

**OTAY MESA CENTRAL VILLAGE
SPECIFIC PLAN
SAN DIEGO, CALIFORNIA**



GEOCON
INCORPORATED

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

PREPARED FOR

**COLRICH
SAN DIEGO, CALIFORNIA**

PROJECT NO. 07254-42-04



Project No. 07254-42-04
July 8, 2015

ColRich
444 West Beech Street, Suite 300
San Diego, California 92101

Attention: Ms. Rita Mahoney

Subject: UPDATE LETTER
OTAY MESA CENTRAL VILLAGE SPECIFIC PLAN
SAN DIEGO, CALIFORNIA

- References:
1. *EIR:-Level Update Geotechnical Report, Otay Mesa Community Plan Update, San Diego, California*, prepared by Geocon Incorporated, dated October 9, 2012 (Project No. 07254-42-03).
 2. *Conceptual Land Use Plan, Central Village Specific Plan*, prepared by T & B Planning, Inc.

Dear Ms. Mahoney:

In accordance with your request, we herewith present this update to the referenced geotechnical report (Reference 1). To prepare this update we have reviewed Reference 2 and have performed a site visit.

The approximately 182 acre site is located generally on the flat mesa top near the intersection of Airway Road and Cactus Road in San Diego, California. Based on Reference 2, the site is planned for development of approximately: 52 acres of mixed-use properties; 86 acres of low to high density, multi-family, residential properties; 31 acres of open space and park; and a 13 acre school/park site.

Based on our review of the referenced documents and our site visit, it is our opinion that the conclusions and recommendations presented in Reference 1 are valid for the proposed development as shown on the conceptual land use plan; therefore, this letter updates the referenced report with respect to the Central Village Specific Plan.

Should you have any questions regarding this proposal, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON INCORPORATED

Garry W. Cannon
CEC 2201, RCE 56468

GWC:RCM:dmc

(3) Addressee

Rodney C. Mikesell
GE 2533





Project No. 07254-42-04
February 1, 2016

ColRich
444 West Beech Street, Suite 300
San Diego, California 92101

Attention: Ms. Rita Mahoney

Subject: 2ND UPDATE LETTER
OTAY MESA CENTRAL VILLAGE SPECIFIC PLAN
SAN DIEGO, CALIFORNIA

- References:
1. *EIR: Level Update Geotechnical Report, Otay Mesa Community Plan Update, San Diego, California*, prepared by Geocon Incorporated, dated October 9, 2012 (Project No. 07254-42-03).
 2. *Conceptual Land Use Plan, Central Village Specific Plan*, prepared by T&B Planning, Inc.

Dear Ms. Mahoney:

In accordance with your request, we herewith present this update to the referenced geotechnical report (Reference 1). To prepare this update we have reviewed Reference 2.

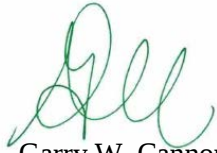
The approximately 229.2-acre site is located generally on the flat mesa top near the intersection of Airway Road and Cactus Road in San Diego, California. Based on Reference 2, the site is planned for development of approximately: 55.8 acres of mixed-use properties; 101.8 acres of low to high density, multi-family, residential properties; 32 acres of open space and parks; 15.5-acre school/recreation site; and 24.1 acres of public roadway.

Based on our review of the referenced documents and our site visit, it is our opinion that the conclusions and recommendations presented in Reference 1 are valid for the proposed development as shown on the conceptual land use plan; therefore, this letter updates the referenced report with respect to the Central Village Specific Plan.

Should you have any questions regarding this proposal, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON INCORPORATED



Garry W. Cannon
CEC 2201, RCE 56468

GWC:RCM:dmc

(3) Addressee
(e-mail) T&B Planning, Inc.
Attention: Ms. Jerrica Harding



Rodney C. Mikesell
GE 2533





Project No. 07254-42-04
June 8, 2016

ColRich
444 West Beech Street, Suite 300
San Diego, California 92101

Attention: Ms. Rita Mahoney

Subject: OTAY MESA CENTRAL VILLAGE SPECIFIC PLAN
SAN DIEGO, CALIFORNIA

- References:
1. *Remaining Cycle Issues DRAFT*, prepared by City of San Diego Development Services, LDR-Geology, Jim Quinn reviewer, dated April 29, 2016.
 2. *2nd Update Letter, Otay Mesa Central Village Specific Plan*, prepared by Geocon Incorporated, dated February 1, 2016 (Project No. 07254-42-04).
 3. *EIR-Level Update Geotechnical Report, Otay Mesa Community Plan Update, San Diego, California*, prepared by Geocon Incorporated, dated October 9, 2012 (Project No. 07254-42-03).
 4. *Central Village Specific Plan, Otay Mesa Community, San Diego, California*, prepared by T&B Planning, Inc., dated February 11, 2016.
 5. *Quaternary Fault and Fold Database of the United States*: U.S. Geological Survey website, <http://earthquakes.usgs.gov/hazards/qfaults>, accessed June 7, 2016.

Dear Ms. Mahoney:

In accordance with your request we have prepared this response to the geotechnical review comments presented in Reference 1. The review comments along with our responses are presented herein.

Issue 4: *Provide a geologic/geotechnical map of the Central Village Specific Plan area:*

Response: The map is provided herein as Figure 1 (Geologic Map) and Figure 2 (Land Use Plan).

Issue 5: *Address the potential for slope instability within or adjacent to the plan area, associated impacts, and potential mitigation measures.*

Response: Two landslides are mapped in the vicinity of the Central Village Boundary. Both are located within the canyon drainage area on the north side of the property (see Figure 1). The head of one of the landslides is mapped within the open space area

of PA 15 (see Figure 2). This suspected landslide does not pose a risk to the planned development as it is adjacent to land designated as open space. The risk associated with ground movement hazard due to landsliding is low.

A second landslide is mapped in the canyon hillside northeast of the Central Village plan area. This suspected landslide is not located in an area that could impact the property, and in our opinion, does not pose a risk to the planned development.

Landslides shown on Figures 1 and 2 are based on published sources or inferred using topography. The shallow, suspected landslides are based on reconnaissance mapping conducted for this report or the City of San Diego Seismic Safety Study (2008) and are not verified by subsurface exploration. As such, the mapped expression of suspected landslides may not be relied upon as definitive of their existence.

We do not expect mitigation measures will be required for the current Central Village Plan area. However, with respect to potential mitigation measures, if landslides are identified during geotechnical investigations in areas that could impact future development, engineered stabilization fills (earthwork or retaining devices) can be utilized to stabilize landslides. A structure/improvement setback from landslide areas is an alternative to engineered stabilization in areas of large landslides where engineered stabilization is not practical.

Issue 6: *Address seismic hazards within the plan area, associated impacts, and potential mitigation measures.*

Response: Review of published geologic literature including the on-line USGS database (Reference 5) shows the subject area is located east of the Quaternary La Nacion fault zone (LNFZ). Unnamed, north and northwest trending, Quaternary faults are shown east of the subject area on the San Diego Seismic Safety Study; however, no faults are mapped that traverse or are trending toward the Central Village Plan area. The risk associated with ground rupture due to faulting is low and we do not expect any associated impacts as a result of faulting. Additionally, mitigation measures due to faulting should not be required due to the absence of faulting on the property.

The nearest known active fault is the Rose Canyon/Newport-Inglewood Fault Zone located approximately 8 miles west of the site. Major earthquakes occurring on the Rose Canyon/Newport-Inglewood Fault Zone, or other regional active faults located in the southern California area, could subject the site to moderate to severe ground shaking.

The potential for liquefaction during a strong earthquake is limited to relatively clean sandy soils in a loose unconsolidated condition located below the water table. Due to the lack of a permanent, near-surface groundwater table and the dense nature of the underlying Very Old Paralic Deposits, San Diego Formation, and Otay Formation that underlies the site, the risk associated with ground movement hazard due to liquefaction and seismically-induced settlement is low.

- Issue 7:** Provide a general discussion of the opportunities and constraints on storm water infiltration BMPs with the plan area and potential for associated impacts.
- Response:** Based on geotechnical investigations performed by Geocon Incorporated in the plan area and our experience with the geologic units on the property, the near surface soils consist of expansive clays that have low permeability and low infiltration characteristics. As such, the native surficial soils are expected to be unsuitable for infiltration of storm-water runoff.
- There may be an opportunity for infiltration into deeper terrace sands and gravels, however, consideration will need to be given to the potential for lateral water migration on the underlying San Diego Formation or Otay Formation bedrock. Future geotechnical studies will be required to assess if infiltration into the deeper terrace deposits is feasible.
- We expect remedial grading will occur to remove the expansive near surface clay across the majority of the site. As such, we expect the majority of the site will be underlain by compacted fill following remedial grading operations. Infiltration into the compacted fill is not recommended as this could result in soil settlement and distress to structural improvements.
- Issue 8:** *Indicate if significant geologic hazards are present that can neither be avoided nor mitigated.*
- Response:** In our opinion there are no significant geologic hazards present within the subject area that cannot be either avoided or mitigated.
- Issue 9:** *Indicate if the proposed land uses are compatible with the known or reasonably anticipated geologic hazards.*
- Response:** Based on Reference 4, the proposed land use is low density multi-family, moderate to high density multi-family and mixed use (commercial), a school/recreation area, streets, parks and open space. It is our opinion that the proposed land use is compatible with known and reasonably anticipated geologic hazards.
- Issue 10:** *Identify any policies or programs of the Specific Plan, which may have direct or indirect significant environmental effects with regards to geologic hazards.*
- Response:** Based on our review of Reference 4, it is our opinion that there are no policies or programs presented in the Specific Plan that may have direct or indirect significant environmental effects regarding geologic hazards.

If there are any questions regarding this response, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON INCORPORATED


Garry W. Cannon
CEG 2201
RCE 56468

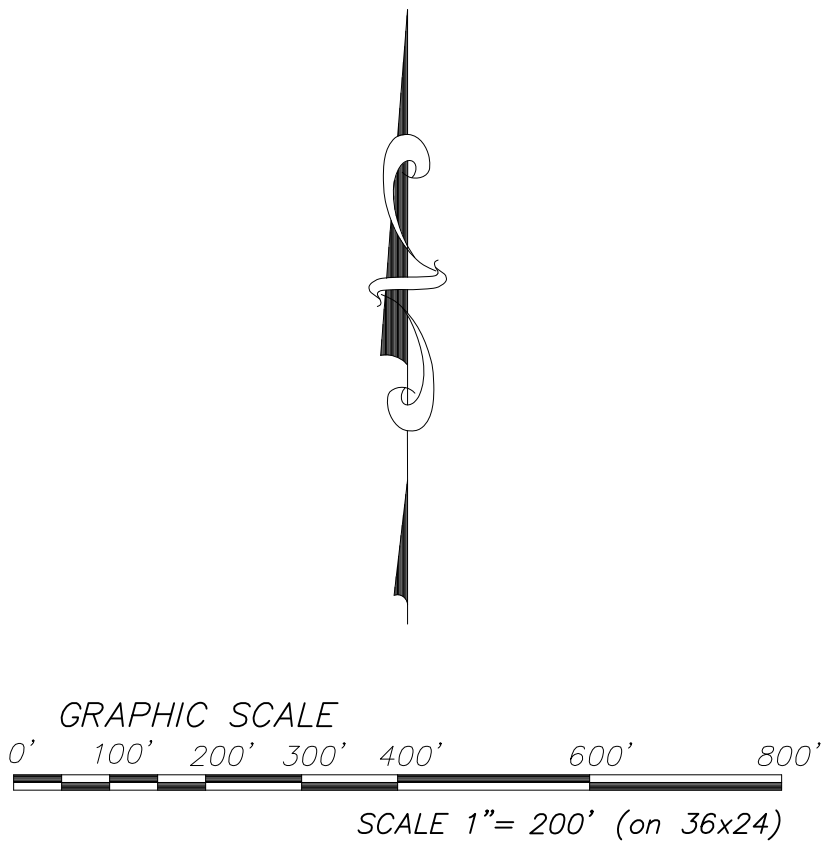
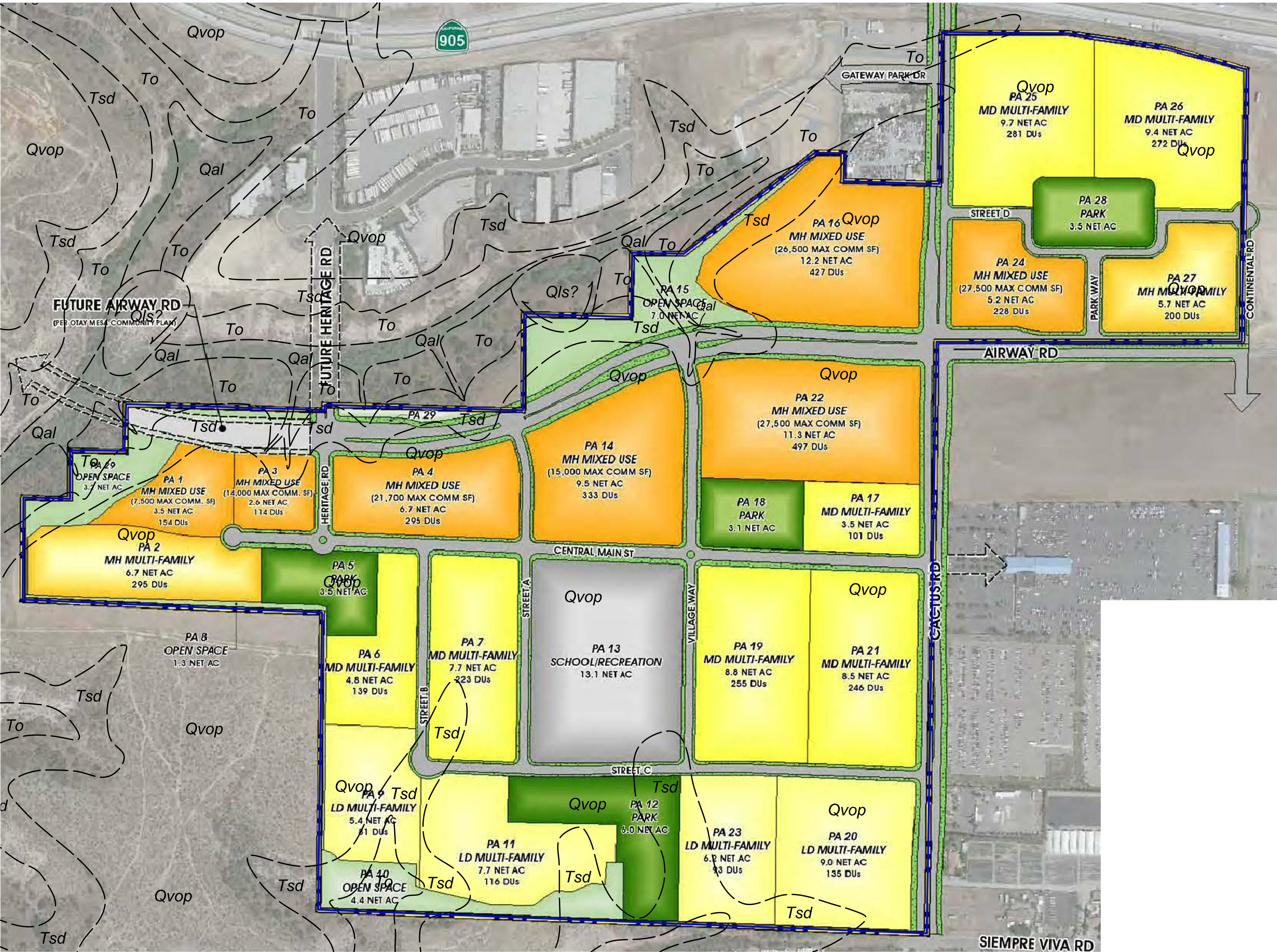



Rodney C. Mikesell
GE 2533



GWC:RCM: dmc

(3/del) Addressee



- GEOCON LEGEND
- Qal.....ALLUVIUM
 - Qls.....LANDSLIDE DEBRIS (Suspected but not confirmed)
 - Qvop.....VERY OLD PARALIC DEPOSITS
 - To.....OTAY FORMATION
 - Tsd.....SAN DIEGO FORMATION
 -APPROX. LOCATION OF GEOLOGIC CONTACT (Queried Where Uncertain)

LAND USE PLAN

OTAY MESA CENTRAL VILLAGE

SAN DIEGO, CALIFORNIA

GEOCON

INCORPORATED

GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

6960 TANDORI DRIVE, SAN DIEGO, CALIFORNIA 92121-2974

PHONE 858 558-6900 • FAX 858 558-6159

SCALE

1" = 200'

DATE

06 - 08 - 2016

PROJECT NO.

07254 - 42 - 04

FIGURE

2

SHEET

1

OF

1

Lightbox

Path: \\G0505010\1250PM1\Bj\ALV\RELA\RELO\1\Fig\Location\PROJECTS\07254-42-04\Central Village\Sheet\07254-42-04 Land Use.dwg



Project No. 07254-42-04
October 3, 2016

ColRich
444 West Beech Street, Suite 300
San Diego, California 92101

Attention: Ms. Rita Mahoney

Subject: RESPONSE TO COMMENTS
OTAY MESA CENTRAL VILLAGE SPECIFIC PLAN
SAN DIEGO, CALIFORNIA

- References:
1. *Remaining Cycle Issues DRAFT*, prepared by City of San Diego Development Services, LDR-Geology, Jim Quinn reviewer, dated September 14, 2016;
 2. *Otay Mesa Central Village Specific Plan, San Diego, California*, prepared by Geocon Incorporated, dated June 8, 2016 (Project No. 07254-42-04).

Dear Ms. Mahoney:

In accordance with the request of Ms. Jerrica Harding (T&B Planning) we have prepared this response to the geotechnical review comments presented in Reference 1. The review comments along with our responses are presented herein.

Issue 14: *The project's geotechnical consultant addressed existing landslides, but did not address the potential for slope instability within the planning areas. As previously requested, address the potential for slope instability within the planning areas, associated impacts, and potential mitigation measures.*

Response: The highest risk associated with landslide hazard at the subject site occurs on slopes composed of the Tertiary-age Otay Formation. This condition occurs only along the northern border of the site.

As previously stated in Reference 2, two landslides are mapped within the canyon drainage area on the north side of the property, both occur within slopes mapped as Otay Formation. Bentonite layers within the Otay Formation can contribute to slope instability.

One of the mapped landslides is located, partially, within the designated open space area of PA 15 and does not pose a risk to the planned development. The second landslide is mapped in the canyon hillside northeast of and cross-canyon from the subject site and does not impact the property. The locations of these landslides are based on reconnaissance mapping conducted for our previously submitted report and the City of San Diego Seismic Safety Study (2008) and have

not been verified by subsurface exploration. As such, the mapped expression of suspected landslides should not be relied upon as definitive of their existence.

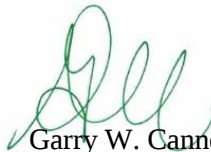
The remainder of the site is either flat or adjacent to slopes mapped as Tertiary-age San Diego Formation, which poses a low risk regarding landslide hazard. Also, the drainages along the southern boundary will likely be filled during site development.

It is our opinion that the risk associated with landslide hazard of the Otay Central Village Specific Plan is low; however, should landslides be identified during future geotechnical investigations or grading in areas that could impact development, engineered stabilization fills (earthwork or retaining devices) can be utilized to stabilize landslides. A structure/improvement setback from landslide areas is an alternative to engineered stabilization in areas where engineered stabilization is not deemed practical.

If there are any questions regarding this response, or if we may be of further service, please contact the undersigned at your convenience.

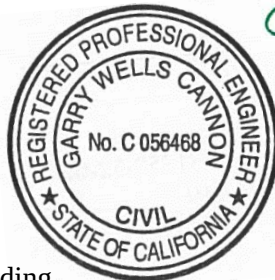
Very truly yours,

GEOCON INCORPORATED


Garry W. Cannon
CEG 2201
RCE 56468

GWC:RCM:dmc

(e-mail) Addressee
(e-mail) T&B Planning
Attention: Ms. Jerrica Harding




Rodney C. Mikesell
GE 2533





Project No. 07254-42-04
January 17, 2017

ColRich
444 West Beech Street, Suite 300
San Diego, California 92101

Attention: Ms. Rita Mahoney

Subject: 2nd RESPONSE TO CITY OF SAN DIEGO REVIEW COMMENTS
OTAY MESA CENTRAL VILLAGE SPECIFIC PLAN
SAN DIEGO, CALIFORNIA

- References:
1. *Remaining Cycle Issues DRAFT*, prepared by City of San Diego Development Services, LDR-Geology, Jim Quinn reviewer, dated January 5, 2017;
 2. *Response To Comments, Otay Central Village Specific Plan, San Diego, California*, prepared by Geocon Incorporated, dated October 3, 2016 (Project No. 07254-42-04);
 3. *Central Village Specific Plan, Otay Mesa Community, San Diego, California*, prepared by T&B Planning, Inc., dated February 11, 2016;
 4. *Otay Mesa Central Village Specific Plan, San Diego, California*, prepared by Geocon Incorporated, dated June 8, 2016 (Project No. 07254-42-04).
 5. *EIR-Level Update Geotechnical Report, Otay Mesa Community Plan Update, San Diego, California*, prepared by Geocon Incorporated, dated October 9, 2012 (Project No. 07254-42-03);
 6. *Otay Mesa Community Plan Update*, April 6, 2011 Public Draft.

Dear Ms. Mahoney:

In accordance with your request, we have prepared this response to the geotechnical review comments presented in Reference 1. The review comments along with our responses are presented herein.

Issue 17: *In their response to comments date October 3, 2016 [Reference 2], the project's geotechnical consultant opines that the risk associated with landslide hazard of the Otay Central Village Specific Plan [Reference 3] is low. However, the geologic map included in their report dated October 9, 2012 [Reference 4] indicates that landslides are suspected along the canyon slope in the northern portion of the of the Specific Plan area. The project's geotechnical consultant should indicate if slope stabilization will be necessary to support the improvements.*

Response: We have performed a site reconnaissance and reviewed aerial photographs specific to the proposed alignment of the Airway Road extension, as shown in Reference 3. Based on this review, it is our opinion that there is not convincing evidence to confirm

the presence of the conjectured landslide shown on Figure No. 1. It is also our opinion that, if this conjectured feature is present, its closest horizontal proximity to the proposed roadway is at least 150 feet and the likelihood of the slide impacting the proposed roadway in this area is low. It is our opinion that slope stabilization should not be required to support the proposed roadway improvements.

Issue 18: *Section 6.1.3 of the geotechnical report dated October 9, 2012 [Reference 5] indicates if development is planned with in these suspected landslide zones, subsurface studies should be performed to establish their geometry and depth. Those studies should be conducted at this time if necessary to address potential impacts, mitigation measures, or alternative.*

Response: Reference 5 provides preliminary recommendations pertinent for the overall development area shown on Reference 6. This plan encompasses a much larger area than Central Village (Reference 4), which is the subject of this response. Although some development on the overall plan may be proposed in suspected landslide areas, the proposed roadway alignment for Central Village is not considered to traverse these zones.

Issue 19: *If stabilization of the slope supporting the planned extension of Airway Road is necessary, identify the approximate limits of grading for the purpose of analyzing the impacts to environmentally sensitive lands.*

Response: We don't anticipate that stabilization of the slopes supporting the extension of Airway Road as shown on Reference 3 will be necessary. A slope stability analysis was performed assuming conservative geotechnical conditions along Cross Sections A-A' and B-B' (see Figure 1). The analysis considered the natural slope configuration and assumed the presence of a horizontal Bedding Parallel Shear (BPS) daylighting along the toe of the north-facing slope. Strength parameters for the bedrock and BPS materials were selected based on our experience with the geologic units in the area. The stability analysis was performed using Geoslope 2007. A graphic summary of the stability analysis is provided on Figures 2 and 3. The location of the stability cross sections are shown on Figure 1. Based on our analysis, the minimum factor of safety for the overall existing hillside at the two cross section locations is at least 1.5 or greater. The stability analysis should be confirmed once grading plans have been prepared and a geotechnical investigation has been performed.

Issue 20: *The project's geotechnical consultant indicates that structure/improvement setbacks is (sic) an alternative if engineered stabilization is not deemed practical. The project's geotechnical consultant should clarify if modifications to the Specific Plan could be necessary;*

Response: Based on the discussion above; our review of available information; and our site reconnaissance, stabilization of the slopes along the extension of Airway Road and improvement setbacks should not be required for the alignment proposed in Reference 3. No modifications to the Specific Plan are expected from a geotechnical engineering standpoint.

If there are any questions regarding this response, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON INCORPORATED


Garry W. Cannon
CEG 2201, RCE 56468

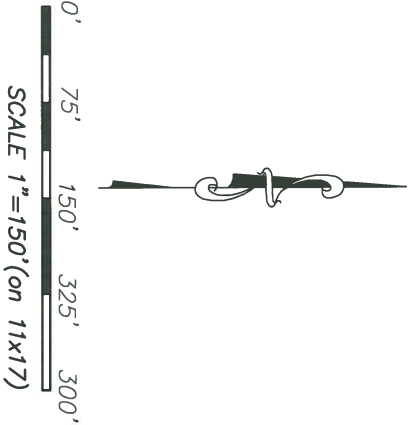

Rodney C. Mikesell
GE 2533



RCM:GWC:ejc

(e-mail) Addressee
(e-mail) T&B Planning
Attention: Ms. Jerrica Harding

OTAY MESA CENTRAL VILLAGE SPECIFIC PLAN
SAN DIEGO, CALIFORNIA



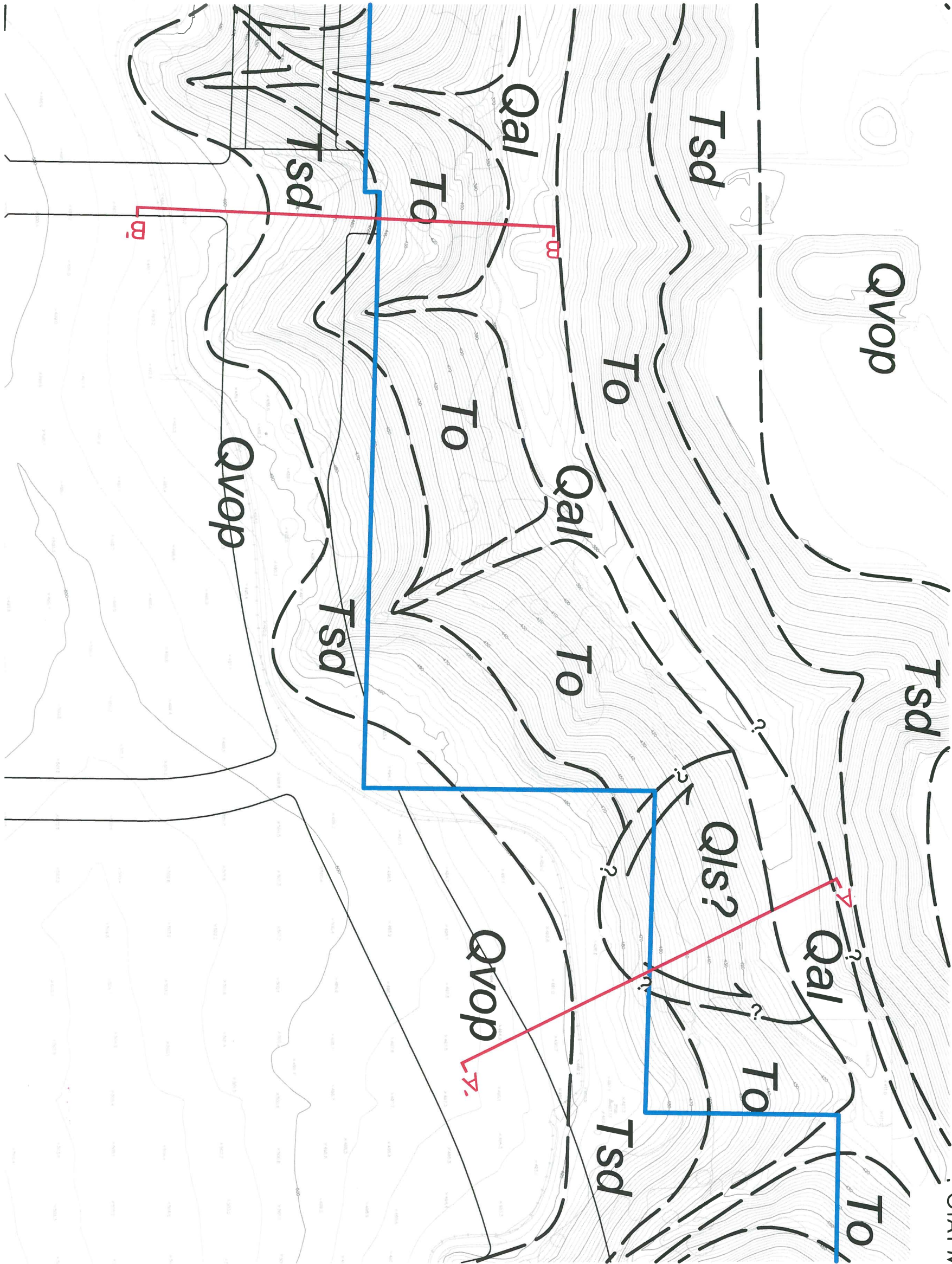
- GEOCON LEGEND**
- Qal**.....ALLUVIUM
- Qls**.....CONNECTURED LANDSLIDE
- Qvop**.....VERY OLD PARALIC DEPOSITS
- To**.....OTAY FORMATION
- Tsd**.....SAN DIEGO FORMATION
-APPROX. LOCATION OF GEOLOGIC CONTACT
(Queried Where Uncertain)
- B**.....SLOPE STABILITY CROSS SECTION

GEOLOGIC MAP

GEOCON
INCORPORATED

GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS
6960 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 297.4
PHONE 858 558-6900 - FAX 858 558-6159
PROJECT NO. 07254 - 42 - 04

FIGURE 1
DATE 01 - 17 - 2017



Otay Mesa Central Village Plan
Project No. 07254-42-04
Section A-A'
Name: A-A(2).gsz
Date: 1/12/2017

Assumed Bedding Plane Shear at Toe of Slope

Name: Qvop - Very Old Terrace Deposits Unit Weight: 125 pcf Cohesion: 100 psf Phi: 33 °
Name: Basal Slip Surface Unit Weight: 110 pcf Cohesion: 150 psf Phi: 10 °
Name: To - Otay Formation Unit Weight: 125 pcf Cohesion: 600 psf Phi: 34 °
Name: Tsd - San Diego Formation Unit Weight: 125 pcf Cohesion: 500 psf Phi: 35 °
Name: Qal - Alluvium Unit Weight: 125 pcf Cohesion: 100 psf Phi: 30 °

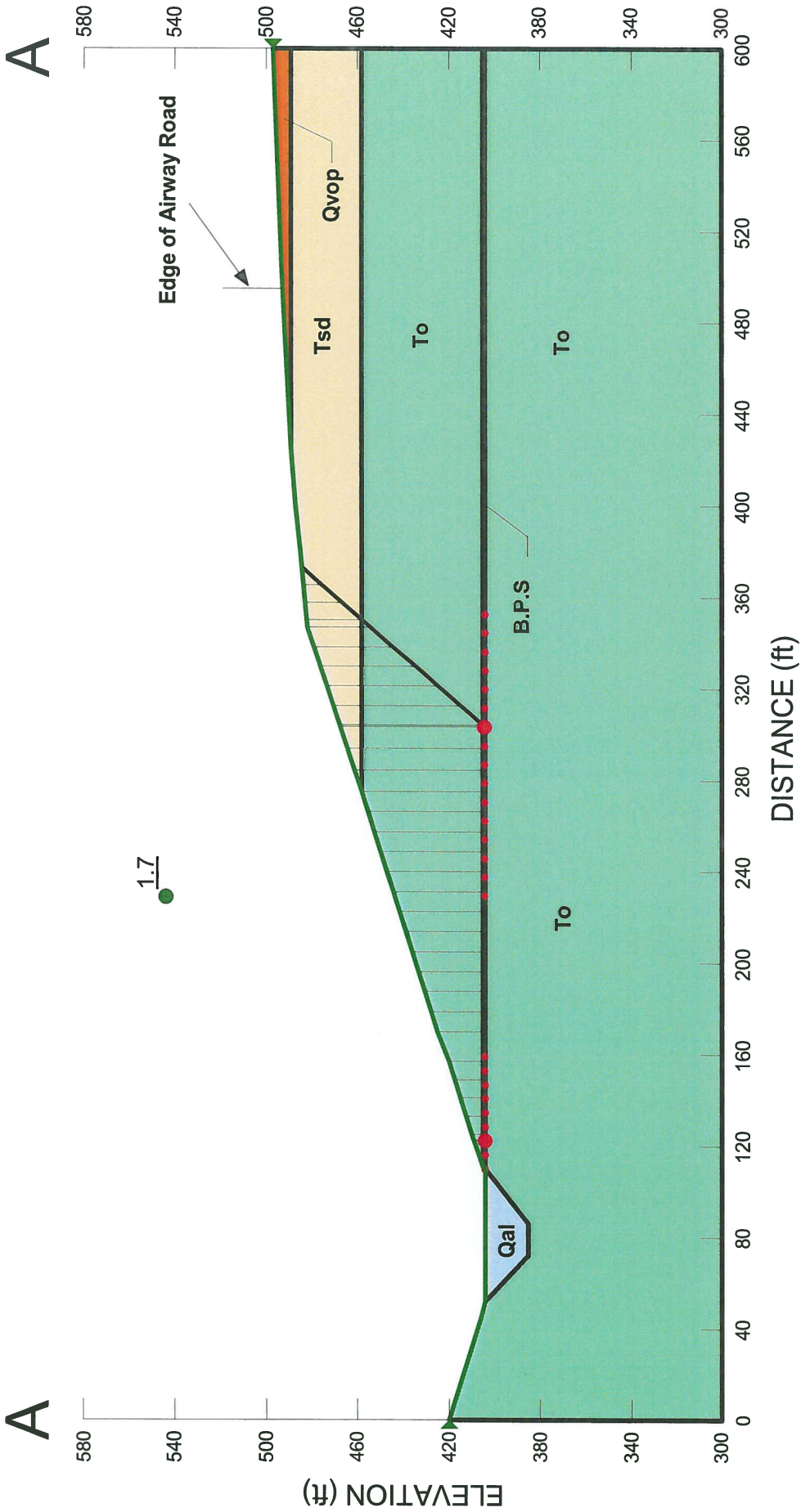


Figure 2

Otay Mesa Central Village Plan
Project No. 07254-42-04
Section B-B'
Name: B-B(2).gsz
Date: 1/12/2017

Assumed Bedding Plane Shear at Toe of Slope

Name: Qvop - Old Terrace Deposits Unit Weight: 125 pcf Cohesion: 100 psf Phi: 33 °
Name: Basal Slip Surface Unit Weight: 110 pcf Cohesion: 150 psf Phi: 10 °
Name: To - Otay Formation Unit Weight: 125 pcf Cohesion: 600 psf Phi: 34 °
Name: Tsd - San Diego Formation Unit Weight: 125 pcf Cohesion: 500 psf Phi: 35 °
Name: Qal - Alluvium Unit Weight: 125 pcf Cohesion: 100 psf Phi: 30 °

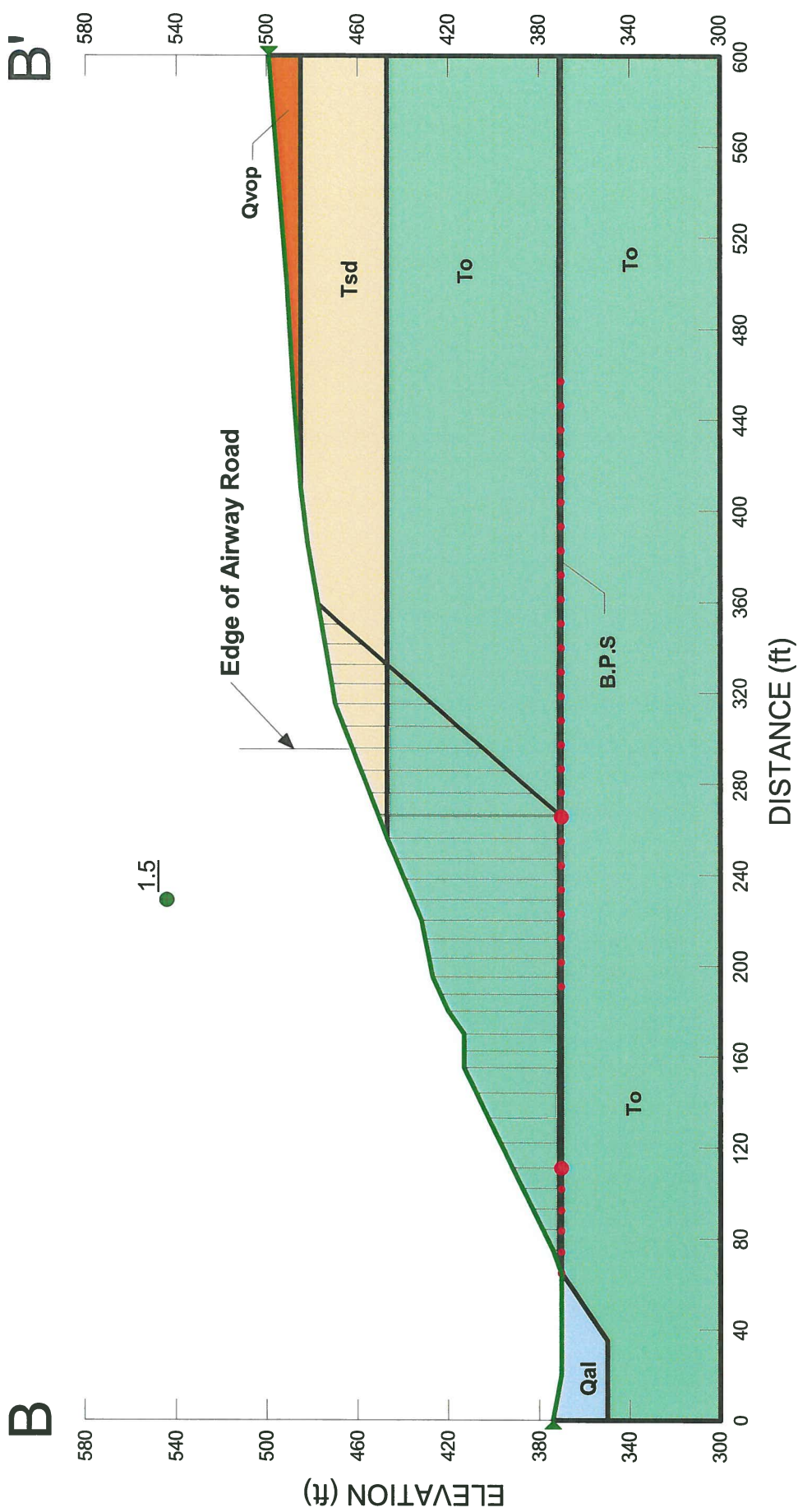


Figure 3