May 30, 2019 Project No. SD528

Development Contractor, Inc.
110 Town Center Parkway
Santee, California 92071

Attention: Mr. Michael Grant

SUBJECT: ADDENDUM NO. 1: RESPONSE TO COMMENTS FROM CITY OF SANTEE ENGINEERING DIVISION
Lantern Crest Ridge II (P2017-04)
Santee, California

References: REC Consultants, Inc. (2019). Site Plan and Preliminary Grading Plan, Lantern Crest Ridge II, Sheets 1 through 4, April 3.

City of Santee (2018). Comments from the Engineering Division, Lantern Crest – Ridge II (P2017-04), prepared by Senior Civil Engineer John Keane, August 30.

Group Delta Consultants (2017). *Report of Geotechnical Investigation, Lantern Crest Ridge II, 11010 Sunset Trail, Santee, California,* Project No. SD528, June 9.

Mr. Grant:

This letter presents our response to comments from the City of Santee Engineering Division dated August 30, 2018 for the Lantern Crest Ridge II development in Santee, California. Specifically, this letter provides an overall stability assessment of the proposed retaining walls and cut slopes, and a revised Worksheet C.4-1: Categorization of Infiltration Feasibility Condition. Our understanding of the referenced comments is also based on our discussion with John Keene, Senior Civil Engineer, and Scott Johnson, Principal Civil Engineer, during our meeting at the City of Santee Department of Development Services on May 15, 2019. This report should be considered an addendum to our referenced report of geotechnical investigation dated June 9, 2017.

PROPOSED DEVELOPMENT

Our understanding of the project is based on the referenced site plan and preliminary grading plan by REC Consultants dated April 3, 2019. We understand the site development includes a multi-story assisted care facility (Ridge II Building) with finished floor elevations of 528.5 and 516.5 feet, NGVD 29 and two single-story duplex structures (Villas) supported on shallow foundations and on-grade slabs. Other site improvements will include retaining walls, asphalt concrete paved driveways and parking areas; as well as Portland Cement Concrete sidewalks, flatwork, curbs, gutters, and driveways; a lined biofiltration basin, and a variety of subsurface utilities.

Cut and fill earthwork will be needed to create level building areas. Based on our review of the preliminary grading plans (REC Consultants, 2019), permanent 1.5:1 (Horizontal:Vertical) cut slopes up to about 25 in height are proposed in the northeast corner of the site and several geogrid reinforced segmental retaining walls (SRWs) are proposed throughout the site with heights up to about 25 feet. The geogrid reinforced SRWs will be used to raise grades to support the proposed structures, access roads and parking areas.

We understand the proposed retaining walls will be constructed using segmental block units and reinforced with geogrid. Geogrid reinforced SRW plans were not available for review. However, typical geogrid lengths are about 0.8 times the wall height or more. Based on our review of the preliminary grading plans (REC Consultants, 2019), backcut excavations required to accommodate proposed geogrid may not be feasible along the east side of the site below the existing Lantern Crest Phase I building. Also, geogrid reinforced SWRs may not be needed in the northeast corner of the site below the 1.5:1 cut slopes since the excavation should expose weathered Granitic rock. Cast-In-Place (CIP) concrete cantilevered retaining walls have been assumed at these locations instead of geogrid reinforced SRWs.

RESPONSE TO COMMENTS

Select comments from the referenced City of Santee Engineering Division letter dated August 30, 2018 are provided below in *italics* followed by our response.

Comment 2a: *The geotechnical report shall analyze any proposed infiltration techniques (trenches, basins, dry wells, permeable pavements with underground reservoir for infiltration) for any potential adverse geotechnical concerns. Geotechnical conditions such as: slope stability, expansive soils, compressible soils, seepage, groundwater depth, and loss of foundation or pavement subgrade strength should be addressed, and mitigation measures provided. Specifically address the proximity of the proposed detention basins to the retaining walls***.**

The infiltration assessment for the site was provided in our referenced geotechnical report for the project dated June 9, 2017. The potential for full or partial infiltration at the site was assessed in accordance with the 2016 City of Santee BMP Design Manual. As summarized in the report, the feasibility screening of the potential for on-site infiltration resulted in the “no infiltration” category. Infiltration BMPs will be lined and should not pose a significant risk of creating adverse geotechnical conditions adjacent to proposed retaining walls.

Comment 2a: *Demonstrate that along the west side of the project, and given the height of the proposed wall, the design can accommodate the surcharge loading from the proposed Villa units above.*

Global stability analyses for the geogrid reinforced SRWs below the Villas incorporated the building surcharge as discussed below. Recommendations for surcharges within a 1:1 plane extending back and up from the base of the wall were provided in Item 3 of Section 7.5 of the referenced geotechnical report. Surcharges should be evaluated by the retaining wall designer.

Comment 2a: *Revise the geotechnical investigation to include an assessment of the global stability of the segmental retaining wall systems.*

Slope stability analyses were completed at critical cross sections representative of the respective segmental retaining walls and cut slopes shown on the site plan in Figure A-1. The locations of cross sections were chosen considering the height of the retaining walls with final grading profiles, and new building and other surcharges. Note that when considering all these factors when choosing the location of critical sections, in some instances the location of the section may not be at the maximum height of the wall, but in our opinion represents the most suitable section for stability analyses. The table below summarizes the analyses.

Cross Section	Description	Wall Height (feet)	Grid Length (feet)	Calculated Factor of Safety	
				Static	Pseudo-Static
A-A' (Upper)	CIP Concrete Retaining Wall	23	N/A	2.01	1.52
A-A' (Lower)	Segmental Retaining Wall	24	19	1.51	1.27
B-B'	Segmental Retaining Wall	23	18	1.61	1.20
C-C'	Cut Slope & CIP Concrete Retaining Wall	14	N/A	1.94	1.40

The global stability analyses summarized in the table above meet the required minimum factor of safety of 1.5 and 1.1 for static and pseudo-static conditions. In our opinion, the proposed site retaining walls should be suitable to support the proposed improvements. Slope stability calculations are provided in Appendix A.

Stability calculations were completed using Spencer's method of limit equilibrium slope stability analysis, as this method has been incorporated into the SLOPE/W v.8.12.4.11377 licensed software from Geosoft, Inc. The shear strength properties used in the stability analysis were developed based on the subsurface conditions encountered from the referenced report of geotechnical investigation and based on our general experience as summarized below. The SRW reinforced zone and concrete retaining walls were modeled as a high strength material.

Material	Unit Weight (pcf)	Friction Angle (degrees)	Cohesion (psf)
Existing Fill	125	34	100
New Fill	125	34	100
Colluvium	120	30	100
Granitic Rock	125	42	0

Based on our subsurface explorations, colluvium was assumed to extend from the ground surface to a depth of four feet at the selected cross sections. Following mass grading of the site, the retaining walls are expected to be founded in Granitic rock that should consist of decomposed to fresh rock below the assumed colluvium. Remedial grading at the site and below proposed structures was assumed in be completed according to the earthwork section and cut/fill transition detail from our referenced geotechnical report. The geogrid reinforcement length was assumed to be 0.8 times the height. Retaining walls below the existing Lantern Crest Phase I Building and in the northeast corner of the site were assumed to be CIP concrete cantilevered retaining walls. However, the analyses at these locations should also be representative of geogrid reinforced SRWs.

Pseudo-static slope stability analyses were performed to evaluate the seismic stability of the site retaining walls with respect to inertial effects. A horizontal seismic coefficient (K_h) was estimated using Bray and Travasarou (2009) method assuming an allowable deformation of 3 inches. Pseudo-static loading assumed a horizontal seismic coefficient (K_h) of 0.18 g.

<u>Comment 2b:</u> *Complete the worksheet assessment of Appendix C by checking the appropriate boxes. Include the information of the designer who has completed this assessment*.

We understand the City of Santee requested that Worksheet C.4-1 be revised with additional narrative and discussion so that it may serve as a standalone document for audit purposes. Included in this addendum is a revised Worksheet C.4-1 in Appendix B with the appropriate boxes checked and the information of the designer who completed the assessment. Note that the feasibility screening of the potential for on-site infiltration remains “no infiltration”.

<u>Comment 2c:</u> *Provide a geotechnical report that established that the proposed 1.5:1 slopes will be stable…*

See our response to Comment 2a above and specifically the slope stability analyses and concluding statement regarding the overall slope stability for Section C-C’.

The current plan shows 1.5:1 slopes in the vicinity of the colluvium. The report indicates “Cut slopes in colluvium should be avoided or designed at a 2:1 ratio with a stability fill”. Provide a narrative from the geotechnical engineer regarding the feasibility of the proposed cut slope in this vicinity.

We expect the colluvium will be completely removed to construct the 1.5:1 cut slopes based on the referenced preliminary grading plans (REC Consultants, 2019) and our referenced geotechnical investigation. In addition, we do not expect colluvium to occur within the proposed cut slopes to an extent that would require a stability fill. Slopes should be geologically mapped during construction and any local remnant colluvium should be removed such that cut slopes are completely formed in decomposed to fresh Granitic rock. As discussed in Section 7.9 of our geotechnical report, cut slopes steeper than 1.5:1 may be possible depending on the condition and orientation of rock defects (e.g., joints and fractures). Therefore, steeper slope inclinations from local removal of colluvium should be possible.

Comment 2d: *Include the latest exhibits of the proposed project within the revised geotechnical report.*

The referenced site plan and preliminary grading plan (REC Consultants, 2019) are provided in Appendix C.

CLOSURE

The recommendations in this letter assume the soil and geologic conditions do not deviate appreciably from those reported in the referenced reports and locally observed by Group Delta. Geotechnical engineering and the geologic sciences are characterized by uncertainty. Professional judgments presented herein are based partly on our understanding of the proposed construction, and partly on our general experience. Our engineering work and judgments rendered meet current professional standards; we do not guarantee the performance of the project in any respect. We appreciate this opportunity to be of continued professional service. Please feel free to contact the office with any questions or comments, or if you need anything else.

GROUP DELTA CONSULTANTS

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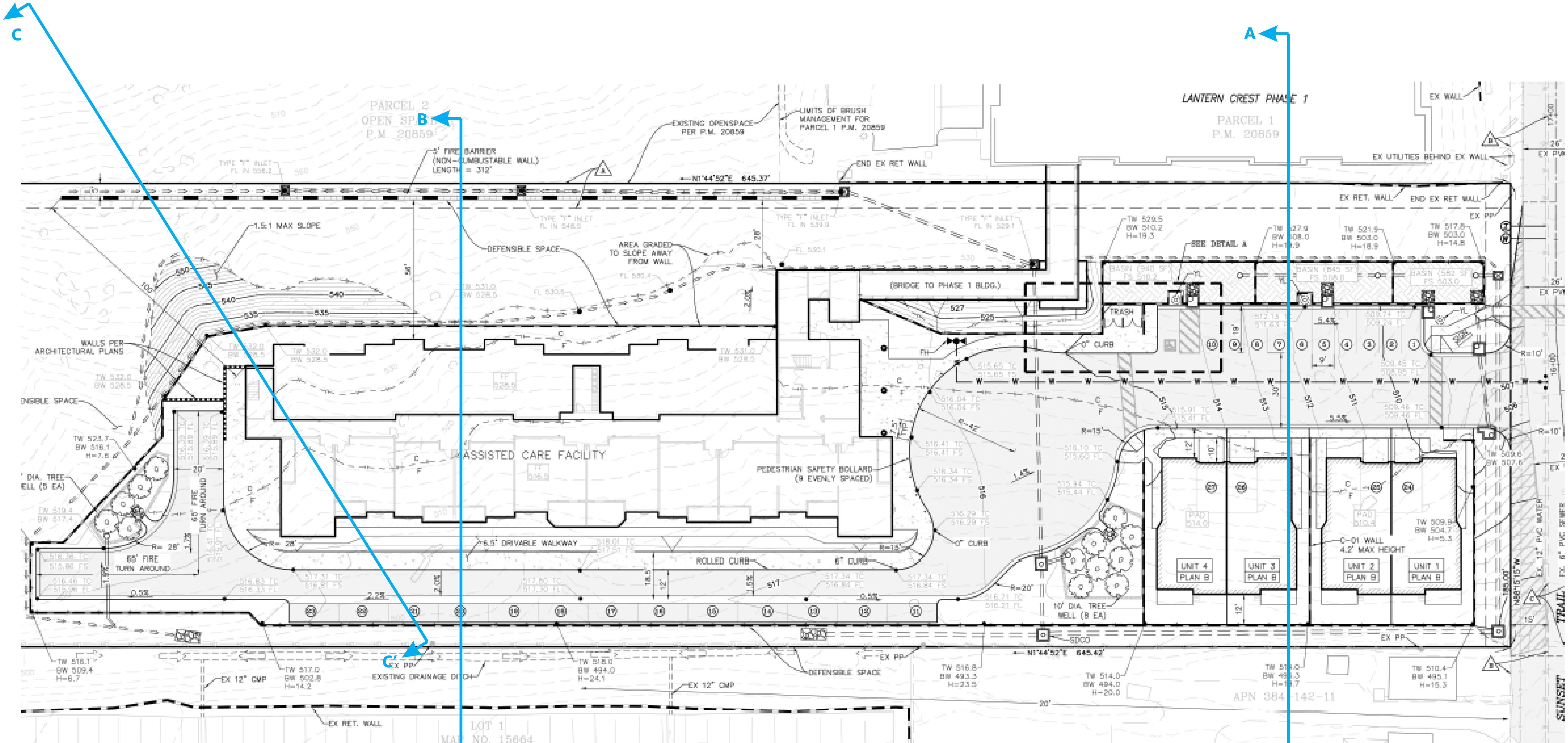
Charles Robin (Rob) Stroop, G.E. 2298
Associate Geotechnical Engineer

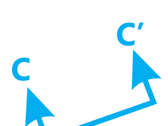
Attachments: Appendix A – Slope Stability Analyses
Appendix B – Revised Worksheet C-1: Categorization of Infiltration Feasibility
Appendix C – Site Plan and Preliminary Grading Plan (REC Consultants, Inc)

Distribution: (1) Addressee, Mr. Michael Grant (grant.michael@sbcglobal.net)

APPENDIX A
SLOPE STABILITY ANALYSES



EXPLANATION:



Approximate location of slope stability cross section.

N

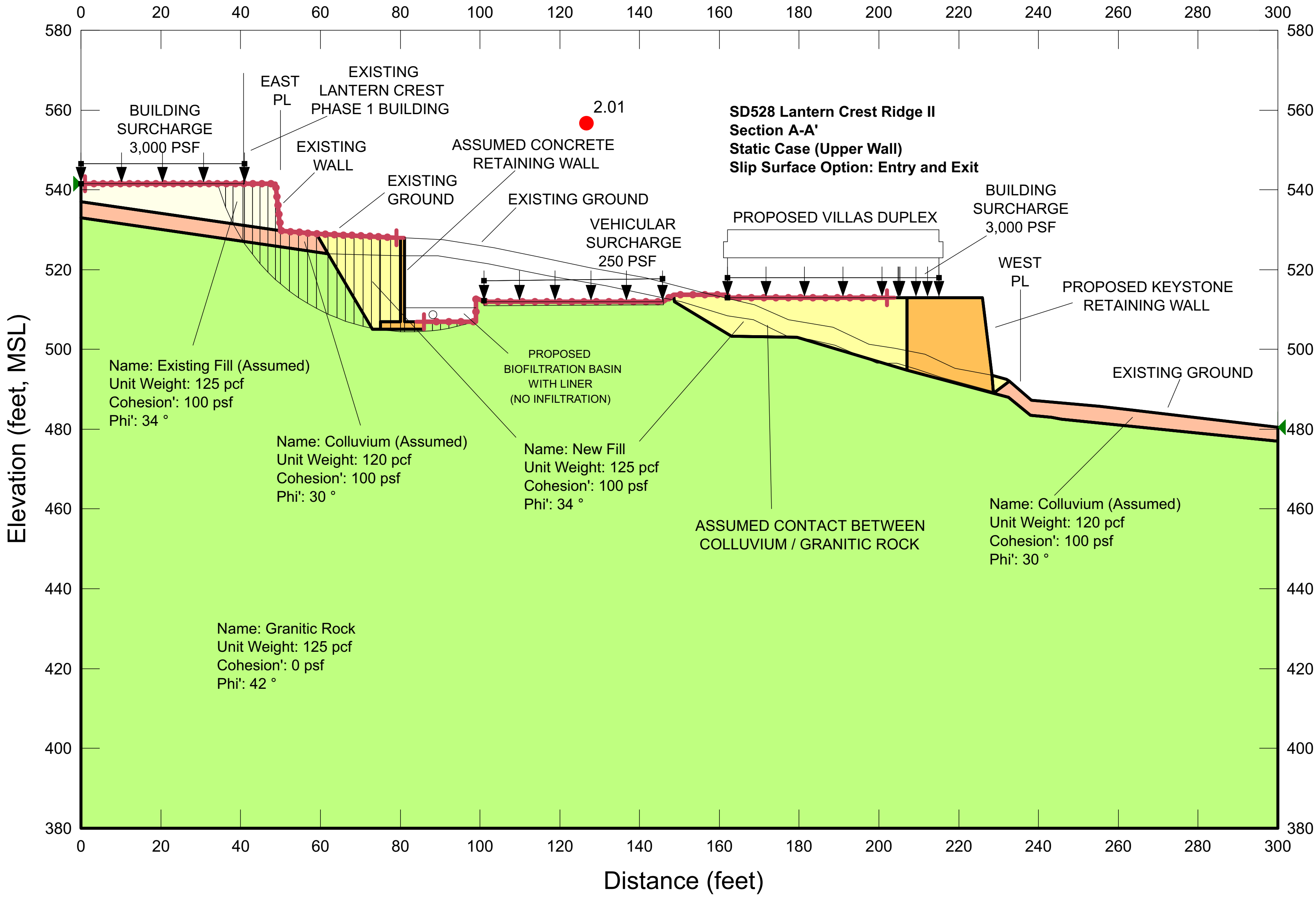
APPROXIMATE SCALE IN FEET

0 20 40

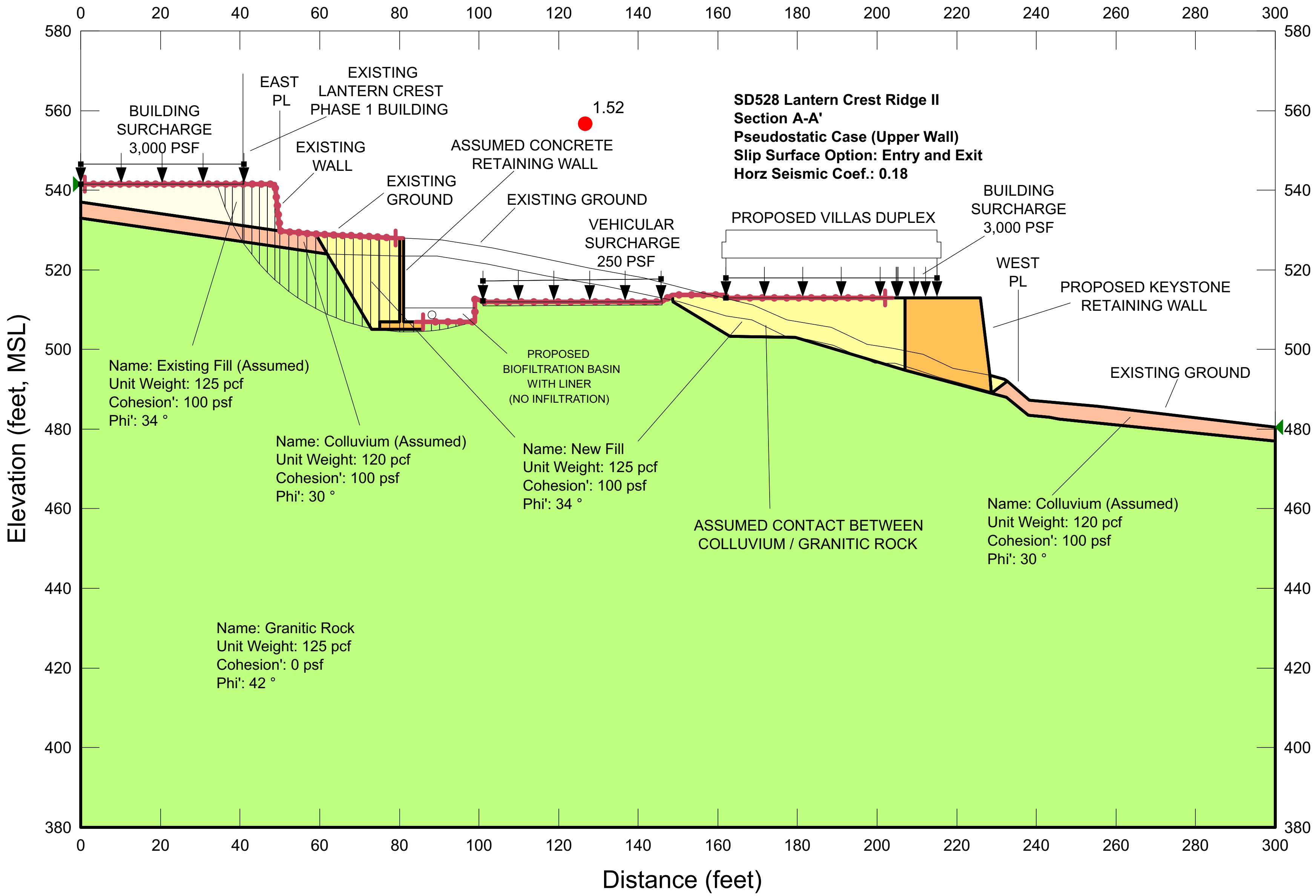
NOTE: 1) DIRECTION, SCALE AND LOCATIONS ARE APPROXIMATE.
2) PRINT TO ACTUAL SIZE.

PROJECT NAME	FIGURE NAME	GROUP DELTA	
LANTERN CREST RIDGE II SANTEE, CALIFORNIA	SLOPE STABILITY CROSS SECTION LOCATIONS	PROJECT NUMBER SD528	FIGURE NUMBER A-1

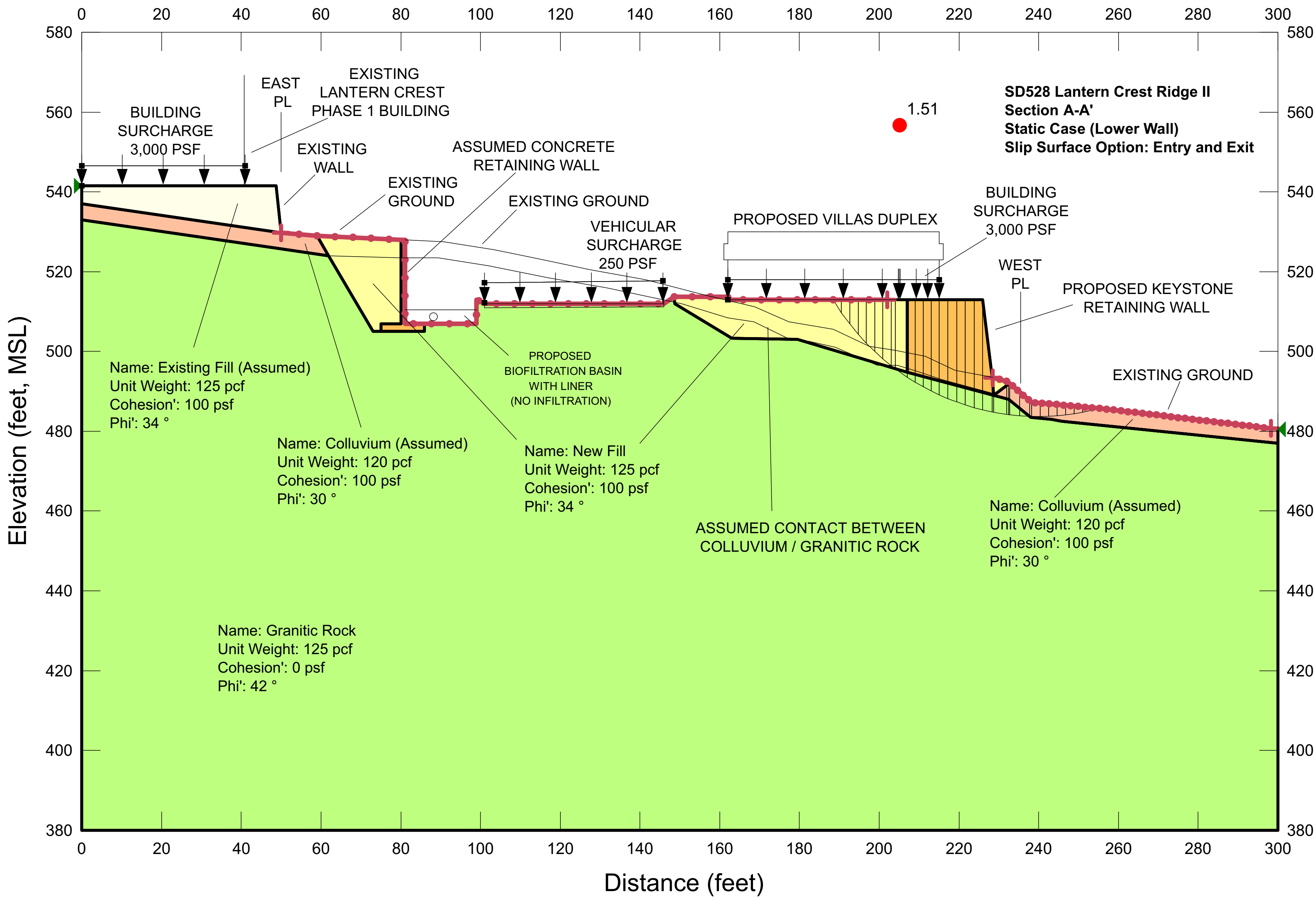
REFERENCE: REC Consultants, Inc. (2019). Site Plan and Preliminary Grading Plan, Lantern Crest Ridge II, Sheets 1 through 4, April 3.



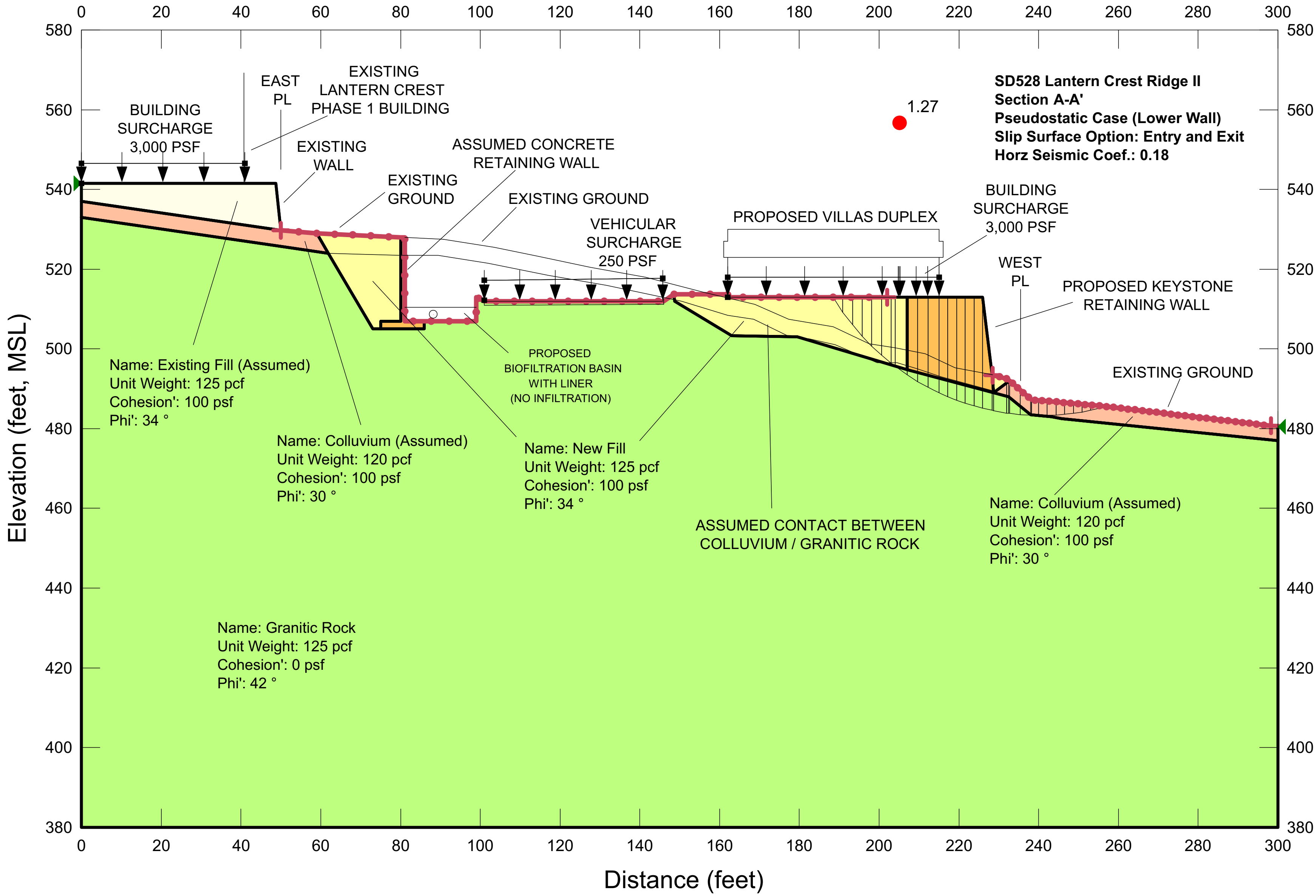
PROJECT NAME	FIGURE NAME	GROUP DELTA	
LANTERN CREST RIDGE II SANTEE, CALIFORNIA	SLOPE STABILITY ANALYSIS CROSS SECTION A-A' (UPPER) STATIC CASE	PROJECT NUMBER SD528	FIGURE NUMBER A-2



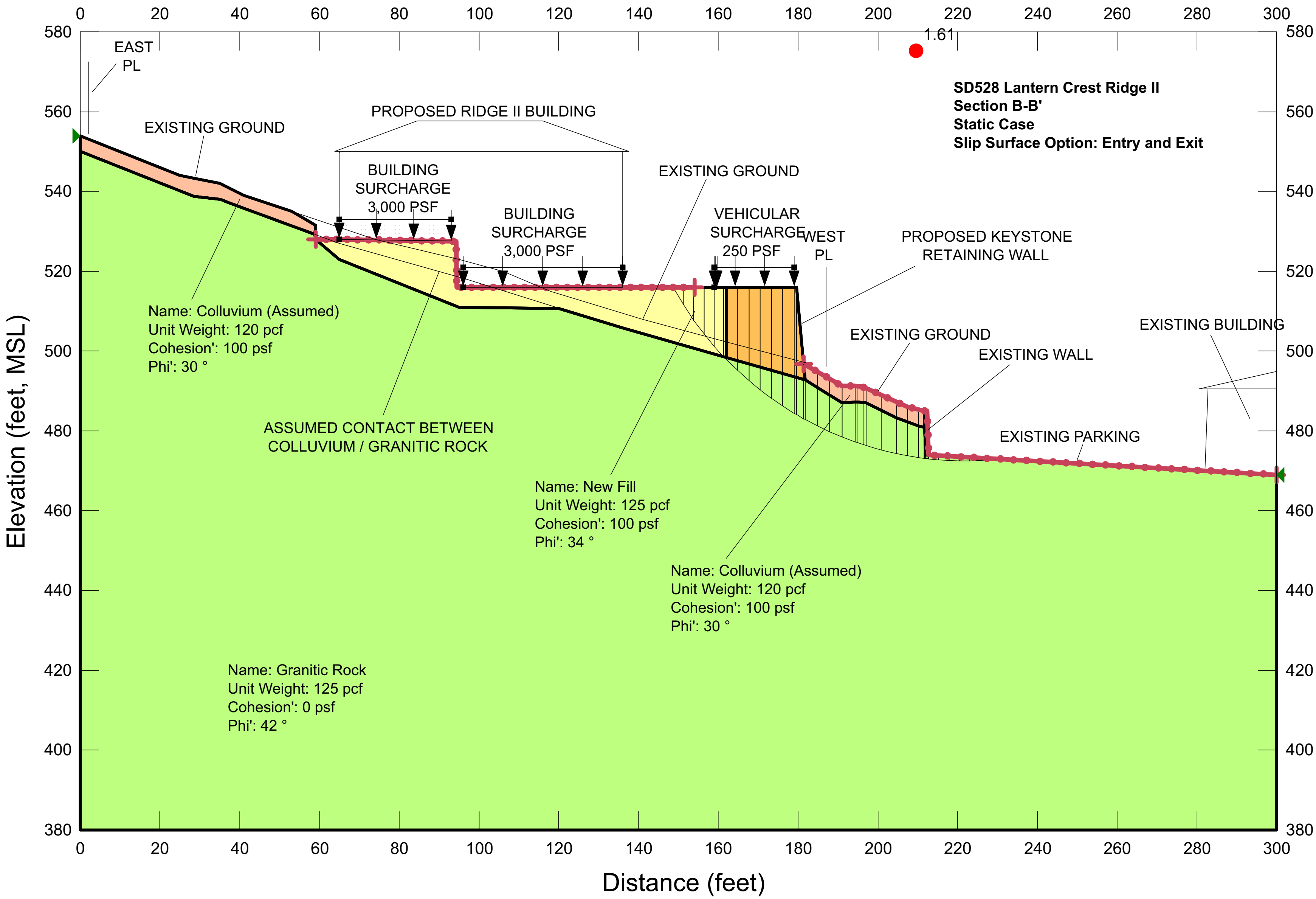
PROJECT NAME	FIGURE NAME	GROUP DELTA	
LANTERN CREST RIDGE II SANTEE, CALIFORNIA	SLOPE STABILITY ANALYSIS CROSS SECTION A-A' (UPPER) PSEUDOSTATIC CASE	PROJECT NUMBER SD528	FIGURE NUMBER A-3



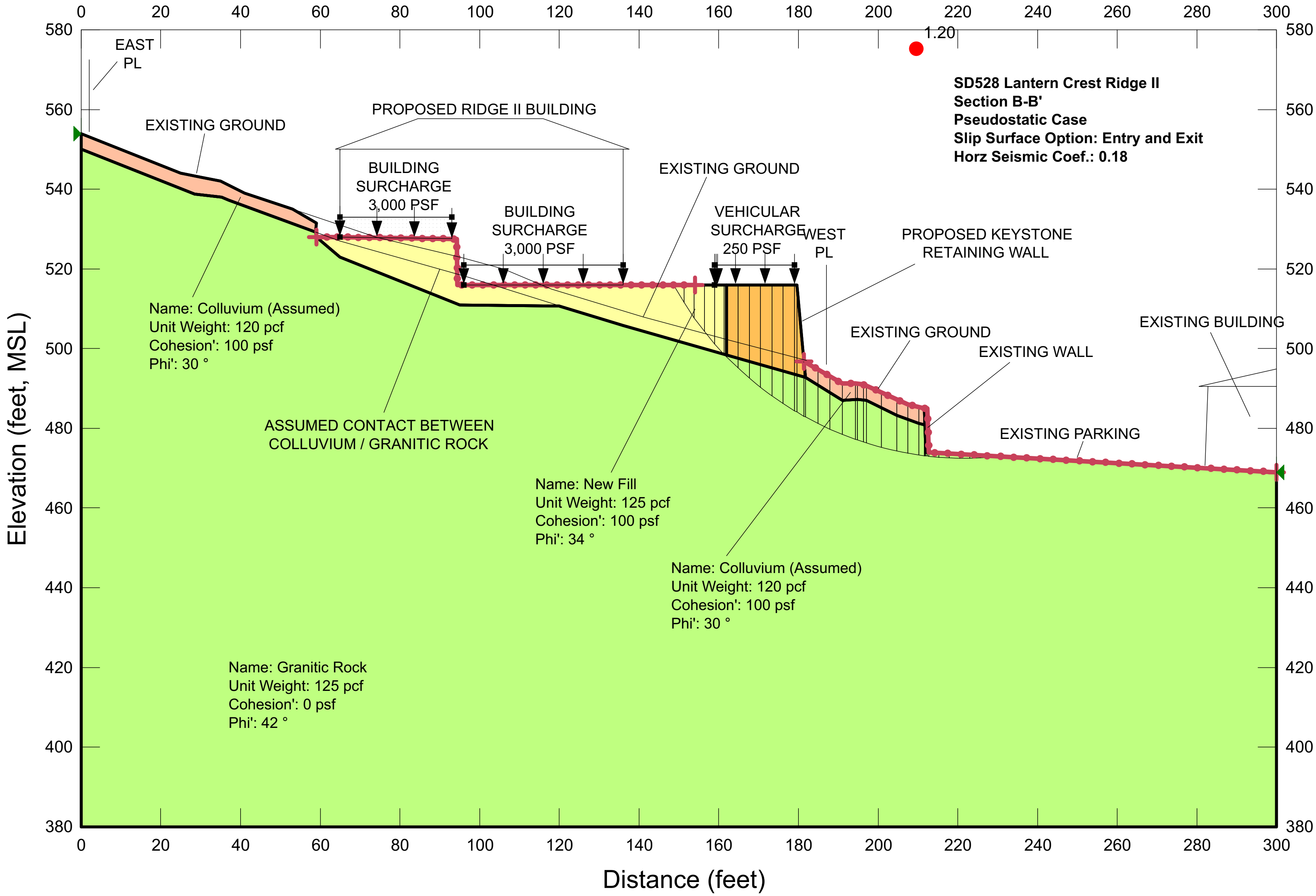
PROJECT NAME	FIGURE NAME	GROUP DELTA	
LANTERN CREST RIDGE II SANTEE, CALIFORNIA	SLOPE STABILITY ANALYSIS CROSS SECTION A-A' (LOWER) STATIC CASE	PROJECT NUMBER SD528	FIGURE NUMBER A-4



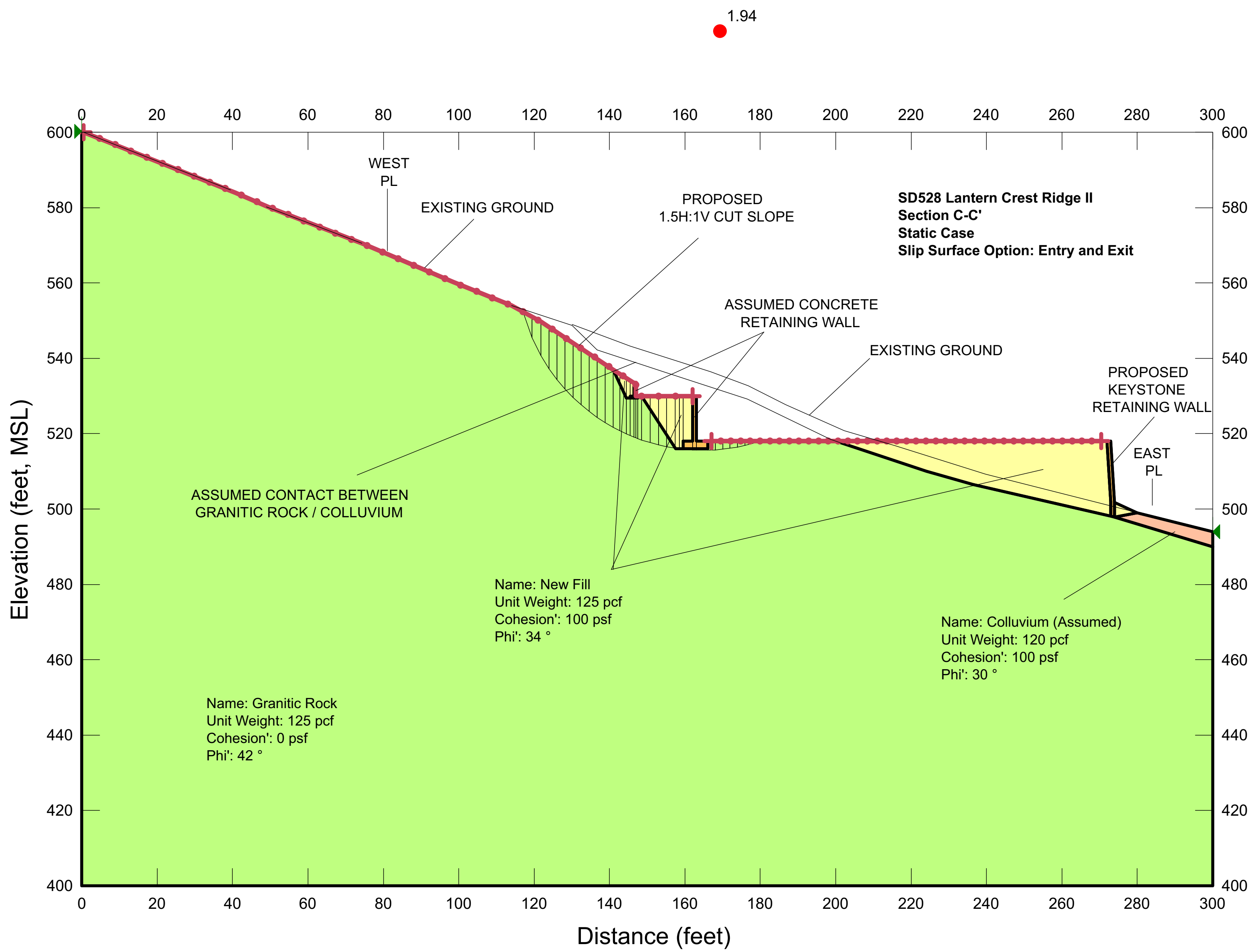
PROJECT NAME	FIGURE NAME	GROUP DELTA	
LANTERN CREST RIDGE II SANTEE, CALIFORNIA	SLOPE STABILITY ANALYSIS CROSS SECTION A-A' (LOWER) PSEUDOSTATIC CASE	PROJECT NUMBER SD528	FIGURE NUMBER A-5



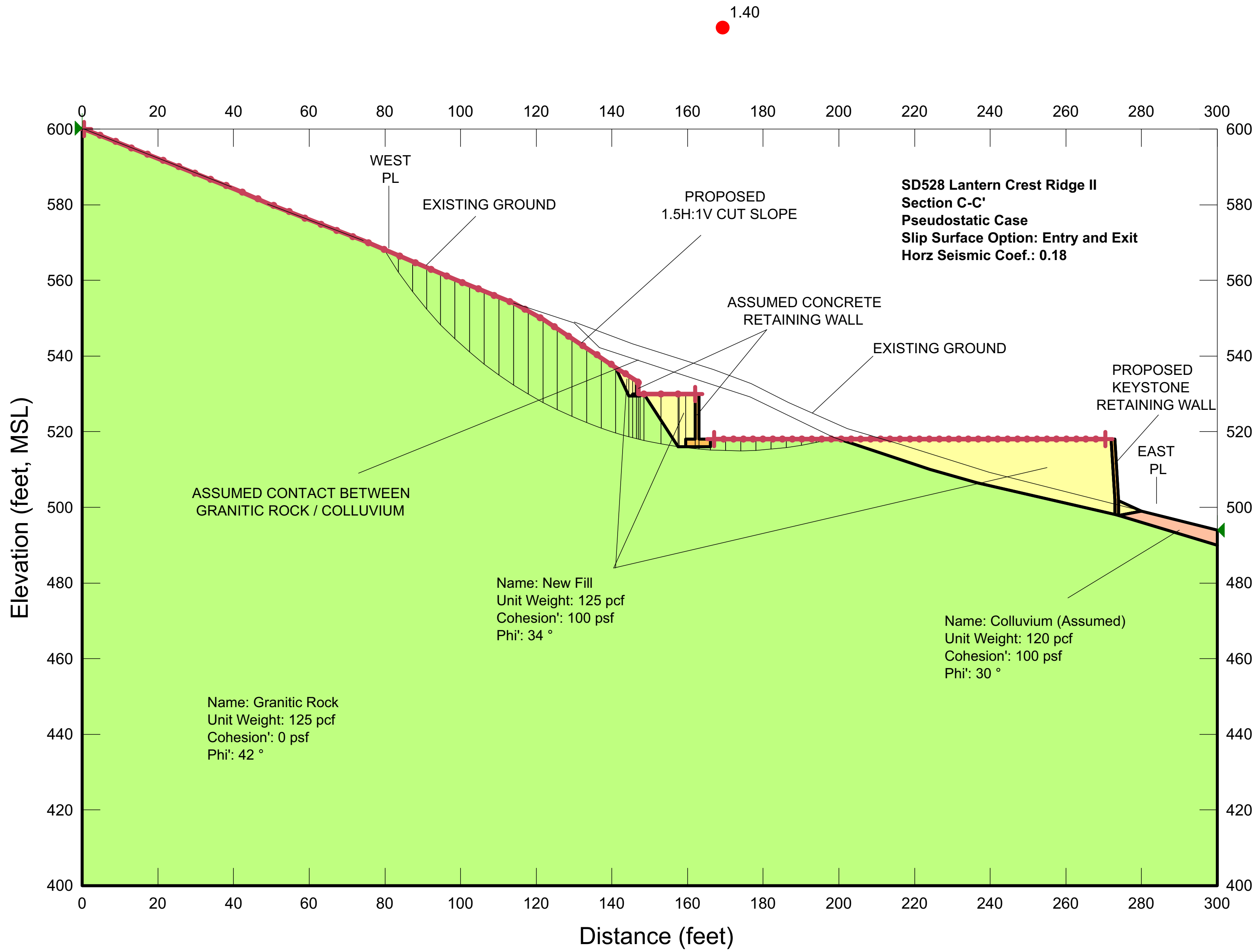
PROJECT NAME	FIGURE NAME	GROUP DELTA	
LANTERN CREST RIDGE II SANTEE, CALIFORNIA	SLOPE STABILITY ANALYSIS CROSS SECTION B-B' STATIC CASE	PROJECT NUMBER SD528	FIGURE NUMBER A-6



PROJECT NAME	FIGURE NAME	GROUP DELTA	
LANTERN CREST RIDGE II SANTEE, CALIFORNIA	**SLOPE STABILITY ANALYSIS CROSS SECTION B-B' PSEUDOSTATIC CASE**	PROJECT NUMBER: SD528	FIGURE NUMBER: **A-7**



PROJECT NAME	FIGURE NAME	GROUP DELTA	
LANTERN CREST RIDGE II SANTEE, CALIFORNIA	SLOPE STABILITY ANALYSIS CROSS SECTION C-C' STATIC CASE	PROJECT NUMBER SD528	FIGURE NUMBER A-8



PROJECT NAME	FIGURE NAME	GROUP DELTA	
LANTERN CREST RIDGE II SANTEE, CALIFORNIA	SLOPE STABILITY ANALYSIS CROSS SECTION C-C' PSEUDOSTATIC CASE	PROJECT NUMBER SD528	FIGURE NUMBER A-9

APPENDIX B

REVISED WORKSHEET C.4-1:

CATEGORIZATION OF INFILTRATION FEASIBILITY CONDITION

The feasibility for infiltration at the site was evaluated by Group Delta Consultants, Inc (Group Delta). The infiltration assessment was performed in general accordance with the 2016 City of Santee BMP Design Manual. For further discussion, see report titled, "*Report of Geotechnical Investigation, Lantern Crest Ridge II, 11010 Sunset Trail, Santee, California*, Project No. SD528" and dated June 19, 2017.

Worksheet C.4-1: Categorization of Infiltration Feasibility Condition

Categorization of Infiltration Feasibility Condition		Worksheet C.4-1	
<u>Part 1 - Full Infiltration Feasibility Screening Criteria</u> **Would infiltration of the full design volume be feasible from a physical perspective without any undesirable consequences that cannot be reasonably mitigated?**			
Criteria	Screening Question	**Yes**	**No**
1	**Is the estimated reliable infiltration rate below proposed facility locations greater than 0.5 inches per hour?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.		X
Provide basis: Two borehole percolation tests were conducted at the site on March 24, 2017 in general accordance with the Borehole Percolation Test method (Riverside County Percolation Test, 2011) as referenced in the 2016 City of Santee BMP Design Manual. The boreholes were drilled using a track-mounted limited access drill rig equipped with six-inch diameter hollow stem augers. The depth of each infiltration test was approximately five feet. Following drilling, test holes were constructed by cleaning the sidewalls, placing about 2 inches of pea gravel at the bottom of the hole, placing a 5-foot long section of 4-inch diameter slotted PVC casing into the hole, and backfilling the annulus between the sidewalls and casing with pea gravel. The test holes were then pre-soaked with a water column of about 36 inches for a period of about 18 hours prior to the start of the percolation test. The field measured, gravel-corrected, stabilized percolation rates were converted to a stabilized infiltration rate using the Porchet Method. The stabilized infiltration rates were 0.13 and 1.20 inches per hour. The design infiltration rate (stabilized infiltration rate divided by factor of safety) were 0.06 and 0.60 inches per hour using a 2.0 factor of safety. The average design infiltraiton rate was 0.33 inches per hour. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
2	**Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.		X
Provide basis: As discussed in Part 1, Criteria 1 above, the average design infiltration rate based on borehole percolation testing at the site was 0.33 inches per hour, which is less than 0.5 inches per hour. Geotechnical risks, such as slope stability, groundwater mounding, utilities, or other factors, associated with infiltration in any appreciate quantity that cannot be mitigated to an acceptable level are discussed in Part 2, Criteria 6 below. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			

Worksheet C.4-1 Page 2 of 4			
Criteria	Screening Question	Yes	No
3	**Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of groundwater contamination (shallow water table, storm water pollutants or other factors) that cannot be mitigated to an acceptable level?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		X
Provide basis: As discussed in Part 1, Criteria 1 above, the average design infiltration rate based on borehole percolation testing at the site was 0.33 inches per hour, which is less than 0.5 inches per hour. The risks of groundwater related concerns, such as shallow water table, storm water pollutants, or other factors, associated with infiltration in any appreciate quantity are considered low. Groundwater was not observed in the explorations that extended to a maximum depth of 8 feet below existing grades. The State Water Resources Control Board website (GeoTracker, 2017), indicates groundwater elevations at the United States Border Patrol Station located at 225 Kenney Street in El Cajon (about 2,000 feet southwest of the site) ranged from approximately 360 to 384 feet above MSL from 2007 to 2016, which is more than 100 feet below existing grades at the site. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
4	**Can infiltration greater than 0.5 inches per hour be allowed without causing potential water balance issues such as change of seasonality of ephemeral streams or increased discharge of contaminated groundwater to surface waters?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		X
Provide basis: As discussed in Part 1, Criteria 1 above, the average design infiltration rate based on borehole percolation testing at the site was 0.33 inches per hour, which is less than 0.5 inches per hour. The risk of potential water balance issues, such as change of seasonility of ephemeral streams or increased discharge of contaminated groundwater to surface waters, associated with infiltration in any appreciate quantity is considered low. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
Part 1 Result*	If all answers to rows 1 - 4 are "**Yes**" a full infiltration design is potentially feasible. The feasibility screening category is **Full Infiltration** If any answer from row 1-4 is "**No**", infiltration may be possible to some extent but would not generally be feasible or desirable to achieve a "full infiltration" design. Proceed to Part 2	Proceed to Part 2	

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by City Engineer to substantiate findings.

Worksheet C.4-1 Page 3 of 4			
Part 2 – Partial Infiltration vs. No Infiltration Feasibility Screening Criteria **Would infiltration of water in any appreciable amount be physically feasible without any negative consequences that cannot be reasonably mitigated?**			
Criteria	Screening Question	**Yes**	**No**
5	**Do soil and geologic conditions allow for infiltration in any appreciable rate or volume?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.	X	
Provide basis: As discussed in Part 1, Criteria 1 above, the average design infiltration rate based on borehole percolation testing at the site was 0.33 inches per hour. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
6	**Can Infiltration in any appreciable quantity be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level**? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.		X
Provide basis: As discussed in Part 1, Criteria 1 above, the average design infiltration rate based on borehole percolation testing at the site was 0.33 inches per hour. However, several geotechnical constraints to storm water infiltration are present at the site as summarized below: **Groundwater Mounding**: Early Cretaceous-age granitic rock underlies the site. Granitic rock was encountered in all explorations at the ground surface or at depths ranging from about one to four feet. The granitic rock is dense to very dense with very low permeability. The granitic rock poses a significant risk for groundwater mounding at the site due to infiltration in any appreciate quantity. Consequently, we do not recommend infiltration of storm water at the site in accordance with Section C.2.5 of the 2016 City of Santee BMP Design Manual. **Retaining Walls**: Multiple single rows of retaining walls up to about 25 feet in height are required to raise grades at the site. The retaining walls are located primarily along the perimeter of the development. In addition, an existing 5 to 15-foot-high retaining wall provides grade separation between the proposed development and the adjacent lower property. The existing retaining wall is located about 25 immediately west of the property boundary and is downgradient from proposed infiltration BMPs at the site. Infiltration of any appreciable quantity at the site may lead to potential increases in lateral pressures and potential reductions in soil strength of the proposed and existing retaining walls. Consequently, we do not recommend infiltration of storm water at the site in accordance with Section C.2.6 of the 2016 City of Santee BMP Design Manual. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			

Worksheet C.4-1 Page 4 of 4			
Criteria	Screening Question	Yes	No
7	**Can Infiltration in any appreciable quantity be allowed without posing significant risk for groundwater related concerns (shallow water table, storm water pollutants or other factors)?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	

Provide basis:

As discussed in Part 1, Criteria 1 above, the average design infiltration rate based on borehole percolation testing at the site was 0.33 inches per hour. Infiltration in any appreciable quantity would not pose a significant risk for groundwater related concerns such as shallow water table, strom water pollutants, or other factors as discussed in Part 1, Criteria 3 above.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.

8	**Can infiltration be allowed without violating downstream water rights**? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	

Provide basis:

As discussed in Part 1, Criteria 1 above, the average design infiltration rate based on borehole percolation testing at the site was 0.33 inches per hour. Infiltration in any appreciable quantity should not pose a significant risk for violating downstream water rights.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.

Part 2 Result*	If all answers from row 1-4 are yes then partial infiltration design is potentially feasible. The feasibility screening category is **Partial Infiltration.** If any answer from row 5-8 is no, then infiltration of any volume is considered to be **infeasible** within the drainage area. The feasibility screening category is **No Infiltration.**	No Infiltration

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the Permit. Additional testing and/or studies may be required by Agency/Jurisdictions to substantiate findings

APPENDIX C
SITE PLAN AND PRELIMINARY GRADING PLAN (REC CONSULTANTS, 2019)

SITE PLAN & PRELIMINARY GRADING PLAN
LANTERN CREST RIDGE II

LEGAL DESCRIPTION

THE WEST 185 FEET OF THE EAST 924.81 FEET OF LOT 8, IN BLOCK 7 OF THE SUBDIVISION OF LOTS 'H' AND 'O' OF THE RANCHO EL CAJON, IN THE CITY OF SANTEE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 817, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, APRIL 2, 1896, EXCEPTING THEREFROM THE SOUTHERLY 15 FEET THEREOF;

ALONG WITH AN EASEMENT AND RIGHT(S) OF WAY FOR ROAD, SEWER, WATER, GAS, POWER AND TELEPHONE LINES AND APPURTENANCES THERETO, OVER, UNDER, ALONG AND ACROSS THE EAST 20 FEET OF THE WEST 195 FEET OF THE EAST 924.81 FEET, LOT 8 IN BLOCK 7 OF THE SUBDIVISION OF LOTS 'H' AND 'O' OF THE RANCHO EL CAJON, IN THE CITY OF SANTEE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 817, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, APRIL 2, 1896, EXCEPTING THEREFROM THE SOUTHERLY 15 FEET THEREOF:

ALONG WITH AN EASEMENT AND RIGHT(S) OF WAY FOR ROAD, SEWER, WATER, GAS, POWER AND TELEPHONE LINES AND APPURTENANCES THERETO, OVER, UNDER, ALONG AND ACROSS THE WEST 244.49 FEET OF THE EAST 964.3 FEET OF THE SOUTH 15 FEET OF LOT 8 IN BLOCK 7 OF THE SUBDIVISION OF LOTS 'H' AND 'O' OF THE RANCHO EL CAJON, IN THE CITY OF SANTEE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 817, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, APRIL 2, 1896.

EASEMENT NOTES

A. AN EXISTING EASEMENT AND RIGHTS OF WAY FOR ROAD AND PUBLIC UTILITIES AND INCIDENTAL PURPOSES, OVER, UNDER, ALONG AND ACROSS THOSE EASEMENT PARCELS HEREIN DESCRIBED, AS CONVEYED AND RESERVED BY VARIOUS DEEDS OF RECORD. (TO BE QUITCLAIMED)

B. AN EXISTING 15' WIDE EASEMENT FOR ROAD, SEWER, WATER, GAS, POWER AND TELEPHONE LINES AND RIGHTS INCIDENTAL THERETO, PER DOC. REC. JUNE 16, 1965 AS INSTRUMENT NO. 65-106790, O.R.

C. AN EXISTING OFFER OF DEDICATION TO THE CITY OF SANTEE PER DOC. NO. 2011-0264026, REC. MAY 23, 2011

SITE COVERAGE

	NET AREA	BLDGS., DWYS., PVT. STS.	SITE COVERAGE
SITE	119,398 SF	56,508 SF	47.3%

FLOOR-AREA RATIO

	NET AREA	FLOOR AREA (sf)	FLOOR-AREA RATIO
SITE	119,398 SF	49,840* SF	41.7%

*BUILDING SIZE OF UP TO 71,600sf ALLOWED

ASSESSOR'S PARCEL NUMBER

384-142-04

DEVELOPMENT SUMMARY

1. GROSS PROJECT AREA: 2.741 AC
2. NUMBER OF EXISTING LOTS: 1
3. NUMBER OF PROPOSED LOTS: 1
4. EXISTING ZONING: R-1A (LOW DENSITY RESIDENTIAL)
5. PROPOSED ZONING: R-14 (MEDIUM/HIGH DENSITY RESIDENTIAL)
6. GENERAL PLAN LAND USE DESIGNATION: RESIDENTIAL
7. EXISTING LAND USE: VACANT
8. PROPOSED LAND USE: MULTI-FAMILY RESIDENTIAL
9. NUMBER OF UNITS: 46 MAIN BUILDING; 4 DUPLEX BUILDINGS; TOTAL = 50 RESIDENTIAL UNITS
10. SETBACKS:
    - FRONT 20 FEET
    - EXT. STREET SIDE YARD 5 FEET
    - INTERIOR SIDE YARD 5 FEET
    - REAR 10 FEET
11. PARKING PROVIDED:
    - STANDARD PARKING SPACE 14
    - ACCESSIBLE PARKING SPACE 1
    - GARAGE PARKING 4
    - TOTAL PARKING COUNT 19

PROJECT NOTES

1. TOPOGRAPHY PER AERIAL SURVEY BY KAPPA SURVEYING, FLOWN ON MARCH 311, 2015 (DATUM: NGVD 29).
2. FINISH FLOOR ELEVATIONS ARE 8" ABOVE PAD ELEVATIONS.
3. SURFACES NOT IDENTIFIED AS STREETS, SIDEWALKS, DRIVEWAYS OR HOUSES SHALL BE LANDSCAPED.
4. ALL NEW STORM DRAIN FACILITIES PROPOSED WITH THIS SUBDIVISION SHALL BE PRIVATE AND BE MAINTAINED BY THE LANTERN CREST MANAGEMENT ASSOCIATION.

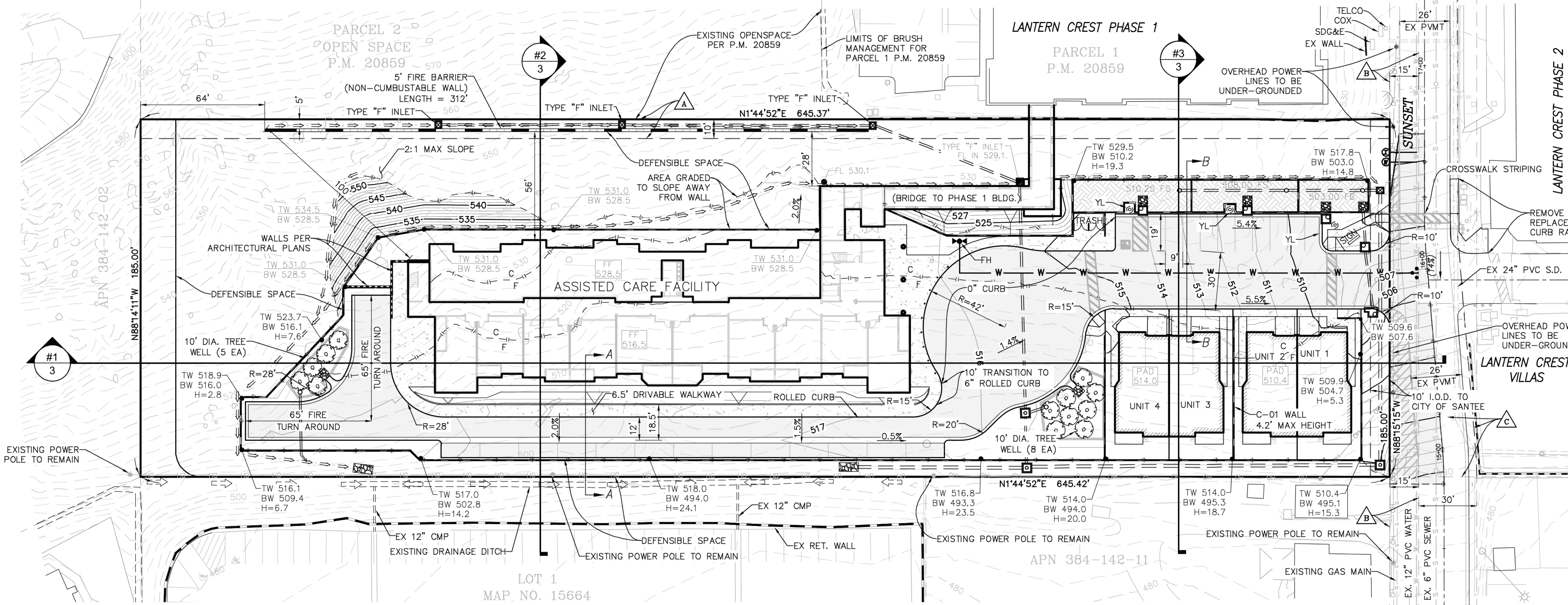
DISTRICT SERVICE

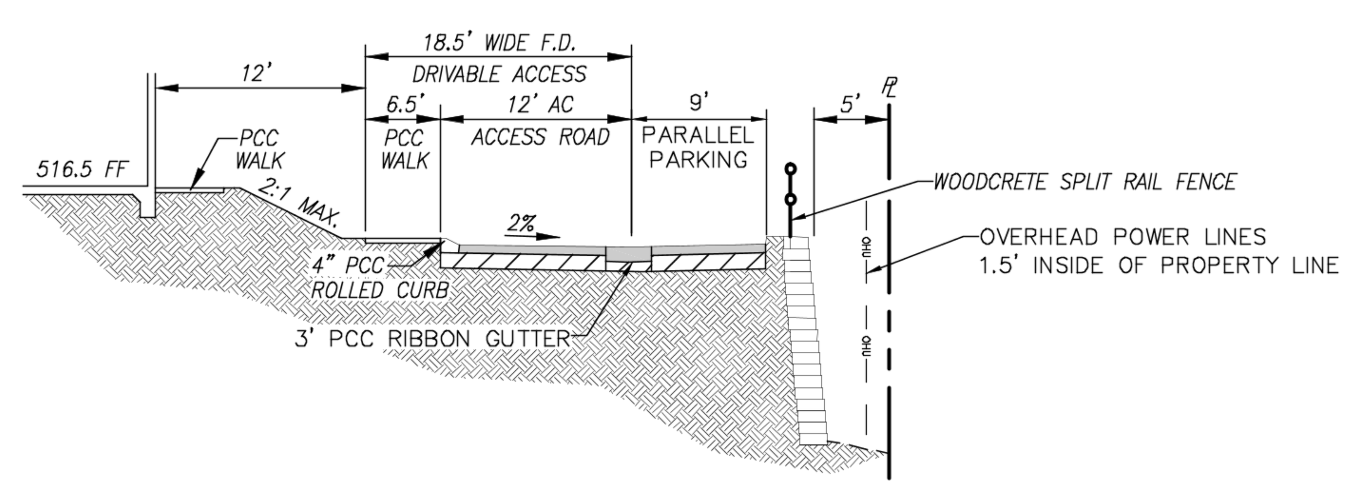
FIRE:	CITY OF SANTEE
WATER:	PADRE DAM MWD
SEWER:	LANTERN CREST (PRIVATE)
HIGH SCHOOL:	GROSSMONT UNION H.S.D.
ELEMENTARY SCHOOL:	SANTEE UNIFIED S.D.
STREET LIGHTING:	LANTERN CREST (PRIVATE)
LANDSCAPE MAINTENANCE:	LANTERN CREST (PRIVATE)

SEE SHEETS 3&4 FOR STREET AND SITE CROSS SECTION

LEGEND

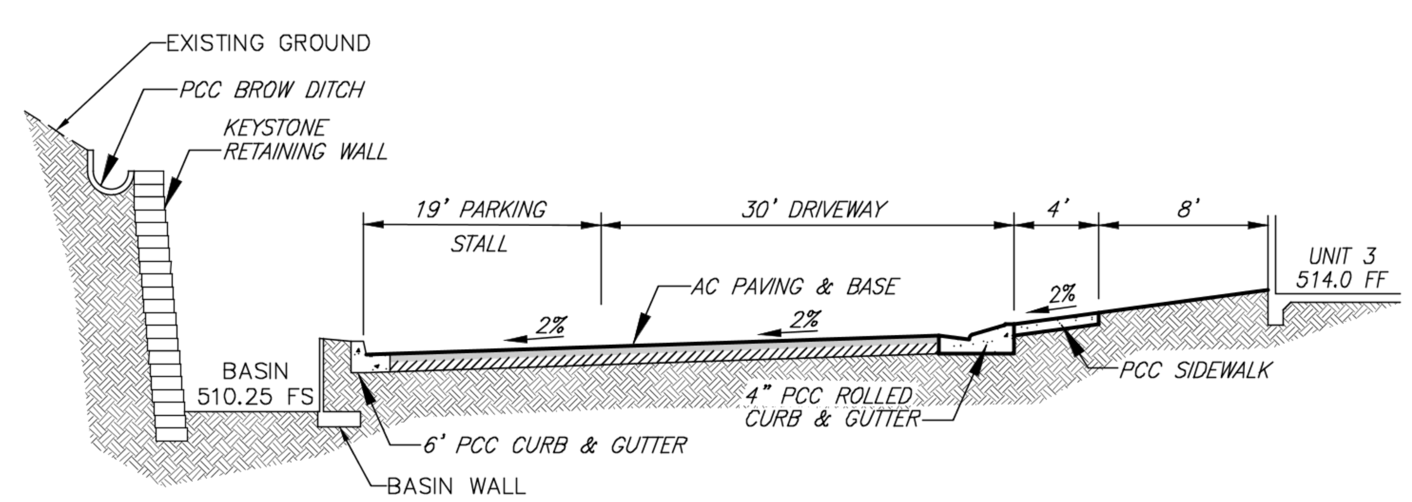
SYMBOL	DESCRIPTION
	EXISTING RIGHT OF WAY
	EXISTING LOT LINE
	EXISTING EASEMENT
W	EXISTING WATER MAIN
S	EXISTING SEWER MAIN
	EXISTING STORM DRAIN
	EXISTING CURB
	EXISTING BUILDING
	EXISTING FENCE
	EXISTING FIRE HYDRANT
PP	EXISTING POWER POLE
	PROPOSED CURB
	PROPOSED STORM DRAIN
	PROPOSED BUILDING
	PROPOSED CONCRETE PAVING
	PROPOSED BIOFILTRATION AREA (2,150 SF)
	PROPOSED RETAINING WALL
	PROPOSED SLOPE (2:1 U.O.N.)
F.F. 520.0	PROPOSED FINISH FLOOR ELEVATION
PAD 519.3	PROPOSED PAD ELEVATION
	TYPE "B" CURB INLET
	TYPE "F" INLET
#3 / 3	SECTION NUMBER / SHEET NUMBER





SECTION A-A

NO SCALE



SECTION B-B

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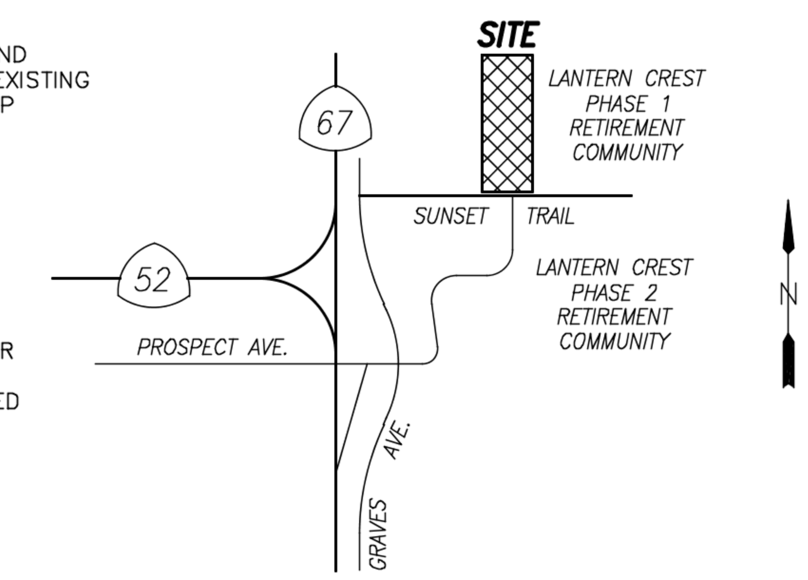


VICINITY MAP

NO SCALE

OWNER/SUBDIVIDER

DEVELOPMENT CONTRACTOR, INC.
NAME: MICHAEL GRANT
ADDRESS: 8510 RAILROAD AVENUE, SANTEE, CA 92071
PHONE: (619) 449-0249

MICHAEL GRANT   DATE

ENGINEER OF WORK

REC CONSULTANTS, INC.
2442 SECOND AVENUE
SAN DIEGO, CA 92101
(619)232-9200 (619)232-9210 FAX

JONATHAN RAAB RYDEEN   DATE
R.C.E. 64811   EXP. 6-30-19

REGISTERED PROFESSIONAL ENGINEER JONATHAN RAAB RYDEEN RCE – 64811 EXP 6/30/19 CIVIL STATE OF CALIFORNIA

April 3, 2019

SCALE: 1" = 30'

SHEET 1	CITY OF SANTEE	OF 4 SHEETS

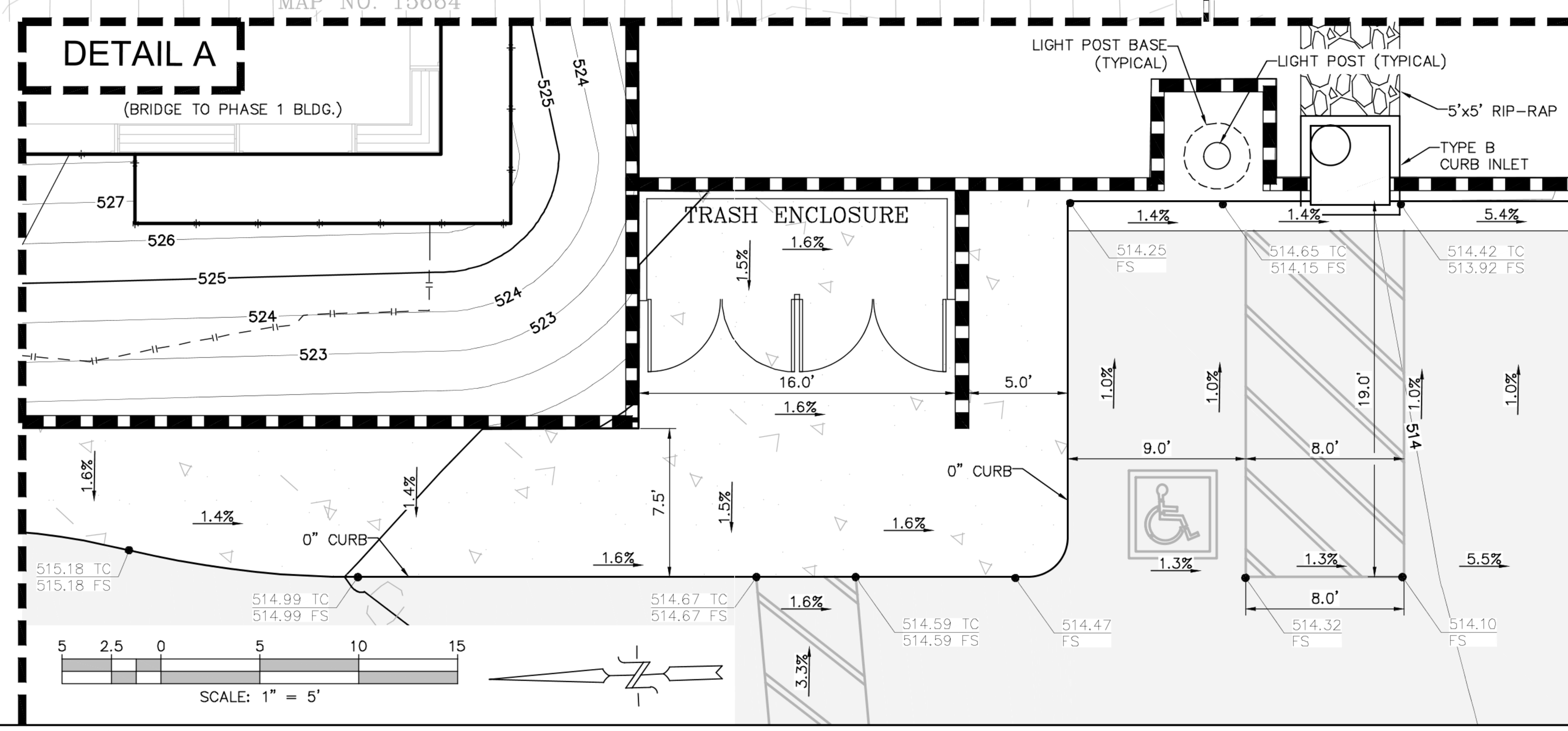
D.R. SITE PLAN &
PRELIMINARY GRADING PLAN
LANTERN CREST RIDGE II

REC Consultants, Inc. Civil Engineering·Environmental Land Surveying
2442 Second Avenue
San Diego, CA 92101
(619)232-9200 (619)232-9210 Fax

SAVE DATE: 4/3/2019 – PLOT DATE: 4/3/2019 – FILE NAME: P:\Acad\1384 Lantern Crest Addition\Civil\Preliminary Grading Plan\Preliminary Grading Plan.dwg

SITE PLAN & PRELIMINARY GRADING PLAN
LANTERN CREST RIDGE II

SEE SHEETS 3&4 FOR STREET AND SITE CROSS SECTION



EASEMENT NOTES

A. AN EXISTING EASEMENT AND RIGHTS OF WAY FOR ROAD AND PUBLIC UTILITIES AND INCIDENTAL PURPOSES, OVER, UNDER, ALONG AND ACROSS THOSE EASEMENT PARCELS HEREIN DESCRIBED, AS CONVEYED AND RESERVED BY VARIOUS DEEDS OF RECORD. (TO BE QUITCLAIMED)

B. AN EXISTING 15' WIDE EASEMENT FOR ROAD, SEWER, WATER, GAS, POWER AND TELEPHONE LINES AND RIGHTS INCIDENTAL THERETO, PER DOC. REC. JUNE 16, 1965 AS INSTRUMENT NO. 65-106790, O.R.

C. AN EXISTING OFFER OF DEDICATION TO THE CITY OF SANTEE PER DOC. NO. 2011-0264026, REC. MAY 23, 2011

ENGINEER OF WORK

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SAN DIEGO, CA 92101
(619)232-9200 (619)232-9210 FAX

JONATHAN RAAB RYDEEN — R.C.E. 64811 — DATE — EXP. 6-30-19

REGISTERED PROFESSIONAL ENGINEER — JONATHAN RAAB RYDEEN — RCE No 64811 — EXP 6/30/19 — CIVIL — STATE OF CALIFORNIA

April 3, 2019

SHEET 2 — CITY OF SANTEE — OF 4 SHEETS

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PRELIMINARY GRADING PLAN
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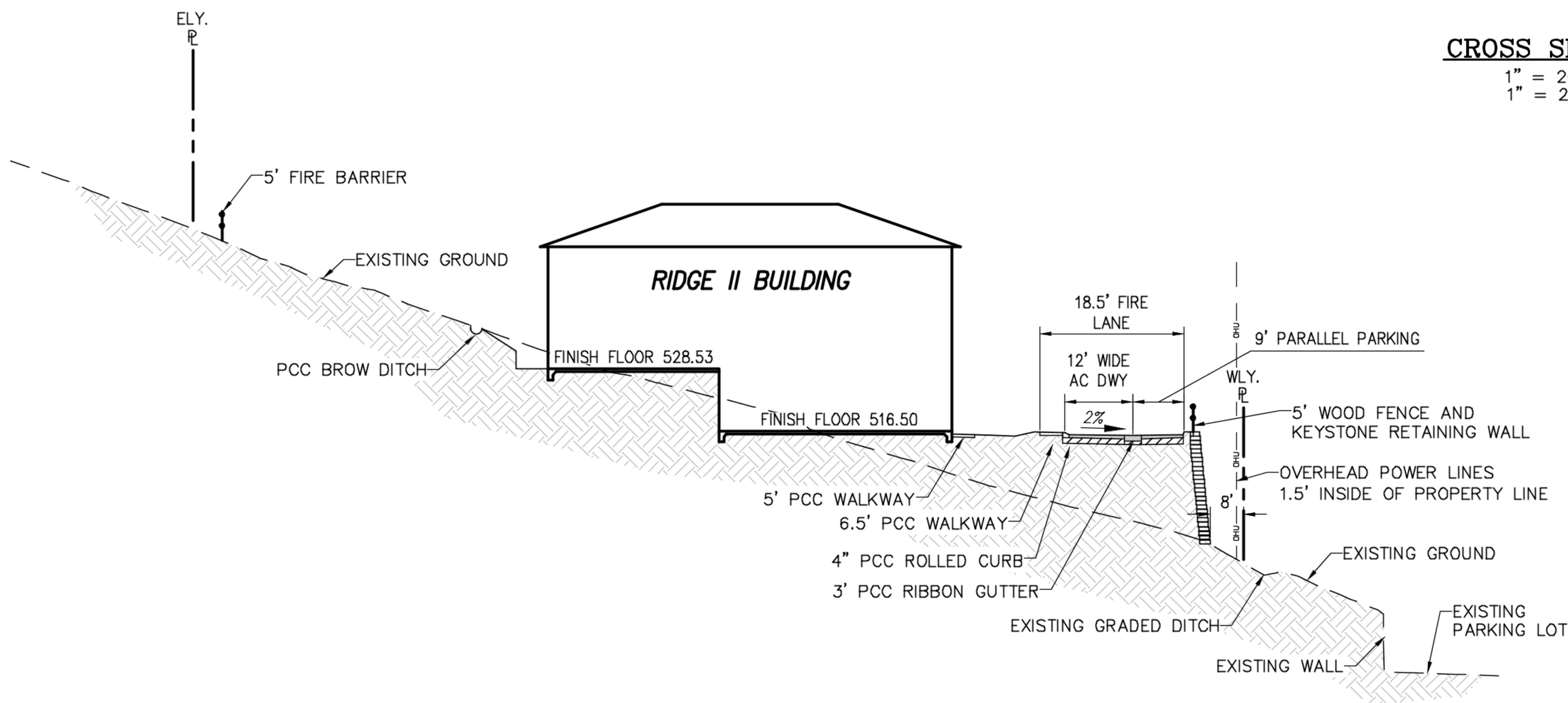
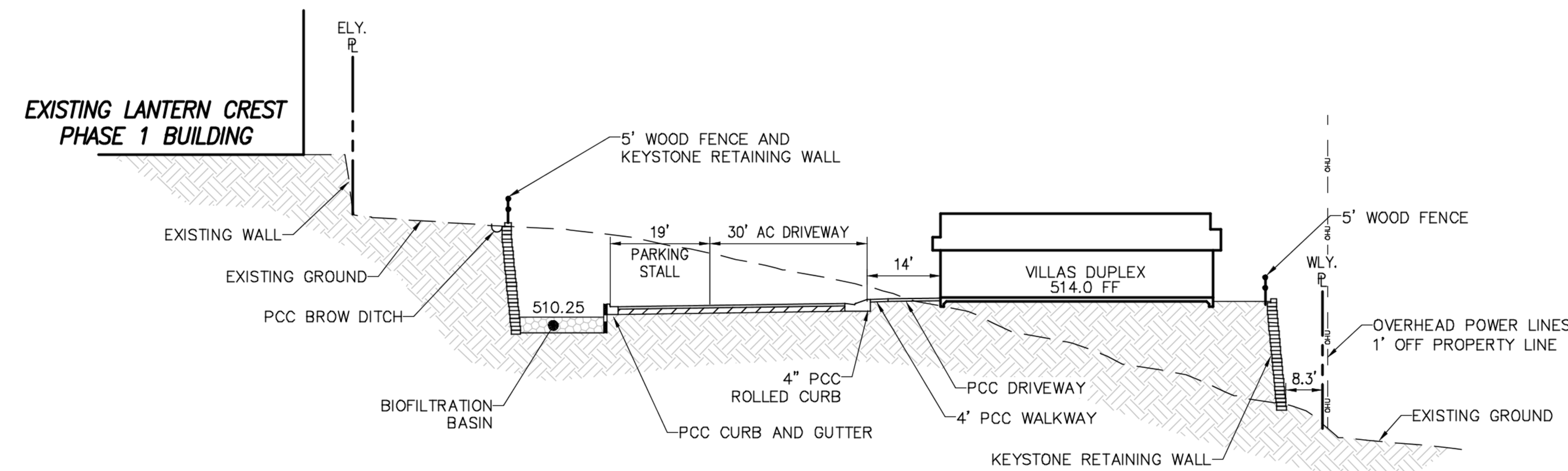
PROJECT CROSS SECTIONS
LANTERN CREST RIDGE II

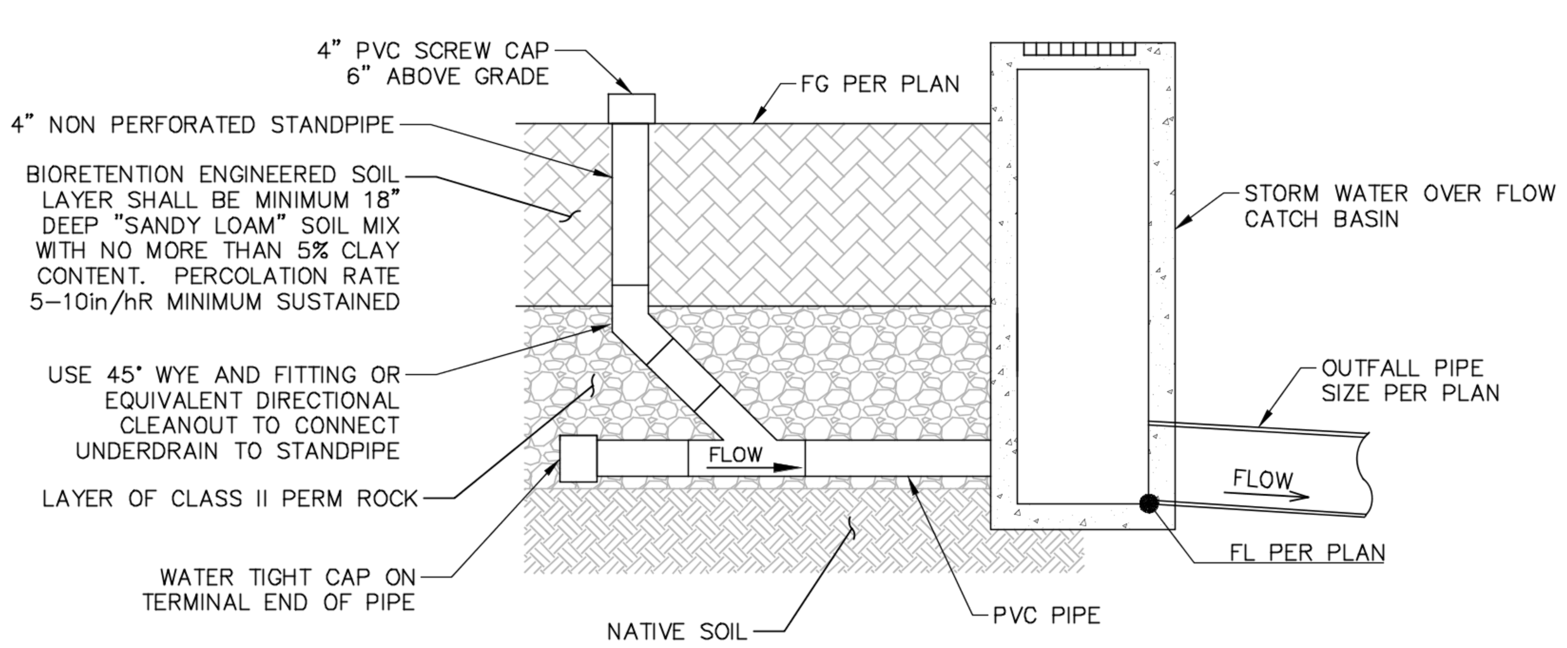
CROSS SECTION #1
1" = 20' HORZ.
1" = 20' VERT.



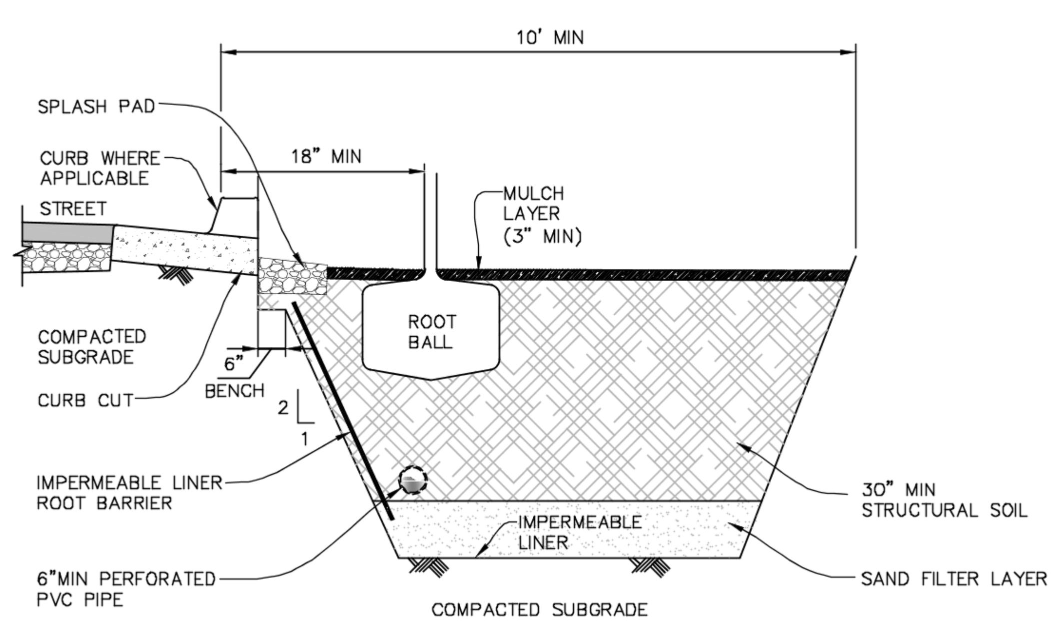
CROSS SECTION #2
1" = 20' HORZ.
1" = 20' VERT.



CROSS SECTION #3
1" = 20' HORZ.
1" = 20' VERT.



BIOFILTRATION BASIN DETAIL
NOT TO SCALE



TREE WELL DETAIL
NOT TO SCALE

ENGINEER OF WORK
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JONATHAN RAAB RYDEEN — DATE
R.C.E. 64811 — EXP. 6-30-19

April 3, 2019

SHEET 3 — CITY OF SANTEE — OF 4 SHEETS

PROJECT CROSS SECTIONS
LANTERN CREST RIDGE II

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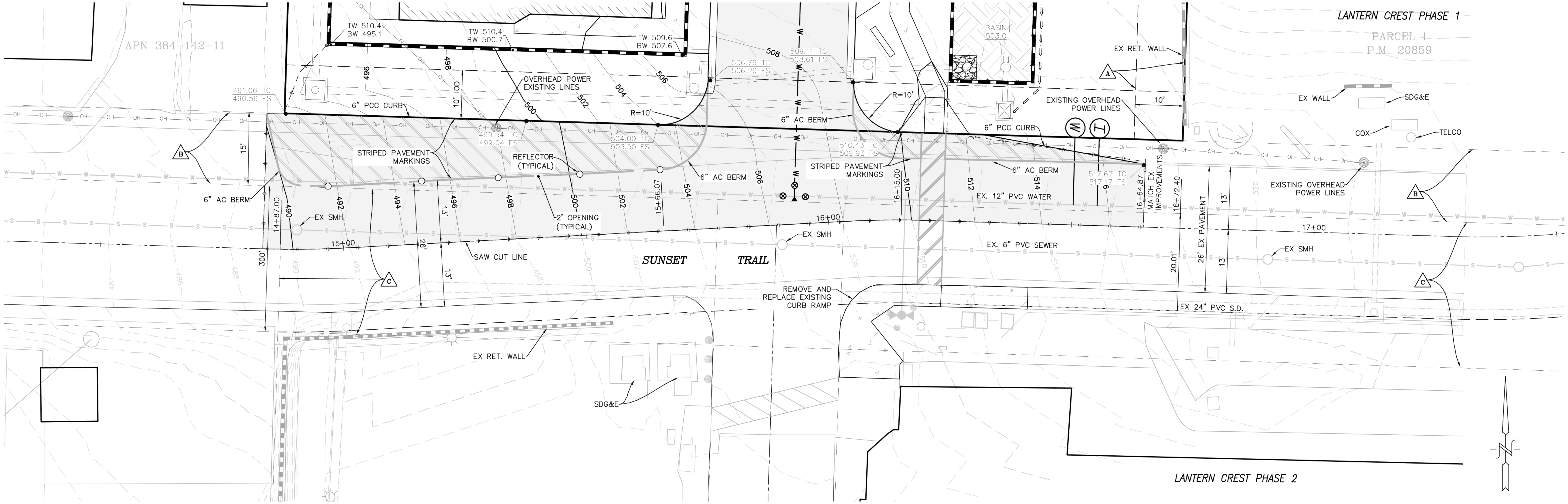
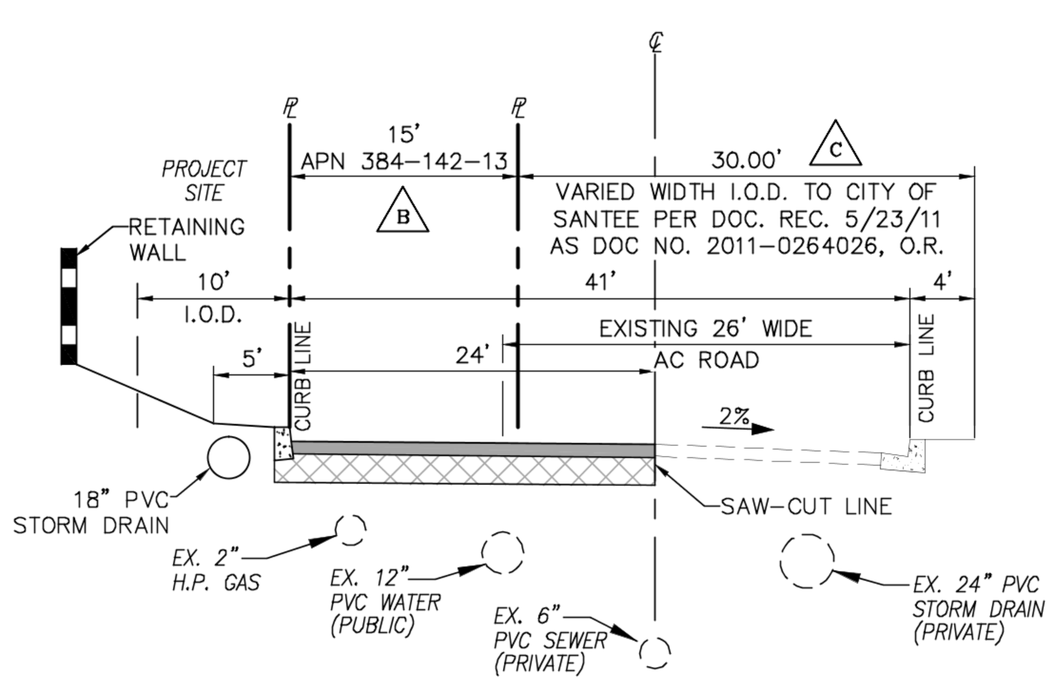
SAVE DATE: 4/3/2019 — PLOT DATE: 4/3/2019 — FILE NAME: P:\Acad\1384 Lantern Crest Addition\Civil\Preliminary Grading Plan\Site Cross Sections.dwg

PROJECT STREET SECTIONS
LANTERN CREST RIDGE II

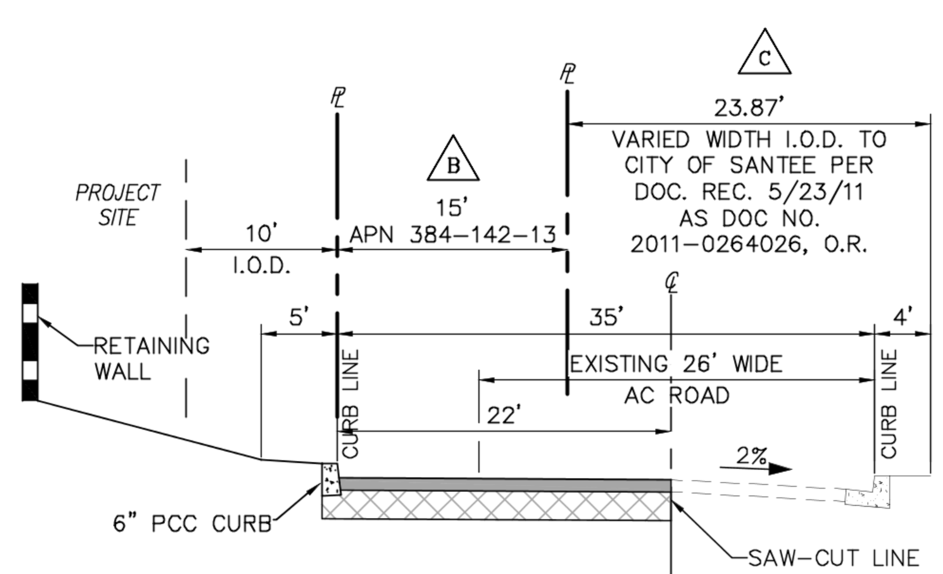


SCALE: 1" = 10'



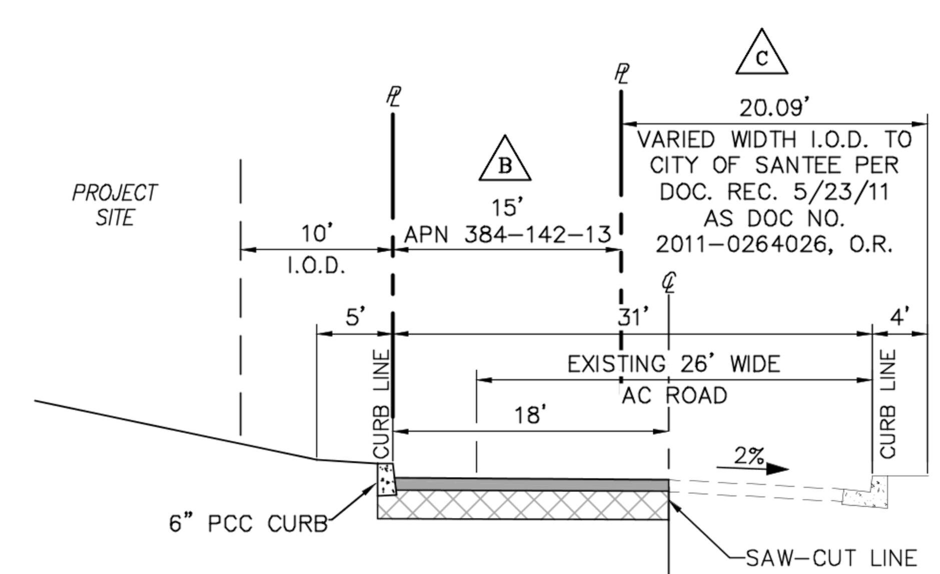
SUNSET TRAIL

SECTION ~ 14+87.00
LOOKING EAST
NO SCALE



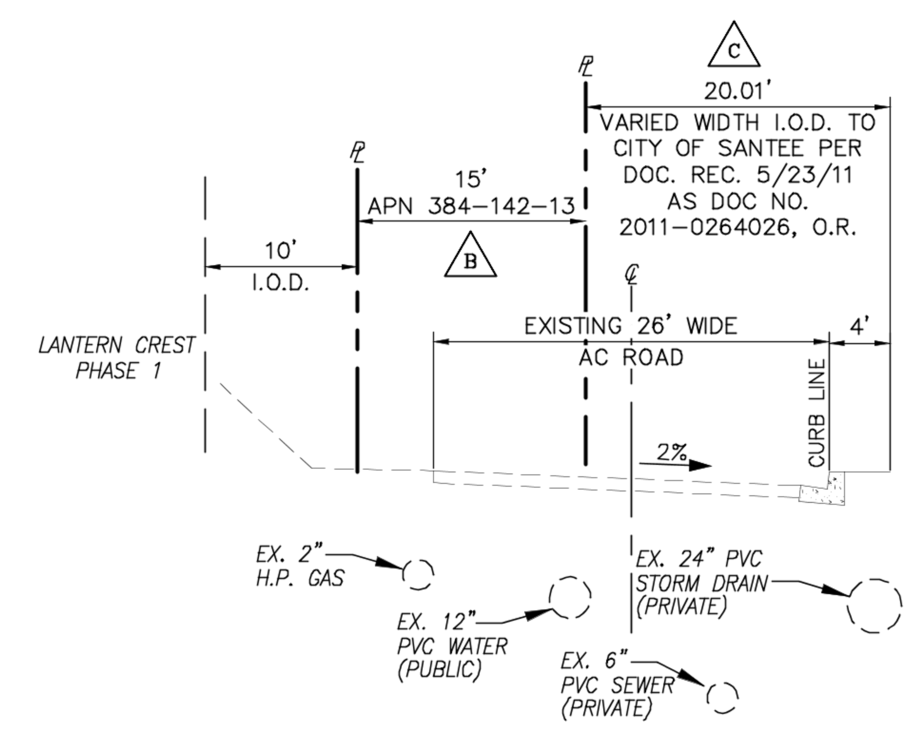
SUNSET TRAIL

SECTION ~ 15+66.07
LOOKING EAST
NO SCALE



SUNSET TRAIL

SECTION ~ 16+15.00
LOOKING EAST
NO SCALE



SUNSET TRAIL

SECTION ~ 16+72.40
LOOKING EAST
NO SCALE

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RCE ~ 64811
EXP 6/30/19
CIVIL
STATE OF CALIFORNIA

JONATHAN RAAB RYDEEN
R.C.E. 64811

DATE
EXP. 6-30-19

April 3, 2019

SHEET 4	CITY OF SANTEE	OF 4 SHEETS

PROJECT CROSS SECTIONS
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