PLANNING DEPARTMENT
Planning • Building • Code Enforcement

CITY HALL • 170 Santa Maria Avenue • Pacifica, CA 94044 • (650)738-7341 • Fax (650)359-5807

Scenic Pacifica

DATE: June 17, 2013

LOCATION: Council Chambers, 2212 Beach Boulevard

TIME: 7:00 PM

ROLL CALL:

SALUTE TO FLAG:

ADMINISTRATIVE BUSINESS:

Commission Reorganization

a. **Assignment of terms: drawing of lots**

b. **Election of Chair and Vice Chair**

Approval of Order of Agenda

Approval of Minutes: May 6, 2013

Designation of Liaison to City Council

CONSENT ITEMS:

None.

PUBLIC HEARINGS:

1. **CDP-337-13** **COASTAL DEVELOPMENT PERMIT** to construct a new single-family residence of approximately 2,100 square feet on a vacant lot on Olympian Way (APN 023-039-060). The project is located in the Coastal Zone. Recommended CEQA status: Exempt. Proposed Action: Approve as conditioned.

COMMISSION ITEMS:

None.

COMMUNICATIONS:

Commission Communications:

Staff Communications:

Oral Communications:

This portion of the agenda is available to the public to address the Planning Commission on any issue within the subject matter jurisdiction of the Commission that is not on the agenda. The time allowed for any speaker will be three minutes.

ADJOURNMENT

Anyone aggrieved by the action of the Planning Commission has 10 calendar days to appeal the decision in writing to the City Council. If any of the above actions are challenged in court, issues which may be raised are limited to those raised at the public hearing or in written correspondence delivered to the City at, or prior to, the public hearing. Judicial review of any City administrative decision may be had only if a petition is filed with the court not later than the 90th day following the date upon which the decision becomes final. Judicial review of environmental determinations may be subject to a shorter time period for litigation, in certain cases 30 days following the date of final decision.

The City of Pacifica will provide special assistance for disabled citizens upon at least 24-hour advance notice to the City Manager's office (738-7301). If you need sign language assistance or written material printed in a larger font or taped, advance notice is necessary. All meeting rooms are accessible to the disabled.

NOTE: Off-street parking is allowed by permit for attendance at official public meetings. Vehicles parked without permits are subject to citation. You should obtain a permit from the rack in the lobby and place it on the dashboard of your vehicle in such a manner as is visible to law enforcement personnel.

STAFF REPORT

PLANNING COMMISSION - CITY OF PACIFICA

DATE: June 17, 2013

ITEM: 1

PROJECT SUMMARY/RECOMMENDATION AND FINDINGS

Notice of Public Hearing was published in the Pacifica Tribune on June 5, 2013. 50 surrounding property owners and residents were notified by mail.

FILE: CDP-337-13

APPLICANTS & OWNERS: Bradley and Julie Wahrlich, 1 Blackburn Terrace, Pacifica CA

AGENT: Brian Brinkman, 648 Navarre Drive, Pacifica, CA 94044

LOCATION: Olympian Way (APN 023-039-060)

PROJECT DESCRIPTION: New single family residence

General Plan: Low Density Residential
Zoning: R-1 (Single-Family Residential)/CZ (Coastal Zone)

CEQA STATUS: Exempt Section 15303(a)

ADDITIONAL REQUIRED APPROVALS: None. The project is appealable to the City Council and Coastal Commission.

RECOMMENDED ACTION: Approve as conditioned

PREPARED BY: Christina Horrisberger, Assistant Planner

R-1 ZONING STANDARDS CONFORMANCE:

Standards	Required	Project
Lot Size	5,000 square feet	11,250 square feet
Coverage	40% max.	17.5%
Height	35' max.	34'9"
FAR (Floor Area Ratio)	3,749 square feet max.	2,068 square feet
Landscaping	20% min.	72%
Impervious Surface Area	1 LID measure @ ≥2,500 square feet	3,105 square feet
Building Setbacks		
-Front yard	15'	19'7"
-Garage	10' (due to ≥25% slope)	10'
-sides	5'	5' south side; 7'8" north side
-Rear	20'	>90'
Projection (Deck) Setbacks		
-front	9'	±10.5' 2nd floor; >20' 3rd floor
-side	4'	±5.5' 2nd floor, ±7.5' 3rd floor
Parking	2 car garage 18' wide by 19' deep	2 car garage 25' wide by 21' deep

PROJECT SUMMARY

A. STAFF NOTES:

1. Background: The subject property is a vacant lot within the Pedro Point neighborhood, near the northwest end of Olympian Way, on the southwest side of the street. The lot is steep, with an average cross slope of 35%-40%, and vegetated with several trees in various states of vigor. Existing homes surround the property on three sides and separate it from the bluff. Adjacent rearward land is an undeveloped portion of the Shelter Cove property.

2. Project Description: The applicant is proposing a three story dwelling with approximately 2,100 square feet of living area and 700 square feet of garage space. The first (lower) level would include a garage with an internal stairway leading to the second (middle) level of the residence. There would be partially enclosed exterior stairs at the front of the structure, leading from the driveway to the second floor porch and entrance to the home. The second floor would include a porch, the main living area (living/dining/kitchen), a half bathroom, and a master bedroom with a full bathroom and large closet. The third (upper) level would provide a covered porch wrapping around the north and west sides, a family room, two bedrooms, a full bathroom and a laundry room. This level would also provide access to the rear yard. The rear yard would include a level flagstone patio adjacent to the structure, installed landscaping immediately upslope, and the remainder would continue to support natural vegetation. The front and side yards would include several low retaining walls, new landscaping and a concrete driveway. As proposed, five (5) trees would be removed from the area where the residence and new landscaping is to be placed; four (4) of these are heritage trees.

3. General Plan, Zoning, and Surrounding Land Use: The General Plan designation for the property is Low Density Residential and the same designation applies to the surrounding properties. The site and surrounding lots to the north, east and south have a zoning classification of R-1/CZ. These properties have been developed with single-family homes. The westward property is an undeveloped portion of the Shelter Cove property that extends beyond the City boundary.

4. Municipal Code and Regulatory Standards: As shown in the above table, the project complies with all Municipal Code standards for the R-1 District. However, because the proposed project is located within the Coastal Zone (CZ), and the structure will be greater than 2 stories, a Coastal Development Permit (CDP) is necessary. Also, the property is located with the Appeals Jurisdiction of the Coastal Zone, making local land use decisions appealable to the California Coastal Commission.

Section 8-21.03 of the PMC requires single family residential projects that exceed $200,000 in project valuation to attain green building certification through the Green Point Rated (GPR) or Leadership in Energy Efficient Design (LEED) system.

PMC Section 4-12.07 requires a tree protection plan for any development proposal which requires a discretionary permit and includes a proposal to cut down, destroy, remove, move, or engage in construction within the dripline of a heritage tree. A heritage tree is a tree other than a eucalyptus tree that is at least 16 inches in diameter when measured at 24 inches above grade.

The City is subject to stormwater management regulations through a National Pollutant Discharge Elimination System Permit (NPDES). The permit requires the City to ensure new and redevelopment projects minimize potential adverse impacts of stormwater run-off. Construction of single family residences that create or replace at least 2,500 square feet of impervious surfaces are required to implement one Low Impact Development (LID) measure.

5. CEQA Recommendation: Construction of a single-family residence is categorically exempt per Section 15303 (a) of CEQA from environmental review as stated below:

> (a) One single-family residence, or a second dwelling unit in a residential zone. In urbanized areas, up to three single-family residences may be constructed or converted under this exemption.

6. Coastal Development Permit Regulations and Findings: Section 9-4304(k) of the Municipal Code allows the Planning Commission to issue a Coastal Development Permit based on the findings specified below:

1. The proposed development is in conformity with the City's certified Local Coastal Program.

2. Where the Coastal Development Permit is issued for a development between the nearest public road and shoreline, the development is in conformity with the public recreation policies of Chapter 3 of the California Coastal Act.

7. Staff Analysis:

Coastal Development Permit: The City of Pacifica's Local Coastal Program indicates that infill residential development should be located in close proximity to existing development, it should be designed and scaled for compatibility with surrounding land uses, and it should provide replacement plantings as needed. The proposed three-story single family residence would be located within a developed residential neighborhood with a predominance of multi-story single-family homes. The homes in the area comprise a mixture of architectural styles and provide a variety design elements. The proposed Mediterranean design is compatible with surrounding structures in terms of design, situation, bulk and scale. The project would remove some existing vegetation from the lot, but also retain almost 60% of the natural vegetation and install new landscaping. Over 70% of the property would be vegetated upon project completion, when only 20% is required. The proposal appears to meet the overall intent of the Local Coastal Program, as nearby properties have been developed with similarly-sized residences. The proposed design, scale, massing, and site configuration is compatible with the site and neighborhood. Landscaping and replacement plantings have been adequately addressed.

Another concern of the Local Coastal Program is the preservation of coastal views. In this case, the views are to the north/northeast towards Pacifica State Beach. No public view areas will be affected by the project. Additionally, the proposed dwelling would not block the views of any building placed above it due to the slope of the surrounding area and lack of development on the abutting portion of the rearward property. The public recreation policies of Chapter 3 of the Coastal Act are not applicable in this case.

Design: The Local Coastal Program requires new development within the Appeal Jurisdiction to undergo design review prior to issuance of a CDP. Design review is necessary to assure attractive, appropriate development and factors such as architectural style, scale, site use, materials and landscaping shall be considered. The City's adopted Design Guidelines encourage designs that complement the positive aspects of the surrounding neighborhood in terms of height, bulk, style and materials. They also encourage site design that minimizes grading and works with existing topography. The current mix of homes in the Pedro Point neighborhood includes an assortment of architectural styles, of various sizes, that utilize a variety of materials including wood, stucco and shingle siding. Most are over one story and are equipped with large windows and decking. The more attractive homes in the area blend with the streetscape, are comparable in scale to neighboring homes and include architectural detailing and design elements to provide visual interest. Many include varied setbacks that minimize visual impacts of massing and bulkiness, and help structures blend in with the uneven topography of the neighborhood.

The proposed residence is Mediterranean in style, with earth-toned stucco siding, clay tile roofing, and wood garage doors. Varied setbacks to indoor and outdoor living areas are incorporated into the proposed design. Arched garage doors and viewing portals are also proposed. Decorative elements include a wrought iron gate and window boxes, wood rafters and beams, and decorative lighting fixtures. The front wall surrounding the exterior stairway and porch is somewhat boxy and may benefit from variation in shape and/or incorporation of additional design elements. For instance the wall could be lowered to optimize ocean views and accommodate use of design elements such as decorative railing around the porch. Staff believes this is a minor issue that is not out of context with bulk and massing on neighboring properties, and landscaping installed in the front and side yards

may be sufficient to soften the appearance of the lower level front wall. In terms of scale, bulk and height, the proposed structure would be compatible with other homes in the neighborhood. The neighboring home on the seaward side of the property is lower in height but is set deeper into the lot, sits at a higher elevation and is not highly visible from the street. The neighboring residence on the landward side is comparable in size, but sits slightly higher at its topmost point and is located closer to the front lot line. The subject lot slopes upward and property development would be concentrated in the front portion of the lot to minimize grading and promote blending of the structure with the hillside, while still providing a 10 foot deep driveway. Based on the information provided by the applicant, site planning and structure design appear to be adequate to achieve the applicable design objectives.

Stormwater: The proposed residence would create approximately 3,100 square feet of impervious surfaces. LID measures deemed appropriate for stand-alone single family residences include rainwater harvesting, use of permeable materials where feasible, and directing runoff to vegetated areas. The proposed project would meet the NPDES requirement of implementing one measure by directing roof runoff to vegetated areas. Also, at least 75% of installed landscaping would be drought-tolerant and climate compatible, no invasive plants will be installed, areas of turf will be minimized and a high efficiency irrigation system will be used. These measures reduce the need for herbicides, pesticides and fertilizers, and reduce site runoff. They are consistent with the goal of minimizing pollutants entering storm drains.

Green Building: The applicant proposes green building certification through the GPR system. The system is points-based, requiring a minimum of 50 points in order to attain certification. The system includes a variety of categories, such as "site," "landscape," and "building performance," and the project must achieve a minimum number of points in each category. The checklist (attached) provided by the applicant indicates that 120 would be achieved.

Heritage Trees: The applicant submitted an arborist's report/tree protection plan (attached) that includes an assessment of nine (9) of the larger trees on the property. Seven of the trees are heritage trees; one, a toyon, was considered to be in good health. Two smaller, non-heritage trees, a cotoneaster and a Monterey cypress, were also in good health. One heritage tree is dead and five others are in poor to fair health. The report recommends removal and replacement of all of the evaluated trees. The applicant is proposing removal of five trees within the immediate project area, but would retain two upslope trees toward the rear of the lot. One of the trees tree not planned for removal is a heritage tree in poor-fair health, with poor form, and bark beetle infestation. The other is a non-heritage tree in good health, with fair form. Staff recommends that the applicant follow the recommendations in the arborists report and remove and replace all of the listed trees on the property. A condition of approval requiring adherence to the arborist's recommendations is included. Two of the trees, the dead tree and a tree in poor health, are on the neighboring property and the applicant does not have control of them.

CEQA: The project meets the above listed exemption because the proposal is to construct one single family residence in an established neighborhood, within an urbanized area.

8. Summary : Staff believes that the project would be compatible with the surrounding neighborhood, complies with all applicable requirements and is consistent with the City's adopted Design Guidelines. Further, the applicant submitted a geotechnical report indicating the site is

suitable for the proposed development. It appears that the findings can be made to grant the Coastal Development Permit.

RECOMMENDATION AND FINDINGS

B. RECOMMENDATION:

Staff recommends that the Planning Commission **APPROVE** the Coastal Development Permit CDP-337-13 for the construction of a new single family residence on Olympian Way, subject to the following conditions:

Planning Department:

1. Development shall be substantially in accord with the plans entitled "New 3-Story Home: Wahrlich Residence" consisting of ten (10) sheets, dated April 29, 2013, except as modified by the following conditions.

2. Prior to the issuance of a building permit, the applicant shall submit information on exterior finishes, including colors and materials, subject to approval of the Planning Director.

3. All vents, gutters, downspouts, flashing, and conduits shall be painted to match the colors of adjacent building surfaces. In addition, any mechanical or other equipment such as HVAC attached to or protruding from the building shall be appropriately housed and/or screened to the Planning Director's satisfaction.

4. Applicant shall submit a roof plan with spot elevations showing the location of all roof equipment including vents, stacks and skylights, prior to building permit issuance. All roof equipment shall be screened to the Planning Director's satisfaction.
5. On-site storm drain inlets shall be clearly marked with the words "No Dumping! Flows to Ocean," or equivalent, using thermoplastic material or a plaque.

6. Project shall incorporate landscaping that minimizes irrigation and runoff, promotes surface infiltration, minimizes the use of pesticides, herbicides and fertilizers, and incorporates other appropriate sustainable landscaping practices such as Bay-Friendly Landscaping.

7. Landscaping on the site shall be adequately maintained and replaced when necessary as determined by the Planning Director.

8. Trees numbered 1, 2, 5, 6, 7, 8 and 9 in the arborist's report shall be removed and replaced with new trees, to the satisfaction of the Planning Director.

9. All transformers, HVAC units, backflow preventors and other ground-mounted utility equipment shall be shown on the landscape and irrigation plans and shall be located out of public view and/or adequately screened through the use or combination of walls or fencing, berming, painting, and/or landscaping, to the satisfaction of the Planning Director.

10. All trash and recycling materials, if stored outdoors, shall be fully contained and screened from public view within subject to the Planning Director's satisfaction.

11. Fire sprinkler test water shall discharge to onsite vegetated areas, or, alternatively shall be discharged to the sanitary sewer system, subject to City approval.

12. Air conditioning condensate shall drain to vegetated areas.

13. A detailed on-site exterior lighting plan shall be submitted for review and approval by the Planning Director prior to issuance of building permits. Lighting shall be directed away from adjacent properties to avoid adverse affects thereto. Building lighting shall be architecturally integrated with the building style, materials and colors, and shall be designed to minimize glare. Fixture locations, where applicable, shall be shown on all building elevations.

14. The applicant shall clearly indicate compliance with all conditions of approval on the plans and/or provide written explanations to the Planning Director's satisfaction prior to approval of a building permit.

15. All outstanding and applicable fees associated with the processing of this project shall be paid prior to the issuance of a building permit.

16. The applicant shall hereby agree to indemnify, defend and hold harmless the City, its Council, Planning Commission, advisory boards, officers, employees, consultants and agents (hereinafter "City") from any claim, action or proceeding (hereinafter "Proceeding") brought against the City to attack, set aside, void or annul the City's actions regarding any development or land use permit, application, license, denial, approval or authorization, including, but not limited to, variances, use permits, developments plans, specific plans, general plan amendments, zoning amendments, approvals and certifications pursuant to the California Environmental Quality Act, and /or any mitigation monitoring program, or brought against the City due to actions or omissions in any way connected to the applicant's project. This indemnification shall include, but not be limited to, damages, fees and/or costs awarded against the City, if any, and costs of suit, attorneys fees and other costs, liabilities and expenses incurred in connection with such proceeding whether incurred by the applicant, City, and /or parties initiating or bringing such Proceeding. If the applicant is required to defend the City as set forth above, the City shall retain the right to select the counsel who shall defend the City.

Building Department

17. The geotechnical report must be peer reviewed, at the applicant's expense, prior to issuance of a building permit.

Fire Department

18. Fire sprinkler installation is required.

Engineering Division of Public Works

19. Construction shall be in conformance with the San Mateo Countywide Storm Water Pollution Prevention Program. Best Management Practices shall be implemented.

20. Applicant shall overlay existing asphalt with minimum 2 inch AC the whole street width across entire property frontage.

21. All recorded survey points, monuments, railroad spikes, pins, cross cuts on top of sidewalks and tags on top of culvert headwalls or end walls whether within private property or public right-of-way shall be protected and preserved. If survey point/s are altered, removed or destroyed, the applicant shall be responsible for obtaining the services of a licensed surveyor or qualified Civil Engineer to restore or replace the survey points and record the required map prior to completion of the building permit.

22. No debris box or equipment shed is allowed in the street or sidewalk.

23. Add a note on the Site Plan that says, "Existing curb, sidewalk or street adjacent to property frontage that is damaged or displaced shall be repaired or replaced even if damage or displacement occurred prior to any work performed for this project."

24. Add a note on the Site Plan that says, "Any damage to improvements within the city right-of-way or to any private property, whether adjacent to subject property or not, that is determined by the City Engineer to have resulted from construction activities related to this project shall be repaired or replaced as directed by the City Engineer."

25. An Encroachment Permit must be obtained for all work within the City right-of-way. All proposed improvements within the City right-of-way shall be constructed per City Standards.

26. A sidewalk agreement must be signed for unimproved streets.

27. All recorded survey points, monuments, railroad spikes, pins, cross cuts on top of sidewalks and tags on top of culvert headwalls or end walls whether within private property or public right-of-way shall be protected and preserved. If survey point/s are altered, removed or destroyed, the applicant shall be responsible for obtaining the services of a licensed surveyor or qualified Civil Engineer to restore or replace the survey points and record the required map prior to completion of the building permit.

C. FINDINGS:

1. Findings for Approval of Coastal Development Permit: The Planning Commission finds that the proposed residence, as conditioned, is in conformity with the City's Local Coastal Program and Public Recreation Policies of Chapter 3 of the California Coastal Act. Specifically, the design and scale of the project are compatible with the surroundings in the Pedro Point neighborhood. The project will not have negative visual impacts or negatively impact access to existing coastal recreation facilities. Nor will it increase the demand for additional facilities or negatively affect any existing oceanfront land or other coastal area suitable for recreational use. The proposal will not

have significant adverse effects, either individually or cumulatively, on coastal resources. Because the site is located entirely within a residential zone, no commercial activities will be impacted.

COMMISSION ACTION

D. MOTION FOR APPROVAL:

Move that the Planning Commission find that the project is exempt from CEQA and APPROVE CDP-337-13 subject to conditions 1 through 27, and adopt findings contained within the June 17, 2013 staff report, and incorporate all maps and testimony into the record by reference.

Attachments:

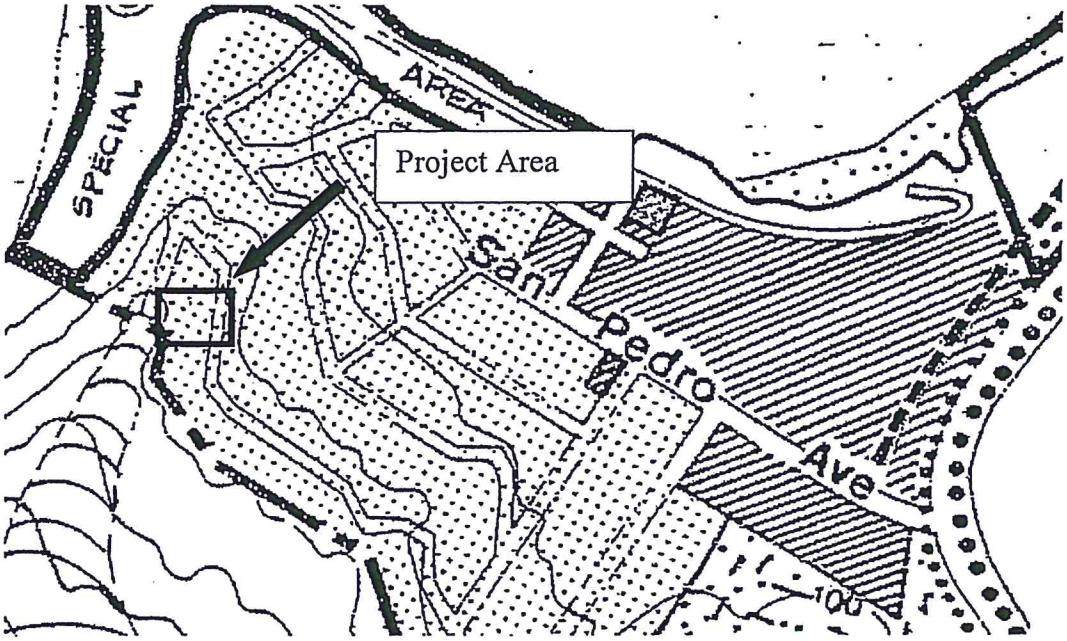
a. Land Use and Zoning Exhibit
b. Project Renderings
c. Photos of northern neighboring property
d. Geotechnical Report
e. Green Point Rated Checklist
f. Arborist's report
g. Plans

Zoning & Land Use Exhibit
City of Pacifica
Planning & Economic development Department

General Plan Diagram

Neighborhood: Pedro Point

Land Use Designation: Low Density Residential



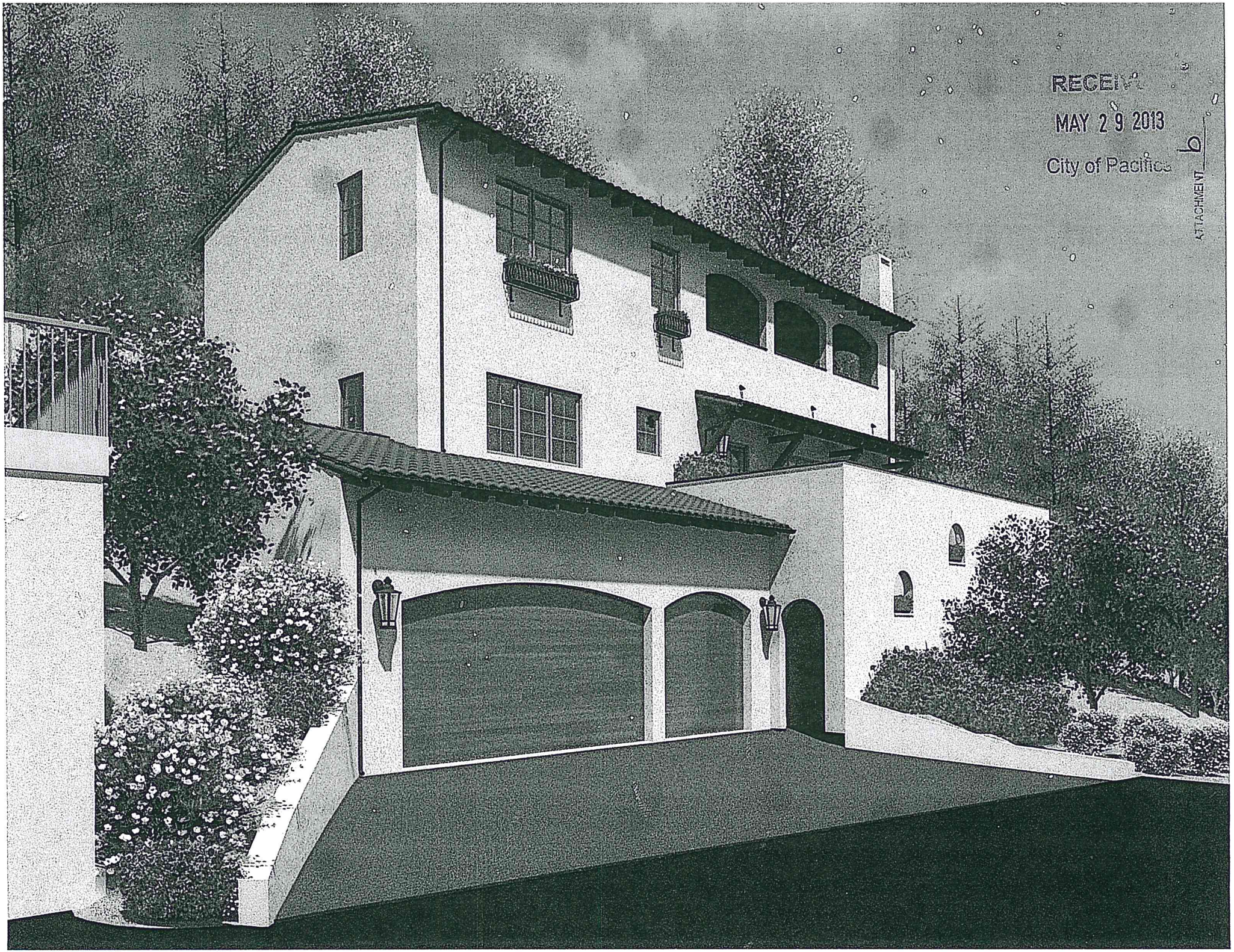
Zoning Map Diagram

Existing Zoning District: R-1 (Single-Family Residential)/ CZ (Coastal Zone)

North

Scale: N.T.S.

Attachment a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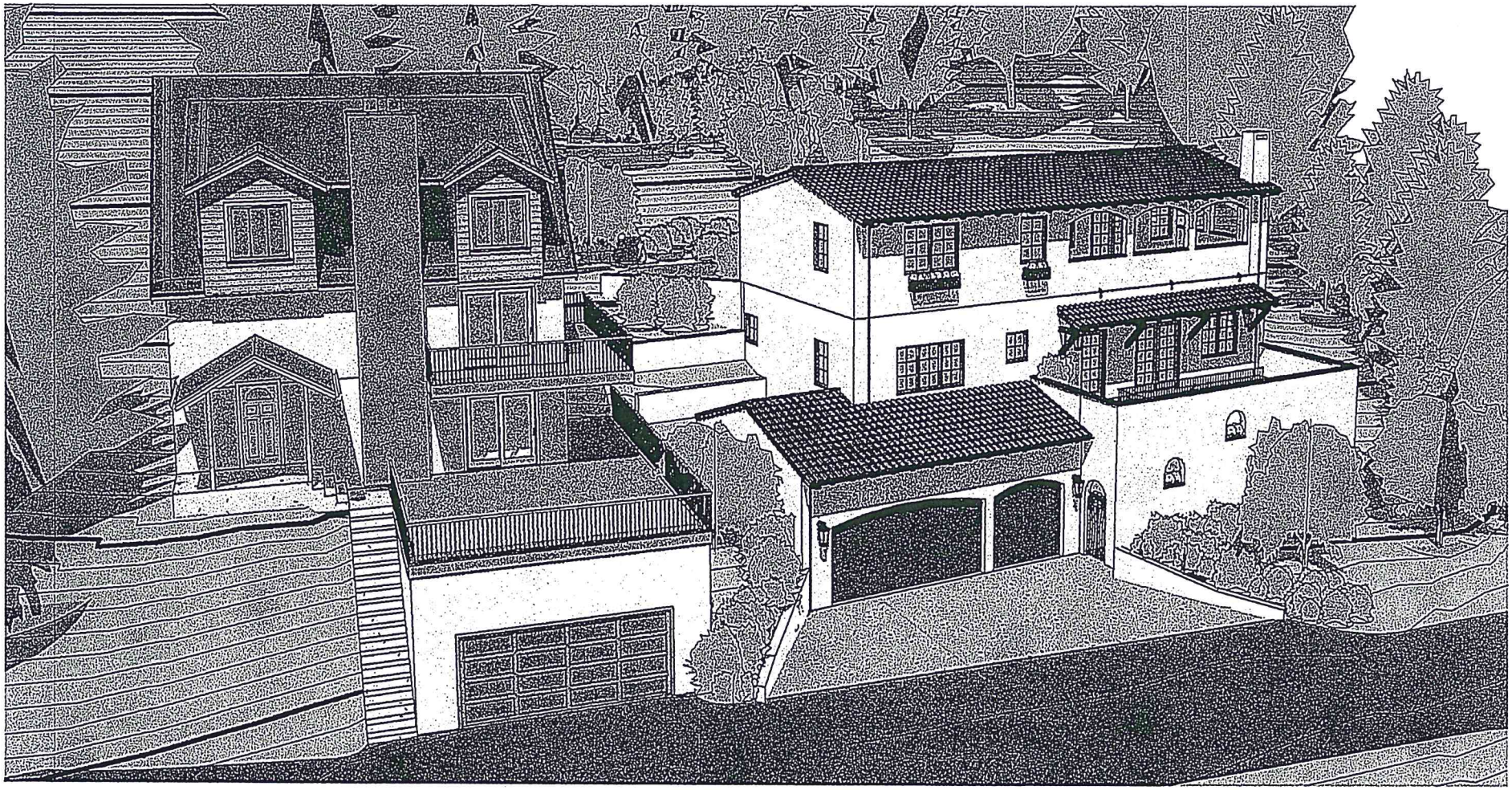
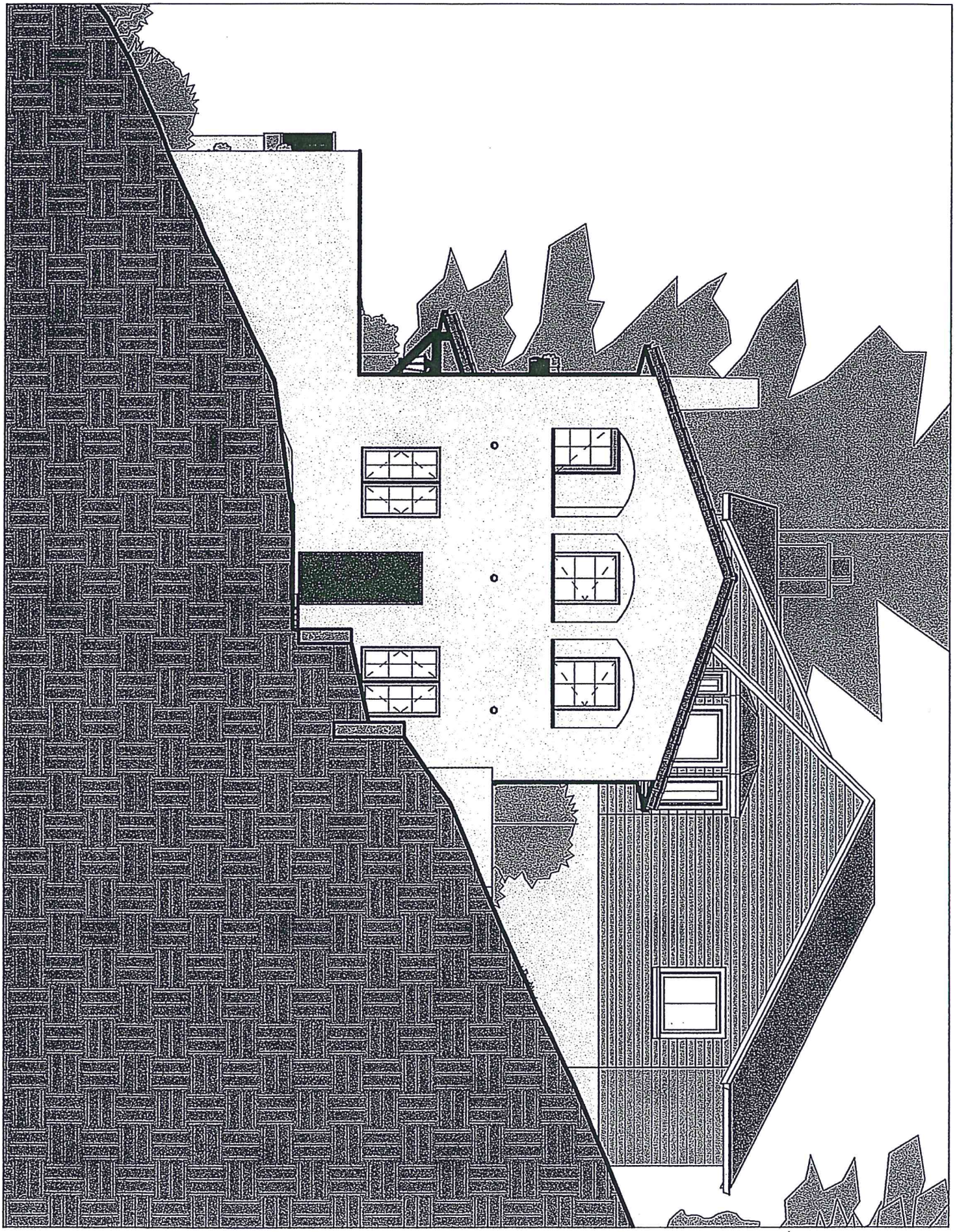




ATTACHMENT 6

Olympian Way
North of
Subject
property

C

HMENT C

GEOTECHNICAL INVESTIGATION

Proposed Residence
Vacant Lot – APN 023-039-060
Olympian Way
Pacifica, California

Prepared for:
Mr. Julie Wahrlich
1 Blackburn Terrace
Pacifica, California 94044

Dated: April 3, 2013
Job 2496.01.00

Earth Investigations Consultants
P.O. Box 795
Pacifica, California 94044
Phone 650-557-0262
Fax 650-557-0264
earthinvestigations@comcast.net

ATTACHMENT d

Earth Investigations Consultants

April 3, 2013
Job 2496.01.00

Ms. Julie Wahrlich
1 Blackburn Terrace
Pacifica, California 94044

RE: GEOTECHNICAL INVESTIGATION
Proposed Residence
Vacant Lot – APN 023-039-060
Olympian Way
Pacifica, California

Dear Ms. Wahrlich:

Location and Proposed Project

Pursuant to your authorization, we have completed the referenced project, located in the Pedro {Point District of Pacifica, California (Plate 1, Vicinity Map). We understand that you propose to construct on the lower part of the vacant lot a new 2-level, wood-frame house with understory garage adjacent to Olympian Way (Plate 2, Site Plan). From the plan prepared by PKM Construction (Sheet A109, undated) the plan will entail terracing the hillside to accommodate the 3 levels of construction. Cut slopes could be up to 20 feet, requiring perimeter and interior foundation retaining walls. We understand that some of the soil derived from the excavation will be used to create a level backyard against the rear building foundation wall. This will require site walls.

Purpose and Scope of Services

The purpose of this investigation was to characterize the site soils and provide geotechnical parameters for the proposed improvements. The scope of services included:

- Review of pertinent geologic and geotechnical literature and maps. Plate 3 illustrates a portion of a regional geologic map covering the site area;
- Site observations on and advancement of 2 borings April 13, 2013 within the proposed development area with a portable percussion rig. A continuous sample of the earth materials encountered was obtained from each boring location by advancing a 1 ½ -inch O.D., split spoon sampler with a gas-powered Wacker BHF 30S hammer that imparts 35 ft. lbs. of

axial force on the sampler at a rate of 1270 blows per minute. The locations of the borings are illustrated on Plate 2 (Site Plan). The Logs of Borings are contained on Plate 4. Plates 5 and 6 contain descriptions of the terms and symbols used on the logs;

- Laboratory testing of selected samples from the borings. Tests included moisture content, dry density, Atterberg limits and particle size (% passing #200 sieve). The results of the lab tests are contained on the boring logs and on Plate 7, Plasticity Chart;
- Analysis of the data and preparation of this report. Plate 8 depicts a generalized cross section though the proposed development area.

FINDINGS

Geologic Setting

The site is located on Point San Pedro at an approximate elevation ranging from 245 feet at street level to 304 feet at the upslope property line. The average slope gradient is of 36 degrees over 109 feet of vertical relief (Plate 2). Runoff from the slope sheets to the storm drain on Olympian Way.

The site is located on Point San Pedro which forms the northwest extremity of the northern Santa Cruz Mountains and the northern flank of Montara Mountain. Point San Pedro is located on the northern tip of the La Honda tectonic block, and is characterized by a complex assemblage of Quaternary through Cretaceous sedimentary and crystalline rocks (Nilsen, 1981). The inactive Pilarcitos fault, located approximately 1000 feet northeast of the site, is a significant geologic structure in the Pacifica area as it separates much older Juro-Cretaceous Franciscan sedimentary and metamorphic rocks on the northeast side from younger Tertiary sedimentary and Cretaceous plutonic rocks on the southwest side.

Rocks underlying the Point San Pedro area are represented by complexly deformed Paleocene, bathyal-depth (i.e., 600-6000 feet deep) submarine fan deposits comprised of rhythmically-bedded, locally fossiliferous shales, siltstones, sandstones and massive conglomerates (Morgan, 1981). These rocks form spectacular outcrops along Highway 1, south of Point San Pedro, and in the steep, shoreline bluffs along the margin of the point, especially in Shelter Cove, approximately 500 feet northwest of the site. They rest nonconformably upon Montara granodiorite, a coarse crystalline plutonic rock that forms the core of Montara Mountain widely exposed southeast of Point San Pedro in roadcuts and coastal bluffs between Devils Slide and Montara.

In the site vicinity, thin-bedded shales, siltstones sandstones, and a conspicuous body of massive, coarse-grained sandstone and conglomerate have been mapped. It is apparent that the finer-grained rocks form rounded ridges and swales, while the coarser-grained, massive sandstones and conglomerates form bold relief and steep-sided, joint-controlled ravines in this area. The coarse-grained sedimentary rocks underlie the sharp, steep-sided, linear, northwest trending ridgeline southwest of the site (Plate 3).

The site lies in tightly folded, steep southwesterly dipping sandstone and shale. Roadcuts to the east of the site in the Pedro Point area expose warped, thinly bedded shale, siltstone and sandstone dipping southward from 25 to 80 degrees. The observed internal deformation of the finer-grained rocks is probably related to syndepositional gravity slumping of the soft sediment (Morgan, 1981).

Faults and Seismicity

Active faults are not known to cross the site (California Division of Mines and Geology, 1982). The nearest active fault is the Seal Cove fault mapped approximately 3 miles offshore to the southwest (Table 1). The principal active fault and the probable seismic source for a future major earthquake on the San Francisco Peninsula is the San Andreas mapped approximately 4 miles to the northeast along Skyline Boulevard. It is expected to cause strong ground shaking in the site area during a future, nearby major earthquake (Petersen and others, 1999). Ground shaking from the 1989 Loma Prieta earthquake, whose epicenter was located approximately 45 miles to the southeast, was estimated to have caused a modified Mercalli intensity VI in the greater Pacifica area (Plafker and Galloway, 1989). This generally means that everyone in Pacifica felt the earthquake and frightened many who would tend to run outdoors. However, the shaking resulted only in slight damage.

Other faults having potential for producing a major earthquake which could affect the site area includes the San Gregorio-Seal Cove fault mapped approximately 2 miles to the southwest, and the East Bay segments of the Hayward and Calaveras faults located approximately 22 and 24 miles to the northeast, respectively. Table 1 lists these active faults and the probability of a 6.7 or greater earthquake occurring within the next 23 years.

TABLE 1. MAJOR BAY AREA EARTHQUAKE FAULTS

Fault Name	Distance from Site (miles)	Percent Probability of 6.7 or greater earthquake by 2036
San Andreas	4	21
Seal Cove	2	6
Hayward	22	31
Calaveras	24	3

Sources of Data: California Geological Survey, 1998; Wagner, 1990; Working Group, 2008

Landslides

There were no landslides observed affecting the site during our neighborhood reconnaissance observations. Landslide mapping in Pacifica following the 1982 storm indicates a debris slide failure occurred in the large swale above Olympian Way southeast of the site, but none within influence of the site (Howard-Donley Associates, Inc.,1982).

Site Characteristics

Surface Features

The site is bordered on the north and south by existing residences. It supports a few trees within dense brush cover. There is a line of mature trees on the northern property line. There was no observed evidence of erosion or of spring discharge.

Explorations

Both borings encountered approximately 3 ½ feet of colluvium overlying bedrock (Plate 4). The colluvium in Boring 1 was moist, medium dense, silty sand with gravel. Colluvium in Boring 2 consisted of damp, stiff, sandy clay. The underlying bedrock was very weathered, closely fractured, soft, sandstone.

There was no seepage or ground water encountered in the borings.

CONCLUSIONS

The proposed house development is feasible from a geotechnical standpoint. The proposed foundation area is underlain by competent steep, favorable, southerly dipping, sandstone bedrock below stable colluvium.

There were no geologic hazards on the site, which would constrain the proposed development. However, close proximity to the San Andreas fault will result in very strong to violent ground shaking in the event of a major earthquake on a nearby segment.

The anticipated grading plan will expose sandstone in the foundation area, which justifies application of a conventional spread footing foundation. Given the observed conditions, we anticipate that the foundations will sustain less than 1 inch of total settlement and less than ½ inch of differential settlement provided they are embedded in bedrock, as assessed by our field representative during construction. The project engineer and contractor should confirm, however, that the proposed footing foundations maintain at least 5 feet of horizontal confinement between the bottom edge of the footing and the nearest finished slope steer than 3H:1V.

RECOMMENDATIONS

Seismic Design

The proposed structures should be designed for the following seismic design criteria derived from the subsurface exploration data and the 2010 California Building Code (CBC):

- Site Location: Latitude = 37.595; Longitude = -122.513
- Site Soil Class: C
- Spectral Response Acceleration Values: Ss = 2.065; S1 = 0.986; SMs = 2.065; SM1 = 1.282; SDs = 1.377; SD1 = 0.855; Fa = 1.0; Fv = 1.3

Site Preparation, Grading and Compaction

Temporary cut slopes inclined to a maximum of ½:1 (H:V) should be capable of standing for short construction periods (i.e., 30 days). However, this consideration should be confirmed in the field by the geotechnical consultant

during rough grading. Shoring or bracing may be required if potential instability is detected during our rough grading inspections. Maintenance of a safe work area is the responsibility of the contractor. Finished slopes should be no steeper than 2H:1V in bedrock, unless otherwise assessed during grading, and 3H:1V in colluvium.

Site soil can be used for the proposed retaining wall supported, compacted level backfill against the rear of the house. Fill placement should be onto the bedrock surface free of organic material and loose soil. Fill should be placed in loose lifts no greater than 8 inches, moisture conditioned to near optimum and then compacted to at least 90 percent relative to the maximum dry density as assessed by the ASTM D1557 laboratory test procedure. The upper 18 inches of fill should be compacted to approximately 80 percent to accommodate planting.

The building site, proposed level backyard fill, and areas of new pavement should be graded to achieve positive sheet flow of runoff away from the foundations and neighboring properties, preferably to the street.

Pavements subgrade soils should be scarified, moisture conditioned to near optimum, and compacted to 90 percent of the maximum dry density (MDD) of the materials as described by the ASTM D 1557 laboratory test procedure. All structural fill should be spread onto competent, organic-free soil as assessed by the geotechnical consultant during construction, in 6- to 8-inch thick, loose lifts, moisture conditioned to wet of optimum, and compacted to at least 90 percent of MDD.

Utility Trenches

Vertical trench excavations up to 5 feet deep should be capable of standing with minimal bracing for short duration (less than 30 days). However, contractors should be alert to potential instability. Trench walls deeper than 5 feet should be cut and braced in accordance with the State of California Safety Ordinance treating excavations and trenches.

Utility trenches should be designed to prevent the transportation of water into the foundations, and slabs or pavement subgrade soils. Care should be taken to assure that uncontrolled, concentrated runoff is not conducted toward adjoining properties or existing slopes. In particular, where utilities cross foundations, trenches should be plugged with compacted clayey soil for their full depth, and for a distance of at least 5 feet on either side of the foundations.

On-site, inorganic soil may be used as utility trench backfill. Special compaction of trench backfill will be necessary under and to within 3 feet of proposed structures, concrete slabs, asphalt pavements, and engineered fill. In these areas, backfill should be conditioned to approximately 3 percent above optimum and placed in horizontal lifts, each not exceeding 4 inches in loose thickness. Each layer should then be compacted to at least 90 percent MDD. The top 2 feet of trench backfill under pavements should be non-expansive, granular soil compacted to at least 90 percent MDD.

Foundations

Footings should be designed with respect to the following geotechnical parameters:

- Allowable bearing value of 3500 pounds per square foot (psf) for dead plus live loads. Increase this value by 1/3 to account for wind and seismic loads;
- Passive equivalent fluid pressure of 500 pounds per cubic foot (pcf) beginning at the bedrock surface;
- Coefficient of friction at the base of the footing of 0.40;
- Minimum footing dimensions: 12 inches, and at least 18 inches deep below lowest adjacent grade. The actual footing depth may be controlled by the requirement to maintain a minimum horizontal confinement of 5 feet from the nearest slope face steeper than 3H:1V.

Retaining Walls

Foundation retaining walls should supported on footings as described above and designed for an active equivalent fluid pressure of 45 pcf for level backfill and 65 pcf for backfill sloping up to 2:1 (H:V). If restrained from rotation, foundation walls should be designed to resist an additional, uniform pressure of 100 psf.

The structural engineer should evaluate the requirement for seismic design of proposed walls. If required for structural design, walls should be designed for a seismic pressure equal to 15H psf, where H is the height of the retained soil. The seismic component should be considered a load acting at half the wall height. Returns at the ends of the walls should be constructed to provide adequate containment of the backdrainage system and compacted backfill.

The above wall design parameters are contingent upon the walls being constructed with a comprehensive backdrainage system. The system should consist of either a drainage mat Miradrain 5000 (or better) that drains to a

minimum 4-inch diameter, perforated SDR 35 (or better) PVC pipe as specified by the manufacturer. Alternatively, the backdrainage should consist of a 12-inch wide prism of ¾- to 1 ½-inch clean crushed rock containing a similar perforated pipe at the base sloped at least 1 percent to drain to outlet by gravity. If the drainage mat is used, it should drain to a minimum 12-inch wide prism of ¾- to 1 ½-inch clean crushed rock that extends at least 12 inches below the wall toe to mitigate potential underseepage.

If a crushed rock prism is chosen for wall backdrainage, we recommend it extend at least 12 inches below the toe of the wall, and be encased in Mirafi 140N filter fabric. Either backdrain alternative should be constructed with minimum 4-inch diameter SDR 35 cleanout risers with screw caps at bends greater than 45 degrees and at the wall ends. The risers should be connected to the subdrain perforated pipe with sweep fittings at the end and at 50-foot intervals consistently oriented in the flow direction to facilitate future inspection and maintenance.

The Miradrain mat should be cut 12 inches below the finished surface. The alternative crushed rock prism should be filled to within a foot of the finished surface, overlain with filter fabric and then backfilled with compacted soil, as assessed by our field engineer during finished grading.

To prevent accumulation of runoff and infiltration into the soil profile behind the wall, we recommend the finished backfill surface slope positively to a series of catch basins sized and located by the project engineer. Each basin should be seated in a depression to assure free entry of runoff.

Foundation retaining walls should be fully waterproofed. The City of Pacifica usually requires that the ground surface behind exterior retaining walls be surfaced with reinforced concrete to form a V-ditch. This would be a prudent consideration to assure that the slope of the surface drain remains intact over the project lifetime. Surface water should not be directed into subdrains.

Retaining walls will yield slightly during backfilling; therefore, walls should be backfilled prior to building on or adjacent to them.

Slabs-on-Grade

Slab on grade subgrade should be prepared as discussed in the *Grading* section. Proposed interior slabs should be underlain with a capillary moisture break consisting of at least 5 inches of clean, free-draining, crushed rock or gravel. An impermeable moisture vapor barrier (15 mil Stego wrap of better) should be provided between the gravel and the slab. It may be prudent to place an

additional 2 inches of clean sand over the membrane to protect it during construction.

If not constructed directly on undisturbed bedrock, we recommend that exterior slabs be constructed on at least 5 inches of Class 2 aggregate baserock compacted to at least 95 percent relative to the maximum dry density. The slab should be reinforced with at least No. 3 bars at 18-inch center-to-center orthogonal spacing to reduce cracking. The slab should be structurally separated from the footing to allow for some movement, and it should contain control joints to help control the distribution of cracking should it occur.

Pavements

If not bedrock, then the exposed pavement subgrade soils should be scarified, moisture conditioned to 3 percent above optimum, and re-compacted to an approximate density of 90 percent relative compaction. Final pavement design will be dependent upon the anticipated traffic and the materials exposed at the subgrade levels. For preliminary design purposes, parking area pavement should contain a section of 2 ½ inches of asphaltic concrete or 4 inches of reinforced concrete (as with slab on grade design above) underlain by 8 inches of Class II baserock compacted to a minimum of 95 percent MDD.

Drainage

Positive surface drainage gradients of at least 3 percent should be provided for a distance of at least 5 feet away from all structures. The driveway should drain positively to the street, away from pavement subgrade and building foundations. We recommend that the house and garage roofs be provided with gutters and downspouts. The downspouts should be connected to solid PVC pipes and these pipes should carry water to the street.

Surface drainage inlets, no less than 8 inches in diameter should be installed in exterior slabs to capture and direct runoff to the street.

If the uphill-most foundation is not a retaining wall, then we recommend that a foundation drain be installed to reduce soil moisture beneath the structure. The foundation drains should extend to a depth of at least 12 inches below the crawl space elevation, and at least 6 inches below the pavement section, if applicable. The trench should be faced with filter fabric. A minimum 4-inch diameter perforated SDR 35 drainpipe, laid holes down, should be placed at the bottom of the trench with a minimum slope of 2 percent to drain by gravity to an approved

discharge point. The trench should then be filled to within 6 inches of the surface with ¾ -to 1 ½ -inch drainrock. Place filter fabric over the top of the drainrock and fill the balance of the trench with drainrock or decorative cobbles. Sediment that accumulates on the top of the filter fabric should be cleared periodically. Alternatively, the upper 6 inches of the foundation subdrain can be capped with compacted site soil provided the finished ground surface slopes at least 3 percent away from the foundations. Areas where this is not feasible should be provided with a well-developed surface drainage basin seated in a ground depression having positive slopes to the inlet. Surface inlets should be at least 12 inches square.

The perforated drainpipe should be connected to an equivalent solid PVC pipe to carry water to an approved discharge point.

While we believe that these measures will greatly reduce soil moisture, it would be prudent to install wire-mesh reinforced, concrete ratproofing over the crawl space soils.

We recommend that cleanouts be installed in all drainage facilities at intervals of 50 feet or less and where bends of 45 degrees or greater occur.

Landscaping and Erosion Control

Planting a dense tree canopy where practical can moderate desiccation of the soil surfaces of the project area. However, to mitigate potential effects of root growth under foundations, any proposed new trees should be planted at a distance from the foundations equal to or greater than 1 ½ times the anticipated dripline of a mature tree. We suggest that you confirm this criterion with the landscape architect.

It is important to plan landscaping to reduce high-maintenance plantings adjacent to the foundations as they can promote infiltration and seepage of moisture into the foundation and crawl space soils. The landscape contractor should be made aware of the importance of these recommendations. Strict adherence is imperative.

Following construction, barren soil surfaces should be planted to reduce erosion and soil desiccation cracking.

SUPPLEMENTAL SERVICES

We recommend that we review the final foundation, grading and drainage plans for conformance with the intent of our recommendations. During construction, we should observe the rough and finished grading operations, foundation excavations prior to steel placement, and the installation of all drainage facilities prior to burial to ascertain that our recommendations are followed. Upon completion of the project, we should perform a site observation and report the results of our work in a final report. These services are outside the present scope and will be billed on a time and materials basis, in accordance with the fee schedule current at that time. These services will be performed only if we are provided with sufficient notice to perform the work. We do not accept responsibility for items that we are not notified to observe. We recommend that the Owner be responsible for notification, no less than 48 hours before the requested site visit.

INVESTIGATION LIMITATIONS

This report has been prepared in accordance with generally accepted geotechnical engineering principles and practices, and is in accordance with the standards and practices set by the geotechnical consultants in the area. This acknowledgment is in lieu of any warranties, either expressed or implied. We offer no guarantees.

Subsurface conditions could vary between those indicated by the test borings and interpreted from surface features. A representative form this office should be present to provide construction observation services, to observe the exposed geotechnical conditions, to modify recommendations, if necessary, and to ascertain that the project is constructed in accordance with the recommendations.

This report is submitted with the understanding that it is the responsibility of the Client (Owner) to ensure that the applicable provisions of the recommendations contained herein are made known to all design professionals involved with the project; that they are incorporated into the construction drawings; and that the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

If conditions different from those described in this report are encountered during construction, or if the project is revised, we should be notified immediately so that we may modify our recommendations, if warranted.

The practice of geotechnical engineering changes, and, therefore, we should be consulted to update this report if construction is not performed within 12 months.

MAINTENANCE

Periodic land maintenance will be required. Surface and subsurface drainage facilities should be checked frequently, and cleaned and maintained as necessary.

REFERENCES

California Division of Mines and Geology, 1982, Earthquake fault zones, Montara Mountain 7 ½ minute quadrangle, California: California Department of Conservation, map scale 1:24,000.

Howard-Donley Associates, Inc., 1982, Geological investigation, landslide type, distribution and mechanics details of nine representative failures, January 1982 rainstorms, City of Pacifica, California: Geotechnical consultant's report to the City of Pacifica, Map Sheet 4B, scale 1inch=400 feet.

Nilsen, T.H., 1981, Geology of the Santa Cruz Mountains, California: *in* Frizzell, Virgil (ed.), Upper Cretaceous and Paleocene turbidites, central California coast: Pacific Section of the Society of Economic Paleontologists and Mineralogists, Los Angeles, California, pgs. 5-12.

Plafker, G., and Galloway, J. P., 1989, Lessons learned from the Loma Prieta California earthquake of October 17, 1989: U.S. Geological Survey Circular 1045, 48 pgs.

Petersen, M. and others, 1999, Seismic shaking maps of California: California Division of Mines and Geology Map 48.

Wagner, D.L., Bortugno, E.J. and McJunkin, R.D., 1991, Geologic map of the San Francisco – San Jose quadrangle, California Division of Mines and Geology, map scale 1:250,000.

Working Group on California earthquake probabilities, 2008, The uniform California earthquake rupture forecast, version 2 (UCERF 2): U.S. Geological Survey Open File Report 2007-1437.

The following photos and plates are attached and complete this report:

Photo 1 – Northerly view along site frontage. (from Google Earth, 2013)
Photo 2 – Northwesterly view of site...

Plate 1 – Vicinity Map
Plate 2 – Site Plan
Plate 3 – Geologic Map
Plate 4 – Logs of Borings 1 and 2
Plate 5 – Key to Borings
Plate 6 – Rock Hardness Criteria
Plate 7 – Plasticity Chart
Plate 8 – Generalized Cross Section A-A'

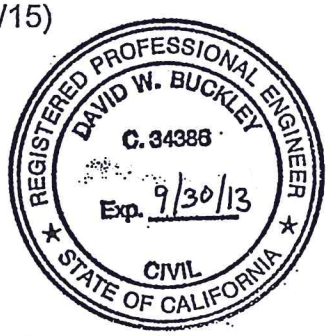
We trust that this provides you with the information you require at this time. If you have any questions, please call.

Very truly yours,

Earth Investigations Consultants

Joel E. Baldwin, II
Engineering Geologist 1132 (Renewal date 2/28/15)

David W. Buckley
Civil Engineer 34386 (Renewal date 9/30/13)



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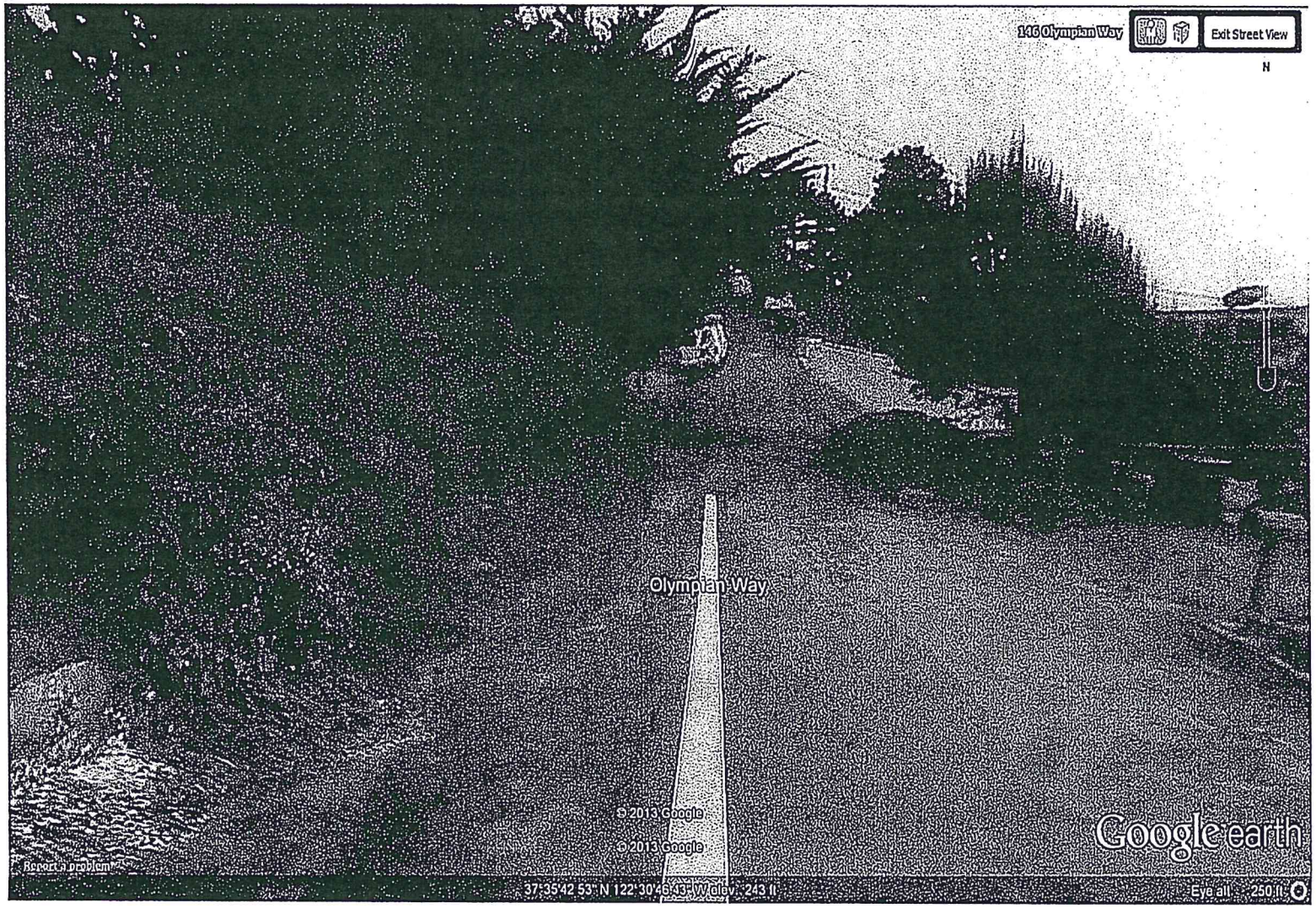


Photo 1 - Northerly view along site frontage.

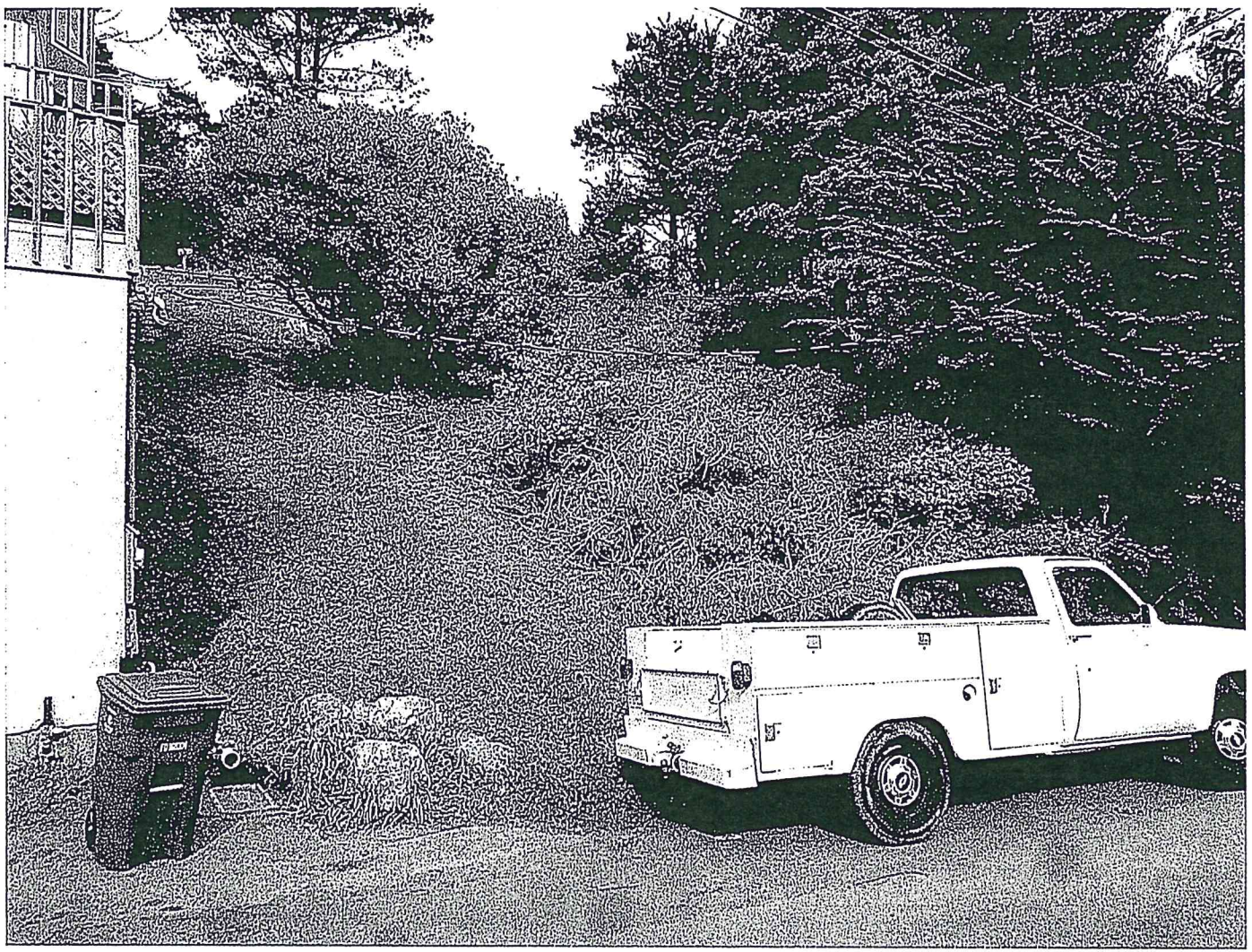
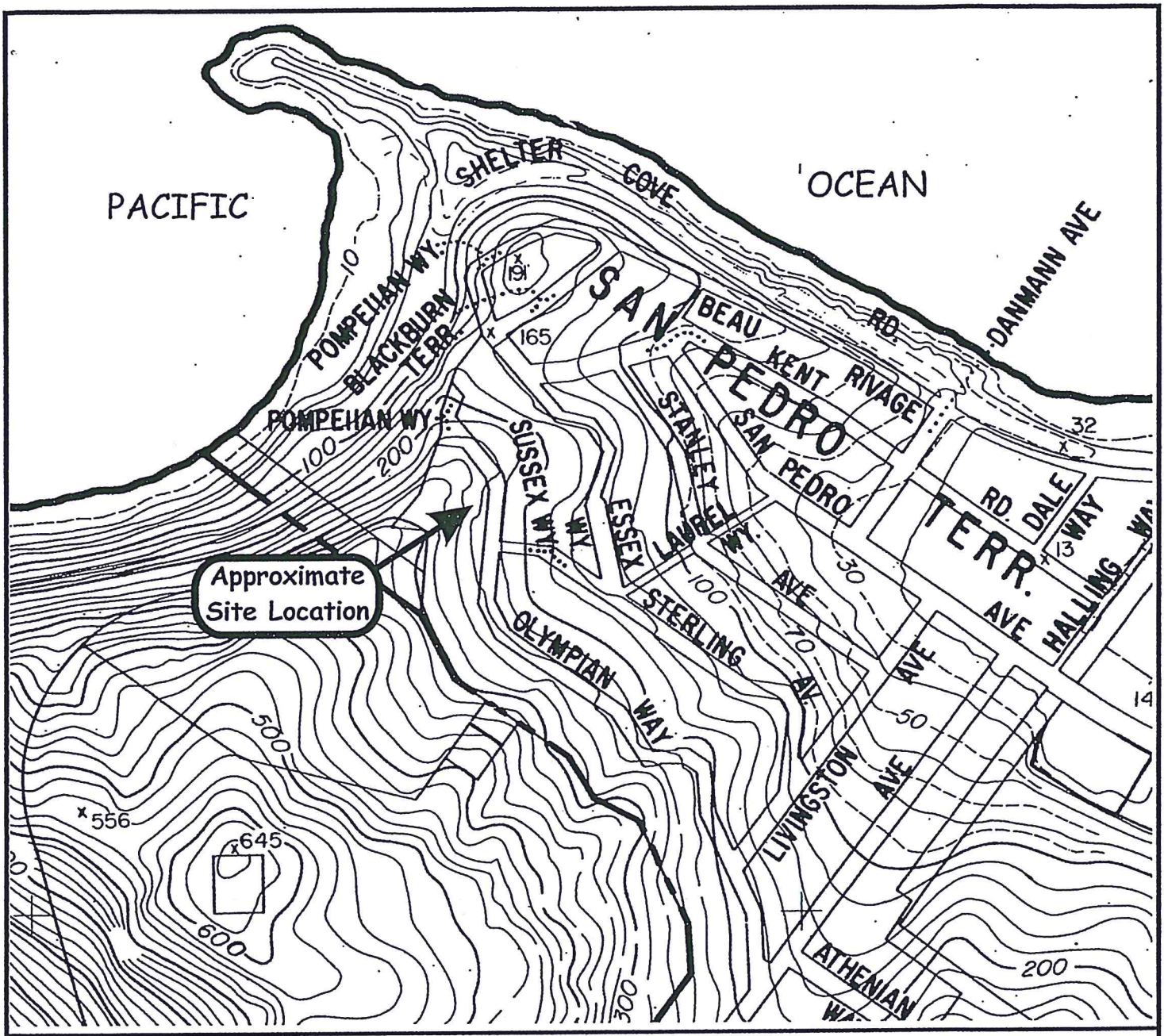


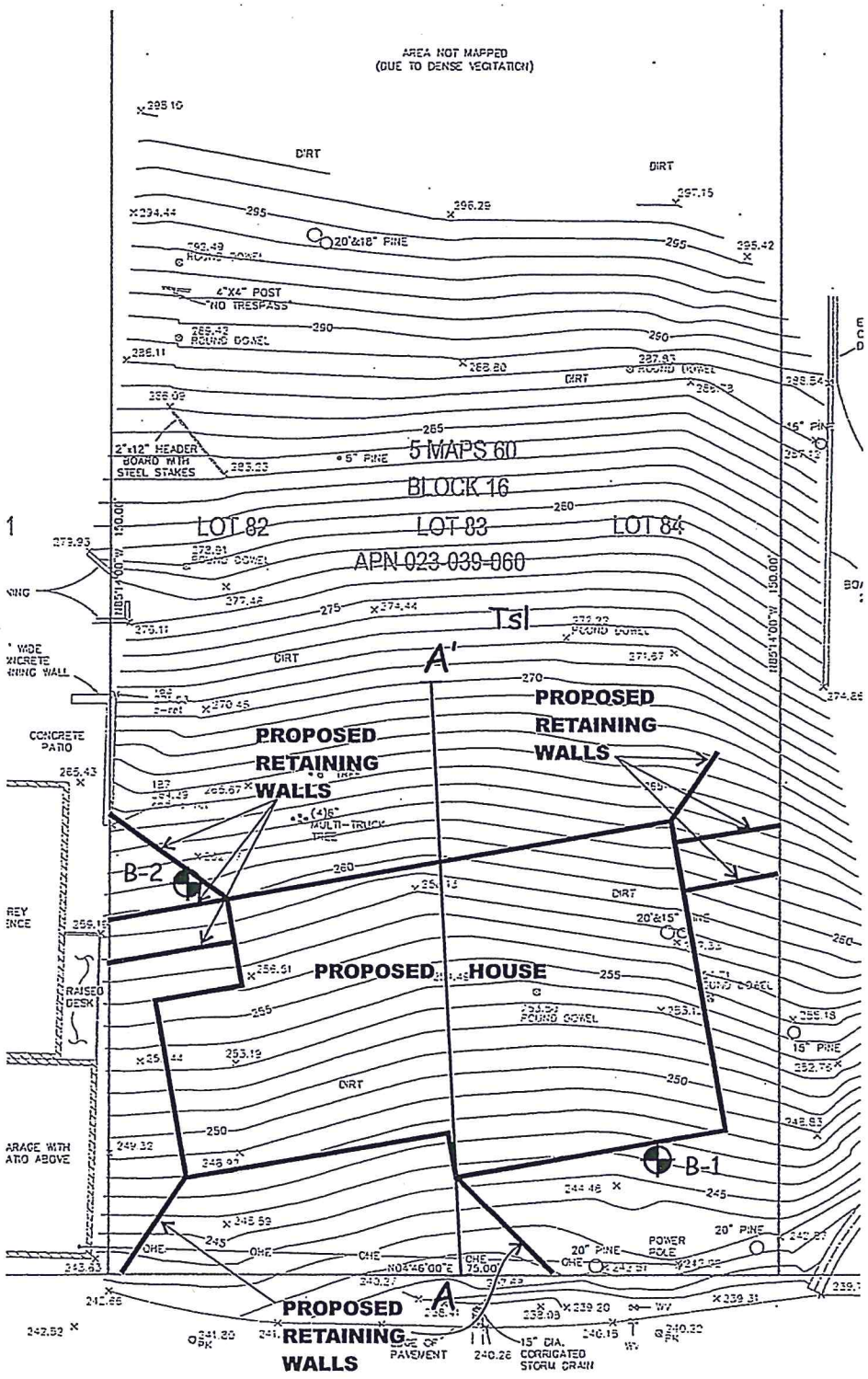
Photo 2 - Northwesterly view of site. Existing residence at 150 Olympian Way at far left of view, and residence at 124 Olympian Way behind cypress trees at right of view.



San Mateo County Topographic Map 6A (1/1/96)

Contour interval = 20'

Earth Investigations Consultants	Job No. 2496.01.00 Date 4/1/13	VICINITY MAP APN 023-039-060, Olympian Way Pacifica, California	Plate 1



EXPLANATION

Approximate boring location

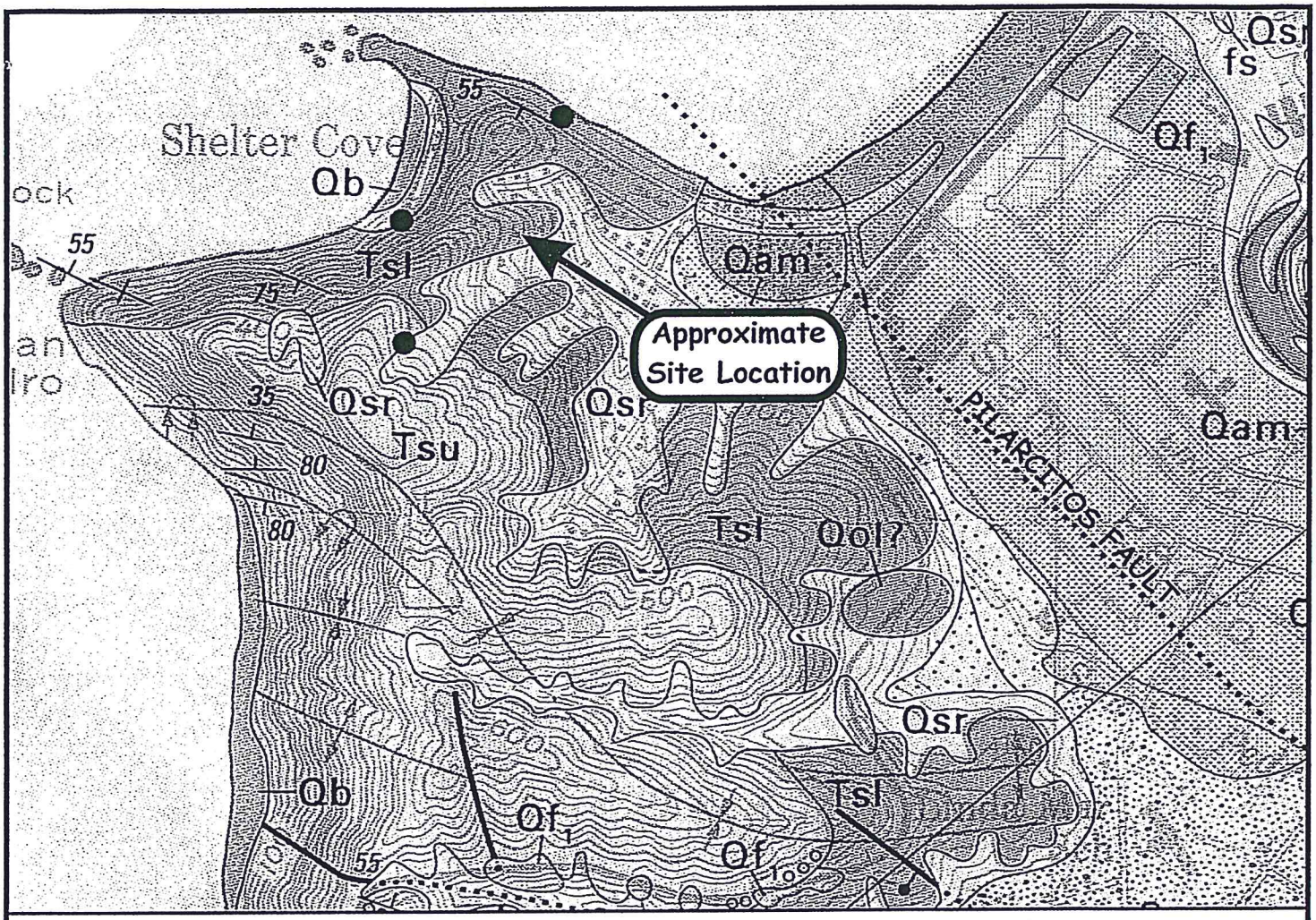
A — A' Line of cross section A-A'

Tsl Predominantly thin-bedded sandstone and shale (lower part)

0 ——— 20 ft.
Scale

Base map from Savior P. Micallef (2/8/13)

Earth Investigations Consultants	**Job No.** 2496.01.00 **Date** 4/1/13	**SITE PLAN** APN 023-039-060, Olympian Way Pacifica, California	**Plate** 2



EXPLANATION

Qf	Artificial fill
Qb	Beach deposits
Qam	Medium-grained alluvium
Qsr	Slope wash, ravine fill and colluvium
Tsu	Predominantly sandstone and conglomerate (upper part)
Tsl	Predominantly thin-bedded sandstone and shale (lower part)

Geologic contact

Fault trace

75 Bedding attitude

Shallow landslide, commonly in surficial material- Generally less than 10 ft. thick and less than 100 ft. in diameter. Visible on 1968 aerial photos. Many more exist than are shown

Anticline, Overturned anticline

Syncline, Overturned syncline

N

0 1000 ft.
Scale

Map from Earl H. Pampeyan, 1994

Earth Investigations Consultants	**Job No.** 2496.01.00 **Date** 4/1/13	**GEOLOGIC MAP** APN 023-039-060, Olympian Way Pacifica, California	**Plate** 3

BORING 1

Equipment Portable Percussion Rig

Elevation + ~246' Date 3/15/2013

Dry Density (pcf) *	Moisture Content (%)	Pocket Pen (tsf)	Depth (ft.)	Penetration Rate (sec./ft.)	Sample	USCS	
			0	300	Continuous	SM	Dark yellowish brown Silty SAND with Gravel, moist, medium dense
94.1	9.6						
			5			ROCK	Yellowish brown and strong brown SANDSTONE, very weathered, closely fractured, soft (BEDROCK)
106.1	15.4						Terminated at 6'
			10				

BORING 2

Elevation + ~261' Date 3/15/2013

Dry Density (pcf) *	Moisture Content (%)	Pocket Pen (tsf)	Depth (ft.)	Sample	USCS	
			0	Continuous	CL	Dark yellowish brown Sandy CLAY, damp, stiff
110.5	18.1	3.0				
			5		ROCK	Yellowish brown and strong brown SANDSTONE, very weathered, closely fractured, soft (BEDROCK)
111.8	13.1					Terminated at 5'
			10			

EXPLANATION

+ Elevation from Plate 2 - Site Plan

* Disturbed sample

Earth Investigations Consultants	Job No. 2496.01.00 Date 4/1/13	LOGS OF BORINGS APN 023-039-060, Olympian Way Pacifica, California	Plate 4

Primary Divisions			GROUP SYMBOL	Secondary Divisions
COARSE GRAINED SOILS — MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVELS — MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS (LESS THAN 5% FINES)	GW	Well graded gravels, gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravels 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.
	SANDS — MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS (LESS THAN 5% FINES)	SW	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES	SM	Silty sands, sand-silt mixtures, non-plastic fines.
			SC	Clayey sands, sand-clay mixtures, plastic fines.
FINE GRAINED SOILS — MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS — LIQUID LIMIT IS LESS THAN 50%		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS — LIQUID LIMIT IS GREATER THAN 50%		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic.
			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.

Definition of Terms

U.S. Standard Series Sieve				Clear Square Sieve Openings			
200	40	10	4	3/4"	3"	12"	
SILTS AND CLAY	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

Grain Sizes

Unified Soil Classification System (ASTM D-2487)

SAND AND GRAVELS	PENETRATION RATE*
VERY LOOSE	0 - 7
LOOSE	7 - 18
MEDIUM DENSE	18 - 53
DENSE	53 - 88
VERY DENSE	OVER 88

Relative Density

SILTS AND CLAYS	STRENGTH**	PENETRATION RATE*
VERY SOFT	0 - 1/4	0 - 6
SOFT	1/4 - 1/2	6 - 11
FIRM	1/2 - 1	11 - 23
STIFF	1 - 2	23 - 47
VERY STIFF	2 - 4	47 - 94
HARD	OVER 4	OVER 94

Consistency

* Seconds per foot, based on a portable percussion rig advancing a 1 1/2-inch diameter split-spoon sampler with a force of 35 ft. lb. at a rate of 1270 blows per minute.

** Unconfined compressive strength in tons/sq. ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D-1586), pocket penetrometer, torvane, or visual observation.

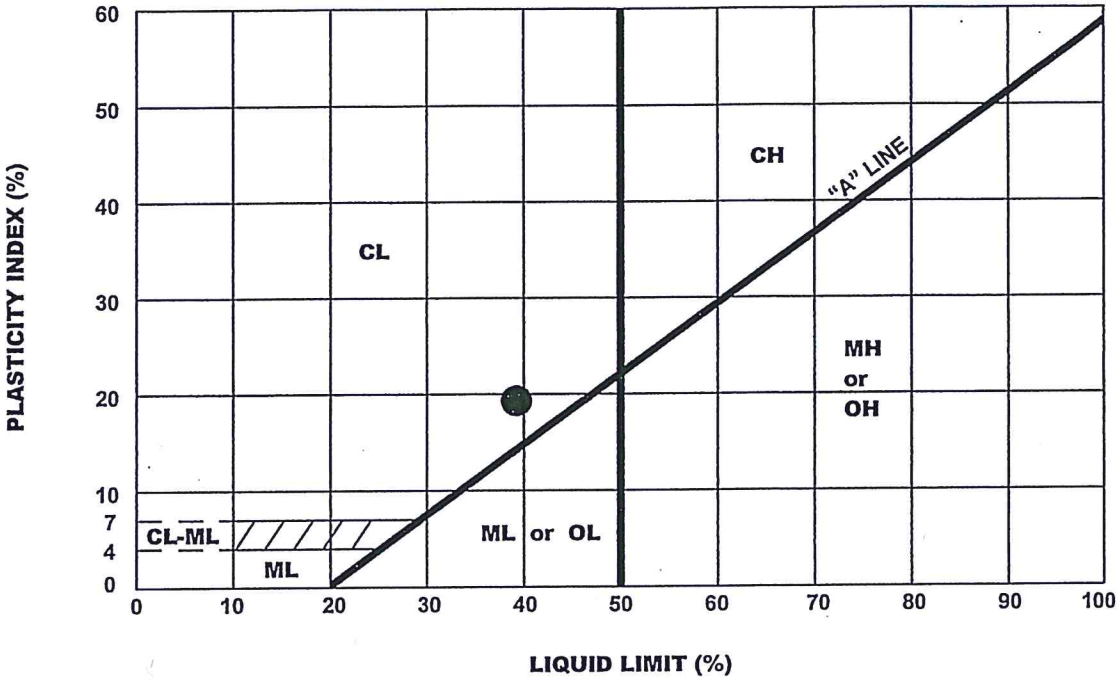
Earth Investigations Consultants	**Job No.** 2496.01.00 **Date** 4/1/13	**KEY TO BORINGS** APN 023-039-060, Olympian Way Pacifica, California	**Plate** 5

ROCK HARDNESS CRITERIA

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

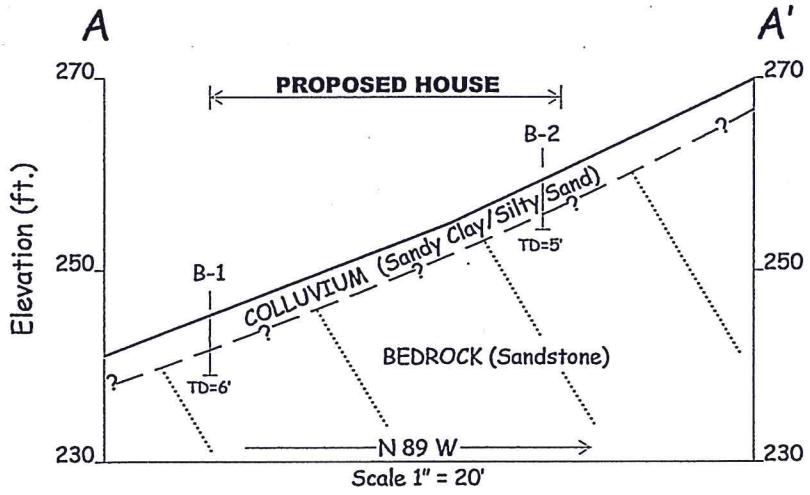
Subsurface Manual for Design and Construction of Foundations of Buildings, 1976
Published by American Society of Civil Engineers.

Earth Investigations Consultants	**Job No.** 2496.01.00 **Date** 4/1/13	**ROCK HARDNESS CRITERIA** APN 023-039-060, Olympian Way Pacifica, California	**Plate** 6



KEY SYMBOL	BORING NO.	SAMPLE DEPTH (feet)	NATURAL WATER CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	PASSING NO. 200 SIEVE (%)	LIQUIDITY INDEX	USCS
●	B-2	3'	23	39	19	83	0.16	CL

Earth Investigations Consultants	Job No. 2496.01.00 Date 4/1/13	PLASTICITY CHART APN 023-039-060, Olympian Way Pacifica, California	Plate 7



Earth Investigations Consultants	**Job No.** 2496.01.00 **Date** 4/1/13	**GENERALIZED CROSS SECTION A-A'** APN 023-039-060, Olympian Way Pacifica, California	**Plate** 8

GreenPoint Rated Checklist: Single Family

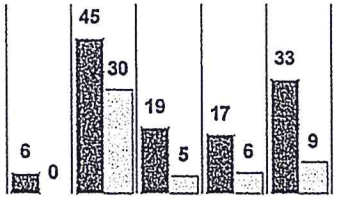
The GreenPoint Rated checklist tracks green features incorporated into the home. **A home is only GreenPoint Rated if all features are verified by a Certified GreenPoint Rater through Build It Green.** GreenPoint Rated is provided as a public service by Build It Green, a professional non-profit whose mission is to promote healthy, energy and resource efficient buildings in California.
The minimum requirements of GreenPoint Rated are: verification of 50 or more points; Earn the following minimum points per category: Energy (30), Indoor Air Quality/Health (5), Resources (6), and Water (9); and meet the prerequisites A.2.a, H10a., J.2., N.1, and Q0.

This checklist accommodates the verification of mandatory CALGreen measures but does not signify compliance unless accepted by enforcing agency. All CALGreen measures within the checklist must be selected as "Yes" or "n/a" for compliance with GreenPoint Rated. Build It Green is not a code enforcement agency.

The criteria for the green building practices listed below are described in the GreenPoint Rated Single Family Rating Manual. For more information please visit **www.builditgreen.org/greenpointrated**

GreenPointRATED
A PROGRAM OF BUILD IT GREEN

Total Points Targeted: **120**



Single Family New Home 4.2 / 2008 Title 24

Enter Project Name TBD Olympian Way		Points Achieved	Community	Energy	IAQ/Health	Resources	Water	Notes
A. SITE			Possible Points					
	1. Protect Topsoil and Minimize Disruption of Existing Plants & Trees							
Yes	a. Protect Topsoil and Reuse after Construction	2	1				1	
Yes	b. Limit and Delineate Construction Footprint for Maximum Protection	1					1	
	2. Divert/Recycle Job Site Construction Waste (Including Green Waste and Existing Structures)							
Yes	a. Required: Divert 50% (by weight) of All Construction and Demolition Waste (Recycling or Reuse) (CALGreen Code)	Y				R		
No	b. Divert 100% of Asphalt and Concrete and 65% (by weight) of Remaining Materials	0				2		
No	c. Divert 100% of Asphalt and Concrete and 80% (by weight) of Remaining Materials	0				2		
	3. Use Recycled Content Aggregate (Minimum 25%)							
No	a. Walkway and Driveway Base	0				1		
No	b. Roadway Base	0				1		
No	**4. Cool Site: Reduce Heat Island Effect On Site**	0	1					
	5. Construction Environmental Quality Management Plan, Duct Sealing, and Pre-Occupancy Flush-Out [*This credit is a requirement associated with J4: EPA IAP]							
Yes	a. Duct openings and other related air distribution component openings shall be covered during construction. (CALGreen code if applicable)	1			1			
No	b. Full environmental quality management plan and pre-occupancy flush out is conducted (Prerequisite is A5a)	0			1			
	Total Points Available in Site = 12	4						

ATTACHMENT e

Enter Project Name: TBD Olympian Way		Points Achieved	Community	Energy	IAQ/Health	Resources	Water	Notes
B. FOUNDATION			Possible Points					
No	**1. Replace Portland Cement in Concrete with Recycled Fly Ash and/or Slag (Minimum 20%)**	0				2		
No	**2. Use Frost-Protected Shallow Foundation in Cold Areas (CEC Climate Zone 16)**	0				2		
No	**3. Use Radon Resistant Construction** [*This credit is a requirement associated with J4: EPA IAP]	0			2			
Yes	**4. Install a Foundation Drainage System** [*This credit is a requirement associated with J4: EPA IAP]	2				2		
Yes	**5. Moisture Controlled Crawlspace** [*This credit is a requirement associated with J4: EPA IAP]	2			2			
	6. Design and Build Structural Pest Controls							
No	a. Install Termite Shields & Separate All Exterior Wood-to-Concrete Connections	0				1		
Yes	b. All Plants Have Trunk, Base, or Stem Located At Least 36 Inches from Foundation	1				1		
	Total Points Available in Foundation = 12	**5**						
C. LANDSCAPE			Possible Points					
20%	*Enter in the % of landscape area. (Projects with less than 15% of the total site area (i.e. total lot size) as landscape area are capped at 6 points for the following measures: C1 through C7 and C9 through C11.*							
Yes	**1. Group Plants by Water Needs (Hydrozoning)**	2					2	
No	**2. Mulch All Planting Beds to the Greater of 3 Inches or Local Water Ordinance Requirement**	0					2	
	3. Construct Resource-Efficient Landscapes							
Yes	a. No Invasive Species Listed by Cal-IPC Are Planted	1					1	
Yes	b. No Plant Species Will Require Shearing	1				1		
Yes	c. 75% of Plants Are Drought Tolerant, California Natives or Mediterranean Species or Other Appropriate Species	3					3	
	4. Minimize Turf in Landscape Installed by Builder							
Yes	a. Turf Shall Not Be Installed on Slopes Exceeding 10% and No Overhead Sprinklers Installed in Areas Less than 8 Feet Wide	2					2	
≤25%	b. Turf is Small Percentage of Landscaped Area (2 Points for ≤25%, 4 Points for ≤10%)	2					4	
Yes	**5. Plant Shade Trees**	3	1	1			1	
	6. Install High-Efficiency Irrigation Systems							
Yes	a. System Uses Only Low-Flow Drip, Bubblers, or Sprinklers	2					2	
Yes	b. System Has Smart (Weather-Based) Controller (CALGreen code if applicable)	3					3	
No	**7. Incorporate Two Inches of Compost in the Top 6 to 12 Inches of Soil**	0					3	
	8. Rain Water Harvesting System							
No	a. Cistern(s) is Less Than 750 Gallons	0					1	
No	b. Cistern(s) is 750 to 2,500 Gallons	0					1	
No	c. Cistern(s) is Greater Than 2,500 Gallons	0					1	
No	**9. Irrigation System Uses Recycled Wastewater**	0					1	
No	**10. Submetering for Landscape Irrigation**	0					1	

Enter Project Name TBD Olympian Way		Points Achieved	Community	Energy	IAQ/Health	Resources	Water	Notes
	11. Design Landscape to Meet Water Budget							
No	a. Install Irrigation System That Will Be Operated at ≤70% Reference ET (Prerequisites for Credit are C1. and C2.)	0					1	
No	b. Install Irrigation System That Will Be Operated at ≤50% Reference ET (Prerequisites for Credit are C1, C2, and C6a or C6b.)	0					1	
Yes	**12. Use Environmentally Preferable Materials for 70% of Non-Plant Landscape Elements and Fencing** A) FSC-Certified Wood, B) Reclaimed, C) Rapidly Renewable, D) Recycled-Content E) Finger-Jointed or F) Local	1				1		
Yes	**13. Reduce Light Pollution by Shielding Fixtures and Directing Light Downward**	1	1					
	Total Points Available in Landscape = 35	21						
D. STRUCTURAL FRAME & BUILDING ENVELOPE			Possible Points					
	1. Apply Optimal Value Engineering							
No	a. Place Joists, Rafters and Studs at 24-Inch On Center	0				3		
Yes	b. Door and Window Headers are Sized for Load	1				1		
Yes	c. Use Only Cripple Studs Required for Load	1				1		
	2. Construction Material Efficiencies							
No	a. Wall and Floor Assemblies (Excluding Solid Wall Assemblies) are Delivered Panelized from Supplier (Minimum of 80% Square Feet)	0				2		
No	b. Modular Components Are Delivered Assembled to the Project (Minimum 25%)	0				6		
	3. Use Engineered Lumber							
Yes	a. Engineered Beams and Headers	1				1		
Yes	b. Wood I-Joists or Web Trusses for Floors	1				1		
No	c. Engineered Lumber for Roof Rafters	0				1		
No	d. Engineered or Finger-Jointed Studs for Vertical Applications	0				1		
No	e. Oriented Strand Board for Subfloor	0				1		
No	f. Oriented Strand Board for Wall and Roof Sheathing	0				1		
No	**4. Insulated Headers**	0		1				
	5. Use FSC-Certified Wood							
≥65%	a. Dimensional Lumber, Studs and Timber (Minimum 40%)	4				6		
No	b. Panel Products (Minimum 40%)	0				3		
	6. Use Solid Wall Systems (Includes SIPS, ICFs, & Any Non-Stick Frame Assembly)							
No	a. Floors	0				2		
No	b. Walls	0				2		
No	c. Roofs	0				1		
Yes	**7. Energy Heels on Roof Trusses** (75% of Attic Insulation Height at Outside Edge of Exterior Wall)	1		1				
	8. Install Overhangs and Gutters							
No	a. Minimum 16-Inch Overhangs and Gutters	0				1		
TBD	b. Minimum 24-Inch Overhangs and Gutters	0		1				

Enter Project Name TBD Olympian Way		Points Achieved	Community	Energy	IAQ/Health	Resources	Water	Notes
	9. Reduce Pollution Entering the Home from the Garage [*This credit is a requirement associated with J4: EPA IAP]							
No	a. Install Garage Exhaust Fan OR Build a Detached Garage	0			1			
No	b. Tightly Seal the Air Barrier between Garage and Living Area (Performance Test Required)	0			1			
	Total Points Available in Structural Frame and Building Envelope = 39	9						
E. EXTERIOR			Possible Points					
No	**1. Use Environmentally Preferable Decking**	0				2		
No	**2. Flashing Installation Techniques Specified and Third-Party Verified** [*This credit is a requirement associated with J4: EPA IAP]	0				1		
No	**3. Install a Rain Screen Wall System**	0				2		
Yes	**4. Use Durable and Non-Combustible Siding Materials**	1				1		
Yes	**5. Use Durable and Fire Resistant Roofing Materials or Assembly**	2				2		
	Total Points Available in Exterior = 8	3						
F. INSULATION			Possible Points					
	1. Install Insulation with 75% Recycled Content							
No	a. Walls	0				1		
No	b. Ceilings	0				1		
No	c. Floors	0				1		
	Total Points Available in Insulation = 3	0						
G. PLUMBING			Possible Points					
	1. Distribute Domestic Hot Water Efficiently (Max. 5 points, G1a. is a Prerequisite for G1b-e)							
Yes	a. Insulate All Hot Water Pipes [*This credit is a requirement associated with J4: EPA IAP]	2		1			1	
No	b. Use Engineered Parallel Plumbing	0					1	
No	c. Use Engineered Parallel Plumbing with Demand Controlled Circulation Loop(s)	0					1	
No	d. Use Traditional Trunk, Branch and Twig Plumbing with Demand Controlled Circulation Loop(s)	0		1			2	
No	e. Use Central Core Plumbing	0		1		1	1	
	2. Water Efficient Fixtures							
Yes	a. High Efficiency Showerheads ≤2.0 Gallons Per Minute (gpm) at 80 psi. (Multiple showerheads shall not exceed maximum flow rates) (CALGreen code if applicable)	3					3	
Yes	b. High Efficiency Bathroom Faucets ≤ 1.5 gpm at 60psi (CALGreen code)	1					1	
Yes	c. High Efficiency Kitchen and Utility Faucets ≤1.8 gpm (CALGreen code if applicable)	1					1	
Yes	**3. Install Only High Efficiency Toilets (Dual-Flush or ≤1.28 Gallons Per Flush (gpf)) (CALGreen code if applicable)**	2					2	
	Total Points Available in Plumbing = 12	9						
H. HEATING, VENTILATION & AIR CONDITIONING			Possible Points					
	1. Properly Design HVAC System and Perform Diagnostic Testing							
Yes	a. Design and Install HVAC System to ACCA Manual J, D, and S Recommendations (CALGreen code if applicable) [*This credit is a requirement associated with J4: EPA IAP]	4		4				

Enter Project Name: TBD Olympian Way		Points Achieved	Community	Energy	IAQ/Health	Resources	Water	Notes
No	b. Test Total Supply Air Flow Rates [*This credit is a requirement associated with J4: EPA IAP]	0		1				
No	c. Third Party Testing of Mechanical Ventilation Rates for IAQ (meet ASHRAE 62.2)	0		1				
	2. Install Sealed Combustion Units [*This credit is a requirement associated with J4: EPA IAP]							
Yes	a. Furnaces	2			2			
Yes	b. Water Heaters	2			2			
No	**3. Install High Performing Zoned Hydronic Radiant Heating**	0		1	1			
No	**4. Install High Efficiency Air Conditioning with Environmentally Preferable Refrigerants**	0	1					
	5. Design and Install Effective Ductwork							
Yes	a. Install HVAC Unit and Ductwork within Conditioned Space	1		1				
Yes	b. Use Duct Mastic on All Duct Joints and Seams [*This credit is a requirement associated with J4: EPA IAP]	1		1				
No	c. Pressure Relieve the Ductwork System [*This credit is a requirement associated with J4: EPA IAP]	0		1				
Yes	**6. Install High Efficiency HVAC Filter (MERV 6+)** [*This credit is a requirement associated with J4: EPA IAP]	1			1			
Yes	**7. No Fireplace OR Install Sealed Gas Fireplace(s) with Efficiency Rating >60% using CSA Standards** [*This credit is a requirement associated with J4: EPA IAP]	1			1			
Yes	**8. Install ENERGY STAR Bathroom Fans on Timer or Humidistat (CALGreen code if applicable)**	1			1			
	9. Install Mechanical Ventilation System for Cooling (Max. 4 Points)							
Yes	a. Install ENERGY STAR Ceiling Fans & Light Kits in Living Areas & All Bedrooms	1		1				
Yes	b. Install Whole House Fan (Credit Not Available if H9c Chosen) (CALGreen code if applicable)	1		1				
No	c. Automatically Controlled Integrated System with Variable Speed Control	0		3				
	10. Advanced Mechanical Ventilation for IAQ							
Yes	a. *Required:* Compliance with ASHRAE 62.2 Mechanical Ventilation Standards (as adopted in Title 24 Part 6) [*This credit is a requirement associated with J4: EPA IAP]	Y			R			
No	b. Advanced Ventilation Practices (Continuous Operation, Sone Limit, Minimum Efficiency, Minimum Ventilation Rate, Homeowner Instructions)	0			1			
No	c. Outdoor Air Ducted to Bedroom and Living Areas of Home	0			2			
Yes	**11. Install Carbon Monoxide Alarm(s)** (or No Combustion Appliances in Living Space and No Attached Garage) [*This credit is a requirement associated with J4: EPA IAP]	1			1			
	Total Points Available in Heating, Ventilation and Air Conditioning = 27	16						
I. RENEWABLE ENERGY			Possible Points					
No	**1. Pre-Plumb for Solar Water Heating**	0				1		
No	**2. Install Wiring Conduit for Future Photovoltaic Installation & Provide 200 ft^2 of South-Facing Roof**	0				1		

Enter Project Name: TBD Olympian Way		Points Achieved	Community	Energy	IAQ/Health	Resources	Water	Notes
0.0%	**3. Offset Energy Consumption with Onsite Renewable Generation (Solar PV, Solar Thermal, Wind)** *Enter % total energy consumption offset, 1 point per 4% offset*	0		25				
	Total Available Points in Renewable Energy = 27	0						
J. BUILDING PERFORMANCE				Possible Points				
	1. Building Envelope Diagnostic Evaluations							
No	a. Verify Quality of Insulation Installation & Thermal Bypass Checklist before Drywall [*This credit is a requirement associated with J4: EPA IAP]	0		1				
No	b. House Passes Blower Door Test [*This credit is a requirement associated with J4: EPA IAP]	0		1				
No	c. Blower Door Results are Max 2.5 ACH_{50} for Unbalanced Systems (Supply or Exhaust) or Max 1.0 ACH_{50} for Balanced Systems (2 Total Points for J1b. and J1c.)	0		1				
No	d. House Passes Combustion Safety Backdraft Test	0			1			
15%	**2. *Required:* Building Performance Exceeds Title 24 (Minimum 15%)** *(Enter the Percent Better Than Title 24, Points for Every 1% Better Than Title 24)*	30		≥30				
No	**3. Design and Build Near Zero Energy Homes** *(Enter number of points, minimum of 2 and maximum of 6 points)*	0		6				
No	**4. Obtain EPA Indoor airPlus Certification** *(Total 42 points, not including Title 24 performance; read comment)*	0			2			
No	**5. Title 24 Prepared and Signed by a CABEC Certified Energy Plans Examiner (CEPE)**	0		1				
	6. Participation in Utility Program with Third Party Plan Review							
No	a. Energy Efficiency Program [*This credit is a requirement associated with J4: EPA IAP]	0		1				
No	b. Renewable Energy Program with Min. 30% Better Than Title 24 (High Performing Home)	0		1				
	Total Available Points in Building Performance = 45+	30						
K. FINISHES				Possible Points				
Yes	**1. Design Entryways to Reduce Tracked-In Contaminants**	1			1			
	2. Use Low-VOC or Zero-VOC Paint (Maximum 3 Points)							
Yes	a. Low-VOC Interior Wall/Ceiling Paints (CALGreen code if applicable) (<50 Grams Per Liter (gpl) VOCs Regardless of Sheen) [*This credit is a requirement associated with J4: EPA IAP]	1			1			
Yes	b. Zero-VOC: Interior Wall/Ceiling Paints (<5 gpl VOCs Regardless of Sheen)	2			2			
Yes	**3. Use Low-VOC Coatings that Meet SCAQMD Rule 1113 (CALGreen code if applicable) [*This credit is a requirement associated with J4: EPA IAP]**	2			2			
Yes	**4. Use Low-VOC Caulks, Construction Adhesives and Sealants that Meet SCAQMD Rule 1168 (CALGreen code if applicable)**	2			2			
No	**5. Use Recycled-Content Paint**	0				1		

Enter Project Name TBD Olympian Way		Points Achieved	Community	Energy	IAQ/Health	Resources	Water	Notes
	6. Use Environmentally Preferable Materials for Interior Finish A) FSC-Certified Wood, B) Reclaimed, C) Rapidly Renewable, D) Recycled-Content or E) Finger-Jointed F) Local							
No	a. Cabinets (50% Minimum)	0				3		
No	b. Interior Trim (50% Minimum)	0				2		
No	c. Shelving (50% Minimum)	0				2		
No	d. Doors (50% Minimum)	0				2		
No	e. Countertops (50% Minimum)	0				2		
Yes	**7. Reduce Formaldehyde in Interior Finish – Meet Current CARB Airborne Toxic Control Measure (ATCM) for Composite Wood Formaldehyde Limits by Mandatory Compliance Dates (CALGreen code if applicable)** [*This credit is a requirement associated with J4: EPA IAP]	Y			0			
	8. Reduce Formaldehyde in Interior Finish - Exceed Current CARB ATCM for Composite Wood Formaldehyde Limits Prior to Mandatory Compliance Dates							
No	a. Doors (90% Minimum)	0			1			
No	b. Cabinets & Countertops (90% Minimum)	0			2			
No	c. Interior Trim and Shelving (90% Minimum)	0			1			
No	**9. After Installation of Finishes, Test of Indoor Air Shows Formaldehyde Level <27ppb**	0			3			
	Total Available Points in Finishes = 27	8						
L. FLOORING			Possible Points					
No	**1. Use Environmentally Preferable Flooring (Minimum 15% Floor Area)** A) FSC-Certified Wood, B) Reclaimed or Refinished, C) Rapidly Renewable, D) Recycled-Content, E) Exposed Concrete, F) Local. *Flooring Adhesives Must Meet SCAQMD Rule 1168 for VOCs.*	0				4		
No	**2. Thermal Mass Floors (Minimum 50%)**	0		1				
No	**3. Low Emitting Flooring (Section 01350, CRI Green Label Plus, Floorscore** [*This credit is a requirement associated with J4: EPA IAP]	0			3			
Yes	**4. All carpet and 50% of Resilient Flooring is low emitting. (CALGreen code if applicable)**	Y						
	Total Available Points in Flooring = 8	0						
M. APPLIANCES AND LIGHTING			Possible Points					
Yes	**1. Install ENERGY STAR Dishwasher (Must Meet Current Specifications)**	2		1			1	
	2. Install ENERGY STAR Clothes Washer							
Yes	a. Meets ENERGY STAR and CEE Tier 2 Requirements (Modified Energy Factor 2.0, Water Factor 6.0 or less)	3		1			2	
Yes	b. Meets ENERGY STAR and CEE Tier 3 Requirements (Modified Energy Factor 2.2, Water Factor 4.5 or less)	2					2	
	3. Install ENERGY STAR Refrigerator							
Yes	a. ENERGY STAR Qualified & < 25 Cubic Feet Capacity	1		1				

Enter Project Name TBD Olympian Way		Points Achieved	Community	Energy	IAQ/Health	Resources	Water	Notes
Yes	b. ENERGY STAR Qualified & < 20 Cubic Feet Capacity	1		1				
	4. Install Built-In Recycling Center or Composting Center							
No	a. Built-In Recycling Center	0				1		
No	b. Built-In Composting Center	0				1		
	5. Install High-Efficacy Lighting and Design Lighting System							
No	a. Install High-Efficacy Lighting	0		1				
No	b. Install a Lighting System to IESNA Footcandle Standards or Hire Lighting Consultant	0		1				
	Total Available Points in Appliances and Lighting = 13	9						
N. OTHER			Possible Points					
Yes	**1. *Required:* Incorporate GreenPoint Rated Checklist in Blueprints** [*This credit is a requirement associated with J4: EPA IAP]	Y				R		
No	**2. Pre-Construction Kick-Off Meeting with Rater and Subs**	0	1					
No	**3. Homebuilder's Management Staff are Certified Green Building Professionals**	0	1					
	4. Develop Homeowner Education							
N/A	a. Develop Homeowner Manual of Green Features/Benefits (CALGreen code if applicable) [*This credit is a requirement associated with J4: EPA IAP]	N/A		1			1	
No	b. Conduct Educational Walkthroughs (Prerequisite is N4a) [*This credit is a requirement associated with J4: EPA IAP]	0			1			
No	**5. Install a Home System Monitor OR Participate in a Time-of-Use Pricing Program**	0		1				
	Total Available Points in Other = 6	0						
O. COMMUNITY DESIGN & PLANNING			Possible Points					
	1. Develop Infill Sites							
Yes	a. Project is an Urban Infill Development	2	1			1		
No	b. Home(s)/Development is Located within 1/2 Mile of a Major Transit Stop	0	2					
No	**2. Build on Designated Brownfield Site**	0	3					
	3. Cluster Homes & Keep Size in Check							
No	a. Cluster Homes for Land Preservation	0	1			1		
No	b. Conserve Resources by Increasing Density (10 Units per Acre or Greater)	0	2			2		
	c. Home Size Efficiency	0				9		
	i. Enter Average Unit Square Footage							
	ii. Enter Average Number of Bedrooms/Unit							
	4. Design for Walking & Bicycling							
	a. Site Has Pedestrian Access Within 1/2 Mile of Community Services: TIER 1: Enter Number of Services Within 1/2 Mile 1) Day Care 2) Community Center 3) Public Park 4) Drug Store 5) Restaurant 6) School 7) Library 8) Farmer's Market 9) After School Programs 10) Convenience Store Where Meat & Produce are Sold							

Enter Project Name TBD Olympian Way		Points Achieved	Community	Energy	IAQ/Health	Resources	Water	Notes
	TIER 2: Enter Number of Services Within 1/2 Mile 1) Bank 2) Place of Worship 3) Laundry/Cleaners 4) Hardware 5) Theater/Entertainment 6) Fitness/Gym 7) Post Office 8) Senior Care Facility 9) Medical/Dental 10) Hair Care 11) Commercial Office or Major Employer 12) Full Scale Supermarket							
	i. 5 Services Listed Above (Tier 2 Services Count as 1/2 Service Value)	0	1					
	ii. 10 Services Listed Above (Tier 2 Services Count as 1/2 Service Value)	0	1					
No	b. Development is Connected with A Dedicated Pedestrian Pathway to Places of Recreational Interest Within 1/4 mile	0	1					
No	c. Install Traffic Calming Strategies (Minimum of Two): - Designated Bicycle Lanes are Present on Roadways; - Ten-Foot Vehicle Travel Lanes; - Street Crossings Closest to Site are Located Less Than 300 Feet Apart; - Streets Have Rumble Strips, Bulbouts, Raised Crosswalks or Refuge Islands	0	2					
	5. Design for Safety & Social Gathering							
Yes	a. All Home Front Entrances Have Views from the Inside to Outside Callers	1	1					
Yes	b. All Home Front Entrances Can be Seen from the Street and/or from Other Front Doors	1	1					
No	c. Orient Porches (min. 100sf) to Streets and Public Spaces	0	1					
No	d. Development Includes a Social Gathering Space	0	1					
	6. Design for Diverse Households (6a. is a Prerequisite for 6b. and 6c.)							
No	a. All Homes Have At Least One Zero-Step Entrance	0	1					
Yes	b. All Main Floor Interior Doors & Passageways Have a Minimum 32-Inch Clear Passage Space	0	1					
No	c. Locate Half-Bath on the Ground Floor	0	1					
No	d. Provide Full-Function Independent Rental Unit	0	1					
	Total Achievable Points in Community Design & Planning = 35	4						
P. INNOVATION			Possible Points					
	A. Site							
	1. Stormwater Control: Prescriptive Path (Maximum of 3 Points, Mutually Exclusive with PA2.)							
No	a. Use Permeable Paving for 25% of Driveways, Patios and Walkways	0	1					
No	b. Install Bio-Retention and Filtration Features	0	2					
No	c. Route Downspout Through Permeable Landscape	0	1					
No	d. Use Non-Leaching Roofing Materials	0	1					
No	e. Include Smart Street/Driveway Design	0	1					
No	2. Stormwater Control: Performance Path (Mutually Exclusive with PA1): Perform Soil Percolation Test and Capture and Treat 85% of Total Annual Runoff	0	3					
	C. Landscape							
Yes	1. Meet Local Landscape Program Requirement	2					2	
	D. Structural Frame & Building Envelope							
	1. Design, Build and Maintain Structural Pest and Rot Controls							

Enter Project Name TBD Olympian Way		Points Achieved	Community	Energy	IAQ/Health	Resources	Water	Notes
No	a. Locate All Wood (Siding, Trim, Structure) At Least 12" Above Soil	0				1		
No	b. All Wood Framing 3 Feet from the Foundation is Treated with Borates (or Use Factory-Impregnated Materials) OR Walls are Not Made of Wood	0				1		
No	2. Use Moisture Resistant Materials in Wet Areas: Kitchen, Bathrooms, Utility Rooms, and Basements [*This credit is a requirement associated with J4: EPA IAP]	0			1	1		
	E. Exterior							
No	1. Vegetated Roof (Minimum 25%)	0	2	2				
	G. Plumbing							
No	1. Greywater Pre-Plumbing (Includes Washing Machine at Minimum)	0					1	
No	2. Greywater System Operational (Includes Washing Machine at Minimum)	0					2	
No	3. Innovative Wastewater Technology (Constructed Wetland, Sand Filter, Aerobic System)	0					1	
No	4. Composting or Waterless Toilet	0					2	
No	5. Install Drain Water Heat-Recovery System	0		1				
No	6. Install a Hot Water Desuperheater	0		2				
	H. Heating, Ventilation, and Air Conditioning							
No	1. Humidity Control Systems (Only in California Humid/Marine Climate Zones 1,3,5,6,7) [*This credit is a requirement associated with J4: EPA IAP]	0			1			
No	2. Design HVAC System to Manual T for Register Design	0		1				
	K. Finishes							
No	1. Materials Meet SMaRT Criteria *(Select the number of points, up to 5 points)*	0				5		
	N. Other							
No	1. Detailed Durability Plan and Third-Party Verification of Plan Implementation	0				2		
	2. Educational Signage of Project's Green Features							
No	a. Promotion of Green Building Practices	0	1					
No	b. Installed Green Building Educational Signage	0	1					
	3. Innovation: List innovative measures that meet green building objectives. Enter in the number of points in each category for a maximum of 4 points for the measure in the blue cells. Points achieved column will be automatically fill in based on the sum of the points in each category. Points and measures will be evaluated by Build It Green.							
TBD	Innovation: Enter up to 4 Points at right. Enter description here	0						
TBD	Innovation: Enter up to 4 Points at right. Enter description here	0						
TBD	Innovation: Enter up to 4 Points at right. Enter description here	0						
TBD	Innovation: Enter up to 4 Points at right. Enter description here	0						
TBD	Innovation: Enter up to 4 Points at right. Enter description here	0						
	Total Achievable Points in Innovation = 33+	2						
Q. CALIFORNIA CALGreen CODE			Possible Points					
Yes	Home meets all applicable CAL Green measures listed in above Sections A - P of the GreenPoint Rated checklist.	Y	R					

Enter Project Name TBD Olympian Way		Points Achieved	Community	Energy	IAQ/Health	Resources	Water	Notes
	The following measures are mandatory in the CALGreen code and do not earn points in the GreenPoint Rated Checklist, but have been included in the Checklist for the convenience of jurisdictions. *The GreenPoint Rater is not a code enforcement official. The measures in this section may be verified by the GreenPoint Rater at their own discretion and/or discretion of the building official.*							
TBD	1. CALGreen 4.106.2 Storm water management during construction.	N						
TBD	2. CALGreen 4.106.3 Design for surface water drainage away from buildings.	N						
TBD	3. CALGreen 4.303.1 As an alternative to perscriptive compliance, a 20% reduction in baseline water use shall be demonstrated through calculation	N						
TBD	4. CALGreen 4.406.1 Joints and openings. Annular spaces around pipes, electric cables, conduits, or other openings in plates at exterior walls shall be protected	N						
TBD	5. CALGreen4.503.1 Gas fireplace shall be a direct-vent sealed-combustion type. Woodstove or pellet stove shall comply with US EPA Phase II emission limits	N						
TBD	6. CALGreen 4.505.2 Vapor retarder and capillary break is installed at slab on grade foundations.	N						
TBD	7. CALGreen 4.505.3 19% moisture content of building framing materials	N						
TBD	8. CALGreen 702.1 HVAC system installers are trained and certified in the proper installation of HVAC systems.	N						
	Total Achievable Points in California Green Code = 0	0						
Summary								
	Total Available Points in Specific Categories		35	96+	44	110	56	
	Minimum Points Required in Specific Categories	50	0	30	5	6	9	
	Total Points Achieved	120	6	45	19	17	33	

Project has met all recommended minimum requirements

- *Total Project Score of At Least 50 Points*
- *Required measures:*
  - *-A3e: 50% waste diversion by weight*
  - *-H10e: Compliance with ASHRAE 62.2 Mechanical Ventilation Standards*
  - *-J2: 15% above Title 24*
  - *-N1: Incorporate GreenPoint Rated Checklist into blueprints*
- *Minimum points in specific categories:*
  - *-Energy (30 points)*
  - *-IAQ/Health (5 points)*
  - *-Resources (6 points)*
  - *-Water (9 points)*

Kielty Arborist Services

Certified Arborist WE#0476A
P.O. Box 6187
San Mateo, CA94403
650 515 9783

April 15, 2013

Ms. Julie Wahrlich
1 Blackburn Terrace
Pacifica CA 94044

Site: 150 Olympian, Pacifica, CA

Dear Ms. Wahrlich,

At your request on Friday, April 5, 2013, I visited the above site for the purpose of inspecting and commenting on the trees on site and neighbors trees close to the property line. A new home is planned for this site and a tree protection plan will be included in this report.

Method:
The trees on this site were located on a site plan provided by you. Each tree was given an identification number; this number was inscribed on a metal foil tag and nailed to the trees at eye level. The neighbor's trees were tagged on the fence closest to the trees. Each tree was measured for diameter at 24 inches above ground level (DBH or diameter at breast height in Pacifica). The neighboring trees were given an estimated DBH. The trees were then given a condition rating from 1 – 100 for form and vitality, using the following scale.

1	-	29	Very Poor
30	-	49	Poor
50	-	69	Fair
70	-	89	Good
90	-	100	Excellent

The height was estimated and the spread was paced off. Lastly a comments section is provided.

Survey:

Tree #	Species	DBH	Con	Ht/Sp	Comments
1	Monterey pine *(Pinus radiata)*	20est	25	35/30	Poor vigor, poor form, poor location, trimmed for line clearance.
2	Monterey cypress *(Cupressus macrocarpa)*	20.2	50	30/35	Fair vigor, poor form, poor location, trimmed for line clearance.
3*	Monterey pine *(Pinus radiata)*	19.1	0	25/20	Dead.
4*	Monterey pine *(Pinus radiata)*	20est	35	35/25	Poor vigor, poor form, top is in in decline.
5	Monterey pine *(Pinus radiata)*	16-14	45	45/35	Poor vigor, poor form, codominant at 2 feet with a poor crotch formation.
6	Toyon *(Heteromeles arbutifolia)*	18est	60	20/25	Good vigor, fair form, leans north.
7	Cotoneaster *(Cotoneaster spp)*	8est	60	25/15	Good vigor, fair form.
8	Monterey cypress *(Cupressus macrocarpa)*	12est	65	25/15	Good vigor fair form.
9	Monterey pine *(Pinus radiata)*	35.1	45	60/40	Poor-fair vigor, poor form, codominant at 4 feet with a poor crotch formation.

*indicates neighbor's tree

Summary:

The trees on site consist of a native toyon and several species of trees not native to Pacifica. The Monterey pine and Monterey cypress are native to the coast but not to Pacifica. The trees are in very poor to fair condition with no trees being good or excellent.

The Monterey pines are being infested with bark beetle and soon will die. Dead pines are located on both adjacent properties. Monterey cypress #2 is poorly located and utility line trimming has disfigured this tree. Monterey cypress #8 is in fair condition however due to its small size is easily replaced.

Remove all of the trees listed above including the dead neighbor's trees and replace them at the time of landscaping. Normal erosion control shall be provided during the building process. If any trees are to be retained the following tree protection plan will help to insure the future health of the trees.

Tree Protection Plan:
Tree protection zones should be established and maintained throughout the entire length of the project. Fencing for protection zones should be 6 foot tall metal chain link, supported by metal poles pounded into the ground. The location of the protection fencing should be as close to the dripline as possible still allowing room for construction to safely continue. For the neighboring trees the existing wooden fence will suffice. No equipment or materials should be stored inside protection zones, nor shall any equipment be cleaned there. Areas outside protection zones, but still beneath the driplines of protected trees where foot traffic is expected to be heavy should be mulched with 3 – 6 inches of chipper chips. The mulching with chips will help to reduce compaction and help to stabilize soils.

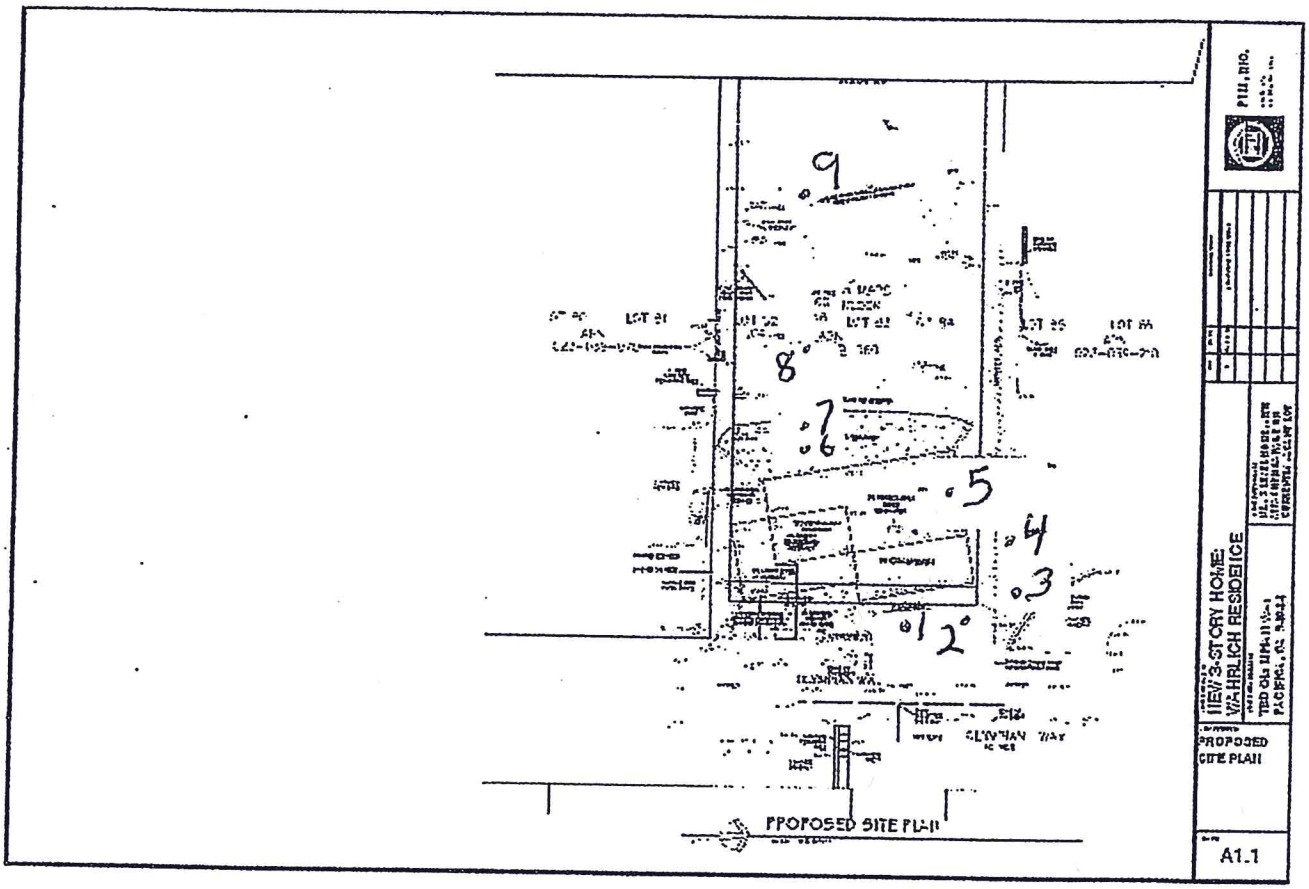
The site arborist shall be on site for any excavation inside the driplines of protected trees. Any root cutting should be monitored and documented. Large roots or large masses of roots to be cut should be inspected prior to cutting by the site arborist. Fertilization or irrigation may be recommended at this time. Cut roots clean with a saw or loppers. Roots to be left exposed for a period of time should be covered with layers of burlap and kept moist.

Trenching for irrigation, drainage, electrical or any other reason should be hand dug when beneath the dripline of protected trees. Hand digging and carefully placing pipes below or beside protected roots will significantly reduce root loss. The reduction in root loss will improve the trees chances to live vigorously for years to come. Any trenches to be left open with exposed roots should be covered with layers of burlap and kept moist. Fill trenches with native soil and compact to near its original level as soon as possible.

Tree protection measures will be inspected by the site arborist prior to the start of construction. This information should be kept on site at all times. The information included in this report is believed to be true and based on sound arboricultural principles and practices.

Sincerely,

Kevin R. Kielty
Certified Arborist WE#0476A


9
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PROPOSED SITE PLAN
NEW 3-STORY HOME
VAHRLICH RESIDENCE
PROPOSED
SITE PLAN
A1.1