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W19a

Appeal Filed:	7/18/2016
49th Day:	Waived
Staff:	Rainey Graeven - SC
Staff Report:	9/23/2016
Hearing Date:	10/5/2016

APPEAL STAFF REPORT: SUBSTANTIAL ISSUE DETERMINATION ONLY

Appeal Number:	**A-3-SCO-16-0070**
Applicants:	**Steven Graves and Marcus Pohlmann**
Appellant:	Stephen King
Local Government:	Santa Cruz County
Local Decision:	Coastal development permit (CDP) application number 151193 approved by the Santa Cruz County Zoning Administrator on June 17, 2016.
Location:	South side of New Brighton Road, about ½-mile from McGregor Drive, in unincorporated Aptos, Santa Cruz County (APN 038-231-09).
Project Description:	Construct a 3,637-square-foot, two-story, three-bedroom, three-and-a-half bathroom single-family residence with a 540-square-foot garage; install a buried gabion basket retaining wall to address an existing landslide mass.
Staff Recommendation:	No Substantial Issue

Important Hearing Procedure Note: This is a substantial issue only hearing. Testimony will be taken only on the question of whether the appeal raises a substantial issue. (*See generally* 14 CCR § 13115.) Generally and at the discretion of the Chair, testimony is limited to three minutes total per side. Please plan your testimony accordingly. Only the Applicant, persons who opposed

the application before the local government (or their representatives), and the local government shall be qualified to testify. (*Id.* § 13117.) Others may submit comments in writing. (*Id.*) If the Commission determines that the appeal does raise a substantial issue, the de novo phase of the hearing will occur at a future Commission meeting, during which the Commission will take public testimony. (*Id.* § 13115(b).)

SUMMARY OF STAFF RECOMMENDATION

Santa Cruz County approved a coastal development permit (CDP) to construct a new 3,637-square-foot, two-story, three-bedroom, three-and-a-half bathroom single-family residence with a 540-square-foot garage. The project site is on a bluff top lot on New Brighton Road in the unincorporated community of Aptos. The approved project also includes installation of a buried gabion basket retaining wall to address a landslide mass that threatens residential development located at the base of the bluff below the project site.

The Appellant contends that the approved project is inconsistent with Santa Cruz County Local Coastal Program (LCP) policies related to coastal bluff hazards. After reviewing the local record, Commission staff has concluded that the County-approved project does not raise a substantial issue with respect to the Santa Cruz County certified LCP.

In terms of coastal bluff hazards, the residence is adequately set back from the bluff edge and the landslide hazard at the site has been mitigated. Specifically, in terms of the setback, the project will be setback 25 feet from the bluff edge, a distance that will ensure the development is safe from erosion for at least 100 years, as required by the LCP. In addition, with respect to the landslide mass, the approved project eliminates this threat through the installation of a buried gabion basket retaining wall, which the County conditioned to be maintained. As approved by the County, the development is adequately setback and the coastal hazard at the site has been mitigated, consistent with the requirements of the Santa Cruz County LCP.

As a result, staff recommends that the Commission determine that the appeal contentions do not raise a substantial LCP conformance issue, and that the Commission decline to take jurisdiction over the CDP for this project. The single motion necessary to implement this recommendation is found on page 4 below.

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APPENDICES

EXHIBITS

I. MOTION AND RESOLUTION

Staff recommends that the Commission determine that **no substantial issue** exists with respect to the grounds on which the appeal was filed. A finding of no substantial issue would mean that the Commission will not hear the application de novo and that the local action will become final and effective. To implement this recommendation, staff recommends a **YES** vote on the following motion. Passage of this motion will result in a finding of No Substantial Issue and the local action will become final and effective. The motion passes only by affirmative vote of a majority of the Commissioners present.

Motion: *I move that the Commission determine that Appeal Number A-3-SCO-16-0070* ***raises no substantial issue*** *with respect to the grounds on which the appeal has been filed under Section 30603. I recommend a* ***yes*** *vote.*

Resolution to Find No Substantial Issue. *The Commission finds that Appeal Number A-3-SCO-16-0070 does not present a substantial issue with respect to the grounds on which the appeal has been filed under Section 30603 of the Coastal Act regarding consistency with the Certified Local Coastal Plan and/or the public access and recreation policies of the Coastal Act.*

II. FINDINGS AND DECLARATIONS

A. PROJECT DESCRIPTION AND LOCATION

The County-approved project is located on New Brighton Road (no situs) on the bluff top above Potbelly Beach/New Brighton State Beach in mid Santa Cruz County. Residential development within this neighborhood is limited to New Brighton Road and Pine Tree Lane because the neighborhood is otherwise surrounded by the upland portions of New Brighton State Beach. Specifically, the upland portion of New Brighton State Beach surrounds the neighborhood in an upside-down "U" shape, with the State campground located west of the residential development, and open space located east of the residential development. Potbelly Beach Road (which consists of a row of residential houses located on the beach) is located at the base of the bluff, directly below the project site.

The parcel is zoned R-1-8 (Single-Family Residential, 8,000-square-foot minimum parcel size). Currently, the project site is an undeveloped 9,185-square-foot lot. The County-approved project allows for the construction of a 3,637-square-foot, two-story single-family residence with three-bedrooms, three-and-a-half bathrooms, and a 540-square-foot garage. The County-approved project also includes a buried gabion-basket retaining wall (containing small riprap and concrete slurry) to stabilize an existing landslide mass located on the upper bluff of the property. Construction and placement of the gabion basket retaining wall will entail the excavation of 120 cubic yards of material, 70 cubic yards of which will be placed over and behind the gabion baskets in order to bury them. The buried gabion basket structure (including the riprap and the slurry) will be comprised of 50 cubic yards of fill.

See Exhibit 1 for a location map; see Exhibit 2 for photographs of the site and a photo simulation of the proposed development; and see Exhibit 4 for the approved project plans.

B. SANTA CRUZ COUNTY CDP APPROVAL

On June 17, 2016 the Santa Cruz County Zoning Administrator approved a CDP for the proposed residential development project. The County's Final Local Action Notice (see Exhibit 3) was received in the Coastal Commission's Central Coast District Office on Thursday, July 7, 2016. The Coastal Commission's ten-working-day appeal period for this action began on Friday, July 8, 2016 and concluded at 5 p.m. on Thursday, July 21, 2016. One valid appeal (see below) was received during the appeal period.

C. APPEAL PROCEDURES

Coastal Act Section 30603 provides for the appeal to the Coastal Commission of certain CDP decisions in jurisdictions with certified LCPs. The following categories of local CDP decisions are appealable: (a) approval of CDPs for development that is located (1) between the sea and the first public road paralleling the sea or within 300 feet of the inland extent of any beach or of the mean high tide line of the sea where there is no beach, whichever is the greater distance, (2) on tidelands, submerged lands, public trust lands, within 100 feet of any wetland, estuary, or stream, or within 300 feet of the top of the seaward face of any coastal bluff, and (3) in a sensitive coastal resource area; or (b) for counties, approval of CDPs for development that is not designated as the principal permitted use under the LCP. (*See* Pub. Res. Code § 30603(a)(1)-(4).) In addition, any local action (approval or denial) on a CDP for a major public works project (including a publicly financed recreational facility and/or a special district development) or an energy facility is appealable to the Commission. (*Id.* § 30603(a)(5).) This project is appealable because it is located between the first public road and the sea, and because it is located within 300 feet of the beach and the coastal bluff.

The grounds for appeal under Section 30603 are limited to allegations that the development does not conform to the certified LCP or to the public access policies of the Coastal Act. (*Id.* § 30603(b).) Section 30625(b) of the Coastal Act requires the Commission to consider a CDP for an appealed project de novo unless a majority of the Commission finds that "no substantial issue" is raised by such allegations.[1] (*Id.* § 30625(b)(2).) Under Section 30604(b), if the Commission conducts the de novo portion of an appeals hearing and ultimately approves a CDP for a project, the Commission must find that the proposed development is in conformity with the certified LCP. If a CDP is approved for a project that is located between the nearest public road and the sea or the shoreline of any body of water located within the coastal zone, Section 30604(c) also requires an additional specific finding that the development is in conformity with the public access and recreation policies of Chapter 3 of the Coastal Act. This project is located between the nearest public road and the sea and thus this additional finding would need to be

[1] The term "substantial issue" is not defined in the Coastal Act or in its implementing regulations. In previous decisions on appeals, the Commission has generally been guided by the following factors in making substantial issue determinations: the degree of factual and legal support for the local government's decision; the extent and scope of the development as approved or denied by the local government; the significance of the coastal resources affected by the decision; the precedential value of the local government's decision for future interpretations of its LCP; and, whether the appeal raises only local issues as opposed to those of regional or statewide significance. Even when the Commission chooses not to hear an appeal (by finding no substantial issue), appellants nevertheless may obtain judicial review of a local government's CDP decision by filing a petition for a writ of mandate pursuant to the Code of Civil Procedure, Section 1094.5.

made (in addition to a finding that the proposed development is in conformity with the Santa Cruz County LCP) if the Commission were to approve the project following the de novo portion of the hearing.

The only persons qualified to testify before the Commission on the substantial issue question are the Applicant, persons opposed to the project who made their views known before the local government (or their representatives), and the local government. (14 CCR § 13117.) Testimony from other persons regarding the substantial issue question must be submitted in writing. (*Id.*) Any person may testify during the de novo CDP determination stage of an appeal (if applicable).

D. SUMMARY OF APPEAL CONTENTIONS

The Appellant contends that the County-approved project raises LCP consistency questions relating to coastal bluff hazards, including the required setback and the existing slide conditions. Specifically, the Appellant contends that the approved project would violate applicable LCP policies because: 1) the County-approved setback is insufficient; and 2) existing slide conditions are not being properly addressed. The Appellant did not cite any specific LCP policies in his appeal. Please see Exhibit 5 for the appeal contentions.

E. SUBSTANTIAL ISSUE DETERMINATION

Coastal Blufftop Development/Hazards

Bluff Setback

The Appellant contends that the "required setback from bluff top is not consistent with the Local Coastal Program." The Commission interprets this argument to mean that the County-approved setback is inadequate with respect to the minimum setback required for projects in coastal hazard areas, including bluff tops. The Appellant did not cite any specific LCP policies or standards for this contention; however, projects located on coastal bluffs in Santa Cruz County must be consistent with the LCP's coastal hazards policies and Implementation Plan (IP) standards, including with respect to bluff edge setbacks, hazards avoidance, etc. (see Exhibit 5 for the Appellant's contentions; see Exhibit 7 for the applicable LCP policies and standards).

With respect to the bluff setback, IP Section 16.10.070(H)(1)(b) requires either a minimum 25-foot setback "from the top edge of the coastal bluff" or a 100-year setback, i.e., "the distance necessary to provide a stable building site over a 100-year lifetime of the structure, whichever is greater" (see Exhibit 7). The Applicant's geotechnical consultants initially recommended that the residence be set back 50 feet from the top of the coastal bluff due to the geotechnical consultant's initial definition of the "top of bluff" as the top of the steep slope between the 94-foot and 82-foot contours. A subsequent letter from the County Geologist identified a different "top of bluff," namely "the brow of the landslide scarp," which was identified 45 feet landward of the "top of the bluff" identified by the Applicant's geotechnical consultants. Therefore, the County-approved 25-foot setback identified by the County geologist is more conservative than the initial 50-foot setback identified by the Applicant's geotechnical consultants, resulting in a setback line approximately 20 feet landward of the Applicant's original setback recommendation.

Furthermore, the development will be sited landward of the "100-year setback" identified by the project geotechnical consultants. The 100-year setback line was derived by projecting a line with

a slope of 1.5:1 (H:V) from the base of the bluff to the bluff top; the line of intersection of that line with the bluff top was taken to be the 100-year setback line. This is an unusual approach for determining a bluff edge setback, but is justified in this case because: 1) the project geotechnical consultants performed quantitative slope stability analyses that demonstrated that, despite the landslide mass at the top of the bluff, the overall bluff is globally stable; 2) the base of the bluff is not subject to marine erosion due to the private street, residences, and revetment at the base of the bluff on Potbelly Beach Drive; and 3) subaerial erosion could result in a flattening of the slope, but no more than the 1.5:1 slope, which represents a stable "angle of repose" for sandy sediments. The Commission's Staff Geologist has evaluated this approach and concluded that, in this particular case, it does ensure that the development will remain stable for its 100-year expected life.

In sum, the County-approved 25-foot setback meets the LCP minimum-required setback distance for bluffs and will provide a stable building site for more than 100 years, consistent with the requirements of IP Section 16.10.070(H)(1)(b). Therefore, the Commission finds that the Appellant's contention regarding the bluff setback does not raise a substantial issue of conformance with the County's certified LCP.

Landslide Mass

The Appellant also contends that existing potential landslide conditions at the project site are not appropriately addressed by the County's approval. Although the Appellant did not cite any LCP policies or standards in support of this contention, the Commission interprets this contention to mean that a hazard, i.e., the existing landslide mass[2], on the Applicant's property has not been adequately mitigated and/or the approved gabion basket structure is an inappropriate means of reducing any geologic hazards at the site. See Exhibit 5 for the Appellant's contentions.

The Geologic Hazards Section of the LCP requires hazardous conditions to be mitigated by requiring the Applicant to demonstrate evidence of the hazard and determine appropriate mitigation through geologic reports. Specifically, IP Section 16.10.070(H)(5)(a) requires that the potential hazards on the site be mitigated for the 100-year life of the structure (see Exhibit 7); IP Section 16.10.050(B) requires geologic hazards assessments for all development within fault zones, 100-year floodplains and floodways, and coastal hazard areas; and IP Section 16.10.050(C) requires full geologic reports including but not limited to "whenever a significant potential hazard [has been] identified […] (see Exhibit 7)."

Because the landslide mass had been previously identified in geologic reports completed in 2007 by the previous property owner (see Appendix A), the County required the Applicant to submit updated geologic and geotechnical reports as part of the development application. The updated geologic and geotechnical reports (see Exhibit 6) confirmed the presence of the potentially hazardous landslide mass, and concluded that it was not possible to ensure the stability of the

[2] The landslide mass is located on the southernmost portion of the property line and extends onto the downcoast property. **The landslide mass as identified by Haro, Kasunich & Associates in 2007 is approximately 700 cubic yards** (see Exhibit 6). It is suspected that the landslide mass was created as a result of the 1989 Loma Prieta earthquake, and exacerbated by heavy rainfall The landslide mass appears to have remained stable since 2007 when the previous geologic review was conducted, with no evidence of movement since that time.

landslide mass over the 100-year lifetime of the residential development without bluff stabilization measures. In this case, to ensure the stability of the landslide mass, the Applicant proposes use of a buried gabion basket retaining wall, which also constitutes a shoreline protective device.[3]

It is important to note that the buried gabion basket retaining wall is not necessary to provide protection to the County-approved residence because ***that*** development has been set back from the bluff edge such that it will be stable for over 100 years, even taking the landslide mass into account, i.e., the ***Applicant's*** development would be safe without the use of the buried gabion basket retaining wall in the event that the landslide mass moves down the bluff. However, if the landslide becomes unstable, it could adversely impact the ***seaward*** homes and associated development on Potbelly Beach Drive, which are located at the base of the bluff below the project site. IP Section 16.10.070(H)(3)(a) (see Exhibit 7) states that shoreline protection structures shall only be allowed on vacant parcels that "through lack of protection affect existing adjacent developed lots." As such, the purpose of the buried gabion basket retaining wall is consistent with the LCP by protecting the existing development at the base of the bluff, rather than the Applicant's single family residence.

While movement of the landslide mass would not create a hazardous condition for the approved residential development because that development is appropriately set back from the bluff for a period greater than 100 years, the landslide mass does pose a threat to the existing residential and road development at the base of the bluff. Although it is difficult to reliably predict when and to what extent the landslide mass will affect the existing development at the base of bluff, County staff reasonably concluded that the Applicant must mitigate the threat of the landslide mass to the development below based on identification of the landslide mass as a coastal hazard, the requirement under IP Section 16.10.090 that the Applicant mitigate coastal hazards, and the allowance of shoreline protection structures under IP Section 16.10.070(H)(3)(a) for only those vacant parcels that affect existing adjacent developed parcels due to lack of protection (see Exhibit 3, page 19).

County staff expressly cited IP Section 16.10.070(H)(3)(a)[4] in their decision to allow the buried gabion basket wall as a component of the approved project, noting that "county code requires the amelioration of dangerous conditions, and shoreline protection structures are allowed where a 'lack of protection threaten adjacent developed lots.'" In addition, the Applicant expressed concerns regarding liability if the landslide mass were to become unstable and slide down the bluff onto the road/ homes below because: 1) the landslide mass is on his property; and 2) he is aware of the landslide mass and its potential to become unstable. Thus, the Applicant worked with the County to determine the most appropriate method to mitigate the landslide hazard. The

[3] The County LCP's definition of shoreline protective devices in IP Section 16.10.040(59) (see Exhibit 7) is: "any structure or material, including but not limited to riprap or a seawall, placed in an area where coastal processes operate." Since the buried gabion baskets are proposed to be placed on the upper bluff of the property and the upper bluff is "an area where coastal processes operate," it follows that the buried gabion basket retaining wall meets the LCP definition of shoreline protection and must be analyzed as such.

[4] Joe Hanna, the County's staff geologist erroneously cited IP Section 16.10.070 E (3)(a); however, the quotation provided corresponds to IP Section 16.10.070(H) (3)(a).

County Geologist and the Applicant's geologist and geotechnical consultant worked closely together to evaluate a range of alternatives, as required by IP Section 16.10.070(H)(3)(c) (see Exhibit 7). The alternatives considered included: a no project alternative, removal of the landslide mass, installation of a concrete/wooden retaining wall, and stabilization of the landslide mass in situ (i.e.: through the use of the gabion basket retaining wall) [see Exhibit 3, pages 19-21)]. Together, the County and the Applicant's consultants determined that a gabion basket retaining wall was the most appropriate method to mitigate the landslide threat.

The "no project" alternative was rejected based upon the understanding that the landslide mass would eventually move and pose a threat to the existing development below. Revegetation was also considered but rejected based on the determination that revegetation would not sufficiently mitigate the landslide threat given the depth of the landslide mass. Removal of the landslide mass was also evaluated but rejected because it would entail substantial site disturbance including "large, heavy equipment on the coastal bluff," substantial grading that could exacerbate slope instability, and would also present drainage-related challenges including because the remaining soil would need to be compacted. A concrete/wooden retaining wall was also considered, which would have required "the construction of a bench in the slope, piers, a concrete or wood lagging wall." Ultimately, this type of retaining wall was rejected due to the need for continual maintenance, future instability at the base of the wall requiring additional support, and marked visual impacts. The last remaining alternative considered by the County entails stabilizing the landslide mass in situ through the use of the gabion basket retaining wall. This method was preferred by the County because it will sufficiently reduce the landslide threat. To prevent adverse visual impacts if the gabions were to become exposed to beachgoers at New Brighton State Beach, the County conditioned its approval of the buried gabion basket retaining wall to require the Applicant and future property owners to maintain the gabion structure in perpetuity, including modifying[5] the structure if it becomes exposed or undermined or otherwise unstable. Thus the project can be found consistent with the requirements of IP Section 16.10.070(H)(3)(e), which states that shoreline protection structures shall not "create significant visual intrusion" (see Exhibit 7).

In sum, because the landslide threat to seaward properties will be mitigated through the use of a buried gabion basket retaining wall, the Commission finds that the coastal hazards have been sufficiently addressed, consistent with the LCP's requirements to mitigate coastal hazards. Moreover, because the County reasonably concluded that the buried gabion basket retaining wall is the only feasible alternative that will: 1) mitigate the landslide hazard for the 100-year life of the approved residential development; and 2) result in the least amount of site disturbance and adverse coastal resource impacts, the Commission finds that the Appellant's contention that "existing slide conditions are not being properly addressed" does not raise substantial LCP consistency issues, and therefore does not raise a substantial issue of conformance with the County's certified LCP.

F. CONCLUSION

When considering a project that has been appealed to it, the Commission must first determine

[5] Any modification to the gabion structure would require an amendment to County CDP 151193.

whether the project raises a substantial issue of LCP conformity, such that the Commission should assert jurisdiction over a de novo CDP for the development. At this stage, the Commission has the discretion to find that the project does not raise a substantial issue of LCP conformance. As explained above, the Commission has historically been guided in its decision of whether the issues raised in a given case are "substantial" by the following five factors: the degree of factual and legal support for the local government's decision; the extent and scope of the development as approved or denied by the County; the significance of the coastal resources affected by the decision; the precedential value of the County's decision for future interpretations of its LCP; and, whether the appeal raises only local issues as opposed to those of regional or statewide significance.

In this case, these five factors, considered together, support a conclusion that this project does not raise a substantial issue of LCP conformance. With respect to the first factor (i.e., degree of factual and legal support for the government's decision), the residence will be set back 25 feet from the bluff edge, consistent with the LCP requirement that development be set back a minimum of 25 feet or the amount necessary to provide a stable building site for 100 years, whichever is greater. In this case, the County determined that the 25-foot setback is more conservative than the 100-year setback, meaning that the residence will be safe from erosion for a period greater than 100 years. In addition, the Applicant has adequately mitigated the seaward threat from the landslide mass, as allowed under the LCP, through the use of a buried gabion basket retaining wall. Therefore, the project as approved by the County has mitigated the known hazard and threat to the seaward development on Potbelly Beach Drive, and is adequately set back, in accordance with LCP coastal hazard policies.

With respect to the second and third factors (i.e., extent/scope of development as approved or denied and significance of coastal resources affected by the decision, respectively), the approved project is a single-family residence that is allowed on this residentially-zoned parcel. The residence will be set back appropriately from the bluff edge to ensure safety over its 100-year lifetime. With respect to the buried gabion basket retaining wall, the County: reviewed and analyzed a reasonable range of alternatives before approving this shoreline protective device; demonstrated that the gabion basket is necessary to protect the existing seaward development at the base of the bluff; and mitigated the visual impacts of the gabion basket retaining wall by conditioning its approval to require that the gabion wall be maintained over time. Thus, the approved project, which is relatively limited in scope, will not adversely impact significant coastal resources.

With respect to the fourth factor (i.e., precedential value of the County's decision for future interpretations of its LCP), the County reasonably interpreted the LCP's hazards policies and standards requirements and thus, because the approved development is consistent with the certified LCP, the County's approval is not expected to set an adverse precedent for future interpretation of its LCP. With respect to the fifth factor (i.e., whether the appeal raises only local issues as opposed to those of regional or statewide significance), while the LCP's allowance for shoreline protective devices to protect adjacent parcels suggests that the appeal raises issues of regional significance, the unique factual circumstances of the approved project (landward landslide mass threatening seaward properties) suggest that the appeal raises issues of only local significance. In any case, considering the specific policies of the Santa Cruz LCP together with the unique facts here, the appeal does not raise issues of statewide significance.

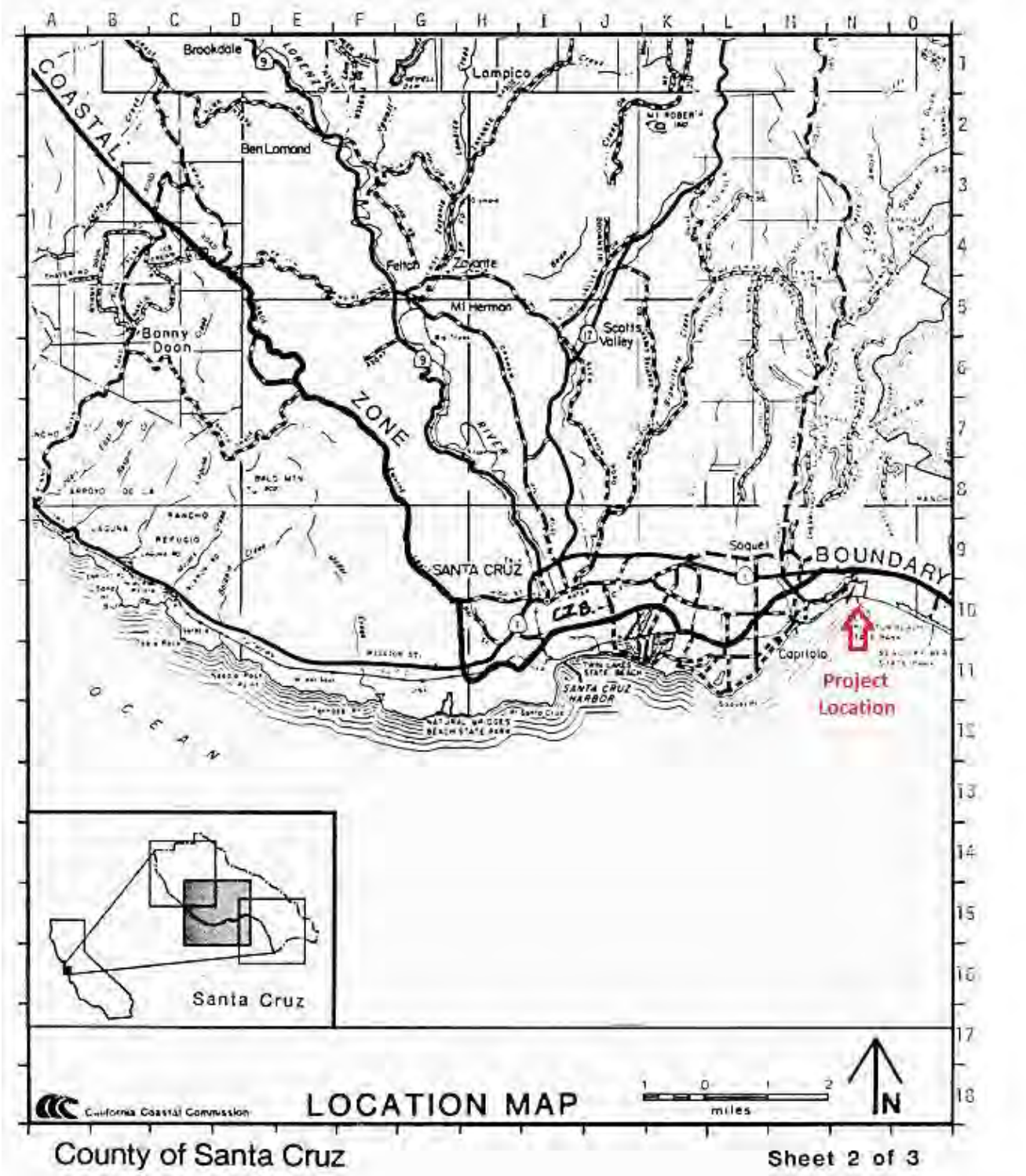
In short, the Appellant's contentions do not raise a substantial issue with respect to consistency with applicable LCP policies and standards and are further adequately addressed by the County's conditions of approval. Based on the foregoing, including when all five substantial issue factors are weighed together, the appeal contentions do not raise a substantial LCP conformance issue and thus the Commission declines to take jurisdiction over the CDP application for this project.

For the reasons stated above, the Commission finds that Appeal Number A-3-SCO-16-0070 does not present a substantial issue with respect to the grounds on which the appeal has been filed under Section 30603 of the Coastal Act.

APPENDIX A: SUBSTANTIVE FILE DOCUMENTS

Geologic Investigation of Coastal Bluff-top Property prepared by Rogers E. Johnson & Associates, Consulting Engineering Geologists, February 13, 2007

Geotechnical Investigation for Blufftop Residence (APN 038-231-09), prepared by Haro, Kasunich, and Associates, Inc., July 2007


Brookdale
Lampico
COASTAL
Ben Lomond
Felton
Zayante
Mt Hermon
Scotts Valley
Bonny Doon
ZONE
SANTA CRUZ
Soquel
BOUNDARY
CZB.
Capitola
Project Location
SANTA CRUZ HARBOR
OCEAN
Santa Cruz
California Coastal Commission
LOCATION MAP
miles
N
County of Santa Cruz
Sheet 2 of 3

12/7/15

EXHIBIT D

WESTERN RED CEDAR SIDING

WINDOWS, KOLBE TRUFFLE COLOR. GARAGE DOOR, ROOF GUTTERS, AND FACIA TO MATCH

ROOFING SHALL BE EPDM OR TPO MEMBRANE

SOFFITS SHALL BE EXTERIOR GWB PAINTED TO MATCH STUCCO

52

STUCCO, SHERWIN WILLIAMS KINGSPORT GRAY. DOWNSPOUTS AND SOFFITS TO MATCH

LANDSCAPING PER SITE PLAN

VERTICLE GRAIN DOUGLAS FIR FRONT DOOR

GRAVES/POHLMANN RESIDENCE

8 1/2 X 11 MATERIAL RENDERING

NATHAN GOOD ARCHITECTS

NOT TO SCALE

Exhibit 2
A-3-SCO-16-0070
Page 1 of 4

NOTICE OF PROPOSED DEVELOPMENT
APPLICATION # 151193
PROPOSAL TO CONSTRUCT A TWO STORY, THREE BEDROOM SINGLE FAMILY DWELLING WITH ATTACHED GARAGE ON A VACANT PARCEL. REQUIRES A STAL DEVELOPMENT PERMIT.
PROPERTY L
THE SOUTH SIDE OF NEW BRIGHTON ROAD, MILE FROM MCGREGOR DRIVE.
APN: 038-221-09
INFORMATION CONTACT:
APPLICANT:
STEVE GRAVES
75 ESTATES DRIVI
APTOS, CA 95003
(831) 691-5451
PROJECT PLANNER:
NATHAN MACBETH
PLANNING DEPARTMENT
701 OCEAN STREET, 4TH FLOOR
SANTA CRUZ, CA 95060
(831) 454-3118

NOTICE OF FINAL LOCAL ACTION ON COASTAL PERMIT

County of Santa Cruz

Date of Notice: 7/5/16

Notice Sent (via certified mail) to:
California Coastal Commission
Central Coast Area Office
725 Front Street, Ste. 300
Santa Cruz, CA 95060

Please note the following **Final Santa Cruz County Action** on a coastal permit, coastal permit amendment or coastal permit extension application (all local appeals have been exhausted for this matter):

Project Information

Application No.: 151193
Project Applicant/Owner: Steven Graves
Address: 775 Estates Drive, Aptos, CA 95003
Phone/E-mail: (831) 6615451

Project Location: New Brighton Road (no situs)

Project Description: Proposal to construct a two story, three bedroom single family dwelling and install a gabion retaining wall for the repair of a landslide. Requires a Coastal Development Permit.
Property located on the south side of New Brighton Road, about 1/2 mile from McGreger Drive.

Final Action Information

Final Local Action: Approved with Conditions

Final Action Body:

☐ Administrative Approval
☒ Zoning Administrator
☐ Planning Commission
☐ Board of Supervisors

Required Materials Supporting the Final Action	Enclosed	Previously sent (date)
Staff Report	X	
Adopted Findings	X	
Adopted Conditions	X	
Site Plans	X	
Elevations	X	

Additional Materials Supporting the Final Action	Enclosed	Previously sent (date)
CEQA Document	X	
Geotechnical/Geology Reports		X
Biotic Reports		
Other:		
Other:		

Coastal Commission Appeal Information

☐ This Final Action is Not Appealable to the California Coastal Commission, the Final County of Santa Cruz Action is now effective.

☒ This Final Action is appealable to the California Coastal Commission. The Coastal Commission's 10-working day appeal period begins the first working day after the Coastal Commission receives adequate notice of this Final Action. The Final Action is not effective until after the Coastal Commission's appeal period has expired and no appeal has been filed. Any such appeal must be made directly to the California Coastal Commission Central Coast Area Office in Santa Cruz; there is no fee for such an appeal. Should you have any questions regarding the Coastal Commission appeal period or process, please contact the Central Coast Area Office at the address listed above, or by phone at (831) 427-4863.

Copies of this notice have also been sent via first-class mail to:
- Applicant
- Interested parties who requested mailing of notice

COUNTY OF SANTA CRUZ
Planning Department

COASTAL DEVELOPMENT PERMIT

Owner: Marcus Pohlmann & Steven Graves
Address: 325 John Street
Santa Cruz, CA 95060

Permit Number: 151193
Parcel Number(s): 038-231-09

PROJECT DESCRIPTION AND LOCATION

Proposal to construct a two story, three bedroom single family dwelling and install gabion baskets for repair of a landslide. Requires a Coastal Development Permit.

Property located on the south side of New Brighton Road, about 1/2 mile from McGregor Drive.

SUBJECT TO ATTACHED CONDITIONS

Approval Date: 6/17/2016
Exp. Date (If not exercised): see conditions
Denial Date:

Effective Date: 7/1/2016
Coastal Appeal Exp. Date: Call Coastal Commission
Denial Date:

___ This project requires a Coastal Zone Permit, which is not appealable to the California Coastal Commission. It may be appealed to the Board of Supervisors. The appeal must be filed within 14 calendar days of action by the decision body.

_✔_ This project requires a Coastal Zone Permit, the approval of which is appealable to the California Coastal Commission. (Grounds for appeal are listed in the County Code Section 13.20.110.) The appeal must be filed with the Coastal Commission within 10 business days of receipt by the Coastal Commission of notice of local action. Approval or denial of the Coastal Zone Permit is appealable. The appeal must be filed within 14 calendar days of action by the decision body.

This permit cannot be exercised until after the Coastal Commission appeal period. That appeal period ends on the above indicated date. Permittee is to contact Coastal staff at the end of the above appeal period prior to commencing any work.

A Building Permit must be obtained (if required) and construction must be initiated prior to the expiration date in order to exercise this permit. **THIS PERMIT IS NOT A BUILDING PERMIT.**

By signing this permit below, the owner agrees to accept the terms and conditions of this permit and to accept responsibility for payment of the County's costs for inspections and all other actions related to noncompliance with the permit conditions. This permit shall be null and void in the absence of the owner's signature below.

Signature of Owner/Agent — Date: 6/24/16

Staff Planner — Date: 6/17/16

Distribution: Applicant, File, Coastal Commission, Clerical

COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT

701 OCEAN STREET - 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123

KATHLEEN MOLLOY PREVISICH, PLANNING DIRECTOR

June 6, 2016

Agenda Date: June 17, 2016

Zoning Administrator
County of Santa Cruz
701 Ocean Street
Santa Cruz, CA 95060

Subject: Coastal Development Permit Application 151193

Dear Zoning Administrator:

On May 19, 2016 comments were received from Coastal Commission staff which raised question regarding the need to install the proposed gabion baskets located on the seaward side of the subject property intended to stabilize the bluff top. Coastal staff also pointed to some discrepancies regarding the setback to the edge of the coastal bluff.

On May 20, 2016, the Zoning Administrator continued application 151193 and requested additional information regarding the need to install the proposed coastal protection structure.

The applicant has provided letters from the project Geotechnical Engineer and Geologist which address both the bluff setback discrepancies and the need to repair the landslide by installing the gabion baskets. Additionally, the County Geologist has provided a response to Coastal staff comments which outlines the need for the proposed landslide repair and the appropriateness of the use of gabion baskets as opposed to several other alternative measures. Additional conditions of approval are recommended for the long-term maintenance of the proposed coastal protection structure.

As indicated during the May 20th Zoning Administrator hearing, staff is recommending some additional modifications to the conditions of approval. These changes include the deferment of the installation of replacement trees to the building permit final, removal of tree protection measures during construction, and some minor typos. The revised conditions are attached (Exhibit 1A).

Staff Recommendation

Based on a review of the additional information, staff continues to recommend a determination that the project is exempt from further environmental review under the California Environmental Quality Act and approval of application 151193 with the revised conditions of approval.

Sincerely,

Nathan MacBeth
Project Planner
Development Review

Exhibits:

1A. Revised Conditions of Approval
1B. Applicant response to letter from Coastal Staff
1C. County Geologist response to letter from Coastal Staff
1D. Letter from Coastal Staff , Dated May 19, 2016
1E. Correspondence received since May 20, 2016
1F. Staff Report with Findings and Conditions of Approval

Revised Conditions of Approval

Exhibit D: Project Plans 11 sheets, prepared by Nathan Good Architects, dated 6/18/15

I. This permit authorizes the construction of a single family dwelling and gabion baskets for landslide repair. This approval does not confer legal status on any existing structure(s) or existing use(s) on the subject property that are not specifically authorized by this permit. Prior to exercising any rights granted by this permit including, without limitation, any construction or site disturbance, the applicant/owner shall:

A. Sign, date, and return to the Planning Department one copy of the approval to indicate acceptance and agreement with the conditions thereof.

B. Obtain a Building Permit from the Santa Cruz County Building Official.

1. Any outstanding balance due to the Planning Department must be paid prior to making a Building Permit application. Applications for Building Permits will not be accepted or processed while there is an outstanding balance due.

C. Obtain a Grading Permit from the Santa Cruz County Building Official.

D. Obtain an Encroachment Permit from the Department of Public Works for all off-site work performed in the County road right-of-way.

E. Submit proof that these conditions have been recorded in the official records of the County of Santa Cruz (Office of the County Recorder) within 30 days from the effective date of this permit.

II. Prior to issuance of a Building Permit the applicant/owner shall:

A. Submit final architectural plans for review and approval by the Planning Department. The final plans shall be in substantial compliance with the plans marked Exhibit "D" on file with the Planning Department. Any changes from the approved Exhibit "D" for this development permit on the plans submitted for the Building Permit must be clearly called out and labeled by standard architectural methods to indicate such changes. Any changes that are not properly called out and labeled will not be authorized by any Building Permit that is issued for the proposed development. The final plans shall include the following additional information:

1. A copy of the text of these conditions of approval incorporated into the full size sheets of the architectural plan set.

2. One elevation shall indicate materials and colors as they were approved by this Discretionary Application. If specific materials and colors have not been approved with this Discretionary Application, in addition to showing the materials and colors on the elevation, the applicant shall supply a color and material sheet in 8 1/2" x 11" format for Planning Department review and approval. **The *rock used in the* gabion baskets (coastal protection structure) shall be of similar color to that of the bluff ~~and the rock used shall be "earth tone".~~** ***Modified by ZA on 6/17/16***

3. A note on the plans which states: "The applicant shall schedule a preconstruction meeting to be held 1-4 days prior to site clearing. Attendees shall include Environmental Planning staff, the grading contractor, the soils engineer and the civil engineer. Bluff setback staking (by the surveyor) and perimeter sediment control measures will be inspected by Environmental Planning staff. In addition, findings of the bird and bat surveys (if required) will be collected".

4. **A construction and staging plan shall be submitted that avoids the operation of equipment of the placement of construction material or earth past the ocean ward edge of the exaction for the gabion baskets.**

5. Civil Engineered grading, Drainage, and Stormwater pollution control plan that meets the requirements of Environmental Planning.

6. A plan review form, based on final revised plans, signed and stamped by the soils engineer.

7. A plan review form, based on final revised plans, signed and stamped by the project geologist.

8. Plans submitted for the building permit application shall include a reference to the soils and geology reports.

9. Plans submitted for the building permit application shall show the 25-foot coastal bluff setback, measured from the brow of the landslide scarp, on the site plan and all civil-engineered sheets

10. The building plans must include a roof plan and a surveyed contour map of the ground surface, superimposed and extended to allow height measurement of all features. Spot elevations shall be provided at points on the structure that have the greatest difference between ground surface and the highest portion of the structure above. This requirement is in addition to the standard requirement of detailed elevations and cross-sections and the topography of the project site which clearly depict the total height of the proposed structure. Maximum height is 28 feet.

11. Details showing compliance with fire department requirements.

12. Water Efficient Landscape Plan (including a signed Water Efficient Landscape Checklist and Certificate) prepared in accordance with the requirements of the Water Efficient Landscape Ordinance (County Code Chapter 13.13) by a certified/licensed landscape architect, landscape contractor, civil engineer, landscape irrigation designer, landscape irrigation auditor, or water manager.

B. Meet all requirements of and pay Zone 5 drainage fees to the County Department of Public Works, Stormwater Management. Drainage fees will be assessed on the net increase in impervious area.

C. Obtain an Environmental Health Clearance for this project from the County Department of Environmental Health Services.

D. Comply with all Environmental Planning requirements regarding trees within the project area:

1. No irrigation may be installed seaward of the 100-year geologic setback.

2. The tree (39 inch DBH Monterey Cypress) discussed in the arborist report (completed by Nigel Belton, dated February 9, 2016) and identified on "Sheet L1" by Gregory Lewis Landscape Architect as "Recommended for removal" is approved for removal. NOTE: The Monterey Cypress located on the western property line was approved for removal under Coastal Development Permit 141222.

~~3. The "Tree Protection Zone Fencing" shall be installed to protect "Critical Root Zone Areas" before any equipment comes on to the project area. NOTE: Laminated "Tree Protection Zone Notices" shall be securely attached to "Tree Protection Zone Fencing" at 10 foot intervals. The protective fences shall be inspected and approved in writing by the project arborist. NOTE: A copy of the arborist report, dated April 8, 2015 (Recommended Tree Protection Strategies), shall be available on site for review throughout the home construction phase. The construction of "Root Protection Buffers" shall be installed over "Critical Root Zones" of trees where vehicles and equipment encroach into these areas.~~

~~4. Trenching work within "Critical Root Zone Areas" shall first be avoided. If unavoidable, then the trenching will need to be done carefully by hand and under the observation of the project arborist.~~

5. A tree replacement plan shall be created for the tree permitted for removal A 2:1 replacement ratio is required. The tree replacements shall be shown on "Sheet L1" (Landscape Plan). The following information shall be included on the "Landscaping Plan":

a. Two (2) Monterey cypress (*Hesperocyparis macrocarpa*) trees shall be planted on the parcel. The trees will be of a size (height/diameter) grown in a 36 inch box container. These trees shall be planted prior to ~~road or home construction~~ **Final of the Building Permit** and done by qualified professionals according to industry standards. These trees shall be maintained in healthy condition in perpetuity.

b. As a condition of approval for Coastal Development Permit 141222, the applicant shall continue to work with the adjacent property owner to identify an acceptable location for a 36 inch box container replacement tree previously approved for removal (shared jointly with the neighbor). This tree shall be shown on Sheet L1 if located on the subject property. ~~The location shall be in roughly to same location shown on Exhibit D of 141222 (south east side of shared property line of APNs 038-231-07 and 038-231-09)~~

c. Replacement trees shall be well formed without co-dominant, poorly attached stems. Trees shall be disease free and absent of swirling or girdling roots.

d. Supplemental irrigation shall be provided to the replacement trees by means of a temporary aboveground drip emitter system for a minimum period of two (2) years. This system shall be designed, installed, regulated and maintained by a qualified professional. If a traditional irrigation system is not able to be setup, the trees will be manually irrigated. A water truck or similar system of delivery will need to provide necessary irrigation at least twice per week to maintain appropriate moisture levels. Irrigation shall be provided during the months of April through September, or other times if rainfall falls below 70% of normal.

e. To ensure the survivability and proper growth of the replacement trees, monitoring shall occur for a minimum of five years after installation. The monitoring work shall be completed by the project arborist and a yearly report shall be provided to the Planning Department (Environmental Planning Section) for review. The project arborist shall monitor the newly planted trees at monthly intervals during the initial acclimation period of one year. Dead dying and low vigor trees will be replaced during this period. Monitoring intervals will extend to 3 month increments after the first year. At yearly intervals during years 1-5, tree(s) health and growth rates will be assessed by the project arborist and included in the yearly report to the county. Tree(s) suffering poor growth rates or declining health will be identified and remedial action identified. At the end of the five year period the status of the new trees will be assessed. Remedial actions including an extension of the monitoring program will be implemented if the replacement trees are not displaying adequate health.

E. Meet all requirements and pay any applicable plan check fee of the Central Fire Protection District.

F. Submit 2 copies of a soils report and all updates prepared and stamped by a licensed Geotechnical Engineer.

G. Submit 2 copies of a geology report and all updates prepared and stamped by a registered geologist.

H. Pay the current fees for Parks and Child Care mitigation for 3 bedroom(s). Currently, these fees are, respectively, $1,000 and $109 per bedroom.

I. Pay the current fees for Roadside and Transportation improvements for 3 bedroom(s). Please contact the Department of Public Works for a current list of fees.

J. Pay the current Affordable Housing Impact Fee. The fees are based on unit size and the current fee for an approximately 2,900 square foot unit is $5 per square foot.

K. Provide required off-street parking for 3 cars. Parking spaces must be 8.5 feet wide by 18 feet long and must be located entirely outside vehicular rights-of way. Parking must be clearly designated on the plot plan.

L. Submit a written statement signed by an authorized representative of the school district in which the project is located confirming payment in full of all applicable developer fees and other requirements lawfully imposed by the school district.

M. **Provide a copy of a recorded maintenance agreement for the coastal protection structure. The maintenance agreement shall state that the property owner and or future owners will maintain the coastal protection structure in perpetuity and modify the structure if the structure is exposed or undermined or becomes unstable.**

N. Provide a copy of the recorded Declaration of Geologic Hazards. The Declaration will provide for property owner (and all successors and assigns) agreement to an acknowledgement of coastal hazards, an acceptance of and assumption of risk, a waiver of liability against the County, and an indemnification of the County; the final language of such provisions will be consistent with the following:

1. Coastal Hazards. That the site is subject to coastal hazards including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, storms, tsunami, tidal scour, coastal flooding, liquefaction and the interaction of same;

2. Assume Risks. To assume the risks to the Applicant and the properties that are the subject of this CDP of injury and damage from such coastal hazards in connection with the permitted development;

3. Waive Liability. To unconditionally waive any claim of damage or liability against the County, its officers, agents, and employees for injury or damage from such coastal hazards;

4. Indemnification. To indemnify and hold harmless the County, its officers, agents, and employees with respect to the County's approval of the development against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such coastal hazards; and

5. Property Owner Responsible. That any adverse effects to property caused by the permitted development shall be fully the responsibility of the property owner

III. Prior to the start of construction, the applicant/owner must meet the following conditions:

A. The surveyor shall stake the 25-foot coastal bluff setback, measured from the brow of the landslide scarp.

B. The bird and bat surveys shall be completed, if required.

C. Temporary sediment control measures shall be installed.

D. A preconstruction meeting shall be held 1-4 days prior to construction. Attendees shall include Environmental Planning staff, the grading contractor, the soils engineer and the civil engineer. Bluff setback staking (by the surveyor) and perimeter sediment control measures will be inspected by Environmental Planning staff. In addition, findings of the bird and bat surveys (if required) will be collected

IV. All construction shall be performed according to the approved plans for the Building Permit. Prior to final building inspection, the applicant/owner must meet the following conditions:

A. All site improvements shown on the final approved Building Permit plans shall be installed.

B. Construction Hours: All construction limited to the time between 8:00 am and 5:00 pm weekdays unless a temporary exception to this time restriction is approved in advance by County Planning.

C. All inspections required by the building permit shall be completed to the satisfaction of the County Building Official.

D. The project must comply with all recommendations of the approved soils reports.

E. Pursuant to Sections 16.40.040 and 16.42.080 of the County Code, if at any time during site preparation, excavation, or other ground disturbance associated with this development, any artifact or other evidence of an historic archaeological resource or a Native American cultural site is discovered, the responsible persons shall immediately cease and desist from all further site excavation and notify the Sheriff-Coroner if the discovery contains human remains, or the Planning Director if the discovery contains no human remains. The procedures established in Sections 16.40.040 and 16.42.080, shall be observed.

V. Coastal Hazards Response Alternatives. By acceptance of this permit, the applicant acknowledges and agrees, on behalf of itself and all successors and assigns, that:

A. The approved single family home ~~**replacement**~~ project will be constructed and may be used consistent with the terms and conditions of this permit for only as long as the approved development remains safe for occupancy and use. If coastal hazards result in an unsafe site or unsafe structure, the property owner agrees to abate or address dangerous conditions in accordance with County regulations and/or Orders of the Chief Building Official and these Conditions of Project Approval. If all or any portion of improvements are deemed uninhabitable, the property owner agrees to remove the improvements and restore the affected area, unless an alternative response involving a shoreline protection structure is proposed by the property owner and approved by the County of Santa Cruz, and also by the California Coastal Commission if the project location is within the Coastal Commission's primary jurisdiction. Alternative responses to coastal hazards may include (1) pursuit of an Emergency Coastal Development Permit consistent with County Code regulations in Chapter 13.20 (Coastal Zone Regulations) and Chapter 16.10 (Geologic Hazards);

UPP GEOTECHNOLOGY
Engineering Geology • Geotechnical Engineering
a division of C2EARTH, INC.

2 June 2016
Document Id. 14053A-01L5
Serial No. 17628

Mr. Steven Graves
775 Estates Drive
Aptos, CA 95003

SUBJECT: RESPONSE TO COMMENTS
PROPOSED RESIDENTIAL DEVELOPMENT
APN 038-231-09
NEW BRIGHTON ROAD
SANTA CRUZ COUNTY, CALIFORNIA

Dear Mr. Graves:

As you requested, we are responding to comments issued by the California Coastal Commission (CCC) in their letter dated 19 May 2016. We previously submitted our Engineering Geologic Study report, dated 13 August 2014 (Document Id. 14053A-01R1), which presented geologic findings and recommendations for the project. In addition, we previously provided the following documents for the project:

- Response to County Geologic Peer Review Comments letter dated 19 December 2014 (Document Id. 14053A-01L1);
- Geologic Plan Review letter dated 2 July 2015 (Document Id. 14053A-01L2);
- Geologic Plan Review letter dated 21 December 2015 (Document Id. 14053A-01L3);
- Response to Comments and Supplemental Geologic Plan Review letter dated 10 February 2016 (Document Id. 14053A-01L4).

The CCC letter alleges the proposed gabion structure is a shoreline projection structure intended to ensure the proposed residence will meet the 100-year geologic design setback. This is incorrect. The location of the proposed residence is sufficiently set back to be behind the 100-year geologic setback, independent of whether the gabion structure is constructed or not. Furthermore, the 100-year geologic setback provided in our report is based upon a stable angle of repose from the current base of the bluff, and does not take into account additional protection from existing downslope elements such as: the wooden retaining wall at the toe of the bluff; Pot Belly Beach Road; residences on the seaward-side of Pot Belly Beach Road; and the existing rip-rap seawall on the beach side of those residences.

The sole purpose of the gabion structure is to retain existing landslide deposits on the bluff that pose a risk to homes downslope of the property (on Pot Belly Beach Road), as stated by County staff in their report for the project. Mitigation of these deposits is required by the County. Several methods of mitigation were evaluated, including using vegetation; however the gabion design

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EXHIBIT 1B.

was determined to be the best solution from geotechnical engineering and geologic perspectives for the site conditions.

Additionally, the CCC letter cites discrepancies related to setback distances from the "top of the bluff" as described in our report dated 13 August 2014. That setback was based upon the top of bluff being defined at the toe of the landslide bench. Based upon the County's top of bluff designation being the top of the landslide scar, our supplemental analyses have revealed that a 25-foot setback from the top of the landslide scar is appropriate. It must be noted that the current location of the 25-foot setback from the top of the landslide scar is ***further*** landward than the original 50-foot setback from the toe of the landslide bench.

In our professional opinion, the geologic conditions and geotechnical engineering evaluations for the project have been adequately addressed, and additional evaluations or plan revisions are not warranted.

Sincerely yours,
Upp Geotechnology
a division of C2Earth, Inc.

Christopher R. Hundemer, Principal
Certified Engineering Geologist 2314
Certified Hydrogeologist 882

THIS DOCUMENT HAS
BEEN DIGITALLY SIGNED

Distribution: Addressee (via e-mail to steven@stevengravesmusic.com)
Ms. Becky Dees, Dees & Associates, Inc. (via e-mail to dees@dslextreme.com)

408 866 5436 (o) | 866 941 6824 (f) | 750 Camden Ave Suite A, Campbell, CA 95008 | C2@C2Earth.com | www.C2Earth.com

EXHIBIT 1B

Dees & Associates, Inc.
Geotechnical Engineers
501 Mission Street, Suite 8A, Santa Cruz, CA 95060

Phone: 831 427-1770
Fax: 831 427-1794

June 2, 2016

Project No. SCR-0819

STEVE GRAVES
775 Estates Drive
Aptos, California 95003

Subject: Response to California Coastal Commission Comments Dated May 19, 2016

Reference: Proposed Single Family Residence
New Brighton Road, Capitola
APN 038-231-09
Santa Cruz County, California

Dear Mr. Graves:

This letter addresses the Geotechnical aspects of the California Coastal Commission (CCC) comments, dated May 19, 2016.

The proposed development is safe for a 100-year period without the reliance of shoreline protection structures because the proposed development is setback from potential instability along the coastal bluff. The gabion retaining wall proposed along the top of the bluff is not intended to protect the proposed residence at APN 038-231-09; the wall is intended to protect existing residences located between the site and the ocean. The County of Santa Cruz is requiring the landslide mass to be stabilized to protect the existing houses located across Potbelly Beach Road at the base of the slope. The CCC letter indicates our firm asserted that the gabion structure was not a shoreline protection structure because it would not be subject to direct wave attack; however, we made no such assertion.

Although our engineering calculations could not show that the top of the bluff was unstable, there have been previous landslides along the top of the bluff and there is evidence of recent slope movement that was documented by Rogers Johnson, engineering geologist, during a previous investigation of the site. Rogers Johnson identified a separation between the existing slide mass at the top of the bluff and the land mass further inland which indicates the existing slide mass had moved.

We have considered soft armoring such as vegetation to reduce the risk of further movement of the existing landslide; however, the existing slide mass is 3 to 9 feet thick and vegetation is not a suitable solution to stop land movement of that depth.

If the gabion structure becomes exposed after a landslide event, the wall will not become unstable during the 100-year life span utilized in design of the structure. If the wall becomes exposed vegetation should be used to camouflage the exposed portions of the

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Geotechnical Engineers
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Phone: 831 427-1770
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wall.

DEES & ASSOCIATES, INC.

Rebecca L. (Dees) Boyd
Geotechnical Engineer
G.E. 2623

Copies: 3 to Addressee
1 to Upp Geotechnology

COUNTY OF SANTA CRUZ | **Planning Department**

MEMORANDUM

Date: June 8, 2016

To: Nathan MacBeth, Planner

From: Joe Hanna, CEG

Re: APN 038-231-09, Coastal Permit 151193

The project proposes a shoreline protection structure to reduce the potential for landsliding to affect the slope below the development, access roadway at the base of the slope and homes below the roadway. In their letter, dated May 19, 2016, Coastal Commission staff has questioned the basis for authorization of the shoreline protection structure. The purpose of this correspondence is to clarify the geologic issues and LCP sections that support the need for a shoreline protection structure as part of the scope of work for the proposed project.

The letter from Commission staff notes that many coastal bluffs are unstable and questions why this specific slope requires mitigation. The instability on this particular parcel poses a distinctly greater risk than the surrounding slopes. Recent landsliding has resulted in a hanging block slide, with an analyzed likelihood of further large scale failure. The slope below the home has been previously modified by excavation, and the present failure at the top of the slope is related in part to this excavation. Unlike nearby slopes, the history of slope instability and previous grading activity particular to the subject parcel have created an unstable slope condition that represents a clear threat that must be corrected as part of the Coastal Development Permit approval (see LCP 6.3.3, County Code Sections 16.10.070 E, and H (specifically 3a; 3f and 3g are also applicable), and 16.20.100 Hazardous Conditions).

County Code requires the amelioration of dangerous conditions, and shoreline protection structures are allowed where a "lack of protection threaten adjacent developed lots, or to protect public works(County Code Section 16.10.070 E (3)(a)). Ultimately, a site developer should be conditioned to correct this dangerous condition and public nuisance as part of a County development permit approval.

Alternative Analysis

Several alternatives have been considered in the development of corrective measures for the landslide. Soft repairs such as re-vegetation have been considered, but do not provide significant additional protection due to the depth of the slide mass.
Alternatives considered included no action, removal of the landslide, a wall along the face of the slope, and the chosen alternative of stabilizing the slope in situ.

EXHIBIT C

No Action:
A possible action is to do nothing to correct the slope instability. If the landslide is not modified the slide mass will eventually move, resulting in damage to the slope below the proposed home, the retaining wall at the base of the slope, and possibly the homes along Pot Belly Beach.

The landsliding will most likely further destabilize the slope and require the construction of a bluff wall. The retaining wall at the base of the slope would also require repair, and depending upon the condition of the wall, a large segment of the wall would require replacement.

The immediate impact of the failure will be the blocking of the access roadway, and damage to the structures along Pot Belly Beach. The long term impacts include the construction of new walls at the base and top of the bluff, resulting in changes to the character of the community and setting precedence for similar bluff top walls. Drainage facilities will also need to be constructed to serve the upper wall. These facilities are difficult to camouflage, and would increase the visual impact of the repair.

Landslide Removal:
Removing the landslide would require the placement of large, heavy equipment on the coastal bluff. The necessary excavation would require that grading extend through the 100 year setback, and 25 foot jurisdictional setback. An excavation of almost 10 feet would need to be made, and grading would extend to the edge of adjacent developed property. Intense grading at the edge of the slope could result in the further destabilization of the slope on the subject parcel and surrounding property. The upper edge of the slope would be visually modified, and drainage improvements would be required to prevent concentrated erosion along the intersection of the bluff and new excavation. These improvements could include drainage pipes on the slope to the roadway.

The grading would require the development of a new embankment inland that could pose stability and erosion issues and destabilize adjacent property.

The potential for damage to the bluff from equipment, the visual impact of the drainage, and erosion and stability concerns on the subject parcel and adjacent property could pose potentially significant post-project impacts.

Wall at the top of the Bluff:
A wall at the top of the bluff face was also identified as a potential solution. The wall would require the construction of a bench in the slope, piers, a concrete or wood lagging wall, and drainage improvements. Equipment would be operated on the slope.
The bluff top wall would not necessarily adversely affect the stability of adjacent property, but would set precedence for bluff walls. Bluff top walls require continuous maintenance, and over time, the wall will require further support at its base within a few decades. The visual modifications would occur immediately and would continue episodically into the future.

EXHIBIT 1C

Stabilizing the Landslide In Situ:
In situ repair could be completed with several different methods for stabilization of the slope. These may include pipe piles, concrete shafts and the proposed rock filled baskets. An in situ repair avoids the immediate visual impacts and construction of new drainage improvements. Over time, the bluff will retreat, and any repair will require modifications to remove elements exposed as the bluff retreats. The rate of retreat will be based upon the several factors including the maintenance of the wall at the base of the slope, the re-vegetation of the slope below the wall, and the control of drainage around the structure. Undermining of the in situ repair would probably take place over a longer time period than the undermining of a wall at the top of the bluff.

The proposed rock baskets require some work by heavy equipment near the edge of the bluff, but not directly on the bluff. As the overall drainage pattern will not be altered, and no additional pipes or pits will be required.

In situ repair results in the fewest direct impacts, and two conditions could further reduce any impacts as follows:

1. A staging and construction plan must be submitted with the Building Permit that avoids the operation of equipment or the placement of construction material or earth past the ocean ward edge of the exaction for the gabion baskets.

2. The property owners must agree to maintain the coastal protection structure in perpetuity. To this end the owners must sign an inspection and maintenance agreement confirming that they, and future owners, will maintain the structure in perpetuity, and modify the structure if the structure is exposed or undermined, or becomes unstable.

3. To reduce visual impact as the gabion baskets are exposed the color of the baskets shall be similar to that of the bluff's color and the rock used in the baskets shall be of earth tones.

Clarification of Setback

For clarification on the perceived setback discrepancy, the 50-foot setback proposed in the original 2014 reports was measured from a top-of-bluff defined as the top of the steep slope between the 94 and 82 contours. Page 9 of the August 22, 2014 geotechnical report states: "Improvements should be set back 50 [feet] from the top of the coastal bluff...[which] sets the residence back at least 5 feet from the top edge of the landslide mass..." However, the February 6, 2015 letter from Joe Hanna states that "the 25 foot-setback shall be measured from the brow of the landslide scarp..." Therefore, 25-foot minimum setback provides an additional 20 feet of setback area beyond the original (2014) 50-foot 100-year stability setback established by the project geologist. Mr. Hanna's determination is consistent with the analysis provided by the author of the 2007 Geologic investigation.

EXHIBIT C.

CALIFORNIA COASTAL COMMISSION
CENTRAL COAST DISTRICT OFFICE
725 FRONT STREET, SUITE 300
SANTA CRUZ, CA 95060
PHONE: (831) 427-4863
FAX: (831) 427-4877
WEB: WWW.COASTAL.CA.GOV

May 19, 2016

Zoning Administrator
Santa Cruz County Planning Department
701 Ocean Street, 4th Floor
Santa Cruz, CA 95060

Subject: ***Zoning Administrator hearing 5/20/16 – Item 2***
County Application No. 151193

Geologic Hazards Conditions
We have reviewed the revised staff report for the above referenced project and we very much appreciate the efforts the County has made to address our prior comments, particularly with respect to the revised conditions related to the Declaration of Geologic Hazards regarding risk, liability and indemnification, and the new conditions designed to address potential threats from coastal hazards, including sea level rise and potential future scenarios that might create an unsafe site or situation. We believe these changes better implement the requirements and intent of the LCP.

That said, we note the following typographical errors:

1. Condition V.C.1 appears to reference condition V.C.2 but identifies it as Condition IV.C.2.

2. Condition V.C.2 references the "Opal Cliffs Drive" properties and should be changed to reference the "Nepenthe Street/New Brighton Road" properties.

Gabion shoreline protection structure
The project proposes a gabion slope stabilization shoreline protection structure. As we previously noted in our comments of December 31, 2015 (attached), under the LCP, new development must be sited and designed to be safe for a 100-year period without reliance on shoreline protection. Therefore the proposed gabion shoreline protection structure does not appear consistent with the LCP.[1]

The staff report indicates that the proposed gabion shoreline protection structure is not being installed to protect the new residence, but rather to stabilize the slope to protect the homes located on the beach below. We would note that the entire bluff along this area appears to show signs of slope instability. Further, the geologic reports provided do not appear to provide sufficient detailed analysis demonstrating a threat to the home or homes below. Accordingly, we do not believe that there is an adequate basis to authorize the proposed shoreline protection, even

[1] The geotechnical consultant appears to assert that the gabion structure should not be considered shoreline protection because it would not be subject to direct wave attack. We strongly dispute this assertion. Wave attack is but one of numerous coastal processes that affect coastal bluffs such as the bluff at issue in this case.

EXHIBIT 1D.

assuming it is being proposed to protect homes at the base of the bluff. Further, we do not believe that an appropriate range of alternatives, including soft armoring such as vegetation, was analyzed to reduce this risk (if any) as required by the LCP.

Further, to the extent that the County does authorize the shoreline protection (which we believe is not consistent with the LCP), the project should be conditioned to account for the fact that the structure will become exposed over time, including, for example, that the gabions be camouflaged for the life of the project and/or removed when they become exposed/unseated.

Bluff setback/site stability

The project appears to propose a 25 foot setback from the top of bluff. However, the geologic report prepared by UPP Geology dated August 13, 2014 states:

> Our subsurface study and the prior subsurface exploration revealed a thin veneer of soil overlying medium dense terrace deposits that, at depth between about 20 and 25 feet, overlie the Purisima formation bedrock. The terrace deposits have been shown to be susceptible to shallow slumping and translational block-glide landsliding on the site and in the vicinity. In addition, these materials are prone to ongoing fluvial and wind erosion. **To mitigate shallow sliding and erosion, we recommend that the proposed residence be constructed no closer than 50 feet from our identified top of bluff**, as shown on Figure 3.

As we noted in our December 31, 2015 letter, the project plans provided for review noted the requirement for a 50-foot bluff setback (Plan Sheet A1.0 dated 6/18/15). In response to our comments pointing out this discrepancy, the geotechnical consultant responded that the 50-foot setback noted on the project plans was "a typo." However, that response does not adequately explain why the 50-foot setback recommended in the August 13, 2014 was changed. Moreover, we were not provided with the reports from 2007 and have not been able to evaluate their findings or recommendations. Finally, the reports that were provided do not appear to provide an erosion rate for the area in order to establish an appropriate bluff setback for a 100-year life of the structure. Given the above, and the history and geologic instability of the site, we believe that an independent peer review of the geologic and geotechnical analysis studies is warranted.

Thank you for your consideration.

Sincerely,

Ryan Moroney
Supervising Coastal Planner

Attachment (December 31, 2015 comments)

EXHIBIT 1D.

Graeven, Rainey@Coastal

From: Graeven, Rainey@Coastal
Sent: Thursday, December 31, 2015 2:16 PM
To: 'Nathan.MacBeth@santacruzcounty.us'
Subject: Comments on Proposed Nepenthe Development (Application No. 151193)

Dear Nate,

Thank you for the opportunity to comment on the above referenced Coastal Permit application. Please include these comments as part of the administrative record for this project, and distribute to the applicant and appropriate staff.

Project Description:
The project proposes to construct an approximately 3,637 sf SFD in Aptos. The dwelling will be located on a vacant lot on Nepenthe Street off of New Brighton Road through the State Park Campground.

Completeness Items:

1. Geologic Report. The routing materials reference a geotechnical report; however, the report was not provided to Commission staff. Plan Sheet A 1.0 appears to indicate a discrepancy in the required bluff setback in that a 25-foot line is indicated on the drawing, but the plan sheet text appears to call for a 50-foot setback. Because of this discrepancy, we request that a copy of the Geologic Report be provided if there is an electronic copy of the report. Pursuant to LCP Policy 6.2.12, please ensure that the setback is sufficient to provide a stable building site over the 100-year lifetime of the structure, as determined through geologic and/or soil engineering reports. Because the project is proposing "new" development, the determination of the minimum 100 year setback shall be based on the existing site conditions and shall not take into consideration the effect of any shoreline or coastal bluff protection measures. See, also IP Section 16.10.070(H).

2. Lot Legality. Given that the parcel is vacant, please provide a complete analysis and evidence supporting the lot legality, including the County staff report(s), deeds, etc. that form the basis of the legality of the lot.

3. Visual Simulations. Because of the project's potential impacts to coastal visual resources (see compliance issues below), please provide visual simulations from important public viewing areas, including, at minimum, the beach, the campground, and any nearby public streets.

Compliance Issues:

1. Coastal hazards setback. The project proposes a brand new house in a coastal hazard bluff area. The LCP requires that a coastal bluff site be stable for a minimum of 100 years in its pre-development application condition, and that any development be set back an adequate distance to provide stability for the development's lifetime, and at least 100 years. The minimum 100 years of stability must be established through the use of appropriate setbacks and siting, and without reliance on engineering measures "such as shoreline protection structures, retaining walls, or deep piers" (IP Section 16.10.070(h)(3)). Also, the LCP allows such protection structures only "to protect existing structures from a significant threat" (LUP Policy 6.2.16). Thus, the LCP has a two-part minimum 100-year stability requirement: first, there must be a portion of the site in question that itself will be stable for at least 100 years in a pre-development (i.e., no project) scenario, without reliance on shoreline armoring to make it so; and second, any development then introduced onto the site must also be stable for its lifetime measured for at least 100 years without reliance on such protective measures. See, LUP Policy 6.2.10 (Site Development to Minimize Hazards); IP Section 16.10.070(H).

EXHIBIT D.

In this case, the plans appear to state that the necessary bluff setback was determined to be 50 feet (see Plan Sheet A 1.0), *yet the patio appears to be within 25 feet of the bluff's edge, and the home is within the 50 foot required setback.* The house should be appropriately located so that the required 50 foot setback is met. Additionally, it appears that gabion baskets will be installed. IP Section 16.10.040 defines shoreline protection as "any structure or material, including but not limited to riprap or a seawall, placed in an area where coastal processes operate." Since gabion baskets are a form of shoreline protection, and all new development must be set back without reliance on engineering structures, the proposed gabion baskets are inconsistent with the LCP.

2. Visual resource protection. The project is located within a mapped scenic resource area. The County's LCP is highly protective of coastal zone visual resources, particularly views from public roads and along the shoreline. LCP visual policies require development here be sited outside of this viewshed when it is feasible to do so, and required development to be visually compatible and integrated with the character of the surrounding areas. See, e.g. LUP Policies 5.10.2 (Development within a Visual Resource Area), 5.10.3 (Protection of Public Vistas), 5.10.4 (Preserving Natural Buffers), 5.10.6 (Preserving Ocean Vistas) and 5.10.7 (Open Beaches and Blufftops); IP Sections 13.10.313, 13.10.323, 13.10.325, and 13.20.130. We are also concerned about the proposed development's impacts to the public viewshed. Please identify measures to mitigate any potential visual resource impacts.

3. Significant Tree. The project plans denote that a 30" diameter cypress is recommended for removal. IP Section 16.34.030 defines a significant tree as "any tree which is equal to or greater than 20 inches d.b.h (approximately 5' in circumference); any sprout clump of five or more stems each of which is greater than 12 inches d.b.h. (approximately three feet in circumference); or any group consisting of five or more trees on one parcel, each of which is greater than 12 inches d.b.h. (approximately three feet in circumference). Since the tree appears to be significant, one or more of the findings from IP Section 16.10.060 must be made. In addition, this tree appears to camouflage both existing and proposed development; its removal could therefore have a negative impact on visual resources. (See comment 2, above).

Conditions:

1. No Future Armoring (See sample condition below). IP Section 16.10.070 sets forth applicable conditions for development on bluffs. Please also ensure that the project is conditioned such that any new development may not rely on shoreline protective structures. Sample Coastal Hazards condition is provided below (see, especially highlighted provisions).

Sample hazard condition:

XX. **Coastal Hazards Risk.** By acceptance of the CDP, the Applicant acknowledges and agrees, on behalf of itself and all successors and assigns, to the following:

(a) Coastal Hazards. That the site is subject to coastal hazards including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, storms, tsunami, tidal scour, coastal flooding, liquefaction and the interaction of same;

(b) Assume Risks. To assume the risks to the Applicant and the properties that are the subject of this CDP of injury and damage from such coastal hazards in connection with the permitted development;

(c) Waive Liability. To unconditionally waive any claim of damage or liability against the [County], its officers, agents, and employees for injury or damage from such coastal hazards;

(d) **Indemnification.** To indemnify and hold harmless the [County], its officers, agents, and employees with respect to the [County's] approval of the development against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such coastal hazards; and

(e) **Property Owner Responsible.** That any adverse effects to property caused by the permitted development shall be fully the responsibility of the property owner.

XX. **Coastal Hazards Response.** By acceptance of the CDP, the Applicant acknowledges and agrees, on behalf of itself and all successors and assigns, that:

(a) **Intent of CDP.** The intent of this CDP is to allow for the approved development to be constructed and used consistent with the terms and conditions of the CDP for only as long as the approved development remains safe for occupancy and use without additional measures beyond ordinary repair and/or maintenance to protect it from coastal hazards. The intent is also to ensure that development is removed and the affected area restored under certain circumstances (including as further described and required in this condition), including that endangered development is required to be removed as described in this condition.

(b) **Shoreline Protective Structures Prohibited.** Shoreline protective structures that protect the approved development (including but not limited to seawalls, revetments, retaining walls, tie backs, caissons, piers, groins, etc.) shall be prohibited.

(c) **Section 30235 and LCP Waiver.** Any rights to construct such shoreline protective structures, including rights that may exist under Public Resources Code Section 30235, the Santa Cruz County Local Coastal Program, or any other applicable law are waived.

(d) **Reporting Requirement/Ten-foot Trigger.** In the event the blufftop edge recedes to within ten feet of residential development, but no government agency has yet ordered that the residence not be occupied, the Applicant shall retain a licensed geologist or civil engineer with experience in coastal processes and hazard response to prepare a geotechnical investigation that addresses whether any portions of the residence and related development are threatened by coastal hazards. The report shall identify all those immediate or potential future ordinary repair and/or maintenance measures that could be applied to address the threat without shoreline protective structures, including but not limited to removal or relocation of threatened development. The investigation shall be submitted to the Executive Director and appropriate local government officials for review and approval. If the approved geotechnical investigation concludes that the residence or any portion of the residence is unsafe for occupancy, the Applicant shall submit a Removal and Restoration Plan (see subsection (e) below).

Removal and Restoration. If an appropriate government agency or the above-referenced approved geotechnical investigation determines that any portion of the approved development is not to be occupied or used due to any coastal hazards, and such safety concerns cannot be abated by ordinary repair and/or maintenance, the Applicant shall remove such development or portions of such development. Prior to removal, the Applicant shall submit two copies of a Removal and Restoration Plan to the [Planning] Director for review and approval. If the Director determines that an amendment to the CDP or a separate CDP is legally required, the Applicant shall immediately submit the required application, including all necessary supporting information to ensure it is complete. The Removal and Restoration Plan shall clearly describe the manner in which such development is to be removed and the affected area restored so as to best protect coastal resources, and shall be implemented immediately upon Director approval, or County approval of the CDP or CDP amendment application, if necessary.

Thank you,

Rainey Graeven

EXHIBIT D

Coastal Program Analyst, Central Coast District
California Coastal Commission
725 Front Street, Santa Cruz, CA 95060
(831) 427-4863

EXHIBIT 1D.

Nathan MacBeth

From: bruce orisek [borisek@hotmail.com]
Sent: Monday, May 23, 2016 9:41 AM
To: Nathan MacBeth; linda theiring; Welle, Thomas DO; Stephen King
Subject: APN: 038-231-09

Nathan;

King, Thiering and myself attended the hearing last Friday. It seems that the concern with the construction project on APN: 038-231-09 is with the houses below rather than the neighboring homes. My home is immediately east of the planned project. There is already erosion extending into my property from the neighboring property. I reviewed the APB: 038-231-09 plans and I believe the "pits" described by Graves to deal with run off are for septic rather than exclusively for the run off. Welle's property to the west has engineered culverts and drainage pits exclusively for his water run off.

Another point of contention is the set back. The question is why did the county insist on a 35' set back for Welle and only a 25' set back for Graves? With the 25' set back, the Graves project has extended into my view corridor. This would not be the case with a 35' set back. In addition, from where is Graves' set back determined. Note, there is a significant slump and ground cracks on his property.

The ROW access is still a point of contention. If you review the county documents, Pot Belly Beach Club granted the ROW to me exclusively. This ROW was developed by me under a specific permit back in 1990's.

Also, Graves & Puhlman have not, as yet, secured access to water which is a requirement from both the county and the Soquel Fire District. The existing 10K gallon water tank and 4" hydrant belongs to me and was mandated by the Soquel Fire District with regards to my construction on APN: 038-231-14. To secure water access, Graves & Puhlman will have to run a water main to Pot Belly Beach Road through a ROW which, at this time, does not exist, and tie into the Soquel Water District water system. Recent inquiries have revealed a cost approximating $250K. As an alternative, he could buy into the Bluff Residents Water Partnership for substantially less money about $130K. This water system was signed over to the Bluff Residents several years ago. The Bluff Residents had approached the Franich family to join up. However, after abandoning their plans to build on APB: 038-231-09, they declined the offer.

Bruce S. Orisek, MD

EXHIBIT 1E

Staff Report to the Zoning Administrator

Application Number: 151193

Applicant: Steven Graves
Owner: Graves/ Polhmann
APN: 038-231-09

Agenda Date: May 20, 2016
Agenda Item #: 2
Time: After 9:00 a.m.

Project Description: Proposal to construct an approximately 3000 square foot, two story, three bedroom single family dwelling with attached garage on a vacant parcel zoned R-1-8. Requires a Coastal Development Permit.

Location: Property located on the south side of New Brighton Road approximately ½ mile from McGregor Drive.

Supervisorial District: Second District (District Supervisor: Friend)

Permits Required: Coastal Development Permit

Staff Recommendation:

- Determine that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- Approval of Application 151193, based on the attached findings and conditions.

Exhibits

A. Categorical Exemption (CEQA determination)
B. Findings
C. Conditions
D. Project plans
E. Visual simulations
F. Soils/Geology Acceptance Letter
G. Assessor's, Location, Zoning and General Plan Maps
H. Comments & Correspondence

Parcel Information

Parcel Size:	9,200 square feet (Net 6,777 square feet)
Existing Land Use - Parcel:	Vacant residential
Existing Land Use - Surrounding:	Residential and Parks and Recreation
Project Access:	Private right of way
Planning Area:	Aptos
Land Use Designation:	R-UL (Urban Low Residential)

Zone District:	R-1-8 (Single-family residential - 8,000 square foot minimum)
Coastal Zone:	_X_ Inside __ Outside
Appealable to Calif. Coastal Comm.	_X_ Yes __ No

Environmental Information

Geologic Hazards:	On coastal bluff
Soils:	Report reviewed and accepted
Fire Hazard:	Not a mapped constraint
Slopes:	Coastal bluff
Env. Sen. Habitat:	Site mapped for Monarch Butterfly, but there is no physical evidence of habitat on site
Grading:	Grading for foundation only
Tree Removal:	One tree to be removed
Scenic:	Partially mapped resource
Drainage:	Engineered drainage/stormwater management plan required
Archeology:	Not mapped

Services Information

Urban/Rural Services Line:	_X_ Inside __ Outside
Water Supply:	Private water purveyor
Sewage Disposal:	Septic
Fire District:	Central Water Protection
Drainage District:	Flood Control District 5

Project Setting

The subject property is located at the end of an unnamed right-of-way that extends south from New Brighton Road and north of the Pot Belly Beachfront development. The subject property is approximately 9,000 square feet in size and is the only remaining undeveloped lot within a group of privately owned homes located within the New Brighton State Beach Campground. Permit history for the subject property indicate that the site was evaluated under application 917-U as a potential building site and approved for development in 1961. Being part of the Potbelly Beach Club and shown on maps as early as the 1960s, the subject parcel is considered a legal lot.

The parcel is gently sloping to the south to a point where a coastal bluff, located at the rear of the property, becomes very steep. It should be noted that the subject property has a net site area of approximately 6,800 square feet with the deduction of the coastal bluff (approximately 2,400 square feet). The site is mapped as containing a scenic corridor, though the property is not readily visible from the beach.

One Monterey Cypress tree with a 39 inch diameter breast height is located on the seaward side of the property and proposed to be removed due to the deteriorated condition. The southern side of the property containing the coastal bluff was evaluated and determined to be subject to slope

instability. Repair of the coastal bluff is necessary due to slope instability and eminent risk of failure the slope may cause for the homes located on the beach below.

Existing development in the vicinity consists of single family construction on lots of similar size. Several newer homes exist on the street and there is a mix of architectural designs and styles due to the varying age of construction in the neighborhood.

Zoning & General Plan Consistency

The subject property is a parcel of approximately 9,200 square feet, located in the R-1-8 (Single-family residential - 8,000 square foot minimum) zone district, a designation which allows residential uses. The proposed single family dwelling is a principal permitted use within the zone district and the zoning is consistent with the site's R-UL (Urban Low Residential) General Plan designation.

Design Review

The proposed single family dwelling complies with the requirements of the County Design Review Ordinance, in that the proposed project will incorporate site and architectural design features such as the use of natural color and material to reduce the visual impact of the proposed development on surrounding land uses and the natural landscape.

Local Coastal Program Consistency

Due to its location between the sea and the first public through road paralleling the sea, the proposed single family residential project does not qualify for an exemption from the requirement to obtain a coastal development permit, and also does not qualify for the exclusion for residential development. Therefore, the project to construct a new single family dwelling and associated residential improvements requires issuance of a Coastal Development Permit.

The proposed single family dwelling is in conformance with the County's certified Local Coastal Program, in that the structure is sited and designed to be visually compatible, in scale with, and integrated with the character of the surrounding neighborhood. Developed parcels in the area contain single family dwellings. Size and architectural styles vary widely in the area, and the design submitted is consistent with the existing range of styles.

The proposed project will not interfere with public access to the beach, ocean, or other nearby body of water. Existing public access to the beach and shoreline exists approximately 1000 feet to the west of the subject property within the New Brighton State Park. As indicated in the attached findings, the project has been reviewed by the County Geologist and found to be consistent with the County's Geologic Hazards Ordinance. The proposed location of the new home on the lot meets the requirement for a stable building site for a 100 year period.

The proposal includes the construction of gabion retaining to stabilize the top of the coastal bluff. This landslide repair is necessary in order to protect the homes located below the subject parcel and across Potbelly Beach Road. The proposed dwelling has been situated on the parcel to comply with the 100 year bluff retreat.

Conclusion

As proposed and conditioned, the project is consistent with all applicable codes and policies of the Zoning Ordinance and General Plan/LCP. Please see Exhibit "B" ("Findings") for a complete listing of findings and evidence related to the above discussion.

Staff Recommendation

- Determine that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- **APPROVAL** of Application Number **151193,** based on the attached findings and conditions.

Supplementary reports and information referred to in this report are on file and available for viewing at the Santa Cruz County Planning Department, and are hereby made a part of the administrative record for the proposed project.

The County Code and General Plan, as well as hearing agendas and additional information are available online at: www.co.santa-cruz.ca.us

Report Prepared By: Nathan MacBeth
Santa Cruz County Planning Department
701 Ocean Street, 4th Floor
Santa Cruz CA 95060
Phone Number: (831) 454-3118
E-mail: nathan.macbeth@santacruzcounty.us

CALIFORNIA ENVIRONMENTAL QUALITY ACT
NOTICE OF EXEMPTION

The Santa Cruz County Planning Department has reviewed the project described below and has determined that it is exempt from the provisions of CEQA as specified in Sections 15061 - 15332 of CEQA for the reason(s) which have been specified in this document.

Application Number: 151193
Assessor Parcel Number: 038-231-09
Project Location: No Situs

Project Description: Construct a new single family dwelling.

Person or Agency Proposing Project: Steven Graves

Contact Phone Number: (831) 325-1219

A. _____ The proposed activity is not a project under CEQA Guidelines Section 15378.

B. _____ The proposed activity is not subject to CEQA as specified under CEQA Guidelines Section 15060 (c).

C. _____ **Ministerial Project** involving only the use of fixed standards or objective measurements without personal judgment.

D. _____ **Statutory Exemption** other than a Ministerial Project (CEQA Guidelines Section 15260 to 15285).

E. __X__ **Categorical Exemption**

Specify type: Class 3 - New Construction or Conversion of Small Structures (Section 15303)

F. Reasons why the project is exempt:

Construction of a single family dwelling in an area designated for residential uses

In addition, none of the conditions described in Section 15300.2 apply to this project.

_____ Date:_____
Nathan MacBeth, Project Planner

EXHIBIT A

Application #: 151193
APN: 038-231-09
Owner: Graves/ Polhmann

Coastal Development Permit Findings

1. That the project is a use allowed in one of the basic zone districts, listed in section 13.10.170(D) as consistent with the General Plan and Local Coastal Program LUP designation.

This finding can be made, in that the property is zoned R-1-8 (Single-family residential - 8,000 square foot minimum), a designation which allows residential uses. The proposed single family dwelling is a principal permitted use within the zone district, and the zoning is consistent with the site's R-UL (Urban Low Residential) General Plan designation.

2. That the project does not conflict with any existing easement or development restrictions such as public access, utility, or open space easements.

This finding can be made, in that no such easements or restrictions are known to encumber the project site.

3. That the project is consistent with the design criteria and special use standards and conditions of this chapter pursuant to Section 13.20.130 and Section 13.20.140 et seq.

This finding can be made, in that the development is consistent with the surrounding neighborhood in terms of architectural style. The colors and materials will be that of combination of wood siding with earth tone stucco and fascia and trim. The site is located on a bluff top however it is not readily visible from the beach below. The project will result in limited site disturbance and grading will be limited to foundation only. The location of the new single family residence will be situated to meet the 100 year setback from the edge of the coastal bluff. The location and design of the proposal, including the proposed landscaping, are such that the project will not impact on coastal resources and will result in development that is compatible with the surrounding environment and other existing development in the vicinity.

4. That the project conforms with the public access, recreation, and visitor-serving policies, standards and maps of the General Plan and Local Coastal Program land use plan, specifically Chapter 2: figure 2.5 and Chapter 7, and, as to any development between the nearest through public road and the sea or the shoreline of any body of water located within the coastal zone, such development is in conformity with the public access and public recreation policies of Chapter 3 of the Coastal Act commencing with section 30200.

This finding can be made, in that though the project site is located between the shoreline and the first public road, there is no public access from the subject property to the beach from the coastal bluff. Consequently the project will not interfere with public access to the beach, ocean, or any nearby body of water. Additionally, existing public access to the beach and shoreline exists approximately 1,000 feet to the west of the subject property within the New Brighton State Park. The project site is not identified as a priority acquisition site in the County Local Coastal Program.

EXHIBIT B

5. That the proposed development is in conformity with the certified local coastal program.

This finding can be made, in that the structure is sited and designed to be visually compatible, in scale, and integrated with the character of the surrounding neighborhood. Additionally, residential uses are allowed uses in the R-1-8 (Single-family residential - 8,000 square foot minimum) zone district, as well as the General Plan and Local Coastal Program land use designation. Developed parcels in the area contain single family dwellings. Size and architectural styles vary widely in the area, and the design submitted is consistent with the existing range of styles.

The project will comply with the County of Santa Cruz Geologic Hazard Ordinance with respect to development on properties containing a coastal bluff in that the proposed dwelling will be appropriately setback from the edge of the coastal bluff to ensure 100 -year stability from coastal bluff erosion. Further, the repair of an existing landslide by installing gabion retaining wall at the top of the coastal bluff will ensure safety of the persons residing in the neighborhood below the subject property. It should be noted that the proposed landslide repair is not necessary for the construction of the proposed dwelling in that the 100-year setback from the bluff was determined without consideration of the landslide repair.

EXHIBIT B

Development Permit Findings

1. That the proposed location of the project and the conditions under which it would be operated or maintained will not be detrimental to the health, safety, or welfare of persons residing or working in the neighborhood or the general public, and will not result in inefficient or wasteful use of energy, and will not be materially injurious to properties or improvements in the vicinity.

This finding can be made, in that the project is located in an area designated for residential uses and is encumbered by physical constraints to development in that the project is served by a septic system and leach field located at the north west corner of the property and coastal bluff at the south side of the property. Construction will comply with prevailing building technology, the California Building Code, and the County Building ordinance to insure the optimum in safety and the conservation of energy and resources. The proposed single family dwelling will not deprive adjacent properties or the neighborhood of light, air, or open space, in that the structure meets all current setbacks that ensure access to these amenities. The project will comply with the County of Santa Cruz Geologic Hazard Ordinance with respect to development on properties containing a coastal bluff. Further, the repair of an existing landslide by installing gabion basket retaining wall located at the top of the coastal bluff will ensure safety of the persons residing in the neighborhood below the subject property.

2. That the proposed location of the project and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the zone district in which the site is located.

This finding can be made, in that the proposed location of the single family dwelling and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the R-1-8 (Single-family residential - 8,000 square foot minimum) zone district as the primary use of the property will be one single family dwelling that meets all current site standards for the zone district.

3. That the proposed use is consistent with all elements of the County General Plan and with any specific plan which has been adopted for the area.

This finding can be made, in that the proposed residential use is consistent with the use and density requirements specified for the R-UL (Urban Low Residential) land use designation in the County General Plan.

The proposed single family dwelling will not adversely impact the light, solar opportunities, air, and/or open space available to other structures or properties, and meets all current site and development standards for the zone district as specified in Policy 8.1.3 (Residential Site and Development Standards Ordinance), in that the single family dwelling will not adversely shade adjacent properties, and will meet current setbacks for the zone district.

The proposed single family dwelling will be properly proportioned to the parcel size and the character of the neighborhood as specified in General Plan Policy 8.6.1 (Maintaining a Relationship Between Structure and Parcel Sizes), in that the proposed single family dwelling will comply with the site standards for the R-1-8 zone district (including setbacks, lot coverage,

EXHIBIT B

floor area ratio, height, and number of stories) and will result in a structure consistent with a design that could be approved on any similarly sized lot in the vicinity. A specific plan has not been adopted for this portion of the County.

4. That the proposed use will not overload utilities and will not generate more than the acceptable level of traffic on the streets in the vicinity.

This finding can be made, in that the proposed single family dwelling is to be constructed on an existing undeveloped lot. The expected level of traffic generated by the proposed project is anticipated to be only 1 peak trip per day (1 peak trip per dwelling unit), such an increase will not adversely impact existing roads or intersections in the surrounding area. Confirmation of water availability has been obtained from Potbelly Beach HOA. Environmental Health Services has reviewed and approved the location of the proposed septic system from a feasibility stand point.

5. That the proposed project will complement and harmonize with the existing and proposed land uses in the vicinity and will be compatible with the physical design aspects, land use intensities, and dwelling unit densities of the neighborhood.

This finding can be made, in that the proposed structure is located in a mixed neighborhood containing a variety of architectural styles, and the proposed single family dwelling is consistent with the land use intensity and density of the neighborhood.

6. The proposed development project is consistent with the Design Standards and Guidelines (sections 13.11.070 through 13.11.076), and any other applicable requirements of this chapter.

This finding can be made, in that the proposed single family dwelling will be of an appropriate scale and type of design that will enhance the aesthetic qualities of the surrounding properties and will not reduce or visually impact available open space in the surrounding area. The colors and materials will be that of combination of wood siding with earth tone stucco and fascia and trim. The site is located on a bluff top however it is not readily visible from the beach below. One tree found to be in declining condition is to be removed and replaced with two Monterey Cypress Trees. A comprehensive landscape plan will be consistent with drought tolerant vegetation found in the vicinity.

EXHIBIT B

Conditions of Approval

Exhibit D: Project Plans 11 sheets, prepared by Nathan Good Architects, dated 6/18/15

I. This permit authorizes the construction of a single family dwelling and gabion baskets for landslide repair. This approval does not confer legal status on any existing structure(s) or existing use(s) on the subject property that are not specifically authorized by this permit. Prior to exercising any rights granted by this permit including, without limitation, any construction or site disturbance, the applicant/owner shall:

A. Sign, date, and return to the Planning Department one copy of the approval to indicate acceptance and agreement with the conditions thereof.

B. Obtain a Building Permit from the Santa Cruz County Building Official.

1. Any outstanding balance due to the Planning Department must be paid prior to making a Building Permit application. Applications for Building Permits will not be accepted or processed while there is an outstanding balance due.

C. Obtain a Grading Permit from the Santa Cruz County Building Official.

D. Obtain an Encroachment Permit from the Department of Public Works for all off-site work performed in the County road right-of-way.

E. Submit proof that these conditions have been recorded in the official records of the County of Santa Cruz (Office of the County Recorder) within 30 days from the effective date of this permit.

II. Prior to issuance of a Building Permit the applicant/owner shall:

A. Submit final architectural plans for review and approval by the Planning Department. The final plans shall be in substantial compliance with the plans marked Exhibit "D" on file with the Planning Department. Any changes from the approved Exhibit "D" for this development permit on the plans submitted for the Building Permit must be clearly called out and labeled by standard architectural methods to indicate such changes. Any changes that are not properly called out and labeled will not be authorized by any Building Permit that is issued for the proposed development. The final plans shall include the following additional information:

1. A copy of the text of these conditions of approval incorporated into the full size sheets of the architectural plan set.

2. One elevation shall indicate materials and colors as they were approved by this Discretionary Application. If specific materials and colors have not been approved with this Discretionary Application, in addition to showing the materials and colors on the elevation, the applicant shall supply a color

EXHIBIT C

and material sheet in 8 1/2" x 11" format for Planning Department review and approval.

3. A note on the plans which states: "The applicant shall schedule a preconstruction meeting to be held 1-4 days prior to site clearing. Attendees shall include Environmental Planning staff, the grading contractor, the soils engineer and the civil engineer. Bluff setback staking (by the surveyor) and perimeter sediment control measures will be inspected by Environmental Planning staff. In addition, findings of the bird and bat surveys (if required) will be collected".

4. Civil Engineered grading, Drainage, and Stormwater pollution control plan that meets the requirements of Environmental Planning.

5. A plan review form, based on final revised plans, signed and stamped by the soils engineer.

6. A plan review form, based on final revised plans, signed and stamped by the project geologist.

7. Plans submitted for the building permit application shall include a reference to the soils and geology reports.

8. Plans submitted for the building permit application shall show the 25-foot coastal bluff setback, measured from the brow of the landslide scarp, on the site plan and all civil-engineered sheets

9. The building plans must include a roof plan and a surveyed contour map of the ground surface, superimposed and extended to allow height measurement of all features. Spot elevations shall be provided at points on the structure that have the greatest difference between ground surface and the highest portion of the structure above. This requirement is in addition to the standard requirement of detailed elevations and cross-sections and the topography of the project site which clearly depict the total height of the proposed structure. Maximum height is 28 feet.

10. Details showing compliance with fire department requirements.

11. Water Efficient Landscape Plan (including a signed Water Efficient Landscape Checklist and Certificate) prepared in accordance with the requirements of the Water Efficient Landscape Ordinance (County Code Chapter 13.13) by a certified/licensed landscape architect, landscape contractor, civil engineer, landscape irrigation designer, landscape irrigation auditor, or water manager.

B. Meet all requirements of and pay Zone 5 drainage fees to the County Department of Public Works, Stormwater Management. Drainage fees will be assessed on the net increase in impervious area.

EXHIBIT C

C. Obtain an Environmental Health Clearance for this project from the County Department of Environmental Health Services.

D. Comply with all Environmental Planning requirements regarding trees within the project area:

1. No irrigation may be installed seaward of the 100-year geologic setback.

2. The tree (39 inch DBH Monterey Cypress) discussed in the arborist report (completed by Nigel Belton, dated February 9, 2016) and identified on "Sheet L1" by Gregory Lewis Landscape Architect as "Recommended for removal" is approved for removal. NOTE: The Monterey Cypress located on the western property line was approved for removal under Coastal Development Permit 141222.

3. The "Tree Protection Zone Fencing" shall be installed to protect "Critical Root Zone Areas" before any equipment comes on to the project area. NOTE: Laminated "Tree Protection Zone Notices" shall be securely attached to "Tree Protection Zone Fencing" at 10 foot intervals. The protective fences shall be inspected and approved in writing by the project arborist. NOTE: A copy of the arborist report, dated April 8, 2015 (Recommended Tree Protection Strategies), shall be available on site for review throughout the home construction phase. The construction of "Root Protection Buffers" shall be installed over "Critical Root Zones" of trees where vehicles and equipment encroach into these areas.

4. Trenching work within "Critical Root Zone Areas" shall first be avoided. If unavoidable, then the trenching will need to be done carefully by hand and under the observation of the project arborist.

5. A tree replacement plan shall be created for the tree permitted for removal A 2:1 replacement ratio is required. The tree replacements shall be shown on "Sheet L1" (Landscape Plan). The following information shall be included on the "Landscaping Plan":

   a. Two (2) Monterey cypress (*Hesperocyparis macrocarpa*) trees shall be planted on the parcel. The trees will be of a size (height/diameter) grown in a 36 inch box container. These trees shall be planted prior to road or home construction and done by qualified professionals according to industry standards. These trees shall be maintained in healthy condition in perpetuity.

   b. As a condition of approval for Coastal Development Permit 141222, the applicant shall continue to work with the adjacent property owner to identify an acceptable location for a 36 inch box container replacement tree previously approved for removal (shared jointly with the neighbor). This tree shall be shown on Sheet L1 if located on the subject property. The location shall be in roughly to same location shown on Exhibit D of 141222 (south

EXHIBIT C

east side of shared property line of APNs 038-231-07 and 038-231-09)

c. Replacement trees shall be well formed without co-dominant, poorly attached stems. Trees shall be disease free and absent of swirling or girdling roots.

d. Supplemental irrigation shall be provided to the replacement trees by means of a temporary aboveground drip emitter system for a minimum period of two (2) years. This system shall be designed, installed, regulated and maintained by a qualified professional. If a traditional irrigation system is not able to be setup, the trees will be manually irrigated. A water truck or similar system of delivery will need to provide necessary irrigation at least twice per week to maintain appropriate moisture levels. Irrigation shall be provided during the months of April through September, or other times if rainfall falls below 70% of normal.

e. To ensure the survivability and proper growth of the replacement trees, monitoring shall occur for a minimum of five years after installation. The monitoring work shall be completed by the project arborist and a yearly report shall be provided to the Planning Department (Environmental Planning Section) for review. The project arborist shall monitor the newly planted trees at monthly intervals during the initial acclimation period of one year. Dead dying and low vigor trees will be replaced during this period. Monitoring intervals will extend to 3 month increments after the first year. At yearly intervals during years 1-5, tree(s) health and growth rates will be assessed by the project arborist and included in the yearly report to the county. Tree(s) suffering poor growth rates or declining health will be identified and remedial action identified. At the end of the five year period the status of the new trees will be assessed. Remedial actions including an extension of the monitoring program will be implemented if the replacement trees are not displaying adequate health.

E. Meet all requirements and pay any applicable plan check fee of the Central Fire Protection District.

F. Submit 2 copies of a soils report and all updates prepared and stamped by a licensed Geotechnical Engineer.

G. Submit 2 copies of a geology report and all updates prepared and stamped by a registered geologist.

H. Pay the current fees for Parks and Child Care mitigation for 3 bedroom(s). Currently, these fees are, respectively, $1,000 and $109 per bedroom.

I. Pay the current fees for Roadside and Transportation improvements for 3

EXHIBIT C

bedroom(s). Please contact the Department of Public Works for a current list of fees.

J. Pay the current Affordable Housing Impact Fee. The fees are based on unit size and the current fee for an approximately 2,900 square foot unit is $5 per square foot.

K. Provide required off-street parking for 3 cars. Parking spaces must be 8.5 feet wide by 18 feet long and must be located entirely outside vehicular rights-of way. Parking must be clearly designated on the plot plan.

L. Submit a written statement signed by an authorized representative of the school district in which the project is located confirming payment in full of all applicable developer fees and other requirements lawfully imposed by the school district.

M. Provide a copy of the recorded Declaration of Geologic Hazards. The Declaration will provide for property owner (and all successors and assigns) agreement to an acknowledgement of coastal hazards, an acceptance of and assumption of risk, a waiver of liability against the County, and an indemnification of the County; the final language of such provisions will be consistent with the following:

1. Coastal Hazards. That the site is subject to coastal hazards including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, storms, tsunami, tidal scour, coastal flooding, liquefaction and the interaction of same;

2. Assume Risks. To assume the risks to the Applicant and the properties that are the subject of this CDP of injury and damage from such coastal hazards in connection with the permitted development;

3. Waive Liability. To unconditionally waive any claim of damage or liability against the County, its officers, agents, and employees for injury or damage from such coastal hazards;

4. Indemnification. To indemnify and hold harmless the County, its officers, agents, and employees with respect to the County's approval of the development against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such coastal hazards; and

5. Property Owner Responsible. That any adverse effects to property caused by the permitted development shall be fully the responsibility of the property owner

III. Prior to the start of construction, the applicant/owner must meet the following conditions:

A. The surveyor shall stake the 25-foot coastal bluff setback, measured from the brow of the landslide scarp.

EXHIBIT C

B. The bird and bat surveys shall be completed, if required.

C. Temporary sediment control measures shall be installed.

D. A preconstruction meeting shall be held 1-4 days prior to construction. Attendees shall include Environmental Planning staff, the grading contractor, the soils engineer and the civil engineer. Bluff setback staking (by the surveyor) and perimeter sediment control measures will be inspected by Environmental Planning staff. In addition, findings of the bird and bat surveys (if required) will be collected

IV. All construction shall be performed according to the approved plans for the Building Permit. Prior to final building inspection, the applicant/owner must meet the following conditions:

A. All site improvements shown on the final approved Building Permit plans shall be installed.

B. Construction Hours: All construction limited to the time between 8:00 am and 5:00 pm weekdays unless a temporary exception to this time restriction is approved in advance by County Planning.

C. All inspections required by the building permit shall be completed to the satisfaction of the County Building Official.

D. The project must comply with all recommendations of the approved soils reports.

E. Pursuant to Sections 16.40.040 and 16.42.080 of the County Code, if at any time during site preparation, excavation, or other ground disturbance associated with this development, any artifact or other evidence of an historic archaeological resource or a Native American cultural site is discovered, the responsible persons shall immediately cease and desist from all further site excavation and notify the Sheriff-Coroner if the discovery contains human remains, or the Planning Director if the discovery contains no human remains. The procedures established in Sections 16.40.040 and 16.42.080, shall be observed.

V. Coastal Hazards Response Alternatives. By acceptance of this permit, the applicant acknowledges and agrees, on behalf of itself and all successors and assigns, that:

A. The approved single family home replacement project will be constructed and may be used consistent with the terms and conditions of this permit for only as long as the approved development remains safe for occupancy and use. If coastal hazards result in an unsafe site or unsafe structure, the property owner agrees to abate or address dangerous conditions in accordance with County regulations and/or Orders of the Chief Building Official and these Conditions of Project Approval. If all or any portion of improvements are deemed uninhabitable, the property owner agrees to remove the improvements and restore the affected area.

EXHIBIT C

unless an alternative response involving a shoreline protection structure is proposed by the property owner and approved by the County of Santa Cruz, and also by the California Coastal Commission if the project location is within the Coastal Commission's primary jurisdiction. Alternative responses to coastal hazards may include (1) pursuit of an Emergency Coastal Development Permit consistent with County Code regulations in Chapter 13.20 (Coastal Zone Regulations) and Chapter 16.10 (Geologic Hazards); and/or (2) pursuit of an urbanized area shoreline protection structure pursuant to Condition IV.C below.

B. Requirement for Geotechnical and Coastal Hazards Reports: Ten-foot Trigger. In the event that in the future the blufftop edge recedes to within ten feet of the single family dwelling, the property owner shall undertake the following activities to determine whether selection and pursuit of a Coastal Hazards Response Alternative is required:

1. Notify the Santa Cruz County Geologist, and

2. Retain a licensed geologist or civil engineer with experience in coastal processes and hazard response to prepare a geotechnical investigation and Coastal Hazards Report that addresses whether all or any portions of the residence and related development are threatened by coastal hazards, and that identifies actions that should be taken to ensure safe use and occupancy, which may include removal or relocation of all or portions of the threatened development and improvements, or other alternate response(s).

3. Agree to undertake activities to pursue an appropriate Coastal Hazards Response consistent with these Conditions of Approval and in accordance with adopted and applicable County of Santa Cruz and California Coastal Commission regulations. The geotechnical investigation and Coastal Hazards Report shall be submitted to the Executive Director of the California Coastal Commission, and to the Planning Director, Chief Building Official and County Geologist of Santa Cruz County. If the residence or any portion of the residence is proposed to be removed, the Applicant shall submit a Removal and Restoration Plan (see Condition IV.D below).

C. Urbanized Area Shoreline Protective Structure Alternative.

1. The property owner agrees and acknowledges that the current project does not and will not include a coastal shoreline protection/armoring structure as described California Coastal Act Section 30235 except as described in IV.C.2 below.

2. The property owner and /or any future heirs or assigns further acknowledge and agree that any future shoreline protection/armoring structure (including but not limited to seawalls, revetments, retaining walls, tie backs, caissons, piers, groins, etc.) will only be considered for approval if proposed as part of a comprehensive and unified Urbanized

EXHIBIT C

Area Beach and Bluff Management Strategy, such as a unified project design that is implemented through a Geologic Hazard Abatement District (GHAD) to address Opal Cliff Drive (or related unit thereof) coastal bluff properties and coastal resources that exist in this urbanized area. Such strategy may allow for phased implementation. The Strategy would be required to address potential loss of beach areas, potential opportunities to improve public access to the coast, protection of visual resources, and protection of public infrastructure in response to sea level rise.

D. Removal and Restoration. If an appropriate government agency so orders, or as a result of the above-referenced geotechnical investigation and Coastal Hazards Report, the property owner determines that any portion of the approved development will be proposed for removal due to coastal hazards, the Applicant shall, prior to removal, submit two copies of a Removal and Restoration Plan to the County of Santa Cruz Planning Director for review and approval. No removal activities shall commence until the Removal and Restoration Plan and all other required plans and permits are approved. If the Director determines that an amendment to this permit or separate grading and coastal development permits are legally required in order to authorize the activities, the Applicant shall as soon as immediately feasible submit the required application, including all necessary supporting information to ensure it is complete. The Removal and Restoration Plan shall clearly describe the manner in which such development is to be removed and the affected area restored so as to best protect coastal resources, and shall be implemented immediately upon Director approval, or County approval of the permit application, if necessary.

VI. Operational Conditions

A. In the event that future County inspections of the subject property disclose noncompliance with any Conditions of this approval or any violation of the County Code, the owner shall pay to the County the full cost of such County inspections, including any follow-up inspections and/or necessary enforcement actions, up to and including permit revocation.

B. Earthwork is prohibited during the rainy season (October 15-April 15) unless a separate winter grading permit is approved by the Planning Director.

C. All construction shall be completed in compliance with all recommendations provided in the soils and geology reports.

D. This project shall comply with all requirements of the technical report acceptance letter dated February 6, 2015 by Joe Hanna, County Geologist, and Carolyn Burke, County Civil Engineer.

E. In order to prevent impacts to nesting birds, tree removal activities shall be limited to the period between September 1 and February 1, if feasible. If the trees must be removed outside of the timeframe above, a qualified biologist shall conduct surveys for raptor or migratory songbird nests 3-4 days prior to site

EXHIBIT C

disturbance. A report with the biologist's findings shall be provided to the Planning Department, in care of the Resource Planner, prior to removal of the tree. If protected birds are nesting within the project area, tree removal shall be avoided until the young have fledged.

F. In order to avoid impacts to special status bats, tree removal activities shall be limited to the months between November 1 and March 1, if feasible. If the trees must be removed outside of the timeframe above, a qualified biologist shall conduct surveys for special status bats 3-4 days prior to site disturbance. A report with the biologist's findings shall be provided to the Planning Department, in care of the Resource Planner, prior to removal of the tree. If protected bats are roosting within the project area, tree removal shall be avoided until the roosts are vacated.

G. Development, including any grading or site improvements which require a building permit, or any portion of the structure, including that which is cantilevered, is prohibited within the 25'/100-year coastal bluff setback.

VII. As a condition of this development approval, the holder of this development approval ("Development Approval Holder"), is required to defend, indemnify, and hold harmless the COUNTY, its officers, employees, and agents, from and against any claim (including attorneys' fees), against the COUNTY, it officers, employees, and agents to attack, set aside, void, or annul this development approval of the COUNTY or any subsequent amendment of this development approval which is requested by the Development Approval Holder.

A. COUNTY shall promptly notify the Development Approval Holder of any claim, action, or proceeding against which the COUNTY seeks to be defended, indemnified, or held harmless. COUNTY shall cooperate fully in such defense. If COUNTY fails to notify the Development Approval Holder within sixty (60) days of any such claim, action, or proceeding, or fails to cooperate fully in the defense thereof, the Development Approval Holder shall not thereafter be responsible to defend, indemnify, or hold harmless the COUNTY if such failure to notify or cooperate was significantly prejudicial to the Development Approval Holder.

B. Nothing contained herein shall prohibit the COUNTY from participating in the defense of any claim, action, or proceeding if both of the following occur:

1. COUNTY bears its own attorney's fees and costs; and

2. COUNTY defends the action in good faith.

C. Settlement. The Development Approval Holder shall not be required to pay or perform any settlement unless such Development Approval Holder has approved the settlement. When representing the County, the Development Approval Holder shall not enter into any stipulation or settlement modifying or affecting the interpretation or validity of any of the terms or conditions of the development approval without the prior written consent of the County.

EXHIBIT C

D. Successors Bound. "Development Approval Holder" shall include the applicant and the successor'(s) in interest, transferee(s), and assign(s) of the applicant.

Minor variations to this permit which do not affect the overall concept or density may be approved by the Planning Director at the request of the applicant or staff in accordance with Chapter 18.10 of the County Code.

Please note: This permit expires three years from the effective date listed below unless a building permit (or permits) is obtained for the primary structure described in the development permit (does not include demolition, temporary power pole or other site preparation permits, or accessory structures unless these are the primary subject of the development permit). Failure to exercise the building permit and to complete all of the construction under the building permit, resulting in the expiration of the building permit, will void the development permit, unless there are special circumstances as determined by the Planning Director.

Approval Date: _____

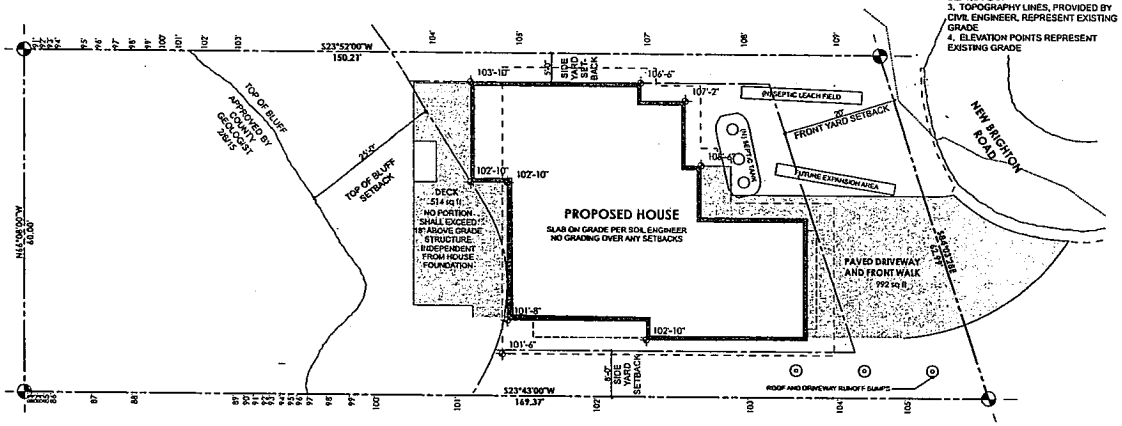
Effective Date: _____

Expiration Date: _____

Appeals: Any property owner, or other person aggrieved, or any other person whose interests are adversely affected by any act or determination of the Zoning Administrator, may appeal the act or determination to the Planning Commission in accordance with chapter 18.10 of the Santa Cruz County Code.

EXHIBIT C

NOTES:
1. SEE CIVIL ENGINEERING DRAWING FOR GRADING, DRAINAGE, EROSIONS CONTROL AND UTILITY WORK
2. SEPTIC DESIGN BY OTHERS. REFER TO SEPTIC PLAN
3. TOPOGRAPHY LINES, PROVIDED BY CIVIL ENGINEER, REPRESENT EXISTING GRADE
4. ELEVATION POINTS REPRESENT EXISTING GRADE



1 SITE PLAN
SCALE: 1" = 10'

PROJECT APPLICANT/OWNER

Steven and Paddy Graves
775 Estates Drive
Aptos, CA 95003
(831) 661-5451

Marcus Pohlmann
325 John Street
Santa Cruz CA 95006
(831) 466-9567

PROJECT CONSULTANTS

Land Use Consultant
Steven Graves
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Aptos, CA 95003
(831) 661-5451

Architect
Nathan Good Architects, PC
Lydia Peters, Project Architect
205 Liberty St. NE, Suite B
Salem, OR 97301
(503) 370-4448
lydia@ngapc.com

Civil Engineer
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64 Penny Lane, Suite A
Watsonville, CA 95076
(831) 724-5300

Soils Engineer
Becky Dees
501 Mission St, Suite 8A
Santa Cruz, CA 95060
(831) 588-1006

Geologist
CJEarth
Chris Hundemer
750 Camden Ave, Suite A
Campbell, CA 95008
(408) 866-5436

Landscape Architect
Greg Lewis
736 Park Way
Santa Cruz, CA 95065
(831) 425-4747

DEVELOPEMENT STANDARDS

Front Yard Setback	20ft
Side Yard Setback	5ft and 8ft
Garage Setback (w/o Level V Zoning Administrator Variance)	20ft
Bluff Setback (per geologist)	25ft
Rear Yard Setback (superseded by Bluff Setback)	15ft
Max Height (from existing grade)	28ft

GROSS BUILDING AREA

Total Allowable Gross Building Area for All Buildings on Site =
Net Site Area x Floor Area Ratio (FAR)
6777x50% = 3388.5 sf allowed

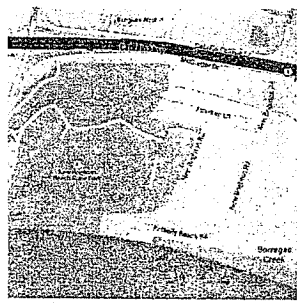
Maximum Allowable Parcel Coverage =
Net Site Area x Maximum Parcel Coverage Percentage
6777x40% = 2710.8 sf allowed on Ground Level

FAR

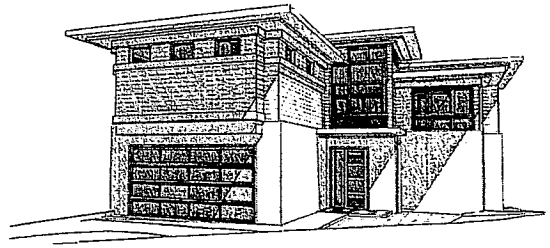
Area	SF	SF Credit		
1st Floor	1302			
2nd Floor	1590			
Covered Patio/Deck Mn Fl	124	124	*	
Covered Deck Upper Fl	0	0		
Garage	540	225		
Entry (over 16' ceiling)	65			
3'+ Overhangs	0		**	
Total Square Footage	3621	349		3272
Site SF as per Civil 5-12-15				6777
FAR				0.4828
FAR allowed				50%

*(FIRST 140 SF EA SIDE EXEMPT)

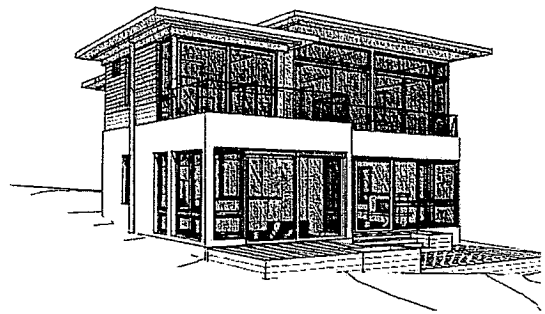
**AREA UNDER 3FT DEEP (OR LESS) ROOF OVERHANG DOES NOT COUNT. FIRST 140 SF EA SIDE IS EXEMPT



5 VICINITY MAP
NOT TO SCALE



2 NORTH ENTRY PERSPECTIVE
NOT TO SCALE



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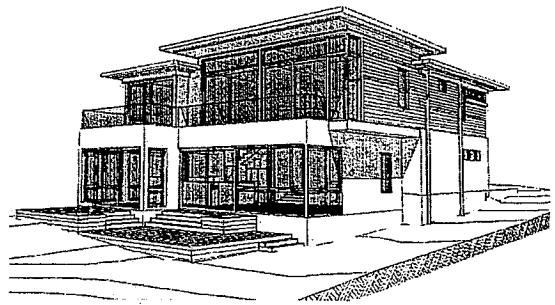
NOT TO SCALE



2 SE PERSPECTIVE
NOT TO SCALE

Nathan Good Architects
205 Liberty St NE, Suite B
Salem, OR 97301
503-370-4448
www.nathangoodarchitects.com

LICENSED ARCHITECT
RENEWAL DATE
OREGON
STATE OF CALIFORNIA

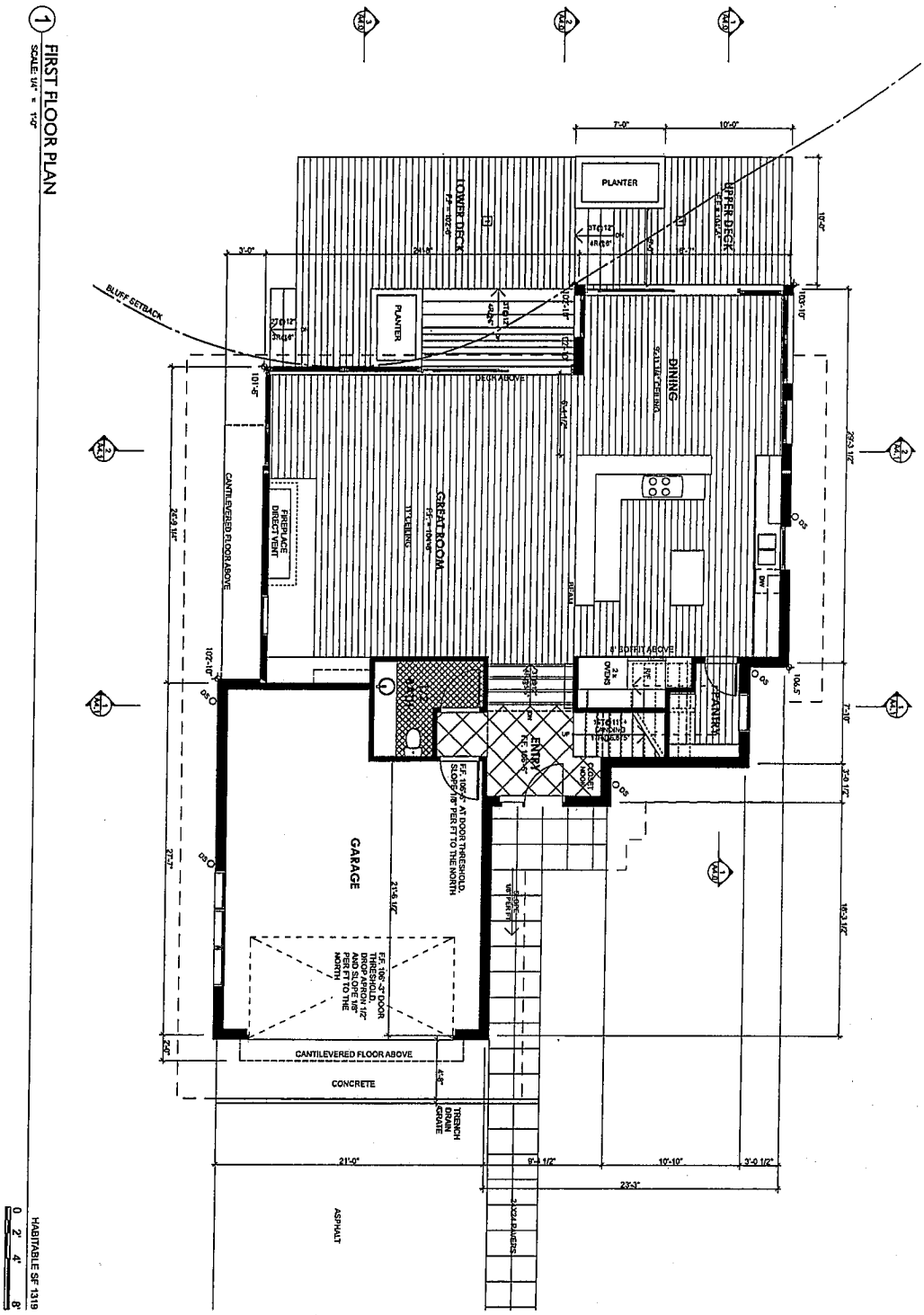
GRAVES/POHLMANN RESIDENCE

APN 038-231-09
NEW BRIGHTON RD
APTOS, CA 95003

DRAWN BY: LJP
STATUS: CCC
VERSION: 6/18/15

A1.0

SITE PLAN & GEN. NOTES



A2.1
FIRST FLOOR PLAN

DRAWN BY: LJP
STATUS: CCC
VERSION: 6/18/15

GRAVES/POHLMANN RESIDENCE

APN 038-231-09
NEW BRIGHTON RD
APTOS, CA. 95003

Nathaniel Ford Architecture
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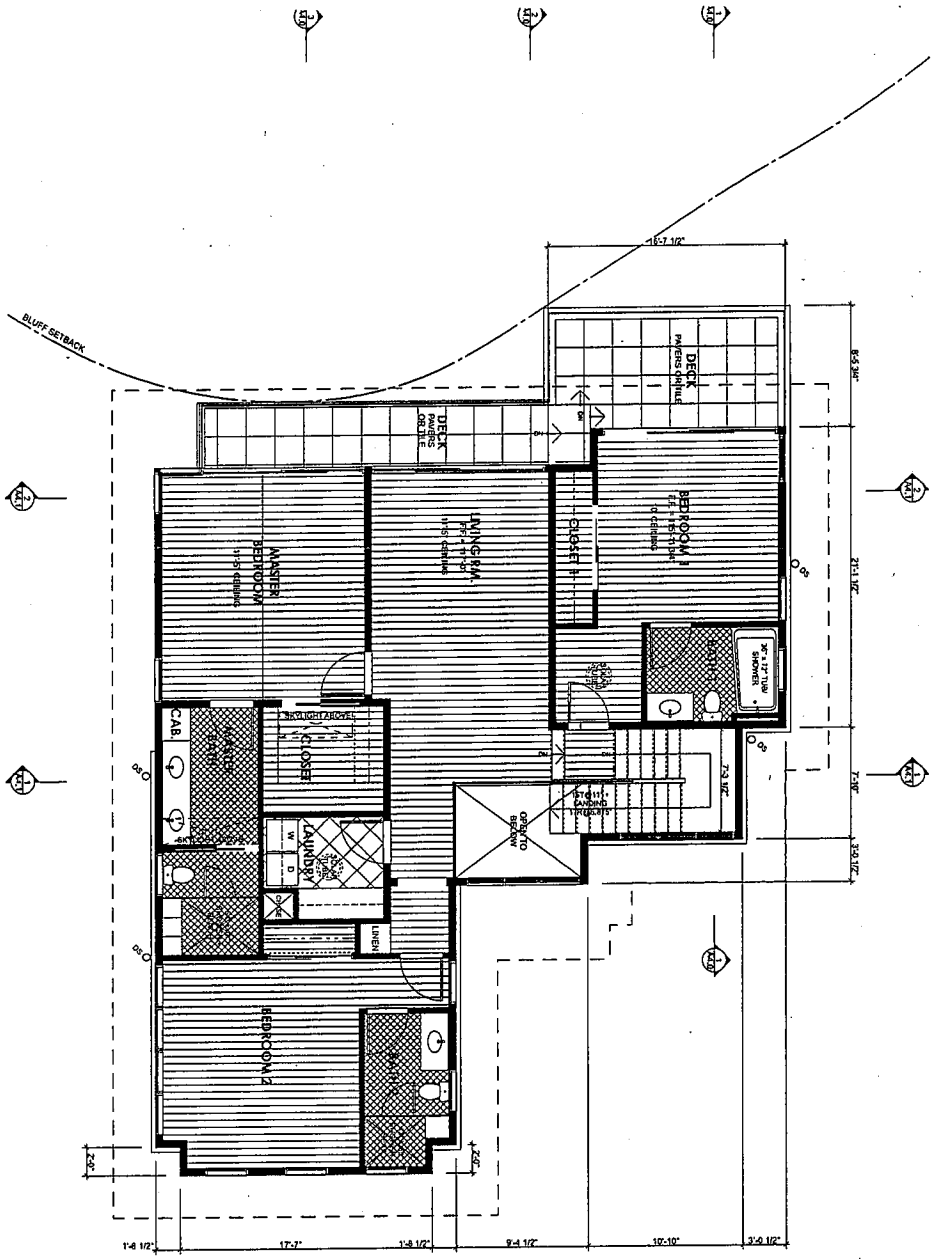
www.nathangoodarchitects.com

EXHIBIT D



1 SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"

0 2' 4' 8'

HABITABLE SF: 1674

A2.2	SECOND FLOOR PLAN
DRAWN BY:	LJP
STATUS:	CCC
VERSION:	6/18/15

GRAVES/POHLMANN RESIDENCE

APN 038-231-09
NEW BRIGHTON RD
APTOS, CA 95003

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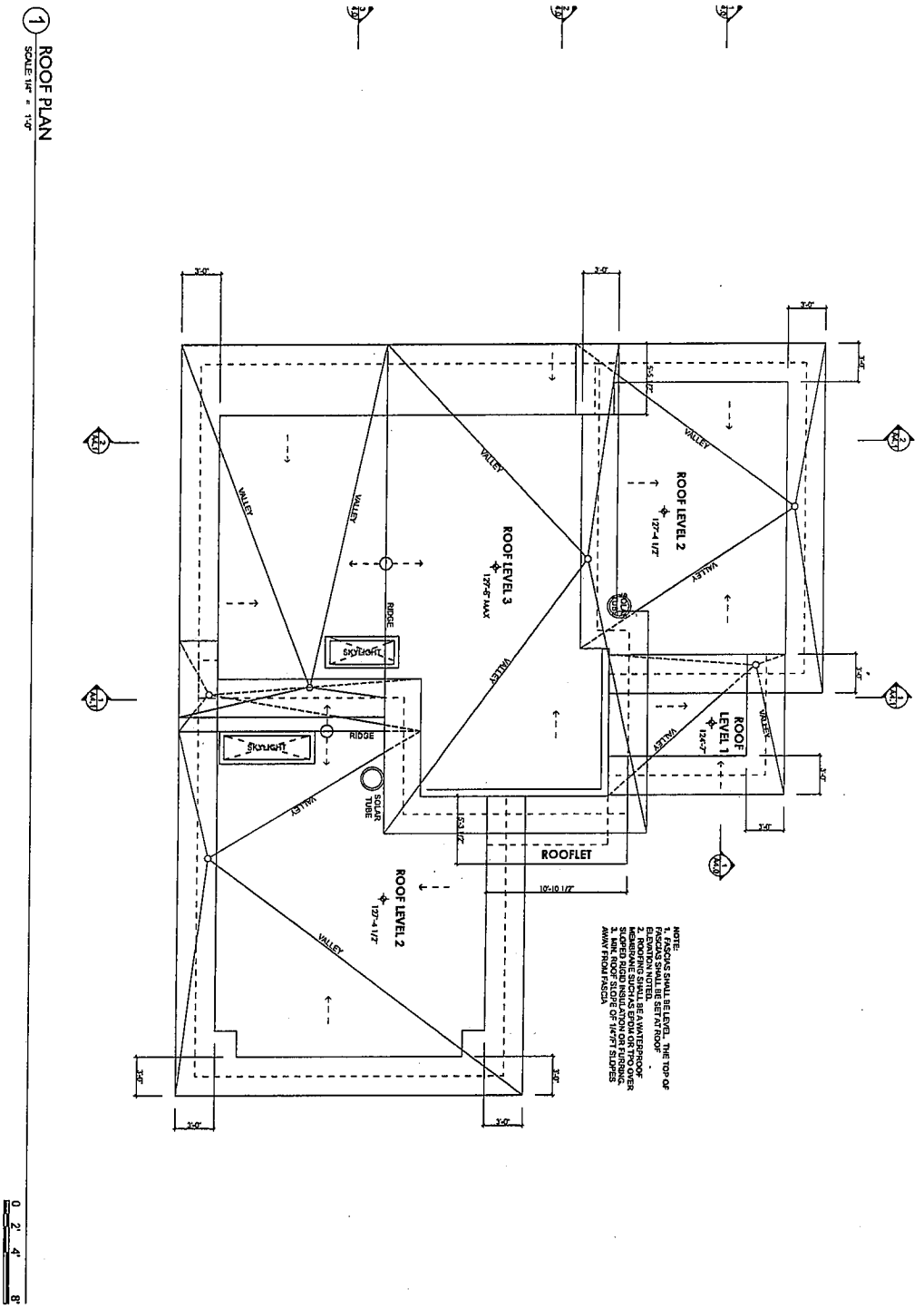
EXHIBIT D



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

0 2' 4' 8'

A2.3
ROOF PLAN

DRAWN BY: LJP
STATUS: CCC
VERSION: 6/18/15

GRAVES/POHLMANN RESIDENCE

APN 038-231-09
NEW BRIGHTON RD
APTOS, CA 95003

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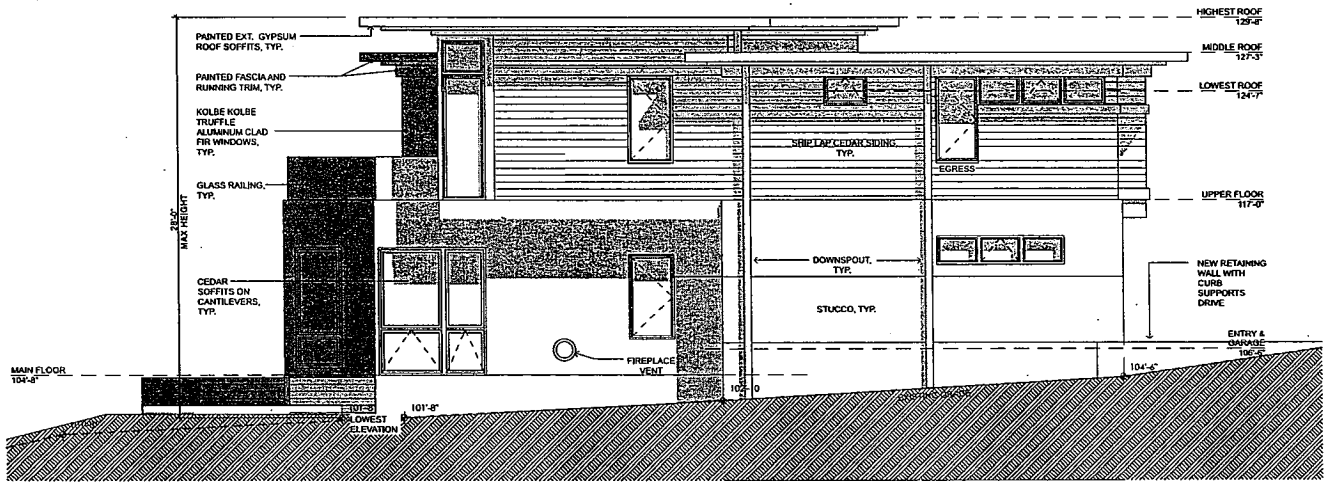
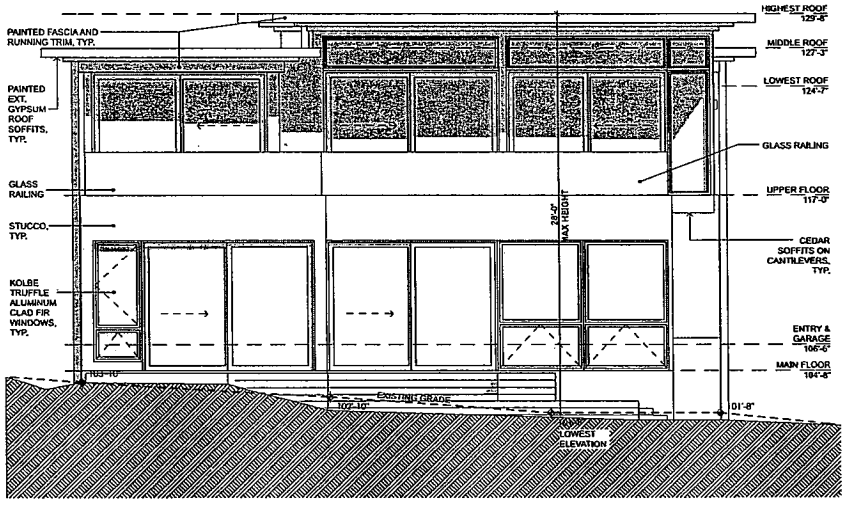
EXHIBIT D



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

0 2' 4' 8'



2 SOUTH ELEVATION
SCALE: 1/4" = 1'-0"

0 2' 4' 8'

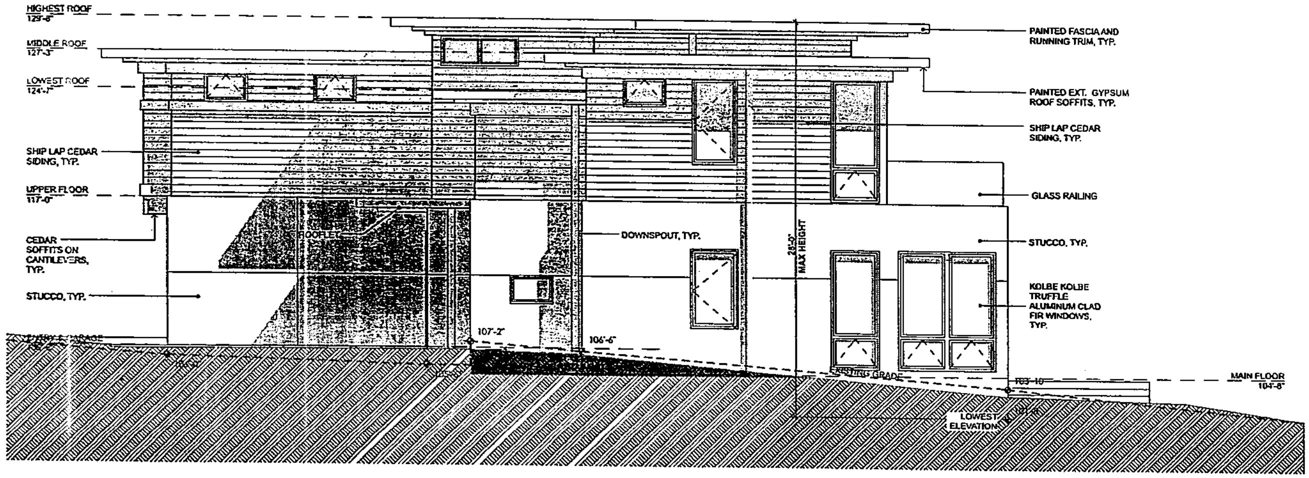
Nathan Graves Architecture
235 Liberty St. NE
Salem, OR 97301
503.307-4418
www.nathangravesarchitects.com

LICENSED ARCHITECT NATHAN GRAVES No. C-31183 Exp. 1-31-17 STATE OF CALIFORNIA

GRAVES/POHLMANN RESIDENCE
APN 038-231-09
NEW BRIGHTON RD
APTOS, CA 95003

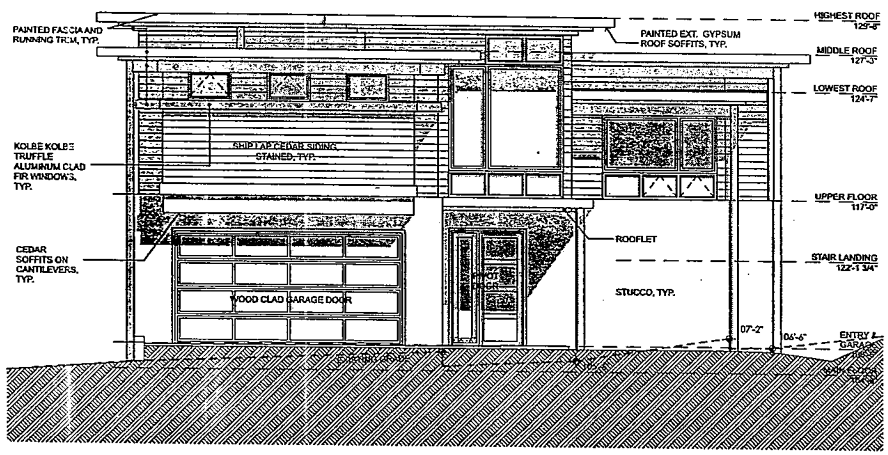
DRAWN BY:	LJP
STATUS:	CCC
VERSION:	6/18/15

A3.0
EXTERIOR ELEVATIONS



① WEST ELEVATION
SCALE: 1/4" = 1'-0"

0 2' 4' 8'



② NORTH ELEVATION
SCALE: 1/4" = 1'-0"

0 2' 4' 8'

Nathan Good Architects
205 Liberty St. SE Suite B
Salem OR 97301
503-307-4448
www.nathangoodarchitects.com

A-3-SCO-16-0070
Page 49 of 77

EXHIBIT D

LICENSED ARCHITECT
NATHAN GOOD
No. C 33463
STATE OF CALIFORNIA

GRAVES/POHLMANN RESIDENCE

APN 038-231-09
NEW BRIGHTON RD
APTOS, CA 95003

DRAWN BY: LJP
STATUS: CCC
VERSION: 6/18/15

A3.1

EXTERIOR ELEVATIONS

12/7/15

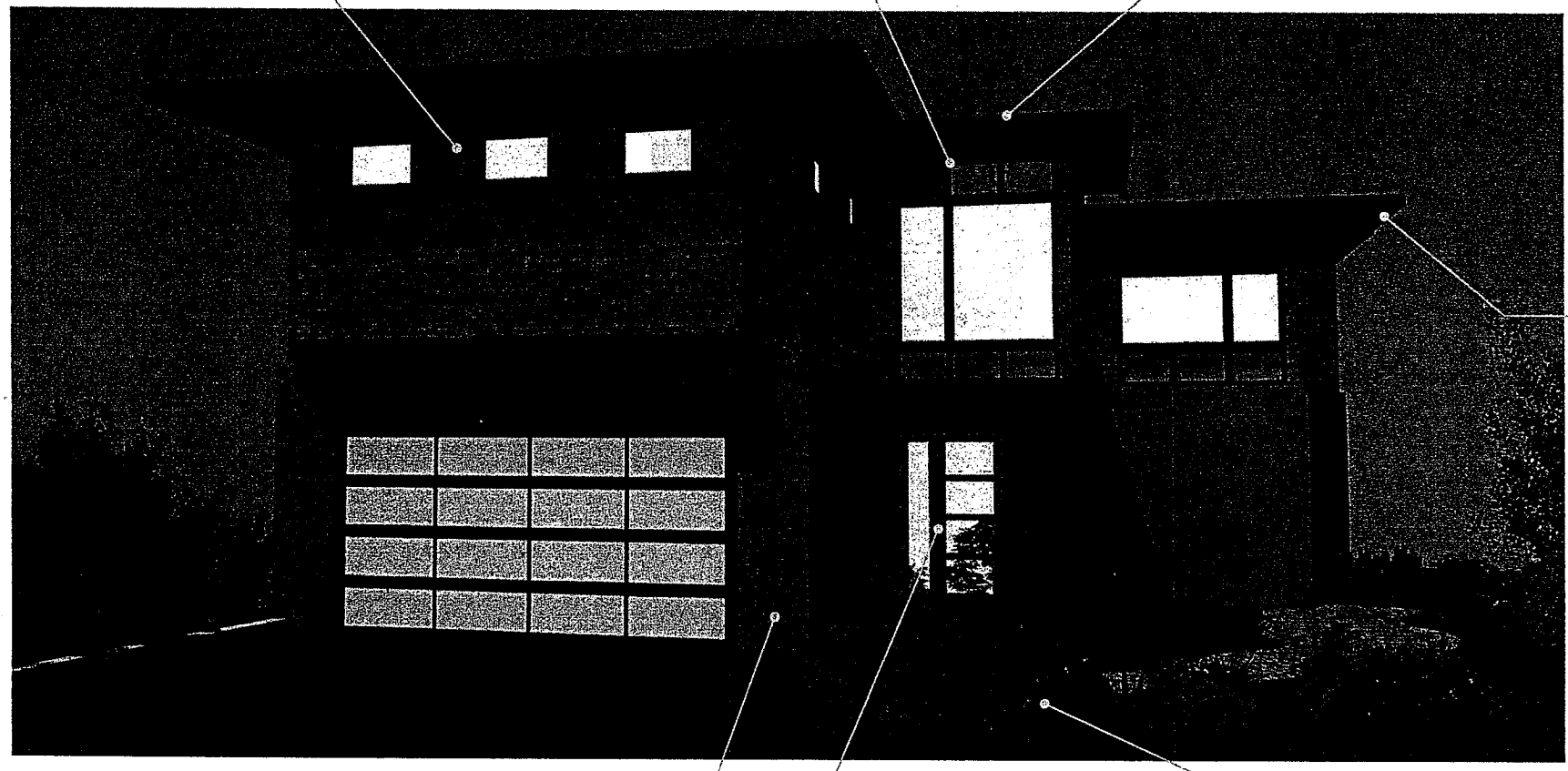
EXHIBIT D

Exhibit A
A-3-SCO-16-0021
Page 50 of 51

WESTERN RED CEDAR SIDING

WINDOWS, KOLBE TRUFFLE COLOR. GARAGE DOOR, ROOF GUTTERS, AND FACIA TO MATCH

ROOFING SHALL BE EPDM OR TPO MEMBRANE



SOFFITS SHALL BE EXTERIOR GWB PAINTED TO MATCH STUCCO

STUCCO, SHERWIN WILLIAMS KINGSPORT GRAY. DOWNSPOUTS AND SOFFITS TO MATCH

LANDSCAPING PER SITE PLAN

VERTICLE GRAIN DOUGLAS FIR FRONT DOOR

GRAVES/POHLMANN RESIDENCE

8 1/2 X 11 MATERIAL RENDERING

NATHAN GOOD ARCHITECTS

NOT TO SCALE

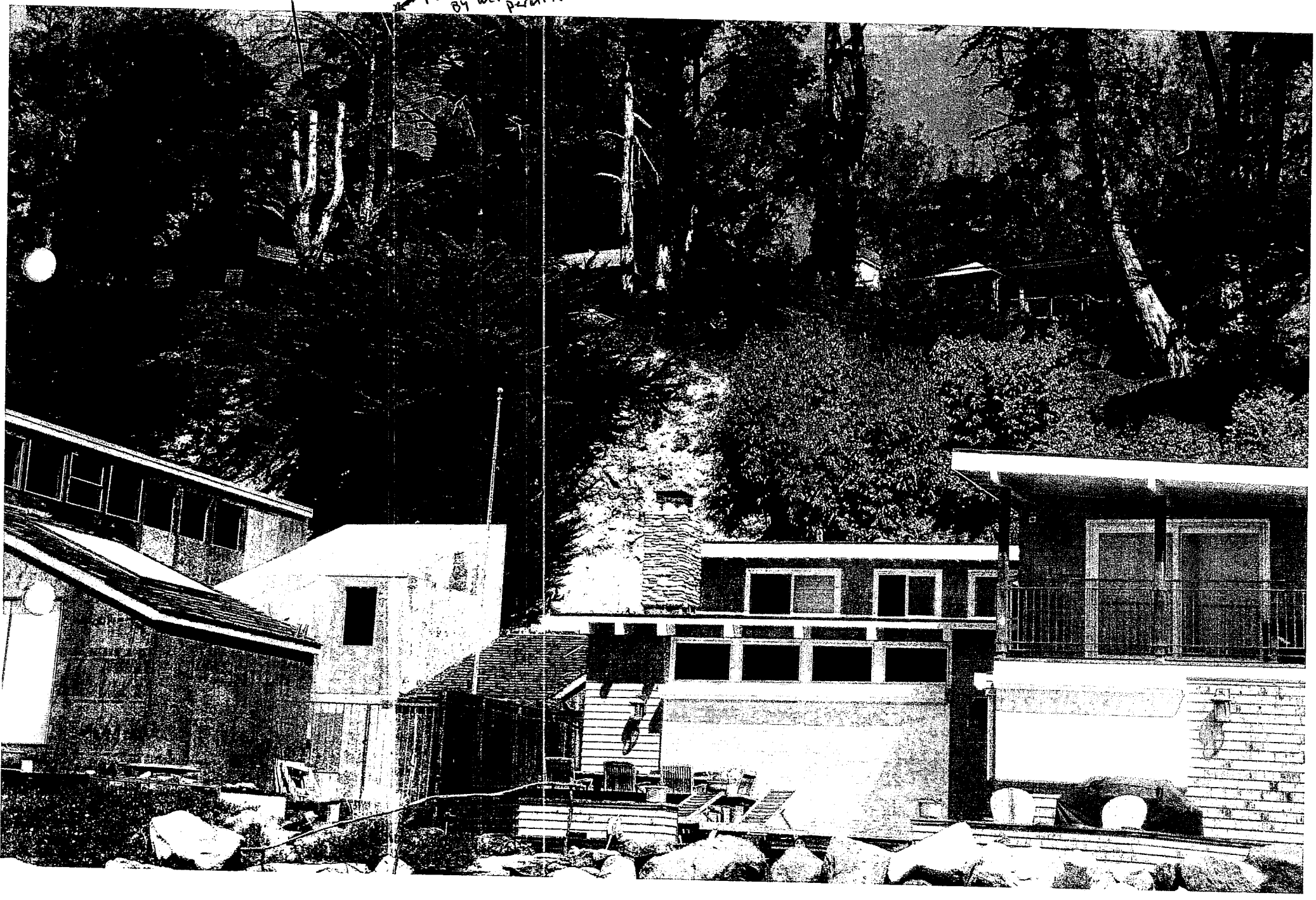


EXHIBIT E

Tree Proposed for Removal
Tree removed by Wells (previously)

EXHIBIT E

COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT
701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123
KATHLEEN MOLLOY PREVISICH, PLANNING DIRECTOR

Febraury 6, 2015

Mr. Steven Graves
775 Estates Drive
Aptos, CA 95003

Subject: Review of Geotechnical investigation / Report by Dees and Assoicates Dated August 2014: Project: SCR-0819; and, Engineering Geology Study Dated August 14, 2012 and December 19, 2014: Project Number 14053A-01L1
APN 038-231-09, Application #: REV141089

Dear Mr. Steven Graves,

The purpose of this letter is to inform you that the Planning Department has accepted the subject report and the following items shall be required:

1. All construction shall comply with the recommendations of the report with the following modification. The 25 foot-setback shall be measured from the brow of the landslide scarp as shown on the Attachment B included with this letter.

2. A drainage, grading, and erosion control plan must be prepared by a civil engineer. This plan must comply with the Department of Public Works Drainage requirements, and must not disperse drainage in a manner that will increase the potential for instability or erosion. The plans must be reviewed by the consultants as indicated in item 4.

3. Final plans shall reference the report and include a statement that the project shall conform to the report's recommendations.

4. Prior to building permit issuance a *plan review letters* shall be submitted to Environmental Planning. After plans are prepared that are acceptable to all reviewing agencies, please submit a plan review letters that states the project plans conform to the recommendations of the accepted reports except as noted in item 1. *Please note that the plan review letters must reference the final plan set by last revision date.* The authors of the reports shall write the *plan review letters*.

5. Please submit an electronic copy of the reports in .pdf format via compact disk or email to: pln829@co.santa-cruz.ca.us. Please note that the reports must be generated and/or sent directly from the consultant of record.

6. The attached declaration of geologist hazards must be recorded as before the issuance of the Building Permit.

(over)

EXHIBIT F

After building permit issuance the soils engineer *must remain involved with the project* during construction. Please review the *Notice to Permits Holders* (attached).

Our acceptance of the report is limited to its technical content. Other project issues such as zoning, fire safety, septic or sewer approval, etc. may require resolution by other agencies.

Please note that this determination may be appealed within 14 calendar days of the date of service. Additional information regarding the appeals process may be found online at: http://www.sccoplanning.com/html/devrev/plnappeal_bldg.htm

Please call the undersigned at (831) 454-3175 if we can be of any further assistance.

Sincerely,

Joe Hanna
County Geologist

Carolyn Burke
Civil Engineer

Cc: Robert Loveland, Environmental Planning
owner (if different from applicant)

EXHIBIT F

NOTICE TO PERMIT HOLDERS WHEN A SOILS REPORT HAS BEEN PREPARED, REVIEWED AND ACCEPTED FOR THE PROJECT

After issuance of the building permit, the County requires your soils engineer and engineering geologist to be involved during construction. Several letters or reports are required to be submitted to the County at various times during construction. They are as follows:

1. **When a project has engineered fills and / or grading**, a letter from your soils engineer must be submitted to Planning staff prior to foundations being excavated. This letter must state that the grading has been completed in conformance with the recommendations of the soils report. Compaction reports or a summary thereof must be submitted.

2. **Prior to placing concrete for foundations**, letters from the soils engineer and engineering geologist must be submitted to the building inspector and to Planning staff stating that the soils engineer and engineering geologist have observed the foundation excavation and that it meets the recommendations of the reports.

3. **At the completion of construction,** *final letters* from your soils engineer and engineering geologist are required to be submitted to Planning staff that summarizes the observations and the tests made during construction. The final letter must also state the following: "Based upon our observations and tests, the project has been completed in conformance with our recommendations."

   If the *letters* identifies any items of work remaining to be completed or that any portions of the project were not observed by the consultants , you will be required to complete the remaining items of work and may be required to perform destructive testing in order for your permit to obtain a final inspection.

EXHIBIT F

Return recorded form to:
Planning Department
County of Santa Cruz
701 Ocean Street, 4th Floor

Attention: Joe Hanna
County Geologist
831-454-3175

Notice

THIS PAGE ADDED TO PROVIDE ADEQUATE SPACE FOR RECORDING INFORMATION (CALIFORNIA GOVERNMENT CODE §27361.6)

EXHIBIT F

RECORDED AT REQUEST OF:
County of Santa Cruz

WHEN RECORDED MAIL TO:

Santa Cruz County Planning
701 Ocean St.
Santa Cruz, CA 95060

(Space above this line for Recorder's use only)

Note to County Recorder:

Please return to the staff geologist in the Planning Department when completed.

DECLARATION REGARDING THE ISSUANCE OF A DEVELOPMENT PERMIT IN AN AREA SUBJECT TO GEOLOGIC HAZARDS

The undersigned _____ (names of property owners) (does) (do) hereby certify to be the owner(s) of the real property located in the County of Santa Cruz, State of California, commonly known as

_____ (Street address); legally described in that certain deed recorded in Document Number_____ of the official records of the Santa Cruz County Recorder on _____ (deed recordation date); Assessor's Parcel Numbers 035-231-09.

And, acknowledge that records and reports, filed with the Santa Cruz County Planning Department, indicates that the above described property is located within an area that is subject to geologic hazards, to wit:

The home is located near a coastal bluff that has recent experienced landsliding. Several geotechnical engineering and engineering geology reports have been prepared to analyze this landslide. These reports include a Geotechnical investigation / Report by Dees and Associates, Dated August 2014: Project: SCR-0819; and, Engineering Geology Studies, Dated August 14, 2012, and December 19, 2014: Project Number 14053A-01L1. The investigations conclude that a home can be constructed on this property and avoid damage from landsliding or coastal hazards. Please read these reports in the County File for application REV141089 for further information

The property is located in a seismically active area, and will be subject to intense seismic shaking.

In addition, having full understanding of said hazards and the proposed mitigation of these hazards, we elect to pursue development activities in an area subject to geologic hazards and do hereby agree to release the County from any liability and consequences arising from the issuance of the development permit.

This declaration shall run with the land and shall be binding upon the undersigned, any future owners, encumbrancers, their successors, heirs, or assignees. This document should be disclosed to the forgoing individuals. This declaration may not be altered or removed from the records of the County Recorder without the prior consent of the Planning Director of the County of Santa Cruz.

OWNER: _____ OWNER: _____
Signature Signature

ALL SIGNATURES ARE TO BE ACKNOWLEDGED BEFORE A NOTARY PUBLIC. IF A CORPORATION, THE CORPORATE FORM OF ACKNOWLEDGEMENT SHALL BE USED.

EXHIBIT F

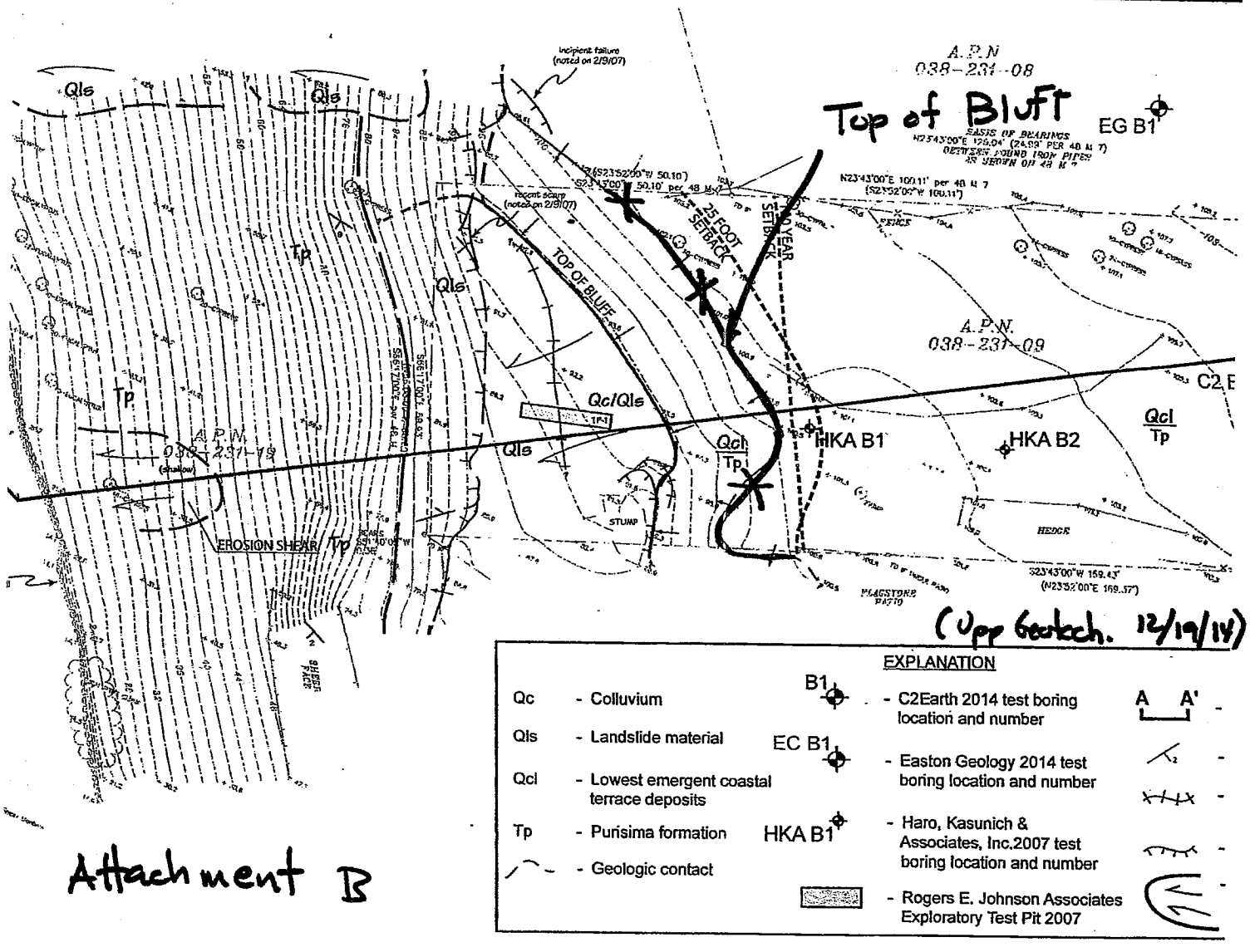
On _____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Approved: _____
Joe Hanna Date

EXHIBIT F



Attachment B

EXHIBIT F

FOR TAX PURPOSES ONLY

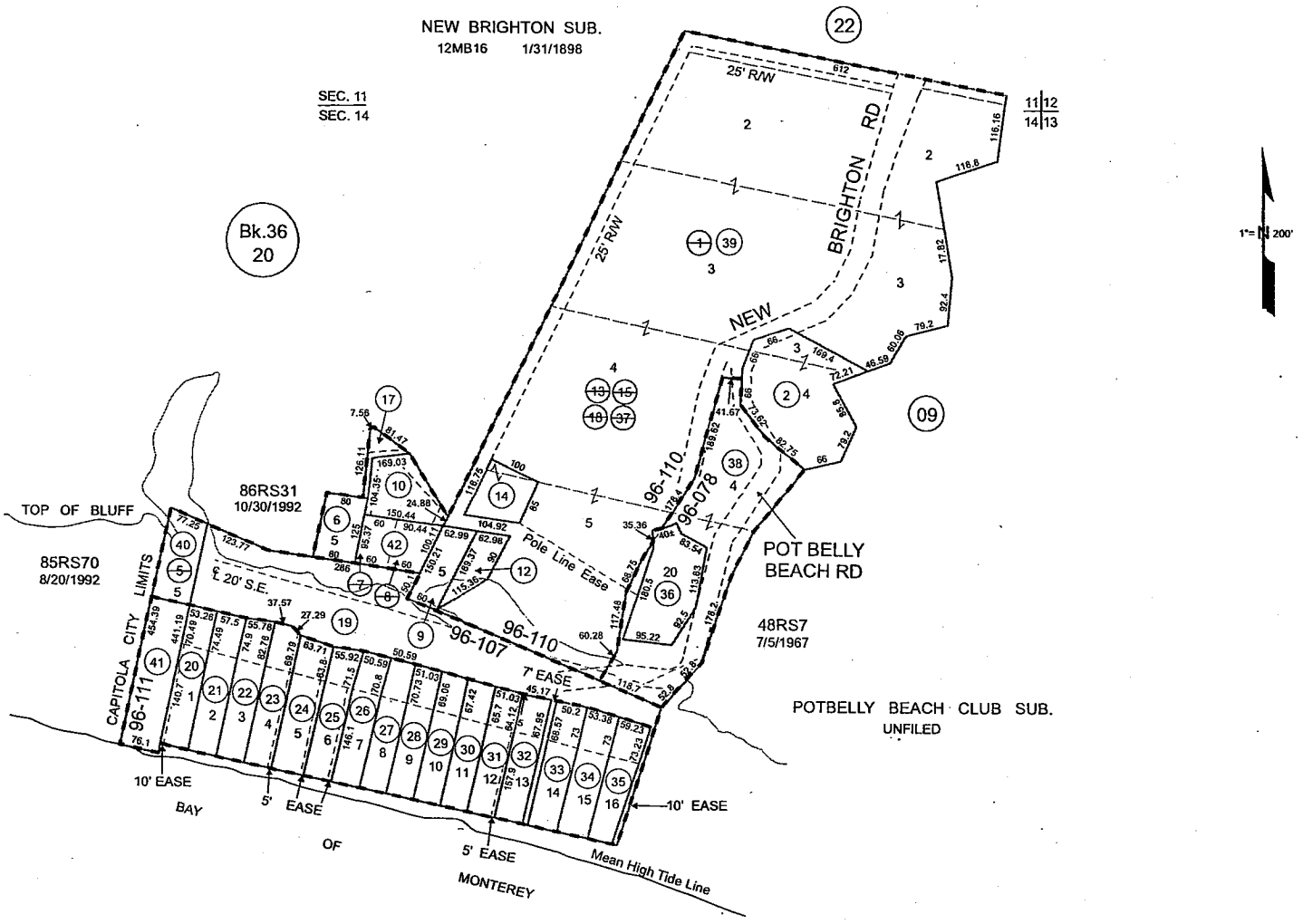
SOQUEL RANCHO

POR. SECS. 11, 12, 13 & 14, T.11S., R.1W., M.D.B. & M.

Tax Area Code
96-078 96-107
96-110 96-111

38-23

EXHIBIT C

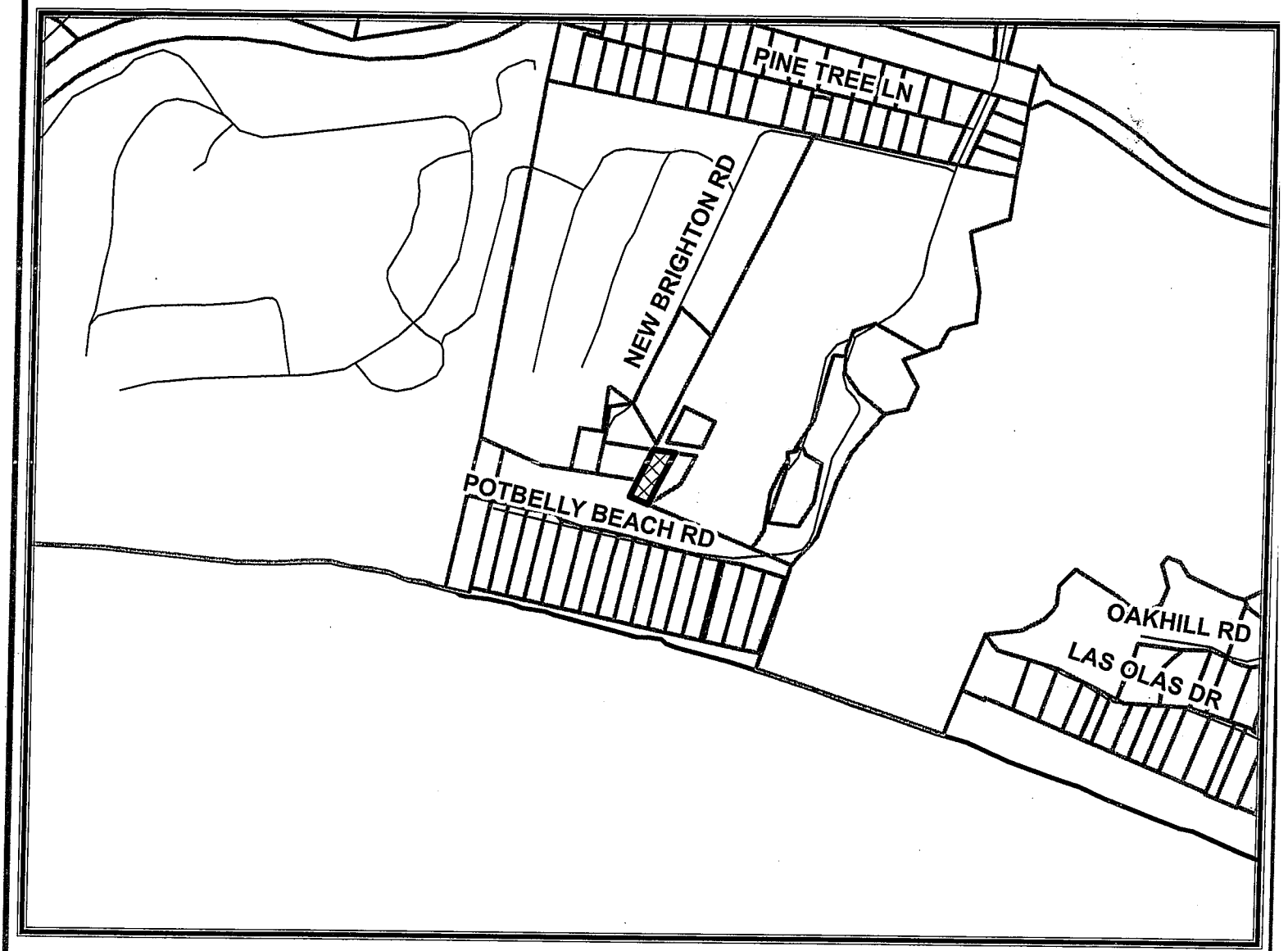


Note - Assessor's Parcel & Block Numbers Shown in Circles.

Assessor's Map No. 38-23
County of Santa Cruz, Calif.
Nov. 1997

Electronically Redrawn 11/18/97 wfp
Rev 5/4/98 KSA (CA)
Rev 5/13/98 GG (Cor. CA)
Rev 5/27/98 GG (Cor. adjustment)
Rev 11/4/13 CB (Cor TCA-Adding 96-111 & creating 1-40 & 41)
Rev 7/24/14 CB (Cor linework on 1-17)
Rev 9/8/15 CB (15-0032876, Combo 1-42)

Location Map



0 400 800 1,600 2,400 3,200 Feet

LEGEND

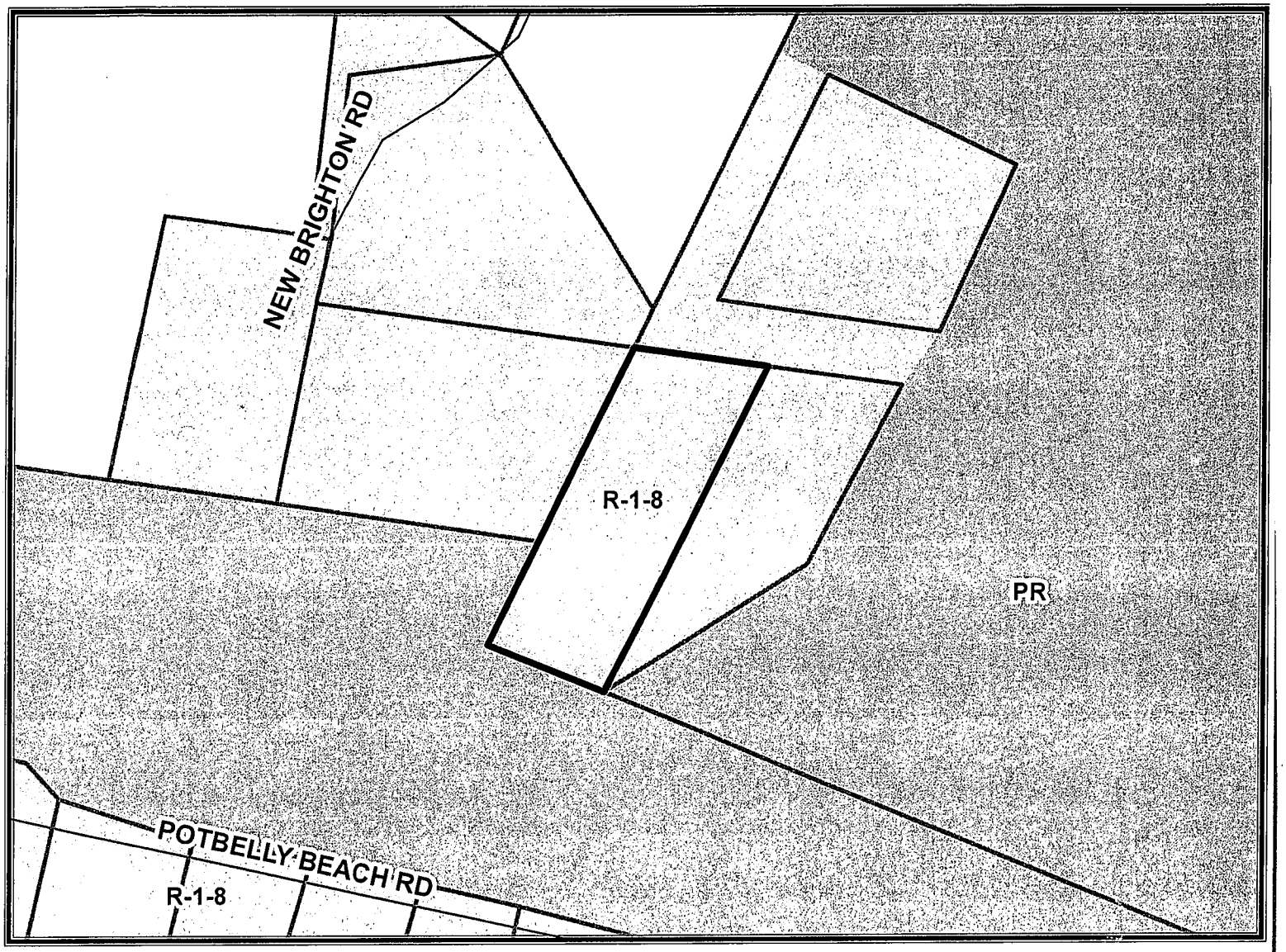
- APN: 038-231-09
- Assessors Parcels
- Street
- County Boundary

N
W E
S

Map Created by
County of Santa Cruz
Planning Department
May 2016

EXHIBIT G

Zoning Map



0 62.5 125 250 375 500 Feet

LEGEND

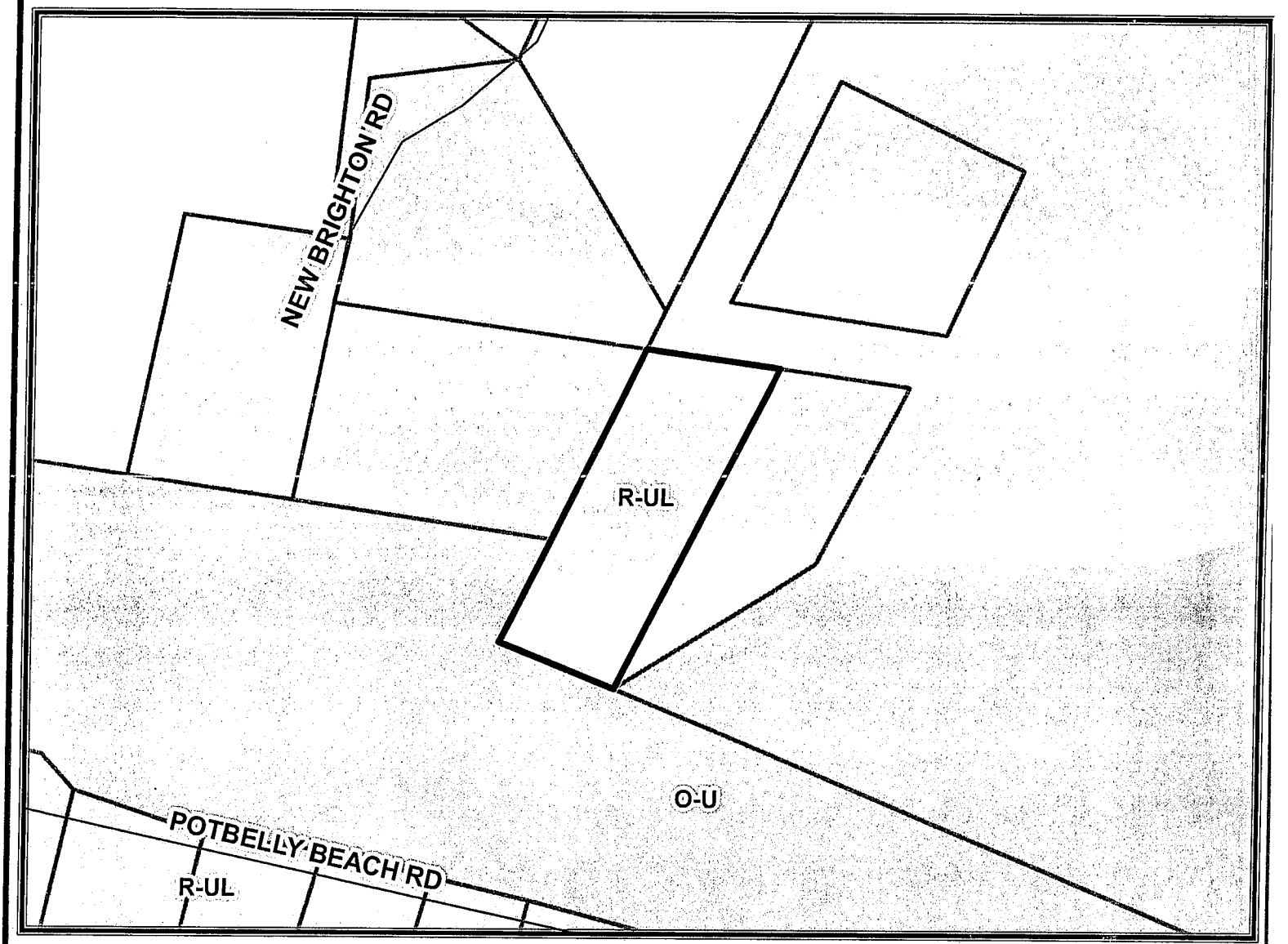
- APN: 038-231-09
- Assessors Parcels
- Street
- RESIDENTIAL-SINGLE FAMILY
- PARK

N
W E
S

Map Created by
County of Santa Cruz
Planning Department
May 2016

EXHIBIT G

General Plan Designation Map



0 62.5 125 250 375 500 Feet

LEGEND

- APN: 038-231-09
- Assessors Parcels
- Street
- Residential - Urban Low Density
- Urban Open Space

N W E S

Map Created by
County of Santa Cruz
Planning Department
May 2016

Nathan MacBeth

From: bruce orisek [borisek@hotmail.com]
Sent: Wednesday, May 11, 2016 4:46 PM
To: Nathan MacBeth
Subject: APN: 038-231-09.
Attachments: GravesProject-05-11-16.pdf

Nate:

Please read my letter and respond to the project proposed on APN: 038-231-09. I plan on attending the hearing scheduled for May 20th.

Bruce S. Orisek, MD

EXHIBIT H

Bruce S. Orisek, MD
116 New Brighton Road
Aptos, CA 95003
Cell: (831) 207-6376
Email: borisek@hotmail.com

May 11, 2016

Zoning Administrator
at the County Government Center
701 Ocean Street, Room 400
Santa Cruz, CA 95060

RE: APN: 038-231-09
Item #2: 151193**
Owner: Marcus Pohlmann
Applicant: Steven Graves
Supervisorial District 2
Project Planner: Nate MacBeth

Dear Mr. MacBeth;

I had sent you an email months ago and have received no acknowledgement or reply. A building project has been posted on APN: 038-231-09. This is just to the west of my bluff top property APN: 038-231-12 and to the south west of my other property APN: 038-231-14. The property is question, APN: 038-231-09, was formally owned by the Franich family and, after exhaustive geological investigation, the building project was abandoned. The Franichs were offered to participate in the new bluff residents water partnership but chose not to participate and put the property up or sale. Apparently, Marcus Pohlmann and his agent, Steven Graves, purchased the property. They have yet to secure access to water.

Since I am a neighbor and I have firsthand knowledge of the bluff situation, I have concerns regarding Mr. Pohlmann's building project. There has been some controversy regarding the project's set back from the bluff. There is clearly a geological slump on the property which previously effected the proposed building project of the Franich's. Now, Mr. Pohlmann with Mr. Graves, wish to build their own project on the same property. I fear that this slump could progress and extend into my properties and jeopardize my homes.

In addition, there are issues of water run off and drainage. How is this to be addressed? If not properly engineered and remedied, this would have catastrophic effects on the bluff and the adjacent neighbors.

EXHIBIT H

I plan to be at the public hearing on this project. I am providing a formal letter to your office and would hope that you would acknowledge its receipt and provide to me a response. I prefer email due to its efficiency.

Sincerely;

Bruce S. Orisek, MD

EXHIBIT H

Nathan MacBeth

From: Brett Brenkwitz [brenkwitz@sbcglobal.net]
Sent: Tuesday, May 10, 2016 8:40 AM
To: Nathan MacBeth
Cc: steven@stevengravesmusic.com
Subject: Re: preferred alt. for tree reloc.

Nate- the Welle's are good with the alternative replacement tree location on the East property line of the Grave's parcel.

Thanks.

Sent from my iPhone
B. Brenkwitz

On May 9, 2016, at 2:22 PM, Nathan MacBeth <Nathan.MacBeth@santacruzcounty.us> wrote:

> Steve,
> Thank you for working on this. I think the alternate location is a good one.
>
> Nathan MacBeth
> Development Review Planner
> County of Santa Cruz
>
>
> -----Original Message-----
> From: Steven Graves [mailto:stevengravesmusic@gmail.com] On Behalf Of Steven Graves
> Sent: Monday, May 09, 2016 2:14 PM
> To: Nathan MacBeth
> Cc: Brett Brenkwitz
> Subject: preferred alt. for tree reloc.
>
> Hey Nate - Attached is a preferred alt location of the tree, this is more acceptable to the neighbor to the West (Welle - cc to Brett Brenkwitz his architect), is located outside of the geologic setback and there is sufficient room for the tree to grow over time.
>
> Let me know if this one works?
>
> Thx!
> Steven
> 831-325-1219
> --
> Steven Graves
>
> http://www.cdbaby.com/cd/stevengraves6
> http://www.stevengravesmusic.com
> http://www.facebook.com/stevengravesmusic
> http://www.youtube.com/stevengravesmusic1
>

EXHIBIT H

POTRERO BEACH ROAD
LEGEND
PRELIMINARY GRADING & DRAINAGE PLAN
GABION SECTION A
GABION SECTION B
GABION SECTION C
25' RIGHT OF WAY
NEW RESIDENCE FOR
STEVEN GRAVES
NEW BRIGHTON ROAD APN 038-231-09
PRELIMINARY GRADING & DRAINAGE PLAN
ROPER ENGINEERING
CIVIL ENGINEERING & LAND SURVEYING
64 PENNY LANE, SUITE A WATSONVILLE, CA 95076
(831) 724-5300 PHONE
C1

EXHIBIT H

County of Santa Cruz
Planning Department

Zoning Administrator
Meeting Date: 05/20/2016
Agenda Item: # 2
Time: After 9:00 a.m.

Late Correspondence/ Additions to the Staff Report for the Zoning Administrator

Item # 2

Application # 151193

Nathan MacBeth

From: bruce orisek [borisek@hotmail.com]
Sent: Friday, May 13, 2016 10:09 AM
To: Nathan MacBeth; linda theiring
Subject: Re: 038-231-09.

Nathan;

This is just to reiterate that Mr. Puhlmann and Mr. Graves have not secured water access. There are two possible sources. The Bluff Residents Water Partnership, of which I am a member, and the Soquel Water District. The Partnership has not included Mr. Puhlmann and Mr. Graves in our water system. Pot Belly Beach signed over the system to the Bluff Residents and is no longer in control of said well and reservoir. Pot Belly Beach then installed a water main running down New Brighton Road and Pot Belly Beach Road to service their homes from the Soquel Water District. This was an expensive project and, should anyone outside the Pot Belly Beach community decide to participate, there will be a very expensive membership fee. In addition, a new ROW would have to be granted by Pot Belly Beach to cross their property to hook into their water main. This will also be expensive.

So, Mr. Puhlmann and Mr. Graves have a dilemma. Securing their water source should have been decided during the escrow period when the Franich family sold them the property 2 years ago. This is clearly a deficiency in due diligence.

The property line between their lot and mine is showing erosion from run off. Proof of this is the undercutting of my patio. Also, years ago, because of unabated run off, a cypress tree fell and had to be cut up on their property. The root ball remained and washed down hill onto my property and was never addressed.

As for the bluff edge, there is controversy. My understanding is that when a trench was dug across the slump area by geological consultants working for the Franich family, large cracks were revealed. This proved that the slum was unstable and was probably responsible for the Franich family abandoning their building project and putting the lot up for sale.

The gated ROW between the Park and Pot Belly Beach property did not exist 15 years ago. I negotiated and developed this ROW and its use was signed over to me by Pot Belly Beach. Only myself and the Thiering family (APN: 038-231-06) are the parcels permitted to use this ROW. Therefore, access to Mr. Puhlmann's and Mr. Graves' is through New Brighton State Park property. Note, even though this road is paved, it is not of sufficient width (13') to allow passage of a fire truck. Also, should Mr. Puhlmann and Mr. Graves choose to join the Bluff Residents Water Partnership, he will have to gain access to my ROW in order to install the requisite 6" water main and fire hydrant. To date, I have not granted access to my ROW. Personally, I have a 10K water tank and my own fire hydrant mandated by the Soquel Fire District.

In conclusion, the hearing on the 20th is probably premature since there are issues that have not been remedied. In addition, I suspect Mr. Puhlmann and Mr. Graves are trying to build a spec home which they plan to sell at the highest possible profit for the least money invested.

Bruce Orisek, MD

From: Nathan MacBeth <Nathan.MacBeth@santacruzcounty.us>
Sent: Wednesday, May 11, 2016 11:55 PM
To: 'bruce orisek'
Subject: RE: 038-231-09.

Bruce,
Thank you for your comments. I will include them in the official record.
Regarding the assertion that I have not replied to your prior inquiries, I have attached an email chain between the two of us.
Thank you again,

Nathan MacBeth
Development Review Planner
County of Santa Cruz

From: bruce orisek [mailto:borisek@hotmail.com]
Sent: Wednesday, May 11, 2016 4:46 PM
To: Nathan MacBeth
Subject: APN: 038-231-09.

Nate:
Please read my letter and respond to the project proposed on APN: 038-231-09. I plan on attending the hearing scheduled for May 20th.
Bruce S. Orisek, MD

Nathan MacBeth

From: Steven Graves [stevengravesmusic@gmail.com] on behalf of Steven Graves [steven@stevengravesmusic.com]
Sent: Wednesday, May 18, 2016 10:35 PM
To: Nathan MacBeth
Cc: Antonella Gentile
Subject: New Brighton #151193 (proposed revision to Project Conditions) Please forward to Zoning Administrator
Attachments: Steven Graves , New Brighton Trees.pdf

Hi Nate and also Antonella -

I have attached a letter from Jim Mckenna who does all of my landscaping work. Per his letter he highly recommends that the three trees not be installed until the end of construction. This makes way more sense and will ensure the health and safety of those trees. Two of the Cypress are right along the existing roadway and the other will be accessible with a back hoe that can be used to plant the tree along the east side of the residence (there is a 10' side yard setback which will allow plenty of room for equipment access).

I will be requesting that condition D3 on page 12 of the staff report be eliminated since we won't need tree protection zone mitigation when the trees are planted at the finish stage of the home with the rest of the landscaping.

Please forward this email request and the attached letter to the Zoning Administrator before the hearing.

Thanks!
Steve
661-5451

--

Steven Graves

http://www.cdbaby.com/cd/stevengraves6
http://www.stevengravesmusic.com
http://www.facebook.com/stevengravesmusic
http://www.youtube.com/stevengravesmusic1

James McKenna Landscapes
CCL #663438; CPESC # 532
2760 Valencia Road
Aptos, CA 95003
(831) 684-0400; (831) 566-9900
jmckenna@calcentral.com

Tuesday, May 17, 2016

Steven Graves and Associates
RE: Tree planting at the New Brighton Road Property

Steve,

I have reviewed your proposed plans for a single family residence on New Brighton Road at APN 038-231-09, and your requirement to install some 36" box trees of Monterey Cypress (Cupressus macrocarpa) in the rear and front yards.

Specifically, to respond to your question on what is the appropriate time to plant such trees during the course of the residential construction, I believe it would be prudent to wait until the major construction is completed. I base my opinion on the following reasons:

a. The construction process requires adequate space to stage materials and set up ladders and forklifts to get plywood and stucco installed, and loads of rock delivered. The tree planting may cause a challenge to have full access to the site during the construction process.

b. The various trades of stucco, concrete, and tile, no matter how well supervised, are capable of washing out their buckets and trucks in other than the designated places. There is always the chance of those trades contaminating the soil in the vicinity of the newly planted trees.

c. Presently, a water source has yet to be secured for the property, and coupled with the necessity of water conservation practices this summer, it makes sense to defer the need for irrigation on new planting for as long as possible.

I have also measured the side yard access for tree delivery which is between 10 and 14 feet wide. A standard backhoe, that is capable of lifting and moving a 36" box tree, only requires an 8.5 foot width, which allows the tree to be staged and planted at the end of the major construction disturbance, and can be performed concurrently during the landscape construction activities.

I have been a licensed landscape contractor for over 25 years in the area and have undertaken numerous fast track residential and commercial construction projects, with many trades on site at the same time. I can say from experience when there are plantings on site, even if adequately protected, next to other construction activity, the landscape plantings usually suffer.

Sincerely,

Jim McKenna (signed)

Nathan MacBeth

From: Steven Graves [stevengravesmusic@gmail.com] on behalf of Steven Graves [steven@stevengravesmusic.com]
Sent: Wednesday, May 18, 2016 2:45 PM
To: Nathan MacBeth
Subject: APN 038-231-09 Access to 25' ROW
Attachments: Preliminary Report - CA.pdf; DocID-2013.10020-1 (25' ROW).pdf; Color Map_1_Location Map.pdf

Hi Nathan - I have attached several documents that I hope you have a chance to review and also forward to the Zoning Administrator regarding Mr. Orisek's claim that he has ownership of the 25' ROW. Here's a brief description.

1. Preliminary Title Report. The deed for our parcel calls out the easement to the 25' ROW as Parcel Four as established in recorded doc. 2013 -010020.

2. Color Coded Title Company map showing this easement to our parcel.

3. Copy of Recorded Doc. 2013-010020 which clearly states that the ROW was granted by the Pot Belly Beach HOA for the benefit of all the upper bluff owners including our parcel which was previously owned by Franich.

The fact the Orisek and another neighbor Mr. Thiering elected to improve the right away does not give them the right to refuse access that is clearly deeded to our parcel. We have previously agreed to pay our fair share of costs for the improvement and maintenance of the paved driveway and will still do that once the house is under construction.

Please call me if you have any questions!

831-661-5451 or cell 325-1219
--

Steven Graves

http://www.cdbaby.com/cd/stevengraves6
http://www.stevengravesmusic.com
http://www.facebook.com/stevengravesmusic
http://www.youtube.com/stevengravesmusic1

County of Santa Cruz
Planning Department

Zoning Administrator
Meeting Date: 06/18/2016
Agenda Item: # 1
Time: After 9:00 a.m.

Late Correspondence/ Additions to the Staff Report for the Zoning Administrator

Item # 1

Application # 151193

STATE OF CALIFORNIA—NATURAL RESOURCES AGENCY
EDMUND G. BROWN JR., GOVERNOR

CALIFORNIA COASTAL COMMISSION
CENTRAL COAST DISTRICT OFFICE
725 FRONT STREET, SUITE 300
SANTA CRUZ, CA 95060
PHONE: (831) 427-4863
FAX: (831) 427-4877
WEB: WWW.COASTAL.CA.GOV

June 10, 2016

Nathan MacBeth
Santa Cruz County Planning Department
701 Ocean Street, 4th Floor
Santa Cruz, CA 95060

Subject: Zoning Administrator hearing 6/17/16—Item 1, County Application No. 151193

Dear Mr. MacBeth:

We appreciate that the Zoning Administrator acknowledged our concerns regarding the current lack of information/analysis to support the need for proposed shoreline protection devices (gabion baskets) associated with the proposed project, and continued the item from the initially proposed hearing on May 20, 2016 to allow the applicant additional time to prepare such information and analysis. We have previously requested (on five occasions, i.e. in three recent email requests, a letter to the Zoning Administrator dated May 19, 2016, and in comments on the routing dated December 31, 2016) to be provided with the 2007 geotechnical reports, a geotechnical explanation of the need for the gabion baskets, as well as clarification regarding the proposed residential bluff-top setback. We received this information today at 4:15 p.m. Ideally, we would like our technical staff to have the opportunity to review these documents and information before the matter goes back to hearing.

For this reason, we respectfully request that Item 1 (County Application No. 151193) be continued from the June 17, 2016 hearing until our technical staff has had the opportunity to review these materials and provide comments on the project. Finally, we would like to note that our request for a continuance is an effort to complement the local permit application process by assuaging any concerns with the project and ensuring that the project is consistent with the LCP. Our request for the item's continuance will allow us to continue to work with the County on an LCP-consistent project, which will help mitigate the potential for an appeal, especially given that the subject property is located between the sea and the first public road, and there is known local opposition to the project.

We look forward to continuing to the work with County staff on this project.

Sincerely,

Rainey Graeven
Coastal Planner
Central Coast District Staff

Nathan MacBeth

From: Steven Graves [stevengravesmusic@gmail.com] on behalf of Steven Graves [steven@stevengravesmusic.com]
Sent: Monday, June 13, 2016 12:33 PM
To: Nathan MacBeth
Subject: Revised conditions of approval - New Brighton

Hi Nathan - Thanks for sending the revised conditions of approval. I have the following comments and concerns regarding the additional conditions.

Coloring of gabion baskets and rock to match bluff. I have spoken with several contractors and suppliers that regularly build gabion structures and colored metal baskets do not exist, nor would it be feasible to paint them. In addition, no local suppliers know of any bluff colored rock that would be of the size, consistency and configuration to be used with the baskets. The proposed language stems from shot-crete wall projects which are placed directly on bluff faces and in that case the concrete can customized to match the bluff color and applied in a way to mimic the natural bluff. This structure is completely buried with at least 3 to 4 feet of soil covering. It is also setback signficantly from the bluff face which ensures that there will be sufficient area in front of the wall should portions be exposed to plant vegetative screening. It should be noted that the entire structure is subsurface and is placed on gentle slopes, therefore the potential for the wall to be visible over time is minimized. We would propose that the Condition M be revised to address the requirement for future owners to ensure that the wall remain screened from view over time if any portions become visible as follows: (BOLD text indicate new proposed language)

M. Provide a copy of a recorded maintenance agreement for the coastal protection structure. The maintenance agreement shall state that the property owner and future owners will maintain the coastal protection structure in perpetuity and modify the structure if the structure is undermined or becomes unstable. ***(removed word exposed)*** **The maintenance agreement shall include a future landscape planting plan that will be implemented in the future should any portions of the structure become visible. The plant selection and spacing shall be adequately designed to provide complete screening of the structure within a one year timeframe and only temporary irrigation shall be allowed.**

This is a more feasible solution than the colored gabion, which would not effectively screen the structure anyway as landscaping clearly would. Condition II. 3 would return to its original language.

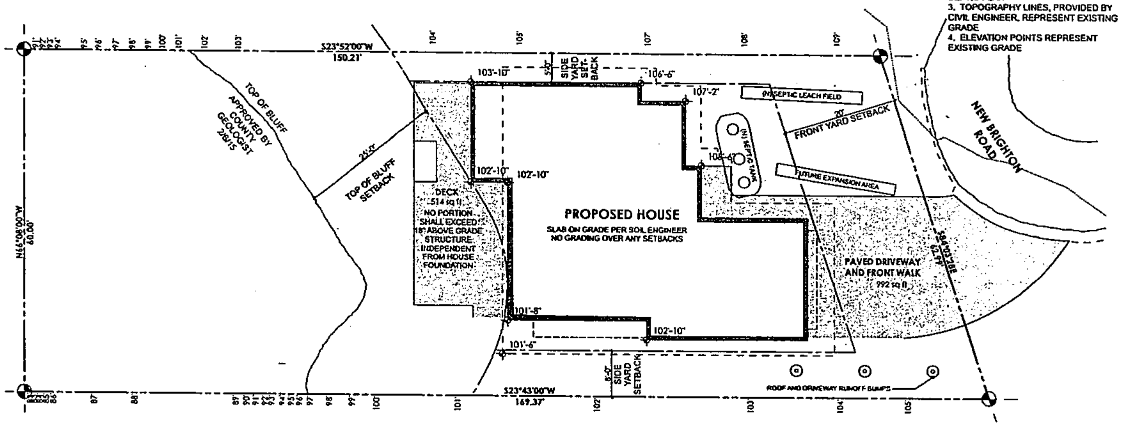
Thanks!
Steve
831-661-5451

--

Steven Graves

http://www.cdbaby.com/cd/stevengraves6
http://www.stevengravesmusic.com
http://www.facebook.com/stevengravesmusic
http://www.youtube.com/stevengravesmusic1

NOTES:
1. SEE CIVIL ENGINEERING DRAWING FOR GRADING, DRAINAGE, EROSIONS CONTROL AND UTILITY WORK
2. SEPTIC DESIGN BY OTHERS. REFER TO SEPTIC PLAN
3. TOPOGRAPHY LINES, PROVIDED BY CIVIL ENGINEER, REPRESENT EXISTING GRADE
4. ELEVATION POINTS REPRESENT EXISTING GRADE



1 SITE PLAN
SCALE: 1" = 10'

PROJECT APPLICANT/OWNER

Steven and Paddy Graves
775 Estates Drive
Aptos, CA 95003
(831) 661-5451

Marcus Pohlmann
325 John Street
Santa Cruz CA 95006
(831) 466-9567

PROJECT CONSULTANTS

Land Use Consultant
Steven Graves
775 Estates Drive
Aptos, CA 95003
(831) 661-5451

Architect
Nathan Good Architects, PC
Lydia Peters, Project Architect
205 Liberty St. NE, Suite B
Salem, OR 97301
(503) 370-4448
lydia@ngapc.com

Civil Engineer
Jeff Roper
64 Penny Lane, Suite A
Watsonville, CA 95076
(831) 724-5300

Soils Engineer
Becky Dees
501 Mission St. Suite 8A
Santa Cruz, CA 95060
(831) 588-1006

Geologist
C2Earth
Chris Hundemer
750 Camden Ave, Suite A
Campbell, CA 95008
(408) 866-5436

Landscape Architect
Greg Lewis
736 Park Way
Santa Cruz, CA 95065
(831) 425-4747

DEVELOPEMENT STANDARDS

Front Yard Setback	20ft
Side Yard Setback	5ft and 8ft
Garage Setback (w/o Level V Zoning Administrator Variance)	20ft
Bluff Setback (per geologist)	25ft
Rear Yard Setback (superseded by Bluff Setback)	15ft
Max Height (from existing grade)	28ft

GROSS BUILDING AREA

Total Allowable Gross Building Area for All Buildings on Site =
Net Site Area x Floor Area Ratio (FAR)
6777x50% = 3388.5 sf allowed

Maximum Allowable Parcel Coverage =
Net Site Area x Maximum Parcel Coverage Percentage
6777x40% = 2710.8 sf allowed on Ground Level

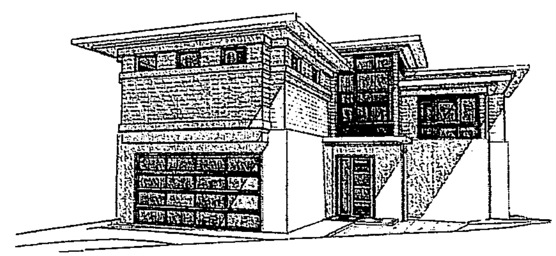
FAR

Area	SF	SF Credit	
1st Floor	1302		
2nd Floor	1590		
Covered Patio/Deck Mn Fl	124	124	*
Covered Deck Upper Fl	0	0	
Garage	540	225	
Entry (over 16' ceiling)	65		
3'+ Overhangs	0		**
Total Square Footage	3621	349	3272
Site SF as per Civil 5-12-15			6777
FAR			0.4828
FAR allowed			50%

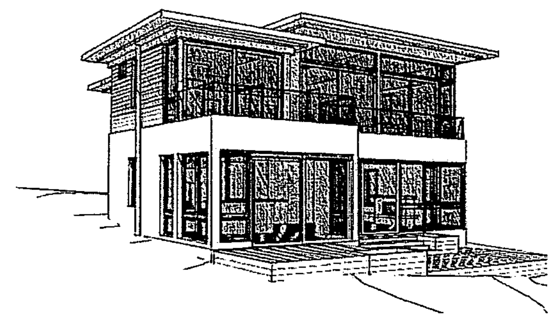
*(FIRST 140 SF EA SIDE EXEMPT)

**AREA UNDER 3FT DEEP (OR LESS) ROOF OVERHANG DOES NOT COUNT. FIRST 140 SF EA SIDE IS EXEMPT

5 VICINITY MAP
NOT TO SCALE



2 NORTH ENTRY PERSPECTIVE
NOT TO SCALE



2 SW PERSPECTIVE
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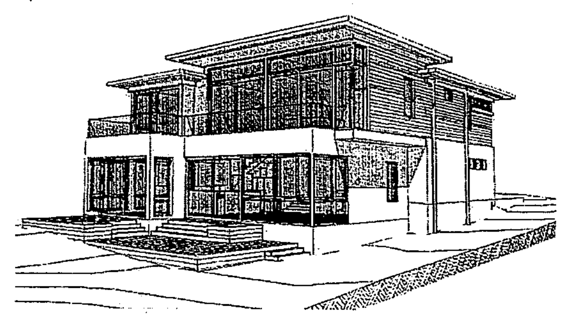


2 SE PERSPECTIVE
NOT TO SCALE

Nathan Good Architects PC
205 Liberty St NE, Suite B
Salem, OR 97301
503-307-4448

GRAVES/POHLMANN RESIDENCE

APN 038-231-09
NEW BRIGHTON RD
APTOS, CA 95003

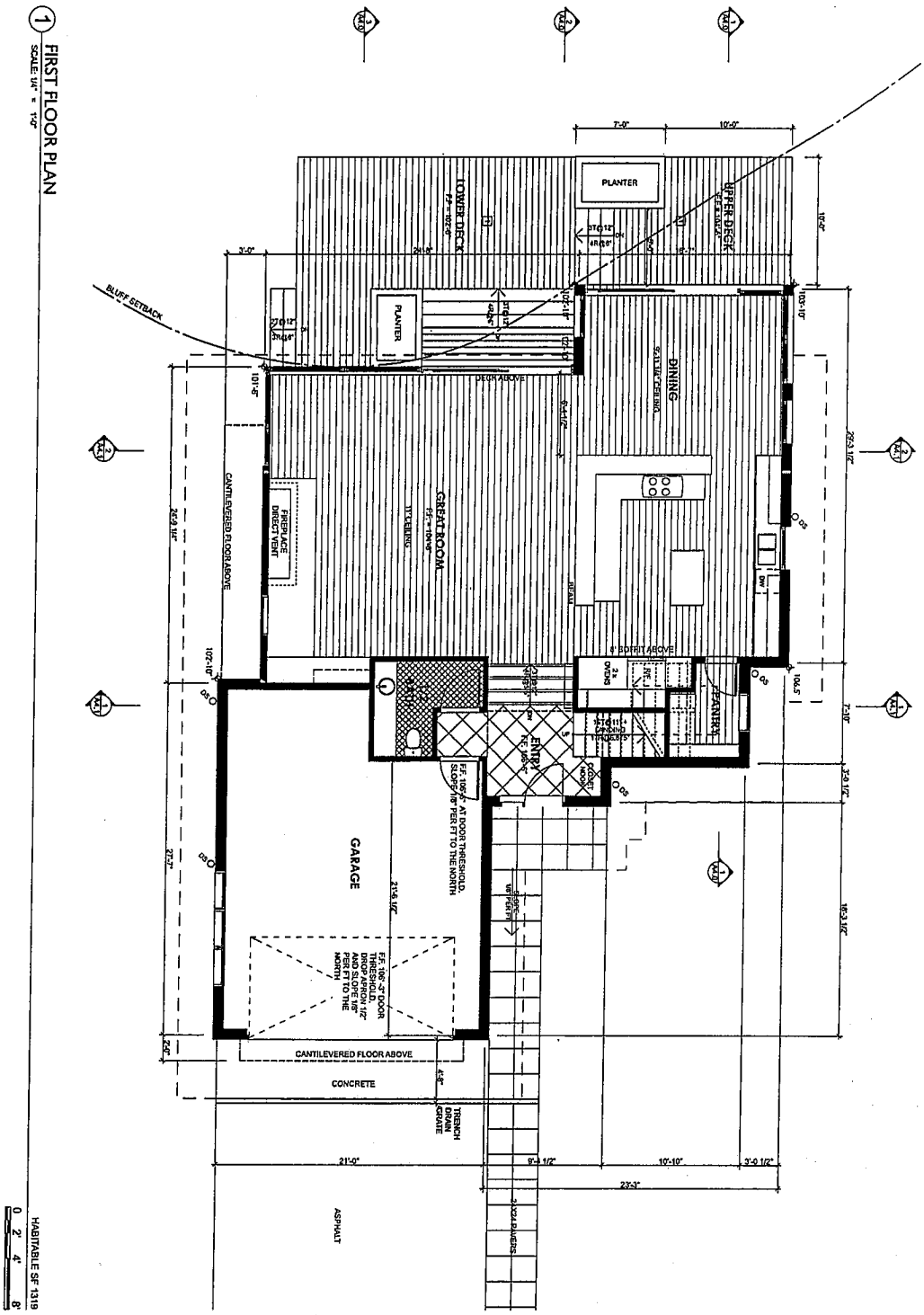
DRAWN BY: LJP
STATUS: CCC
VERSION: 6/18/15

A1.0

SITE PLAN & GEN. NOTES

EXHIBIT D

Exhibit 4
A-3-SCO-16-0070
Page 1 of 7



A2.1
FIRST FLOOR PLAN

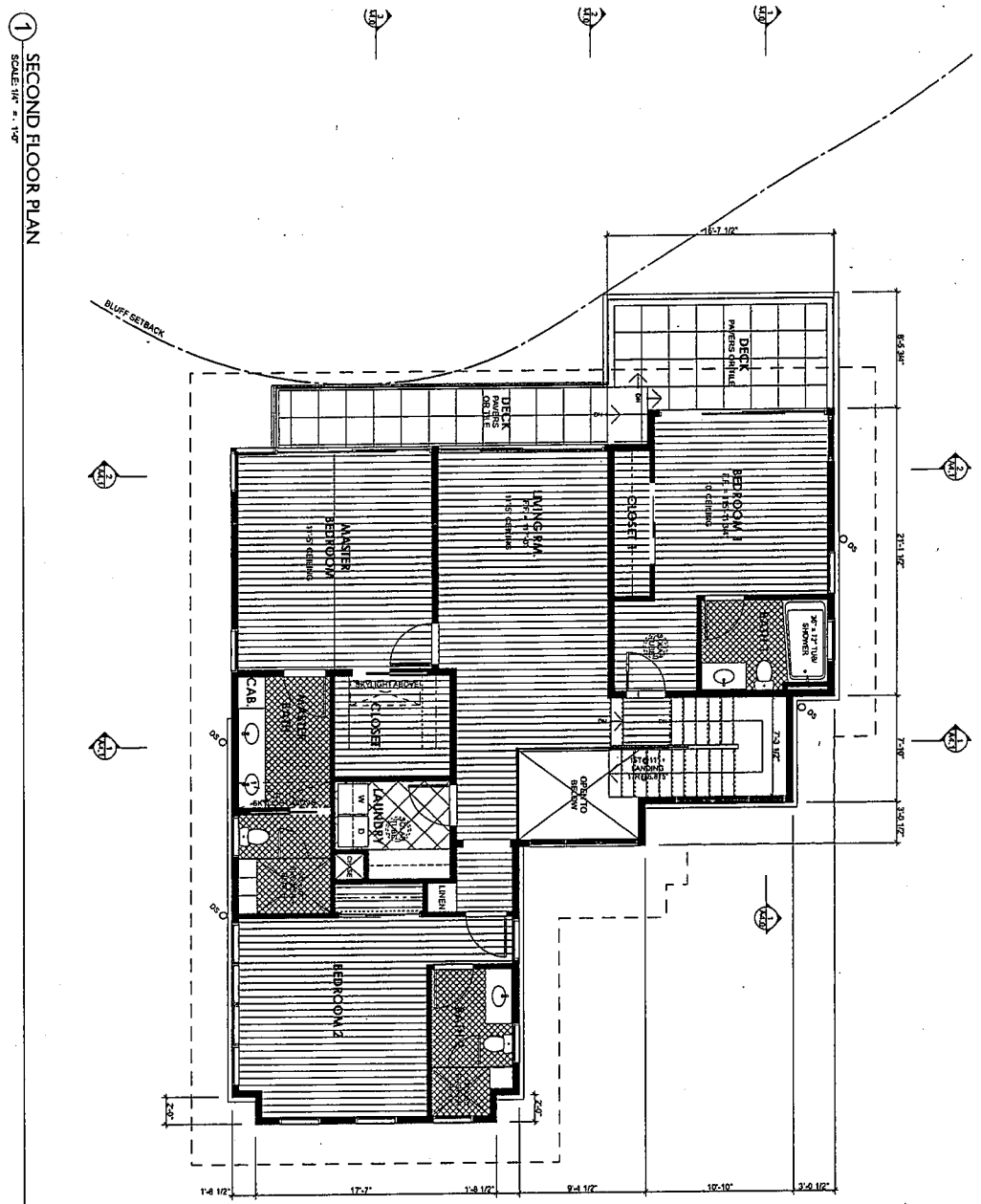
DRAWN BY: LJP
STATUS: CCC
VERSION: 6/18/15

GRAVES/POHLMANN RESIDENCE

APN 038-231-09
NEW BRIGHTON RD
APTOS, CA. 95003

Nathan Good Architects PC
205 Liberty St NE, Suite B
Salem, OR 97301
503-307-4448
www.nathangoodarchitects.com

EXHIBIT D



1 SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"

0 2' 4' 8'

HABITABLE SF: 1674

A2.2
SECOND FLOOR PLAN

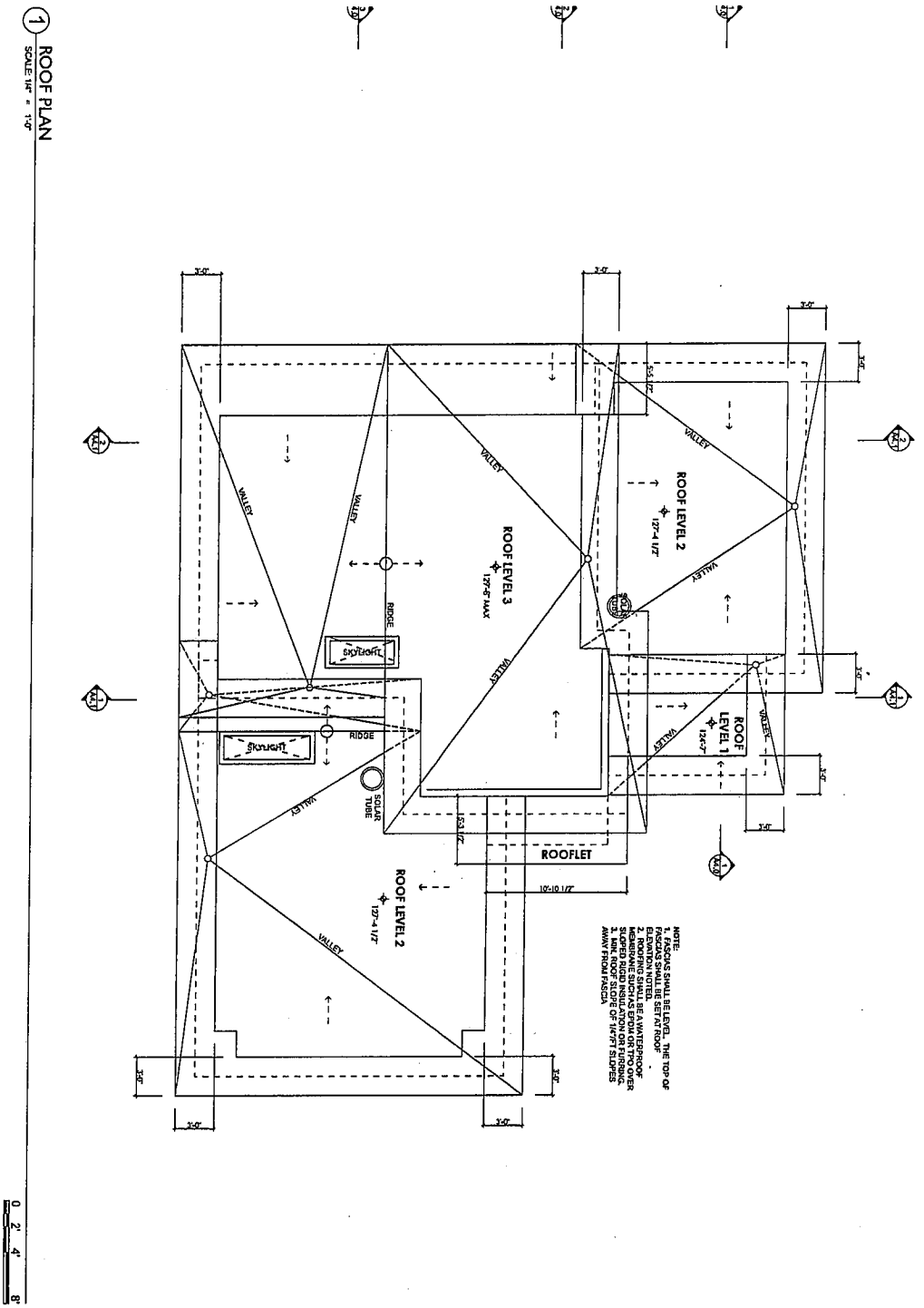
DRAWN BY: LJP
STATUS: CCC
VERSION: 6/18/15

GRAVES/POHLMANN RESIDENCE

APN 038-231-09
NEW BRIGHTON RD
APTOS, CA 95003

Nathan Good Architects PC
205 Liberty St NE, Suite B
Salem, OR 97301
503-307-1448
www.nathangoodarchitects.com

EXHIBIT D



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

0 2' 4' 8'

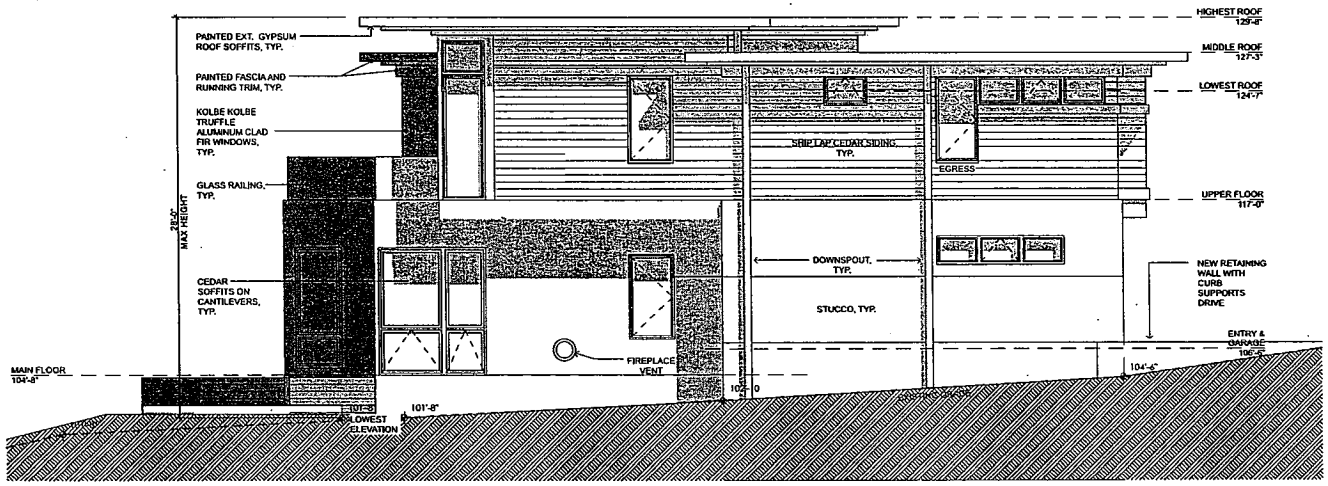
A2.3
ROOF PLAN

DRAWN BY: LJP
STATUS: CCC
VERSION: 6/18/15

GRAVES/POHLMANN RESIDENCE
APN 038-231-09
NEW BRIGHTON RD
APTOS, CA 95003

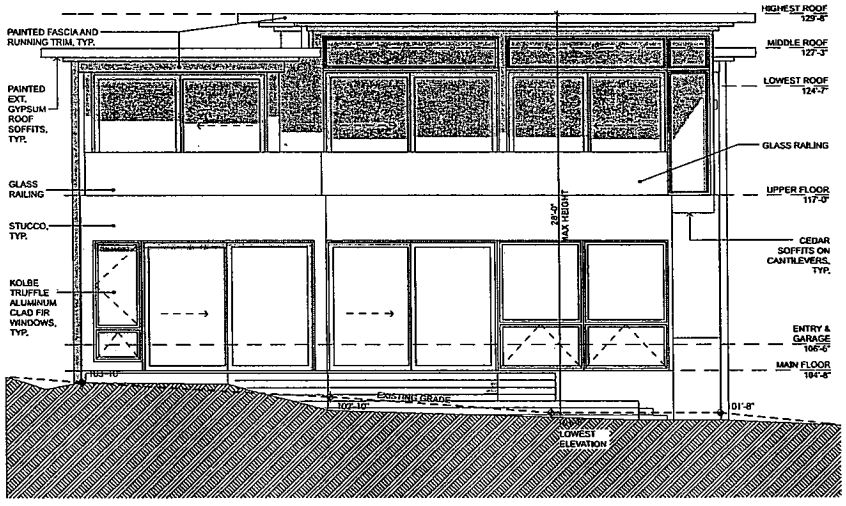
Nathan Good Architects PC
205 Liberty St NE, Suite B
Salem, OR 97301
503-307-4448
www.nathangoodarchitects.com

EXHIBIT D



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

0 2' 4' 8'



2 SOUTH ELEVATION
SCALE: 1/4" = 1'-0"

0 2' 4' 8'

Nathan Good Architecture
205 Liberty St #5, Suite B
Salem, OR 97301
503.307-4448
www.nathangoodarchitects.com

EXHIBIT D

Exhibit 4
A-3-SCO-16-0070
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LICENSED ARCHITECT NATHAN GOOD R.C. 33183 Exp. 1-31-17 STATE OF CALIFORNIA

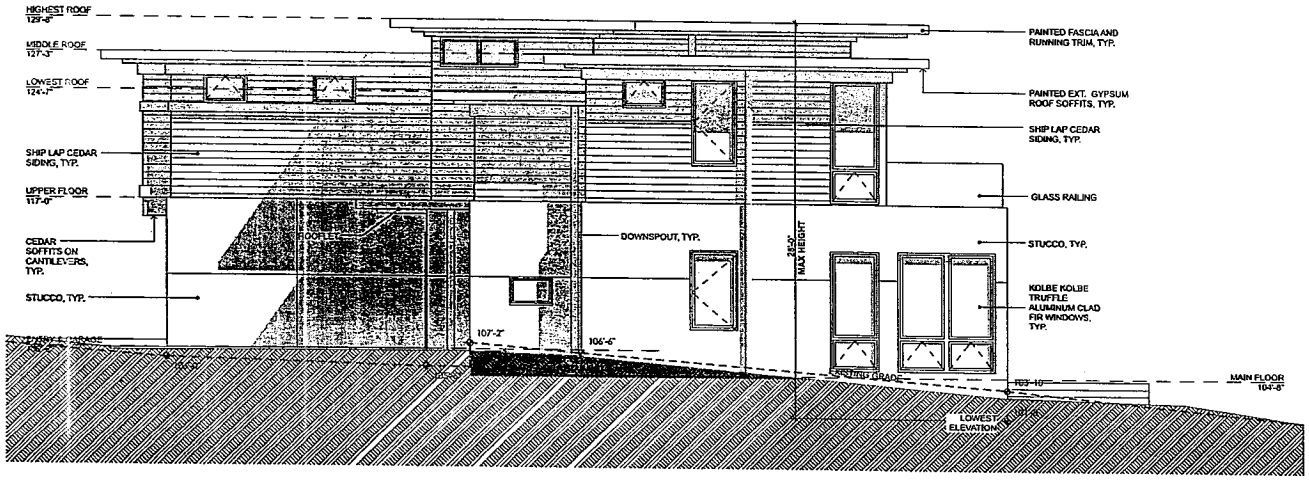
GRAVES/POHLMANN RESIDENCE

APN 038-231-09
NEW BRIGHTON RD
APTOS, CA 95003

DRAWN BY:	LJP
STATUS:	CCC
VERSION:	6/18/15

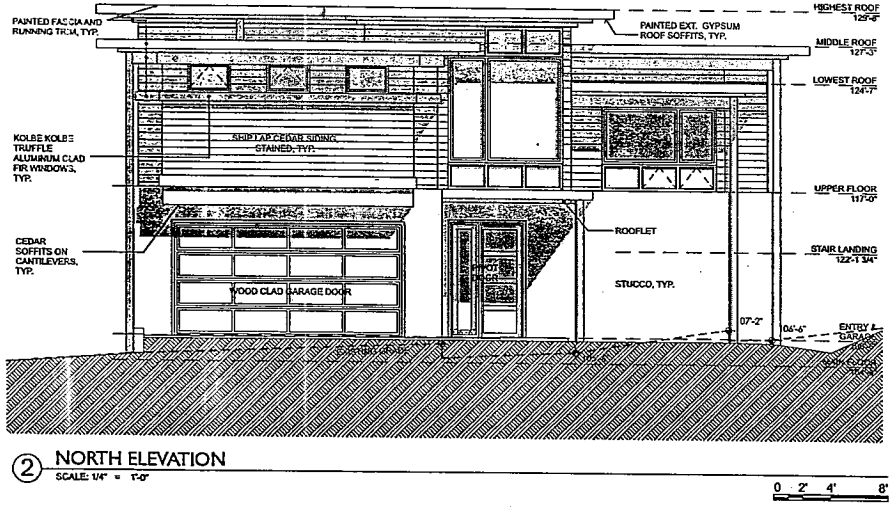
A3.0

EXTERIOR ELEVATIONS



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

0 2' 4' 8'



2 NORTH ELEVATION
SCALE: 1/4" = 1'-0"

0 2' 4' 8'

Nathan Good Architects PC
205 Liberty St NE Suite B
Salem, OR 97301
503.485.4948
www.nathangoodarchitects.com

EXHIBIT D
Exhibit 4
A-3-SCO-16-0070
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LICENSED ARCHITECT NATHAN GOOD No. C-31483 Exp. 1-31-2016 STATE OF CALIFORNIA

GRAVES/POHLMANN RESIDENCE

APN 038-231-09
NEW BRIGHTON RD
APTOS, CA 95003

DRAWN BY:	LJP
STATUS:	CCC
VERSION:	6/18/15

A3.1

EXTERIOR ELEVATIONS

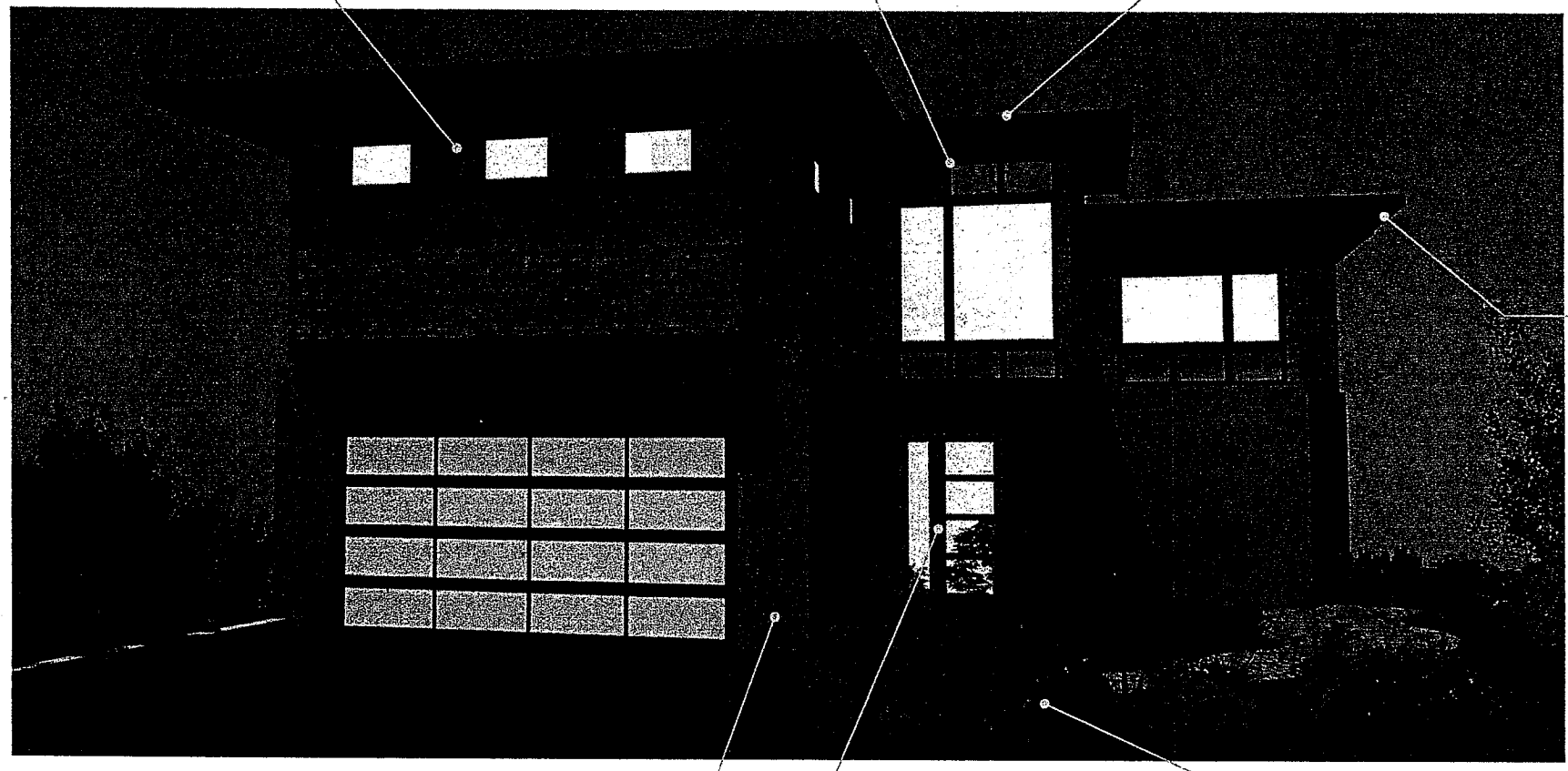
12/7/15

EXHIBIT D

WESTERN RED CEDAR SIDING

WINDOWS, KOLBE TRUFFLE COLOR. GARAGE DOOR, ROOF GUTTERS, AND FACIA TO MATCH

ROOFING SHALL BE EPDM OR TPO MEMBRANE



SOFFITS SHALL BE EXTERIOR GWB PAINTED TO MATCH STUCCO

STUCCO, SHERWIN WILLIAMS KINGSPORT GRAY. DOWNSPOUTS AND SOFFITS TO MATCH

LANDSCAPING PER SITE PLAN

VERTICLE GRAIN DOUGLAS FIR FRONT DOOR

GRAVES/POHLMANN RESIDENCE

NATHAN GOOD ARCHITECTS

8 1/2 X 11 MATERIAL RENDERING

NOT TO SCALE

STATE OF CALIFORNIA -- THE RESOURCES AGENCY

RECEIVED

EDMUND G. BROWN JR., *Governor*

CALIFORNIA COASTAL COMMISSION

CENTRAL COAST DISTRICT OFFICE
725 FRONT STREET, SUITE 300
SANTA CRUZ, CA 95060-4508
VOICE (831) 427-4863 FAX (831) 427-4877

JUL 18 2016

CALIFORNIA
COASTAL COMMISSION
CENTRAL COAST AREA

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT

Please Review Attached Appeal Information Sheet Prior To Completing This Form.

SECTION I. Appellant(s)

Name: Stephen King
Mailing Address: 14795 Bohlman Rd
City: Saratoga Zip Code: 95070 Phone: 408 621-0217

SECTION II. Decision Being Appealed

1. Name of local/port government: County of Santa Cruz

2. Brief description of development being appealed: Proposal to construct two story 3 bedroom single family dwelling

3. Development's location (street address, assessor's parcel no., cross street, etc.): Located on South side of New Brighton Road, about 1/2 mile from McGregor Drive APN: 06087-038-231-09

4. Description of decision being appealed (check one.):

- ☐ Approval; no special conditions
- ☑ Approval with special conditions:
- ☐ Denial

Note: For jurisdictions with a total LCP, denial decisions by a local government cannot be appealed unless the development is a major energy or public works project. Denial decisions by port governments are not appealable.

TO BE COMPLETED BY COMMISSION:

APPEAL NO: A-3-SCO-16-0070

DATE FILED: 7/18/2016

DISTRICT: Central Coast

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT (Page 2)

5. Decision being appealed was made by (check one):

- [x] Planning Director/Zoning Administrator
- [ ] City Council/Board of Supervisors
- [ ] Planning Commission
- [ ] Other

6. Date of local government's decision: 7/7/2016

7. Local government's file number (if any): 151193

SECTION III. Identification of Other Interested Persons

Give the names and addresses of the following parties. (Use additional paper as necessary.)

a. Name and mailing address of permit applicant:

Steven and Paddy Graves
775 Estates Drive
Aptos, CA 95003

b. Names and mailing addresses as available of those who testified (either verbally or in writing) at the city/county/port hearing(s). Include other parties which you know to be interested and should receive notice of this appeal.

(1) Bruce & Pam Ocsek
114 New Brighton Rd
Aptos CA 95003

(2) Jim & Linda Theiring
100 New Brighton Rd
Aptos CA 95003

(3) Tom & Dana Welle
11 Crest Drive
Watsonville, CA 95076

(4) State Parks & Recreation
New Brighton State Park
1416 9th Street
Sacramento, CA 95814

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT (Page 3)

SECTION IV. Reasons Supporting This Appeal

PLEASE NOTE:

- Appeals of local government coastal permit decisions are limited by a variety of factors and requirements of the Coastal Act. Please review the appeal information sheet for assistance in completing this section.
- State briefly **your reasons for this appeal**. Include a summary description of Local Coastal Program, Land Use Plan, or Port Master Plan policies and requirements in which you believe the project is inconsistent and the reasons the decision warrants a new hearing. (Use additional paper as necessary.)
- This need not be a complete or exhaustive statement of your reasons of appeal; however, there must be sufficient discussion for staff to determine that the appeal is allowed by law. The appellant, subsequent to filing the appeal, may submit additional information to the staff and/or Commission to support the appeal request.

1) Required setback from bluff top is not consistent with Local Coastal Program.

2) Existing slide conditions are not being properly addressed. Due to existing slide condition, permit should not be granted per Local Coastal Plan

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT (Page 4)

SECTION V. Certification

The information and facts stated above are correct to the best of my/our knowledge.

Signature of Appellant(s) or Authorized Agent

Date: 7/13/2016

Note: If signed by agent, appellant(s) must also sign below.

Section VI. Agent Authorization

I/We hereby
authorize _____
to act as my/our representative and to bind me/us in all matters concerning this appeal.

Signature of Appellant(s)

Date: _____

UPP GEOTECHNOLOGY
Engineering Geology • Geotechnical Engineering
a division of C2EARTH, INC.

13 August 2014
Document Id. 14053A-01R1
Serial No. 16870

Mr. Steven Graves
775 Estates Drive
Aptos, CA 95003

SUBJECT: ENGINEERING GEOLOGIC STUDY
RESIDENTIAL DEVELOPMENT
APN 038-231-09
NEW BRIGHTON ROAD
SANTA CRUZ COUNTY, CALIFORNIA

Dear Mr. Graves:

As you requested, we have performed an engineering geologic study for the residential development of the property that you are considering purchasing, APN 038-231-09, on New Brighton Road in the Aptos area of unincorporated Santa Cruz County, California. The accompanying report presents the results of our study, and our conclusions and recommendations concerning the engineering geologic aspects of the project.

This report includes information that is vital to the success of your project. We strongly urge you to thoroughly read and understand its contents. Please refer to the text of the report for detailed findings and recommendations.

Sincerely,
Upp Geotechnology
a division of C2Earth, Inc.

Christopher R. Hundemer, Principal
Certified Engineering Geologist 2314
Certified Hydrogeologist 882

Distribution: Addressee (3 hard copies mailed and via e-mail to steven@stevengravesmusic.com)

TABLE OF CONTENTS

1. INTRODUCTION

This report presents the results of our engineering geologic study for the proposed residential development of the property you are considering purchasing, APN 038-231-09, on New Brighton Road in the Aptos area of unincorporated Santa Cruz County, California (see Figure 1, Site Location Map). The purpose of our study was to explore the geologic conditions on the subject property in the area of the proposed improvements and to develop findings and recommendations related to the geologic aspects of the project.

We understand that you are planning to purchase the property and develop a single-family residence on the vacant lot. The project will also require constructing a stormwater retention system on the site. That system will utilize a "dry well," which will serve as a collection facility for stormwater runoff and promote infiltration of the collected water into the underlying Purisima formation bedrock.

A prior geologic investigation report was prepared by Rogers E. Johnson & Associates (RJA), dated 13 February 2007, and a prior geotechnical investigation report was prepared by Haro Kasunich and Associates, Inc. (HKA), dated 3 July 2007, for a prior owner of the property.

The property sits atop a coastal bluff underlain by terrace deposits that overlie Purisima formation bedrock. The prior studies identified a landslide within the terrace deposits at the rear of the property. The prior studies included evaluations of the landslide characteristics and provided landslide hazard mitigation recommendations that included removing and regrading a portion of the landslide and building beyond a 25-foot setback from the edge of the bluff.

Dees and Associates (DA) is the current geotechnical engineer of record for the project. The purpose of our study was to evaluate the geologic conditions at the site, and develop updated geologic findings and recommendations for the project to aid DA with performing their updated geotechnical study.

We issue this report with the understanding that the owner or owner's representative is responsible for ensuring that the information and recommendations contained in this report are brought to the attention of the project architect and engineer, and are incorporated into the plans and specifications of the development. The owner must also ensure that the contractor and sub-contractors follow the recommendations during construction.

2. SCOPE OF SERVICES

We conducted this study in accordance with the scope and conditions presented in our proposal dated 13 June 2014 (Document Id. 14053A-01P1). The methodology of our evaluation is discussed in the body this report. We make no other warranty, either expressed or implied. Our scope of services for this study included:

- reviewing of selected geologic literature, aerial photographs, and previous consultants' reports of the area, to evaluate the prevailing geologic conditions;
- performing engineering geologic reconnaissance and mapping of the site;
- preparing an updated site geologic map and geologic cross-section;

- co-logging one deep boring drilled under the direction of Dees and Associates;
- performing geologic analyses of the field data;
- assisting Dees and Associates with developing a model for a quantitative slope stability evaluation and performing a qualitative slope stability assessment of the bluff at the rear of the site; and
- preparing this report.

We have prepared this report as a product of our service for the exclusive use of Mr. Steven Graves for the proposed residential development of the subject property. Other parties may not use this report, nor may the report be used for other purposes, without prior written authorization from Upp Geotechnology, a division of C2Earth, Inc (C2).

Because of possible future changes in site conditions or the standards of practice for engineering geology, the findings and recommendations of this report may not be considered valid beyond three years from the report date, without review by C2. In addition, in the event that any changes in the nature or location of the proposed improvements are planned, the conclusions and recommendations of this report may not be considered valid unless we review such changes, and modify or verify in writing the conclusions and recommendations presented in this report.

Our study excluded an evaluation of hazardous or toxic substances, corrosion potential, chemical properties, and other environmental assessments of the soil, subsurface water, surface water, and air on or around the subject property. The lack of comments in this report regarding the above does not indicate an absence of such material.

3. GEOLOGY AND SEISMICITY

We reviewed selected geologic maps, aerial photographs, and other consultant's reports to evaluate the prevailing geologic conditions of the site and vicinity. The Regional Geologic Map for the area is presented on Figure 2.

3.1. Regional Geology

The subject property is located atop a southwest facing bluff on the lowest emergent marine terrace at the north end of the Monterey Bay on the Santa Cruz coastline. The site is southwest of the central Santa Cruz Mountains, a northwest-trending range within the California Coast Ranges geomorphic province (see Figure 1). The range is characterized by linear ridgelines and valleys that generally follow a northwest-southeast trend.

The Santa Cruz Mountains are underlain at depth by the Salinian Block, a geologic prism comprised of granite and metamorphosed basement bedrock. The Salinian Block is bound to the northeast by the San Andreas fault system and to the southwest by the San Gregorio fault system. Overlying the basement rocks of the Salinian Block are sequences of predominantly marine-based sedimentary rocks ranging from the Pliocene to upper Miocene age (approximately 2.6 to 13.8 million years old) Purisima formation, to the Paleocene age (approximately 56 to 66 million years old) Locatelli formation.

This portion of the California coast straddles the margin between the North American and Pacific tectonic plates. The boundary between these plates is the greater San Andreas fault system, with documented cumulative strike-slip offsets measuring up to hundreds of miles. The San Andreas fault has a regional trend of approximately N34W; however, the segment of the San Andreas fault located within the central Santa Cruz Mountains northeast of the site strikes approximately N44W, forming a restraining bend.

This restraining bend has resulted in the formation of the Santa Cruz Mountains and is responsible for compression, uplift, deformation, erosion, and redeposition of the sedimentary rocks. Along the coast, the ongoing tectonic activity and associated restraining bend has resulted in a series of uplifted marine terraces.

According to the Geologic Map of Santa Cruz County, California (Brabb, 1989 and digital database prepared by Graham et al., 1997), the subject site is underlain by Pleistocene age (approximately 10,000 to 2.6 million years old) marine terrace deposits (Qcl) that overlie Purisima formation bedrock (Tp) (see Figure 2). The marine terrace deposits are generally described as semi-consolidated, well-sorted sand with a few, relatively continuous thin layers of gravel that were deposited in a near-shore, high-energy environment. The Purisima formation is generally described as very thickly bedded yellowish-gray siltstone containing thick interbeds of bluish-gray, semi-friable, fine-grained sandstone.

A review of the geologic maps show that bedding attitudes within the incised drainage for Aptos Creek northeast of the site indicates that the bedding strikes (is oriented) approximately east-west and dips (slopes downward) to the south between about 2 and 5 degrees.

3.2. Seismicity

Geologists and seismologists recognize the greater San Francisco Bay Area as one of the most active seismic regions in the United States. The seismicity in the region is related to activity within the San Andreas fault system, a major rift in the earth's crust that extends for at least 700 miles along the California Coast. Faults within this system are characterized predominantly by right-lateral, strike-slip movement. The four major faults that pass through the Bay Area in a northwest direction have produced approximately 12 earthquakes per century strong enough to cause structural damage. These major faults are the San Andreas, Hayward, Calaveras, and San Gregorio faults.

The site can be expected to experience periodic minor earthquakes or even a major earthquake (Moment magnitude 6.7 or greater) on one of the nearby active or potentially active faults during the design life of the proposed project. The Moment magnitude scale is directly related to the amount of energy released during an earthquake and provides a physically meaningful measure of the size of an earthquake event.

The U.S. Geological Survey (2008) estimates that by 2038 the probability of a Moment magnitude 6.7 or greater earthquake occurring on one of the active faults in the San Francisco region is 63%. The following table provides corresponding estimates for the probability of a major earthquake for the different faults in the Bay Area.

Fault	Probability (%)
Hayward – Rodgers Creek	31
San Andreas	21
Calaveras	7
San Gregorio	6
Concord-Green Valley	3
Greenville	3
Mount Diablo Thrust	1

30-Year Probability of Magnitude 6.7 or Greater Earthquake

The following table indicates the approximate distance and direction from the site to active and potentially active faults.

Fault	Approx. Distance From Fault	Direction From Site
Zayante-Vergeles	4½ miles	Northeast
San Andreas	7½ miles	Northeast
San Gregorio	14½ miles	Southwest
Calaveras	22 miles	Northeast
Hayward (Southern Ext.)	23½ miles	Northeast

Regional Fault Distances and Directions

According to the California State Special Studies Zones Map by the California Division of Mines and Geology, the site is mapped outside of the current Alquist-Priolo Earthquake Fault Zone for areas prone to earthquake ground rupture.

Because of the site's proximity to the Zayante-Vergeles, San Andreas, and other faults, and the site's geology, maximum anticipated ground shaking intensities for the area are characterized as strong and equal to a Modified Mercalli (MM) intensity of VII (Borcherdt, et. al., 1975). An earthquake having a MM intensity of VII generally causes slight to moderate damage in well-built ordinary structures, and considerable damage to poorly built or designed structures (Yanev, 1974) (see Table I, Modified Mercalli Scale of Earthquake Intensities).

The intensity of an earthquake differs from the Moment magnitude, in that intensity is a measure of the effects of an earthquake, rather than a measure of the energy released. These effects can vary considerably based on the earthquake magnitude, distance from the earthquake's epicenter, and site geology.

Since 1800, four major earthquakes have been recorded on the San Andreas fault. In 1836, an earthquake with an estimated maximum intensity of VII on the MM scale occurred east of the Monterey Bay on the San Andreas fault (Toppozada and Borchardt, 1998). The estimated Moment magnitude (M_w) for this earthquake is about 6.25. In 1838, an earthquake occurred with an estimated intensity of about VIII-IX (MM), corresponding to a M_w of about 7.5. The San Francisco Earthquake of 1906 caused the most significant damage in the history of the Bay Area

in terms of lives lost and cost of property damage. This earthquake created a surface rupture along the San Andreas fault from Shelter Cove to San Juan Bautista, about 290 miles in length. It had a maximum intensity of XI (MM), a M_w of about 7.9, and was felt as far away as Oregon, Nevada, and Los Angeles. The most recent earthquake to affect the Bay Area was the Loma Prieta earthquake of 17 October 1989, occurring in the Santa Cruz Mountains, which had a M_w of about 6.9. Ground shaking equal to an MM intensity of between VI and VII was felt at the site during the Loma Prieta Earthquake (Stover, et al., 1990).

In 1868 an earthquake with an estimated maximum MM intensity of X and M_w of about 7.0 occurred on the southern segment of the Hayward fault, between San Leandro and Fremont. In 1861, an earthquake of unknown magnitude (likely having an M_w of about 6.5) was reported on the Calaveras fault. The most recent significant earthquake on this fault was the 1984 Morgan Hill Earthquake, that had an M_w of about 6.2.

4. SITE CHARACTERIZATION

4.1. Regional Setting and Past History

We reviewed aerial photographs, topographic maps, and the County of Santa Cruz online Geographic Information System (GIS) website for the site and vicinity. The subject site is atop a coastal bluff, on the lowest emergent marine terrace. The top of the bluff sits at Elevations about 110 to 115 feet above mean sea level (MSL, NAVD88 datum). We understand from our review of prior studies that residential development began along the base of the coastal bluff, below the property, sometime between 1928 and 1943 with the creation of sixteen residential parcels. Prior to the development of those residences, we understand that areas along the base of the bluff may have experienced periodic wave impacts and erosion.

Originally, the homes were accessed by a road that was constructed along the seaward (southwestern) side of those parcels. Between 1965 and 1972, we understand that the seaward road was razed and the current access road (Pot Belly Beach Drive) was constructed on the inboard side of the homes, along the base of the bluff. To facilitate the new road's construction, the bluff was cut back and an approximately 8-foot tall wooden log retaining wall was constructed at the base of the bluff. Prior studies indicate that the toe of the slope is about 45 feet inland from its location prior to the construction of Pot Belly Beach Drive.

Presently, the beach in front of the homes is seasonally between about 150 and 200 feet wide. An approximately 6- to 8-foot tall rip-rap seawall exists on the seaward edge of the residences (between about Elevations 12 and 20). The homes are sited between Elevations 18 and 20 feet, with the Elevation of Pot Belly Beach Drive between about Elevations 16 and 18 feet.

4.2. Site Description

Our principal geologist performed a site reconnaissance and various other site visits between 9 July and 7 August 2014 to observe the site conditions and perform updated site mapping. The site plan and engineering geologic map that we developed is presented on Figure 3 and is based

upon a prior site geologic map that was developed by Rogers E. Johnson & Associates (2007). We generated a new slope profile from the topographic base of the prior site geologic map. The slope profile is depicted on Figure 4, Geologic Cross-Section A-A'. The site plan and profile are only as accurate as implied by the mapping technique used. The following is a summary of the surficial site characteristics.

The approximately 9,200 square-foot rectangular parcel sits atop a coastal bluff at the southern tip of New Brighton Road. The parcel measures about 160 feet long by about 60 feet wide, with its long axis oriented in the southwest-northeast direction. The property is bound to the northeast by New Brighton Road, to the southwest by a steep bluff that leads down to Pot Belly Beach Road, and on other sides by developed residential properties.

The ground surface in the northeastern two thirds of the property is gently sloping, with a gradient of about 10:1 (horizontal to vertical) downward toward the southwest. In the rear third of the parcel, the ground slopes down to the southwest with a gradient of about 2:1 for a height of about 6 to 7 feet, to a lower, gently sloping terrace with a slope gradient of about 5:1. At the southwestern limit of the lower terrace, at the top of the coastal bluff, the slope transitions to steep with an overall gradient of about 1:1, with localized sections of the bluff as steep as ½:1. The majority of the bluff exposes Purisima formation where not covered by vegetation.

As discussed further in the following sections, a small, shallow landslide was previously identified in the area of the lower terrace at the top of the bluff. During the time of our visit, the landslide margins were rounded and subdued, and prior ground-cracks and depressions that had been identified in 2007 within the landslide mass were not observed.

We observed evidence of recent and past erosion on the steep bluff face at the rear of the adjacent property to the west, but very little evidence of recent erosion on the portion of the bluff at the rear of the subject lot.

The main portion of the property is sparsely vegetated and is covered in grasses, poison oak, and low brush. Several mature cypress trees line the western perimeter of the property, and scattered cypress stumps are found on and around the site near the top of the bluff. The slope and lower terrace in the rear third of the property are covered with denser brush and ice-plant. Drainage across the site is generally characterized as uncontrolled sheet flow to the south onto the adjacent parcel or southwest down the bluff face to Pot Belly Beach Drive.

4.3. Subsurface

On 11 July 2014, our principal geologist visited the site to observe the subsurface conditions in the northeastern area of the property by logging a single boring, drilled to about 69 feet below ground surface (bgs), using a truck-mounted Mobile B-53 drill rig equipped with continuous flight augers and a down-hole wireline hammer that was operated by Central Coast Drilling of Santa Cruz, California.

We logged the boring in general accordance with the Unified Soil Classification System described on Figure 5, Key to Logs. A Summary of Field Sampling Procedures is presented on

Figure 6. The boring log is presented on Figures 7 through 10, Log of Boring 1. The log shows our interpretation of the subsurface conditions at the locations and on the date indicated, and we do not warrant that it is representative of the subsurface conditions at other locations and times.

The boring was drilled in the front central portion of the site, near the location of a prior boring by Haro Kasunich and Associates that was drilled in 2007. The boring encountered about 3 feet of medium dense, very dark brown to very dark grayish brown silty sand topsoil that had developed atop the underlying terrace deposits. Below the topsoil, the boring exposed about 21 feet of terrace deposits overlying Purisima formation bedrock.

We observed that the terrace deposits consist of layered very stiff sandy clay and medium dense silty sand. A thin lens of reddish, angular gravels up to about 1-inch in diameter was observed at a depth of about 10 feet bgs.

The Purisima formation bedrock was observed to consist of fine- to very fine-grained interbedded sandstone and siltstone, with thinner interbeds of claystone. The bedrock is homogeneous, slightly mottled, has a low to medium hardness, and is weakly cemented (friable). Scattered zones of shell fragments and shell hash were observed in the sandstone layers.

While we were on-site drilling, Greg Easton from Easton Geology was at the adjacent property to the west to perform in-situ percolation testing. The testing was being performed in a well constructed in a boring that had been drilled the previous day (10 July 2014). We understand from our conversation with Mr. Easton that the top of the Purisima formation bedrock was encountered at a depth of about 26½ feet in that boring.

We did not encounter groundwater in the boring. We observed minor seepage and higher saturation in the sandstone above the shell hash layer encountered at a depth of about 44 feet bgs. The observed seepage is likely related to surface water infiltration and not indicative of groundwater. Fluctuations in the level of subsurface water could occur due to variations in rainfall, temperature, and other factors not evident at the time our observations were made.

The locations of our boring and the boring logged by Easton Geology on the adjacent property are shown on Figure 3. We determined the approximate boring locations by measuring distance and bearing from known points on the supplied site plan; the locations are only as accurate as implied by the mapping technique used. Our interpretations of subsurface conditions are depicted on Figure 4.

5. PRIOR STUDIES

As discussed above, in 2007 a prior geologic study was performed for the site by Rogers Johnson and Associates (RJA), and a prior geotechnical study was performed by Haro Kasunich and Associates (HKA). Pertinent geologic information from those reports has been reiterated in this report. The logs of the test pit and borings performed by RJA and HKA are provided in the appendix of this report. The approximate locations of those borings and the test pit are shown on Figure 3.

5.1. Geologic Investigation, Rogers E. Johnson & Associates (2007)

RJA performed a geologic investigation of the property for a prior owner and presented the results of that study in their report dated 13 February 2007. Their study included performing geologic mapping, reviewing historical aerial photographs and published geologic maps and literature, and the excavation of a single test pit. They identified a shallow, translational block landslide on the lower terrace near the top of the bluff at the rear of the property. Their test pit, which was excavated within the landslide, indicates that the landslide is less than 10 feet thick and is comprised of displaced terrace deposits. The rear portion of the landslide appears to have been an old down-dropped graben feature that was created as the block moved seaward. Multiple layers of soil (described as colluvium) were mapped within the graben.

RJA's report included findings related to seismic shaking, slope stability, and a proposed leachfield for the property. They provided a building setback recommendation and recommendations for Haro, Kasunich and Associates (HKA) for performing quantitative slope stability analyses. RJA recommended the landslide mass be mitigated by removing the landslide from the slope or by stabilizing the landslide in place.

5.2. Geotechnical Investigation, Haro, Kasunich And Associates (2007)

HKA performed a geotechnical investigation for the development of the property and submitted the results of their study in their report dated 3 July 2007. HKA evaluated the subsurface conditions at the site by drilling three test borings to a maximum depth of about 26½ feet bgs. They performed laboratory testing on samples from the borings and a quantitative slope stability evaluation for the landslide. They estimated that the landslide and soil infill within the graben to comprise about 700 cubic yards. They concluded that site development was feasible and provided recommendations for mitigating the landslide by "*removing the seaward 5 feet of the slide mass and then cutting back the face of the remaining slide mass to 2:1 (H:V) or less steep.*" HKA developed recommendations for supporting the proposed residence on end-bearing drilled piers and grade beams.

6. FINDINGS AND RECOMMENDATIONS

Based upon the results of our study, it is our opinion that, from an engineering geologic perspective, the subject property may be developed as planned, provided that the recommendations presented in this report are incorporated into the design and construction of the proposed improvements. In our opinion, the primary constraints to the proposed development include:

- the steep slope of the coastal bluff along the southwestern side of the property;
- the presence of a shallow landslide along the top of the bluff and the potential for future landsliding;
- the site's coastal setting and future changes in sea-level elevation; and
- the site's seismic setting.

6.1. Proposed Building Site

Our subsurface study and the prior subsurface exploration revealed a thin veneer of soil overlying medium dense terrace deposits that, at depth between about 20 and 25 feet, overlie the Purisima formation bedrock. The terrace deposits have been shown to be susceptible to shallow slumping and translational block-glide landsliding on the site and in the vicinity. In addition, these materials are prone to ongoing fluvial and wind erosion. To mitigate shallow sliding and erosion, we recommend that the proposed residence be constructed no closer than 50 feet from our identified top of bluff, as shown on Figure 3.

We recommend that the project geotechnical consultant develop recommendations for collecting surface runoff and storing the collected water in a detention system to be slowly percolated back into the underlying bedrock. In our opinion, slowly metered water entering the bedrock should not have a negative impact on the global slope stability. We recommend that surface water not be allowed to flow over the face of the bluff.

6.2. Proposed Leachfield

We understand that as part of the project, an on-site septic system is proposed for the front area of the property (near New Brighton Road). Based on our subsurface observations, we anticipate that the terrace deposits should provide adequate percolation rates for leachate. However, the underlying top of the Purisima formation bedrock may act as an aquitard, causing leachate to pond above the bedrock or flow within the terrace deposits, along the bedrock interface, toward the bluff face. In our opinion, because of the gentle gradient of the top of the bedrock, we judge that if leachfields are constructed at least 100 feet from the delineated top of bluff as shown on Figure 3, it is unlikely that a leachfield in this area will have a detrimental impact on slope stability. In addition, because of this recommended distance to the bluff face, it is our opinion that it is unlikely that untreated effluent from the leachfield will surface on the bluff face. Because no groundwater was encountered within the boring, it is our opinion that the proposed septic system will not have a significant impact on the quality of the local groundwater.

6.3. Slope Stability

Our study revealed no evidence of active landsliding on the property in the immediate vicinity of the proposed residence. However, as described above, a shallow, translational block landslide exists within the lower terrace area. Based on our observations, it appears that the landslide has remained dormant since 2007; many of the previously identified ground cracks and depressions have weathered away and the landslide margins are subdued. Dees and Associates (DA) is currently performing a geotechnical study for the project. We understand that DA is performing an updated slope stability evaluation and will develop recommendations for stabilizing the landslide.

Based on our review of aerial photographs and our observations of the bluff face, it appears that the bluff face has remained stable from global landsliding since the slope was cut back for the

construction of Pot Belly Beach Road. The retaining wall at the base of the slope appears to still be functioning as designed.

Based on our review, we understand that though several coastal bluff failures occurred along the Santa Cruz County coastline during the 1989 Loma Prieta Earthquake, very few (if any) occurred as deep-seated failures within the Purisima formation sandstone. We determined that a plane projected upward from the base of the retaining wall at the toe of the bluff to the recommended setback that we established (see Section 6.1 and Figures 3 and 4) would have a slope gradient of about 1½:1. Based on the density and strength of the sandstone, and the distance to the setback and resulting bluff slope angle if the wall at the toe of the slope were to be removed or fail, we judge the potential for deep-seated landsliding to affect the home site is negligible.

The long-term stability of many hillside areas is difficult to predict. A hillside will remain stable only as long as the existing slope equilibrium is not disturbed by natural processes or by the acts of Man. Landslides can be activated by a number of natural processes, such as the loss of support at the bottom of a slope by stream erosion or the reduction of soil strength by an increase in groundwater level from excessive precipitation. Artificial processes caused by Man include improper grading activities; or the introduction of excess water through excessive irrigation, improperly designed or constructed leachfields, and poorly controlled surface runoff.

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

6.4. Coastal Processes

As discussed above, prior to the residential development and construction of Pot Belly Beach Road (and its predecessor), the slope was subjected to wave erosion. Because of the presence of the residences below, the 6- to 8-foot tall rip-rap seawall along the seaward edge of those homes, and because of the wooden retaining wall at the toe of the slope and the lateral distance from the shoreline to the base of the bluff, it is our opinion that under present conditions the risk of wave erosion affecting the toe of the slope is negligible.

Furthermore, we reviewed the recent publication Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present and Future, prepared by the Committee on Sea Level Rise in California, Oregon, and Washington that is part of the National Research Council of the National Academies (2012). The report documents extensive studies and analyses for the potential and amount of sea-level rise along the western coast of the United States. The studies indicate that the coast of Central California will experience a projected sea level rise of 93.1 cm (plus or minus one standard deviation of 24.9cm) between the years 2000 and 2100. Even assuming the higher value of change of 118 cm (slightly less than 4 feet), it is our opinion that because of the height of the base of the bluff and the existing rip-rap seawall, house, and site

retaining wall, the potential for wave erosion at the base of the bluff directly below the property is negligible.

6.5. Seismicity and Seismic Design Criteria

Our reconnaissance and review of published geologic maps and aerial photographs revealed that no known active or potentially active faults pass through the subject property. However, it is reasonable to assume that the site will be subjected to strong to very violent ground shaking from a major earthquake on at least one of the nearby active faults during the design-life of future improvements. During such an earthquake, it is our opinion that the danger from fault offset through the site is negligible.

We recommend that the project structural design engineer provide appropriate seismic design criteria for proposed foundations and associated improvements. The following information is intended to aid the project structural design engineer to this end and is based on criteria set forth in the 2013 California Building Code (CBC). The mapped spectral accelerations and site coefficients were computed using the USGS Seismic Design Maps tool with the 2010 ASCE 7 design code reference (updated 2013).

Design Parameters

Latitude = 36.9788°
Longitude = -121.9312°
Site Class = C
Risk Category = I, II, or III
S_s = 1.500 S_1 = 0.600
F_a = 1.0 F_v = 1.3
PGA = 0.546g

Experience has shown that earthquake-related distress to structures can be substantially mitigated by quality construction. We recommend that a qualified and reputable contractor and skilled craftsmen build the associated improvements. We also recommend that the project geotechnical and structural design engineers and project architect monitor the construction to make sure that their designs and recommendations are properly interpreted and constructed.

* * * * * * * * *

A Bibliography, a List of Aerial Photographs, and the following Figures, Table, and Appendix are attached and complete this report.

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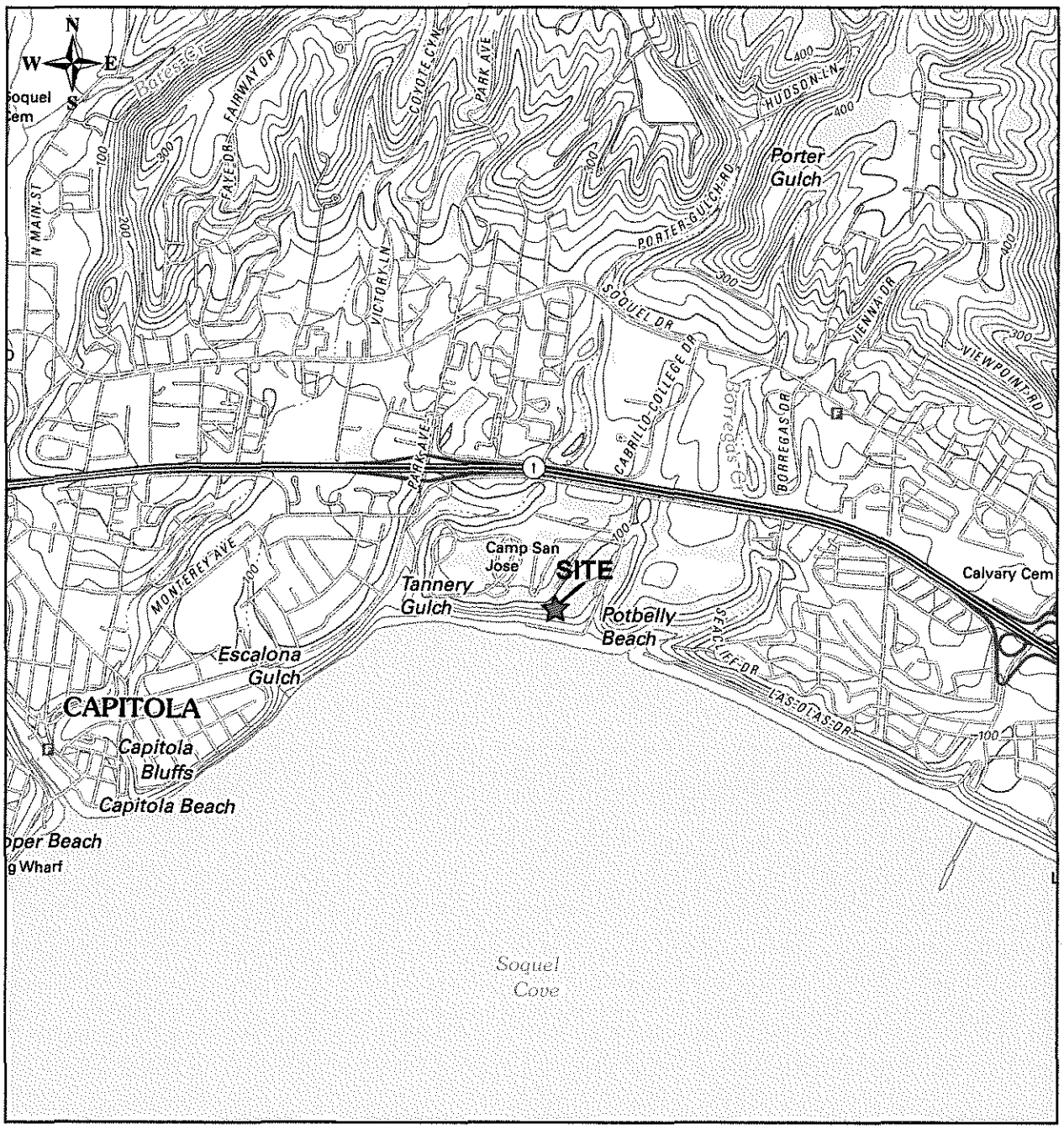
FIGURES, TABLE, AND APPENDIX

FIGURE NO.

TABLE NO.

APPENDIX NO.



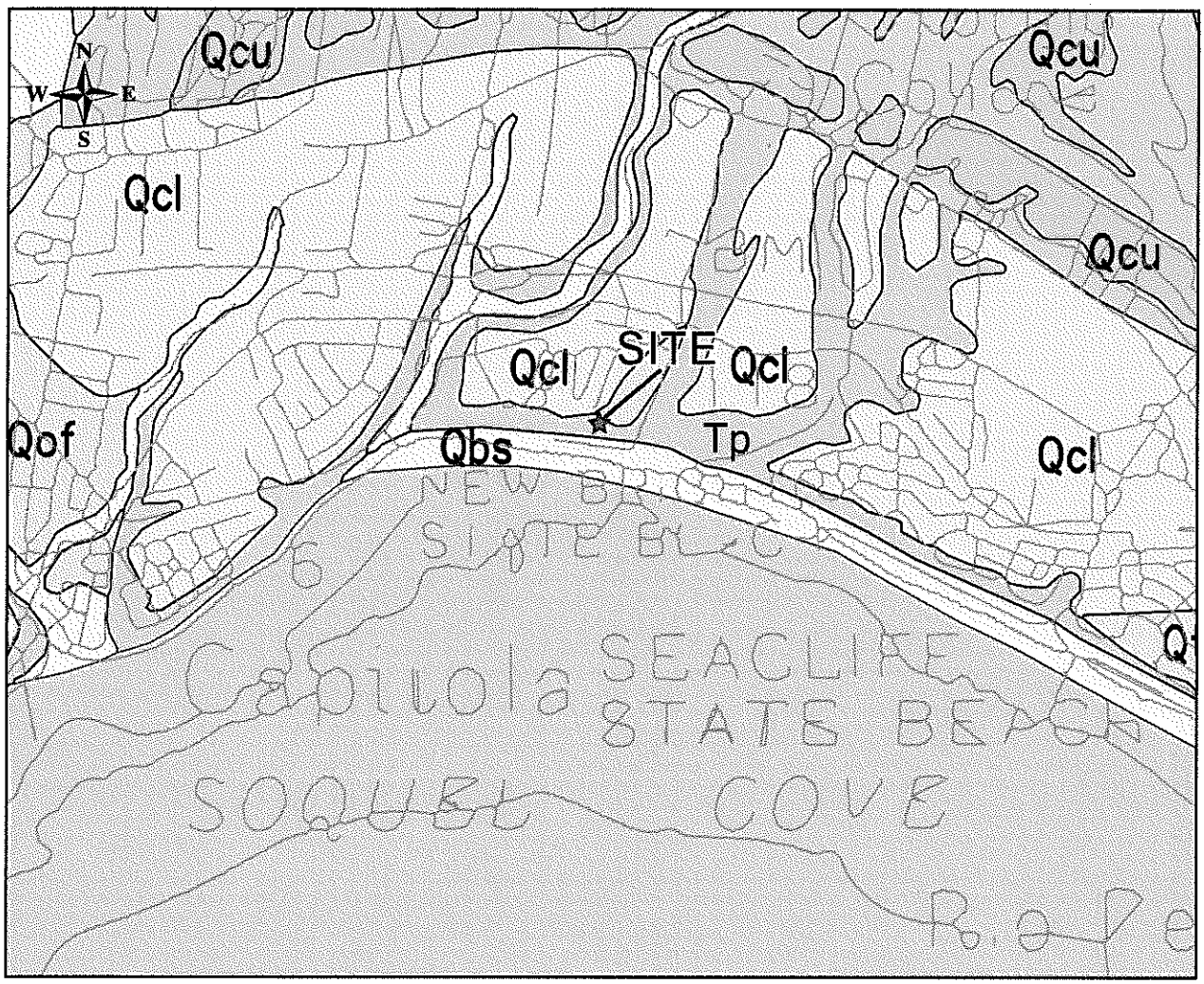
BASE: The National Map US Topo; UNITED STATES GEOLOGICAL SURVEY; 2012

SITE LOCATION MAP

UPP GEOTECHNOLOGY
a division of C2EARTH, INC.

APN 038-231-09
New Brighton Road
Santa Cruz County, California

DRAFTED/REVIEWED	SCALE	DOCUMENT ID.	DATE	
TB/CH	1" = 2,000'	14053A-01R1	August 2014	Figure 1



EXPLANATION

Qbs	- Beach Sands
Qcl	- Lowest Emerent Coastal Terrace Deposits
Qcu	- Coastal Terrace Deposits
Qof	- Older Flood Plain Deposits
Tp	- Purisima Formation

Geologic contact
dashed where approximate
and dotted where concealed

BASE: Geologic Map of Santa Cruz County, California; Brabb, Earl E.; 1997

REGIONAL GEOLOGIC MAP

UPP GEOTECHNOLOGY
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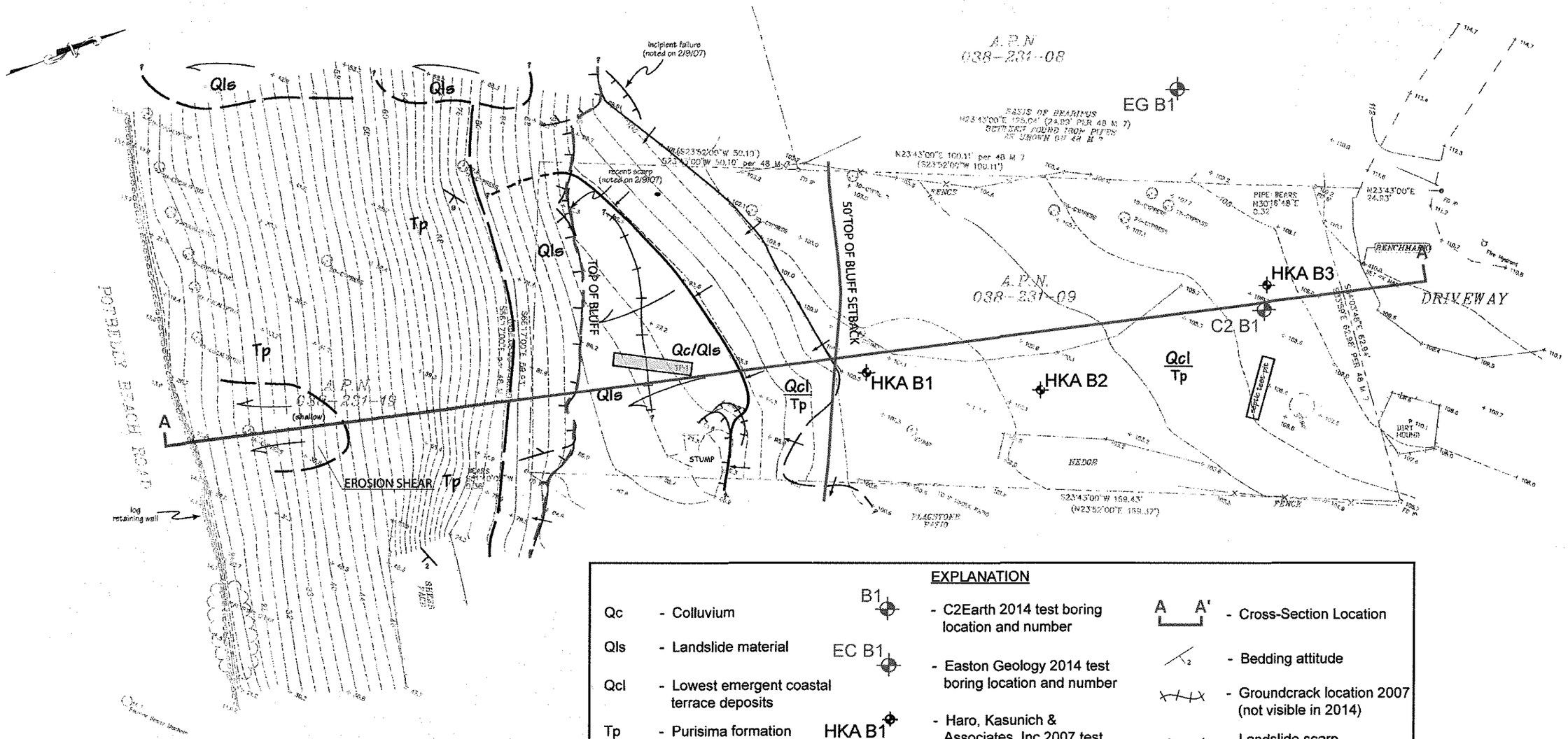
APN 038-231-09
New Brighton Road
Santa Cruz County, California

DRAFTED/REVIEWED	SCALE	DOCUMENT ID.	DATE	
TB/CH	1" = 2,000'	14053A-01R1	August 2014	Figure 2



EXPLANATION

Qc	- Colluvium	B1	- C2Earth 2014 test boring location and number
Qls	- Landslide material	EC B1	- Easton Geology 2014 test boring location and number
Qcl	- Lowest emergent coastal terrace deposits	HKA B1	- Haro, Kasunich & Associates, Inc.2007 test boring location and number
Tp	- Purisima formation		- Rogers E. Johnson Associates Exploratory Test Pit 2007
	- Geologic contact	A A'	- Cross-Section Location
			- Bedding attitude
			- Groundcrack location 2007 (not visible in 2014)
			- Landslide scarp
			- Landslide material arrows indicating direction of movement

SCALE

20 0 20 40 FEET

NOTE: This plan is a conceptual illustration of observed geotechnical and geologic features and should not be used for any other purpose.

BASE: Sheet 1; Topographic Mapping; WARD SURVEYING; 06-09-06 and Plate 2; Geologic Cross Section; ROGERS E. JOHNSON & ASSOCIATES; 01-31-07

SITE PLAN AND ENGINEERING GEOLOGIC MAP

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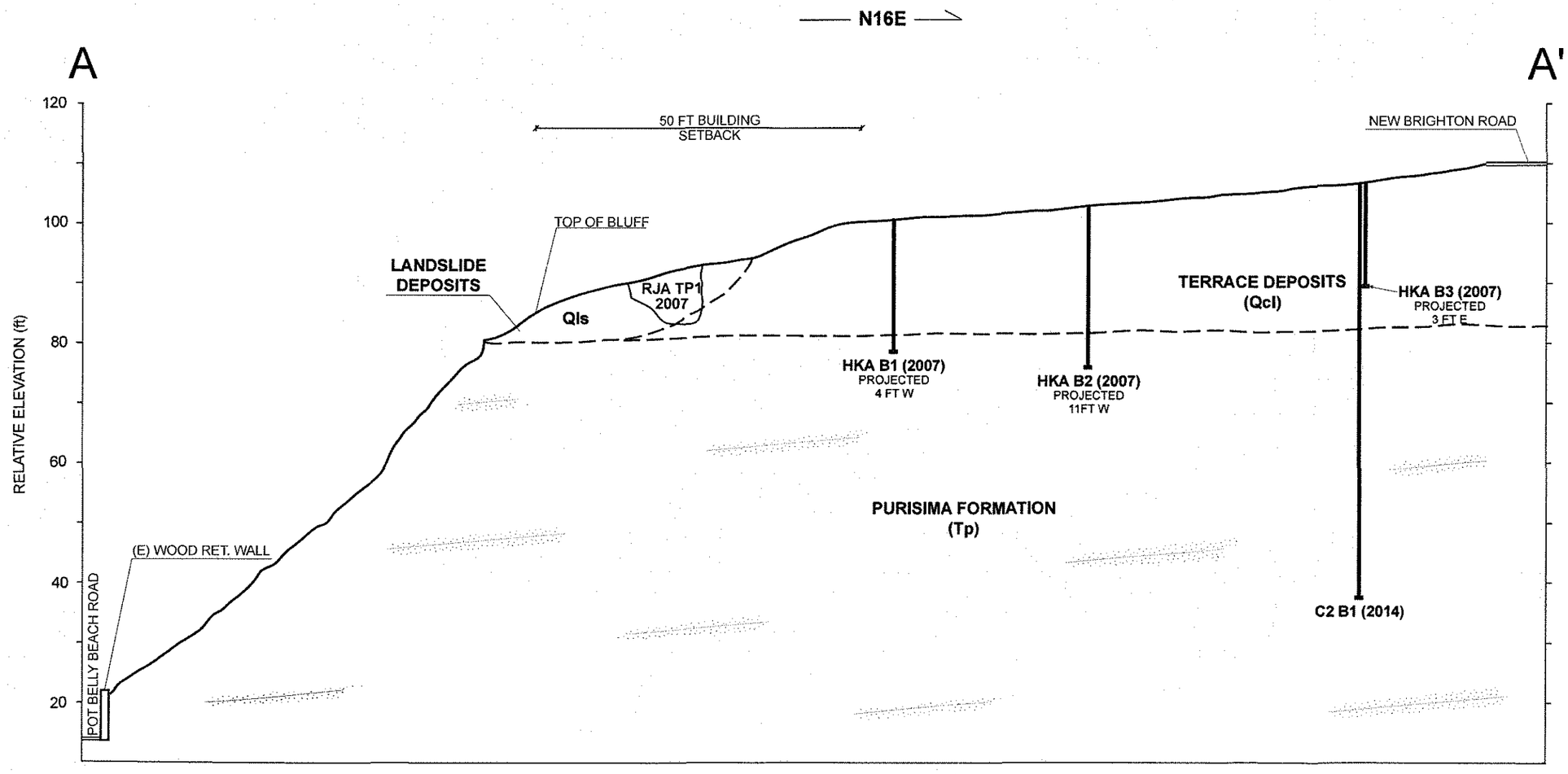
New Brighton Road
Santa Cruz County, California

DRAFTED/REVIEWED	SCALE	DOCUMENT ID.	DATE	
TB/CH	As Shown	14053A-01R1	August 2014	Figure 3



NOTE: This cross-section is a conceptual illustration of general geologic relationships and should not be used for any other purpose.

NOTE: Aparrent dip of approximately 5°; shown schematically

BASE: Sheet 1; Topographic Mapping; WARD SURVEYING 06-09-06

GEOLOGIC CROSS-SECTION A-A'

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APN 038-231-09
New Brighton Road
Santa Cruz County, California

DRAFTED/REVIEWED	SCALE	DOCUMENT ID.	DATE	
TB/CH	1"= 20'	14053A-01R1	August 2014	Figure 4

UNIFIED SOIL CLASSIFICATION SYSTEM

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 layey fine sands or clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium pasticity, 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 silts.
			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.

GRAIN SIZES

U.S. STANDARD SERIES SIEVE	200	40	10	4	¾"	3"	12"	SIEVE OPENINGS
SILTS AND CLAYS	SAND			GRAVEL		COBBLES	BOULDERS	
	FINE	MEDIUM	COARSE	FINE	COARSE			

CONSISTENCY AND RELATIVE DENSITY

CONSISTENCY — SILTS AND CLAYS	STRENGTH[2]	BLOWS/FOOT[1]
VERY SOFT	0 - ¼	0 - 2
SOFT	¼ - ½	2 - 4
FIRM	½ - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	OVER 4	OVER 32

RELATIVE DENSITY — SANDS AND GRAVELS	BLOWS/FOOT[1]
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	OVER 50

[1] Number of blows of 140-pound hammer falling 30 inches to drive a 2-inch O.D (1 3/8-inch I.D) split spoon

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

KEY TO LOGS

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Santa Cruz County, California

DOCUMENT ID.	DATE	
14053A-01R1	August 2014	Figure 5

The standard penetration resistance (SPT) blow counts are obtained in general accordance with ASTM Test Designation D1586. The drive weight assembly consists of a 140-pound hammer dropped through a 30-inch free fall. A standard 2-inch outer diameter split-barrel sampler is driven 18 inches, or to practical refusal, and the number of blows are recorded for each 6-inch penetration interval (see Figure A below). The blows per foot recorded on the boring logs represent the accumulated number of blows required to drive the sampler the final 12 inches.

Samples holding 2-inch diameter (see Figure B below) and 2½-inch diameter liners (see Figure C below) are used to obtain "undisturbed" samples. Blow counts are converted to SPT counts by the following relation:

$$B = \frac{N W H}{(140)(30)} \left(\frac{D_{o\,SPT}^2 - D_{i\,SPT}^2}{D_o^2 - D_i^2} \right)$$

Where :

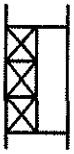
B = Equivalent number of blows per foot with a SPT
N = Number of blows per foot actually recorded
W = Weight of hammer (lb)
H = Height of hammer drop (in)
D_o = Outside Diameter (in)
D_i = Inside Diameter (in)

Occasionally a portable power driven sampler holding 1-inch diameter liners is used for field sampling (see Figure D below). Resistance is measured in seconds per foot and does not correlate with the ASTM SPT. Undisturbed samples may also be collected using a Pitcher Barrel sampler (see Figure E below). Material recovered over the length of the sampler is shaded. A measure of resistance is not collected with this technique.

SPT
Figure A

2" Liner
Figure B

2.5" Liner
Figure C



1" Liner
Figure D

Pitcher Barrel
Figure E

■ = Undisturbed Sample ☒ = Disturbed Sample

Where obtained, the shear strength of the soil samples is shown on the boring logs in far right-hand column.

SUMMARY OF FIELD SAMPLING PROCEDURES

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Santa Cruz County, California

DOCUMENT ID.	DATE	
14053A-01R1	August 2014	Figure 6

EQUIPMENT	Truck Mounted Mobile B-53	RELATIVE ELEVATION	106 feet	LOGGED BY	C. Hundemer
DEPTH TO GROUNDWATER	Not Encountered	DEPTH TO BEDROCK	24 feet	DATE DRILLED	07-11-14

DESCRIPTION AND CLASSIFICATION DESCRIPTION AND REMARKS	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLE	PENETRATION RESISTANCE (BLOWS / FT.)	WATER CONTENT (%)	DRY DENSITY (PCF)	SHEAR STRENGTH (KSF)
SILTY SAND; very dark brown (10YR 2/2) to very dark grayish brown (10YR 3/2); fine- to medium-grained sand; slightly moist (Topsoil)	Medium Dense	SM	0					
SANDY CLAY; brown (10YR 4/3) with oxidation staining to yellowish brown (10YR 5/6); approximately 10-15% fine-grained sand; slightly plastic; slightly moist (Terrace deposits)	Very Stiff	CL	3		23			
SILTY SAND; yellowish brown (10YR 5/4); homogeneous; fine-grained sand; well sorted; moist (Terrace deposits)	Medium Dense	SM	6					
Thin lens of reddish, angular gravel up to 1 inch in diameter			10					
SILTY SAND; yellowish brown (10YR 5/4) to dark yellowish brown (10YR 4/6); homogeneous; subrounded to subangular, fine-grained sand grading to medium-grained sand with depth; well sorted; slightly moist (Terrace deposits)	Medium Dense	SM	11		29			
Less silt			16		27			
Grading to medium-grained, less silt			20		21			
			21					

LOG OF BORING 1

APN 038-231-09
Santa Cruz County, California

DOCUMENT ID.	DATE	FIGURE NO.
14053A-01R1	August 2014	7

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EQUIPMENT	Truck Mounted Mobile B-53	RELATIVE ELEVATION	106 feet	LOGGED BY	C. Hundemer
DEPTH TO GROUNDWATER	Not Encountered	DEPTH TO BEDROCK	24 feet	DATE DRILLED	07-11-14

DESCRIPTION AND CLASSIFICATION DESCRIPTION AND REMARKS	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLE	PENETRATION RESISTANCE (BLOWS / FT.)	WATER CONTENT (%)	DRY DENSITY (PCF)	SHEAR STRENGTH (KSF)
SILTY SAND (continued from above)	Medium Dense	SM	- 22 - 23 - 24 -					
SANDSTONE/SILTSTONE; olive gray (5Y 4/2) with olive brown (2.5Y 4/3) grading to very dark greenish gray (GLEY1 3/1 5GY) below 30 feet bgs; slightly mottled; homogeneous; fine-grained sand; well sorted; low to medium hardness; low strength; moderately plastic; slightly oxidixed; scattered shell fragments; moist (Purisima Formation)	Very Dense	(rock)	- 25 - 26 - 27 - 28 - 29 - 30 - 31 - 32 - 33 - 34 - 35 -	BULK				
SILTSTONE/CLAYSTONE; dark greenish gray (GLEY1 4/1 5GY); homogenous; siltstone and claystone bedding layers; moderately plastic (Purisima Formation)	Very Dense	(rock)	- 36 - 37 -	BULK				
SANDSTONE; very dark greenish gray (GLEY 1 3/1 5GY) to very dark gray (GLEY1 3/N); homogeneous; fine- to very fine-grained, subrounded sands; minor interbeds of fine-grained sandstone and siltstone below 60 feet bgs; well sorted; low hardness; friable; moist to wet; slightly weathered; abundent shell fragments and shell hash in select zones (Purisima Formation)	Very Dense	(rock)	- 38 - 39 - 40 - 41 -	BULK	50/4"			

LOG OF BORING 1 (CONTINUED)

UPP GEOTECHNOLOGY

a division of C2EARTH, INC.

APN 038-231-09
Santa Cruz County, California

DOCUMENT ID.	DATE	FIGURE NO.
14053A-01R1	August 2014	8

EQUIPMENT	Truck Mounted Mobile B-53	RELATIVE ELEVATION	106 feet	LOGGED BY	C. Hundemer
DEPTH TO GROUNDWATER	Not Encountered	DEPTH TO BEDROCK	24 feet	DATE DRILLED	07-11-14

DESCRIPTION AND CLASSIFICATION DESCRIPTION AND REMARKS	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLE	PENETRATION RESISTANCE (BLOWS / FT.)	WATER CONTENT (%)	DRY DENSITY (PCF)	SHEAR STRENGTH (KSF)
SANDSTONE (continued from above) Fossiliferous brittle layer at 40½ feet, shell hash below. Increase in moisture content Shell hash between 51 and 51¼ feet Dry to slightly moist below shell hash Observed 8° bedding plane in sample	Very Dense	(rock)	- 42 - - 43 - - 44 - - 45 - - 46 - - 47 - - 48 - - 49 - - 50 - - 51 - - 52 - - 53 - - 54 - - 55 - - 56 - - 57 - - 58 - - 59 - - 60 - - 61 -		50/4" 50/6"			

LOG OF BORING 1 (CONTINUED)

UPP GEOTECHNOLOGY
a division of C2EARTH, INC.

APN 038-231-09
Santa Cruz County, California

DOCUMENT ID.	DATE	FIGURE NO.
14053A-01R1	August 2014	9

EQUIPMENT	Truck Mounted Mobile B-53	RELATIVE ELEVATION	106 feet	LOGGED BY	C. Hundemer
DEPTH TO GROUNDWATER	Not Encountered	DEPTH TO BEDROCK	24 feet	DATE DRILLED	07-11-14

DESCRIPTION AND CLASSIFICATION DESCRIPTION AND REMARKS	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLE	PENETRATION RESISTANCE (BLOWS / FT.)	WATER CONTENT (%)	DRY DENSITY (PCF)	SHEAR STRENGTH (KSF)
SANDSTONE (continued from above) Minor interbeds of siltstone	Very Dense	(rock)	- 62 - 63 - 64 - 65 - 66 - 67 - 68 - 69 -	☒	50/6"			
Shell hash observed Minor siltstone interbeds								
Bottom of Boring = 69 feet			- 70 - 71 - 72 - 73 - 74 - 75 - 76 - 77 - 78 - 79 - 80 - 81 -					

LOG OF BORING 1 (CONTINUED)

UPP GEOTECHNOLOGY

a division of C2EARTH, INC.

APN 038-231-09
Santa Cruz County, California

DOCUMENT ID.	DATE	FIGURE NO.
14053A-01R1	August 2014	10

TABLE I

MODIFIED MERCALLI SCALE OF EARTHQUAKE INTENSITIES

I. Not felt by people, except under especially favorable circumstances.

II. Felt only by persons at rest on the upper floors of buildings. Some suspended objects may swing.

III. Felt by some people who are indoors, but it may not be recognized as an earthquake. The vibration is similar to that caused by the passing of light trucks. Hanging objects swing.

IV. Felt by many people who are indoors, by a few outdoors. At night some people are awakenad. Dishes, windows and doors are disturbad: walls make creaking sounds; stationary cars rock noticeably. The sensation is like a heavy object striking a building; the vibration is similar to that caused by the passing of heavy trucks.

V. Felt indoors by practically everyone, outdoors by most people. The direction and duration of the shock can be estimated by people outdoors. At night, sleepers are awakened and some run out of buildings. Liquids are disturbed and sometimes spilled. Small, unstable objects and some furnishings are shifted or upset. Doors close or open.

VI. Felt by everyone, and many people are frightened and run outdoors. Walking is difficult. Small church and school bells ring. Windows, dishes, and glassware are broken; liquids spill; books and other standing objects fall; pictures are knocked from walls; furniture is moved or overturned. Poorly built buildings may be damaged, and weak plaster will crack.

VII. Causes general alarm. Standing upright is very difficult. Persons driving cars also notice the shaking. Damage is negligible in buildings of very good design and construction, slight to moderate in well-built ordinary structures, considerable in poorly built or designed structures. Some chimneys are broken; interiors and furnishings experience considerable damage; architectural ornaments fall. Small slides occur along sand or gravel banks of water channels; concrete irrigation ditches are damaged. Waves form in the water and it becomes muddied.

VIII. General fright and near panic. The steering of cars is difficult. Damage is slight in specially designed earthquake-resistant structures, considerable in well-built ordinary buildings. Poorly built or designed buildings experience partial collapses. Numerous chimneys fall; the walls of frame buildings are damaged; interiors experience heavy damage. Frame houses that are not properly bolted down may move on their foundations. Decayed pilings are broken off. Tress are damaged. Cracks appear in wet ground and on steep slopes. Changes in the flow or temperature of springs and wells are noted.

IX. Panic is general. Interior damage is considerable in specially designed earthquake-resistant structures. Well-built ordinary buildings suffer severe damage, with partial collapses; frame structures thrown out of plumb or shifted off of their foundations. Unreinforced masonry buildings collapse. The ground cracks conspicuously and some underground pipes are broken. Reservoirs are damaged seriously.

X. Most masonry and many frame structures are destroyed. Specially designed earthquake-resistant structures may suffer serious damage. Some well-built bridges are destroyed, and dams, dikes and embankments are seriously damaged. Large landslides are triggered by the shock. Water is thrown onto the banks of canals, rivers and lakes. Sand and mud are shifted horizontally on beaches and flat land. Rails are bent slightly. Many buried pipes and conduits are broken.

XI. Few, if any, masonry structures remain standing. Other structures are severely damaged. Broad fissures, slumps and slides develop in soft or wet soils. Underground pipe lines and conduits are put completely out of service. Rails are severely bent.

XII. Damage is total, with practically all works of construction severely damaged or destroyed. Waves are observed on ground surfaces, and all soft or wet soils are greatly disturbed. Heavy objects are thrown into the air, and large rock masses are displaced.

YANEV,P.,1974, Peace of Mind in Earthquake Country, Chronicle Books, San Francisco, California.

APPENDIX I

LOG OF TEST PIT BY ROGERS E. JOHNSON & ASSOCIATES (2007)

LOGS OF BORINGS 1-3 BY HARO, KASUNICH AND ASSOCIATES, INC. (2007)

LOG OF TEST-PIT
Franich Property
New Brighton State Beach Area
Aptos, California
Santa Cruz County APN 038-231-09

Scales: 1" = 2' H=V	Date: 1/17/07	Project # COB031-56	Drawing Number PLATE 3
By: REJ, GFE, gfc	Revised:		

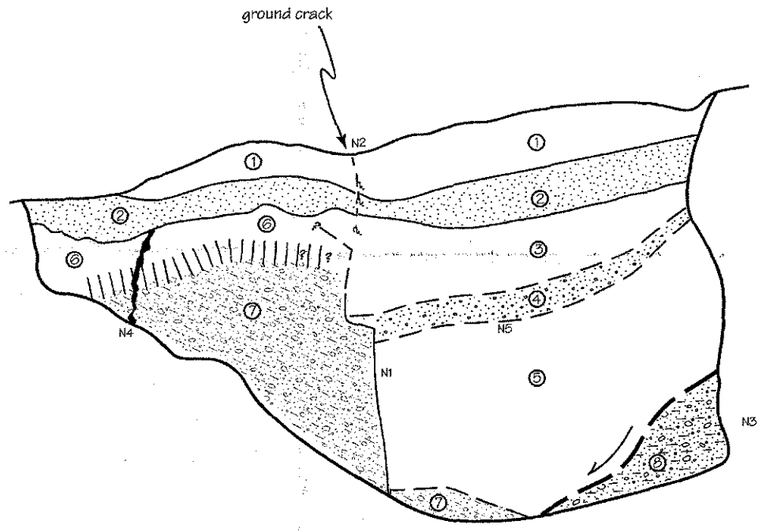
ROGERS E. JOHNSON & ASSOCIATES
Consulting Engineering Geologists
41 Hangar Way, Suite B
Watsonville, California 95076
(831)728-7200 FAX (831)728-7218

TEST-PIT 1

southeast wall logged by REJ and GFE
excavated and logged on 1/12/07

N29E
Scale: 1" = 2'
Horizontal = Vertical

0 2 4 6 8 10 12 14 16 feet



SYMBOLS

Landslide slip-surface - dashed where approximate, arrow indicates direction of movement.

Geologic contact -dashed where approximate, queried where uncertain.

Geologic contact - gradational over length of hachure, queried where uncertain.

TEST-PIT 1 EXPLANATION

EARTH MATERIALS

ARTIFICIAL FILL

① **Man-placed fill** - *Sand and clayey sand* - Very pale brown (10YR 7/4) fine to medium grained sand and very dark grayish brown (10YR 3/2) clayey sand, very loose, moist, occasional rounded quartzite gravel up to 2" diameter, abundant rootlets and small roots, lower contact noted by sharp color and material change. Unit is downwarped near groundcrack.

② **Older man-placed fill** - *Silty sand* - Very dark brown (10YR 2/2) silty fine to medium grained sand, loose to medium dense, slightly moist, scattered rootlets, occasional buried wood fragments, occasional weathered and mottled silty sandstone clasts, to the right of ground crack the unit has abundant, weathered, mottled silty sandstone clasts, lower contact defined in areas by 1 to 2 inch thick root mat, color or material change. Unit is downwarped near groundcrack.

GRABEN INFILL

③ **Younger colluvium** - *Sandy silt* - Dark brown (10YR 3/3) fine grained sandy silt with rounded fine gravel, soft to firm, abundant macropores, dry, scattered small roots and rootlets.

④ **Colluvium** - *Mixed silty sand and sandstone clasts* - Very pale brown (10YR 7/3) weathered sandstone clasts, dark yellowish brown (10YR 4/6) silty sandstone clasts, and dark grayish brown (10YR 4/2) silty fine to coarse grained sand with subrounded fine gravel, moderately dense, moist.

⑤ **Older colluvium** - *Sandy silt* - Dark grayish brown (10YR 2/2) sandy silt with occasional fine gravel, firm, semifriable, dry, occasional rootlets.

LANDSLIDE BLOCK

⑥ **Buried topsoil** - *Silty sand* - Dark brown (10YR 4/3) silty fine to coarse grained sand with fine gravel, moderately dense, slightly moist, occasional large roots and scattered rootlets.

⑦ **Coastal Terrace Deposits** - *Sand and silty sand* - Very pale brown (10YR 6/4) sand and brownish yellow (10YR 5/4) silty sand with scattered rounded exotic coarse gravel, well developed prismatic peds in upper 2 feet of unit, occasional rootlets.

IN-PLACE MATERIAL

⑧ **Coastal Terrace Deposits (Qcl)** - *Sand and silty sand* - Very pale brown (10YR 6/4) sand and brownish yellow (10YR 5/4) silty sand with scattered rounded exotic coarse gravel, occasional, large cobble-sized concretions, uppermost foot of unit is iron and manganese oxide stained, occasional rootlets.

NOTES

N1 Cross-pit trend of crack: N89E.

N2 Ground crack (1989?) coincident with back edge of slideblock.

N3 0.6 foot diameter concretion in back wall of test-pit.

N4 Cross-pit trend of soil-filled crack: S75E.

N5 Colluvium appears locally bedded at its base, with loose sand and gravelly sand stringers.

New Brighton Road

PROJECT NO. SC9394

LOGGED BY RLP DATE DRILLED February 9, 2007 BORING DIAMETER 4 1/2" BORING NO. B-1

Depth, ft.	Sample No. and type	Symbol	SOIL DESCRIPTION	Unified Soil Classification	Blows/foot 350 ft - lbs.	Qu - t.s.f. Penetrometer	Dry Density p.c.f.	Moisture % dry wt.	MISC. LAB RESULTS
0			Brown Silty SAND with grey brown Clayey SAND clasts, moist, loose	SM					
	1-1 (L)				10		110	17	C = 930 psf ϕ = 24° γ Sat = 135 pcf
5	1-2 (L)		Grey brown slightly Clayey SAND with rounded gravels to 3/4"		32		111	12	C = 690 psf ϕ = 43° γ Sat = 133 pcf
10	1-3 (L)		Tan, fine to medium grain SAND w/Gravels, moist, medium dense		20		101	12	C = 40 psf ϕ = 45° γ Sat = 128 pcf
15	1-4 (L)		Tan, fine to medium grain SAND, moist, medium dense		34		85	14	C = 90 psf ϕ = 38° γ Sat = 115 pcf
20			Grey brown Silty SANDSTONE with shell hash, wet, dense						
	1-5 (L)				57		81	34	C = 620 psf ϕ = 45° γ Sat = 117 pcf
			Boring terminated at 21.5 feet						
25									
30									
35									

HARO, KASUNICH AND ASSOCIATES, INC.

BY: dk FIGURE NO.

3

New Brighton Road

PROJECT NO. SC9394

LOGGED BY RLP DATE DRILLED February 9, 2007 BORING DIAMETER 4 1/2" BORING NO. B-2

Depth, ft.	Sample No. and type	Symbol	SOIL DESCRIPTION	Unified Soil Classification	Blows/foot 350 ft - lbs.	Qu - t.s.f. Penetrometer	Dry Density p.c.f.	Moisture % dry wt.	MISC. LAB RESULTS
0									
	B-1 (T)		Grey brown Clayey Silty SAND, moist, loose	SC	7			16	
5			Clayey Silty SAND						
	B-2 (T)		Orange brown, Clayey, Silty SAND, moist, medium dense		19			16	
10	B-3 (T)		Interbedded Silty SAND with Gravels & clean Sands, moist, medium dense		14			13	
15	B-4 (T)		Brown medium grain SAND, moist, medium dense		16			8	
20	B-5 (T)		Red brown, brown Silty SAND w/Clay binder, moist, dense		52			22	
25	B-6 (T)		Grey Silty fine grain, Sandstone with shell hash, moist, dense		67			15	
			Boring terminated at 26.5 feet						
30									
35									

HARO, KASUNICH AND ASSOCIATES, INC.

BY: dk FIGURE NO. 4

New Brighton Road

PROJECT NO. SC9394

LOGGED BY RLP DATE DRILLED February 9, 2007 BORING DIAMETER 4 1/2" BORING NO. B-3

Depth, ft.	Sample No. and type	Symbol	SOIL DESCRIPTION	Unified Soil Classification	Blows/foot 350 ft - lbs.	Qu - t.s.f. Penetrometer	Dry Density p.c.f.	Moisture % dry wt.	MISC. LAB RESULTS
0			Dark brown Silty SAND with organics, moist, loose	SM					
	B-1 (T)				7			20	
			Red brown Clayey SAND	SC					
5	B-2 (T)		Red brown Silty fine to coarse SAND, moist, loose to medium dense		11			10	
10	B-3 (T)		Orange brown Silty fine SAND, moist, medium dense		18			12	
15	B-4 (T)		Brown Silty fine SAND, moist, medium dense		12			13	
			Boring terminated at 16.5 feet						
20									
25									
30									
35									

HARO, KASUNICH AND ASSOCIATES, INC.

BY: dk FIGURE NO

5

APPLICATION TO USE

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ENGINEERING GEOLOGIC STUDY
RESIDENTIAL DEVELOPMENT

APN 038-231-09
NEW BRIGHTON ROAD
SANTA CRUZ COUNTY, CALIFORNIA

Document Id. 14053A-01R1
Dated 13 August 2014

TO: Upp Geotechnology
a division of C2Earth, Inc.
750 Camden Avenue, Suite A
Campbell, CA 95008

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_____
_____
_____

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UPP GEOTECHNOLOGY
Engineering Geology • Geotechnical Engineering
a division of C2EARTH, INC.

19 December 2014
Document Id. 14053A-01L1
Serial No. 17007

Mr. Steven Graves
775 Estates Drive
Aptos, CA 95003

SUBJECT: RESPONSE TO COUNTY GEOLOGIC PEER REVIEW COMMENTS
PROPOSED RESIDENTIAL DEVELOPMENT
APN 038-231-09
NEW BRIGHTON ROAD
SANTA CRUZ COUNTY, CALIFORNIA

Dear Mr. Graves:

INTRODUCTION

As requested, we are responding to comments issued by the County of Santa Cruz Planning Department in their peer review letter dated 15 October 2014. We previously submitted our Engineering Geologic Study report, dated 13 August 2014 (Document Id. 14053A-01R1), which presented geologic findings and recommendations for the project. The geotechnical engineering for the project is being performed by Dees & Associates (DA); their geotechnical recommendations for the project were presented in their report dated August 2014.

A prior geologic investigation was performed for the site by Rogers E. Johnson and a prior geotechnical engineering study was performed by Haro, Kasunich, and Associates. The results of those studies were presented in reports dated April 2007 and July 2007, respectively.

RESPONSE TO COMMENTS

The following is our response to the geologic aspects of the comments presented by the County in their letter. Our response is based on a review of published reports and documents for the site and vicinity; a site visit on 18 December 2014 by our project geologist and principal engineering geologist to conduct limited surveying to extend our geologic cross-section from the toe of the bluff to the ocean; and our conversations with you and with the project geotechnical consultant, Ms. Becky Dees.

Item 1. *The written history of the site includes a statement in the Rogers E. Johnson report that the top of the bluff has been graded resulting in the bluff back retreating as much as 60* [foot] *(REJ Page 5 second paragraph). Please elaborate on the landslide's relationship to this grading, and indicate when the landslide occurred, and if the grading was a contributing factor.*

The Rogers E. Johnson (REJ) report indicates that the grading of the slope was performed to provide room for reconstructing Pot Belly Beach Road on the inboard (north) side of the row of homes at the base of the bluff. Based on a review of historical aerial photographs, the grading occurred between 1965 and 1972.

Based on aerial photograph interpretation measurements reported by REJ, the grading resulted in the toe of the bluff moving north about 45 feet and the top of the bluff moving north about 60 feet. A graphic illustration of the pre-grading bluff condition is shown on Figure 2, Updated Geologic Cross-Section A-A'.

Based on information in the REJ report, several translational landslides occurred within the brittle terrace deposits that overlie the competent Purisima formation sandstone along the top of the bluff between New Brighton State Beach and Aptos Creek during the 1989 Loma Prieta Earthquake (LPEQ). REJ theorized that the small landslide at the subject site showed signs of periodic movement and probably reactivated (or initiated) during the LPEQ. They also noted possible minor movements and localized incipient failures near the edge of the landslide as a result of intense rainfall in 2007, and summarized that the landslide mass may experience periodic reactivation in response to intense seismic shaking and/or intense rainfall.

On the basis of the landslide being marginally stable under static conditions, with residual strength along a developed slide surface, and on the basis that the grading performed between 1965 and 1972 resulted in the bluff effectively becoming a cut-slope with a less steep than natural gradient (see Figure 2), we judge that the slide initiated in response to seismic shaking, likely associated with the LPEQ. It is our opinion that the grading activity that moved the face of the bluff was not a contributing factor to the landslide.

***Item 2**. The engineering geologic study includes 50 foot setbacks. This setback extends to the edge of the escarpment of the recent landsliding, but does not include the area of ground cracking beyond the edge of the escarpment. The 50* [foot] *setback appears to be based upon the completion of landslide repair.*

Code provisions require both jurisdictional setbacks of 25 feet, and a 100 year setback from the top of the coastal bluff. Code Section 16.10.070 ... [Code not reiterated here]

Based upon these Codes section and the General / Coastal Plan two different setbacks must be considered: the jurisdictional setback and the 100 year setback. The jurisdictional clastal bluff setback shall extend 25 feet back from the edge of the landslide escarpment (which is the edge of the coastal bluff. This is consistent with the 2007 Rogers Johnson and Associates report, meets the County's and Coastal Commission's definition of coastal bluff, and past practice by the County.

Section 16.10.070 1) (a) indicates that 100 year setback should extend back far enough to compensate for any instability within the next 100 years. Clearly this would include the current landslide escarpment, since the escarpment will round and layback, and any ground cracking beyond the escarpment. The consultants would also need to analyze the retreat of the bluff edge and analyze the stability of the slope.

Both the 25 foot and 100-year setbacks are determined without the stabilization of the coastal bluff.

100-Year Setback

Our report presented recommendations for a 50-foot setback from the downslope edge of the flat terrace (on the landslide) on the basis that the landslide would be stabilized in-situ. We evaluated the 100-year potential for earthquake induced landsliding based on earthquake recurrence intervals, the site's performance during the LPEQ, the strength and bedding of the underlying Purisima formation sandstone, and the potential for wave erosion at the base of the bluff.

It should be noted that the Coastal Commission in 2003 established that analytical processes should be carried out in accordance with the document titled "Establishing Development Setbacks from Coastal Bluffs" by Mark J. Johnsson (2002). This document notes that the Coastal Act does not establish a particular design life value, though many local coastal programs do. They note that "*the most commonly assumed design lives for new development range from 50 to 100 years; the most common value is 75 years*". Thus, the County of Santa Cruz's requirement for 100 years should be considered a very conservative setback.

On the basis of our review of published reports addressing the potential for sea-level rise; the distance and elevation from the current shoreline to the toe of the bluff; and the existing rip-rap, row of houses, and retaining wall downslope of the toe of the bluff, we concluded in our prior report, and still conclude, that the potential for wave erosion at the base of the bluff directly below the property is negligible.

On the basis of the composition and bedding orientation, and the performance of the bedrock cut-slope on the bluff during the LPEQ, we judge the potential for deep-seated landsliding to affect the proposed home-site to be negligible.

To allow for shallow erosional processes that may occur on the bluff face, we determined that the minimum slope gradient that is likely to result in the next 100 years is 1½:1 (horizontal to vertical). This corresponds to a slope inclination of about 33.7 degrees, projected upward from the base of the bluff (base of the retaining wall at the toe of the bluff).

25-Foot Setback

The above referenced report used by the Coastal Commission (Johnsson, 2002) also provides methods for determining the edge of the bluff for defining a 25-foot setback. The report states that a bluff edge is defined as

> *"the upper termination of a bluff, cliff, or seacliff. In cases where the top edge of the cliff is rounded away from the face of the cliff as a result of erosional processes related to the presence of the steep cliff face, the bluff line or edge shall be defined as that point nearest the cliff beyond which the downward gradient of the surface increases more or less continuously until it reaches the general gradient of the cliff. In a case where there is a step-like feature at the top of the cliff face, the landward ege of the top-most riser shall be taken to be the cliff edge" (California Code of Regulations, Title 14, §13577 (h) (2).*

Based on the above and the site topography, it is our opinion that the crest of the slope has a "rounded" edge, resulting from erosional processes (shallow translational landsliding and subsequent surficial erosion). Following the above procedure for cases where the top edge of the cliff is rounded, we conclude that the "bluff edge" shall be considered as the rear of the landslide mass, at the base of the 2:1 slope that extends upward about 7 to 8 feet above the landslide. Beyond this point, the downward gradient of the surface increases.

We do not believe the site conditions represent a "step-like" condition, since the "top-most riser" is nowhere near vertical, having a slope of about 2:1.

Conclusions

Our 100-year and 25-foot setbacks and our determined "top of bluff" based on the Coastal Commission's procedures are presented on Figure 1, Updated Site Plan, and Figure 2, Updated Geologic Cross-Section. We conclude, therefore, that the two setbacks should be combined: in the eastern and western portions of the site, the 100-year setback will govern, and in the central portion of the site, the 25-foot setback will govern. It should be noted that the building envelope beyond these setbacks is also beyond the limits of the shallow landslide and previously identified ground cracks.

Item 3. *The drainage system shall be evaluated and designed as indicated by the geotechnical engineer. This design will require deep pits for retention of site drainage, or another method of on-site disposal that prevents drainage from reaching the edge of the landslide and the coastal bluff. Please provide preliminary design calculations. (Please note that the Drainage Division of Public Works Department will* [be] *reviewing these calculations as well as the Planning Department, and should be consulted as part of the design process).*

We understand that DA is evaluating the proposed drainage system to ensure that the system is designed in a manner to prevent introduced water from reaching the edge of the landslide or bluff and they will present a response to this item under separate cover.

Item 4. *The impact of the septic system effluent disposal must be analyzed by the geotechnical engineer (7.38.120 H and 16.10.070 E) to confirm the conclusion of the geologist that effluent will have little impact on slope stability. The geotechnical engineer will need to determine the amount of effluent that will be infiltrated into the ground and determine if any of that effluent will reach the landslide or face of the slope. The geotechnical engineer will need to work carefully with the designer of the septic system to develop a system that will work and not adversely affect slope stability. A preliminary estimate of the amount of effluent and the calculated affect* [on] *the stability of the bluff must be submitted as part of the preliminary reports.*

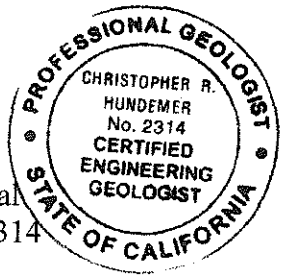
We understand that DA is evaluating the proposed septic system and is working with the septic designer to develop a system that will ensure that the introduced effluent will not adversely affect slope stability and they will present a response to this item under separate cover.

***Item 5**. The landslide may be a threat to the public way and other improvements at the base of the slope, and will need to be repaired even if it does not decrease the slope setback the stabilization is required as part of the site's development.*

We understand that the landslide mass will be stabilized in-situ using Geopier SRT Plate Piles. We have reviewed a design report prepared by SRT-Geopier for the project dated 11 November 2014. The design is based on site geotechnical input provided by DA and information from the prior Haro, Kasunich, and Associates report. Based on our review, we judge the proposed stabilization design to be feasible from an engineering geologic perspective and will be an effective solution for mitigating the potential threat to the public way (Pot Belly Beach Road) below.

It has been our pleasure to perform these services to continue to assist you with your project. If you have any questions, please call.

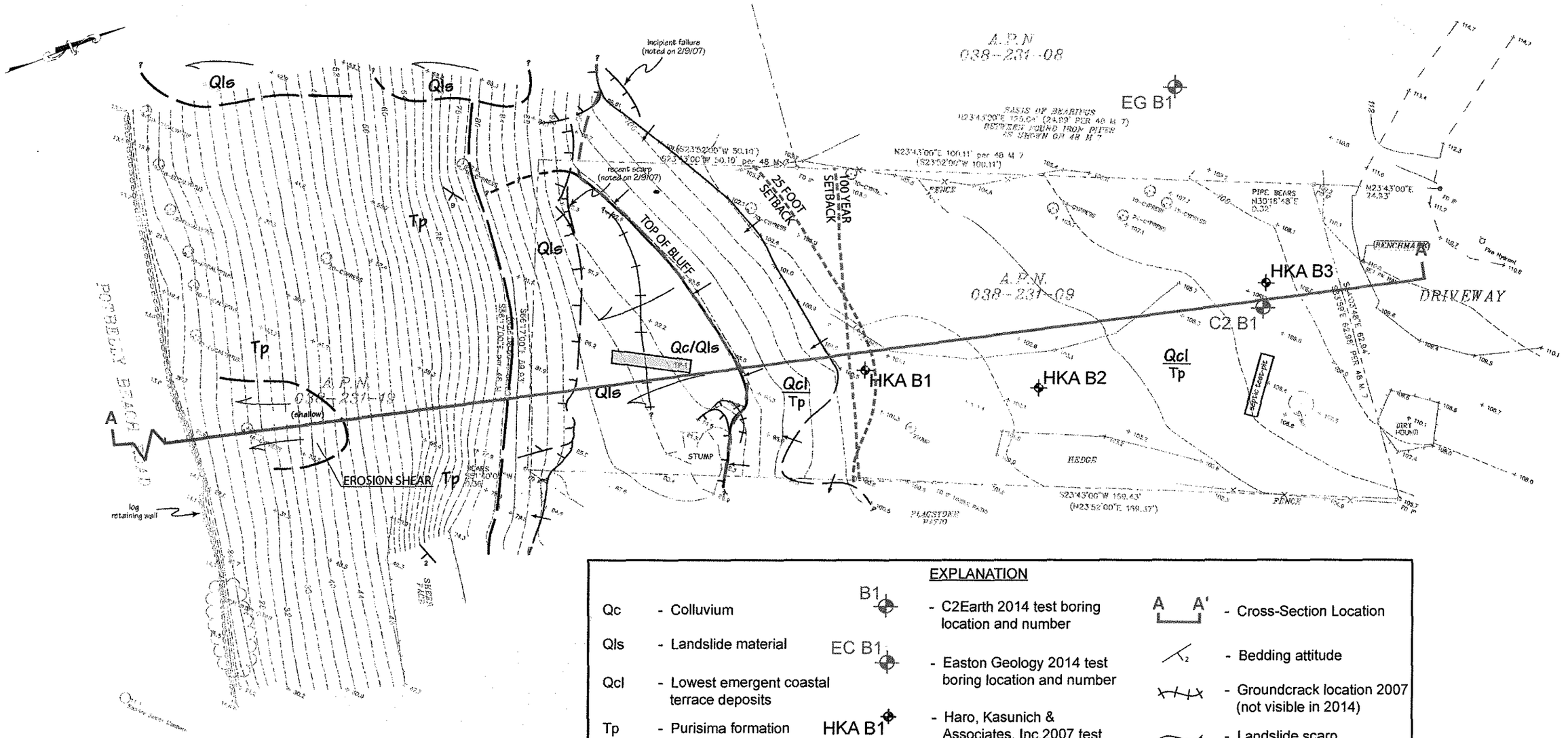
Sincerely yours,
Upp Geotechnology
a division of C2Earth, Inc.



Christopher R. Hundemer, Principal
Certified Engineering Geologist 2314
Certified Hydrogeologist 882

Distribution: Addressee (3 via mail and via e-mail to stevengravesmusic@gmail.com)
Ms. Becky Dees (via e-mail to dees@dslextreme.com)

Inclusions: Figure 1 – Updated Site Plan and Engineering Geologic Map
Figure 2 – Updated Geologic Cross-Section A-A'



EXPLANATION

Qc	- Colluvium	B1	- C2Earth 2014 test boring location and number
Qls	- Landslide material	EC B1	- Easton Geology 2014 test boring location and number
Qcl	- Lowest emergent coastal terrace deposits	HKA B1	- Haro, Kasunich & Associates, Inc.2007 test boring location and number
Tp	- Purisima formation		- Rogers E. Johnson Associates Exploratory Test Pit 2007
	- Geologic contact	A A'	- Cross-Section Location
		$\swarrow_{2}$	- Bedding attitude
			- Groundcrack location 2007 (not visible in 2014)
			- Landslide scarp
			- Landslide material arrows indicating direction of movement

SCALE

20 0 20 40 FEET

NOTES: This plan is a conceptual illustration of observed geotechnical and geologic features and should not be used for any other purpose.

Top of bluff defined by Coastal Commission Proceedure for rounded-edge bluff tops.

BASE: Sheet 1; Topographic Mapping; WARD SURVEYING; 06-09-06 and Plate 2; Geologic Cross Section; ROGERS E. JOHNSON & ASSOCIATES; 01-31-07

UPDATED SITE PLAN AND ENGINEERING GEOLOGIC MAP

UPP GEOTECHNOLOGY
a division of C2EARTH, INC.

GRAVES PROPERTY
APN 038-231-09
New Brighton Road
Santa Cruz County, California

DRAFTED/REVIEWED	SCALE	DOCUMENT ID.	DATE	
CH	As Shown	14053A-01L1	December 2014	Figure 1

GEOTECHNICAL INVESTIGATION
For
PROPOSED SINGLE FAMILY RESIDENCE
New Brighton Road, Capitola
APN 038-231-09
Santa Cruz County, California

Prepared
For
STEVE GRAVES
Aptos, California

Prepared By
DEES & ASSOCIATES, INC.
Geotechnical Engineers
Project No. SCR-0819
AUGUST 2014

Dees & Associates, Inc.
Geotechnical Engineers
501 Mission Street, Suite 8A Santa Cruz, CA 95060 Phone (831) 427-1770 Fax (831) 427-1794

August 22, 2014 Project No. SCR-0819

STEVE GRAVES
775 Estates Drive
Aptos, California 95003

Subject: Geotechnical Investigation

Reference: Proposed Single Family Residence
New Brighton Road, Capitola
APN 038-231-09
Santa Cruz County, California

Dear Mr. Graves:

As requested, we have completed a Geotechnical Investigation for a new single family residence proposed at the referenced site. Our investigation was performed in conjunction with Upp Geotechnolgy a division of C2Earth, Inc.

The purpose of our investigation was to evaluate the site soil conditions and provide geotechnical recommendations for the proposed development.

This report presents the results, conclusions and recommendations of our investigation. If you have any questions regarding this report, please call our office.

Very truly yours,

DEES & ASSOCIATES, INC.

Rebecca L. Dees
Geotechnical Engineer
G.E. 2623

Copies: 4 to Addressee
1 to Chris Hundemer, C2Earth, Inc.

TABLE OF CONTENTS

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GEOTECHNICAL INVESTIGATION

Introduction

This report presents the results of our Geotechnical Investigation for the new single family residence proposed at the referenced site in Santa Cruz County, California.

In 2007, a geotechnical investigation of the site was performed by Haro, Kasunich & Associates, Inc. and a geologic investigation of the site was performed by Rogers E. Johnson & Associates, Inc. for a previous owner. Our firm has taken over the project and this report presents geotechnical recommendations for the proposed development. The geology responsibility of the project has been taken over by Upp Geotechnology, a division of C2Earth, Inc. We have worked closely with C2Earth, Inc. as part of our investigation.

Purpose and Scope

The purpose of our investigation was to review available reports for the site, evaluate surface and subsurface soil conditions at the site and evaluate the stability of the site in order to provide geotechnical recommendations for design and construction of the proposed residence.

The specific scope of our services included:

1) A site reconnaissance and review of available data in our files regarding the site and region. Review of the Geotechnical Investigation for Blufftop Residence by Haro, Kasunich & Associates, Inc., dated July 3, 2007, Project No. SC9394 and review of the Geologic Investigation of Coastal Bluff-top Property by Rogers E. Johnson & Associates, dated February 13, 2007.

2) Exploration of subsurface soil conditions with one (1) exploratory boring and review of three (3) exploratory borings drilled by Haro, Kasunich & Associates, Inc. Our boring was drilled with 6-inch diameter auger equipment mounted on a truck. The soil samples obtained from the test boring were sealed and returned to the laboratory for testing.

3) Stability analysis of the coastal bluff.

4) Discussions with the project geologist.

5) Engineering analysis and evaluation of the resulting data. Based on our findings we have developed geotechnical design criteria and recommendations for general site grading, building setbacks, foundations, concrete slabs-on-grade, pavements, utilities and general site drainage and erosion control.

6) Submittal of this report presenting the results of our investigation.

Project Location and Description

The project site is located on New Brighton Drive, APN 038-231-09, in the County of Santa Cruz, California, Figure 1. The property is bordered by New Brighton Road to the north, a steep coastal bluff to the south and single family homes to the east and west. The 0.21-acre parcel is located on a gently sloping terrace above a very steep, 90 foot high (±) coastal bluff.

The project consists of constructing a new single family residence at the site. The new residence will be setback at least 50 feet from the top of the coastal bluff (as defined by C2Earth, Inc.) which coincidently is setback behind a 2:1 (horizontal to vertical) line drawn upwards from the back edge of the base of the landslide mass.

Field Investigation

Subsurface conditions at the site were explored on July 11, 2014 with one (1) exploratory boring, Figure 5 drilled to a depth of 69 feet below existing grade. The boring was drilled with 6-inch diameter auger equipment mounted on a truck. The approximate location of our test boring is indicated on our Boring Site Plan, Figure 2. We also reviewed the logs of three borings drilled at the site by Haro, Kasunich & Associates, Inc., which are included on Figures 6, 7 and 8.

Representative soil samples were obtained from the exploratory borings at selected depths, or at major strata changes. These samples were recovered using the 3.0 inch O.D. Modified California Sampler (L) or the Standard Terzaghi Sampler (T). The penetration resistance blow counts for the (L) and (T) noted on the boring logs were obtained as the sampler was dynamically driven into the in-situ soil. The test was performed by dropping a 140-pound hammer a 30-inch free fall distance enough times to drive the sampler 6 to 18 inches. The number of blows required to drive the sampler through each 6-inch penetration interval was recorded. The "blow count" recorded on the boring logs present the accumulated number of blows that were required to drive the sampler through the last 12 inches of that sample interval.

The soils encountered in the exploratory borings were continuously logged in the field and described in accordance with the Unified Soil Classification System (ASTM D2487), Figure 3. The test boring log is included on Figure 3 of this report. The soil log describes the soils encountered in our boring and may not reflect soil conditions in other areas of the site.

Laboratory Testing

Laboratory testing was performed by Haro, Kasunich & Associates, Inc. We have utilized their laboratory data in our analysis.

Subsurface Conditions

The site is comprised of Purisima Formation bedrock with a 20 to 25 foot thick layer of Coastal Terrace Deposits on top. Purisima Formation (Pliocene and upper Miocene) is described as, "Very thick bedded yellowish-gray tuffaceous and diatomaceous siltstone containing thick interbeds of bluish-gray, semifriable, fine-grained andesitic sandstone. Lowest emergent coastal terrace deposits (Pleistocene) are described as, "Semiconsolidated, generally well-sorted sand with a few thin, relatively continuous layers of gravel. Deposited in nearshore high-energy marine environment. Grades upward into eolian deposits of Manresa Beach in southern part of county. Thickness variable; maximum approximately 40 ft. Unit thins to north where it ranges from 5 to 20 ft thick. Weathered zone ranges from 5 to 20 ft thick. As mapped, locally includes many small areas of fluvial and colluvial silt, sand, and gravel, especially at or near old wave-cut cliffs".

Our borings encountered 24 feet of coastal terrace deposits consisting of about 3 feet of silty sand over 2 to 3 feet of clayey sand over silty sand and sand over sandstone bedrock. Sandstone bedrock lies about 24 feet below the proposed homesite at this location. The silty sands in the top 3 feet are loose and the soils below 3 feet are medium dense to dense down to sandstone bedrock. The sandstone bedrock is very dense.

Groundwater

Groundwater was not encountered in our boring or the Haro, Kasunich & Associates borings. However, a small seep was observed by Rogers E. Johnson & Associates at the base of their test pit excavated at the back of the slide plane and increased zones of moisture were observed in our boring 27 feet below grade and 44 feet below grade.

Groundwater levels denote groundwater conditions at the locations and times observed, and it is not warranted it is representative of groundwater conditions at other locations or times. Groundwater levels can vary due to seasonal variations and other factors not evident at the time of our investigation.

Seismicity

The following is a general discussion of seismicity in the project area. A detailed discussion of faulting and seismic hazards is beyond the scope of our services and can be found in the geologic report prepared by C2Earth, Inc.

The project site is located about 7 kilometers southwest of the Zayante-Vergeles Fault zone 13.0 kilometers southwest of the San Andreas Fault zone and 23.5 kilometers northeast of the offshore San Gregorio Fault zone.

The San Andreas Fault is the largest and most active of the faults, however, each fault is considered capable of generating moderate to severe ground shaking. It is

reasonable to assume that the proposed development will be subject to at least one moderate to severe earthquake from one of the faults during the next fifty years.

The Seismic Design Category (SDC) for structures with an occupancy category of I or II is "D" for analysis using the 2010 California Building Code. The following ground motion parameters may be used in seismic design and were determined using the USGS Ground Motion Parameter Calculator: Ss, Site Class D (0.2 sec) = 1.500g; S1, Site Class D (1.0 sec) = 0.600g; SMs, Site Class D (0.2 sec) = 1.500g; SM1, Site Class D (1.0 sec) = 0.900g; SDs, Site Class D (0.2 sec) = 1.000g; SD1, Site Class D (1.0 sec) = 0.600g. PGAm=0.546g.

Landsliding and Slope Stability Hazards

The slope below the site is about 90 feet high with about a 1:1 (horizontal to vertical) slope gradient. The slope is comprised of Purisima Formation bedrock with 20 to 25 feet of terrace deposits capped on top. See Figure 4.

Deep seated rotational failures within the sandstone are rare and none have been reported or observed in the project vicinity even after the 1906 San Francisco and the 1989 Loma Prieta earthquakes. The most common form of slope instability observed within the sandstone is from thin wedge failures and block failures where blocks of sandstone fail along joints within the rock. These failures typically occur within the top 10 to 15 feet of the slope face. Landslides within the terrace deposits are common at the top edge of the coastal bluffs in the project area. Failures of the terrace deposits in the vicinity of the site have been observed and documented following the 1906 San Francisco and the 1989 Loma Prieta earthquakes and during periods of intense and prolonged rainfall.

Sometime in the past, a landslide occurred in the terrace deposits at the top of the bluff at the site. The landslide rotated and dropped creating a step at the top of the slope. See Figure 4. The landslide is about 60 feet wide and extends about 20 to 45 feet into the slope (Rogers E. Johnson 2007).

A stability analysis of the landslide was performed by Haro, Kasunich & Associates, Inc. and they determined that if the slope gradient of the slide mass was flattened to a 2:1 (horizontal to vertical) slope gradient, the slide could be stabilized. The County Geologist, Joe Hanna, issued a letter disputing the results of the slope stability analysis and asked for the analysis to be completed using a simple force diagram. Joe Hanna indicated he thought the upper portion of the slide was acting as an active wedge and the lower portion of the slide was acting as a passive wedge and if some of the slide mass was removed it would reduce passive resistance and increase the potential for the soil to move.

We differ in opinion in that we do not think the upper wedge is pushing on the lower wedge. We feel the lower portion of the landslide mass is moving away from the upper

wedge and the upper wedge has a potential to move into the void left by the lower wedge. The graben that was documented by Rogers E. Johnson & Associates in 2007 indicates the soil downslope of the graben has moved in relation to the soil behind the graben. If the upper portion of the landslide mass was pushing against the lower portion of the landslide mass, the graben would not have appeared.

We performed a simple force diagram analysis of the slide mass, as depicted by Rogers E. Johnson, to determine the stability of the slide mass. Our analysis used the lowest soil strength from the direct shears performed by Haro, Kasunich & Associates, Inc. and an earthquake loading of 0.44g which is based on California Geological Survey - Note 48 guidelines for determination of pseudo-static coefficients (PGAm/1.5) and Ashford-Sitar (2002) relationships for steep coastal bluffs using a bluff height of 88 feet and a slide height of 18 feet. Our analysis indicated the slope was stable, Figure 9. A second analysis was performed using hand calculations, Figure 10, and the factor of safety under fully saturated seismic conditions was 1.7. However, we know the slide mass has moved and is likely to move in the future so we don't consider the calculations to be reliable.

The soil strength at the base of the slide has to approach zero in order for the soil to move. If all the soil along the contact of the bedrock were to approach zero, the slide would extend hundreds of feet inland and that hasn't happened. Because the slide has only affected the area closest to the slope face, we presume the slide is occurring due to high pore pressures forming near the toe of the terrace deposits similar to a dam failure when seepage forces are high. The pore pressures get high enough to reduce soil strengths to near zero and the soil slides along the very gently sloping bedrock at the base. Although we attempted to prove our theory with a numerical stability analysis, pore pressure alone was not enough to make the slope fail. The soil has to lose strength below the saturated shear strength values recorded in the laboratory in order to fail.

If our theory is correct and pore pressures are causing the failures, reducing the depth of the soil along the passive wedge would increase the potential for the soil to move because the soil weight on top of the water table becomes smaller which increases the pore pressure at that point. Therefore, we do not recommend flattening the slope of the landslide mass.

Stabilizing the slide mass could be accomplished by draining the soil. However, draining the soil would require collecting and discharging the groundwater and that may not be practical due to County and Coastal Commission policies. Therefore, we are recommending to stabilize the slide mass with a series of piers that would be embedded into the stable bedrock below the base of the slide. The piers would be buried and not visible from the ground surface.

DISCUSSIONS AND COCLUSIONS

Based on the results of our investigation, the new single family residence proposed at the site is feasible from a geotechnical standpoint provided the recommendations presented in this report and the Engineering Geologic Study (August 13, 2014) prepared by Upp Geotechnology (C2Earth, Inc.) are incorporated into the design and construction of the proposed improvements. Structures designed in accordance with our recommendations and the recommendations of the C2Earth, Inc. geology report will be subject to an "Ordinary" level of risk, as defined in the Scale of Acceptable Risks from Seismic and Non-Seismic Geologic Hazards", included in Appendix B.

Primary geotechnical concerns for the project include setting improvements back from the top edge of the coastal bluff and landslide mass, stabilizing the landslide mass, providing firm support for foundations, controlling site drainage and designing for strong seismic shaking.

Improvements should be setback 50 from the top of the coastal bluff as recommended by the project geologist. This sets the residence back at least 5 feet from the top edge of the landslide mass that will be stabilized as part of the project.

The landslide mass can be stabilized by removing groundwater in the terrace deposits or using a series of piers. At the time of this report, a series of Geopier® plate piles is being proposed to stabilize the landslide mass. Recommendations for the Geopier® plate piles are provided in this report. Recommendations for alternative repair systems can be developed if requested.

The top 3 feet (±) of soil at the site is loose. The soil should be removed and replaced as compacted engineered fill or the footings for the residence should penetrate the loose soil and bear on firm native soil. If the site is graded, all footings should penetrate the fill or all the footings should be embedded into the fill, not a combination of both.

Surface runoff from improvements should be collected and collected runoff must not be allowed to flow over the coastal bluff slope in an uncontrolled manner. If necessary, berms should be placed along the top edge of the slope to prevent runoff from improvements from flowing onto the slope. Runoff from improvements may be discharged in a safe manner at the base of the slope or into seepage pits designed to percolate water into the stable bedrock formation below the terrace deposits. Details of the proposed drainage system have not been developed at this time and we recommend working closely with our firm to develop appropriate criteria for discharge of collected runoff.

The proposed structures will most likely experience strong seismic shaking during the design lifetime. Structures design in accordance with the most current seismic design codes should react well to seismic shaking.

RECOMMENDATIONS

The following recommendations should be used as guidelines for preparing project plans and specifications:

Site Grading

1. The soil engineer should be notified at least four (4) working days prior to any site clearing or grading to make arrangements for construction observation and testing services. The recommendations of this report are based on the assumption that the soil engineer will perform the required testing and observation during grading and construction. It is the owner's responsibility to make the necessary arrangements for these required services.

2. Areas to be graded should be cleared of obstructions and other unsuitable material. Voids created during site clearing should be backfilled with engineered fill. Where referenced in this report, Percent Relative Compaction and Optimum Moisture Content shall be based on ASTM Test Designation D1557-00.

3. The site should not be raised with fill without further geotechnical evaluation.

4. If foundations are to be embedded into engineered fill, the top 3 feet of soil should be removed and replaced as compacted engineered fill.

5. The top 8 inches of subgrade soil below slabs should be moisture conditioned to 1 to 2 percent over optimum moisture content and compacted to at least 90 percent relative compaction. The top 8 inches of subgrade and the aggregate base below driveways and pavements should be compacted to 95 percent relative compaction.

6. Engineered fill used to backfill utility trenches should be placed in thin lifts not exceeding 8 inches in loose thickness, moisture conditioned and compacted to at least 90 percent relative compaction. Utility trenches that pass below the foundation should be backfilled with lean concrete slurry to prevent infiltration of water below the structure.

7. Where referenced in this report, Percent Relative Compaction and Optimum Moisture Content shall be based on ASTM Test Designation D1557-00.

8. The on-site soils are suitable for use as engineered fill. Soils used for engineered fill should be free of organic material, and contain no rocks or clods greater than 6 inches in diameter, with no more than 15 percent larger than 4 inches. Soils with more than 3 percent organic matter by weight should be considered organic and not suitable as engineered fill.

9. After the earthwork operations have been completed and the soil engineer has finished their observation of the work, no further earthwork operations shall be performed except with the approval of and under the observation of the soil engineer.

Spread Footings

10. Spread footings embedded into firm native soil or engineered fill may be used to support structures.

11. Footings should be a minimum of 12 inches deep and 12 inches wide for one story structures and 18 inches deep and 15 inches wide for two story structures. The depth of foundations should be measured from the lowest adjacent grade.

12. Footings located adjacent to other footings or utility trenches should have their bearing surfaces founded below an imaginary 1.5:1 plane projected upward from the bottom edge of the adjacent footings or utility trenches.

13. Foundations designed in accordance with the above may be designed using an allowable bearing capacity of 2,500 psf for footings that are embedded at least 3 feet below the lowest adjacent grade and embedded into firm native soil. Foundations embedded into engineered fill may be designed for an allowable bearing capacity of 2,000 psf. The allowable bearing capacity may be increased by 1/3 for short term seismic and wind loads.

14. Total and differential settlements under the proposed light building loads are anticipated to be less than 1 inch and 1/2 inch respectively.

15. Lateral load resistance for structures supported on footings may be developed in friction between the foundation bottom and the supporting subgrade. A friction coefficient of 0.30 is considered applicable. Where footings are poured neat against firm native soil, a passive lateral earth pressure of 250 pcf may be used. The top 12 inches of soil should be neglected in passive design.

16. Prior to placing concrete, foundation excavations should be cleaned of loose soil and debris and observed by the soils engineer.

Slabs-on-Grade

17. The upper 8 inches of subgrade below concrete slab-on-grade floors, walkways and patios should be compacted to at least 90 percent relative compaction.

18. The upper 8 inches of subgrade below driveway pavements should be moisture conditioned to 1 to 2 percent over optimum moisture content and compacted to 95 percent relative compaction.

19. All slabs-on-grade can be expected to suffer some cracking and movement. However, thickened exterior edges, a well prepared subgrade including pre-moistening prior to pouring concrete, adequately spaced expansion joints and good workmanship should reduce cracking and movement.

20. Dees & Associates, Inc. are not experts in the field of moisture proofing and vapor barriers. In areas where floor wetness would be undesirable, an expert, experienced with moisture transmission and vapor barriers should be consulted. At a minimum, a blanket of 4 inches of free-draining gravel should be placed beneath the floor slab to act as a capillary break. In order to minimize vapor transmission, an impermeable membrane should be placed over the gravel.

Landslide Stabilization

21. The existing landslide at the top of the coastal bluff can be stabilized with a series of Geopier® SRT™ plate piles. The actual design of the plate pile system involves a coordinated effort between the soils engineer, Geopier® and the designer. The designer/contractor should work closely with our firm in design and installation of the proposed piles.

Site Drainage

22. Surface drainage should include provisions for positive gradients so that surface runoff is not permitted to pond adjacent to foundations or other improvements. Where bare soil or pervious surfaces are located next to the foundation, the ground surface within 10 feet of the structure should be sloped at least 5 percent away from the foundation. Where impervious surfaces are used within 10 feet of the foundation, the impervious surface within 10 feet of the structure should be sloped at least 2 percent away from the foundation. Swales should be used to collect and remove surface runoff where the ground cannot be sloped the full 10 foot width away from the structure. Swales should be sloped at least 2 percent towards the discharge point.

23. Full roof gutters should be placed around the eves of the structure.

24. Surface runoff from improvements must not be allowed to flow over the coastal bluff slope. If necessary, berms should be placed along the top edge of the slope to prevent runoff from flowing onto the slope.

25. Runoff from improvements may be discharged in a safe manner at the base of the slope or into seepage pits. Details of the proposed drainage system have not been developed. We should work closely with your designers to develop appropriate criteria for discharge of collected runoff.

26. The migration of water or spread of extensive root systems below foundations, slabs, or pavements may cause undesirable differential movements and subsequent damage to these structures. Drought tolerant landscaping is recommend within 5 feet of foundations. Landscaping should be planned accordingly.

Plan Review, Construction Observation, and Testing

27. Dees & Associates, Inc. should be provided the opportunity for a general review of the final project plans prior to construction to evaluate if our geotechnical recommendations have been properly interpreted and implemented. If our firm is not accorded the opportunity of making the recommended review, we can assume no responsibility for misinterpretation of our recommendations. We recommend that our office review the project plans prior to submittal to public agencies, to expedite project review. Dees & Associates also request the opportunity to observe and test grading operations and foundation excavations at the site. Observation of grading and foundation excavations allows anticipated soil conditions to be correlated to those actually encountered in the field during construction.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed in the borings. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that planned at the time, our firm should be notified so that supplemental recommendations can be given.

2. This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information and recommendations contained herein are called to the attention of the Architects and Engineers for the project and incorporated into the plans, and that the necessary steps are taken to ensure that the Contractors and Subcontractors carry out such recommendations in the field. The conclusions and recommendations contained herein are professional opinions derived in accordance with current standards of professional practice. No other warranty expressed or implied is made.

3. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or to the works of man, on this or adjacent properties. In addition, changes in applicable or appropriate standards occur whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or partially, by changes outside our control. Therefore, this report should not be relied upon after a period of three years without being reviewed by a soil engineer.

APPENDIX A

Site Vicinity Map

Site Plan

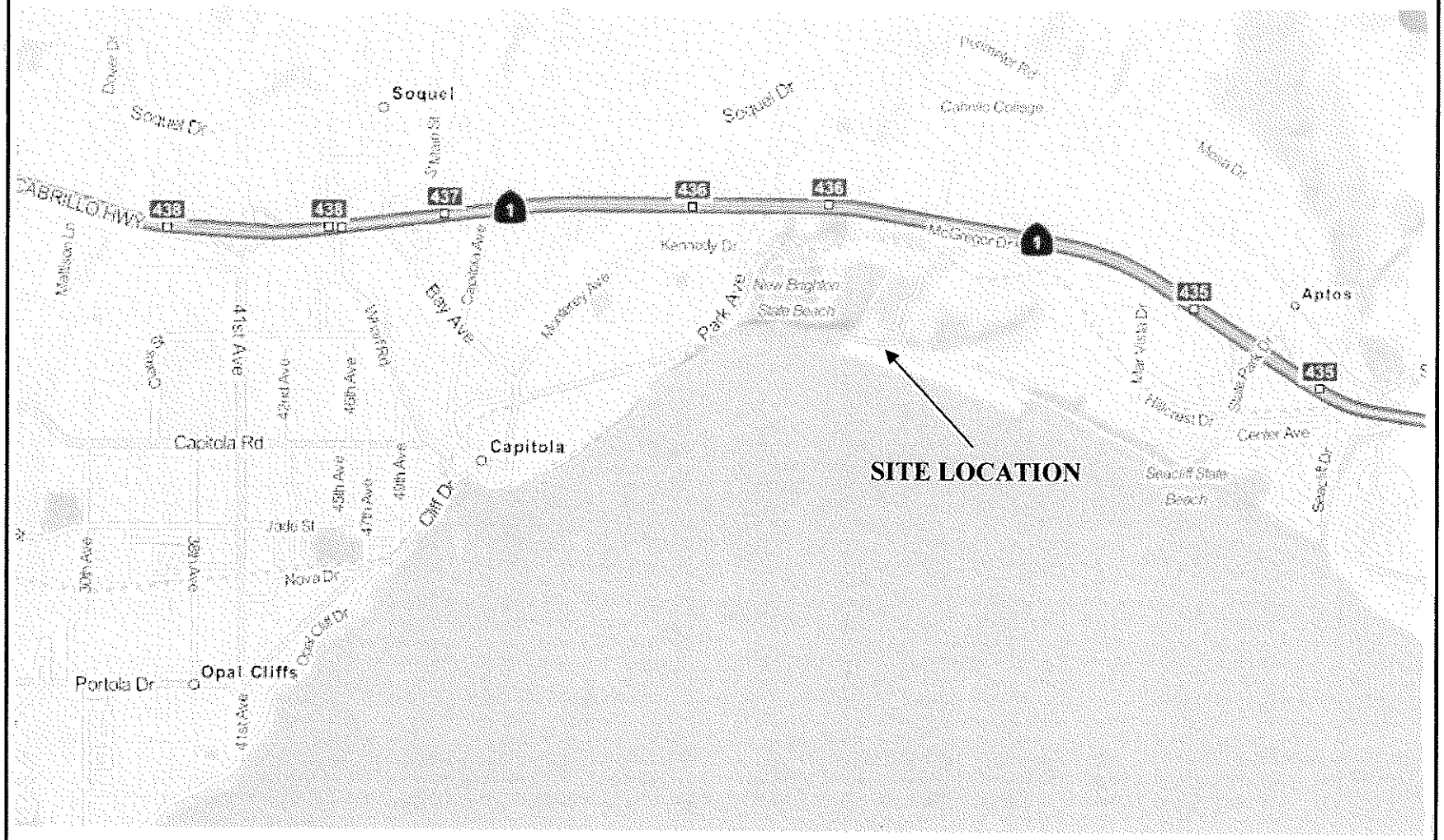
Unified Soil Classification System

Geologic Cross Section

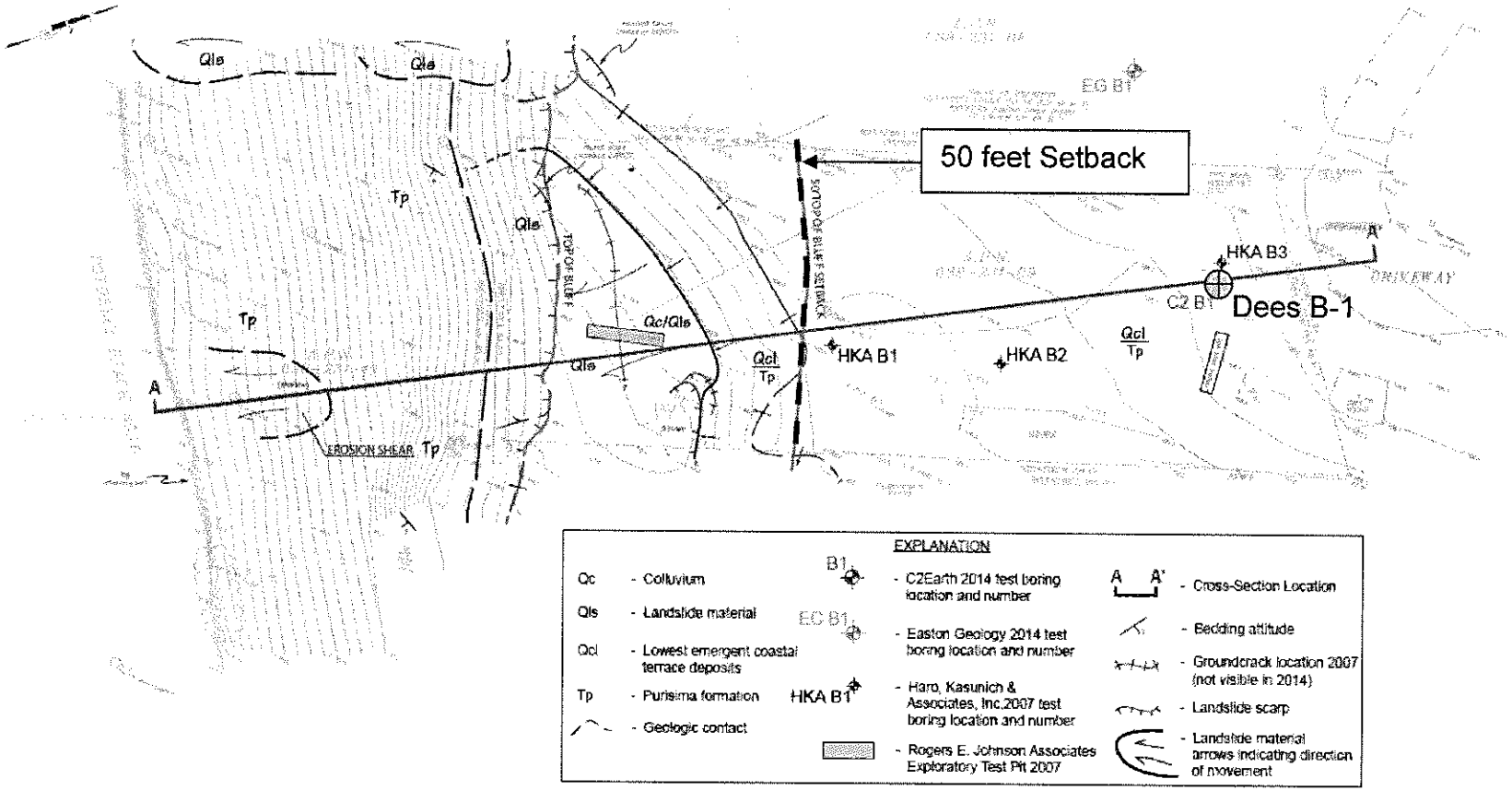
Log of Test Boring

Logs of Test Borings by Haro, Kasunich & Associates, Inc.

Slope Stability Calculations



Dees & Associates, Inc. *Geotechnical Engineers*	**SITE VICINITY MAP**	Figure: 1
		Project Number: SCR-0819
	New Brighton Road Santa Cruz County, California	Scale: N.T.S. / August 2014



NOTE: This plan is a conceptual illustration of observed geotechnical and geologic features and should not be used for any other purpose.

SITE PLAN AND ENGINEERING GEOLOGIC MAP

UPP GEOTECHNOLOGY
a division of C2EARTH, INC.

APN 028-231-09
New Brighton Road
Santa Cruz County, California

Dees & Associates, Inc.
Geotechnical Engineers

SITE PLAN

New Brighton Road
Santa Cruz County, California

Figure: 2

Project Number: SCR-0819

Scale: N.T.S.

August 2014

THE UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES	CLASSIFICATION CRITERIA	
COARSE-GRAINED SOILS** MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE (THE NO. 200 SIEVE SIZE IS ABOUT THE SMALLEST PARTICLE VISIBLE TO THE NAKED EYE)	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	CLEAN GRAVELS (< 5% FINES)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	Wide range in grain sizes and substantial amounts of all intermediate particle sizes	
			GP	Poorly graded gravels, gravel-sand mixtures, little or no fines	Predominantly one size or a range of sizes with some intermediate sizes missing Not meeting all gradation requirements for GW	
		GRAVELS WITH FINES (>12% FINES)	GM	Silty gravels, gravel-sand-silt mixtures	Non plastic fines or fines with low plasticity Atterberg limits below "A" line or PI < 4	Above "A" line with 4 < PI < 7 are borderline cases requiring use of dual symbols
			GC	Clayey gravels, gravel-sand-clay mixtures	Plastic fines Atterburg limits above "A" line with PI > 7	
	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE	CLEAN SANDS (<5% FINES)	SW	Well-graded sands, gravelly sands, little or no fines	Wide range in grain sizes and substantial amounts of all intermediate sizes missing	
			SP	Poorly graded sands, gravelly sands, little or no fines	Predominantly one size or a range of sizes with some intermediate sizes missing Not meeting all gradation requirements for SW	
		SANDS WITH FINES (>12% FINES)	SM	Silty sands, sand-silt mixtures	Non plastic fines or fines with low plasticity Atterburg limits below "A" line or PI < 4	Limits plotting in hatched zone with 4 < PI < 7 are borderline cases requiring use of dual symbols
			SC	Clayey sands, sand-clay mixtures	Plastic fines Atterburg limits above "A" line with PI > 7	
FINE-GRAINED SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE (THE NO. 200 SIEVE SIZE IS ABOUT THE SMALLEST PARTICLE VISIBLE TO THE NAKED EYE)	SILTS AND CLAYS (LIQUID LIMIT < 50)		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity		
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays		
			OL	Organic silts and organic silty clays of low plasticity		
	SILTS AND CLAYS (LIQUID LIMIT > 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts		
			CH	Inorganic clays of medium to high plasticity, organic silts		
			OH	Organic clays of medium to high plasticity, organic silts		

**Gravels and sands with 5% to 12 % fines are borderline cases requiring use of dual symbols.

RELATIVE DENSITY OF SANDS AND GRAVELS

DESCRIPTION	BLOW / FT*
VERY LOOSE	0 – 4
LOOSE	4 – 10
MEDIUM DENSE	10 – 30
DENSE	30 – 50
VERY DENSE	OVER 50

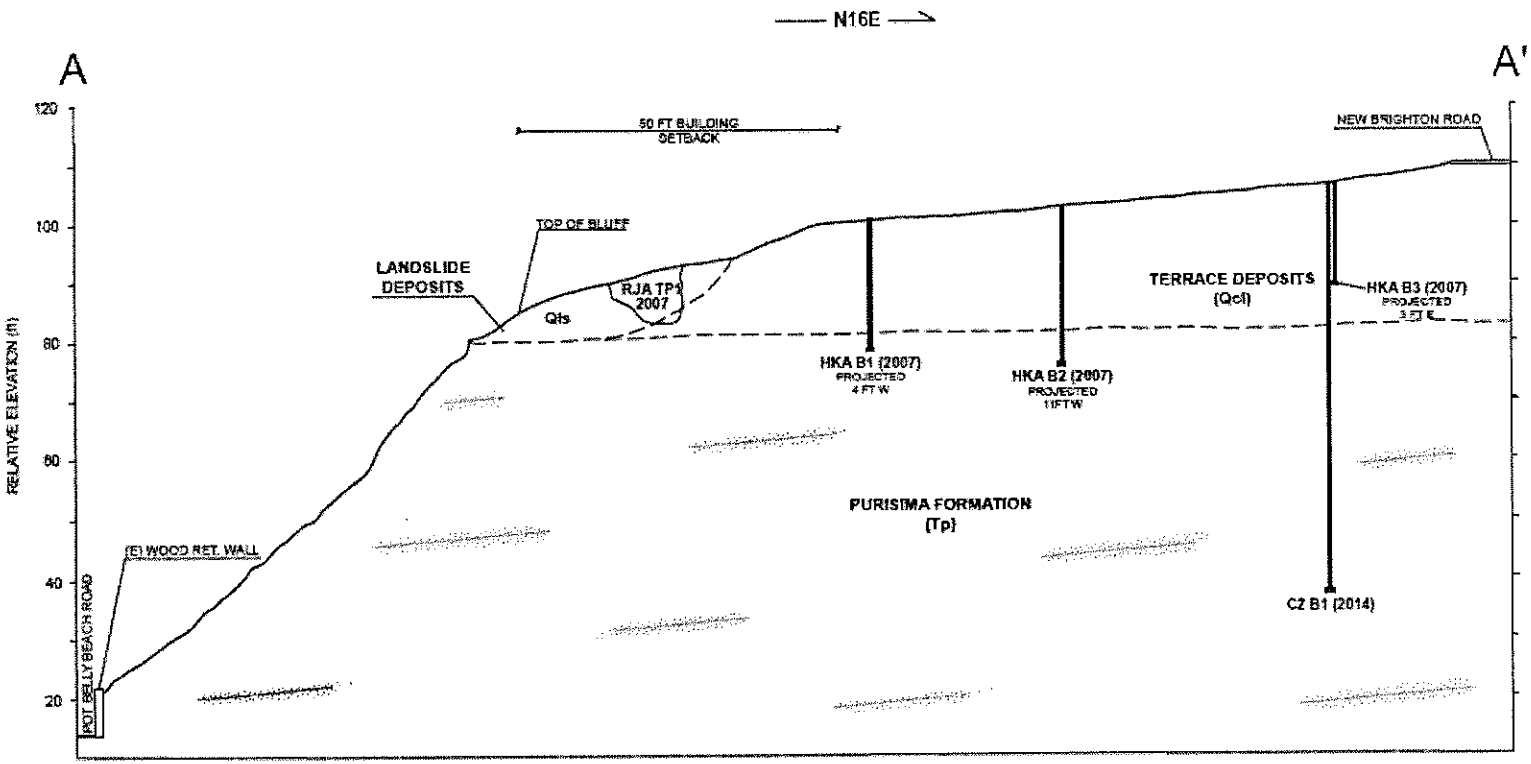
CONSISTENCY OF SILTS AND CLAYS

DESCRIPTION	BLOWS / FT*
VERY SOFT	0 – 2
SOFT	2 – 4
FIRM	4 – 8
STIFF	8 – 16
VERY STIFF	16 – 32
HARD	OVER 32

*Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O.D. 12 vertical inches.

L M T B

SAMPLE TYPES REFERENCED ON BORING LOGS



NOTE: This cross-section is a conceptual illustration of general geologic relationships and should not be used for any other purpose.

NOTE: Apparent dip of approximately 5°; shown schematically

BASE: Sheet 1; Topographic Mapping; WARD SURVEYING 06-09-06

GEOLOGIC CROSS-SECTION A-A'

UPP GEOTECHNOLOGY
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APN 038-231-09
New Brighton Road
Santa Cruz County, California

DRAFTED/REVIEWED	SCALE	DOCUMENT ID:	DATE	
TB/CH	1"= 20'	14053A-01R1	August 2014	Figure 4

TEST BORING LOGS

LOGGED BY: BD | DATE DRILLED: 7-11-14 | BORING TYPE: 6" Truck | BORING NO: 1

DEPTH (FEET)	SAMPLE NO.	SOIL DESCRIPTION	USC SOIL TYPE	BLOW COUNT	BLOW COUNT (SPT)*	DRY DENSITY (PCF)	MOISTURE IN-SITU	COHESION (PSF)	PHI ANGLE	% PASSING 200 SIEVE	PLASTICITY INDEX	MISC. LAB RESULTS
1		Very dark brown Silty fine to medium grained SAND, damp medium dense	SM									
2	1-1			4								
3	T			11 12	23							
4		Dark yellow brown with orange staining Sandy CLAY, moist, very stiff to hard	CL									
		Grading to Clayey SAND	SC									
5												
6		Grading to dark yellow brown Clayey SAND with Gravel by 5 feet, moist, medium dense	SC									
7												
8												
9												
10	1-2	Gravelly lens, angular, less than 1 inch	GP	20								
11	T	Yellow brown fine to medium Silty SAND, moist, medium dense	SM	13 14	29							
12												
13												
14												
15	1-3			10								
16	T	Yellow brown fine to medium Silty SAND, moist, medium dense	SM	12 13	27							
17												
18												
19	1-4			7								
20	T	Yellow brown to olive brown fine to medium SAND, moist, medium dense	SP	10 11	21							
21												
22												
23												
24		Dark greenish gray Silty SAND/Sandy SILT Purisima Formation, damp, very dense	SM/ ML									
25												
26												

DEES & ASSOCIATES, INC
501 MISSION ST. STE. 8A
SANTA CRUZ, CA 95060
Ph: (831) 427-1770 Fax: (831) 427-1794

Project No. SCR-0819
New Brighton Road

* Blow count converted
L= Field Blow Count/2

TEST BORING LOGS

LOGGED BY: BD | DATE DRILLED: 7-11-14 | BORING TYPE: 6" Truck | BORING NO: 1 cont.

DEPTH (FEET)	SAMPLE NO.		SOIL DESCRIPTION	USC SOIL TYPE	BLOW COUNT	BLOW COUNT (SPT)*	DRY DENSITY (PCF)	MOISTURE IN-SITU	COHESION (PSF)	PHI ANGLE	% PASSING 200 SIEVE	PLASTICITY INDEX	MISC. LAB RESULTS
27			Gray fine Sandy SILT to Silty SAND Purisima Sandstone. moist to very moist, dense	ML/ SM									
37			Olive gray to olive green fine Sandy SILT with Clay, very moist	ML									
40	1-5 T	☐	Gray fine Silty SAND/Sandy SILT, moist, very dense Fossiliferous shell layer at tip of sample	SM/ ML	50/ 4"	50/ 4"							
44			Increase in moisture a 44 feet Gray fine Silty SAND, moist, very dense	SM									

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* Blow count converted
L= Field Blow Count/2

TEST BORING LOGS

LOGGED BY: BD | DATE DRILLED: 7-11-14 | BORING TYPE: 6" Truck | BORING NO: 1 cont.

DEPTH (FEET)	SAMPLE NO.		SOIL DESCRIPTION	USC SOIL TYPE	BLOW COUNT	BLOW COUNT (SPT)*	DRY DENSITY (PCF)	MOISTURE IN-SITU	COHESION (PSF)	PHI ANGLE	% PASSING 200 SIEVE	PLASTICITY INDEX	MISC. LAB RESULTS
50	1 - 6		Gray SILT, damp to moist, very hard	ML	20	50/5"							
51	T		Shell layer from 50 – 50.5 Feet		26								
52					50/								
53					5"								
54													
55													
56													
57													
58													
59													
60	1-7		Gray SILT damp, very hard	ML	23	50/							
61	T				50/	6"							
62					6"								
63													
64													
65													
66													
67													
68	1-8												
69	T				50/								
					6"								
70			Boring Terminated at 69.0 feet No groundwater encountered										
71			(Boring backfilled with coarse SAND to 29.5 feet, grouted from 29.5 to 23.5 feet then capped with soil.)										
72													

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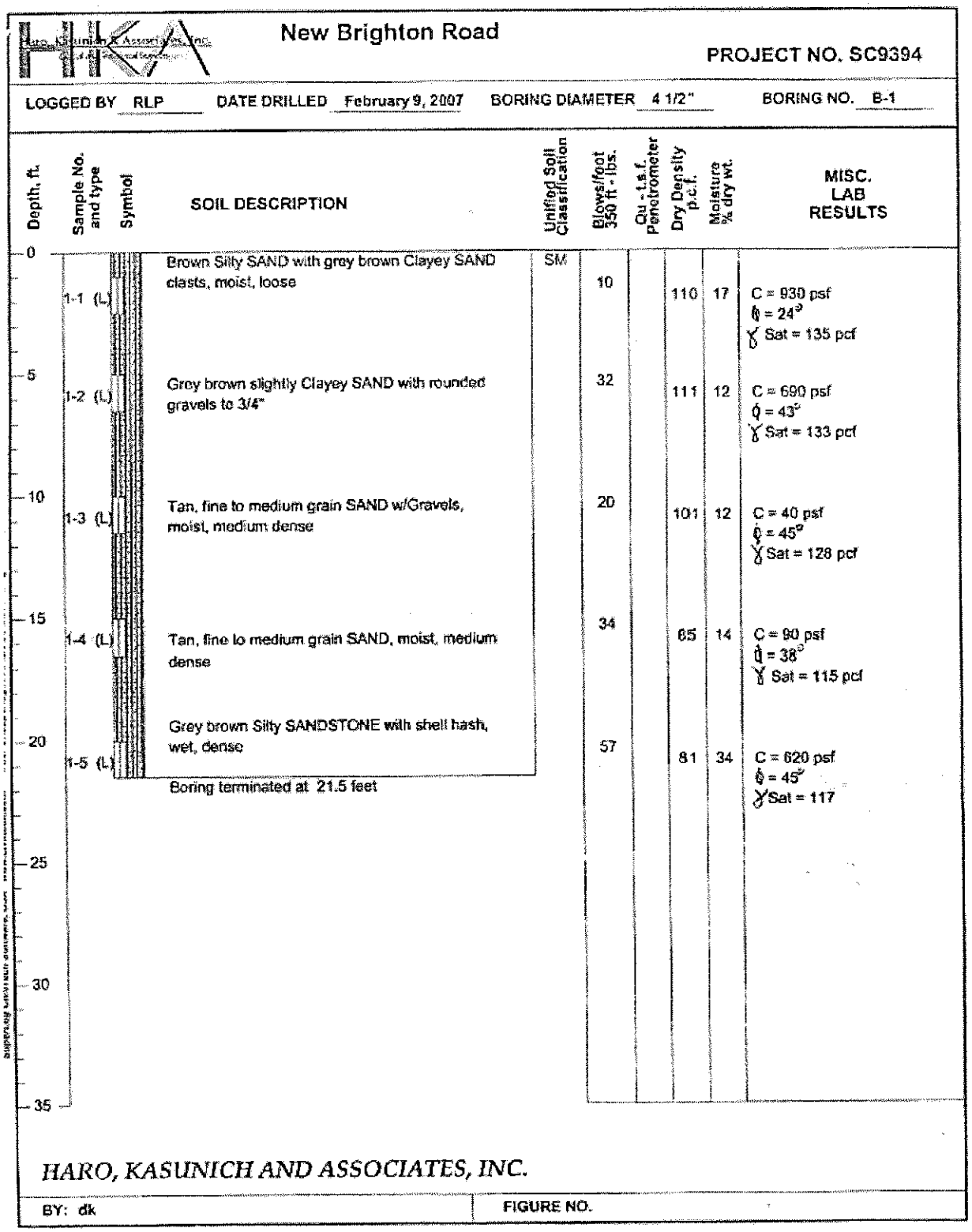
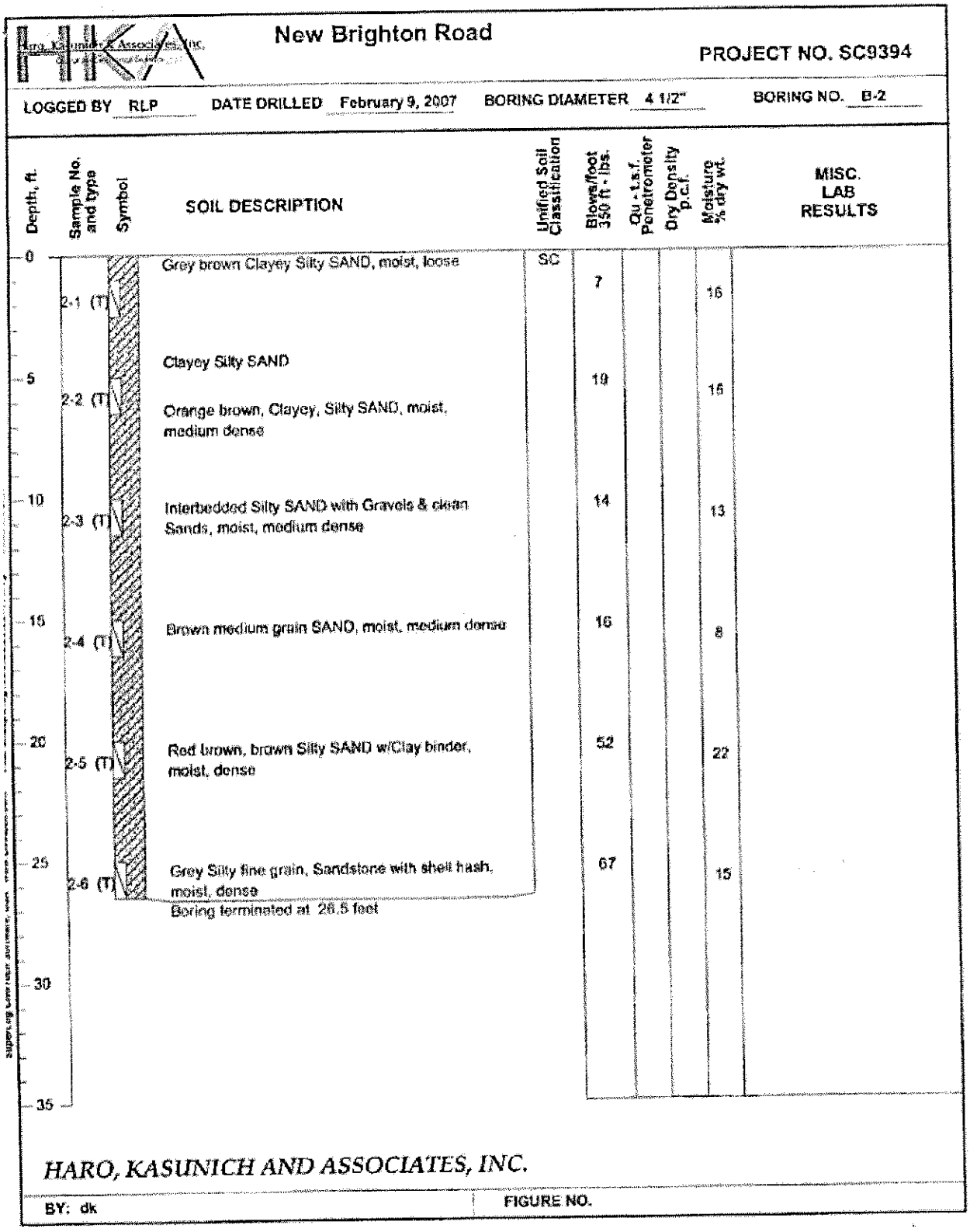
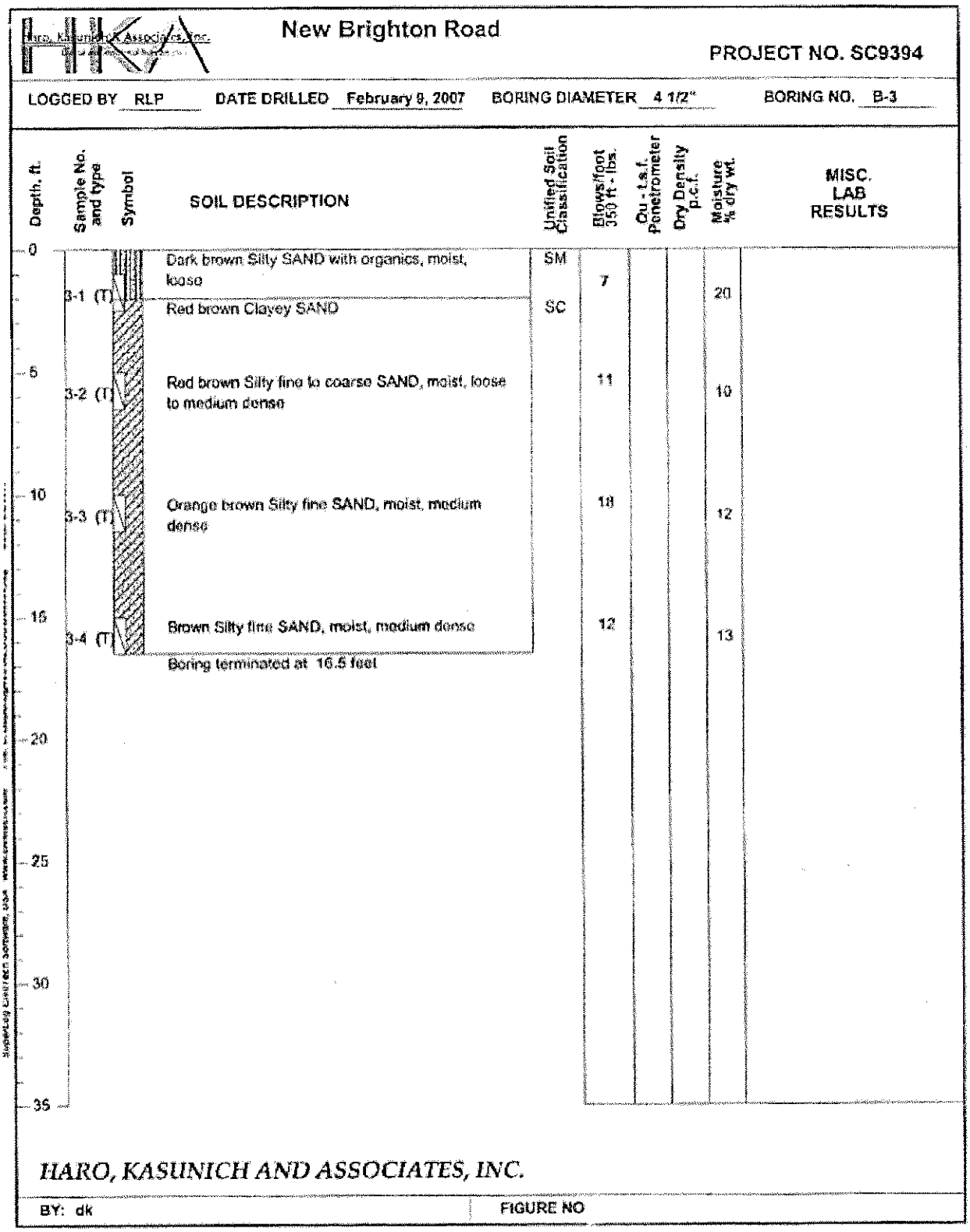
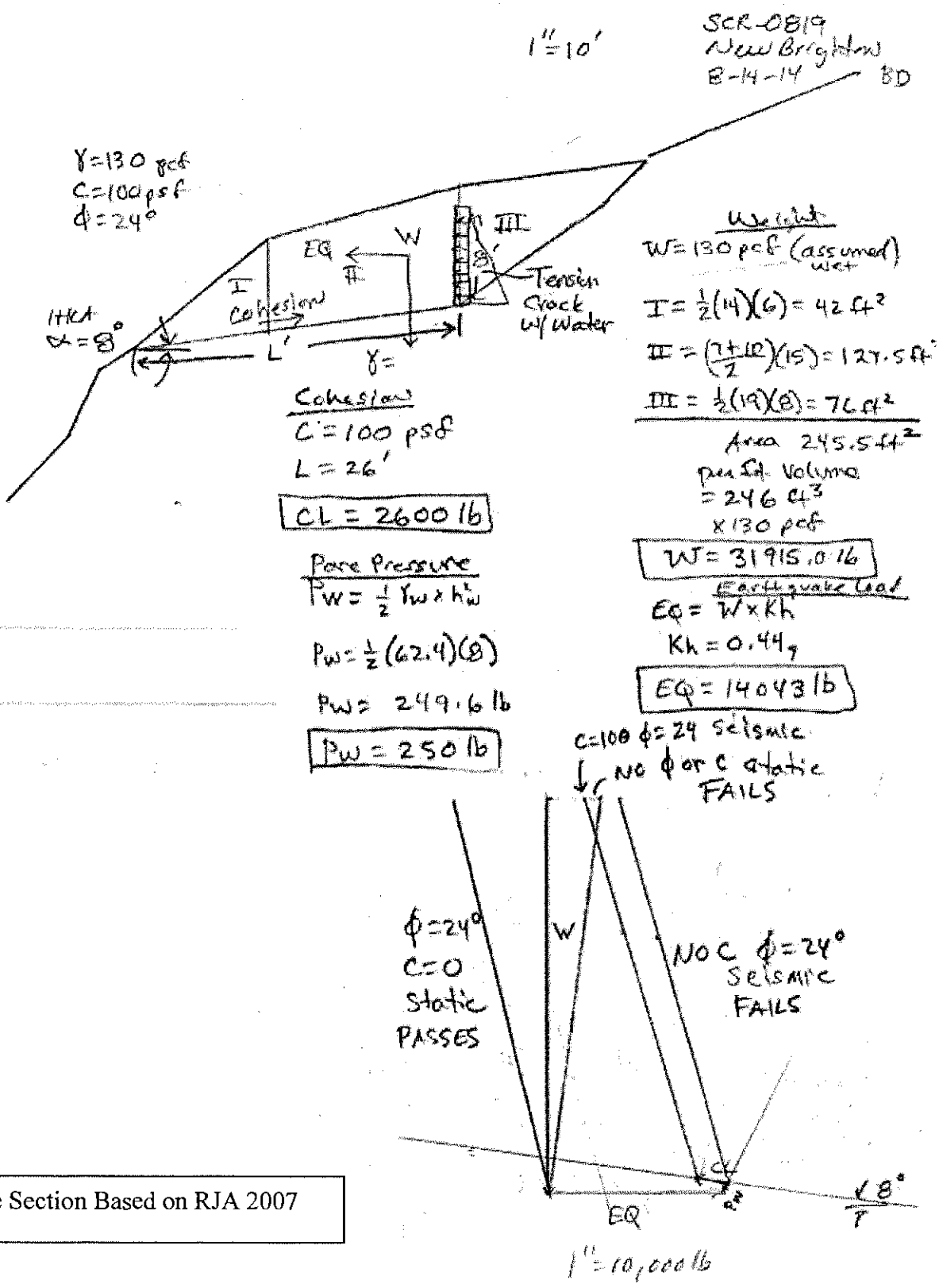
* Blow count converted
L= Field Blow Count/2


New Brighton Road
PROJECT NO. SC9394
LOGGED BY RLP
DATE DRILLED February 9, 2007
BORING DIAMETER 4 1/2"
BORING NO. B-1
Depth, ft.
Sample No. and type
Symbol
SOIL DESCRIPTION
Unified Soil Classification
Blows/foot 350 ft - lbs.
Qu - t.s.f. Penetrometer
Dry Density p.c.f.
Moisture % dry wt.
MISC. LAB RESULTS
0
5
10
15
20
25
30
35
1-1 (L)
1-2 (L)
1-3 (L)
1-4 (L)
1-5 (L)
Brown Silty SAND with grey brown Clayey SAND clasts, moist, loose
SM
10
110
17
C = 930 psf
ϕ = 24°
γ Sat = 135 pcf
Grey brown slightly Clayey SAND with rounded gravels to 3/4"
32
111
12
C = 690 psf
ϕ = 43°
γ Sat = 133 pcf
Tan, fine to medium grain SAND w/Gravels, moist, medium dense
20
101
12
C = 40 psf
ϕ = 45°
γ Sat = 128 pcf
Tan, fine to medium grain SAND, moist, medium dense
34
85
14
C = 90 psf
ϕ = 38°
γ Sat = 115 pcf
Grey brown Silty SANDSTONE with shell hash, wet, dense
57
81
34
C = 620 psf
ϕ = 45°
γ Sat = 117
Boring terminated at 21.5 feet
HARO, KASUNICH AND ASSOCIATES, INC.
BY: dk
FIGURE NO.


New Brighton Road
PROJECT NO. SC9394
LOGGED BY RLP
DATE DRILLED February 9, 2007
BORING DIAMETER 4 1/2"
BORING NO. B-2
Depth, ft.
Sample No. and type
Symbol
SOIL DESCRIPTION
Unified Soil Classification
Blows/foot 350 ft - lbs.
Qu - t.s.f. Penetrometer
Dry Density p.c.f.
Moisture % dry wt.
MISC. LAB RESULTS
0
5
10
15
20
25
30
35
2-1 (T)
2-2 (T)
2-3 (T)
2-4 (T)
2-5 (T)
2-6 (T)
Grey brown Clayey Silty SAND, moist, loose
SC
7
16
Clayey Silty SAND
Orange brown, Clayey, Silty SAND, moist, medium dense
19
15
Interbedded Silty SAND with Gravels & clean Sands, moist, medium dense
14
13
Brown medium grain SAND, moist, medium dense
16
8
Red brown, brown Silty SAND w/Clay binder, moist, dense
52
22
Grey Silty fine grain, Sandstone with shell hash, moist, dense
67
15
Boring terminated at 26.5 feet
HARO, KASUNICH AND ASSOCIATES, INC.
BY: dk
FIGURE NO.


New Brighton Road
PROJECT NO. SC9394
LOGGED BY RLP
DATE DRILLED February 9, 2007
BORING DIAMETER 4 1/2"
BORING NO. B-3
Depth, ft.
Sample No. and type
Symbol
SOIL DESCRIPTION
Unified Soil Classification
Blows/foot 350 ft - lbs.
Qu - t.s.f. Penetrometer
Dry Density p.c.f.
Moisture % dry wt.
MISC. LAB RESULTS
0
5
10
15
20
25
30
35
B-1 (T)
B-2 (T)
B-3 (T)
B-4 (T)
Dark brown Silty SAND with organics, moist, loose
SM
7
20
Red brown Clayey SAND
SC
Red brown Silty fine to coarse SAND, moist, loose to medium dense
11
10
Orange brown Silty fine SAND, moist, medium dense
18
12
Brown Silty fine SAND, moist, medium dense
12
13
Boring terminated at 16.5 feet
HARO, KASUNICH AND ASSOCIATES, INC.
BY: dk
FIGURE NO

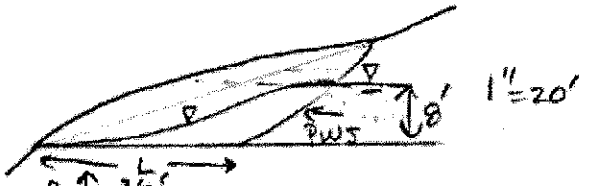


Landslide Section Based on RJA 2007

SCR-0819
New Brighton
8-22-14 BD

$$FS = \frac{cL + [W\cos\alpha - kW\sin\alpha - P_{WR} - P_{WJ}\sin\alpha]\tan\phi}{W\sin\alpha + kW\cos\alpha + P_{WJ}\cos\alpha}$$

$c = 100$ psf
$\phi = 24°$
$\gamma = 130$ pcf
$\alpha = 1°$
$K = 0.44g$



$P_{WR} = \frac{1}{2}\gamma_w h_w L$
$= \frac{1}{2}(62)(8)(26) = 6448$ lb

$P_{WJ} = \frac{1}{2}\gamma_w h_w^2 = \frac{1}{2}(62)(8)^2$
$= 1984$ lb

Volume per ft = $[16\text{ ft} \times \frac{1}{2} \times 8] + [2 \times 46] = 276$ ft^3

$W = 276 \times 130 = 35{,}880$ lb

$$FS = \frac{100(26) + [35880\cos 1° - 0.44(35880)\sin 1° - 6448 - 1984\sin 1°]\tan 24°}{35880\sin 1° + 0.44(35880)\cos 1° + 1984\cos 1°}$$

$$FS = \frac{31735.6}{18394.7} = 1.7 \text{ SEISMIC}$$

Landslide Section Based on C2Earth, Inc. 2014

APPENDIX B

Scale of Acceptable Risks

SCALE OF ACCEPTABLE RISKS FROM NON-SEISMIC GEOLOGIC HAZARDS

Risk Level	Structure Type	Risk Characteristics
Extremely Low Risks	Structures whose continued functioning is critical, or whose failure might be catastrophic: nuclear reactors, large dams, power intertie systems, plants manufacturing or storing explosives or toxic materials.	Failure affects substantial populations, risk equals nearly zero.
Very Low Risks	Structures whose use is critically needed after a disaster: important utility centers, hospitals, fire, police, and emergency communication facilities, fire stations, and critical transportation elements such as bridges and overpasses, also smaller dams.	Failure affects substantial populations. Risk slightly higher than 1 above.
Low Risks	Structures of high occupancy, or whose use after a disaster would be particularly convenient: schools, churches, theaters, large hotels, and other high-rise buildings housing large numbers of people, civic buildings such as fire stations, secondary utility structures, extremely large commercial enterprises, most roads, alternative or non-critical bridges and overpasses.	Failure of a single structure would affect primarily only the occupants.
Ordinary Risks	The vast majority of structures: most commercial and industrial buildings, small hotels and apartment buildings, and single family residences.	Failure only affects owners/occupants of a structure rather than a substantial population. No Significant potential for loss of life or serious physical injury. Risk level is similar or comparable to other ordinary risks (including seismic risks) to citizens of coastal California. No collapse of structures, structural damage limited to repairable damage in most cases. This degree of damage is unlikely as a result of storms with a repeat time of 50 years or less.
Moderate Risks	Fences, driveways, non-habitable structures, detached retaining walls, sanitary landfills, recreation areas and open spaces.	Structure is not occupied or occupied frequently. Low probability of physical injury. Moderate probability of collapse.

SCALE OF ACCEPTABLE RISKS FROM SEISMIC GELOGIC HAZARDS

Risk Level	Structure Types	Extra Project Cost Probably Required to Reduce Risk to an Acceptable Level
Extremely low 1	Structures who are continued functioning is critical, or whose failure might be catastrophic: nuclear reactors, large dams, power intake systems, plants manufacturing or storing explosives or toxic materials.	No set percentage (whatever is required for maximum attainable safety)
Slightly higher than under "Extremely low" level. 1	Structures whose use is critically needed after a disaster: important utility centers; hospitals; fire, police and emergency communication facilities; fire station; and critical transportation elements such as bridges and overpasses; also dams.	5 to 25 percent of project cost. 2
Lowest Possible risk to occupants of the structure. 3	Structures of high occupancy, or whose use after a disaster would be particularly convenient: schools, churches, theaters, large hotels, and other high rise buildings housing large numbers of people, other places normally attracting large concentrations of people, civic buildings such as fire stations, secondary utility structures, extremely large commercial enterprises, most roads, alternative or non- critical bridges, overpasses.	5 to 25 percent of project cost. 4
An "ordinary" level of risk to occupants of the structure. 3,5	The vast majority of structures: most commercial and industrial buildings, small hotels and apartment buildings, and single-family residences.	1 to 2 percent of project cost, in most cases (2 to 10 percent of project cost in a minority of cases). 4

1. Failure of a single structure may affect substantial populations.
2. These additional percentages are based on the assumptions that the base cost is the total cost of the builder or other facility when ready for occupancy. In addition, it is assumed that the structure would have been designed and built in accordance with current California practice. Moreover, the estimated additional cost presumes that structures in this acceptable risk category are to embody sufficient safety to remain functional following an earthquake.
3. Failure of a single structure would affect primarily only the occupants.
4. These additional percentages are based on the assumption that the base cost is the total cost of the building or facility when ready for occupancy. In addition, it is assumed that the structures would have been designed and built in accordance with current California practice. Moreover the estimated additional cost presumes that structures in this acceptable-risk category are to be sufficiently safe to give reasonable assurance of preventing injury or loss of life during and following an earthquake, but otherwise not necessarily to remain functional.
5. "Ordinary risk": Resist minor earthquakes without damage: resist moderate earthquakes without structural damage, but with some non-structural damage, resist major earthquakes of the intensity or severity of the strongest experienced in California, without collapse, but with some structural damage as well as non-structural damage. In most structures it is expected that structural damage, even in a major earthquake, could be limited to repairable damage. (Structural Engineers Association of California)

Source: Meeting the Earthquake, Joint Committee on Seismic Safety of the California Legislature, Jan. 1974, p.9.

ENGINEERING GEOLOGIC STUDY
RESIDENTIAL DEVELOPMENT

APN 038-231-09
NEW BRIGHTON ROAD
SANTA CRUZ COUNTY, CALIFORNIA

Prepared For:

Mr. Steven Graves
775 Estates Drive
Aptos, California

13 August 2014
Document Id. 14053A-01R1

UPP GEOTECHNOLOGY
a division of C2EARTH, INC.

APPLICABLE AND CITED COUNTY OF SANTA CRUZ LOCAL COASTAL PROGRAM PROVISIONS

IP Section 16.10.040 Definitions.

(59) "Shoreline protection structure" means any structure or material, including but not limited to riprap or a seawall, placed in an area where coastal processes operate.

IP Section 16.10.050 Requirements for Geologic Assessment.

(A) All development is required to comply with the provisions of this chapter, specifically including, but not limited to, the placement of manufactured homes in the areas designated as SFHAs in the flood insurance study.

(B) Hazard Assessment Required. A geologic hazards assessment shall be required for all development activities in the following designated areas: fault zones, 100-year floodplains and floodways, and coastal hazard areas, except: as specified in subsections (C) (D) and (E) of this section, where a full geologic report will be prepared according to the County guidelines for engineering geologic reports, or where the County Geologist finds that there is adequate information on file. A geologic hazards assessment shall also be required for development located in other areas of geologic hazard, as identified by the County Geologist or designee, using available technical resources, from environmental review, or from other field review.

(C) Geologic Report Required. A full geologic report shall be required:

(1) For all proposed land divisions and critical structures and facilities in the areas defined as earthquake fault zones on the State Alquist-Priolo Earthquake Fault Zoning Act maps;

(2) Whenever a significant potential hazard is identified by a geologic hazards assessment;

(3) For all new reservoirs to serve major water supplies;

(4) Prior to the construction of any critical structure or facility in designated fault zones; and

(5) When a property has been identified as "Unsafe to Occupy" due to adverse geologic conditions, no discretionary approval or building permit (except approvals and permits that are necessary solely to mitigate the geologic hazard) shall be issued prior to the review and approval of geologic reports and the completion of mitigation measures, as necessary.

(D) Potential Liquefaction Area. A site-specific investigation by a certified engineering geologist and/or soil engineer shall be required for all development applications for more than four residential units and for structures greater than one story in areas of high or very high liquefaction potential. Development applications for four units or less, one story structures and nonresidential projects shall be reviewed for liquefaction hazard through environmental review and/or geologic hazards assessment. When a significant hazard may exist, a site specific investigation shall be required.

(E) Additional Report Requirements. Additional information (including but not limited to full geologic, subsurface geologic, hydrologic, geotechnical or other engineering investigations and reports) shall be required when a hazard or foundation constraint requiring further investigation is identified. [Ord. 4518-C § 2, 1999; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

IP Section 16.10.060 Assessment and Report Preparation and Review.

(A) Timing of Geologic Review. Any required geologic, soil, or other technical report shall be completed, reviewed and accepted pursuant to the provisions of this section before any public hearing is scheduled and before any discretionary or development application is approved or issued. The County Geologist may agree to defer the date for completion, review, or acceptance of any technical report where the technical information is (1) unlikely to significantly affect the size or location of the project, and (2) the project is not in the area of the Coastal Zone where decisions are appealable to the Coastal Commission. In no event shall such be deferred until after the approval or issuance of a building permit.

(1) An application for a geologic hazards assessment shall include a plot plan showing the property boundaries and location of proposed development activities. Any other information deemed necessary by the County Geologist (including but not limited to topographic map, building elevations or grading plans) shall be submitted upon request.
(2) An application for a geologic hazards assessment or a technical report review constitutes a grant of permission for the Planning Director, or agents, to enter the property for the purposes of responding to the application.

(B) Report Preparation. The geologic hazards assessment shall be prepared by County staff. Alternately, the assessment may be conducted by a private certified engineering geologist at the applicant's choice and expense. Such privately prepared assessments shall, however, be subject to review and approval as specified in this section.

(C) Report Acceptance. All geologic, geotechnical, engineering, and hydrologic reports or investigations submitted to the County as a part of any development application shall be found to conform to County report guidelines. The Planning Director may require an inspection in the field of all exploratory trenches, test pits, and borings excavated for a technical report.

(D) Hazard Assessment and Report Expiration. A geologic hazards assessment and all recommendations and requirements given therein shall remain valid for three years from the date of completion, unless a shorter period is specified in the report by the preparer. A full geologic report shall be valid and all recommendations therein shall remain in effect for three years from the date of completion of the report. The exception to the three-year period of validity is where a change in site conditions, development proposal, technical information or County policy significantly affects the technical data, analysis, conclusions or requirements of the assessment or report; in which case the Planning Director may require a new or revised assessment or report. [Ord. 4518-C § 2, 1999; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

16.10.070 Permit Conditions.

The recommendations of the geologic hazards assessment, full geologic report, and/or the recommendations of other technical reports (if evaluated and authorized by the Planning Director), shall be included as permit conditions of any permit or approvals subsequently issued for the development. In addition, the requirements described below for specific geologic hazards shall become standard conditions for development, building and land division permits and approvals. No development, building and land division permits or approvals shall be issued, and no final maps or parcel maps shall be recorded, unless such activity is in compliance with the requirements of this section.

(A) General. If a project is not subject to geologic review because the structure is nonhabitable and is not otherwise considered to be development under this chapter, a declaration of restrictions for the nonhabitable structure shall be recorded that includes an acknowledgment that any change of use to a habitable use, or physical conversion to habitable space, shall be subject to the provisions of this chapter.

(B) Fault Zones.

(1) Location. Development shall be located away from potentially hazardous areas as identified by the geologic hazards assessment or full geologic report.
(2) Setbacks. Habitable structures shall be set back a minimum of 50 feet from the edge of the area of fault induced offset and distortion of active and potentially active fault traces. This setback may be reduced to a minimum of 25 feet from the edge of this zone, based upon paleoseismic studies that include observation trenches. Reductions of the required setback may only occur when both the consulting engineering geologist preparing the study and the County Geologist observe the trench and concur that the reduction is appropriate. Critical structures and facilities shall be set back a minimum of 100 feet from the edge of the area of fault induced offset and distortion of active and potentially active fault traces.
(3) Notice of Hazards. The developer and/or subdivider of a parcel or parcels in an area of geologic hazards shall be required, as a condition of development approval and building permit approval, to record a declaration of geologic hazards with the County Recorder. The declaration shall include a description of the hazards on the parcel, and the level of geologic and/or geotechnical investigation conducted.
(4) Other Conditions. Other permit conditions, including but not limited to project redesign, elimination of building sites, and the delineation of development envelopes, building setbacks and foundation requirements, shall be required as deemed necessary by the Planning Director.

(D) Liquefaction Potential.

(1) Permit Conditions. Permit conditions including, but not limited to, project redesign, elimination of building sites, delineation of development envelopes and drainage and foundation requirements shall be required as deemed necessary by the Planning Director.
(2) Notice of Hazards. The developer and/or subdivider of a parcel or parcels in an area of geologic hazards shall be required, as a condition of development approval and building

permit approval, to record a declaration of geologic hazards with the County Recorder. The declaration shall include a description of the hazards on the parcel, and the level of geologic and/or geotechnical investigation conducted.

(E) Slope Stability.

(1) Location. All development activities shall be located away from potentially unstable areas as identified through the geologic hazards assessment, full geologic report, soils report or other environmental or technical assessment.

(2) Creation of New Parcels. Allow the creation of new parcels in areas with potential slope instability as identified through a geologic hazards assessment, full geologic report, soils report or other environmental or technical assessment only under the following circumstances:

(a) New building sites, roadways, and driveways shall not be permitted on or across slopes exceeding 30 percent grade.

(b) A full geologic report and any other appropriate technical report shall demonstrate that each proposed parcel contains at least one building site and access which are not subject to significant slope instability hazards, and that public utilities and facilities such as sewer, gas, electrical and water systems can be located and constructed to minimize landslide damage and not cause a health hazard.

(c) New building sites shall not be permitted which would require the construction of engineered protective structures such as retaining walls, diversion walls, debris walls or slough walls designed to mitigate potential slope instability problems such as debris flows, slumps or other types of landslides.

(2) Drainage. Drainage plans designed to direct runoff away from unstable areas (as identified from the geologic hazards assessment or other technical report) shall be required. Such plans shall be reviewed and approved by the County Geologist.

(3) Leach Fields. Septic leach fields shall not be permitted in areas subject to landsliding as identified through the geologic hazards assessment, environmental assessment, or full geologic report.

(4) Road Reconstruction. Where washouts or landslides have occurred on public or private roads, road reconstruction shall meet the conditions of appropriate geologic, soils and/or engineering reports and shall have adequate engineering supervision.

(5) Notice of Hazards. The developer and/or subdivider of a parcel or parcels in an area of geologic hazards shall be required to record a declaration of geologic hazards with the County Recorder. The declaration shall include a description of the hazards on the parcel, and the level of geologic and/or geotechnical investigation conducted.

(6) Other Conditions. Other permit conditions including but not limited to project redesign, building site elimination and the development of building and septic system

envelopes, building setbacks and foundation and drainage requirements shall be required as deemed necessary by the Planning Director.

(H) Coastal Bluffs and Beaches.

(1) Criteria in Areas Subject to Coastal Bluff Erosion. Projects in areas subject to coastal bluff erosion shall meet the following criteria:

(a) For all development and for nonhabitable structures, demonstration of the stability of the site, in its current, pre-development application condition, for a minimum of 100 years as determined by either a geologic hazards assessment or a full geologic report.

(b) For all development, including that which is cantilevered, and for nonhabitable structures, a minimum setback shall be established at least 25 feet from the top edge of the coastal bluff, or alternatively, the distance necessary to provide a stable building site over a 100-year lifetime of the structure, whichever is greater.

(c) The determination of the minimum setback shall be based on the existing site conditions and shall not take into consideration the effect of any proposed protection measures, such as shoreline protection structures, retaining walls, or deep piers.

(d) Foundation replacement and/or foundation upgrades that meet the definition of development per SCCC 16.10.040(19) and pursuant to SCCC 16.10.040(18) shall meet the setback described in subsection (H)(1) of this section, except that an exception to the setback requirement may be granted for existing structures that are wholly or partially within the setback, if the Planning Director determines that:

(i) The area of the structure that is within the setback does not exceed 25 percent of the total area of the structure; or

(ii) The structure cannot be relocated to meet the setback because of inadequate parcel size.

(e) Additions, including second story and cantilevered additions, shall comply with the minimum 25-foot and 100-year setback.

(f) The developer and/or the subdivider of a parcel or parcels in an area subject to geologic hazards shall be required, as a condition of development approval and building permit approval, to record a declaration of geologic hazards with the County Recorder. The declaration shall include a description of the hazards on the parcel and the level of geologic and/or geotechnical investigation conducted.

(g) Approval of drainage and landscape plans for the site by the County Geologist.

(h) Service transmission lines and utility facilities are prohibited unless they are necessary to serve existing residences.

(i) All other required local, State and Federal permits shall be obtained.

(2) Exemption.

(a) Any project which does not specifically require a building permit pursuant to subsection (B) of this section is exempt from subsection (H)(1) of this section, with the exception of: nonhabitable accessory structures that are located within the minimum 25-foot setback from the coastal bluff where there is space on the parcel to accommodate the structure outside of the setback, above-ground pools, water tanks,

projects (including landscaping) which would unfavorably alter drainage patterns, and projects involving grading.
For the purposes of this section, "the unfavorable alteration of drainage" is defined as a change that would significantly increase or concentrate runoff over the bluff edge or significantly increase infiltration into the bluff. "Grading" is defined as any earthwork other than minor leveling, of the scale typically accomplished by hand, necessary to create beneficial drainage patterns or to install an allowed structure, that does not excavate into the face or base of the bluff.
Examples of projects which may qualify for this exemption include: decks which do not require a building permit and do not unfavorably alter drainage, play structures, showers (where runoff is controlled), benches, statues, landscape boulders, benches, and gazebos which do not require a building permit.
(b) If a structure that is constructed pursuant to this exemption subsequently becomes unstable due to erosion or slope instability, the threat to the exempted structure shall not qualify the parcel for a coastal bluff retaining structure or shoreline protection structure. If the exempted structure itself becomes a hazard it shall either be removed or relocated, rather than protected in place.

(3) Shoreline protection structures shall be governed by the following:

(a) Shoreline protection structures shall only be allowed on parcels where both adjacent parcels are already similarly protected, or where necessary to protect existing structures from a significant threat, or on vacant parcels which, through lack of protection threaten adjacent developed lots, or to protect public works, public beaches, and coastal dependent uses.
Note: New shoreline protection structures shall not be allowed where the existing structure proposed for protection was granted an exemption pursuant to subsection (H)(2) of this section.
(b) Seawalls, specifically, shall only be considered where there is a significant threat to an existing structure and both adjacent parcels are already similarly protected.
(c) Application for shoreline protective structures shall include thorough analysis of all reasonable alternatives to such structures, including but not limited to relocation or partial removal of the threatened structure, protection of only the upper bluff area or the area immediately adjacent to the threatened structure, beach nourishment, and vertical walls. Structural protection measures on the bluff and beach shall only be permitted where nonstructural measures, such as relocating the structure or changing the design, are infeasible from an engineering standpoint or are not economically viable.
(d) Shoreline protection structures shall be placed as close as possible to the development or structure requiring protection.
(e) Shoreline protection structures shall not reduce or restrict public beach access, adversely affect shoreline processes and sand supply, adversely impact recreational resources, increase erosion on adjacent property, create a significant visual intrusion, or cause harmful impacts to wildlife or fish habitat, archaeologic or paleontologic resources. Shoreline protection structures shall minimize visual impact by employing materials that blend with the color of natural materials in the area.

(f) All protection structures shall meet approved engineering standards as determined through environmental review.
(g) All shoreline protection structures shall include a permanent, County approved, monitoring and maintenance program.
(h) Applications for shoreline protection structures shall include a construction and staging plan that minimizes disturbance to the beach, specifies the access and staging areas, and includes a construction schedule that limits presence on the beach, as much as possible, to periods of low visitor demand. The plan for repair projects shall include recovery of rock and other material that has been dislodged onto the beach.
(i) All other required local, State and Federal permits shall be obtained.

5) Coastal High Hazard Area Development Criteria.

All development, specifically including the placement of and construction on manufactured homes, shall meet the following criteria. For structures that had a building permit issued prior to April 15, 1986, any addition, repair, reconstruction, rehabilitation, alteration, or improvement, which, when subject to the definition of "cumulative improvement," does not meet the definition of "substantial improvement" (pursuant to SCCC 16.10.040(18) and (65)), is exempt from this section.

(a) Demonstration that the potential hazards on the site can be mitigated, over the 100-year lifetime of the structure, as determined by the geologic hazards assessment or full geologic report and any other appropriate technical reports. Mitigations can include but are not limited to building setbacks, elevation of the proposed structure and foundation design;
(b) Location of the proposed structure landward of the reach of mean high tide and outside of the area of storm wave inundation where a buildable portion of the property is outside of the area of storm wave inundation;
(c) Elevation of all structures (including manufactured homes) on pilings and columns so that the bottom of the lowest portion of the lowest structural member of the lower floor (excluding the pilings or columns) and elements that function as part of the structure, such as furnace, hot water heater, etc., are elevated to or above the base flood level;

16.10.090 Project Denial.

A development permit or the location of a proposed development shall be denied if the Planning Director determines that geologic hazards cannot be adequately mitigated or the project would conflict with National Flood Insurance Program regulations. Development proposals shall be approved only if the project density reflects consideration of the degree of hazard on the site, as determined from the technical information as reviewed and approved by the Planning Director. [Ord. 4518-C § 2, 1999; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].