on a 7.85-acre, undeveloped legal parcel. The proposed project involves grading 846 cubic yards of cut and 2,167 cubic yards of fill (including 1,321 cubic yards of import). No trees would be removed.

Agriculture and Rural Lands
The parcel is located in San Gregorio within a Planned Agricultural District (PAD). The PAD's purpose is to preserve and encourage existing agricultural operations within the County. The purpose of the PAD is more fully outlined in the Zoning Regulations, Chapter 21A, Section 6350. We recommend that the County evaluate the proposed project to determine its potential impact to agricultural resources; and more specifically it should be reviewed for consistency with LCP policies for the protection of agriculture.

Local Coastal Program (LCP) Policy 1.8 requires that new development in rural areas not: 1) have significant adverse impacts, either cumulatively or individually, on coastal resources and 2) not diminish the ability to keep all prime agricultural land and other land suitable for agriculture in agricultural production. The County should require the applicant to map the soil types at the site so that the County analysis can consider whether the parcel comprises Prime Soil as defined by LCP Policy 5.1; and or Lands Suitable for Agriculture as defined by LCP Policy 5.3. The County analysis should be based on the U.S. Department of Agriculture Soil Conservation Service Land Use Compatibility Classification. We suggest that the County assess whether or not the proposed development is consistent with LCP Policies 5.5 and 5.6 that provide for permitted uses, respectively, on Prime Agricultural Lands and Lands Suitable for Agriculture. LCP Policy 5.8 prohibits the conversion of prime agricultural land within a parcel to a conditionally permitted use unless it can be demonstrated that no alternative site exists for the use, clearly defined buffer areas are provided between agricultural and non-agricultural uses, and that the productivity of any adjacent agricultural land will not be diminished. LCP Policy 5.10 prohibits the conversion of Lands Suitable for

agriculture unless it is shown that all agriculturally unsuitable lands on the parcel have been developed or determined to be undevelopable; continued or renewed agricultural use of the soils is not feasible as defined by Section 30108 of the Coastal Act; clearly defined buffer areas are developed between agricultural and non-agricultural uses; and the productivity of any adjacent agricultural lands is not diminished. The County analysis must discuss the proposed project's consistency with LCP Policies 5.8 and 5.10.

The proposed project must be reviewed for consistency with the requirements of LCP Policy 5.11, which provides the maximum density of development allowed per Parcel. LCP Policy 5.11 limits non-agricultural development densities to those permitted in rural areas of the Coastal Zone under the Locating and Planning New Development Component of the LCP; and further, limits non-agricultural development densities to that amount which can be accommodated without adversely affecting the viability of agriculture. The analysis by the County should also evaluate the proposed project's consistency with LCP Policy 5.22which requires the protection of agricultural water supplies. Specifically, Policy 5.22 requires that there be an adequate and potable well-water source for all non-agricultural uses in accordance with LCP Policy 1.30. Therefore, the Applicant should demonstrate that a safe and adequate well water source is located on the parcel.

The Commission carefully analyzes proposals to convert agricultural lands to non-agricultural uses including single family residences, as both the Coastal Act and the County's LCP protect agricultural uses from conversion unless specific criteria are met. Projects have been brought to the Commission on appeal including (Polacek PLN 2002-00199, A-2-SMC-04-002; Waddell PLN 2002-00375, A-2-SMC-04-009; Chan PLN 2005-00381, A-2-SMC-06-021; Sterling PLN 2000-00812, A-2-SMC-07-001), and most recently McGregor (PLN2004-00524, A-2-SMC-10-016). The San Mateo County LCP has strong coastal agricultural protection policies, which necessitate thorough analyses and detailed findings for any proposed non-agricultural development on PAD lands prior to approval of such projects. When approving these projects consistent with the LCP, the Commission has imposed special conditions designed to ensure that land use conflicts are minimized and that lands are kept in agricultural production. Such conditions include requiring the dedication of an agricultural easement with affirmative provisions and recordation of a right-to-farm deed restriction. In most cases, the Applicants proposed to record 'affirmative' agricultural easements on their properties to ensure that their lands are actively farmed, which enabled the Commission to approve the projects and make the LCP's required findings regarding agricultural conversions. The County should consider such conditions of approval when processing a CDP for this proposal, in order to be consistent with agricultural protection policies.

Furthermore, Section 6355 of the certified Zoning Regulations specifies the substantive criteria that shall be met for issuance of a PAD Permit. We recommend that the County review the proposed residence and consider the required substantive criteria, including, but not limited to: 1) that adequate and sufficient water supplies needed for agricultural production and sensitive habitat are not diminished; 2) that no alternative site exists on the parcel for such use; and 3) that the productivity of adjacent agricultural land will not be diminished.

Visual resources

The entire parcel is within the La Honda Road County Scenic Corridor. LCP Policy 8.5 requires new development to be located on a portion of a parcel where it is least visible from state and county scenic

roads, least likely to impact views from public viewpoints like coastal roads and beaches, consistent with all other LCP requirements, and best preserves the visual and open space qualities of the parcel overall. We recommend that the County review the proposed project for consistency with LCP Policy 8.5 and discuss whether or not alternative siting or a reduced footprint of the development should be required.

Commission staff suggests that the applicant be required to identify measures that will be put in place to protect impacts from the development sited in areas that are Lands Suitable for Agriculture at the property particularly in areas that are directly adjacent to prime soil and creek areas, i.e. identify best management practices or measures that will be implemented to treat storm water runoff from the parking lot. An erosion control plan should be developed for the site and submitted to the County for review and approval.

Biological Resources
San Gregorio Creek is located to the west of the parcel. We suggest that the County evaluate the proposed project's potential impact to the riparian habitat associated with the creek. The Applicant should describe measures that will be implemented to ensure the protection of this biological resource, consistent with the LCP. We suggest that the County should evaluate the proposed project for consistency with LCP Policy 7.3 that requires the protection of sensitive habitat as defined under LCP Policy 7.1. LCP Policy 7.1 defines all perennial and intermittent streams as sensitive habitat. LCP Policy 7.3 prohibits any land use or development that would result significant adverse impacts on sensitive habitat areas. The LCP indicates that development in areas adjacent to sensitive habitats shall be sited and designed to prevent impacts that could significantly degrade the sensitive habitats. All uses shall be compatible with the maintenance of biologic productivity of the habitats. We suggest that the County analysis include a discussion of the proposed project's consistency with LCP Policies 7.1 and 7.3. LCP Policy7.11 establishes the required buffer zones between development and riparian habitat. The proposed project should include the appropriate buffer between San Gregorio Creek and the residence, consistent with LCP Policy 7.11.

We appreciate the opportunity to provide you with comments on the proposed project. You can contact me at (415)-904-5292 or via e-mail at rananda@coastal.ca.gov if you have questions regarding our comments.

Sincerely,

Renée Ananda

Renée Ananda, Coastal Program Analyst
California Coastal Commission
North Central Coast District Office

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT H

County of San Mateo
Planning and Building Department

INITIAL STUDY
ENVIRONMENTAL EVALUATION CHECKLIST
(To Be Completed by Planning Department)

1. **Project Title:** La Honda Road New Single-Family Dwelling and Driveway

2. **County File Number:** PLN 2018-00401

3. **Lead Agency Name and Address:** County of San Mateo Planning and Building Department 455 County Center, 2nd Floor, Redwood City, CA 94063

4. **Contact Person and Phone Number:** Laura Richstone, Project Planner, 650/363-1829, LRichstone@smcgov.org

5. **Project Location:** La Honda Road (Highway 84), San Gregorio (vacant parcel)

6. **Assessor's Parcel Number and Size of Parcel:** 082-160-130

7. **Project Sponsor's Name and Address:** Jamie Verdura, P.O. Box 519, Half Moon Bay CA 94019

8. **Name of Person Undertaking the Project or Receiving the Project Approval (if different from Project Sponsor):** N/A

9. **General Plan Designation:** Agricultural, Rural

10. **Zoning:** Planned Agricultural District/Coastal Development (PAD/CD)

11. **Description of the Project:** (*Describe the whole action involved, including, but not limited to, later phases of the project, and any secondary, support, or off-site features necessary for its implementation.*)

    Coastal Development Permit, Planned Agricultural District Permit, and Grading Permit for the construction of a new two-story, 4,388 sq. ft. single-family residence, 1,069 sq. ft. three-car garage, 500 linear foot driveway, fire turnaround, and associated septic system on a vacant 7.85-acre parcel (legality confirmed via subdivision SMN76-16). The project proposes 4,334 cubic yards (c.y.) of grading to include 846 c.y. of cut, 2,167 c.y. of fill, and 1,321 c.y. of imported material. Two and one-half acres of the parcel will be set aside for hay harvesting. While no trees are proposed for removal, the project will require the removal of approximately 0.03 acres of Baccharis scrub habitat. To mitigate the loss of habitat, the applicant has proposed to restore .09 acres (3,920 sq. ft.) of habitat and included an associated 5-year monitoring program. This project is appealable to the California Coastal Commission.

12. **Surrounding Land Uses and Setting:** The vacant project parcel sits between two developed parcels and receives access from an unnamed private road off of La Honda Road (Highway 84). The parcel slightly slopes in a north to south direction with a steep slope at the rear (westerly) portion of the parcel. The rear of the parcel is adjacent to an unnamed

intermittent stream that flows into San Gregorio Creek. A majority of the parcel is comprised of low lying non-native grasslands with disconnected patches of Baccharis scrub located throughout. A native oak woodland habitat associated with the intermittent creek and some coastal scrub habitat is located in the rear of the parcel. No riparian or wetland habitat is located on the parcel.

13. **Other Public Agencies Whose Approval is Required:** N/A

14. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?:** *(NOTE: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process (see Public Resources Code Section 21080.3.2.). Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality).*

    This project is not subject to Assembly Bill 52, as the County of San Mateo has no records of requests for formal notification of proposed projects within the County from any traditionally or culturally affiliated California Native American Tribes. However, the County seeks to satisfy the Native American Heritage Commission's best practices and has referred this project to all tribes within San Mateo County. As of the date of this report, no tribes have contacted the County requesting formal consultation on this project.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

X	Aesthetics	X	Energy		Public Services
	Agricultural and Forest Resources		Hazards and Hazardous Materials		Recreation
X	Air Quality		Hydrology/Water Quality		Transportation
X	Biological Resources		Land Use/Planning	X	Tribal Cultural Resources
	Climate Change		Mineral Resources		Utilities/Service Systems
X	Cultural Resources	X	Noise		Wildfire
X	Geology/Soils		Population/Housing	X	Mandatory Findings of Significance

EVALUATION OF ENVIRONMENTAL IMPACTS

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

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

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

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

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

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

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

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

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

7. Supporting Information Sources. Sources used or individuals contacted should be cited in the discussion.

1.	**AESTHETICS**. Except as provided in Public Resources Code Section 21099, would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
1.a.	Have a substantial adverse effect on a scenic vista, views from existing residential areas, public lands, water bodies, or roads?		X		

Discussion: The vacant project parcel is located 500 feet north of La Honda Road (Highway 84) and sits within the La Honda Road County Scenic Corridor. The project proposes to construct a new two-story residence, three-car garage, 500-foot driveway, fire truck turnaround, and associated septic system in the rear northerly portion of the parcel. The residence will have a height of 24'-10'' where the maximum district height is 36 feet. Retaining walls ranging between 1-4 feet in height are proposed along the new driveway while retaining walls up to 9.5 feet in height are proposed along the southerly side of the residence adjacent to steeper 28% (or greater) slopes. The location of the proposed development has been situated deeper into the parcel, father away from the unnamed access road, and in a relatively more sloped area of the parcel in order to preserve and continue to farm 2.5 acres of hay. The proposed dry hay farming operation is located south and east of the proposed residence on a flatter portion of the parcel closer to the unnamed access road.

The project site sits between two parcels developed with residential uses. Though the project site will be visible from La Honda Road and the surrounding parcels due to the lack of trees, the proposed development is in character with the surrounding two-story rural residential homes. Due to topography, the proposed development will mainly be visible heading West on La Honda Road. In order to better blend with the surrounding rural development, the applicant has proposed to utilize wood board and batten siding and shingles. In addition, the landscaping plan which will integrate four oak trees between the residence and La Honda Road to provide screening and protect the view shed from La Honda Road. The following mitigation measure is recommended to further minimize any adverse visual effect of the proposed project:

Mitigation Measure 1: All proposed development shall utilize earth tone colors to further blend in with the surrounding grassland vegetation and topography.

Source: Project Location, Project Plans.

1.b.	Substantially damage or destroy scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	

Discussion: The project parcel is not located within a state scenic highway. As discussed in Section 1.a, the project parcel is located within the La Honda Road County Scenic Corridor. The vacant project parcel is dominated by non-native grasslands and no rock outcroppings and/or historic buildings are located on the parcel. While an oak woodland is located in the rear of the parcel, no trees are proposed for removal. Grading and associated site disturbance to accommodate the building pad, driveway, fire truck turnaround, and downhill septic system will occur. However, such grading is necessary for the proposed development, will blend with the surrounding topography and will not substantially damage or destroy scenic resources.

Source: Project Plans, Project Location.					
1.c.	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings, such as significant change in topography or ground surface relief features, and/or development on a ridgeline? (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	

Discussion: The project is located in a non-urbanized area and is surrounded by rural single-family residences. As discussed previously, the project site is located within the La Honda Road County Scenic Corridor and will be visible from the road due to a lack of trees and its elevation above the road. The proposed development is compatible in size and style with the surrounding rural residential development (see Section 1.a above). The project will require 4,334 c.y. of grading (846 c.y. cut, 2,167 c.y. fill, and 1,321 c.y. of import) but will not represent a significant change in parcel topography as most of the grading is associated with the 500-foot long driveway and fire truck turnaround. The long driveway (and its associated grading) is proposed in order to retain and utilize 2.5 acres of the parcel near the front property line for a dry hay farming operation. As this parcel has historically been utilized for dry hay farming and grazing, retaining and continuing this operation is in line with the charter of the surrounding rural parcels and agricultural goals of the Planned Agricultural Zoning District. In addition, the proposed landscape plan will offer screening from La Honda Road itself. As the project is not located on a ridgeline and does not represent a significant change in topography, the project will not substantially degrade the existing visual character or quality of public views.

Source: Project Plans, Project Location; San Mateo County General Plan Scenic Resources Map 9.

1.d.	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?		X		

Discussion: While the property does not currently have any light sources, it is located adjacent to two residences with existing light sources that are visible from La Honda Road. Though landscaping is proposed to screen the development from La Honda Road, new light sources and glare from the proposed development where none had existed before would increase overall nighttime ambient lighting of the area and have the potential to generate adverse impacts on daytime and nighttime views along La Honda Road. The following mitigation measures are recommended to minimize any adverse daytime or nighttime view impacts from the light or glare that the project may introduce to the area:

Mitigation Measure 2: All proposed exterior lighting shall be designed and located so as to confine direct rays to the subject property and prevent glare to the surrounding area. Manufacture cut sheets for any exterior light fixtures shall be submitted for review and approval to the Planning Department prior to the issuance of a building permit. All fixtures shall be rated dark-sky compliant and designed to minimize light pollution beyond the confines of the subject premises.

Mitigation Measure 3: The finishes of all exterior materials and/or colors shall be non-reflective. **Source:** Project Location, Project Plans.					
1.e.	Be adjacent to a designated Scenic Highway or within a State or County Scenic Corridor?		X		
Discussion: The project parcel is located within the La Honda Road County Scenic Corridor. The parcel is elevated above and located approximately 500 feet away from La Honda Road. See staff's discussion and recommended mitigation measures in Section 1.a. - 1.d. above. No further mitigation is necessary. **Source:** San Mateo county General Plan Scenic Corridors Map, Project Location, Project Plans.					
1.f.	If within a Design Review District, conflict with applicable General Plan or Zoning Ordinance provisions?				X
Discussion: The parcel is not located within a Design Review District. **Source:** San Mateo County GIS/Zoning Map.					
1.g.	Visually intrude into an area having natural scenic qualities?		X		
Discussion: The project site is located in an open rural area, is dominated by grassy vegetation, and is adjacent to an existing creek. The parcel is located 500 feet away from La Honda Road. Though the proposed residence is two stories in height (24'-10'') its deep set location within the lot, distance from La Honda Road, and the surrounding two-story residential development reduces the scale and appearance of the residence when viewed from La Honda Road. Proposed landscaping will provide screening from La Honda Road and the utilization of wood siding, earth toned colors, and a dark colored roof as recommended by Mitigation Measure 1 will help the structure blend in with the surrounding natural vegetation and have a less than significant impact on the surrounding area. **Source:** Project Plans, Project Location.					

2.	**AGRICULTURAL AND FOREST RESOURCES**. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***

2.a.	For lands outside the Coastal Zone, 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

Discussion: The project is located within the Coastal Zone. The parcel is identified as "Grazing Land" on the California Important Farmland Finder and the San Mateo County Important Farmlands of Statewide Importance Map, 2018. As such, the project will not convert Farmland to a non-agricultural use.

Source: Project Location; San Mateo County Geographic Information System; California Department of Conservation Important Farmland Finder Map, https://maps.conservation.ca.gov/DLRP/CIFF/; California Department of Conservation – San Mateo County Important Farmland Map, 2018.

2.b.	Conflict with existing zoning for agricultural use, an existing Open Space Easement, or a Williamson Act contract?			X	

Discussion: The project parcel is not contracted or encumbered by an Open Space Easement or a Williamson Act Contract. Located within a designated rural area of the County, the parcel is zoned PAD/CD (Planned Agricultural District/Coastal Development) which has an agricultural focus but permits residential dwellings with the issuance of a PAD Permit. The applicant has submitted for a PAD Permit with the County of San Mateo and decision on the permit will be rendered after the posting period for this subject Initial Study/Mitigation Negative Declaration has ended. While the subject parcel is not encumbered by a Williamson Act contract, it abuts a parcel (at its rear) that is under Williamson Act Contract. However, the project would not conflict with existing grazing operations on the adjacent parcel as the project is located approximately 160 feet from the rear property line and is separated from the adjacent parcel by a creek and an oak woodland.

Source: Project Plans; San Mateo County GIS.

2.c.	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 forestland to non-forest use?				X

Discussion: The project site is an undeveloped, privately-owned 7.85-acres parcel surrounded by similarly sized residentially developed rural properties. The project parcel is identified as lands suitable for grazing and is not designated as Farmland by the California Farmland Mapping and Monitoring Program (see Section 2.a). Grazing Land is defined by the California Department of Conservation as *Land on which the existing vegetation is suited to the grazing of livestock*. The parcel is not being utilized for grazing and the construction of the proposed project would not result in the conversion of designated Farmland to non-agricultural use.

Though a majority of the parcel is covered by non-native grasslands and shrub habitat, there is a linear band of oak woodlands associated with an unnamed creek at the rear of the parcel. Per

Public Resources Code Section 12220 (g) forestland is defined as *land that can support 10% native tree cover of any species and that allows for management of one or more forest resources including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation and other public benefits*. As seen in aerial photographs, the linear band of oak woodlands at the rear of the parcel covers more than 10% of the property. However, the project will not result in the conversion of the forestland to non-forestland as the residence is located approximately 100 feet from the edge of the oak woodlands and does not proposal the removal of any trees. **Source:** California Department of Conservation, Farmland Mapping and Monitoring Program Map; Public Resources Code Section 12220(g); Project Location.				
2.d.	For lands within the Coastal Zone, convert or divide lands identified as Class I or Class II Agriculture Soils and Class III Soils rated good or very good for artichokes or Brussels sprouts?			X	
Discussion: Located in the Coastal Zone, the proposed project does not propose to subdivide any lands. Per the USDA Natural Resources Conservation Service (NRCS) soil survey, the project parcel is comprised mostly of Class III soils, with small areas of Class VII and Class VI soils located in the rear of the parcel. The San Mateo County Productive Soil Resources Map assesses soils with agricultural capabilities throughout the unincorporated County and their ability to support certain types of agriculture. Per the San Mateo County Productive Soil Resources, the Class III soils identified on the project parcel are not identified as supporting artichoke or Brussel sprout production and are more suitable for supporting grazing or dry farming operations. As such, the proposed development would not convert Class I or Class II agricultural soils, or Class III soils capable of supporting artichokes or Brussel sprouts. **Source:** San Mateo County General Plan Productive Soil Resources Map, USDA Natural Resources Conservation Service Soil Survey.				
2.e.	Result in damage to soil capability or loss of agricultural land?			X	
Discussion: As discussed in Section 2.d. above, the project parcel contains soils that are more suitable for grazing or dry farming operations. While historically the vacant project parcel has been used to cultivate hay, the proposed project would result in the conversion of approximately 7.9% of the parcel into a residential use (including the gravel driveway and landscaping). The applicant has proposed to locate the dwelling in the rear of the parcel in order to retain the flattest 2.5 acres at the front of the property for dry hay farming with the rest of the parcel remaining undeveloped. While there will be some loss of agricultural lands to accommodate the proposed development, there is no expectation that the proposed development would result in damage to the underlying soil or the soil capability. **Source:** Zoning Maps; Natural Resources Conservation Service Web Soil Survey; San Mateo County General Plan Productive Soil Resources Soils with Agricultural Capability Map.				
2.f.	Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland			X	

	Production (as defined by Government Code Section 51104(g))? *Note to reader: This question seeks to address the economic impact of converting forestland to a non-timber harvesting use.*				

Discussion: The project parcel is zoned Planned Agricultural District/Coastal Development (PAD/CD). Residential uses are allowed in the PAD subject to a PAD permit which the applicant is seeking as a part of the subject project. The project does not conflict with the zoning, require a rezoning, nor interfere with timberland production elsewhere on appropriately zoned lands. Nor would the project result in the conversion of forestland to non-forest uses as discussed in Section 2.c.

Source: San Mateo County Zoning Regulations, Project Plans.

3. AIR QUALITY. 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:

		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
3.a.	Conflict with or obstruct implementation of the applicable air quality plan?		X		

Discussion: The Bay Area 2017 Clean Air Plan (CAP), developed by the Bay Area Air Quality Management District (BAAQMD), is the applicable air quality plan for San Mateo County. The CAP was created to improve Bay Area air quality and to protect public health and climate.

The proposed project would not conflict with or obstruct the implementation of the BAAQMD's 2017 CAP. The project and its operation involve minimal hydrocarbon (carbon monoxide: CO2) air emissions, whose source would be exhaust from vehicle trips (e.g., construction vehicles and personal cars of construction workers), whose primary fuel source is gasoline, during its construction. Due to the site's rural location and assuming construction vehicles and workers are based in urban areas, potential project air emission levels from construction would be increased from general levels. However, any such construction-related emissions would be temporary and localized and would not conflict with or obstruct the Bay Area Air Quality Plan. Similarly, once constructed ongoing use of the single-family residence would have minimal impacts to air quality standards.

The BAAQMD has established thresholds of significance for construction emissions and operational emissions. As defined in the BAAQMD's 2017 CEQA Guidelines, the BAAQMD does not require quantification of construction emissions due to the number of variables that can impact the calculation of construction emissions. Instead, the BAAQMD emphasizes implementation of all feasible construction measures to minimize emissions from construction activities. The BAAQMD provides a list of construction-related control measures that they have determined, when fully implemented, would significantly reduce construction-related air emissions to a less than significant level. These control measures have been included in the Mitigation Measure below:

Mitigation Measure 4: The applicant shall require construction contractors to implement all the Bay Area Air Quality Management District's Basic Construction Mitigation Measures, listed below:

a. Water all active construction areas at least twice daily.

b. Apply water two times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking, and staging areas at construction sites. Also, hydroseed or apply non-toxic soil stablizers to inactive construction areas.

c. Sweep daily all paved adjacent public streets daily (preferably with water sweepers) if visible soil material is carried onto them.

d. Limit traffic speeds on unpaved roads within the project parcel to 15 miles per hour.

e. All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

f. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485, of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

g. Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand etc.) that can be blown by the wind.

h. Replant vegetation in disturbed areas as quickly as possible.

I. Install erosion control measures to prevent silt runoff to public roadway and/or into Dean Creek.

j. All haul trucks transporting soil, sand, or other loose material on and off site shall be covered.

k. Roadways and building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

l. A publicly visible sign with the telephone number and person to contact at the project site regarding dust complaints shall be posted. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Also, see the discussion to Question 7.1 (Climate Change: Greenhouse Gas Emissions), relative to the project's compliance with the County Energy Efficiency Climate Action Plan.

Source: BAAQMD CEQA Guidelines, May 2017; Project Plans.

3.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		

Discussion: The San Francisco Bay Area Air Basin is a State designated non-attainment area for Ozone, Particulate Matter (PM10), and Fine Particulate Matter (PM-2.5). On January 9, 2013, the Environmental Protection Agency (EPA) issued a final rule to determine that the Bay Area attained the 24-hour PM-2.5 national standard. However, the Bay Area will continue to be designated as "non-attainment" for the national 24-hour PM-2.5 standard until the BAAQMD submits a "re-designation request" and a "maintenance plan" to the EPA and the proposed re-designation is approved by the EPA.

Construction of the project is expected to result in a temporary increase in PM-2.5 in the project area as these PM-2.5 particles are a typical vehicle emission. Therefore, any increase in these criteria pollutants would be significant. The temporary nature of the proposed construction and California Air Resources Board vehicle regulations will reduce the potential effects of increased PM-2.5 to a less than significant impact. Implementation of Mitigation Measure 4 will minimize increases in non-attainment criteria pollutants generated from project construction to a less than significant level.

Source: Project Plans, Bay Area Air Quality Management District.

3.c.	Expose sensitive receptors to substantial pollutant concentrations, as defined by the Bay Area Air Quality Management District?		X		

Discussion: Sensitive receptors are facilities or land uses such as schools, hospitals, or residential areas where people live, play, convalesce, or a place where insensitive individuals spend significant amounts of time. Sensitive individuals, such as children and the elderly, are those most susceptible to poor air quality.

The project site is located in a rural area with sensitive receptors (i.e., single-family residences) located to the north and south. Pollutant concentrations associated with the occupation of the single-family residence are expected to less than significant. Pollutant emissions generated from the construction of the proposed project, though temporary in nature, have the potential to negatively impact nearby sensitive receptors. As such, implementation of Mitigation Measure 4 will minimize potentially significant exposure of pollutants to nearby sensitive receptors to a less than significant level.

Source: Project Plans, Project Location.

3.d.	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?		X		

Discussion: Once, operational, the proposed project which includes the construction of a single-family residence, three-car garage, 500 linear foot driveway, fire truck turnaround, and associated septic system in a rural area will not result in adverse emissions. The project has the potential to generate emissions such as noise and odor during its construction. However, any such odors generated from project construction will be temporary and are expected to be minimal. Implementation of the Mitigation Measure below is recommended to reduce noise emissions related to the construction of the proposed development to a less than significant level.

Mitigation Measure 5: Noise sources associated with demolition, construction, repair, remodeling, or grading of any real property shall be limited to the hours from 7:00 a.m. to 6:00 p.m., weekdays and 9:00 a.m. to 5:00 p.m., Saturdays. Said activities are prohibited on Sundays, Thanksgiving, and Christmas (San Mateo Ordinance Code Section 4.88.360).

Source: Project Plans.

4.	**BIOLOGICAL RESOURCES**. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
4.a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service or National Marine Fisheries Service?		X		

Discussion: A Biological Impact Report (Attachment E) and Habitat Restoration Plan (Attachment F) conducted by Toyon Consultants dated February 2018 and January 2019 respectively were prepared for the proposed project. The subject parcel was surveyed on January 18 and February 1, 2018 by Joe Rigney, a Toyon Consultants biologist, to document the existing biological conditions of the parcel and determine the potential for special-status species to occur within the project area.

The Toyon biologist noted the presence of an intermittent creek at the rear of the property within an oak woodland. The biologist noted that the unnamed intermittent creek consists of a deeply incised channel with no pool formations or presence of emergent vegetation within the creek or within the oak woodland.

According the Toyon Consultants biologist, the parcel contains for distinct plant communities including: 6.38 acres of non-native grasslands, 0.99 acres of oak woodlands at the rear of the parcel, 0.31 acres of Baccharis scrub interspersed in small patch throughout the parcel, and 0.28 acres of coastal scrub habitat adjacent to the oak woodland in the northern corner of the parcel. Project construction will involve the removal of 0.03 acres of Baccharis scrub habitat and the removal of 0.47 acres of non-native grasslands. Upon assessment, the Toyon biologist identified the potential for two special-status plant species and ten special-status animal species to occur within or adjacent to the project parcel. Four of the special-status animal species including the pallid bat, Townsend's big-eared bat, horary bat, and monarch butterfly are only expected to occur within the oak woodlands at the rear of the parcel. As the proposed residence will be located approximately 100 feet from the edge of the oak woodlands and as there is no work proposed within the woodlands no impacts to these species are expected to occur. The remaining seven special-status animal species identified in the biological impact report have the potential to within or near the project site and are discussed below:

Plants

Woodland Wollythreads (WW)

Woodland Wollythreads are an annual herb endemic to California and are considered rare, threatened or endangered by the California Native Plant Society (CNPS). WWs blooms from March to July and are typically found in grasslands and openings in chaparral and oak woodlands. Although unlikely to occur on the project parcel due to their slight affinity to serpentine soils, this plant has the potential to occur in the oak woodlands located at the rear of the parcel. Since no work is proposed occur within or adjacent to the oak woodlands no impacts are expected to occur to potential WW plants located within the oak woodlands.

Chaparral Ragwort (CR)

Chaparral Ragwort is an annual herb, native to California, and is considered rare, threatened, or endangered in California by the CNPS. This species blooms from March to July and is found in chaparral and sage scrub vegetative communities and in alkaline flats and rocky areas. Though potential habitat for the CR exists on the project parcel (i.e. coastal scrub), this species is considered to be absent from the project parcel due to the lack of alkaline and rocky soil conditions. Therefore, no impacts are expected to occur to this species.

Animals

San Francisco Dusky-Footed Woodrat (SFDW)

The San Francisco dusky-footed woodrat is California species of special concern. The SFDW is a medium sized rodent found throughout the San Francisco Bay Area in grassland, scrubland, and wooded areas. They are primarily nocturnal and build stick structures (middens) for nesting to provide protection from seasonal temperature extremes and predators. The SF DFW primarily consumes woody plants including leaves, flowers, nuts, acorns, and berries.

The biologist observed seven woodrat middens within the oak woodland at the rear of the parcel. Toyon Consultants concluded that it is likely that the SFDW could potentially use the surrounding grassland and scrub habitat as foraging habitat. However, the large distance between the proposed residence and the edge of the oak woodlands (approximately 70-100 feet) makes it unlikely that the animal would be found in the vicinity of the proposed work. Though no woodrats were observed near the project area, construction of the proposed project has the potential to impact woodrats foraging on site. Implementation of the mitigation measures below will reduce potential impacts to the SFDW to a less than significant level.

California Red-Legged Frog (CRLF)

The California red-legged frog (*Rana draytonii*) is federally listed as threatened under the Federal Endangered Species Act (FESA) and is a designated state species of special concern. CRLFs typically require a permanent water sources with a minimum depth of 2.5 feet for breeding and prefer freshwater ponds, slow-flowing streams, and/or marshes with heavily vegetated shores as breeding habitat. CRLFs are also known to disperse up to 2 miles from breeding habitats during the autumn, winter, and spring rains and can be found in freshwater and slightly brackish ponds, and marshes, grasslands, riparian woodlands, oak woodlands, and coniferous forests.

As noted above, an intermittent creek is located at the rear of the property. In addition, two creeks (San Gregorio Creek and Bogess Creek) are located within 0.16 and 0.3 miles of the subject parcel. Though there are several recorded occurrences of the CRLF within 10 miles of the project parcel, the Toyon biologist determined that the intermittent creek at the rear of the property does not provide the necessary pool formations or emergent vegetation necessary to support a breeding population of CRLFs. However, since CRLFs have been known to travel up to 2 miles away from breeding habitats, the project biologist determined that the upland habitat areas on the project parcel (i.e. Baccharis scrub, coastal scrub, and oak woodland could provide habitat for adult CRLFs. The biologist also noted that CRLFs could be utilizing the numerous burrowing mammal holes found throughout the property as habitat as well. The proposed project could potentially impact CRLFs. Due to the regional rarity of this species, increased mortality of the CRLF would be substantial under CEQA. Implementation of the mitigation measures below will reduce potential impacts to the CRLF to a less than significant level.

Birds

Cooper's Hawk (CH)

Cooper's hawk is a medium sized raptor that breeds in mature broadleaf or coniferous forests from early April to June. CH has been observed using small wooded lots and forest tracts and is tolerant

of human activities. Though there are no records of CH in the CNDDB there are several recorded sightings of the bird in the eBird database near the project location. CH could potentially nest within the oak woodland at the rear of the property and utilize the grassland habitat of the rest of the parcel as a foraging area. Construction and implementation of the project could potentially disturb a nest if it were too close. Implementation of the mitigation measures below will reduce potential impacts to the CH to a less than significant level.

Northern Harrier (NH)

Northern harriers are a California species of special concern. NHs can be found in open habitats such as fields, meadows upland prairies, agricultural areas and riparian zones with dense low vegetation. Harriers nest in loose colonies and build their nests on the ground often on raised mounds of dirt or clumps of vegetation. Though no NHs were observed on site, they could potentially use the grasslands on the parcel as nesting and/or foraging habitat. here have been several sightings of the NH in the eBrid data base. One less than 1-mile from the project site. Construction of the project has the potential to impact nesting NHs (if present) and reduce potential foraging habitat. Implementation of the mitigation measures below will reduce potential impacts to the NH to a less than significant level.

White-Tailed Kite (WTK)

White-tailed kites are a US Fish and Wildlife species of special concern and are fully protected species in California. The WTK is a medium sized raptor found in low elevation grassland, agricultural, wetland, oak woodland, and oak savanna habitats. WTKs feed on small rodents such as voles, hose mice, pocket gophers, rats, shrews, young rabbits and sometimes other birds. They often nest at the top of trees with oak tress often chosen for nest sites.

Though no WTKs were observed on the project parcel, there are several sightings of this species in the eBrid database near the project parcel. WTKs could potentially nest in the oak woodland at the rear of the parcel and utilize the remainder of the parcel as foraging habitat. Construction of the project has the potential to impact nesting WTKs (if present) and will reduce potential foraging habitat. Implementation of the mitigation measures below will reduce potential impacts to the WTK to a less than significant level.

Mitigation Measure 6: Habitat Restoration — To mitigate for the loss of 0.03 acres of Baccharis scrub habitat, the applicant shall implement a restoration plan approved by the San Mateo County Planning and Building Department. The restoration plan shall provide for the restoration of 0.09 acres (3,920 sq. ft.) of Baccharis scrub habitat on the project parcel. The restoration plan shall include defined success criteria and a minimum five-year mitigation monitoring program with yearly reports submitted to the County of San Mateo Planning and Building Department.

Mitigation Measure 7: Birds — If grading is scheduled during the active nesting season (March through August), a qualified wildlife biologist shall conduct a pre-construction nesting survey of the property, including large trees within 250 feet of the property for nesting raptors, and any vegetation within 50 feet of the proposed development for other nesting birds. This survey shall occur no more than 30 days prior to initiation of grading activities to provide an accurate measure of the presence or absence of active nests within the project vicinity.

Mitigation Measure 8: Birds — If active nests are encountered, grading activities shall not commence until species-specific protection measures are prepared by a qualified biologist and submitted to the Planning and Building Department for approval to prevent nest abandonment.

Mitigation Measure 9: Birds — If nests are encountered during project construction grading within a 100 foot radius of the nest shall be halted and no construction related activities shall occur within this 100 foot buffer zone. The perimeter of said buffer zone shall be fenced or adequately demarcated and construction personnel shall be restricted from such areas until all young have

fledged.

Mitigation Measure 10: Birds — if avoidance of nests are not feasible, disturbance within the 100 foot nest buffer zone shall be prohibited until a qualified biologist can verify that the birds have either (a) not begun egg laying and incubation, or (b) that the juveniles from the nest are foraging independently and capable of independent survival. A report prepared by a qualified biologist verifying that the young have fledged or that egg laying activities have no occurred shall be submitted to the Planning and Building Department for review and approval prior to initiation of grading or construction activities within a 100 foot nest buffer zone.

Mitigation Measure 11: California Red-Legged Frog – A qualified biologist capable of monitoring projects shall be present on site prior to any disturbance activities as follows:

a. An exclusion fence shall be installed along the edges of the proposed driveway and along the locations of the side and rear retaining walls (within 20 feet of proposed grading activities). Installation of the exclusionary fencing shall be overseen by a qualified biologist. The fence shall be at least 3 feet in height and trenched 6 inches deep. Furthermore, the fence shall be installed so that there are no openings or gaps through which a frog or small mammals could move into the project area. The exclusionary fencing shall have escape funnels in the fence every 100 feet or less for trapped small mammals and/or frogs to exit the project area. A cut sheet of the proposed exclusionary fencing shall be provided to the Planning and Department for approval prior to the issuance of any building permits.

b. A pre-construction survey for CRLFs and SFDWs shall be conducted no less than 72 hours prior to the start of project activities (including the installation of the exclusionary fencing and equipment and materials staging) by a California Department of Fish and Wildlife (CDFW) certified biologist.

c. Should any burrows be observed within the project area during the pre-construction survey by the CDFW certified biologist, the burrows shall be inspected to determine if they are being used by the CRLF. If CRLFs are present, the area shall be vacated and re-inspected in one week. If no animal use is noted, the burrows shall be carefully excavated using a small trowel or shovel and carefully prodded using a blunt object to determine the course of the tunnel such that the tunnel is excavated from the sides rather than the top, reducing the potential for any injury to an animal if present. Excavated burrows with no CRLFs shall be left open so they cannot be reoccupied. If non-listed species are located within the burrows they shall be translocated outside of the construction zone by the biologist.

d. If any life stage of the CRLF is found during the pre-construction survey and/or burrow excavation, the biologist shall immediately contact the CDFW and USFW and cease work until appropriate actions (approved by CDFW, USFW, and the Planning and Building Department) are agreed upon.

e. Immediately following the installation of the exclusionary fencing, the biological monitor shall survey the enclosed construction area for the presence of CRLF.

f. All crewmembers shall attend an Environmental Awareness Training presented by a qualified biologist. The training shall include a description of the special-status species that may occur in the region, the project Avoidance and Minimization Measures, Mitigation Measures, the limits of the project work areas, applicable laws and regulations, and penalties for non-compliance. Colored photocards of CRLFs and SFDWs shall remain on the project site during construction. Upon completion of training, crewmembers shall sign a training form indicating they attended the program and understood the measures. Completed training form(s) shall be provided to the Project Planner before the start of project activities.

g. Following the start of construction activities, a qualified biologist or trained biological monitor shall inspect the site weekly to monitor the integrity of the exclusionary fencing, confirm the

limit of work and equipment is within the project boundaries, and assess the overall project adherence to the mitigation measures. A daily monitoring report shall be completed for each day the biologist is on site and shall include the date and time of work, weather conditions, biologist's name, construction activities preformed that day, any listed species observed, and any measures taken to repair and/or maintain the exclusionary fencing. These logs shall be available to the County upon request and a logbook of complied reports shall be submitted to the Planning and Building Department prior to building permit final approval.

h. The biological monitor has the authority to halt all or some of the grading or construction activities to protect habitat and/or individual sensitive species.

i. The biological monitor shall complete daily monitoring reports for each day present on site, to be maintained a in a monitoring logbook. Reports shall contain

Mitigation Measure 12: Wildlife Encounters – If any wildlife is encountered during Project activities, said encounter shall be reported to a qualified biologist and wildlife shall be allowed to leave the work area unharmed. Animals shall be allowed to leave the work area of their own accord and without harassment. Animals shall not be picked up or moved in any way

Mitigation Measure 13: San Francisco Dusky-Footed Woodrat – The construction contractor shall install woodrat exclusion fencing along the southern and easterly property lines in accordance with Drawing No. A112 on the site plan.

a. Woodrat exclusion fencing shall be installed prior to the start of construction including equipment and materials staging.

b. Woodrat exclusion fencing shall be the same exclusion fencing that will be installed for the California red-legged frog. The escape funnel provided for the snakes and frogs shall have a small enough escape funnel (i.e., less than 3'' x 3'' exit) to prevent woodrats from passing through.

c. If woodrat nests are observed within the project area outside of the breeding season (February to July) the project biologist may dismantle the nest (outside of the breeding season), allowing individuals to relocate to suitable habitat within the adjacent open space areas.

d. If woodrat nests with young are observed within the project site, an exclusion fence shall be erected around the nest site. The fencing shall provide adequate enough area to provide foraging habitat for the woodrats at the discretion of the project biologist. Site preparation (i.e., grubbing and grading) within the fenced area shall be postponed or halted until young have left the nest. A biological monitor shall be onsite during periods when disturbance activities occur near the active nest to ensure no inadvertent impacts will occur to the nests.

Source: Toyon Consultants Biological Impact Report, dated February 9, 2019.

4.b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service or National Marine Fisheries Service?		X		

Discussion: As discussed in Section 4.a, the project will involve the removal of 0.03 acres of Baccharis scrub habitat and 0.47 acres of non-native grasslands. Removal of 0.47 acres of non-native grassland habitat could potentially impact foraging habitat for the CH, NH, and WTK. However, due to the large amount of foraging habitat available both on the site and within the immediate vicinity, the 0.47-acre reduction in grassland habitat is not expected to substantially effect

the CH, NH, or WTK.

The removal of the Baccharis scrub habitat, however, may be considered significant as the habitat has the potential to be used by CRLFs. To mitigate, the project includes a habitat restoration plan (Attachment F) to replant 0.09 acres (3,920 sq. ft.) of Baccharis scrub habitat. Replanting/ restoration activities will occur adjacent to the large patch of coastal scrub habitat and the oak woodlands in the rear of the parcel to provide habitat continuity to the existing Coastal scrub habitat. Replanting species include California Sage, Coyote Bush, Sticky Monkey Flower and California Blackberry. Implementation of the restoration plan along with the mitigation measures below will reduce the impacts of the loss of scrub habitat to a less than significant level.

Mitigation Measure 14: The restoration plan shall be overseen by a qualified restoration ecologist as recommended by the project applicant and approved by the County of San Mateo Planning and Building Department.

Mitigation Measure 15: Propagules -- All plant propagules except erosion control seed shall be collected from a local genetic source using Best Management Practices that control or eliminate for the sudden oak death pathogen (*Phytopthora ramorum*). Ideally, propagules shall be collected from the project site. In the event that this is not feasible, materials shall be collected from San Mateo County within a two mile radius from the coast and below 1,000 feet in elevation.

Mitigation Measure 16: Site Preparation -- As necessary, soils at planting locations shall be de-compacted as to allow for root growth.

Mitigation Measure 17: Planting Layout -- Planting layout shall avoid a grid pattern in order to mimic a more random, natural distribution of plants. Plants shall be laid out in the field by the project Restoration Ecologist.

Mitigation Measure 18: Irrigation – Each plant shall be watered with two gallons per week during the dry season (June – October) with adjustments as deemed necessary by the project Restoration Ecologist to ensure plant survival.

Mitigation Measure 19: Irrigation System – A temporary irrigation system shall be designed and installed by a qualified landscape contractor. The irrigation system and all associated parts shall be removed upon plant establishment (typically 2 years).

Mitigation Measure 20: Performance Criteria – The restoration plan shall adhere to the performance criteria below. Failure to meet these criterial during the 5-year monitoring period may require additional restoration activities.

a. Year 1: Minimum 80% plant survival.

b. Year 2- 4: Minimum 60% plant survival.

c. Year 5: Minimum 50% plant survival.

d. Year 1-5: Less than 5% invasive exotic plant cover permitted within the restoration area.

Mitigation Measure 21: Reporting -- A Biological As Built Report shall be submitted to the County of San Mateo Planning and Building Department within 30 days of completion of the restoration plan implementation. This report shall include final maps indicating the restoration and plating areas, along with the final numbers of plants installed.

Mitigation Measure 22: Reporting – By December 31 of each year of the restoration plan a Mitigation Monitoring Report shall be submitted to the San Mateo County Planning and Building Department and shall include the following information:

a. Dates monitoring occurred.

b. Adherence to the performance criteria to include results of quantitative monitoring including

copies of field data sheets.

c. Photos

d. Summary of restoration actions taken during the reporting period

e. Any changes proposed or implemented to the project as a result of monitoring including but not limited to: invasive exotic control techniques, plant replacement, and watering schedules.

Mitigation Measure 23: Initiation of the habitat restoration plan shall occur prior to final building approval for the proposed residence.

Source: Toyon Consultants Habitat Restoration Plan, dated January 16, 2019.

4.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 interruption, or other means?				X

Discussion: To meet the US Army Corps of Engineers definition of wetland, three characteristics must be demonstrated: wetland vegetation, wetland hydrology, and wetland soils. In addition, a wetland must have a hydrological connection to other wetlands and/or waters of the United States.

The unnamed intermittent creek at the rear of the property has a defined channel and does not contain emergent vegetation as observed by the project biologist. Per the 2015 USGS La Honda Quadrangle Map the unnamed creek appears to be somewhat hydraulically connected San Gregorio Creek located on the other side of Highway 84 which drains into the Pacific Ocean. The U.S. Fish and Wildlife Service is the principal Federal agency that provides information to the public on the extent and status of the Nation's wetlands. Per the U.S. Fish and Wildlife Service National Wetlands Inventory Mapper, the unnamed creek at the rear of the property is identified as a “Riverine” habitat and classified as a R4SBC, riverine (R), intermitten (4), streambed (SB), seasonally flooded (C) wetland. This is a non-tidal wetland dominated by woody vegetation and contains a deep channel in which surface water is present for brief periods of time during the growing season but where the water table lies well below the surface during most of the season.

Though the intermittent creek at the rear of the parcel is identified as a type of wetland by the U.S. Fish and Wildlife Service, the residence will be located approximately 200 feet away from the creek. Construction activities are not expected to result in impacts to the creek due to the distance from the residence and oak woodlands between the residence and the creek.

Source: Project Plans; Project Location; U.S. Fish and Wildlife Service, Wetland Mapper V2.

4.d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites?		X		

Discussion: Wildlife corridors are important for the persistence of wildlife in the landscape and facilitate movement between populations. Types of wildlife movement includes migration (i.e., one direction per season), inter-population movement (i.e., long-term genetic exchange), and small travel pathways (i.e. daily movement within an animal’s home range). Per the discussion in Section 4.a, the property primarily consists of non-native grasslands, with intermittent patches of coastal and

Baccharis scrub habitat, and oak woodlands located in the rear. The biological impact report determined that the project site is not likely an important/primary wildlife corridor but noted that the intermittent stream and associated oak woodland in the rear may act as a potential minor travel corridor for local wildlife. As the project does not involve work within the oak woodlands or near the intermittent stream itself, and with adherence to the mitigation measures contained in Section 4.a, the project is not expected to substantially interfere with the movement of wildlife species. **Source:** Toyon Consultants Biological Impact Report, dated February 9, 2019.					
4.e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (including the County Heritage and Significant Tree Ordinances)?				X
Discussion: No tree removal activities are proposed to accommodate the project. No impacts will occur. **Source:** Project Plans.					
4.f.	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, other approved local, regional, or state habitat conservation plan?				X
Discussion: The project parcel is not located within or adjacent to the boundaries of any said conservation plan. **Source:** California Department of Fish and Wildlife, California Natural Community Conservation Plans Map, dated April 2019.					
4.g.	Be located inside or within 200 feet of a marine or wildlife reserve?				X
Discussion: The project parcel nor the project site is inside or within 200 feet of a marine or wildlife reserve. **Source:** Project Location; California Department of Fish and Wildlife Services; National Wildlife Refuge System Locator.					
4.h.	Result in loss of oak woodlands or other non-timber woodlands?				X
Discussion: While an oak woodland is located on the property, the project is located well outside the edge of the woodland and does not involve the removal of any trees. **Source:** Project Plans.					

5.	**CULTURAL RESOURCES**. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
5.a.	Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?		X		

Discussion: The project was referred to the Native American Heritage Commission (NAHC) to determine the site's potential for cultural resources. In a response letter dated January 17, 2020, the NAHC noted that the requested Sacred Lands File search results were negative. Though the NAHC has no records of cultural resources at the project site, a list of Native American Tribes who may have knowledge of cultural resources in the area was provided with the recommendation that the Lead Agency contact these tribes. Per the recommendation of the NAHC, San Mateo County contacted these tribes in January 2020 notifying them of the proposed project to determine if there would be a significant impact to tribal or cultural resources. As of March 2020, San Mateo County has received no response to indicate that the proposed project would impact any cultural or historical resources.

This project was also referred to the California Historical Resources Northwest Information Center of Sonoma State University to determine the potential for cultural or historical resources on the site. In a response letter dated October 17, 2018, the California Historical Resources Information System (CHRIS) noted that no cultural resources studies have been conducted within the project area and that no previously identified cultural resources have been located within 0.25 miles of the project area. However, CHRIS noted that based on the environmental setting, Native American resources in this part of San Mateo County have been found in areas near the coast, inland near intermittent and perennial watercourse, on ridges, mid-slope benches and in valleys. With the project area located on a terraced slope, 50 meters east of an existing intermittent creek, and approximately 250 meters north of the creek's confluence with San Gregorio Creek, CHRIS determined that here is a moderate potential for unrecorded Native American resources to be present at the proposed project area.

In response to these concerns, an archaeological survey and report prepared by Archaeological Resource Management was conducted. A site visit consisting of a pedestrian survey of the parcel was conducted by an Archaeological Resource Management archaeologist. Vegetation on site consisted of grasses and bushes with areas of exposed soils throughout. A survey was also conducted in places were burring animals and exposed banks had revealed subsurface soil. No significant cultural materials were noted during the reconnaissance. Three, four-inch diameter, 100 cm deep, borings were performed within the area of the proposed residence in addition to the pedestrian survey. These auger borings were used to identify the presence or absence of subsurface cultural resources and to determine the concentration of cultural materials. No cultural materials (prehistoric or historic) were noted in the auger borings.

No archaeological resources were identified on the project parcel during the field survey. As the NAHC Sacred Lands File Search, CHRIS records, and the field survey did not identify the presence of previously undocumented cultural or historical resources on or near the project area, the project archaeologist concluded that the project area has low potential for the presence of cultural and/or historical resources and recommended no further studies at this time. Though the potential to discover cultural, paleontological or archaeological resources during construction is low the following mitigation measures are proposed.

Mitigation Measure 24: In the event that cultural, paleontological, or archaeological resources are encountered during site grading or other site work, such work shall immediately be halted in the area of discovery and the project sponsor shall immediately notify the Community Development Director of the discovery. The applicant shall be required to retain the services of a qualified archaeologist who meets the Secretary of the Interiors' Professional Qualification Standards for the purpose of recording, protecting, or curating the discovery as appropriate. The cost of the qualified archaeologist and of any recording, protecting, or curating shall be borne solely by the project sponsor. The archaeologist shall be required to submit to the Community Development Director for review and approval a report of the findings and methods of curation or protection of the resources. In addition, an archaeological report meeting the Secretary of the Interior's Standards detailing the findings of the monitoring will be submitted to the Northwest Information Center after monitoring has ceased. No further grading or site work within the area of discovery shall be allowed until the preceding has occurred.

Mitigation Measure 25: If a newly discovered resource is, or is suspected to be, Native American in origin, the resource shall be treated as a significant Tribal Cultural Resource, pursuant to Public Resources Code 21074, until the County has determined otherwise with the consultation of a qualified archaeologist and local tribal representative.

Source: Project Location; California Register of Historical Resources, California Historical Resources Information System Review Letter, dated October 17, 2018; Archaeological Resource Management Archaeological Report, dated December 6, 2018.

5.b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Section 15064.5?		X		

Discussion: See Section 5.a above.

Source: Project Location; California Register of Historical Resources, California Historical Resources Information System Review Letter, dated October 17, 2018; Archaeological Resource Management Archaeological Report, dated December 6, 2018.

5.c.	Disturb any human remains, including those interred outside of formal cemeteries?		X		

Discussion: 4,334 cubic yards (c.y.) of grading consisting of 846 c.y. of cut, 2,167 c.y. of fill, and 1,321 c.y. of imported material is proposed. Though there are no known human remains located within the project area or surrounding vicinity, the grading operations involved in this project has the potential to unearth unknown human remains. The following mitigation measure has been included in the event human remains are encountered.

Mitigation Measure 26: In the event of discovery or recognition of any human remains during project construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains and State of California Health and Safety Code Section 7050.5 shall be followed. The applicant shall then immediately notify the County Coroner's Office, the County Planning and Building Department, and possibly the State Native American Heritage Commission to seek recommendations from a Most Likely Descendant (Tribal Contact) before any further action at the location of the find can proceed. All contractors and sub-contractors shall be made aware of these requirements and shall adhere to all applicable laws including State Cultural Preservation laws. Disposition of Native American remains shall comply

with CEQA Guidelines Section 15064.5(e).

Source: California Public Resources Code; Project Location; Archaeological Resource Management Archaeological Report, dated December 6, 2018.

6. ENERGY. Would the project:					
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
6.a.	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	

Discussion: Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission) in June 1977 and are updated every 3 years (Title 24, Part 6, of the California Code of Regulations). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On June 10, 2015, the California Energy Commission (CEC) adopted the 2016 Building Energy Efficiency Standards, which went into effect on January 1, 2017. On May 9, 2018, the CEC adopted the 2019 Building Energy Efficiency Standards, which will take effect on January 1, 2020. Under the 2016 Standards, residential buildings are 28 percent more energy efficient and nonresidential buildings are 5 percent more energy efficient than under the 2013 Standards. The proposed project would comply with the 2016 Building Energy Efficiency Standards which would be verified by the San Mateo County Building Department prior to the issuance of the building permit. The project would also be required adhere to the provisions of CALGreen, which establishes planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.

Construction

The construction of the project would require the consumption of nonrenewable energy resources, primarily in the form of fossil fuels (e.g., fuel oil, natural gas, and gasoline) for automobiles (transportation) and construction equipment. Transportation energy use during construction would come from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction employee vehicles that would use diesel fuel and/or gasoline. The use of energy resources by these vehicles would fluctuate according to the phase of construction and would be temporary and would not require expanded energy supplies or the construction of new infrastructure. Most construction equipment during demolition and grading would be gas-powered or diesel-powered, and the later construction phases would require electricity-powered equipment.

Operation

During operations, energy consumption would be associated with resident and visitor vehicle trips and delivery and supply trucks. The project is a residential development project near Highway 84 served by existing road infrastructure. Pacific Gas and Electric (PG&E) provides electricity to the project area. Currently, the existing site does not use any electricity because it is a vacant parcel. Therefore, project implementation would result in a permanent increase in electricity over existing

conditions. However, such an increase to serve a single-family residence and second unit would represent an insignificant percent increase compared to overall demand in PG&E's service area. The nominal increased demand is expected to be adequately served by the existing PG&E electrical facilities and the projected electrical demand would not significantly impact PG&E's level of service. No natural gas distribution lines exist within the project vicinity. As is typical in this area of San Mateo County, natural gas is stored on-site in tanks and provided by private third party entities on a needs basis. The natural gas demands for a single-family residence and second unit are nominal and are not expected to result in a significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources. It is expected that nonrenewable energy resources would be used efficiently during operation and construction of the project given the financial implication of the inefficient use of such resources. As such, the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources. Impacts are less than significant, and no mitigation is required.

Source: California Building Code; California Energy Commission; Project Plans.

6.b.	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.		X		

Discussion: The scope of the project (i.e. a new residence, driveway, and associated landscaping) is relatively small and is not expected to conflict with or obstruct any state or local plan for renewable energy or energy efficiency. Furthermore, the development is not expected to cause inefficient, wasteful, and/or unnecessary energy consumption.

To ensure compliance with all applicable state and local plans for renewable energy or energy efficiency the following mitigation measure is recommended.

Mitigation Measure 27: The project shall comply with all State and Local building energy efficiency standards, appliance efficiency regulations, and green building standards.

Source: Project Plans.

7.	**GEOLOGY AND SOILS**. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
7.a.	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving the following, or create a situation that results in:				

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? *Note: Refer to Division of Mines and Geology Special Publication 42 and the County Geotechnical Hazards Synthesis Map.*			X	
Discussion: The closest fault zones, are the San Gregorio fault located approximately 3.9 miles southwest of the project site and the San Andreas fault located approximately 7.2 miles northeast of the site. The submitted geotechnical report prepared by Murray Engineers Inc. (Attachment G) concluded that while the site is in relatively close proximity to the faults listed above, the project site is not located in a mapped Alquist-Priolo Earthquake Fault Zone or special study area where fault ruptures are likely to occur. All proposed development on the site will be subject to the issuance of a building permit and completed in accordance with the California Building Code and subject to the recommendations of the project's geotechnical engineer to ensure the health and safety of occupants. **Source:** Murray Engineers Inc Geotechnical Report, dated January 2015; State of California Department of Conservation Alquist-Priolo Fault Map.				
ii. Strong seismic ground shaking?			X	
Discussion: The project parcel is located approximately 3.9 miles from the San Gregorio fault and 7 miles from the San Andreas fault. The project site is expected to experience very strong ground shaking for a high intensity 7.5 (Modified Mercalli Intensity (MMI)) earthquake scenario on the San Gregorio Fault and strong shaking for a 7.2 MMI earthquake scenario on the San Andreas fault. The principal concern related to human exposure to ground shaking is that strong ground shaking can result in structural damage to buildings, potentially jeopardizing the safety of its occupants. Adherence to applicable building codes will reduce the likelihood of potential substantial adverse effects, including the risk of loss, injury, or death resulting from strong seismic ground shaking. No further mitigation is necessary. **Source:** Association of Bay Area Governments Resilience Program http://gis.abag.ca.gov/website/Hazards/?hlyr=northSanAndreas&co=6081#nogo1.				
iii. Seismic-related ground failure, including liquefaction and differential settling?		X		
Discussion: Based on the San Mateo County Geotechnical Hazards Synthesis Map, this area is not identified as being at risk for seismic-related ground failure, including liquefaction and differential settling. A site specific geotechnical study conducted by Murray Engineers Inc., (Attachment G), evaluated the site's potential for liquefaction and differential settling. During moderate and large earthquakes soft or loose natural or fill soils can settle unevenly across a site. The geotechnical investigation noted that the site is covered with colluvial soils that are susceptible to a moderate degree of differential settling. However, the site investigation also observed the presence of suitable bedrock at relatively shallow depths in the area of the proposed residence and garage. The report noted that differential settling should not pose a significant risk to the structural integrity of the proposed development as long as the development follows the recommendations outlined in the				

geotechnical report (i.e., pier foundation). In evaluating the project site's potential for liquefaction, the geotechnical report concluded that due to the cohesive nature of the underlying soil, and relatively shallow depths of bedrock at the project site, the likelihood of liquefaction is low.

The following mitigation measure is recommended to ensure compliance with the recommendations of the geotechnical report.

Mitigation Measure 28: The design of the proposed development (upon submittal of the Building Permit) on the subject parcel shall generally follow the recommendations cited in the geotechnical report prepared by Murray Engineers Inc., regarding seismic criteria, grading, drilled piers, slab-on grade construction, and surface drainage. Any such changes to the recommendations by the project geotechnical engineer cited in this report and subsequent updates shall be submitted for review and approval by the County's Geotechnical Engineer.

Source: Murray Engineers Inc. Geotechnical Investigation, dated January 2015; San Mateo County Geotechnical Hazards Synthesis Map, 1973.

iv. Landslides?		X		

Discussion: Based on the U.S. Geological Survey's Landslide Susceptibility Map of 1972, a majority of the project site is not identified as susceptible to landslides. A small northerly portion of the parcel (near the shared property line next to APN 082-160-140) is identified as a Landslide Susceptibility V (high susceptibility to landslides with slopes of 30% or more) by the Landslide Susceptibility Map. A site specific geotechnical study was conducted by Murray Engineers Inc., evaluated the potential geotechnical hazards on the project site and noted no evidence of active land sliding on the parcel. However, evidence of natural shallow erosion at the northern portion of the site was observed. The geotechnical report concluded that due to the slopes and the colluvium blanketing the site, the occurrence of new shallow landslides or shallow sloughing cannot be excluded. Though potential shallow landslides can be triggered by excessive precipitation, erosion, and/or strong ground shaking associated with an earthquake, the geotechnical report concluded that a shallow landslide would not pose a significant hazard to the proposed improvements provided that the project is designed and constructed in accordance to the recommendations of the geotechnical report. Adherence to Mitigation Measure 28 will reduce the risk of loss, injury, or death involving potential landslides to less than significant levels.

Source: Murray Engineers Inc. Geotechnical Investigation, dated January 2015; U.S. Geological Survey's Landslide Susceptibility Map, 1972; Project Location.

v. Coastal cliff/bluff instability or erosion? *Note to reader: This question is looking at instability under current conditions. Future, potential instability is looked at in Section 7 (Climate Change).*				X

Discussion: The project parcel is located approximately 4 miles from the coastline. Therefore, the project is not located near any coastal cliffs and bluffs and no impact is expected to occur.

Source: San Mateo County GIS.

7.b. Result in substantial soil erosion or the loss of topsoil?		X		

Discussion: The project proposes 4,334 cubic yards (c.y.) of grading, including 846 c.y. of cut, 2,167 c.y. of fill, and 1,321 c.y. of import material. Given the topography of the site there is a

potential of the site there is a potential for erosion to occur if proper erosion control measures are not implemented. The applicant has developed an erosion control plan that includes straw wattles, along the downhill perimeter of construction and a stabilized construction entrance from the shared driveway, as well as other best management erosion control practices. Furthermore, staff is recommending the following mitigation measures to further minimize erosion and runoff from the project area and to ensure that grading and erosion control measures are implemented appropriately:

Mitigation Measure 29: The applicant shall submit an erosion control plan in compliance with the County's General Erosion and Sediment Control Plan Guidelines Checklist for review and approval as part of the building permit plans submittal.

Mitigation Measure 30: No grading shall be allowed during the wet weather season (October 1 through April 30) to avoid increased potential soil erosion, unless the applicant applies for an Exception to the Winter Grading Moratorium and the Community Development Director grants the exception. Exceptions will only be granted if dry weather is forecasted during scheduled grading operations, and the erosion control plan includes adequate winterization measures (amongst other determining factors).

Mitigation Measure 31: An Erosion Control and Tree Protection Pre-Site Inspection shall be conducted prior to the issuance of a grading permit "hard card" and building permit to ensure the approved erosion control measures are installed per the plans.

Mitigation Measure 32: To reduce erosion, the applicant shall reseed disturbed areas not planned for landscaping with native grasses at the end of construction. These grasses will cover the exposed dirt areas and reduce erosion and loss of topsoil during rain events.

Mitigation Measure 33: The applicant shall implement dust control measures, as listed below. Measures shall be included on plans submitted for the building permit and encroachment permit applications. The measures shall be implemented for the duration of any grading, demolition, and construction activities that generate dust and other airborne particles. The measures shall include the following:

a. Water all active construction areas at least twice daily.

b. Water or cover stockpiles of debris, soil, sand, or other materials that can be blown by the wind.

c. Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least 2 feet of freeboard.

d. Apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking, and staging areas at the construction sites. Also, hydroseed or apply non-toxic soil stabilizers to inactive construction areas.

e. Sweep daily (preferably with water sweepers) all paved access roads, parking, and staging areas at the construction sites.

f. Sweep adjacent public streets daily (preferably with water sweepers) if visible soil material is carried onto them.

g. Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).

h. Limit traffic speeds on unpaved roads within the project parcel to 15 miles per hour (mph).

i. Install sandbags or other erosion control measures to prevent silt runoff to public roadways.

j. Replant vegetation in disturbed areas as quickly as possible.

Source: Project Plans; County of San Mateo Grading Ordinance; San Mateo Countywide Stormwater Pollution Prevention Program.					
7.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, severe erosion, liquefaction or collapse?		X		
Discussion: The California Geological Survey Geologic Data Map identifies the generalized rock types within the project site as "P", which is described as Pliocene marine sandstone, siltstone, shale, and conglomerate; mostly moderately consolidated." These geologic units are typical of the area. See 7.a. and 7.b. above for further discussion and mitigation measures related to erosion control, liquefaction, and seismic ground failure. **Source:** Murray Engineers Inc. Geotechnical Investigation, dated January 2015; U.S. Geological Survey's Landslide Susceptibility Map, 1972; San Mateo County Geotechnical Hazards Synthesis Map, 1973; Project Location; California Department of Conservation Geological Survey, Geologic Map of California, 2010.				
7.d.	Be located on expansive soil, as defined in Table 18-1-B of Uniform Building Code, creating substantial direct or indirect risks to life or property?		X		
Discussion: Expansive soils can undergo volume changes with changes in moisture content. Specifically, when wetted during the rainy season, expansive soils tend to swell and when dried (as during the summer months) these soils shrink. Structures located on expansive soils tend to experience cyclic seasonal heave and settlement which can affect the structural stability of structures. Based on the laboratory testing of the project site's soils, portions of the near-surface soils were identified as moderately expansive. Due to the presence of relatively shallow bedrock, the geotechnical report concluded that the shrink and well of the soils should not have a significant impact on the proposed project provided that the project adheres to the design and structural recommendations for the foundation contained within the geotechnical report. Mitigation Measure 28 will reduce the potential risk to life or property related building on expansive soils to a less than substantial level. **Source:** Murray Engineers Inc. Geotechnical Report, dated January 2015.				
7.e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
Discussion: The proposed project includes the installation of a septic system. San Mateo County Environmental Health Services (EHS), which is the agency that regulates septic systems within the County of San Mateo, completed a preliminary review of the proposal which included a percolation test to determine if the underlying soils can support the proposed septic system. After a preliminary review, EHS did not uncover any issue with the soils in the location of the proposed septic system,					

determined that the site could support the proposed septic system, and conditionally approved the project. **Source:** Project Plans; County of San Mateo Environmental Health Services					
7.f.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		
Discussion: Based on the project parcel's existing surrounding land uses, it is not likely that the project parcel would host any paleontological resource or site or unique geologic feature. As discussed in Question 7.c, geology within the project site is typical of the surrounding area. Mitigation Measure 28 shall ensure that if significant if any resources are encountered potential impacts will be reduced to less than significant levels. **Source:** Project Plans, Project Location.					

8.	**CLIMATE CHANGE**. Would the project:	***Potentially Significant Impacts***	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
8.a.	Generate greenhouse gas (GHG) emissions (including methane), either directly or indirectly, that may have a significant impact on the environment?		X		
Discussion: Greenhouse Gas Emissions (GHG) include hydrocarbon (carbon monoxide; CO2) air emissions from vehicles and machines that are fueled by gasoline. Project-related vehicle trips (e.g., construction vehicles and personal vehicles of construction workers) and machinery associated with the proposed grading and construction of the single-family residence, three-car garage, 500 linear foot driveway, and fire truck turnaround will result in the temporary generation of GHG emissions along travel routes and at the project site. Even assuming construction vehicles and workers are based in and traveling from urban areas, the potential project GHG emission levels from construction would be considered minimal. Although the project scope is not likely to generate significant amounts of greenhouse gases, Mitigation Measures 4 and 33 will ensure that any impacts are less than significant. **Source:** Project Plans; Project Location.					
8.b.	Conflict with an applicable plan (including a local climate action plan), policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	
Discussion: The San Mateo County Energy Efficiency Climate Action Plan (EECAP) identifies implementation measures for the reduction of GHG emissions resulting from development consistent with state legislation, including construction idling. The majority of GHG emissions from the project					

are expected to occur during the construction phase, primarily from vehicle exhaust. GHG emission from the habitation of the single-family residence will be associated with personal vehicle trips, will not conflict with the EECAP, and are expected to be less than significant. Furthermore, the construction of one single-family residence is below the BAAQMD GHG screening criteria of 56 dwelling units for single-family development. As such, operational project GHG emissions would be less than significant. **Source:** Project Plans, 2013 San Mateo County Energy Efficiency Climate Action Plan.					
8.c.	Result in the loss of forestland or conversion of forestland to non-forest use, such that it would release signifi-cant amounts of GHG emissions, or significantly reduce GHG sequestering?				X
Discussion: The project does not involve the removal of any tress nor will result in the conversion of forestland to a non-forest use. See Section 2.c for further discussion. As no trees are proposed for removal the project would not significantly reduce GHG sequestering of the area nor result in the release of significant amounts of GHG emissions (See Section 8.b for further GHG emission discussion). **Source:** Public Resources Code, Section 12220(g); San Mateo County EECAP; Project Plans.					
8.d.	Expose new or existing structures and/or infrastructure (e.g., leach fields) to accelerated coastal cliff/bluff erosion due to rising sea levels?				X
Discussion: The project is not located on or near a coastal cliff/bluff. As such, the project will not expose people or structures to significant risk involving coastal cliff/bluff erosion resulting from sea level rise. Therefore, the project poses no impact. **Source:** Project Location; Project Plans; San Mateo County GIS.					
8.e.	Expose people or structures to a significant risk of loss, injury or death involving sea level rise?				X
Discussion: The project parcel is located approximately 4 miles from the Pacific Ocean and sits approximately 200 feet above sea level. As such, the project will not expose people or structures to significant risk involving sea level rise. **Source:** Project Location; Project Plans; San Mateo County GIS.					
8.f.	Place structures within an anticipated 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
Discussion: The project site is not located in an anticipated 100-year flood hazard area as mapped by the Federal Emergency Management Agency (FEMA). The project site is located in FEMA Flood Zone X, which is considered a minimal flood hazard (Panel No. 06081C0380E, effective October 16, 2012). FEMA Flood Zone X areas have a 0.2% annual chance of flooding,					

with areas with 1% annual chance of flooding with average depths of less than 1-foot. Therefore, the project impact would be less than significant. **Source:** Project Location, County GIS Maps, Federal Emergency Management Agency Flood Insurance Rate Map 6081C0380E, effective October 16, 2012.					
8.g.	Place within an anticipated 100-year flood hazard area structures that would impede or redirect flood flows?				
Discussion: The project parcel not located in an anticipated 100-year flood hazard area as mapped by FEMA. The subject parcel is located in Flood Zone X (Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level), per FEMA Panel No. 6081C0380E, effective October 16, 2012. **Source:** Federal Emergency Management Agency Flood Insurance Rate Map 6081C0380E, effective October 16, 2012.					

9.	**HAZARDS AND HAZARDOUS MATERIALS**. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
9.a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (e.g., pesticides, herbicides, other toxic substances, or radioactive material)?			X	
Discussion: The project proposes construction of a single-family residence garage, driveway, and associated water and sewer infrastructure on a vacant parcel. Neither the construction nor associated grading would result in a significant impact involving the transport, use, or dispersal of hazardous material or toxic substances. **Source:** Project Plans.					
9.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
Discussion: The project involves the construction and operation of a single-family residence and the routine use of hazardous materials is not proposed for this project. **Source:** Project Plans.					
9.c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within				X

	one-quarter mile of an existing or proposed school?				
Discussion: The emission or handling of hazardous materials, substances, or waste is not proposed for this project. With the nearest school located 2.91 miles from the project parcel, the project is also not located within one-quarter mile of an existing or proposed school. **Source:** Project Location; Project Plans.					
9.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
Discussion: The project site is not included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5 and therefore would not result in the creation of a significant hazard to the public or the environment. **Source:** Project Location; California Department of Toxic Substances Control GeoTracker Map.					
9.e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?				X
Discussion: The project site is not located within a known area regulated by an airport land use plan nor is it located within 2 miles of a public airport or public use airport. The closest airports to the project site include the Palo Alto Airport and Half Moon Bay Airport which are located approximately 16 miles away from the project parcel. **Source:** Project Location.					
9.f.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
Discussion: The proposed single-family residence located on a privately owned parcel. This parcel receives access from La Honda Road (Highway 84) via an existing shared driveway. The proposed project would not impede, change, or close any roadways that could be used for emergency purposes and all existing roads would remain unchanged. The plans have been reviewed by Cal-Fire for emergency vehicle access and includes the construction of a fire truck turnaround on site. There is no evidence to suggest that the project will interfere with any emergency response plan. Therefore, the project poses no impact. **Source:** Project Plans.					
9.g.	Expose people or structures, either directly or indirectly, to a significant risk			X	

	of loss, injury or death involving wildland fires?				
Discussion: The project site is located within a Moderate Fire Hazard Severity Zone, State Responsibility Area. The project was reviewed by Cal-Fire and received conditional approval subject to compliance with Chapter 7A of the California Building Code for ignition resistant construction and materials and acceptable slope and material for the driveway, among other fire prevention requirements. No further mitigation, beyond compliance with the standards and requirements of the Cal-Fire, is necessary. **Source:** Cal-Fire, Fire Hazard Severity Zones Maps; San Mateo County GIS.					
9.h.	Place housing within an existing 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
Discussion: The subject parcel is located in Flood Zone X (Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level), per FEMA Panel No06081C0380E, effective October 16, 2012. **Source:** FEMA Panel No. 06081C0380E, effective October 16, 2012.					
9.i.	Place within an existing 100-year flood hazard area structures that would impede or redirect flood flows?				X
Discussion: See 9.h for discussion. **Source:** FEMA Panel No. 06081C0380E, effective October 16, 2012.					
9.j.	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
Discussion: As discussed in Section 9.h., the project site is not located within a mapped flood area or within the vicinity of a levee or dam. The project would not place structures within a 100-year flood hazard area as the project site is not located within a flood hazard zone that will be inundated by a 100-year flood. Additionally, the project is not locate in a dam failure inundation area as identified by the San Mateo County Dam Failure Inundation Areas Map. **Source:** Project Site; San Mateo County Dam Failure Inundation Areas Map; FEMA Panel No. 06081C0380E, effective October 16, 2012.					
9.k.	Inundation by seiche, tsunami, or mudflow?				X
Discussion: Risk of inundation by seiche, tsunami, or mudflow is considered minimal, as the project site is not located near any large bodies of water. **Source:** Project Plans; Project Location; San Mateo County GIS; San Mateo County Hazards Maps.					

10. HYDROLOGY AND WATER QUALITY. Would the project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
10.a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality (consider water quality parameters such as temperature, dissolved oxygen, turbidity and other typical stormwater pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash))?		X		

Discussion: The project has the potential to generate polluted stormwater runoff during site grading and construction-related activities. However, these impacts would be reduced to a less than significant level with the implementation of Mitigation Measures 4 and 33.

The project will be required to comply with the County's Drainage Policy requiring post-construction stormwater flows to be at, or below, pre-construction flow rates. Additionally, the project must include Low Impact Development (LID) site design measures in compliance with Provision C.3.i. of the County's Municipal Regional Stormwater Permit as the project will introduce 9,979 sq. ft. of new impervious surface. These standards will ensure that post-construction water runoff does not violate any water quality standard as the project proposes to direct roof, driveway, and patio runoff to vegetated areas. In compliance with these standards, a drainage analysis was prepared for this project. The drainage analysis prepared by Round House Industries Inc., dated September 2018, evaluated the proposed drainage system concluded that the proposed detention system is designed such that post-development runoff will not exceed predevelopment runoff, that there will be no appreciable downstream impacts, and no runoff is diverted onto the adjacent parcels. The proposed project, including the discussed drainage report and plans, were reviewed and conditionally approved by the Building Inspection Section's Civil Section for compliance with County drainage standards. Furthermore, the proposed septic system has been preliminarily reviewed and conditionally approved by the County Environmental Health Services. As such, the project is not expected to violate any water quality standards or waste discharge requirements.

Source: Project Plans, C.3/C.6 Development Review Checklist; County of San Mateo Drainage Policy, County of San Mateo Environmental Health Services.

10.b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	

Discussion: The project parcel is served by an existing domestic well and has met the County's Environmental Health Services standards regarding quality and flow. The well will serve the subject parcel and will not provide water to the surrounding parcels. The water demands required for a

single-family residence are minimal and are not expected to substantially decrease groundwater supplies as opposed to other high water intensity uses (i.e., agriculture). A majority of the project site will remain undeveloped and will continue to allow water to percolate into the ground. For the water displaced from the project's increased impervious surfaces, an on-site drainage system has been proposed that would capture and retain rainwater on-site which would allow it to percolate back into the ground and recharge the groundwater supply. As the project site is not located in an identified groundwater basin, and as the County does not have a comprehensive groundwater management plan, the nominal water demands of the proposed project will not impede sustainable groundwater management. **Source:** Project Plans, Project Location, San Mateo County Office of Sustainability, Groundwater Website https://www.smcsustainability.org/energy-water/groundwater.					
10.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 that would:					
i. Result in substantial erosion or siltation on- or off-site;		X			
Discussion: The proposed project does not involve the alteration of the course of a stream or river. The project involves the construction of 9,979 sq. ft. of impervious surface associated with the single-family home and three-car garage. The proposed development on the project parcel will include drainage features that have been conditionally approved by the Building Inspection Section's Civil Section. With Mitigation Measures 4 and 33 to address potential impacts during construction activities, the project will not substantially alter the existing drainage patterns of the site or will result in substantial erosion or siltation. Upon mitigation, the project will have a less than significant impact. **Source:** Project Plans; Project Location.					
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;			X		
Discussion: Though the project will create 9,979 sq. ft. of impervious surface area, the project has been designed to meet the County's drainage standards and Provision C.3.i of the San Francisco Bay Region Municipal Regional Permit. These standards include requiring post-construction stormwater flows to be at or below pre-construction flow rates. The storm drain system designed for this project meets this standard by proposing to detain runoff from impervious surface areas to rock filled level spreaders. The spreaders will disperse the velocity of water flow and allow water to percolate into the soils. Reviewed and conditionally approved by the Building Inspection Section's Civil Section, the proposed drainage system will capture and retain water on-site and will not substantially increase the rate of amount of surface runoff in a manner which would result in flooding on- or off-site. **Source:** Project Plans; Building Inspection Section Civil Section.					

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; or			X	
Discussion: This project is located in a rural area of San Mateo County and is not currently served by a municipal stormwater drainage system. The proposed project includes the installation of an onsite drainage system to capture and retain runoff on site. This system has been designed, sized, and conditionally approved by the Building Inspection Section's Civil Section to meet the needs of the proposed development. No further mitigation is necessary. **Source:** San Mateo County's Drainage Policy.				
iv. Impede or redirect flood flows?				X
Discussion: The proposed development does not involve the alteration or the course of a stream or a river. Additionally, the project is not located in a floodway or flood zone as identified by FEMA. Though a stream is located just off parcel to the west, the proposed development will be located approximately 200 feet away from and at least 10 feet above the bed of the stream. Due to its distance and elevation above the nearest stream the proposed project is not expected to impede or redirect flood flows. No mitigation is necessary **Source:** Project Plans; Project Location; San Mateo County GIS; FEMA Panel No. 06081C0380E, effective October 16, 2012.				
10.d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
Discussion: The project is not located in a flood hazard, tsunami, or seiche zone. **Source:** Project Location; San Mateo County GIS; FEMA Panel No. 06081C0380E, effective October 16, 2012.				
10.e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				X
Discussion: The Sustainable Groundwater Management Act (SGMA) of 2015 requires local regions to create groundwater sustainability agencies (GSA's) and to adopt groundwater management plans for identified medium and high priority groundwater basins. San Mateo County has nine identified water basins. These basins have been identified as low-priority, are not subject to the SGMA, and there is no current groundwater management agency or plan that oversees these basins. The project includes the utilization of an existing on-site well that meets EHS flow and quality standards and an on-site drainage system that complies with the San Mateo County Water Pollution Prevention Program (SMCWPPP) which enforces the State requirements for stormwater quality control. **Source:** Project Plans; San Mateo County Office of Sustainability, Groundwater Website https://www.smcsustainability.org/energy-water/groundwater/.				

10.f.	Significantly degrade surface or ground-water water quality?		X		

Discussion: The use of the existing well on-site to provide potable water for the proposed single-family residence and second unit is not a highwater demand use and is not anticipated to overdraft 29 the underlying groundwater and thus degrade the groundwater quality. An on-site drainage system has been sized and designed to capture and retain the runoff created by the proposed development. The runoff will be directed into several rock level spreaders which will reduce sheet flows and retain the water on-site so that it can percolate into the ground. The on-site drainage system in conjunction with several acres of surrounding grassland will reduce the flow of water across the property and prevent erosion of the land and siltation of the adjacent creek. Though grading is involved for project construction, the construction of the proposed project would be required to implement Best Management Practices (BMP's) and comply with the County's Stormwater Ordinance. These regulatory requirements in addition to adherence to Mitigation Measures 4, and 33 will prevent, control and reduce erosion and siltation, integrate and LID practices control and reduce the discharge of pollutants to prevent the substantial degradation of surface water quality.

Source: Project Plans.

10.g.	Result in increased impervious surfaces and associated increased runoff?		X		

Discussion: The project will result in increased impervious surfaces and associated increased runoff. The implementation of Mitigation Measures 4 and 33 and construction of the onsite drainage/retention system will reduce project-related impacts to a less than significant level. No further mitigation measures are necessary.

Source: Project Plans.

11. LAND USE AND PLANNING. Would the project:

		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
11.a.	Physically divide an established community?				X

Discussion: The project proposes a new single-family residence on a 7.85-acre parcel located in a rural area of the County that will be among other single-family developments on similarly sized rural parcels. The project does not involve a land division or development that would result in the division of an established community.

Source: Project Plans; Project Location.

11.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	

Discussion: The project parcel is surrounded by existing single-family residential uses to the north, and south. Single-family development is an allowed use under the General Plan, Local Coastal Program (LCP) and Planned Agricultural Zoning District (PAD) Regulations. The project has been reviewed and found to be in conformance with the General Plan, LCP, and PAD regulations and policies as discussed in Section 1 and Section 4 and would not cause a significant environmental impact provided the recommended mitigation measures contained within this document are implemented.

Source: San Mateo County Local Coastal Program; San Mateo County General Plan; San Mateo County Zoning Regulations.

11.c. Serve to encourage off-site development of presently undeveloped areas or increase development intensity of already developed areas (examples include the introduction of new or expanded public utilities, new industry, commercial facilities or recreation activities)?				X

Discussion: Development density in the PAD zoning district is controlled through the allocation of Density Credits. The amount of density credits a parcel has is determined by the parcel's size, topography and the presence of mapped hazards. Every legal parcel in the PAD Zoning District has at least one density credit. In this instance, the project parcel has one density credit which allows for a maximum development of one single-family residential home. As all development in this area is controlled by the density credit program, the development of the proposed project would not increase the development density of the surrounding area.

Located between two developed parcels, the construction and habitation of a single-family residence on the subject parcel is not expected to encourage off-site development. Though new utility lines will be installed to serve the proposed development these would be private lines/connections, would not be available (or permitted) for other parcels to use, and would be contained on the project parcel (e.g., will not cross parcel boundaries).

Source: Project Plans.

12. MINERAL RESOURCES. Would the project:

	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
12.a. Result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the State?				X

Discussion: There are no known mineral resources located on the project site. Furthermore, the proposed project neither involves nor results in any extraction or loss of mineral resources. Therefore, the project poses no impact.

Source: Project Plans. San Mateo County General Plan, Mineral Resources Map.				
12.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
Discussion: There are no identified locally important mineral resource recovery sites delineated on the County's General Plan, any specific plan, or any other land use plan. **Source:** Project Location; San Mateo County General Plan.				

13. NOISE. Would the project result in:	***Potentially Significant Impacts***	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
13.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		
Discussion: During project grading and construction, excessive noise could be generated. Adherence with Mitigation Measure 5 is proposed to reduce the construction noise impact to a less than significant level. Once construction is complete, the project is not expected to generate significant amounts of noise. **Source:** Project Plans; San Mateo County Noise Ordinance.				
13.b. Generation of excessive ground-borne vibration or ground-borne noise levels?		X		
Discussion: The habitation of the proposed single-family residence is not expected to generate excessive ground-borne vibration or noise levels. As the geotechnical report recommends a drilled pier foundation, as opposed to a pile-driven pier foundation, exposure of persons to, or generation of, excessive ground-borne vibration (or noise levels) is not expected during construction activities. Mitigation Measure 5 would also ensure that the impact during construction are less than significant. **Source:** Project Plans; Murray Engineers Inc. Geotechnical Report, dated January 2015; San Mateo County Noise Ordinance.				
13.c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, exposure to people residing or working in the project area to				X

	excessive noise levels?				

Discussion: The project site is not located within or near airport or airstrip; nor is the proposed project located is within the vicinity of an airport land use plan.

Source: Project Location.

14. POPULATION AND HOUSING. Would the project:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
14.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

Discussion: As discussed in Section 11.c, intensity of development in this area of San Mateo County is controlled through the allocation of density credits and is parcel specific. It was determined that the project parcel has one available density credit which allows a maximum development of one main residence. The additional population created by those who will live in the proposed single-family residence is not considered significant; nor is the project expected to induce any significant population growth. The project is located between two developed parcels and will not require the construction of additional road infrastructure or the expansion of public utilities. All improvements associated with the project are only sufficient to serve the proposed single-family residence, will not be available for use by other parcels, and will not extend beyond parcel boundaries.

Source: Project Plans; Project Location.

14.b.	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

Discussion: The proposed single-family residence will be located on an undeveloped parcel; therefore, no existing housing will be displaced during the construction and operation/habitation of the proposed project. Therefore, the project poses no impact.

Source: Project Plans; Project Location.

15. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, the 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:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
15.a.	Fire protection?				X
15.b.	Police protection?				X
15.c.	Schools?				X
15.d.	Parks?				X
15.e.	Other public facilities or utilities (e.g., hospitals, or electrical/natural gas supply systems)?				X

Discussion: The project is limited to the construction of a single-family residence on a vacant parcel adjacent to other rural residential parcels. All project improvements will occur completely on the privately owned subject parcel and any increase in the use of existing neighborhood or regional parks or other recreational facilities would be minor. This increased use will not result in impacts of such a significant level that physical deterioration of any such facility will occur be accelerated. The minor nature of the project (i.e., the construction of one single-family residence) will not involve new or physically altered government facilities or increase the need for new or physically altered government facilities. Additionally, the project will not affect service ratios, response times, or other performance objectives for any of the public services in the area as the parcel is located on a vacant parcel in a developed area.

Source: Project Plans; Project Location.

16. RECREATION. Would the project:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
16.a.	Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X

Discussion: Future occupants of and visitors to the new residence would not significantly increase the use of existing parks or other recreational facilities. The current accessibility to and use of the La Honda Open Space Preserve (located approximately 2,000 feet to the northeast) and Sam McDonald County Park (located 2.5 miles to the southeast) will not be affected by the project. Potential project impact on the use of neighborhood or regional parks or other recreational facilities would be less than significant and significant physical deterioration of any such facilities as related to the project is not expected to occur or be accelerated from the construction of a single-family residence and second unit. Therefore, the project poses no impact

Source: Project Plans; San Mateo County GIS.

16.b.	Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

Discussion: The project does not include any recreational facilities as proposed development is limited to one single-family residence.

Source: Project Plans.

17. TRANSPORTATION. Would the project:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
17.a.	Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, and parking?				X

Discussion: The County LCP (Policy 2.52) exempts the development of singular single-family dwellings from the development and implementation of a traffic impact analysis and mitigation plan. The traffic trips (comprised of both owners of and guests/visitors) generated by the new residence would not introduce any significant increase in vehicles on La Honda Road (Highway 84), and thus will pose no significant safety impact to other vehicles, pedestrians or bicycles. The adequacy of access to and from the site has been reviewed by the Cal-Fire and the County Department of Public Works, who have concluded that such access complies with their respective policies and requirements. The proposed development would provide compliant standard and emergency access to the house site on the project parcel.

Per the Screening Thresholds for Land Use Projects Section of the Technical Advisory on Evaluating Transportation Impacts in CEQA document published by the Governor's Office of Planning and Research, the proposed project "may be assumed to cause a less-than significant transportation impact" because it generates or attracts fewer than 110 trips per day. Due to the low number of traffic trips anticipated with a single-family residential use, the proposed project would remain well under the threshold. Therefore, the project poses a less than significant impact.

Source: Project Plan; San Mateo County Department of Public Works; Cal-Fire.

17.b.	Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b) *Criteria for Analyzing Transportation Impacts*? *Note to reader: Section 15064.3 refers to land use and transportation projects, qualitative analysis, and methodology.*				X

Discussion: Section 15064.3 of the CEQA Guidelines provides specific considerations for evaluating a project's transportation impacts. A project's effect on automobile delay does not

constitute a significant environmental impact under CEQA. Per Section 15064.3, an analysis of vehicle miles traveled (VMT) attributable to a project is the most appropriate measure of transportation impacts. Other relevant considerations may include the effects of the project on transit and non-motorized travel. It should be noted that currently, the provisions of Section 15064.3 apply only prospectively; determination of impacts based on VMT is not required Statewide until July 1, 2020.

Per Section 15064.3(b)(3), a lead agency may analyze a project's VMT qualitatively based on the availability of transit, proximity to destinations, etc. The proposed project site is located in a rural unincorporated community halfway between La Honda and the Pacific Ocean. Given that the project includes only one single-family residence, traffic generated by the project would not have a substantial effect on the operation of local roadways and intersections, nor does the project include any modifications to the existing circulation system in the project vicinity that would result in a traffic safety hazard. The proposed residential use of the parcel would be compatible with the existing rural residential development in the project area. In addition, as discussed in Section 17.a, the project can be assumed to cause a less-than significant transportation impact because it would generate or attract fewer than 110 trips per day per the Technical Advisory on Evaluating Transportation Impacts in CEQA document published by the Governor's Office of Planning and 35 Research. Therefore, the project would result in a less-than-significant impact.

Source: Project Plans; Project Location; Cal-Fire; County Local Coastal Program; Screening Thresholds for Land Use Projects Section of the Technical Advisory on Evaluating Transportation Impacts in CEQA.

17.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

Discussion: The project would be served by an existing shared driveway off of La Honda Road. The project would not require the construction of road infrastructure nor does it propose to alter any existing roadway that would create a hazard due to sharp turns or dangerous intersections. Additionally, the construction and operation/habitation of the project does not propose the permanent utilization of equipment that would be incompatible with the existing vehicular traffic on La Honda Road and any other connecting roads. No mitigation is necessary. Also see discussion in Section 17.a.

Source: Project Plans.

17.d. Result in inadequate emergency access?				X

Discussion: The project proposes to construct a firetruck turnaround on the parcel to accommodate any required emergency access. Upon review of the proposed project and firetruck turnaround, Cal-Fire has conditionally approved the project as having adequate existing (e.g., La Honda Road and shared driveway) and proposed (e.g., turnaround) emergency access. Thus, the project poses no impact.

Source: Project Plans; Cal-Fire.

18. TRIBAL CULTURAL RESOURCES. Would the project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
18.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 or 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 Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)				X
Discussion: The project site is vacant and is not listed in the California Register of Historical Resources. Furthermore, the project site is not listed in a local register of historical resources, pursuant to any local ordinance or resolutions as defined in Public Resources code Section 5020.(k). The project poses no impact. **Source:** Project Location, California Register of Historical Resources, California Historical Resources Information System Review Letter dated, January 2020; County General Plan; Archaeological Resource Management Archaeological Report, dated December 6, 2018.				
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		
Discussion: This project is not subject to Assembly Bill 52 related to California Native American Tribal Consultation requirement, as no traditionally or culturally affiliated tribe have requested, in writing, to the County to be informed of proposed projects in the geographic project area. However, a *Sacred Lands File and Native American Contacts List Request* was sent to the Native American Heritage Council in January 2019. A Sacred Lands File search was completed by the NAHC and no sacred lands were found in the subject area. Following the NAHC's recommended Best Practices,				

the County has also contacted local Native American tribes who many have knowledge of cultural resources in the project area. As of the date of this report, no tribe has requested consultation.

While the project is not expected to cause a substantial adverse change to any potential tribal resources, the following mitigation measures are recommended to minimize any potential significant impacts to unknown tribal resources:

Mitigation Measure 34: Should any traditionally or culturally affiliated Native American Tribe respond to the County's issued notification for consultation, such process shall be completed and any resulting agreed upon measures for avoidance and preservation of identified resources be taken prior to project implementation.

Mitigation Measure 35: In the event that tribal cultural resources are inadvertently discovered during project implementation, all work shall cease within a fifty meter radius of the find, the Planning Department shall be notified, and a qualified archaeologist retained to examine the find and provide appropriate recommendations. These measures shall be approved by the County Planning Department prior to implementation and prior to the continuation of any work in the subject area.

Mitigation Measure 36: Any inadvertently discovered tribal cultural resources shall be treated with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, protecting the confidentiality of the resource.

Source: California Office of Historic Preservation; San Mateo County Listed Historical Resources; Archaeological Resource Management Archaeological Report, dated December 6, 2018.

19. UTILITIES AND SERVICE SYSTEMS. Would the project:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
19.a.	Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			X	

Discussion: The proposed project involves the installation of a new private septic system and use of an existing on-site well as there is no municipal water or sewer service available in this area of unincorporated San Mateo County. Environmental Health Services reviewed the proposed septic system design, found it be in compliance with the prevailing standards and regulations, and conditionally approved the project. The proposed project does not involve or require any water or wastewater treatment facilities that would exceed any requirements of the Regional Water Quality Control Board. In order to comply with San Mateo County's drainage policies on-site stormwater measures must be installed in association with the proposed project. These measures were designed by a licensed civil engineer and have been reviewed and preliminarily approved by the San Mateo County Drainage Section. In addition, the project would connect to PG&E infrastructure for electric power. Therefore, there is no impact and no mitigation is required. There is no indication that the installation of these measures will cause any significant environmental effects.

Source: Project Plans; Environmental Health Services; San Mateo County Drainage Section.

19.b.	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				X
Discussion: The project parcel is served by an existing domestic well. Per the discussion in Section 10, the water needs related to a single-family residence is not a high intensity use and is not expected to overdraft the existing groundwater. The well has met the County's Environmental Health Services standards regarding quality and flow. **Source:** Project Plans; Environmental Health Services.					
19.c.	Result in a determination by the waste-water 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
Discussion: This project is not served by a wastewater treatment provider. All wastewater will be treated on-site through the proposed septic system. The proposed septic system has been sized and designed to meet the needs of the proposed development and has received conditional approval from the County's Environmental Health Services. **Source:** Project Plans; Environmental Health Services.					
19.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
Discussion: Construction of the proposed project is expected to generate solid waste on a temporary short term basis. The project will also result in the ongoing generation of solid waste after its construction as is typical for residential uses. As with the surrounding properties, the project site will receive municipal trash and recycling pick-up service by Republic Services. Though solid waste generation is not expected to result in inadequate landfill capacity the County's local landfill facility (Ox Mountain Landfill) has as a capacity/service life until 2034. **Source:** Project Plans.					
19.e.	Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?				X
Discussion: The project involves one single-family residence within an existing rural residential community and will result in a negligible increase in solid waste disposal needs. All elements of the project will comply with regulations related to solid waste. **Source:** Project Plans.					

20.	**WILDFIRE**. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
20.a.	Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
Discussion: No revisions to the adopted Emergency Operations Plan would be required as a result of the proposed project. The nearest public service is the La Honda Fire Brigade located approximately 3 miles east of the site at 8945 La Honda Road, La Honda CA 94020 and would not be impacted because primary access to all major roads would be maintained during construction and habitation of the residence. As discussed in Section 9 (*Hazards and Hazardous Materials*), the proposed project has been reviewed and conditionally app roved by Cal-Fire; and would not impair or physically interfere with an adopted emergency response or evacuation plan. Therefore, impacts would be less than significant, and no mitigation is required. **Source:** Project Plans; Project Location; Cal-Fire.					
20.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	
Discussion: Wildland Urban Interface fires occur where combustible vegetation meets combustible structures, combining the hazards associated with wildfires and structure fires. The project is located in a Moderate Fire State Responsibility Area as identified by the County's GIS maps. The new residential structure constructed as part of the proposed project would include fire-resistant features that conform to modern fire and building codes, as well as fire detection or extinguishing systems. The new residential structure would not be as vulnerable to fire as older structures. The likelihood that a major structural fire will expand into a wildland fire before it can be brought under control is therefore significantly reduced. Similarly, wildfires will be less able to burn the building because of the preventative measures in place. Further, due to the proximity of the project site to the La Honda Fire Brigade station, and the very short expected response time to reported fires, the likelihood of injuries or pollutant emissions due to a wildfire is minimal. Therefore, the proposed project would not exacerbate wildfire risks or expose occupants to pollutant concentrations from a wildfire, or to the uncontrolled spread of wildfire. **Source:** Project Plans; Project Location; San Mateo County GIS.					
20.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	

Discussion: The proposed project to construct a single-family residence on a parcel which adjoins other single-family rural residential development does not require the installation of new roads fuel breaks, or power lines. The project includes the construction of a fire truck turnaround and has been reviewed and conditionally approved by Cal-Fire. No further mitigation is necessary. **Source:** Project Plans; Cal-Fire.					
20.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	
Discussion: While the house site itself is generally level, the overall parcel moderately slopes downward toward the south. The proposed on-site drainage facilities have been sized and appropriately placed to retain the stormwater on-site and would allow the stormwater to percolate into the ground as determined by the review of the County's Drainage Section. As the project would not increase the risk of wildfire or the severity of wildfires, the project would not expose the proposed structure to significant risk from flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. **Source:** Project Plans.					

21.	**MANDATORY FINDINGS OF SIGNIFICANCE**.				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
21.a.	Does the project 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		
Discussion: Without mitigation the project could potentially impact aesthetics, air quality, biological, cultural, soils, energy, noise, and tribal resources. Mitigation measures have been included to reduce these potential impacts to a less than significant level. **Source:** All Applicable Sources Previously Cited In this Document.					
21.b.	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively consider-		X		

	able" 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.)				

Discussion: As defined by the CEQA Guidelines, cumulative impacts reflect "the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." (CEQA Guidelines, Section 15355[b]).

The new utilities required to serve the project would be contained on-site, are not available to provide service to other parcels, and to staff's best of knowledge, there are no known approved pending or future projects associated with or near the project site.

The project will not impact agricultural or mineral resources. The project's potential impacts with respect to air quality, biological, noise, and cultural resources etc., will be limited to the construction phase of the project. All impacts will be mitigated and there is no evidence to suggest that they would substantially combine with other off-site impacts. Due to the "stand-alone" nature of this project in conjunction with the recommended mitigation measures contained throughout this document, the project will have a less than significant cumulative impact on the environment.

Source: All Applicable Sources Previously Cited In this Document.

21.c.	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

Discussion: As discussed in the previous sections, the proposed project is to construct a new single-family residence on a vacant parcel between two developed parcels. Based on the discussions in the previous sections where project impacts were determined to be less than significant or mitigation measures were required to result in an overall less than significant impact, the proposed project would not cause significant adverse effects on human beings, either directly or indirectly.

Source: All Applicable Sources Previously Cited In this Document.

RESPONSIBLE AGENCIES. Check what agency has permit authority or other approval for the project.

AGENCY	YES	NO	TYPE OF APPROVAL
Bay Area Air Quality Management District		X	
Caltrans		X	
City		X	
California Coastal Commission		X	

AGENCY	YES	NO	TYPE OF APPROVAL
County Airport Land Use Commission (ALUC)		X	
Other: _____		X	
National Marine Fisheries Service		X	
Regional Water Quality Control Board		X	
San Francisco Bay Conservation and Development Commission (BCDC)		X	
Sewer/Water District:		X	
State Department of Fish and Wildlife		X	
State Department of Public Health		X	
State Water Resources Control Board		X	
U.S. Army Corps of Engineers (CE)		X	
U.S. Environmental Protection Agency (EPA)		X	
U.S. Fish and Wildlife Service		X	

MITIGATION MEASURES

	Yes	No
Mitigation measures have been proposed in project application.	X	
Other mitigation measures are needed.	X	

The following measures are included in the project plans or proposals pursuant to Section 15070(b)(1) of the State CEQA Guidelines:

Mitigation Measure 1: All proposed development shall utilize earth tone colors to further blend in with the surrounding grassland vegetation and topography.

Mitigation Measure 2: All proposed exterior lighting shall be designed and located so as to confine direct rays to the subject property and prevent glare to the surrounding area. Manufacture cut sheets for any exterior light fixtures shall be submitted for review and approval to the Planning Department prior to the issuance of a building permit. All fixtures shall be rated dark-sky compliant and designed to minimize light pollution beyond the confines of the subject premises.

Mitigation Measure 3: The finishes of all exterior materials and/or colors shall be non-reflective.

Mitigation Measure 4: The applicant shall require construction contractors to implement all the Bay Area Air Quality Management District's Basic Construction Mitigation Measures, listed below:

a. Water all active construction areas at least twice daily.

b. Apply water two times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking, and staging areas at construction sites. Also, hydroseed or apply non-toxic soil stablizers to inactive construction areas.

c. Sweep daily all paved adjacent public streets daily (preferably with water sweepers) if visible soil

material is carried onto them.

d. Limit traffic speeds on unpaved roads within the project parcel to 15 miles per hour.

e. All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

f. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485, of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

g. Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand etc.) that can be blown by the wind.

h. Replant vegetation in disturbed areas as quickly as possible.

I. Install erosion control measures to prevent silt runoff to public roadway and/or into Dean Creek.

j. All haul trucks transporting soil, sand, or other loose material on and off site shall be covered.

k. Roadways and building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

l. A publicly visible sign with the telephone number and person to contact at the project site regarding dust complaints shall be posted. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure 5: Noise sources associated with demolition, construction, repair, remodeling, or grading of any real property shall be limited to the hours from 7:00 a.m. to 6:00 p.m., weekdays and 9:00 a.m. to 5:00 p.m., Saturdays. Said activities are prohibited on Sundays, Thanksgiving, and Christmas (San Mateo Ordinance Code Section 4.88.360).

Mitigation Measure 6: Habitat Restoration — To mitigate for the loss of 0.03 acres of Baccharis scrub habitat, the applicant shall implement a restoration plan approved by the San Mateo County Planning and Building Department. The restoration plan shall provide for the restoration of 0.09 acres (3,920 sq. ft.) of Baccharis scrub habitat on the project parcel. The restoration plan shall include defined success criteria and a minimum five-year mitigation monitoring program with yearly reports submitted to the County of San Mateo Planning and Building Department.

Mitigation Measure 7: Birds — If grading is scheduled during the active nesting season (March through August), a qualified wildlife biologist shall conduct a pre-construction nesting survey of the property, including large trees within 250 feet of the property for nesting raptors, and any vegetation within 50 feet of the proposed development for other nesting birds. This survey shall occur no more than 30 days prior to initiation of grading activities to provide an accurate measure of the presence or absence of active nests within the project vicinity.

Mitigation Measure 8: Birds — If active nests are encountered, grading activities shall not commence until species-specific protection measures are prepared by a qualified biologist and submitted to the Planning and Building Department for approval to prevent nest abandonment.

Mitigation Measure 9: Birds — If nests are encountered during project construction grading within a 100-foot radius of the nest shall be halted and no construction related activities shall occur within this 100-foot buffer zone. The perimeter of said buffer zone shall be fenced or adequately demarcated and construction personnel shall be restricted from such areas until all young have fledged.

Mitigation Measure 10: Birds — if avoidance of nests are not feasible, disturbance within the 100 foot nest buffer zone shall be prohibited until a qualified biologist can verify that the birds have either (a) not begun egg laying and incubation, or (b) that the juveniles from the nest are foraging independently and capable of independent survival. A report prepared by a qualified biologist verifying that the young have fledged or that egg laying activities have no occurred shall be submitted to the Planning and Building Department for review and approval prior to initiation of grading or construction activities within a 100 foot nest buffer zone.

Mitigation Measure 11: California Red-Legged Frog – A qualified biologist capable of monitoring projects

shall be present on site prior to any disturbance activities as follows:

a. An exclusion fence shall be installed along the edges of the proposed driveway and along the locations of the side and rear retaining walls (within 20 feet of proposed grading activities). Installation of the exclusionary fencing shall be overseen by a qualified biologist. The fence shall be at least 3 feet in height and trenched 6 inches deep. Furthermore, the fence shall be installed so that there are no openings or gaps through which a frog or small mammals could move into the project area. The exclusionary fencing shall have escape funnels in the fence every 100 feet or less for trapped small mammals and/or frogs to exit the project area. A cut sheet of the proposed exclusionary fencing shall be provided to the Planning and Department for approval prior to the issuance of any building permits.

b. A pre-construction survey for CRLFs and SFDWs shall be conducted no less than 72 hours prior to the start of project activities (including the installation of the exclusionary fencing and equipment and materials staging) by a California Department of Fish and Wildlife (CDFW) certified biologist.

c. Should any burrows be observed within the project area during the pre-construction survey by the CDFW certified biologist, the burrows shall be inspected to determine if they are being used by the CRLF. If CRLFs are present, the area shall be vacated and re-inspected in one week. If no animal use is noted, the burrows shall be carefully excavated using a small trowel or shovel and carefully prodded using a blunt object to determine the course of the tunnel such that the tunnel is excavated from the sides rather than the top, reducing the potential for any injury to an animal if present. Excavated burrows with no CRLFs shall be left open so they cannot be reoccupied. If non-listed species are located within the burrows they shall be translocated outside of the construction zone by the biologist.

d. If any life stage of the CRLF is found during the pre-construction survey and/or burrow excavation, the biologist shall immediately contact the CDFW and USFW and cease work until appropriate actions (approved by CDFW, USFW, and the Planning and Building Department) are agreed upon.

e. Immediately following the installation of the exclusionary fencing, the biological monitor shall survey the enclosed construction area for the presence of CRLF.

f. All crewmembers shall attend an Environmental Awareness Training presented by a qualified biologist. The training shall include a description of the special-status species that may occur in the region, the project Avoidance and Minimization Measures, Mitigation Measures, the limits of the project work areas, applicable laws and regulations, and penalties for non-compliance. Colored photocards of CRLFs and SFDWs shall remain on the project site during construction. Upon completion of training, crewmembers shall sign a training form indicating they attended the program and understood the measures. Completed training form(s) shall be provided to the Project Planner before the start of project activities.

g. Following the start of construction activities, a qualified biologist or trained biological monitor shall inspect the site weekly to monitor the integrity of the exclusionary fencing, confirm the limit of work and equipment is within the project boundaries, and assess the overall project adherence to the mitigation measures. A daily monitoring report shall be completed for each day the biologist is on site and shall include the date and time of work, weather conditions, biologist's name, construction activities preformed that day, any listed species observed, and any measures taken to repair and/or maintain the exclusionary fencing. These logs shall be available to the County upon request and a logbook of complied reports shall be submitted to the Planning and Building Department prior to building permit final approval.

h. The biological monitor has the authority to halt all or some of the grading or construction activities to protect habitat and/or individual sensitive species.

i. The biological monitor shall complete daily monitoring reports for each day present on site, to be maintained a in a monitoring logbook. Reports shall contain

Mitigation Measure 12: Wildlife Encounters – If any wildlife is encountered during Project activities, said encounter shall be reported to a qualified biologist and wildlife shall be allowed to leave the work area unharmed. Animals shall be allowed to leave the work area of their own accord and without harassment. Animals shall not be picked up or moved in any way

Mitigation Measure 13: San Francisco Dusky-Footed Woodrat – The construction contractor shall install woodrat exclusion fencing along the southern and easterly property lines in accordance with Drawing No. A112 on the site plan.

a. Woodrat exclusion fencing shall be installed prior to the start of construction including equipment and materials staging.

b. Woodrat exclusion fencing shall be the same exclusion fencing that will be installed for the California red-legged frog. The escape funnel provided for the snakes and frogs shall have a small enough escape funnel (i.e., less than 3'' x 3'' exit) to prevent woodrats from passing through.

c. If woodrat nests are observed within the project area outside of the breeding season (February to July) the project biologist may dismantle the nest (outside of the breeding season), allowing individuals to relocate to suitable habitat within the adjacent open space areas.

d. If woodrat nests with young are observed within the project site, an exclusion fence shall be erected around the nest site. The fencing shall provide adequate enough area to provide foraging habitat for the woodrats at the discretion of the project biologist. Site preparation (i.e., grubbing and grading) within the fenced area shall be postponed or halted until young have left the nest. A biological monitor shall be onsite during periods when disturbance activities occur near the active nest to ensure no inadvertent impacts will occur to the nests.

Mitigation Measure 14: The restoration plan shall be overseen by a qualified restoration ecologist as recommended by the project applicant and approved by the County of San Mateo Planning and Building Department.

Mitigation Measure 15: Propagules -- All plant propagules except erosion control seed shall be collected from a local genetic source using Best Management Practices that control or eliminate for the sudden oak death pathogen (*Phytopthora ramorum*). Ideally, propagules shall be collected from the project site. In the event that this is not feasible, materials shall be collected from San Mateo County within a 2-mile radius from the coast and below 1,000 feet in elevation.

Mitigation Measure 16: Site Preparation -- As necessary, soils at planting locations shall be de-compacted as to allow for root growth.

Mitigation Measure 17: Planting Layout -- Planting layout shall avoid a grid pattern in order to mimic a more random, natural distribution of plants. Plants shall be laid out in the field by the project Restoration Ecologist.

Mitigation Measure 18: Irrigation – Each plant shall be watered with two gallons per week during the dry season (June – October) with adjustments as deemed necessary by the project Restoration Ecologist to ensure plant survival.

Mitigation Measure 19: Irrigation System – A temporary irrigation system shall be designed and installed by a qualified landscape contractor. The irrigation system and all associated parts shall be removed upon plant establishment (typically 2 years).

Mitigation Measure 20: Performance Criteria – The restoration plan shall adhere to the performance criteria below. Failure to meet these criterial during the 5-year monitoring period may require additional restoration activities.

a. Year 1: Minimum 80% plant survival.

b. Year 2- 4: Minimum 60% plant survival.

c. Year 5: Minimum 50% plant survival.

d. Year 1-5: Less than 5% invasive exotic plant cover permitted within the restoration area.

Mitigation Measure 21: Reporting -- A Biological As Built Report shall be submitted to the County of San Mateo Planning and Building Department within 30 days of completion of the restoration plan implementation. This report shall include final maps indicating the restoration and plating areas, along with the final numbers of plants installed.

Mitigation Measure 22: Reporting – By December 31 of each year of the restoration plan a Mitigation Monitoring Report shall be submitted to the San Mateo County Planning and Building Department and shall

include the following information:

a. Dates monitoring occurred.

b. Adherence to the performance criteria to include results of quantitative monitoring including copies of field data sheets.

c. Photos

d. Summary of restoration actions taken during the reporting period

e. Any changes proposed or implemented to the project as a result of monitoring including but not limited to: invasive exotic control techniques, plant replacement, and watering schedules.

Mitigation Measure 23: Initiation of the habitat restoration plan shall occur prior to final building approval for the proposed residence.

Mitigation Measure 24: In the event that cultural, paleontological, or archaeological resources are encountered during site grading or other site work, such work shall immediately be halted in the area of discovery and the project sponsor shall immediately notify the Community Development Director of the discovery. The applicant shall be required to retain the services of a qualified archaeologist who meets the Secretary of the Interiors' Professional Qualification Standards for the purpose of recording, protecting, or curating the discovery as appropriate. The cost of the qualified archaeologist and of any recording, protecting, or curating shall be borne solely by the project sponsor. The archaeologist shall be required to submit to the Community Development Director for review and approval a report of the findings and methods of curation or protection of the resources. In addition, an archaeological report meeting the Secretary of the Interior's Standards detailing the findings of the monitoring will be submitted to the Northwest Information Center after monitoring has ceased. No further grading or site work within the area of discovery shall be allowed until the preceding has occurred.

Mitigation Measure 25: If a newly discovered resource is, or is suspected to be, Native American in origin, the resource shall be treated as a significant Tribal Cultural Resource, pursuant to Public Resources Code 21074, until the County has determined otherwise with the consultation of a qualified archaeologist and local tribal representative.

Mitigation Measure 26: In the event of discovery or recognition of any human remains during project construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains and State of California Health and Safety Code Section 7050.5 shall be followed. The applicant shall then immediately notify the County Coroner's Office, the County Planning and Building Department, and possibly the State Native American Heritage Commission to seek recommendations from a Most Likely Descendant (Tribal Contact) before any further action at the location of the find can proceed. All contractors and sub-contractors shall be made aware of these requirements and shall adhere to all applicable laws including State Cultural Preservation laws. Disposition of Native American remains shall comply with CEQA Guidelines Section 15064.5(e).

Mitigation Measure 27: The project shall comply with all State and Local building energy efficiency standards, appliance efficiency regulations, and green building standards.

Mitigation Measure 28: The design of the proposed development (upon submittal of the Building Permit) on the subject parcel shall generally follow the recommendations cited in the geotechnical report prepared by Murray Engineers Inc., regarding seismic criteria, grading, drilled piers, slab-on grade construction, and surface drainage. Any such changes to the recommendations by the project geotechnical engineer cited in this report and subsequent updates shall be submitted for review and approval by the County's Geotechnical Engineer.

Mitigation Measure 29: The applicant shall submit an erosion control plan in compliance with the County's General Erosion and Sediment Control Plan Guidelines Checklist for review and approval as part of the building permit plans submittal.

Mitigation Measure 30: No grading shall be allowed during the wet weather season (October 1 through April 30) to avoid increased potential soil erosion, unless the applicant applies for an Exception to the Winter Grading Moratorium and the Community Development Director grants the exception. Exceptions will only be granted if dry weather is forecasted during scheduled grading operations, and the erosion control plan

includes adequate winterization measures (amongst other determining factors).

Mitigation Measure 31: An Erosion Control and Tree Protection Pre-Site Inspection shall be conducted prior to the issuance of a grading permit "hard card" and building permit to ensure the approved erosion control measures are installed per the plans.

Mitigation Measure 32: To reduce erosion, the applicant shall reseed disturbed areas not planned for landscaping with native grasses at the end of construction. These grasses will cover the exposed dirt areas and reduce erosion and loss of topsoil during rain events.

Mitigation Measure 33: The applicant shall implement dust control measures, as listed below. Measures shall be included on plans submitted for the building permit and encroachment permit applications. The measures shall be implemented for the duration of any grading, demolition, and construction activities that generate dust and other airborne particles. The measures shall include the following:

a. Water all active construction areas at least twice daily.

b. Water or cover stockpiles of debris, soil, sand, or other materials that can be blown by the wind.

c. Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least 2 feet of freeboard.

d. Apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking, and staging areas at the construction sites. Also, hydroseed or apply non-toxic soil stabilizers to inactive construction areas.

e. Sweep daily (preferably with water sweepers) all paved access roads, parking, and staging areas at the construction sites.

f. Sweep adjacent public streets daily (preferably with water sweepers) if visible soil material is carried onto them.

g. Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).

h. Limit traffic speeds on unpaved roads within the project parcel to 15 miles per hour (mph).

i. Install sandbags or other erosion control measures to prevent silt runoff to public roadways.

j. Replant vegetation in disturbed areas as quickly as possible.

Mitigation Measure 34: Should any traditionally or culturally affiliated Native American Tribe respond to the County's issued notification for consultation, such process shall be completed and any resulting agreed upon measures for avoidance and preservation of identified resources be taken prior to project implementation.

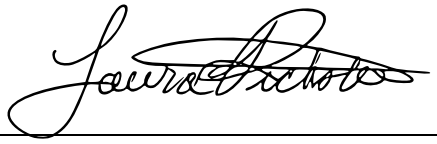
Mitigation Measure 35: In the event that tribal cultural resources are inadvertently discovered during project implementation, all work shall cease within a fifty meter radius of the find, the Planning Department shall be notified, and a qualified archaeologist retained to examine the find and provide appropriate recommendations. These measures shall be approved by the County Planning Department prior to implementation and prior to the continuation of any work in the subject area.

Mitigation Measure 36: Any inadvertently discovered tribal cultural resources shall be treated with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, protecting the confidentiality of the resource.

DETERMINATION (to be completed by the Lead Agency).

On the basis of this initial evaluation:

	I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared by the Planning Department.
X	I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because of the mitigation measures in the discussion have been included as part of the proposed project. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.



(Signature)

04-01-2020	Project Planner II
Date	(Title)

ATTACHMENTS:

A. Project Location Map
B. Project Plans
C. California Historical Resources Information System Letter, dated October 17, 2018
D. Native American Heritage Commission Sacred Lands File Search Letter, dated January 2019
E. Biological Impact Report, prepared by Toyon Consultants, dated February 9, 2018
F. Habitat Restoration Plan, prepared by Toyon Consultants, dated February 16, 2019
G. Geotechnical Investigation Report, prepared by Murray Engineers Inc., dated January 2015

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Negative Declaration attachments can be found as attachments to the subject staff report.