

## Agency Comments

See  
4/20/18  
10



**\* Revised Project \***  
**AGENCY COMMENT REQUEST**

Date 4.19.18

We request your comments regarding the attached application currently under review.

**DISTRIBUTION**

Internal

- ☒ Building Inspection      \_\_\_ Grading Inspection  
☒ Advance Planning      \_\_\_ Housing Programs  
\_\_\_ Trans. Planning      \_\_\_ Telecom Planner  
\_\_\_ ALUC Staff      \_\_\_ HCP/NCCP Staff  
\_\_\_ APC Floodplain Tech      \_\_\_ County Geologist

Health Services Department

- ☒ Environmental Health      \_\_\_ Hazardous Materials

Public Works Department

- ☒ Engineering Services (Full-size)      \_\_\_ Traffic  
\_\_\_ Flood Control (Full-size)      \_\_\_ Special Districts

Local

- ☒ Fire District  
\_\_\_ Consolidated - (email) fire@cccfd.org  
☒ Sanitary District Central  
☒ Water District Contra Costa  
☒ City of Pleasant Hill

\_\_\_ School District(s)

\_\_\_ LAFCO

\_\_\_ Reclamation District #

\_\_\_ East Bay Regional Park District

\_\_\_ Diablo/Discovery Bay/Crockett CSD

☒ MACTAC Pacheco

\_\_\_ Improvement/Community Association

\_\_\_ CC Mosquito & Vector Control Dist (email)

Others/Non-local

☒ CHRIS - Sonoma State

\_\_\_ CA Fish and Wildlife, Region 3 - Bay Delta

\_\_\_ Native American Tribes

Additional Recipients

Please submit your comments to:

Project Planner Jennifer Cruz

Phone # (925) 674-7790

E-mail Jennifer.Cruz@dcd.cccounty.us

County File # P217-3237, SD17-9466,

Prior to May 14, 2018

\*\*\*\*\*

We have found the following special programs apply to this application:

- No Active Fault Zone (Alquist-Priolo)  
N/A Flood Hazard Area, Panel #  
N/A 60-dBA Noise Control  
N/A CA EPA Hazardous Waste Site

\*\*\*\*\*

**AGENCIES:** Please indicate the applicable code section for any recommendation required by law or ordinance. Please send copies of your response to the Applicant and Owner.

Comments: \_\_\_ None ☒ Below \_\_\_ Attached

1. COMPLIANCE WITH  
CURRENT BUILDING CODES  
IS REQUIRED.

Print Name ABED CHOWDHURY

Abed Chowdhury 5/15/18  
Signature DATE

Agency phone # 674-7770

## Jennifer Cruz

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**From:** Christine Louie  
**Sent:** Tuesday, May 22, 2018 6:50 PM  
**To:** Jennifer Cruz  
**Cc:** Christine Louie  
**Subject:** RE: Inclusionary Housing 214 Center Ave

Dear Jennifer,

Hello. We have reviewed the Housing Plan that you attached to your April 13, 2018 e-mail message and accept the proposal for the construction of one moderate income unit and the payment of the in-lieu fee for the remaining fractional unit. Please contact me at least 30 days prior to scheduling the hearing for us to prepare the recommended conditions of approval for this project. Please contact me if you should have any further questions.

Sincerely,  
Christine Louie  
SeniorPlanner  
Contra Costa County  
Department of Conservation and Development  
30 Muir Road  
Martinez, CA 94553  
925-674-7787  
925-674-7257 fax

See  
4/20/18  
10



**\* Revised Project \***  
**AGENCY COMMENT REQUEST**

Date 4/9/18

We request your comments regarding the attached application currently under review.

**DISTRIBUTION**

Internal

- ☒ Building Inspection      ☐ Grading Inspection  
☒ Advance Planning      ☐ Housing Programs  
☐ Trans. Planning      ☐ Telecom Planner  
☐ ALUC Staff      ☐ HCP/NCCP Staff  
☐ APC Floodplain Tech      ☐ County Geologist

Health Services Department

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Public Works Department

- ☒ Engineering Services (Full-size)      ☐ Traffic  
☐ Flood Control (Full-size)      ☐ Special Districts

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- ☒ Fire District  
☒ Consolidated - (email) fire@cccfd.org

- ☒ Sanitary District Central  
☒ Water District Contra Costa  
☒ City of Pleasant Hill

☐ School District(s) \_\_\_\_\_

☐ LAFCO \_\_\_\_\_

☐ Reclamation District # \_\_\_\_\_

☐ East Bay Regional Park District \_\_\_\_\_

☐ Diablo/Discovery Bay/Crockett CSD \_\_\_\_\_

☒ MAC/TAC Pacheco

☐ Improvement/Community Association \_\_\_\_\_

☐ CC Mosquito & Vector Control Dist (email) \_\_\_\_\_

Others/Non-local

☒ CHRIS - Sonoma State \_\_\_\_\_

☐ CA Fish and Wildlife, Region 3 - Bay Delta \_\_\_\_\_

☐ Native American Tribes \_\_\_\_\_

Additional Recipients

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Please submit your comments to:

Project Planner Jennifer Cruz

Phone # (925) 674-7790

E-mail Jennifer.Cruz@dcd.cccounty.us

County File # P217-3237, SD17-9466,

DP17-3010

Prior to May 14, 2018

\*\*\*\*\*

We have found the following special programs apply to this application:

- No Active Fault Zone (Alquist-Priolo)  
Yes Flood Hazard Area, Panel # \_\_\_\_\_  
Yes 60-dBA Noise Control  
N/A CA EPA Hazardous Waste Site

\*\*\*\*\*

**AGENCIES:** Please indicate the applicable code section for any recommendation required by law or ordinance. Please send copies of your response to the Applicant and Owner.

Comments: ☒ None      ☐ Below      ☐ Attached

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\_\_\_\_\_

\_\_\_\_\_

Print Name Will Nelson

[Signature] 4/23/18

Signature \_\_\_\_\_ DATE \_\_\_\_\_

Agency phone # (925) 674-7791

ANNA M. ROTH, RN, MS, MPH  
HEALTH SERVICES DIRECTOR

RANDALL L. SAWYER  
CHIEF ENVIRONMENTAL HEALTH & HAZMAT OFFICER

MARILYN C. UNDERWOOD, PHD, REHS  
DIRECTOR OF ENVIRONMENTAL HEALTH



36  
CONTRA COSTA

ENVIRONMENTAL HEALTH

2120 Diamond Boulevard, Suite 200  
Concord, California 94520

Ph (925) 692-2500  
Fax (925) 692-2502  
www.cchealth.org/eh/

May 23, 2018

DEPARTMENT OF  
CONSERVATION  
AND DEVELOPMENT

Contra Costa Department of Conservation and Development  
Community Development Division

Attn: Jennifer Cruz

30 Muir Road

Martinez, CA 94553-4601

**RE:** RZ17-3237, SD17-9466, & DP17-3010 – Proposed Subdivision of Parcel To  
Create Eight Single Family Residences  
214 Center Avenue, Pacheco, CA  
APN: 125-120-017  
Service Request #: SR0010913

Dear Ms. Cruz:

Contra Costa Environmental Health (CCEH) has received a request for agency comment regarding the above referenced project. The following are our comments [if the project is served by public sewer and public water]:

1. A permit from CCEH is required for any well or soil boring prior to commencing drilling activities, including those associated with water supply, environmental investigation and cleanup, or geotechnical investigation.
2. Any abandoned wells (water, environmental, or geotechnical) and septic tanks must be destroyed under permit from CCEH. If the existence of such wells or septic tanks are known in advance or discovered during construction or other activities, these must be clearly marked, kept secure, and destroyed pursuant to CCEH requirements.
3. It is recommended that the project be served by public sewer and public water.
4. Debris from construction or demolition activity must go to a solid waste or recycling facility that complies with the applicable requirements and can lawfully accept the material (e.g., solid waste permit, EA Notification, etc.). The debris must be transported by a hauler that can lawfully transport the material. Debris bins or boxes of one cubic yard or more owned by the collection service operator shall be identified with the name and telephone number of the agent servicing the container.



5. Non-source-separated waste materials must not be brought back to the contractor's yard unless the facility has the appropriate solid waste permit or EA Notification.

These comments do not limit an applicant's obligation to comply with all applicable laws and regulations. If you should have any questions, please do not hesitate to call me at (925) 692-2538.

Sincerely,



W. Eric Fung, REHS  
Environmental Health Specialist II

WEF:tf

## Jennifer Cruz

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**From:** Russ Leavitt <RLeavitt@centralsan.org>  
**Sent:** Wednesday, May 09, 2018 5:54 PM  
**To:** Jennifer Cruz  
**Subject:** SD17-09466, DP17-03010 and RZ17-03237; REVISED eight-unit multifamily subdivision, 214 Center Avenue, Pacheco

Below are the comments I previously submitted for the earlier version of this project. They are still applicable to the current, eight-unit version of the project. Thanks!

Russ Leavitt

---

**From:** Russ Leavitt  
**Sent:** Tuesday, May 2, 2017 6:09 PM  
**To:** 'jennifer.cruz@dcd.cccounty.us' <jennifer.cruz@dcd.cccounty.us>  
**Subject:** SD17-09466, DP17-03010 and RZ17-03237; nine-unit multifamily subdivision, 214 Center Avenue, Pacheco

According to Central Contra Costa Sanitary District (Central San) records, the project site is within Central San's service area and sanitary sewer service is available to the project site. A six-inch diameter public main sewer is located in Center Street and another is located in Aspen Drive, both adjacent to the project site frontage. The developer would need to construct a set of on-site public main sewers and private laterals. The proposed project would not be expected to produce an unmanageable added capacity demand on the wastewater system, nor interfere with existing facilities. The developer will be required to submit full-size building plans for Central San Mainline review in advance and to pay fees and charges at the time of mainline plan submission, sewer permit issuance and residential connection to the sewer system. For details, contact Central San's Permit Section at 925-229-7371. Thanks!



CONTRA COSTA COUNTY  
DEPARTMENT OF CONSERVATION AND DEVELOPMENT  
COMMUNITY DEVELOPMENT DIVISION  
30 Muir Road  
Martinez, CA 94553-4601  
Phone: 925-674-7205  
Fax: 925-674-7258



*\* Revised Project \**  
**AGENCY COMMENT REQUEST**

We request your comments regarding the attached application currently under review.

Date 4/19/18

**DISTRIBUTION**

Internal

- |                                                         |                                             |
|---------------------------------------------------------|---------------------------------------------|
| <input checked="" type="checkbox"/> Building Inspection | <input type="checkbox"/> Grading Inspection |
| <input checked="" type="checkbox"/> Advance Planning    | <input type="checkbox"/> Housing Programs   |
| <input type="checkbox"/> Trans. Planning                | <input type="checkbox"/> Telecom Planner    |
| <input type="checkbox"/> ALUC Staff                     | <input type="checkbox"/> HCP/NCCP Staff     |
| <input type="checkbox"/> APC Floodplain Tech            | <input type="checkbox"/> County Geologist   |

Health Services Department

- ☒ Environmental Health ☐ Hazardous Materials

Public Works Department

- ☒ Engineering Services (Full-size) ☐ Traffic  
☐ Flood Control (Full-size) ☐ Special Districts

Local

- ☒ Fire District ☒ Consolidated - (email) fire@cccfd.org  
☒ Sanitary District Central  
☒ Water District Contra Costa  
☒ City of Pleasant Hill

☐ School District(s) \_\_\_\_\_

☐ LAFCO \_\_\_\_\_

☐ Reclamation District # \_\_\_\_\_

☐ East Bay Regional Park District \_\_\_\_\_

☐ Diablo/Discovery Bay/Crockett CSD \_\_\_\_\_

☒ MAC TAC Pacheco

☐ Improvement/Community Association \_\_\_\_\_

☐ CC Mosquito & Vector Control Dist (email) \_\_\_\_\_

Others/Non-local

- ☒ CHRIS - Sonoma State  
☐ CA Fish and Wildlife, Region 3 - Bay Delta  
☐ Native American Tribes

Additional Recipients

Please submit your comments to:

Project Planner Jennifer Cruz

Phone # (925) 674-7790

E-mail Jennifer.Cruz@dcd.cccounty.us

County File # P217-3237, SD17-9466,

Prior to DP17-3010  
May 14, 2018

\*\*\*\*\*

We have found the following special programs apply to this application:

NO Active Fault Zone (Alquist-Priolo)

NO Flood Hazard Area, Panel # \_\_\_\_\_

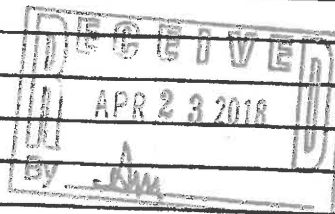
YES 60-dBA Noise Control

N/A CA EPA Hazardous Waste Site

\*\*\*\*\*

**AGENCIES:** Please indicate the applicable code section for any recommendation required by law or ordinance. Please send copies of your response to the Applicant and Owner.

Comments: ☐ None ☐ Below ☒ Attached



Print Name Todd Schiess

Todd Schiess 4/30/18  
Signature DATE

Agency phone # 925-941-3300

P-2017-02430 REV. 1



# Contra Costa County



# Fire Protection District

April 30, 2018

Ms. Cruz  
CCC Community Development Division  
30 Muir Rd,  
Martinez, Ca 94553

**Subject:** Townhomes  
214 Center Ave., Pacheco, Ca  
File # SD17-09466, DP17-03010, RZ17-03237  
CCCFPD Project No.: P-2017-02430-REV1

Dear Ms. Cruz:

We have reviewed the development plan application to establish a townhome community of 5 buildings, the largest is 5587 square feet and three stories tall, with a total of 8 units, at the subject location. The following is required for Fire District approval in accordance with the 2016 California Fire Code (CFC), the 2016 California Building Code (CBC), the 2016 California Residential Code (CRC), and Local and County Ordinances and adopted standards:

1. Access as shown appears to comply with Fire District requirements.

Provide emergency apparatus access roadways with all-weather (paved) driving surfaces of not less than 20-feet unobstructed width, and not less than 13 feet 6 inches of vertical clearance, to within 150 feet of travel distance to all portions of the exterior walls of every building. Access shall have a minimum outside turning radius of 45 feet, and must be capable of supporting the imposed fire apparatus loading of 37 tons. (503) CFC

2. Access roadways of **less than 28-feet** unobstructed width shall have signs posted or curbs painted red with the words **NO PARKING – FIRE LANE** clearly marked. (22500.1) CVC, (503.3) CFC

Access roadways of **28 feet or greater, but less than 36-feet** unobstructed width shall have **NO PARKING – FIRE LANE** signs posted, allowing for parking on one side only or curbs painted red with the words **NO PARKING – FIRE LANE** clearly marked. *Parking is permitted only on the side of the road that does not have hydrants.* (22500.1) CVC, (503.3) CFC

3. Provide emergency escape and rescue openings in Group R occupancies. Basements and sleeping rooms below the fourth story above grade plane shall have at least one exterior emergency escape and rescue opening.
4. The developer shall provide an adequate and reliable water supply for fire protection with a minimum fire flow of 1500 GPM. Required flow must be delivered from not more than 1 hydrants flowing simultaneously for a duration of 120 minutes while maintaining 20-pounds residual pressure in the main. (507.1), (B105) CFC

5. The developer shall submit a minimum of two (2) copies of full size, scaled site improvement plans indicating all existing or proposed hydrant locations, fire apparatus access, elevations of building, size of building and type of construction for review and approval prior to obtaining a building permit. (501.3) CFC
6. ***Emergency apparatus access roadways shall be installed, in service, and inspected by the Fire District prior to construction or combustible storage on site.*** (501.4) CFC

**Note:** A temporary aggregate base or asphalt grindings roadway is not considered an all-weather surface for emergency apparatus access. The first lift of asphalt concrete paving shall be installed as the minimum roadway material and must be engineered to support the designated gross vehicle weight of 37 tons.

7. The homes as proposed shall be protected with an approved automatic fire sprinkler system complying with the 2016 edition of NFPA 13D or Section R313.3 of the 2016 California Residential Code. Submit a minimum of two (2) sets of plans to this office for review and approval prior to installation. (903.2) CFC, (R313.3) CRC, Contra Costa County Ordinance 2016-23
8. The developer shall provide traffic signal pre-emption systems (Opticom) on any new or modified traffic signals installed with this development. (21351) CVC

Our preliminary review comments shall not be construed to encompass the complete project. Additional plans and specifications may be required after further review.

If you have any questions regarding this matter, please contact this office at (925) 941-3300.

Sincerely,



Todd Schiess  
Fire Inspector I

cc: Kirk Shelby  
1812 Galindo St.  
Concord, CA 94520

File: 214 CENTER AVE-PLN-P-2017-02430-REV1



**Board of Directors**

Lisa M. Borba, AICP

*President*

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John A. Burgh

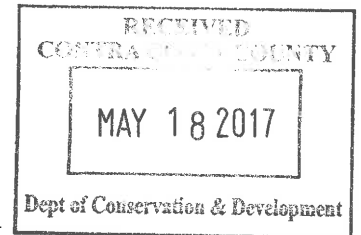
**General Manager**

Jerry Brown

May 16, 2017

*Sent Via Hard Copy & Email: Jennifer.Cruz@dcd.cccounty.us*

Jennifer Cruz  
Department of Conservation and Development  
Contra Costa County  
30 Muir Road  
Martinez, CA 94553-4601



**Subject: Comment Letter Regarding the 214 Center Avenue Project  
(File No. DP-17-03010)**

Dear Ms. Cruz:

The Contra Costa Water District (CCWD) is in receipt of the County's Request for Comments related to the 214 Center Avenue project, located on an undeveloped lot at 214 Center Avenue, located in the Pacheco area of the County. This Proposed Project consists of 9 attached town homes in the configuration of 4 duplexes and one stand-alone unit. The APN# is 125-120-017. The existing Zoning classification is R-6, Single-Family Residential District, which will be amended to Multiple-Family Residential Medium Density. The Proposed Project is located entirely within the service boundary of the Contra Costa Water District (CCWD).

CCWD provides treated potable water to the current residence at the Project Site (per CCWD Code of Regulations Section 5). The proposed three-level homes will require above-grade reduced pressure valves. The State Water Resources Control Board (SWRCB) mandates certain separation requirements for water mains that are parallel to and/or cross sewer and storm drains (per SWRCB Section 64572). In addition, CCWD has the following Project-related comments:

- 1) Existing water infrastructure will need to be evaluated and any modifications will need to be designed and constructed at the Developer/ Owner's expense.
- 2) Each premise to be provided domestic service will require its own service connection and meter (**Reg. 5.32.020**).
- 3) A separate meter for landscape irrigation may be required (**Reg. 5.32.020**).
- 4) Relocation and/or abandonment of CCWD facilities may be required which will require a quitclaim of the existing easements. Easements for proposed facilities may also be required.

- 5) The water main in the street or right of way shall be located opposite the proposed meter locations, with sufficient capacity and pressure as determined by CCWD. The Project/Property may require a main extension or addition of other infrastructure (**Reg. 5.08.020**).
- 6) Relocation of public facilities must be performed by District forces.
- 7) The California Residential Code requires installation of an approved automatic fire sprinkler system in all new residential structures that are submitted to the Building Department after December 31, 2010. Appropriate backflow prevention is required for all services where sprinkler systems are installed.
- 8) Further information and answers to a number of frequently asked questions regarding water service and CCWD regulations can be found on the CCWD's web site at [www.ccwater.com](http://www.ccwater.com).

Should you require any further clarification on CCWD comments, please contact Richard Broad at 925-688-8013 within the CCWD Engineering Department.

Sincerely,

A handwritten signature in cursive script that reads "Christine Schneider". The signature is written in dark ink and has a long, sweeping horizontal line extending to the right.

Christine Schneider  
Senior Planner

CS/ck

## Jennifer Cruz

---

**From:** Lou Ann Texeira  
**Sent:** Friday, May 18, 2018 2:57 PM  
**To:** Jennifer Cruz  
**Cc:** Kate Sibley  
**Subject:** RE: SD17-9466 (214 Center Avenue, Pacheco) Application  
**Attachments:** CCWD Martinez Water Service Area.pdf

Hi Jennifer,

Thanks for sending LAFCO the **Agency Comment Request** on the above referenced project.

The "Application for Approval of Subdivision Plot" notes that municipal sewer service will be provided by the Central Contra Costa Sanitary District (CCCSD) and that municipal water service will be provided by Contra Costa Water District (CCWD).

It appears that the project area is within the CCCSD service boundary; however, we suggest you confirm with the District. Regarding water, it is not clear whether CCWD or City of Martinez would provide municipal water (see attached map). CCWD provides wholesale water to the City of Martinez, and the project area appears to be near the CCWD/Martinez border. We recommend you confirm with CCWD that they will extend potable water to the project site.

If you find that CCWD cannot extend potable water to the project, and that water will need to be provided by the City of Martinez, then out of agency service approval by LAFCO will be needed. If that's the case, the County's CEQA document for the project will need to discuss the extension of water service by City of Martinez (e.g., demand, capacity, water infrastructure, etc.) and that the extension of water to the project site is subject to LAFCO's approval.

Let us know if you have any questions.

---

**From:** Jennifer Cruz  
**Sent:** Thursday, May 17, 2018 11:49 AM  
**To:** Lou Ann Texeira  
**Subject:** SD17-9466 (214 Center Avenue, Pacheco) Application

Hi Lou Ann,

It looks like this application has not been forwarded to LAFCO for comments. Please let me know if you any questions. Thank you.

Jennifer Cruz, Senior Planner

Contra Costa County

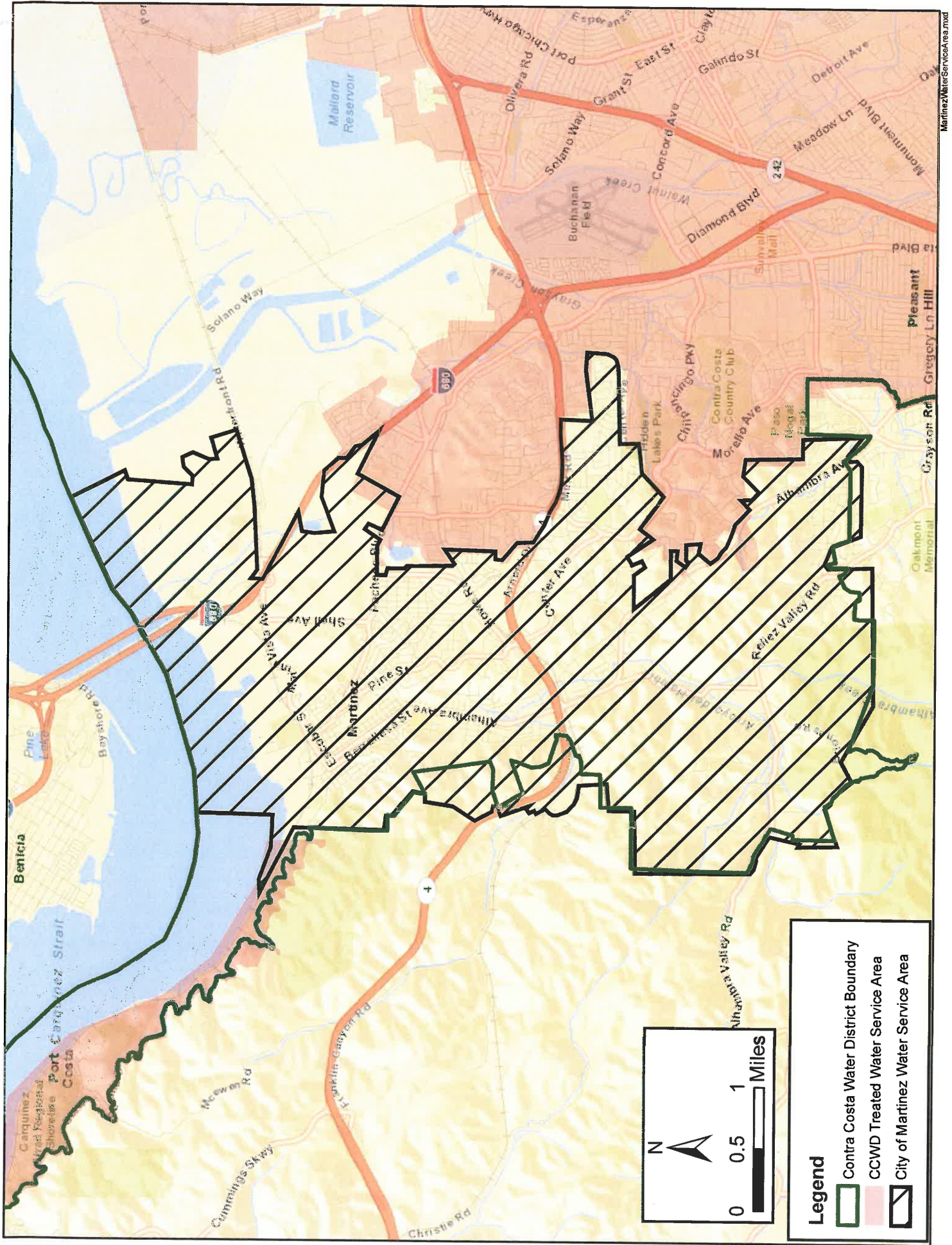
Department of Conservation and Development

30 Muir Road | Martinez, CA 94553

☎: (925) 674-7790 | Fax: (925) 674-7258

✉: [Jennifer.Cruz@dcd.cccounty.us](mailto:Jennifer.Cruz@dcd.cccounty.us)





CALIFORNIA  
HISTORICAL  
RESOURCES  
INFORMATION  
SYSTEM



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COLUSA  
CONTRA COSTA  
DEL NORTE

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LAKE  
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SAN BENITO

SAN FRANCISCO  
SAN MATEO  
SANTA CLARA  
SANTA CRUZ  
SOLANO  
SONOMA  
YOLO

**Northwest Information Center**  
Sonoma State University  
150 Professional Center Drive, Suite E  
Rohnert Park, California 94928-3609  
Tel: 707.588.8455  
nwic@sonoma.edu  
<http://www.sonoma.edu/nwic>

May 7, 2018

File No.: 17-2530

Jennifer Cruz, Project Planner  
Contra Costa County  
Department of Conservation and Development  
Community Development Division  
30 Muir Road  
Martinez, CA 94553-4601

re: Revised Project R217-3237, SD17-9466, DP17-3010

Dear Ms. Jennifer Cruz,

Records at this office were reviewed to determine if this project could adversely affect cultural resources. **Please note that use of the term cultural resources includes both archaeological sites and historical buildings and/or structures. The review for possible historic-era building/structures, however, was limited to references currently in our office and should not be considered comprehensive.**

**Project Description:** Currently undeveloped lot. Proposed land use for the property is multiple-family residential-medium density (MM) (100% of property)

**Previous Studies:**

XX This office has no record of any previous cultural resource studies for the proposed project area (*see recommendation below*).

**Archaeological and Native American Resources Recommendations:**

XX Based on an evaluation of the environmental setting and features associated with known sites, Native American resources in this part of Contra Costa County have been found in areas marginal to the Carquinez Strait and Suisun Bay, and inland near intermittent and perennial watercourses. The proposed project area at 214 Center Avenue is located approximately four and a half miles inland from Carquinez Strait and is located approximately fifty meters from Grayson Creek within alluvial deposits. Given the similarity of one or more of these environmental factors and proximity to known resources, there is a high potential for unrecorded Native American resources in the proposed project area.

We therefore recommend that a qualified archaeologist conduct further archival and field study to identify cultural resources. Field study may include, but is not limited to, pedestrian survey, hand auger sampling, shovel test units, or geoarchaeological analyses as well as other common methods used to identify the presence of archaeological resources. Please refer to the list of consultants who meet the Secretary of Interior's Standards at <http://www.chrisinfo.org>.

XX We recommend the lead agency contact the local Native American tribe(s) regarding traditional, cultural, and religious heritage values. For a complete listing of tribes in the vicinity of the project, please contact the Native American Heritage Commission at 916/373-3710.

**Built Environment Recommendations:**

XX The proposed project area is located adjacent to a parcel containing a recorded building (Property # 010493, P-07-001021, NPS-83001176-0000) William T. Hendrick House with status code 1S, meaning this individual property is listed in the National Register by the Keeper, and listed in the California Register. Prior to commencement of project activities, it is recommended that potential impacts to this resource be assessed by a qualified professional familiar with the history and architecture of Contra Costa County.

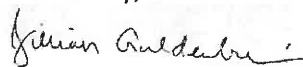
XX Since the Office of Historic Preservation has determined that any building or structure 45 years or older may be of historical value, if the project area contains such properties, it is recommended that prior to commencement of project activities, a qualified professional familiar with the architecture and history of Contra Costa County conduct a formal CEQA evaluation.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the California Historical Resources Information System (CHRIS) Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

For your reference, a list of qualified professionals in California that meet the Secretary of the Interior's Standards can be found at <http://www.chrisinfo.org>. If archaeological resources are encountered during the project, work in the immediate vicinity of the finds should be halted until a qualified archaeologist has evaluated the situation. If you have any questions please give us a call (707) 588-8455.

Sincerely,



Jillian Guldenbrein  
Researcher

cc: Arete, Inc.  
1812 B Galindo Street  
Concord, CA 94520



CONTRA COSTA COUNTY  
DEPARTMENT OF CONSERVATION AND DEVELOPMENT  
COMMUNITY DEVELOPMENT DIVISION  
30 Muir Road  
Martinez, CA 94553-4601  
Phone: 925-674-7205  
Fax: 925-674-7258

See  
4/27/17  
(14)



## AGENCY COMMENT REQUEST

Date 4/27/17

We request your comments regarding the attached application currently under review.

### DISTRIBUTION

#### Internal

☒ Building Inspection ☒ Grading Inspection  
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☐ APC Floodplain Tech ☒ County Geologist

#### Health Services Department

☒ Environmental Health ☐ Hazardous Materials

#### Public Works Department

☒ Engineering Services (Full-size) ☒ Traffic  
☐ Flood Control (Full-size) ☐ Special Districts

#### Local fire@cccfd.org

☒ Fire District Consolidated  
☒ Sanitary District Central  
☒ Water District Contra Costa  
☒ City of Pleasant Hill  
☒ School District(s) Mt. Diablo Unified

#### LAFCO

☐ Reclamation District # \_\_\_\_\_

☐ East Bay Regional Park District

☐ Diablo/Discovery Bay/Crockett CSD

☒ MACTAC Pacheco

☐ Improvement/Community Association

#### Others/Non-local

☐ CHRIS - Sonoma State

☐ CA Fish and Wildlife, Region 3 - Bay Delta

☒ Native American Tribes

#### Additional Recipients

Please submit your comments to:

Project Planner Jennifer Cruz

Phone # 925-674-7790

E-mail jennifer.cruz @dcd.cccounty.us

County File # SD17-09466, DP17-03010, &

R217-03237

Prior to May 22, 2017

\*\*\*\*\*

We have found the following special programs apply to this application:

No Active Fault Zone (Alquist-Priolo)

X/8 Flood Hazard Area, Panel # \_\_\_\_\_

Yes 60-dBA Noise Control

No CA EPA Hazardous Waste Site

\*\*\*\*\*

**AGENCIES:** Please indicate the applicable code section for any recommendation required by law or ordinance. Please send copies of your response to the Applicant and Owner.

Comments: ☐ None ☒ Below ☐ Attached

• CONSIDER STREET-TYPE CONNECTORS WITH CENTER

• ABUTTERS RIGHTS OF ACCESS

SHOULD BE TAKEN (w/EXCEPTION OF ACCESS

• TURN-AROUND ON-SITE?

• IMPACT TO PARKING ON

CENTER?

• NO STAIRS IN ROAD R/W.

Print Name MONISH SEN-TRAFFIC

MCL 5/3/17  
Signature DATE

Agency phone # 313-2187



Contra Costa County  
**Public Works**  
Department

Brian M. Balbas, Director  
Deputy Directors  
Stephen Kowalewski, Chief  
Mike Carlson  
Warren Lai  
Carrie Ricci  
Joe Yee

## Memo

July 16, 2018

**TO:** Jennifer Cruz, Senior Planner, Department of Conservation and Development  
**FROM:** Kara Schuh-Garibay, Civil Engineer, Engineering Services Division  
**SUBJECT:** **SUBDIVISION SD17-9466**  
**STAFF REPORT & CONDIITONS OF APPROVAL**  
(AYM, LLC/Center Avenue/Pacheco/125-120-017)  
**FILE:** SD17-9466 (x-ref DP17-3010 and RZ17-3237)

*Kara Schuh-Garibay*

We have reviewed the application for subdivision SD17-9466, received by your office on June 20, 2018, and submit the following comments:

### Background

The applicant requests a 9-lot subdivision of an approximately 0.51-acre property located at 214 Center Avenue in the Pacheco area. Based on the vesting tentative map and plot plans prepared by Luk and Associates, plot dated June 18, 2018, it appears that there are no existing structures on the property. Our field visit confirms that the subject property is a grassy vacant lot. There is a high point located at the northwest corner of the site; from that point, the property slopes towards Center Avenue and Aspen Drive.

### Traffic and Circulation

The subject site is located on the north side of Center Avenue, west of Aspen Drive; both are public roads. The property is across the street from the Contra Costa County Fire Protection District Station No. 9.

Center Avenue is defined as an ultimate 64-foot wide road within an 84-foot right-of-way. The ultimate pavement width, alignment and right-of way alignment is based on the County precise alignment drawing, PA-3471. It appears that adequate right-of-way was obtained for the ultimate road design for a Center Avenue road project in the late 1970's. Therefore additional right-of-way dedication is not required. Frontage improvements, which include curb, gutter, and sidewalk, appear to have been completed along this portion of Center Avenue.

The applicant is proposing a private on-site roadway system (Lot 9), to be owned and maintained by a Home Owners Association, that will have access from Center Avenue. The intersection with Center Avenue is proposed to align with Blackwood Drive, which is acceptable. The applicant proposes to construct minimum 20-foot wide private roads within a 25-foot wide Emergency Vehicle and Private Access easement on-site, which meets County standards for private roads.

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TEL: (925) 313-2000 • FAX: (925) 313-2333  
[www.cccpublicworks.org](http://www.cccpublicworks.org)

Design requirements for private roads are found in Division 98 of the County Ordinance Code. Based on the Plot Plan Preliminary Grading Plan, it appears that the proposed road will not meet the requirements of Section 98-6.010 requiring parabolic vertical curves be used at changes of grade. It appears that the applicant has designed the portion of the private road between Center Avenue and the private cross-street within the site to County driveway standards, utilizing grade breaks rather than vertical curves. The applicant has requested an exception to the Section 98-6.010 requirement. The exception may be granted if, according to Chapter 92-6 of the County code, the advisory agency can make the following findings:

- 1) That there are unusual circumstances or conditions affecting the property;
- 2) That the exception is necessary for the preservation and enjoyment of a substantial property right of the applicant;
- 3) That the granting of the exception will not be materially detrimental to the public welfare or injurious to other property in the territory in which the property is situated.

The applicant's request for exception provides information intended to explain how the required findings can be made to allow the exception. Generally, the applicant indicates that due to the required location of the site access relative to existing roadways, the limited depth of the parcel, the difference in elevation between the back of the lot and the front and the required minimum length of the vertical curves, it would not be possible to fit a road using the two necessary vertical curves on the parcel. Additionally, the applicant indicates that if they were to lower the site to avoid the need for vertical curves, they would not be able to connect into the existing storm drain system because the onsite drain system would be too low due to the necessary bioretention basins. The applicant indicates that allowing the exception would not be detrimental to public welfare because on-site traffic should be limited to residents and their guests and on-site vehicle speed will be low, similar to an apartment complex driveway. For the above reasons the Public Works Department would not oppose the granting of the exception to section 98-6.010 provided that the applicant designs and constructs the access roadway in accordance with County Standard Plan CA20.

All required parking to be provided by this project will need to be on-site, not on Center Avenue. It appears that on-site parking is proposed in the area between Buildings 4 and 5, and in the area east of Building 5.

Abutter's rights of access along Center Avenue, with the exception of the proposed access, will need to be relinquished as is proposed on the tentative map.

Overhead utilities exist along the Center Avenue frontage of the project. Per Title 9 of the County Ordinance Code, undergrounding of utilities is required. Undergrounding will include new and existing utilities, more specifically distribution lines; transmission lines will be excluded. The applicant will need to confirm whether or not overhead transmission lines are present.

### **Drainage**

Division 914 of the County Ordinance Code requires that all stormwater entering and/or originating on this property to be collected and conveyed, without diversion and within an adequate storm drainage system, to an adequate natural watercourse having a definable bed

and banks or to an existing adequate public storm drainage system which conveys the storm water to an adequate natural watercourse.

The property is currently located within Drainage Area 88 and the Grayson Creek watershed. The site generally drains to Grayson Creek, which is east of the property. It appears that there are existing drainage facilities located along the project frontage on Center Avenue. The applicant will be required, as a condition of approval, to verify the adequacy of any downstream drainage facility accepting stormwater from this project prior to discharging runoff. If the downstream system is inadequate to handle the additional stormwater generated from the development, the applicant will be required to construct improvements to make the system adequate in order to satisfy the collect and convey requirements of the Ordinance code and be in compliance with Public Works Department design standards. The applicant will be required to obtain access rights to make any necessary improvements to off-site facilities.

Drainage facilities are schematically shown on the submitted plan set on the Plot Plan Drainage Plan. It appears that three primary private storm drain lines will be constructed. One, located in the private street, will take overflow from the bioretention basins serving as IMPs 6 and 7 on the north side of the property to the existing storm drain line in Center Avenue. Another, also located within the private road, will take runoff from the roofs of buildings 1, 2, 3, and 5 to the bioretention basin serving as IMP 8. The third will take overflow from the bioretention basins along the frontage of Center Avenue to the existing storm drain line in Center Avenue. A private "stormwater treatment" easement is proposed over the line along the project frontage on Center Avenue to ensure the line will be maintained and remain operational.

### **Stormwater Management and Discharge Control Ordinance**

A Stormwater Control Plan (SWCP) is required for applications to subdivide land where the resulting project may result in a total amount of impervious surface area exceeding 10,000 square feet (5,000 square feet for projects that include parking lots, restaurants, automotive service facilities and gas stations). If at least 10,000 (or 5,000) square feet of area can be identified for development, a SWCP shall be prepared and submitted for the review and approval of the Public Works Department, in compliance with the Stormwater Management and Discharge Control Ordinance (§1014), and the County's Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) Permit. Based on the buildable areas of Lots 1 through 8, and the impervious surface area for the private road (Lot 9), the total new impervious surface area will exceed the 10,000-square foot threshold. An adequate preliminary SWCP has been submitted with this application.

The applicant should be aware that a revised SWCP template is now available on the Contra Costa Clean Water Program website. The SWCP submitted is using an out-dated template. Given that the changes to the template from the previous version appear to be minimal, the applicant will not be required to update the preliminary SWCP to use the new template. However, the applicant will be required to revise the Final SWCP in the permit processing phase to use the newer template.

Provision C.10, Trash Load Reduction, of the County's NPDES permits requires control of trash in local waterways. To prevent or remove trash loads from municipal storm drain systems, trash capture devices shall be installed in catch basins (excludes those located within a bioretention/stormwater treatment facility). Devices must meet the County's NPDES permits and approved by Public Works Department. Location must be approved by Public Works Department.

### **Floodplain Management**

The project is located in Zone X, as designated on the Federal Emergency Management Agency's Flood Insurance Rate Maps; however, it is just outside the 100-year flood boundary as is indicated on the Vesting Tentative map. The applicant should ensure that the finished floor remain above the base flood elevation with the one-foot relevant freeboard requirement; otherwise, the applicant should be aware of the requirements of the Federal Flood Insurance Program and the County Floodplain Management Ordinance (Ordinance No. 2000-33), as they pertain to future construction of any structures on this property. Based on the proposed finished floor elevations shown on the "Plot Plan Grading Plan" it appears that the finished floors are currently planned to be at least one foot above the adjacent base flood elevation.

### **Annexation to a Lighting District**

The subject property is already annexed into the L-100 lighting district and will require no further annexation to a lighting district.

### **Area of Benefit Fee**

The applicant will need to comply with the requirements of the Bridge/Thoroughfare Fee Ordinance for the Pacheco Area of Benefit, as adopted by the Board of Supervisors. These fees shall be paid prior to issuance of building permits.

### **Drainage Area Fee and Creek Mitigation**

The applicant will be required to comply with the drainage fee requirements for Drainage Area 88, as adopted by the Board of Supervisors. This fee shall be paid prior to final map recordation.

KSG:ss

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cc: S. Gospodchikov, Engineering Services  
J. LaRocque, Engineering Services  
R. Sanders, Engineering Services  
AYM, LLC, owner  
P.O. Box 824  
Orinda, CA 94563  
Aretê, Inc., applicant  
1812 b Galindo Street  
Concord, CA 94520



**PUBLIC WORKS RECOMMENDED  
CONDITIONS OF APPROVAL FOR PERMIT SD17-9466**

**Applicant shall comply with the requirements of Title 8, Title 9 and Title 10 of the Ordinance Code. Any exception(s) must be stipulated in these Conditions of Approval. Conditions of Approval are based on the (vesting) tentative map submitted to the Department of Conservation and Development on June 20, 2018.**

**COMPLY WITH THE FOLLOWING CONDITIONS OF APPROVAL PRIOR TO FILING OF THE FINAL MAP.**

**General Requirements:**

- In accordance with Section 92-2.006 of the Ordinance Code, this subdivision shall conform to all applicable provisions of the Subdivision Ordinance (Title 9). Any exceptions therefrom must be specifically listed in this conditional approval statement. The drainage, road and utility improvements outlined below shall require the review and approval of the Public Works Department and are based on the Vesting Tentative Map received by the Department of Conservation and Development, Community Development Division, on June 20, 2018.
- Applicant shall submit improvement plans prepared by a registered civil engineer to the Public Works Department and pay appropriate fees in accordance with the County Ordinance and these conditions of approval. The below conditions of approval are subject to the review and approval of the Public Works Department.

**Roadway Improvements (Frontage):**

- Any cracked and displaced curb, gutter, and sidewalk shall be removed and replaced along the project frontage of Center Avenue. Concrete shall be saw cut prior to removal. Existing lines and grade shall be maintained. New curb and gutter shall be doveled into existing improvements.

**Access to Adjoining Property:**

Proof of Access

- Applicant shall furnish proof to the Public Works Department of the acquisition of all necessary rights of way, rights of entry, permits and/or easements for the construction of off-site, temporary or permanent, public and private road and drainage improvements.

Encroachment Permit

- Applicant shall obtain an encroachment permit from the Application and Permit Center, if necessary, for construction of driveways or other improvements within the right-of-way of Center Avenue.

## **Abutter's Rights**

- Applicant shall relinquish abutter's rights of access along Center Avenue with the exception of the proposed private road intersection.

## **Road Alignment/Intersection Design/Sight Distance:**

### Sight Distance

- Applicant shall provide sight distance at the private road and Center Avenue for a design speed of 45 miles per hour. The applicant shall trim vegetation, as necessary, to provide sight distance at these driveways. Any new landscaping, signs, fencing, retaining walls, or other obstructions proposed at the driveways shall be setback to ensure that the sight lines are clear.

## **Private Roads:**

- Applicant shall construct an on-site roadway system to current County private road standards with a minimum traveled width of 16 feet, 2-foot shoulders, and within a 25-foot access easement.

### Exception (Subject to Advisory Agency findings and approval):

The applicant shall be granted an exception to the Section 98-6.010 requirement that parabolic vertical curves be used at changes in grade provided that the applicant designs and constructs the access roadway in accordance with current County Standards for Driveway Profile Design.

## **Landscaping:**

- The applicant shall submit four sets of landscape and automatic irrigation plans and cost estimates (for landscaping and automatic irrigation in public right-of-way only), prepared by a licensed landscape architect, to the Public Works Department for review and to the Zoning Administrator for review and approval, prior to filing of the Final Map. Applicant shall pay appropriate fees in accordance with County Ordinance. Any landscaping approved and constructed within the public right-of-way shall be maintained by the property owner(s).
- All landscaping to be maintained by the property owner shall be submitted to the Zoning Administrator for review and approval.

## **Bicycle - Pedestrian Facilities:**

### Pedestrian Access

- Curb ramps and driveways shall be designed and constructed in accordance with current County standards. A detectable warning surface (e.g. truncated domes) shall be installed on all curb ramps. Adequate right-of-way shall be dedicated at the curb returns to accommodate the returns and curb ramps; accommodate a minimum 4-foot landing on top of any curb ramp proposed.

- Applicant shall design all public and private pedestrian facilities in accordance with Title 24 (Handicap Access) and the Americans with Disabilities Act. This shall include all sidewalks, paths, driveway depressions, and curb ramps.

#### **Parking:**

- Parking shall be prohibited on one side of on-site roadways where the curb-to-curb width is less than 36 feet and on both sides of on-site roadways where the curb-to-curb width is less than 28 feet. "No Parking" signs shall be installed along these portions of the roads subject to the review and approval of the Public Works Department.

#### **Utilities/Undergrounding:**

- Applicant shall underground all new and existing utility distribution facilities, including those along the frontage of Center Avenue. The applicant shall provide joint trench composite plans for the underground electrical, gas, telephone, cable television and communication conduits and cables including the size, location and details of all trenches, locations of building utility service stubs and meters and placements or arrangements of junction structures as a part of the Improvement Plan submittals for the project. The composite drawings and/or utility improvement plans shall be signed by a licensed civil engineer.

#### **Maintenance of Facilities:**

- The maintenance obligation of all common and open space areas, private roadways, any private street lights, public and private landscaped areas, perimeter walls/fences, and on-site drainage facilities shall be included in the covenants, conditions, and restrictions (CC&Rs). The language shall be submitted for the review and approval of the Zoning Administrator and Public Works Department at least 60 days prior to filing of the Final Map for the first phase.
- Applicant shall record a Statement of Obligation in the form of a deed notification to inform all future lot owner(s) of their obligation to maintain trees, shrubs and ground cover landscaping (landscaping features) at the expense of the lot owner(s). Applicant shall remove the landscaping features at the expense of the lot owner(s) should it become necessary in the future for the County to do any work in the public right-of-way. Maintenance and any removal of landscaping features may be performed through the Home Owners Association. This requirement shall be covenant, which shall run with the lot and shall bind all present and future owner(s) of the lot.

#### **Drainage Improvements:**

##### Collect and Convey

- The applicant shall collect and convey all stormwater entering and/or originating on this property, without diversion and within an adequate storm drainage facility, to a natural watercourse having definable bed and banks, or to an existing adequate public storm drainage system which conveys the stormwater to a natural watercourse, in accordance with Division 914 of the Ordinance Code. Applicant shall verify the adequacy at any downstream drainage facility accepting stormwater from this project prior to discharging runoff. If the downstream system(s) is inadequate to handle the existing plus project condition for the



required design storm, improvements shall be constructed to make the system adequate. The applicant shall obtain access rights to make any necessary improvements to off-site facilities.

- The nearest public drainage facility is a storm drain line located at along the project frontage on Center Avenue. Applicant shall verify its adequacy prior to discharging run-off.

#### **Miscellaneous Drainage Requirements:**

- The applicant shall design and construct all storm drainage facilities in compliance with the Ordinance Code and Public Works Department design standards.
- Applicant shall prevent storm drainage from draining across the sidewalk(s) and driveway(s) in a concentrated manner.

#### **National Pollutant Discharge Elimination System (NPDES):**

- The applicant shall be required to comply with all rules, regulations and procedures of the National Pollutant Discharge Elimination System (NPDES) for municipal, construction and industrial activities as promulgated by the California State Water Resources Control Board, or any of its Regional Water Quality Control Boards (San Francisco Bay - Region II).

Compliance shall include developing long-term best management practices (BMPs) for the reduction or elimination of stormwater pollutants. The project design shall incorporate wherever feasible, the following long-term BMPs in accordance with the Contra Costa Clean Water Program for the site's stormwater drainage:

- Minimize the amount of directly connected impervious surface area.
- Install approved full trash capture devices on all catch basins (excluding catch basins within bioretention basins) as reviewed and approved by Public Works Department. Trash capture devices shall meet the requirements of the County's NPDES permits.
- Place advisory warnings on all catch basins and storm drains using current storm drain markers.
- Other alternatives comparable to the above as approved by the Public Works Department.
- Shallow roadside and on-site swales.
- Distribute public information items regarding the Clean Water Program and lot specific IMPs to buyers.

#### **Stormwater Management and Discharge Control Ordinance:**

- The applicant shall submit a FINAL Storm Water Control Plan (SWCP) and a Stormwater Control Operation and Maintenance Plan (O+M Plan) to the Public Works Department, which shall be reviewed for compliance with the County's National Pollutant Discharge Elimination System (NPDES) Permit and shall be deemed consistent with the County's Stormwater Management and Discharge Control Ordinance (§1014) prior to filing of the final map. To the extent required by the NPDES Permit, the Final Stormwater Control Plan and the O+M Plan will be required to comply with NPDES Permit requirements that have recently become effective that may not be reflected in the preliminary SWCP and

O+M Plan. All time and materials costs for review and preparation of the SWCP and the O+M Plan shall be borne by the applicant.

- Improvement Plans shall be reviewed to verify consistency with the final SWCP and compliance with Provision C.3 of the County's NPDES Permit and the County's Stormwater Management and Discharge Control Ordinance (§1014).
- Stormwater management facilities shall be subject to inspection by the Public Works Department staff; all time and materials costs for inspection of stormwater management facilities shall be borne by the applicant.
- Prior to filing of the final map, the property owner(s) shall enter into a standard Stormwater Management Facility Operation and Maintenance Agreement with Contra Costa County, in which the property owner(s) shall accept responsibility for and related to operation and maintenance of the stormwater facilities, and grant access to relevant public agencies for inspection of stormwater management facilities.
- Prior to filing of the final map, the property owner(s) shall annex the subject property into Community Facilities District (CFD) No. 2007-1 (Stormwater Management Facilities), which funds responsibilities of Contra Costa County under its NPDES Permit to oversee the ongoing operation and maintenance of stormwater facilities by property owners.
- Any proposed water quality features that are designed to retain water for longer than 72 hours shall be subject to the review of the Contra Costa Mosquito & Vector Control District.

**Drainage Area Fee Ordinance:**

- The applicant shall comply with the drainage fee requirements for Drainage Area 88 as adopted by the Board of Supervisors prior to initiation of the use requested with this application.

**ADVISORY NOTES**

- The applicant will be required to comply with the requirements of the Bridge/Thoroughfare Fee Ordinance for the Pacheco Area of Benefit as adopted by the Board of Supervisors.
- The project is adjacent to a Special Flood Hazard Area (100-year flood boundary) as designated on the Federal Management Emergency Agency's Flood Insurance Rate Maps. The applicant shall be aware of the requirements of the National Flood Insurance Program and the County Flood Plain Management Ordinance (Ordinance No. 2000-33) as they pertain to future construction of any structures on this property.



January 15, 2018

Jennifer Cruz, Senior Planner  
Contra Costa County  
Department of Conservation & Development  
Community Development Division  
30 Muir Road  
Martinez, CA 94553

**Subject:**        **Geologic Peer Review / SD17-9466 (2<sup>nd</sup> letter)**  
AYM, LLC (owner) / Arete, Inc. (applicant)  
APN 125-120-017 / 214 Center Ave. (0.49 ac.)  
Pacheco Area, Contra Costa County  
DMA Project 3003.18

Dear Jenn,

On May 12, 2017 we provided review comments on the captioned project.<sup>1</sup> At that time the documents reviewed were limited to a Vesting Tentative Subdivision Map (VTM) prepared by the project civil engineers,<sup>2</sup> and an associated Development Plan prepared by Arete, Inc.<sup>3</sup> Since our review letter was issued, the development plans have been revised and the applicant has submitted a geotechnical report prepared by Rockridge Geotechnical.<sup>4</sup> The purpose of the review letter presented herein is to review the new materials that have been submitted, and to update our previous comments on the proposed project.

### ***Understanding of Project***

The intent of the project proponent is to divide the 0.49-acre site into ten lots. Lots #1 through 9 are intended for residential use. Lots #1-8 are to have a zero ft. setback on one site yard (to visually create the effect of four attached units). Additionally, Lot #9 is intended for detached SFR, but Lot #9 also includes a storm drainage easement for a bio-retention facility that is intended to satisfy the project's C.3 requirements). The proposed internal road is to have a 20 ft. width, which is adequate to accommodate two-way traffic (with no parallel parking allowed). Four visitor parking spaces are provided by the VTM. The nine residential parcels do not provide any driveway parking spaces, but each unit has a 2-car garage. The project plans also indicate four bio-retention basins. The architectural plans provide elevations and floor plans for three story dwellings. The basic layout includes a garage, entry, bathroom and one

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<sup>1</sup> Darwin Myers Associates, 2017, *Geologic Peer Review – 30 Day Comments, SD17-9466 / DP17-3010 / RZ17-3237, AYM, LLC (owner) / Arete, Inc. (applicant), APN 125-120-017 / 214 Center Avenue, Pacheco Area, Contra Costa County, DMA Project 3026.17* (letter dated May 12, 2017).

<sup>2</sup> Luk and Associates, 2017, *New Residential Development, 214 Center Avenue, Pacheco, California*, Luk Job #25022-10 (2 Sheets, dated April 19, 2017).

<sup>3</sup> Arete, Inc, 2017, *A Preliminary Development Plan for 214 Center Avenue, Pacheco, California*, Arete Job # 5154 (18 Sheets, latest revision April 18, 2017).

<sup>4</sup> Rockridge Engineering, *Preliminary Geotechnical Investigation, Proposed Residential Subdivision, 214 Center Avenue (APN 125-120-017), Pacheco, California*, Rockridge Job #17-1348 (report dated August 14, 2017).

bedroom on the 1<sup>st</sup> floor; an open kitchen-dining-living room, along with a 2<sup>nd</sup> bedroom, bathroom and laundry on the 2<sup>nd</sup> floor; and two bedrooms and two bathrooms on the 3<sup>rd</sup> floor. The residential lots average approximately 1,500 sq. ft. The floor area of the units varies but is 1,850 sq. ft.±100 sq. ft.

## ***Approach***

We reviewed (i) pertinent geologic reports and maps issued by the California Geological Survey (CGS) and the U.S. Geological Survey (USGS), Soil Survey of Contra Costa County, and Safety Element maps and policies, (ii) analyzed a stereo pair of historic vertical-angle aerial photographs using a mirror stereoscope equipped with 3x and 8x binoculars,<sup>5</sup> and (iii) reviewed plans submitted with the subdivision application. With that background we (iv) reviewed the geotechnical report, and (v) evaluated the data gathered in terms of potential geologic, geotechnical and seismic hazards, and (vi) prepared the peer review letter presented herein.

## ***Background***

Our May 2017 peer review letter on the captioned project provided background information on the geologic setting of the site, and included four geologic-related maps. We have included the maps with this review letter, along with a capsule summary of key features shown on the maps.

### **1. Active Faults**

The site is located in the unincorporated Pacheco area. Figure 1, Vicinity Map that shows the location of the site on a base map that shows the local road network, major parklands (shaded green) and outlines the site boundary with a red line. For reference purposes, Figure 1 also shows the location of the Alquist-Priolo Earthquake Fault Zone (A-P zone) that encompasses recently active and potentially active traces of the Concord fault. It is the northwest-trending zone that is shaded orange, and passes approximately 1 mile northeast of the site. The A-P Zone was delineated by the California Geological Survey (CGS). Criteria used by the CGS to identify active faults there is clear evidence that surface fault rupture has occurred during Holocene time (i.e. during the last 11,000 years±). The Concord fault is characterized by right-lateral, strike slip displacement. Evidence of active faulting includes (i) groundwater barrier in Holocene alluvial deposits, (ii) evidence of shearing and off-set of Holocene deposits in exploratory trenches logged by geologic consultants for land development projects in the downtown Concord area, (iii) tectonic creep features in downtown Concord, (iv) geomorphic features characteristic of active faulting (e.g. scarp in Quaternary alluvial deposits). Alinement array data provides additional confirmation on the current rate of creep displacement on this fault during the period 1975-2003.<sup>6</sup> Evidence of seismic activity includes a magnitude 5.4 earthquake that occurred on October 24, 1954.

### **2. Geologic Mapping**

In 1994 the U.S. Geological Survey (USGS) issued a digitized geologic map of Contra Costa County that emphasized bedrock formations.<sup>7</sup> This map is presented in Figure 2. It indicates the property is located within the within an area mapped as *Quaternary Deposits* (Qu), on the westernmost flank of the Diablo

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<sup>5</sup> Pacific Aerial Surveys, 1973, Photographs #CC3526-2-177 & 178, scale 1 in.= 1,000 ft. (flown on May 7, 1973).

<sup>6</sup> Galehouse, J. S. & Lienkaemper, J.J., 2003, *Inferences Drawn from Two Decades of Alinement Array Measurements of Creep on Faults in the San Francisco Bay Region*, Bulletin of the Seismological Society of America, Vol. 93, No. 6., pages 2415-2433.

<sup>7</sup> Graymer, R., D.L. Jones & E.E. Brabb, 1994. *Preliminary Geologic Map Emphasizing Bedrock Formations in Contra Costa County, California*. U.S. Geological Survey Open File Report 94-622.

Valley. The nearest bedrock exposure is immediately west of the site, within the outcrop belt of the Muir Sandstone (Tmr) of Eocene age. It consists chiefly of massive, yellow-weathering, arkosic sandstone. With regard to geologic structure, the site is located on the northeast limb of the Pacheco Syncline. (The axis of the syncline is within the outcrop belt of the Briones Sandstone (Tbr).) By extrapolation from nearby measurement, bedding in the Muir Sandstone can be inferred to dip southwest at 60 to 65°. No faults are mapped on the site. The nearest faults shown in Figure 2 are a series of short, northeast-trending tear faults located in the hills west and north of the site. These faults are considered to be inactive by both the USGS and CGS. Additionally, a generally north-south trending fault is shown passing ½ mile east of the site. The mapping of this fault is based on deep geophysical obtained by the USGS from the files of petroleum firms. There is no surface manifestation of this fault, and the geophysical data does not confirm that the fault cuts any Quaternary deposits. This inactive fault intersects the Concord fault just north of State Route 4, approximately 2½ miles northeast of the site. As shown in Figure 2, the Concord fault closely coincides with the alignment of the channel of Walnut Creek, and passes 1 mile northeast of the site. Another USGS publication refers to the Muir Sandstone as the Domingue Formation (Map Unit 376 in USGS Professional Paper 1357).<sup>8</sup> Ellen and Wentworth acknowledge that as they interpret the data, Unit 376 is equivalent to the Muir and Escobar Sandstones mapped by C.E. Weaver on the east limb of the Pacheco Syncline.<sup>9</sup> The composition of Unit 376 can be summarized as follows:

*This unit consists of sandstone with some clayey interbeds. Includes many hard, lime-cemented concretions (up to 15-20 ft. in diameter); locally there are fossiliferous beds. Trenching is difficult in massive sandstone, especially in the upper portion of this unit. Much of the unit is considered to be moderately permeable; some bedrock and soil mantle is expansive.*

### 3. Quaternary Deposits

In 1997 the USGS issued a map that divided Quaternary deposits of Contra Costa County into units that vary in (i) age, (ii) depositional environment and (iii) engineering properties.<sup>10</sup> In Figure 3, the boundary of the site is outlined with a red line. According to this map the site is interpreted as a bedrock terrace that is slightly elevated above the valley floor. Note that Figure 3 does not attempt to show the distribution of landslide deposits. However another USGS investigation produced a set of maps of the County that were based solely on geologic interpretation of aerial photographs, without the benefit of a site visit or any subsurface data. The maps were prepared by an experienced USGS geologist, who mapped the distribution of suspected landslides based on geomorphic features. The map of the site and vicinity is presented in Figure 4 at a scale of 1 in. = 1,000 ft.<sup>11</sup> The site boundary is outlined in green. The landslides are outlined in red, with a black arrow indicating the general direction of downslope displacement. These maps do not show landslides that may have formed since 1975, and the slides shown are not classified on the basis of the activity status (i.e. active or dormant), depth of slide plane (shallow or deep seated), or type of landslide deposit. The USGS maps which are included in the Safety Element, and are used to "red flag" project sites that may be at risk of landslide damage. Figure 4 indicates no suspected landslides within ½ mile of the site. Consequently, landslide risks appear do not appear to be significant.

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<sup>8</sup> Ellen, D.E. & Wentworth, C.M., 1995, *Hillside Materials and Slopes of the San Francisco Bay Region*, U.S. Geological Survey Professional Paper 1357

<sup>9</sup> Weaver, C.E., 1953, *Eocene and Paleocene Deposits at Martinez, California*, University of Washington Publications in Geology, Vol. 7, pages 1-102.

<sup>10</sup> Helley E.J. and R.W. Graymer, 1997. *Quaternary Geology of Contra Costa County and Surrounding Parts of Alameda, Marin, Sonoma, Solano, Sacramento and San Joaquin Counties, California*. A Digital Database. U.S. Geological Survey, Open File Report 97-98.

<sup>11</sup> Nilsen, T.H., 1975. *Preliminary Photointerpretive Map of Landslide and Other Surficial Deposits of the Port Chicago, 7.5-Minute Quadrangle, Contra Costa and Solano Counties*, U.S. Geological Survey, Open File Report 75-277-45.

#### 4. Soil Survey

The soil series on the site is the Tierra loam (TaC).<sup>12</sup> It is a gently to moderately sloping soil that occurs on terraces. Runoff is medium to rapid (depending on slope) and the hazard of erosion is moderate to high (where the soil is bare). The typical soils profile is approximately 72 inches deep. The A horizon extends from the surface to a depth of 25 inches below the ground surface (bgs). The B2t horizon extends from 25 to 59 inches bgs. The B3 horizon extends from 59 to 71 inches bgs. The engineering properties of the Tierra loam vary with depth below the ground surface. The A horizon is classified “low” expansion potential and “high” corrosivity; the B2t horizon is classified as having both a “high” expansion potential and “high” corrosivity, and the C-horizon is classified as “moderate” expansion potential and “high” corrosivity. Expansive soils shrink and swell as a result of moisture changes that can cause heaving and cracking of slabs-on-grade, pavements and structures founded on shallow foundations. Corrosive soils pose a hazard to concrete and uncoated steel that is in contact with the ground. With proper design the damage potential of such soils can be avoided or kept to a practical minimum.

#### 5. Seismicity

The San Francisco Bay Region is considered one of the most seismically active regions of the United States. Consequently, it can be assumed that the proposed improvements will be subject to one or more major earthquakes during their useful life. Earthquake intensities vary depending on numerous factors, including (i) earthquake magnitude, (ii) distance of the site from the causative fault, (iii) geology of the site. The USGS has stated that there is a 72 percent chance of at least one magnitude 6.7 or greater earthquake striking the Bay Region between 2014 and 2043.<sup>13</sup> However the highest probabilities are assigned to the Hayward, Calaveras and northern segment of the San Andreas faults (14.3, 7.4 and 6.4 percent, respectively). As Figure 1 indicates, the nearest active fault is the Concord-Green Valley fault, which passes approximately 1 mile northeast of the site.

The Safety Element of the General Plan includes a figure titled “Seismic Ground Response” (General Plan, page 10-13). This map classifies the site as *moderately low* damage susceptibility. This designation is applied to building sites that are underlain by either bedrock of Pliocene age or Pleistocene alluvial deposits. The risk of structural damage from earthquake ground shaking is controlled by building and grading regulations. The California Building Code (CBC), mandated that for structures requiring building permits (including the proposed residential buildings, retaining walls over 3 ft. in height and most types of accessory structures), the design must take into account both foundation conditions, proximity of active faults and their associated ground shaking characteristics. Design-level geotechnical reports must include CBC seismic design parameters. Those parameters are used by the structural engineer in the design of civil engineering structures. With conservative design and quality construction, ground shaking damage can be kept to a practical minimum.

### ***Rockridge Geotechnical Investigation***

#### 1. Scope and Purpose

The purpose of the investigation performed by Rockridge Geotechnical (hereafter referred to as Rockridge) was to (i) develop sufficient technical data to characterize site conditions, (ii) provide a preliminary assessment of potential geologic, geotechnical and seismic hazard, and (iii) provide

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<sup>12</sup> Welch, L., 1977. *Soil Survey of Contra Costa County*. USDA Soil Conservation Service.

<sup>13</sup> Aagaard, Blair, Boatwright, Garcia, Harris, Michael, Schwartz, and DeLeo, 2016, *Earthquake Outlook for the San Francisco Bay Region, 2014-2043*, USGS Fact Sheet 2016-3020, revised August 2016; ver. 1.1)

geotechnical conclusions/ recommendations regarding a range of issues (i.e. building foundation types, estimate foundation settlement, grading and drainage, liquefaction potential, siting/ design of C.3 bio-retention facilities, slope creep, 2016 CBC seismic parameters, and construction considerations). The scope of the investigation included (i) review of previous geologic maps and reports, (ii) subsurface exploration (3 Cone Penetration Test probes, and two shallow hand-auger borings to collect shallow soil samples), (iii) laboratory testing of soil samples, and (iv) geotechnical analysis of the data gathered, and (v) preparation of a report intended to allow full processing of the subdivision application.

## 2. Subsurface Investigation

The three CPT probes provide in-situ soil data at the locations indicated on Figure 2 of the Rockridge report. Probe CPT-1 was advanced to a depth of 50 ft. below the ground surface (bgs). Probes CPT-2 and CPT-3 met refusal at depths of 44 and 44½ ft. bgs in very dense granular material that was interpreted as weathered sandstone. The CPT logs, which are presented in Appendix A of the Rockridge report, indicate tip resistance, friction ratio and inferred lithology. A pore pressure dissipation test was performed in each CPT to evaluate the depth to ground water.

The hand-auger borings HA-1 and HA-2 were advanced to depths of 5 and 4 ft., respectively. Boring HA-2 met refusal in an olive brown, stiff to v. stiff, moist, sandy clay. Soil samples were obtained at several depths for visual classification and laboratory testing. The location of these borings is shown in Figure 2 of the Rockridge report, and the Hand-Auger logs are presented in Appendix A.

## 3. Laboratory Testing

Rockridge performed laboratory testing of samples collected from their hand-auger borings. The tests performed included (i) moisture/ dry density, (ii) Atterberg Limits testing, (iii) gradation testing, and (iv) corrosion testing. The test results are presented on the boring logs and in Appendix B.

## 4. Subsurface Conditions

Rockridge indicates that the site, as mapped by the USGS (Graymer, 2006) is in the outcrop belt of the Escobar Sandstone of Eocene age. The subsurface data gathered by Rockridge indicate that that 4 to 6 ft. of the site is blanketed by clay with varying sand content. The laboratory test results indicate this surficial layer (i.e. soils unit) is moderately expansive. Underlying the surficial unit are interbedded layers of stiff to hard clay and medium dense to very dense sand with varying clay and silt content. Based on the CPT data, the project geotechnical engineer considers the very dense/ stiff soil to likely represent Pleistocene age or older alluvial deposits. The unit penetrated at the depth where CPT-2 and -3 met refusal is inferred to represent weathered sandstone. The pore pressure dissipation tests, performed using CPT equipment, indicate the water table was 14 to 20 ft. bgs at the time of the field investigation (July 27, 2017).

## 5. Rockridge Conclusions and Recommendations

The recommendations in the project geotechnical engineers address a broad spectrum of issues, including those which are specific to site conditions discovered during the geotechnical investigation, and which reflect the standard of care. The “Conclusions and Recommendations” section of the geotechnical report commences on page 10. The primary conclusion is that the project is feasible from a geotechnical perspective. It first characterizes site specific conditions that were identified on site, and indicates the approach to mitigating of the potential hazard. The items addressed include the following: (i) foundation and settlement, (ii) site preparation and grading, (iii) special preparation of building pads (either importing 6-inches (min.) of non-expansive fill or lime treating the upper 12-inches of native fill, (iv) fill materials and compaction criteria, (v) surface drainage and stormwater treatment systems, (vi) pavement

design, (vii) soil corrosivity, (viii) seismic design parameters, and (ix) a section titled “additional geotechnical services.” Each of these nine sections present a series of recommendations that provide criteria for consideration by the developer’s consultant team. We shall not comment on those recommendations, other than to indicate they are preliminary recommendations based on the information available at this time. Rockridge recommends a design level report that will be issued prior to the issuance of construction permits. That scope of that future investigation will include additional subsurface exploration, laboratory testing and engineering analysis. Nevertheless, the recommendations in the current report are consistent with the standard of practice, and will be useful to the County for the purposes of evaluating potential geologic hazards. Table 1 is intended to highlight and summarize (not supersede) the hazards evaluation of Rockridge, but the discussion includes additional comments of DMA. The intent of this table is to address the range of geologic hazards addressed by Appendix G of the State CEQA Guidelines.

**Table 1**  
**Geologic Hazards Assessment**

**Surface Fault Rupture**

Table 1 of the Rockridge report indicates the distance of the site from regional faults. The nearest active fault is the Concord –Green Valley fault zone which is indicated to pass within approximately 2.2 miles of the site. Moreover, geologic mapping of the USGS indicates there are no known inactive or dormant faults that cross the property. In summary, the risk of surface fault rupture can be considered to be very low. No further evaluation of fault hazards is recommended.

**Seismicity/ Ground Shaking**

The San Francisco Bay Region is considered one of the most seismically active regions of the United States. Consequently, it can be assumed that the proposed improvements will be subject to one or more major earthquakes during their useful life. Earthquake intensities vary depending on numerous factors, including (i) earthquake magnitude, (ii) distance of the site from the causative fault, (iii) geology of the site. The USGS has stated that there is a 72 percent chance of at least one magnitude 6.7 or greater earthquake striking the Bay Region between 2014 and 2043.<sup>14</sup> Rockridge concludes that the potential exists for a large earthquake to induce strong to very strong ground shaking at the site during the life of the project. The Safety Element includes a figure titled “Seismic Ground Response” (General Plan, page 10-13). This map classifies the site as *moderately low* damage susceptibility. This designation is applied to building site located in areas of Pliocene age as well as Pleistocene alluvial deposits. The risk of structural damage from earthquake ground shaking is controlled by building and grading regulations. The California Building Code (CBC) mandates that for structures requiring building permits (including the proposed residential buildings, retaining walls over 3 ft. in height and most types of accessory structures), their design is required take into account foundation conditions, proximity of active faults and their associated ground shaking characteristics. The Rockridge Geotechnical presents CBC seismic design parameters for the project in their report Those parameters must be used by the structural engineer in the design of civil engineering structures. With conservative design and quality construction, ground shaking damage can be kept to a practical minimum.

**Landslides and Slope Stability**

The Safety Element of the General Plan includes a landslide map that was based on landslide mapping of a well-qualified, experienced USGS Geologist (Nilsen, 1975). According to that map there are no landslides within ½ mile of the site. The investigation of Rockridge Geotechnical indicates the site is mantled by moderately expansive soils that have developed on what is inferred to be Pleistocene (or older) alluvial deposits. No evidence of existing shallow or deep-seated instability on the site was reported by the project geotechnical engineer. Consequently, the risk of landslides can be considered to be less-than-significant.

<sup>14</sup> Aagaard, Blair, Boatwright, Garcia, Harris, Michael, Schwartz, and DeLeo, 2016, *Earthquake Outlook for the San Francisco Bay Region, 2014-2043*, USGS Fact Sheet 2016-3020, revised August 2016; ver. 1.1)



### **Liquefaction and Associated Hazards**

According to the Safety Element (p. 10-15), the site is chiefly within an area that is rated "moderate to low" liquefaction potential. By intent, the Safety Element map is conservative on the site of safety. It is used as a "screening criteria" by the County. Because risks are considered relatively low, at least qualitative geotechnical evaluation of this hazard is required for land development projects. It should be noted that Late Pleistocene alluvium is generally regarded as too well consolidated to be subject to liquefaction.

The scope of the Rockridge investigation included analysis the liquefaction potential, utilizing data on the engineering properties of the soils penetrated by the CPT probes. Based on an assumed depth to the water table of 10 ft., and a peak ground acceleration of 0.76g, the geotechnical engineer's analysis determined that there are some isolated, thin lenses of sand which are considered to be a candidates for liquefaction. These lenses are encapsulated by non-liquefiable sediments. The analysis performed by Rockridge Geotechnical concludes the following: (i) total settlement is forecasted to be less than 0.5 inches, (ii) differential settlement over a horizontal distance of 30 ft. is forecasted to be less than 0.25 inches, (iii) due to the thickness of the non-liquefiable overburden material, the risk of a surface manifestation of liquefaction (e.g. sand boils, ground waves, ground cracks) is rated low, and (iv) because of soils are cohesive, and relatively dense, the risk of a lateral spreading failure is rated low. No further evaluation of liquefaction is recommended by the project geotechnical engineer.

### **Cyclic Densification**

Cyclic densification, also referred to as differential compaction, is a hazard where relatively loose, thick sands are present that are above the water table. Earthquake shaking of such deposits can resulting in consolidation of the sands and associated ground surface settlement. Based on the engineering properties of the soil and alluvial deposits that underlie the site, Rockridge Geotechnical concludes these earth materials are too cohesive and too well consolidated to be candidates for cyclic densification (i.e. the risks are rated very low).

### **Erosion Hazard / Slope Maintenance**

The Soil Survey considers the soil series that occurs on the site to present a moderate to high erosion hazard when the soil is bare. All upland sites require effective drainage and erosion control measures as well as a long-term commitment to maintenance to control erosion. Geotechnical engineers routinely require positive drainage away from foundations, and generally oppose use of pressurized irrigation systems immediately adjacent to foundations. The Grading and Drainage Plan for the project indicates a graded 2:1 slope that wraps around the south, east and northeast portions of the site. This slope ranges up to 6½ ft. Although the risk of the project being impacted by a landslide can be considered negligible, slope creep is a potential hazard. It typically occurs on slopes underlain by expansive clays, and the downslope movement includes both lateral and vertical components. Slope creep is a slow process, typically involving a small fraction of an inch per year; however, this movement accumulates over the years and can result in several inches of lateral and vertical movement over the life of a structure. Rockridge Geotechnical has proposed measures to control the risk of slope creep. Those measures include setback of shallow foundations from the slope, and special construction measures where the recommended setback conflicts with project objectives (see the discussion of "expansive soils," which is presented later in this table ). It can be anticipated that the Building Inspection Division of DCD will require an Erosion Control Plan as a part of the Grading Permit, which will address short-term construction-related erosion.

### **Stormwater Control**

The project includes four, relatively small bio-retention facilities. The intent of these C.3 basins is to slow runoff, encourage infiltration, encourage evaporation and transpiration, and trap sediment. The design details for the bio-retention basins are subject to technical review by Clean Water Program staff in the Public Works Department. From a geologic perspective, a primary concerns with bio-retention structures are (i) providing suitable support for foundations and curbs constructed near the bio-retention facilities,

and (iii) potential for subsurface water from the bio-retention areas to migrate (and possibly build up) beneath pavements and the proposed buildings. Specific criteria and standards for the siting and design of such facilities are needed from the geotechnical engineer. In this case, four small bio-retention basins, along with 9 residential lots, and a private road are proposed on a ½ acre site. The basins shown on the VTM are immediately adjacent to proposed curbs, pavement, walkways and/or foundations. Rockridge Geotechnical has reviewed the location and design of these structures, and provides recommendations aimed at keeping the basins from creating moist/wet conditions beneath slabs. In the opinion of DMA, there are several issues that are not resolved, and which need to be addressed by the CEQA document for the project and the Conditions of Approval. If the basins are to function as designed, there must be a long-term commitment to maintenance. The small basins have extremely limited capacity. They would require at regular maintenance, and are vulnerable to modification by the property owners who may desire to create useable rear yard area. Finally, even with implementation of the recommendation of the project geotechnical engineer, there is residual risk of damage to improvements located adjacent to the small bio-retention basins (i.e. foundations, flatwork, and the privately maintained road). It is our suggesting that all needed basin capacity be provided at a single basin located on Lot #9. Ideally the basin will be oversized to reduce its dependence of regular maintenance. Objective criteria should be provided to determine when removal of sediment is required (e.g. a standpipe in the basin with a red line; when sediment accumulation reaches the red line sediment removal must be performed). The entity having responsibility for maintenance should be provide with a budget for maintenance, schedule for inspections, a list of items to be inspected, and a form for documentation of the inspection and the recommended maintenance and a reporting procedure.

#### **Expansive Soils**

The Rockridge investigation confirms the soils have a moderate expansion potential. To mitigate the hazard posed by the expansion potential, alternative foundation types have been identified that could be employed to mitigate the effects of expansive soils (i.e. deepened spread footings, stiffened shallow foundations, or drilled, cast-in-place concrete piers). The report goes on to indicate that the most appropriate foundation system for the residences would be a well-reinforced mat foundation with the edge of the mat deepened to reduce the potential for water infiltration. Parameters are provided for the design of the mat, but concerns identified are (i) proximity of any C.3 bio-retention facilities to the foundation, and (ii) setback of the foundation from slopes. The mitigation measures recommended for bio-retention facilities was a required setback from an imaginary slope with a 1½:1 (h:v) gradient from the bottom of the bio-retention facility. To avoid/ mitigate the effects of slope creep, Rockridge Geotechnical recommends a minimum setback of 10 ft. of foundations from engineered slopes. If that setback is not consistent with project objectives, the geotechnical engineer recommended use of either (i) drilled, cast-in-place concrete pier foundation system, or (ii) buried stitch wall. The geotechnical engineer has provided recommendations for a capillary break under the concrete mat foundation, and use of a concrete mix which has a low water/cement ratio to aid in minimizing the time required for the concrete to cure.

#### **Corrosive Soils**

Testing of one soil sample collected from hand-auger boring HA-1 is presented in Appendix B. Testing indicates the sample to be "highly corrosive" to buried metal. Because the results of one sample may not be representative on site conditions, Rockridge Geotechnical recommends additional testing be performed during the final investigation to confirm/ modify these preliminary results. (Note: in the experience of DMA, some subdivisions in the County have encountered lot-to-lot variability in corrosivity. To avoid the need for testing of each building pad following rough grading, some projects have over-excavated cut pads and brought the all pads to final grade using a blended fill soil with uniform corrosion and expansion potential.) Additionally, DMA recommends the results of all corrosivity testing be provided to underground and foundation contractors so that suitable measures can be incorporated into project design and construction. DMA also recommend that the Conditions of Approval require submittal of documentation of the steps taken by the developer's corrosion engineering firm/ contractors to respond to this hazard.

## ***DMA Evaluation***

### **1. General**

The immediate need of the Department of Conservation & Development is to determine if there is sufficient data to allow the processing of the pending application, including preparation of the California Environmental Quality Act (CEQA) document. The provisions of CEQA and associated case law acknowledge that final design studies are not needed for the purposes of CEQA compliance. However, there must be sufficient information on the extent of potential geologic and geotechnical hazards, and guidance must be provided to the project designers pertaining to the layout of the planned improvements. Therefore, the type of data needed at this time is limited to evaluation of the project plans by the geotechnical engineers. In this case the project is located near the toe of slope, overlooking the floor of the Diablo Valley. In our experience, the County expects the project geologists and geotechnical engineers to provide at least a preliminary evaluation of potential geologic hazards and provide recommendations to mitigate any significant hazards that are present. Appendix G of the CEQA Guidelines issued by the State of California specifies the range of geologic, seismic and geotechnical hazards to be address by the CEQA document (see Table 2).

In our opinion the report of Rockridge Geotechnical is adequate for the limited purposes of preparing the "Geology and Soil" Chapter of the CEQA document. Table 1 of this peer review letter provides an overview of the hazards assessment that is based on the investigation of Rockridge in combination with our evaluation/ input.

**TABLE 2**  
***Significance Criteria for Assessment***  
***of Potential Geologic Impacts***

Appendix G of the CEQA Guidelines identifies environmental issues to be considered when determining whether a project could have significant effects on the environment. As identified in Appendix G, a project would have a significant impact to geology and soils if it would:

- 1) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - a) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
  - b) Strong seismic ground shaking; c) Seismic-related ground failure, including liquefaction; or d) Landslides;
- 2) Result in substantial soil erosion or the loss of topsoil;
- 3) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- 4) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or
- 5) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

### **2. Future Geotechnical Investigation**

It should be recognized that the 2017 investigation of Rockridge Geotechnical was not intended for issuance of construction permits. It was intended to (i) provide an assessment of potential geologic,

seismic and geotechnical hazards, and (ii) provide preliminary recommendations to serve as guidance to their client. Ultimately, a final investigation must be performed. We envision the required report shall provide supplemental subsurface exploration, laboratory testing and engineering analysis, along with review of project design drawings. With this background, the project geotechnical engineer will be able to provide updated/ modified/ expanded design recommendations. With regard to timing of the investigation, it is our opinion that it be performed prior to recordation of the Final Subdivision Map. For your consideration we have draft of the "Geology and Soils" Mitigation Measures/ Conditions of Approval for the project, which are presented in Table 3.

**Table 3**  
***DMA Recommended Mitigation Measures***

**Geology 1:**

The update geotechnical report shall include the following: (i) review of project grading and drainage plans, including the siting and design of C.3 bio-retention facilities, (ii) present California Building Code Seismic Design Parameters, (iii) provide geotechnical recommendations pertaining to site clearing, grading, foundations design, slabs-on-grade, pavement, flat work and drainage (iv) outline details of the proposed observation/ monitoring/ testing services recommended during construction. The geotechnical monitoring during construction shall commence with clearing, and extending through grading, installation of drainage facilities, and foundation-related work. The required geotechnical update report shall be subject to technical review by the County Peer Review Geologist, and for review and approval by the Department of Conservation and Development.

**Geology 2:**

The update geotechnical report shall include additional corrosivity testing to determine if special precautions shall be required to avoid damage to improvements that are in contact with the ground (concrete or steel). Following rough grading (but prior to commencement of foundation-related work) additional testing of each building pad can be triggered by the County if deemed to be necessary.

**Geology 3:**

Prior to the issuance of building permits, the project geotechnical engineer shall certify that lot preparation work is in compliance with recommendations in the approved geotechnical report.

**Geology 4:**

During foundation work the project geotechnical engineer shall provide observation services to ensure the geotechnical recommendations are properly interpreted and implemented by the contractors. Prior to requesting a final building inspection, the Building Inspection may require documentation of the geotechnical engineer's observation services during final grading foundation work/ lot drainage. The intent of such documentation is to ensure that the lot/ building improvements are in conformance with recommendations in the approved geotechnical report.

***Limitations***

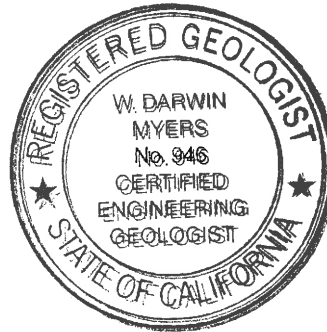
The purpose of our review was to provide a professional opinion on the adequacy of the documents provided by the applicant for limited purposes of deeming the application complete. Specifically, we provide technical advice to assist the Current Planning Division with discretionary permit decisions. Our services have been limited to interpretation of 1973 aerial photographs and review of the referenced reports and maps. Our opinions and conclusions are made in accordance with generally accepted principles and practices of the engineering geology profession.

We trust this letter provides the evaluation and comments that you requested. Please call if you have any questions, or if we can be of assistance during the continued processing of this application.

Sincerely,  
DARWIN MYERS ASSOCIATES



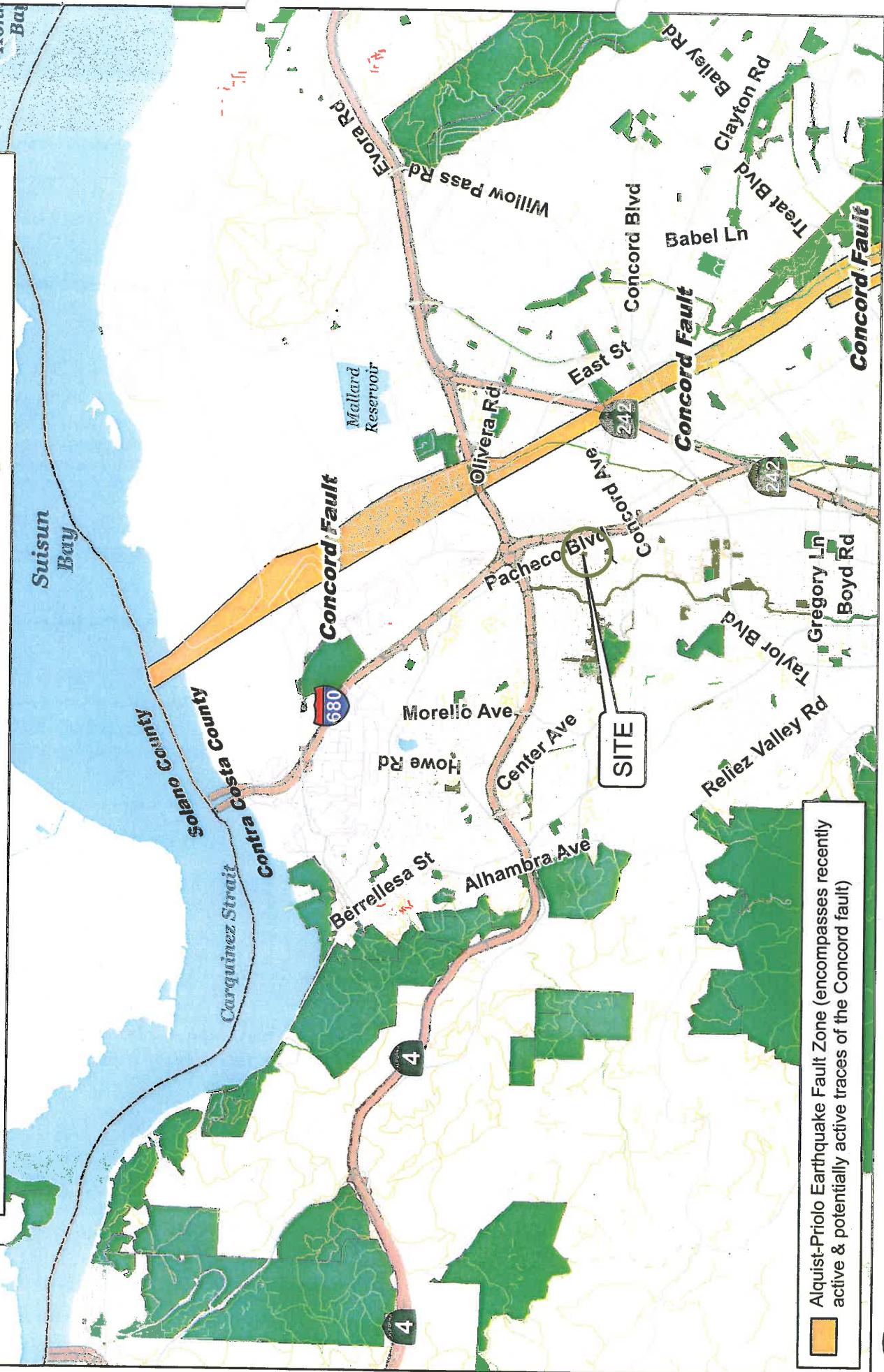
Darwin Myers, CEG 946  
Principal



cc. Nestor Baligod, Sr. Grading Inspector, Building Inspection Division, DCD  
Craig Shields, Rockridge Geotechnical, 270 Grand Avenue, Oakland, CA 94610  
Arete, Inc. 1812 Galindo Street, Concord, CA 94520  
Andy Akay, Center Avenue, LLC, 523 Freya Way, Pleasant Hill, CA 94523  
Luk & Associates, 738 Alfred Nobel Drive, Hercules, CA 94547



**Figure 1: SD17-9466 Vicinity Map with Alquist-Priolo Zones**



Alquist-Priolo Earthquake Fault Zone (encompasses recently active & potentially active traces of the Concord fault)

0 0.5 1 2 Miles



Map Created 5/9/2017  
by Contra Costa County Department of  
Conservation and Development, GIS Group  
30 Miles from 37°59'41.79"N 122°07'00.75"W

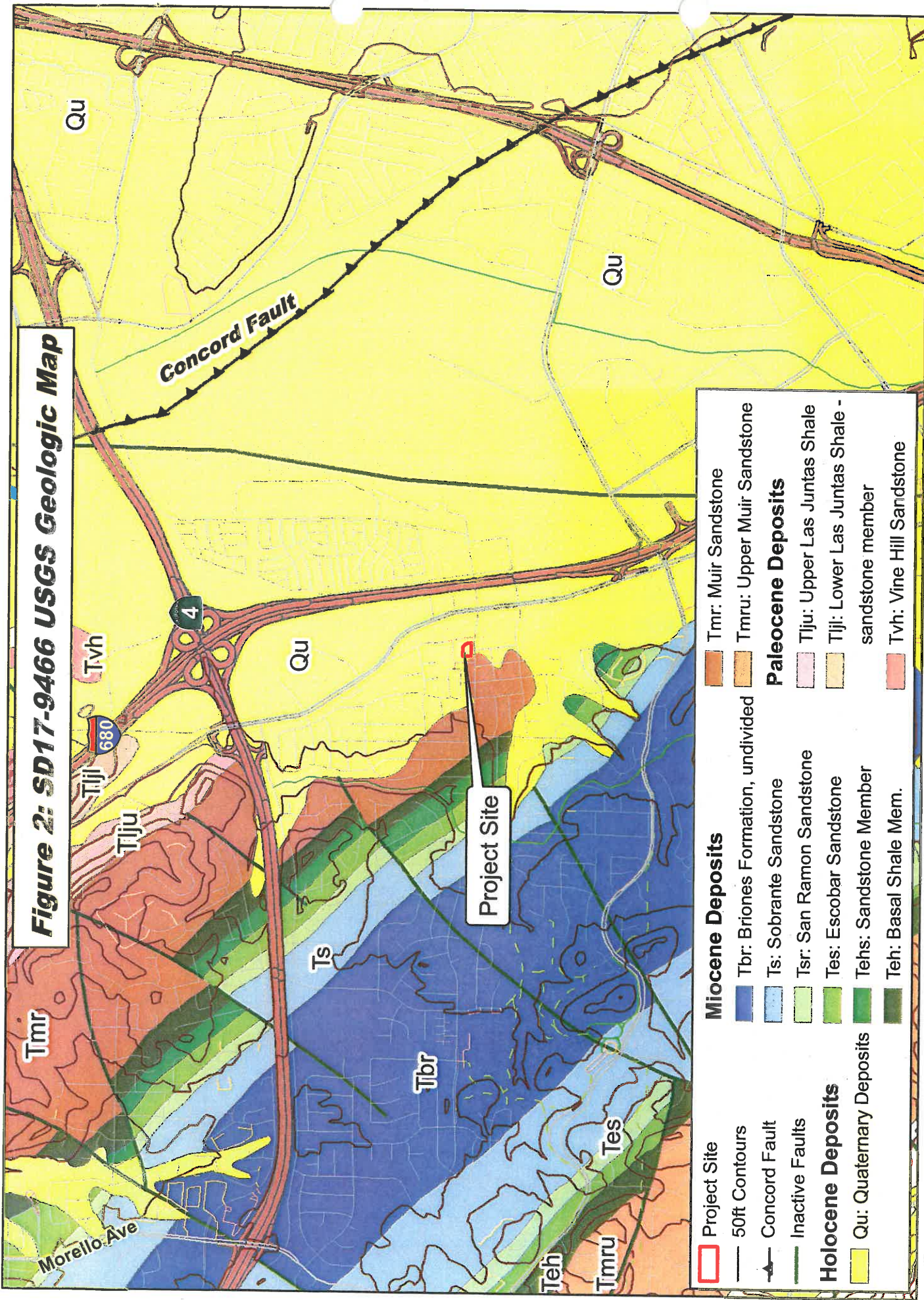
This map was created by the Contra Costa County Department of Conservation and Development with data from the Contra Costa County Assessor's Office. Some base data, primarily City Limits, is derived from the CA State Board of Equalization's tax rate areas. While obligated to use this data the County assumes no responsibility for its accuracy. This map contains copyrighted information and may not be altered. It may be reproduced in its current state if the source is cited. Users of this map agree to read and accept the County of Contra Costa disclaimer of liability for geographic information.

Source: California Geologic Survey  
2007 Special Publication 42





**Figure 2: SD17-9466 USGS Geologic Map**



<span style="border: 1px solid red; display: inline-block; width: 10px; height: 10px;"></span> Project Site	<span style="display: inline-block; width: 10px; height: 10px; background-color: #c0504d;"></span> Tmr: Muir Sandstone
<span style="display: inline-block; width: 10px; height: 10px; background-color: #4682b4;"></span> 50ft Contours	<span style="display: inline-block; width: 10px; height: 10px; background-color: #f4a460;"></span> Tmru: Upper Muir Sandstone
<span style="display: inline-block; width: 10px; height: 10px; background-color: #87ceeb;"></span> Concord Fault	<b>Paleocene Deposits</b>
<span style="display: inline-block; width: 10px; height: 10px; background-color: #90ee90;"></span> Inactive Faults	<span style="display: inline-block; width: 10px; height: 10px; background-color: #f08080;"></span> Tlju: Upper Las Juntas Shale
<b>Holocene Deposits</b>	<span style="display: inline-block; width: 10px; height: 10px; background-color: #f5deb3;"></span> Tlji: Lower Las Juntas Shale - sandstone member
<span style="display: inline-block; width: 10px; height: 10px; background-color: #ffff00;"></span> Qu: Quaternary Deposits	<span style="display: inline-block; width: 10px; height: 10px; background-color: #f08080;"></span> Tv: Vine Hill Sandstone
<span style="display: inline-block; width: 10px; height: 10px; background-color: #4682b4;"></span> Tbr: Briones Formation, undivided	
<span style="display: inline-block; width: 10px; height: 10px; background-color: #87ceeb;"></span> Ts: Sobrante Sandstone	
<span style="display: inline-block; width: 10px; height: 10px; background-color: #90ee90;"></span> Tsr: San Ramon Sandstone	
<span style="display: inline-block; width: 10px; height: 10px; background-color: #3cb371;"></span> Tes: Escobar Sandstone	
<span style="display: inline-block; width: 10px; height: 10px; background-color: #228b22;"></span> Tehs: Sandstone Member	
<span style="display: inline-block; width: 10px; height: 10px; background-color: #006400;"></span> Teh: Basal Shale Mem.	



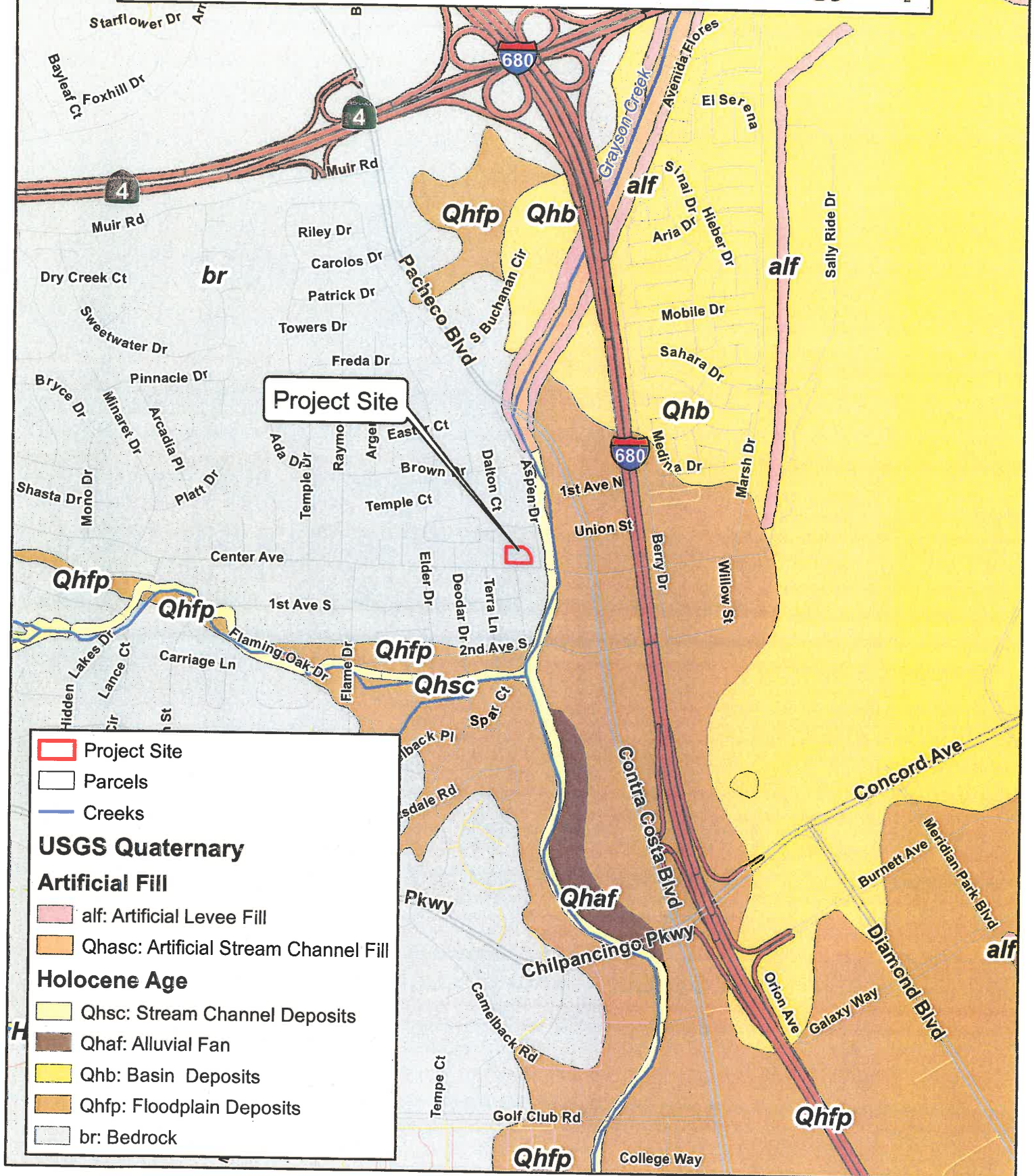
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Map Created 5/9/2017  
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30 Muir Road, Martinez, CA 94553  
37:59:41.791N 122:07:03.756W





**Figure 3: SD17-9466 USGS Quaternary Geology Map**



Project Site

Parcels

Creeks

### USGS Quaternary

#### Artificial Fill

alf: Artificial Levee Fill

Qhasc: Artificial Stream Channel Fill

#### Holocene Age

Qhsc: Stream Channel Deposits

Qhaf: Alluvial Fan

Qhb: Basin Deposits

Qhfp: Floodplain Deposits

br: Bedrock

0 500 1,000 2,000 Feet

Map Created 5/9/2017  
by Contra Costa County Department of  
Conservation and Development, GIS Group  
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37.59:41.791N 122.07:03.756W

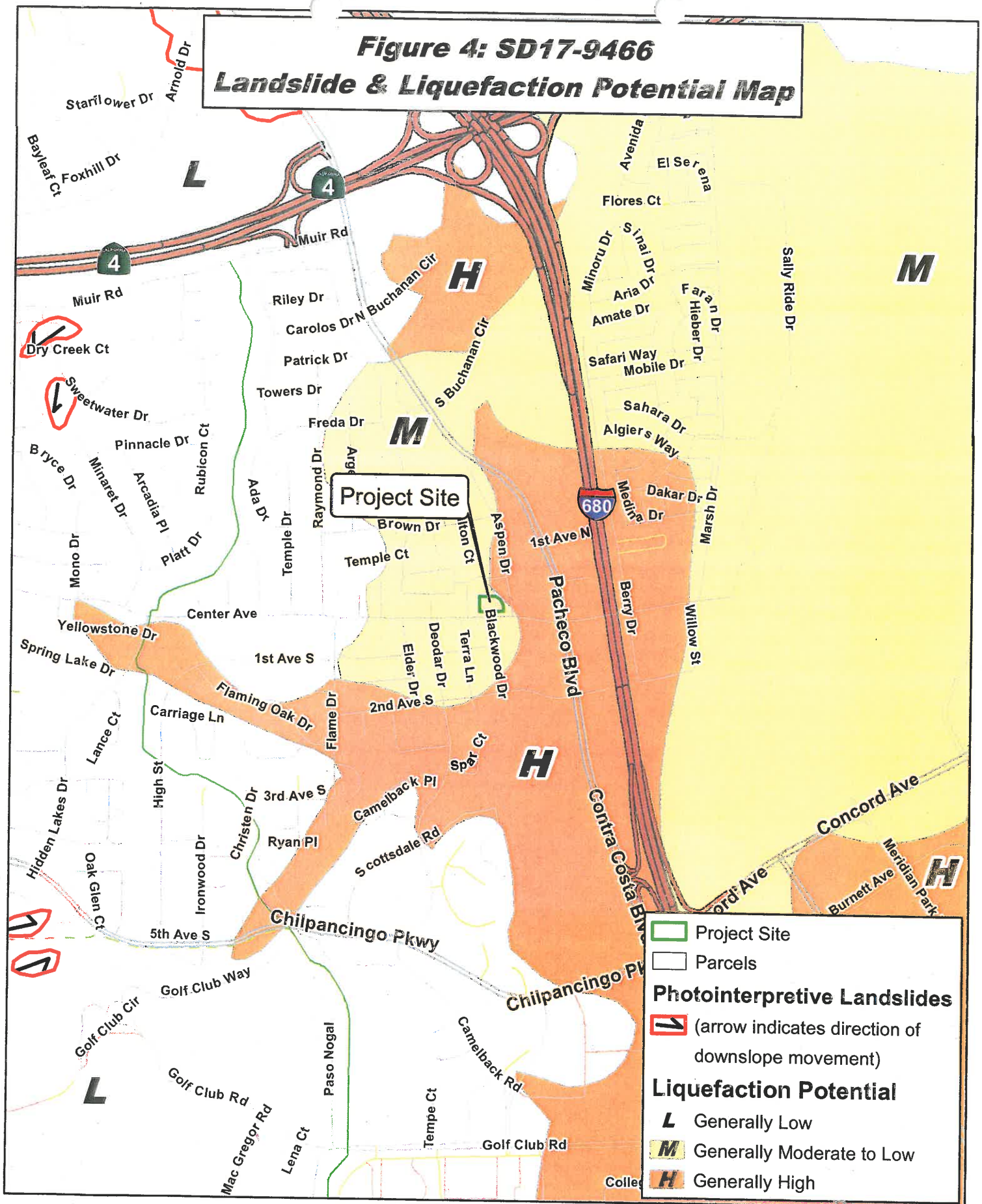
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Source: USGS Open File Map 97-98



**Figure 4: SD17-9466**  
**Landslide & Liquefaction Potential Map**



0 500 1,000 2,000 Feet

Safety Element, pages 10-15 & 10-24

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## Jennifer Cruz

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**From:** Antonio Ruiz <aruiz@wiltonrancheria-nsn.gov>  
**Sent:** Tuesday, October 23, 2018 4:06 PM  
**To:** Jennifer Cruz; Ed Silva  
**Subject:** RE: Notice of Opportunity to Request Consultation

Hello Ms. Cruz,

This email is to acknowledge that Wilton Rancheria has received notice of the proposed referenced project stated above.

After review, the only concern that the Tribe has with the above projects is that when ground disturbance occurs, even in areas of existing or prior development, there is a possibility that Native American artifacts and/or human remains may be uncovered. Therefore, the Applicant should immediately stop construction and notify Wilton Rancheria and the appropriate Federal and State Agencies. Such provisions are stated in the; Archaeological Resources Protection Act (ARPA) [16 USC 469], Native American Graves Protection and Repatriation Act (NAGPRA) [25 U.S.C. 3001-30013], Health and Safety Code section 7050.5, and Public Resources Code section 5097.9 et al.

Should further information or comment be required, please do not hesitate to contact me.

Thank you,  
Antonio, Tribal Historic Preservation Officer



Antonio Ruiz  
Cultural Resources Officer  
Department of Environmental Resources | Wilton Rancheria  
Tel: 916.683.6000 Ext. 2005 | Fax: 916.683.6015  
9728 Kent Street | Elk Grove | CA | 95624  
aruiz@wiltonrancheria-nsn.gov  
www.wiltonrancheria-nsn.gov

Customer Service Hours: M-F 8:00am-3:00pm.

Please be aware phone calls and emails will be answered only during these hours.

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## Jennifer Cruz

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**From:** Vince Robb <vince\_40@comcast.net>  
**Sent:** Wednesday, February 13, 2019 8:40 PM  
**To:** Jennifer Cruz; Lynn Reichard; Shawn Garcia  
**Subject:** RE: Comments on SD17-9466; 214 Center Avenue, Pacheco

Hi Jennifer,

In regards to the proposed 8 lot townhouse development at 214 Center Ave in Pacheco, the only comment/concern that the PMAC has is that normal traffic flow in that area is not to be disrupted any more than absolutely necessary during construction. Namely at the intersection of Aspen and Center Ave.

The owner/developer answered the rest of our questions and concerns at our meeting.

Thank You,

Vince Robb  
Pacheco MAC Chair  
925-286-1461