

ADDENDUM NUMBER 1 TO THE BID DOCUMENTS

Amendment Date: **May 3, 2021**

**BID DOCUMENT NUMBER 2021-01
HORIZON SEWER PROJECT**

A. This Addendum shall be considered part of the bid documents for the above-mentioned project as though it had been issued at the same time and shall be incorporated integrally therewith. Where provisions of the following supplementary data differ from those of the original bid documents, this Addendum shall govern and take precedence. BIDDERS MUST SIGN THE ADDENDUM AND SUBMIT IT WITH THEIR BIDS.

B. Bidders are hereby notified that they shall make any necessary adjustments in their estimates as a result of this Amendment. It will be construed that each bidder's proposal is submitted with full knowledge of all modifications and supplemental data specified herein.

Except as described below, the original bid document remains unchanged. The bid documents are modified and/or clarified, as follows:

Responses to bidders' questions:

Question #01	
Subject:	Trench Backfill Under Existing Pavement
Reference Specification:	n/a
Reference Plan Page:	Sheet 6, Drawing S-2
Question:	Per detail S-2, backfill material specification is not specified in trench and street zones, only compaction. Will this be a native backfill, structural backfill, or a slurry backfill underneath the currently existing paved surfaces? If slurry, will there be an AC/AB ratio or will AC be laid directly on top of slurry backfill?

Answer: Assume native backfill for trench backfill.

Question #02	
Subject:	Lateral Connections to Mainline
Reference Specification:	
Reference Plan Page:	
Question:	Several laterals are called out to be installed to the mainline throughout the project alignment. Typical Lateral Sewer Detail S-3 shows the lateral branch wye coming off the mainline, and Lateral Sewer Installation Detail S-6 shows installation from the mainline to the property with via 3-options: 1) Standard Lateral Sewer, Alternate "A", or Alternate "B". Question: Due to the significant depth of the mainline sewer, would the District allow a concrete encased "Chimney" style lateral connection per the attached detail?

Answer: Yes, a "chimney" style lateral is acceptable for deep laterals. Attached sample detail would be acceptable.

Question #03	
Subject:	Geotechnical Report
Reference Specification:	
Reference Plan Page:	
Question:	1) Please provide a Geotechnical report with Bore Logs so bidders can ascertain and appropriately bid influences of the soil types, shoring needs, export quantities, and potential groundwater elevations (if any) that would assist in determining bid costs?

Answer: Geotechnical report for the two test holes on Horizon Drive is attached along with water level data taken from the boreholes.

Question #04	
Subject:	Lateral Termination
Reference Specification:	
Reference Plan Page:	Lateral Sewer Installation / Detail S-6
Question:	1) The referenced detail indicates new sewer laterals will stop at the property line. However, Note 4/ Sheet 4 & 5 states: "Install and Cap lateral wye per SYCSD standard Detail S-3, on Sheet 6. Extend laterals to 2-feet beyond edge of pavement or back of curb and cap at an elevation of 6' deep.": <ul style="list-style-type: none"> a. Please identify where the residential property line is in relationship to the AC curbs on each side of Horizon Drive? b. If laterals are run onto residential property, please identify the existing physical features (landscaping, decorative rock, concrete or brick/stone) and replacements required per residence? c. Please confirm that the residential lateral connection to residences is not part of this Contract?

Answer: The contractor is only required to extend the laterals to two feet beyond the edge of pavement and cap the laterals.

Question #05	
Subject:	Existing Sanja Cota Motel Sewer mainline and manholes
Reference Specification:	
Reference Plan Page:	Horizon Drive Easement and Hwy 246-Plan & Profile View, Sheet 2 of 6
Question:	1) The profile & plan view show the existing 8" sewer line servicing the Santa Cota Motel being directly over and conflicting with installation of the new 8" mainline: <ul style="list-style-type: none"> a. Can the District define the length of this conflict, as it appears the existing sewer deviates away from, then back into the centerline of the new 8" sewer mainline? b. Are contractors to bypass the Sanja Cota Motel sewer flows during the removal of this line? c. What are we to anticipate for sewer flow (GPD)?

Answer: The existing sewer line diverges away from the new proposed sewer line. It is anticipated that the length of the conflict will be approximately 20 feet. The Sanja Cota sewer laterals are connected to manhole E0 via an existing 8-inch pipe. They must remain in service for the duration of the project. The

property owner is connected, as well as approximately four motel rooms. Daily sewer flows are estimated to be approximately 500 gallons per day, but could be up to 1,000 gallons per day.

Question #06	
Subject:	Abandoned Dry Wells
Reference Specification:	
Reference Plan Page:	Horizon Drive Easement and Hwy 246-Plan View, Sheet 2
Question:	<ol style="list-style-type: none"> 1) Note 8-“Remove any interfering Abandoned Dry Wells” <ol style="list-style-type: none"> a. Please identify what this work entails, the limits of removal and the depth? b. How many dry wells are to be removed? c. What is the material makeup of the dry wells?

Answer: There are no records of what is remaining of the abandoned dry wells. Removal is limited to only that which is necessary to allow for proper pipe bedding and installation of the proposed sewer. Any interfering portions of the dry wells shall be removed and disposed of. No additional removal is required.

Question #07	
Subject:	Manhole Diameter
Reference Specification:	
Reference Plan Page:	48” I.D. Standard Sewer Manhole with Precast Base /Detail S-8, Sheet 6 of 6
Question:	<p>Note 2 on this detail states: “Manholes with a depth greater than 10 feet from cover to invert shall be 60” diameter standard, See Dwg. S-10.</p> <p>Construction Note 1 on plan Sheets 3, 4, & 5 indicates that all precast manholes are to be 48” diameter, even though the profile shows each new manhole to be provided greater than 10’ depth from rim to invert.</p> <ol style="list-style-type: none"> 1) Please identify the diameter of sewer manholes required for this project? Unless directed otherwise, contractors will bid 48” diameter manholes as called out in the construction notes.

Answer: All manholes shall be 48-inch diameter.

Question #08	
Subject:	Existing Sewer Mainline from Tie-In at Existing Manhole STA 3+13.39
Reference Specification:	
Reference Plan Page:	Horizon Drive Easement and Hwy 246-Profile View, Sheet 2
Question:	<ol style="list-style-type: none"> 1) Please confirm the existing mainline from STA 3+13.39 manhole downstream is currently clean and no work is necessary from bidding contractors? 2) If work by bidding contractors is to be performed from the existing manhole at STA 3+13.39 downstream, please identify this work and the limits of work?

Answer: The existing manhole at Sta 3+19.39 is existing and can remain in place. Contractor shall verify that the stub coming out of the manhole is aligned sufficiently to connect to with a strongback coupling. If the stub was installed incorrectly, the contractor will need to modify the connection so that it is in proper alignment.

Question #09	
Subject:	Permits
Reference Specification:	
Reference Plan Page:	Horizon Sewer Project Report by Cannon, Section 6.5-Permits
Question:	<ol style="list-style-type: none"> 1) Please identify if the District will secure the Santa Barbara County Encroachment Permit? 2) Are there any Caltrans Permits, Conditions or Bond fees contractors should consider in their bids?

Answer: The contractor will be required to secure the SBCO Encroachment Permit. No Caltrans permits are required.

Question #10	
Subject:	Bid Item #13- Provide Dewatering for 6-Weeks
Reference Specification:	Section 02250-Dewatering
Reference Plan Page:	
Question:	<ol style="list-style-type: none"> 1) Please provide a geotechnical report with bore logs so contractors can ascertain the existing ground water level in relationship to the depth of the new sewer mainline. 2) Likewise, a geotechnical report and bore logs will classify soil types and permeability to ascertain dewatering equipment.

Answer: Geotechnical report for the two test holes on Horizon Drive is attached along with water level data taken from the boreholes.

11. Question: Per Note 2 on SYCSD Std. Dwg. S-8, "Manholes with a depth greater than 10 feet from cover to invert shall be 60" diameter standard, see Dwg. S-10". Qty. (4) of the (6) Manholes are greater than 10' deep. However, the Plan Sheets and Bid Item 6 call out for all the Manholes to be 48" diameter. Please clarify. If 60" Diameter Manholes are required for the Manholes greater than 10 feet deep, please furnish Standard Drawing S-10.

Answer: All manholes are to be 48-inch diameter. Please disregard the note in Standard Drawing S-8 requiring manholes deeper than 10 feet to be 60-inches in diameter.

12. Question: The specs call for the contractor to obtain for a SBCO Road Encroachment Permit. The County wants \$ 265 to start the process. Can the district add a dollar amount to the bid schedule and give us all the contractors same allotment. The selected Contractor can prepare a traffic control plan and pick up the application and the district picks up the tab.

Answer: The District does not know the fees associated with the Encroachment Permit, and will not be securing the permit. Contractors shall allow adequate budget in your bids for securing the required permits for this project.

13. Question: The specs also call for the contractor to obtain a Caltrans Encroachment Permit, I don't see us working within the Caltrans Right of way, is this permit necessary?; And if so can the district do the same \$ allotment as the county. FYI: Caltrans permits are taking up to 6 months average to be issued and they too want money up front to start the process.

Answer: It is not necessary to obtain a Caltrans Encroachment Permit for the work included in this project. If you plan on using Caltrans right of way for staging equipment and materials on the south end of the project, it will be your responsibility to obtain any and all permits required for your construction activities.

14. Question: Can the District supply a Soils Compaction Testing Requirements spelled out in writing so all the contractors are bidding apples to apples.

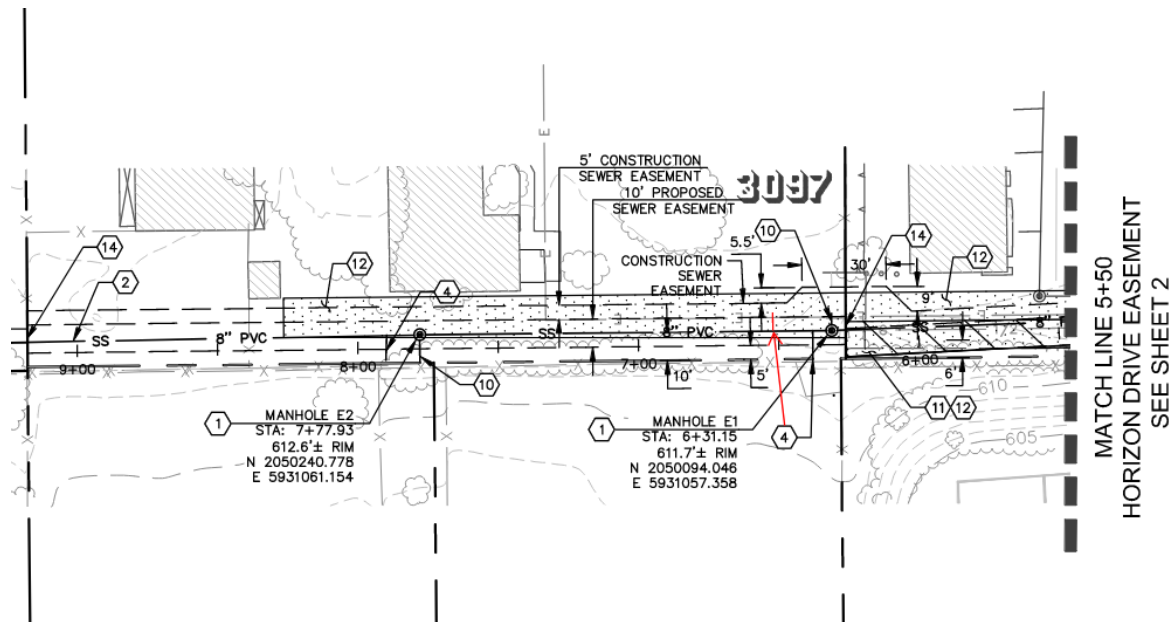
Answer: All trench backfill shall be compacted to a minimum relative compaction of 90%. The top 2 ½ feet of the trench within roadbed areas shall be compacted in horizontal layers not exceeding 8 inches in thickness, and compacted to 95%. The specific compaction testing requirements during construction will be per the conditions called out in the SBCO Encroachment Permit.

15. Question: I believe you have bid items 4 and 5 reversed. I see it as 440 LF @ 9.96 Average 15.00 D to 8.00 D and 1,460 LF @ 15.20 Average form 11.00 D to 20.50 D

Answer: Bid items are correct. While most of the sewer is fairly deep, "DEEP TRENCH" refers to areas that are >18 feet deep. (Station 12+47 to Station 16+77 specifically). All other areas are lumped into the "SHALLOW TRENCH" bid item. Please bid accordingly.

16. Question: Bid Item #8 I count 20 Laterals the bid schedule shows 21 ea.

Answer: The bid schedule is correct. Please provide 21 sewer laterals. A lateral for 3097 Hwy 246 was not shown on the plans. See below for approximate location.



17. Question: Is there any way we could walk the area between the Hotel Parking Lot to the home on Horizon Dr? That is a big part of the job and would be beneficial to the contractor to see up close.

Answer: Unfortunately, it is not possible at this time to walk the area between the hotel parking lot and Horizon Drive.

18. Question: I looked on the ERGO website and I need a product number for the Ring and Cover the District wants.

Answer: The hinged frame and cover shown in Standard Drawing S-15 is Product 001040030L01 by EJ.

If you need further clarifications regarding this Addendum, please contact Jose Acosta at jose@sycsd.com or phone 805-688-3008.

BIDDER MUST ACKNOWLEDGE THIS AMENDMENT BY SIGNING BELOW AND ATTACHING THE SIGNED ADDENDUM TO THE BID FORM:

Addendum Number 1

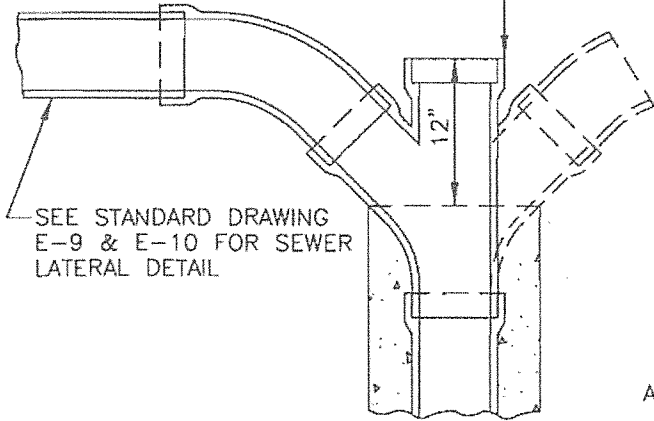
Company Name _____

Contact Person _____

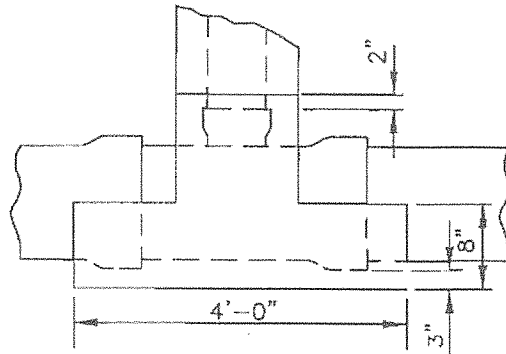
Signature _____

Date _____

WYE OR DOUBLE WYE, SEE PLANS FOR INDIVIDUAL REQUIREMENTS



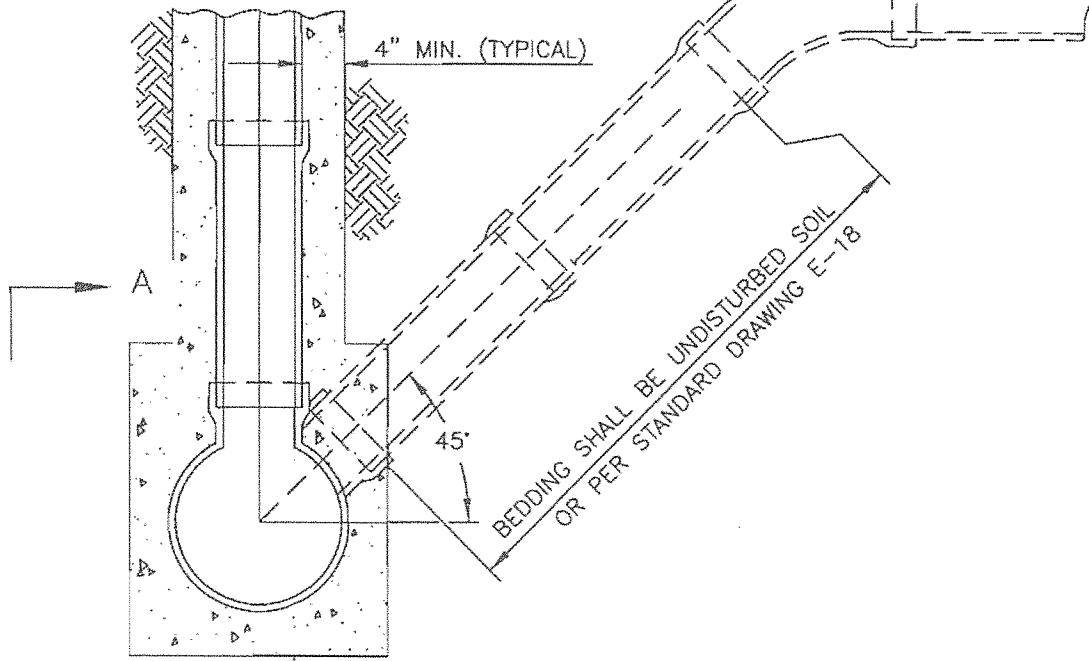
SEE STANDARD DRAWING E-9 & E-10 FOR SEWER LATERAL DETAIL



SECTION A-A

SEE STANDARD DRAWING E-9 & E-10 FOR SEWER LATERAL DETAIL

ALTERNATE METHOD



4" MIN. (TYPICAL)

45°

BEDDING SHALL BE UNDISTURBED SOIL OR PER STANDARD DRAWING E-18

CLASS IV CONCRETE

NOTE:
EXTEND ALL LATERALS TO ABOVE KNOWN GROUND WATER LEVELS

SEE CONSTRUCTION DRAWINGS FOR LOCATION AND SIZE OF LATERALS AND CHIMNEYS.
NO SCALE

TECH. SPEC. REFERENCE
CONCRETE— SECTION 2.0
LATERALS— SECTIONS 3.15, 3.16

REVISIONS

5/82
9-75

CHIMNEY AND DEEP LATERAL

DRAWING NUMBER

E-11

Approved:

Jamy Martin

Date: 1/27/12



December 15, 2020

FILE NO.: 304247-001

Mr. Michael Kielborn
Cannon
1050 Southwood Drive
San Luis Obispo, California 93401

PROJECT: SANTA YNEZ COMMUNITY SERVICES DISTRICT SEWER EXPANSION
HORIZON DRIVE, SANTA YNEZ AREA OF SANTA BARBARA COUNTY, CALIFORNIA

SUBJECT: Summary Report of Drilling Operations

REF: 1) Geotechnical Engineering Report, Santa Ynez Community Services District Sewer Expansion, by Earth Systems Pacific, dated June 27, 2016

2) Proposal for Geotechnical Services, Santa Ynez Community Services District Sewer Expansion, Horizon Drive, Santa Ynez Area of Santa Barbara County, California, by Earth Systems Pacific, dated September 2, 2020, Doc. No. 2009-013.PRP

Dear Mr. Kielborn:

In accordance with the authorization of the above referenced proposal, presented herein is a summary of our drilling operations for the Santa Ynez Community Services District Sewer Expansion Project. Our services were for the portion of the project on Horizon Drive in the Santa Ynez area of Santa Barbara County, California.

Field Operations

On November 25 and December 9, 2020, two borings were drilled at the site to depths of approximately 30 feet below the existing ground surface (bgs). The borings were drilled with a Mobile Drill Model B-53 drill rig equipped with a 4-inch diameter solid stem auger. After the borings were drilled, a 2-inch diameter perforated PVC pipe was inserted in each boring, and a traffic-rated monitoring well cover was installed at the surface. The boring locations are shown on the Exploration Location Map presented in Appendix A.



Soils encountered in the borings were categorized and logged in general accordance with the Unified Soil Classification System and ASTM D2488-17. The boring logs are presented in Appendix A, along with a Boring Log Legend. In reviewing the boring logs and legend, the reader should recognize that the legend is intended as a guideline only, and there are a number of conditions that may influence the characteristics observed during drilling. These include, but are not limited to, the presence of cobbles or boulders, cementation, variations in soil moisture, presence of groundwater, and other factors. Consequently, the logger must exercise judgment in interpreting soil characteristics, possibly resulting in soil or bedrock descriptions that vary from the legend.

General Subsurface Profile

The general subsurface profile observed in the borings consisted of layered sand and clay soils in a dry to moist condition. The sands had a loose to dense consistency and the clays were soft to stiff. Groundwater was not encountered during drilling within the depths explored. Please refer to the boring logs in Appendix A for a more complete description of the subsurface conditions.

If there are any questions concerning this letter, please do not hesitate to contact the undersigned.

Sincerely,
Earth Systems Pacific

Doug Dunham

Doug Dunham, GE
Associate Engineer



Appendix A: Exploration Location Map
Boring Logs
Boring Log Legend

E-copy to: Mr. Mike Kielborn

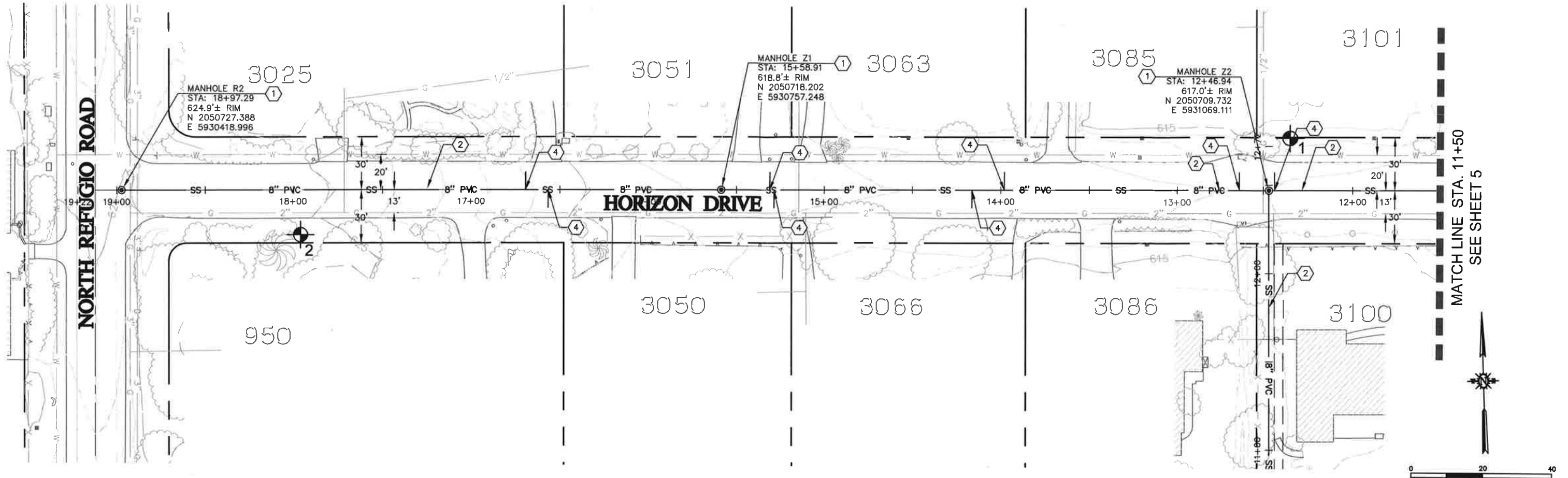
Doc. No.: 2012-036.LTR/smkn

APPENDIX A

Exploration Location Map

Boring Logs

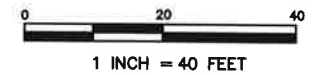
Boring Log Legend



HORIZON DRIVE — PLAN VIEW

SCALE HORIZ 1" = 40'

HORIZON DRIVE EASEMENT
SEE SHEET 3



NOT TO SCALE

LEGEND

1 Boring Location (Approx.)

BASE MAP PROVIDED BY: THE CLIENT



Earth Systems

2049 Preisker Lane, Suite E, Santa Maria, CA. 93454
www.earthsystems.com
(805) 928-2991 • Fax (805) 928-9253

EXPLORATION LOCATION MAP
SANTA YNEZ COMMUNITY SERVICES DISTRICT SEWER EXPANSION
Horizon Drive
Santa Ynez Area of Santa Barbara County, California

Date
December 17, 2020

Project No.
304275-001



Santa Ynez Community Services District Sewer Expansion, ELM 12-17-20.dwg



LOGGED BY: PWM
 DRILL RIG: Mobile B-53 with Automatic Hammer
 AUGER TYPE: 4" Solid Stem

PAGE 1 OF 2
 JOB NO.: 304247-001
 DATE: 11/25/2020

DEPTH (feet)	USCS CLASS	SYMBOL	SANTA YNEZ COMMUNITY SERVICES DISTRICT SEWER EXPANSION Horizon Drive Santa Ynez Area of Santa Barbara County, California	SAMPLE DATA				
				INTERVAL (feet)	SAMPLE TYPE	DRY DENSITY (pcf)	MOISTURE (%)	BLOWS PER 6 IN.
SOIL DESCRIPTION								
0	CL		SANDY LEAN CLAY: gray-brown, dry, soft					
1								
2								
3	SM		SILTY SAND: brown, slightly moist, medium dense					
4								
5	CL		SANDY LEAN CLAY: brown, moist, stiff					
6								
7								
8	SC		CLAYEY SAND: light brown, moist, medium dense					
9								
10								
11								
12								
13			increasing moisture and clay content					
14								
15								
16								
17								
18								
19	CL		SANDY LEAN CLAY WITH GRAVEL: brown, moist, stiff, fine gravel					
20								
21								
22								
23								
24								
25								
26			harder drilling					

LEGEND: Ring Sample Grab Sample Shelby Tube Sample SPT

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.



LOGGED BY: PWM
 DRILL RIG: Mobile B-53 with Automatic Hammer
 AUGER TYPE: 4" Solid Stem

PAGE 2 OF 2
 JOB NO.: 304275-001
 DATE: 11/25/2020

DEPTH (feet)	USCS CLASS	SYMBOL	SANTA YNEZ COMMUNITY SERVICES DISTRICT SEWER EXPANSION Horizon Drive Santa Ynez Area of Santa Barbara County, California	SAMPLE DATA				
				INTERVAL (feet)	SAMPLE TYPE	DRY DENSITY (pcf)	MOISTURE (%)	BLOWS PER 6 IN.
			SOIL DESCRIPTION					
27	CL		SANDY LEAN CLAY WITH GRAVEL; as above					
28								
29								
30			End of Boring @ 30.0'					
31			No Subsurface Water Encountered					
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								
53								

LEGEND: Ring Sample Grab Sample Shelby Tube Sample SPT

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.



LOGGED BY: S. Hemmer
 DRILL RIG: Mobile B-53 with Automatic Hammer
 AUGER TYPE: 4" Solid Stem

PAGE 1 OF 2
 JOB NO.: 304247-001
 DATE: 12/09/2020

DEPTH (feet)	USCS CLASS	SYMBOL	SANTA YNEZ COMMUNITY SERVICES DISTRICT SEWER EXPANSION Horizon Drive Santa Ynez Area of Santa Barbara County, California	SAMPLE DATA				
				INTERVAL (feet)	SAMPLE TYPE	DRY DENSITY (pcf)	MOISTURE (%)	BLOWS PER 6 IN.
			SOIL DESCRIPTION					
0	SC		CLAYEY SAND: brown, loose, slightly moist, (Alluvium)					
1								
2								
3								
4								
5			light brown, medium dense, moist					
6								
7								
8								
9								
10			some fine gravel					
11								
12								
13			dense					
14								
15								
16								
17								
18			medium dense					
19								
20								
21			brown					
22								
23								
24								
25								
26								

LEGEND: Ring Sample Grab Sample Shelby Tube Sample SPT
 NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.



LOGGED BY: S. Hemmer
 DRILL RIG: Mobile B-53 with Automatic Hammer
 AUGER TYPE: 4" Solid Stem

PAGE 2 OF 2
 JOB NO.: 304275-001
 DATE: 12/09/2020

DEPTH (feet)	USCS CLASS	SYMBOL	SANTA YNEZ COMMUNITY SERVICES DISTRICT SEWER EXPANSION Horizon Drive Santa Ynez Area of Santa Barbara County, California	SAMPLE DATA				
				INTERVAL (feet)	SAMPLE TYPE	DRY DENSITY (pcf)	MOISTURE (%)	BLOWS PER 6 IN.
			SOIL DESCRIPTION					
27	SC		CLAYEY SAND: as above					
28								
29								
30			End of Boring @ 30.0'					
			No Subsurface Water Encountered					
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								
53								

LEGEND: Ring Sample Grab Sample Shelby Tube Sample SPT
 NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.



Earth Systems Pacific

BORING LOG LEGEND

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487)

SAMPLE / SUBSURFACE WATER SYMBOLS		GRAPH. SYMBOL	MAJOR DIVISIONS	GROUP SYMBOL	TYPICAL DESCRIPTIONS	GRAPH. SYMBOL
CALIFORNIA MODIFIED		■	COARSE GRAINED SOILS MORE THAN HALF OF MATERIAL IS LARGER THAN #200 SIEVE SIZE	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	
STANDARD PENETRATION TEST (SPT)		●		GP	POORLY GRADED GRAVELS, OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	
SHELBY TUBE		□		GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES, NON-PLASTIC FINES	
BULK		○		GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES, PLASTIC FINES	
SUBSURFACE WATER DURING DRILLING		▽		SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES	
SUBSURFACE WATER AFTER DRILLING		▽		SP	POORLY GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES	
				SM	SILTY SANDS, SAND-SILT MIXTURES, NON-PLASTIC FINES	
				SC	CLAYEY SANDS, SAND-CLAY MIXTURES, PLASTIC FINES	
			FINE GRAINED SOILS HALF OR MORE OF MATERIAL IS SMALLER THAN #200 SIEVE SIZE	ML	INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY	
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
				MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS	
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS	
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS	
			PT	PEAT AND OTHER HIGHLY ORGANIC SOILS		

OBSERVED MOISTURE CONDITION

DRY	SLIGHTLY MOIST	MOIST	VERY MOIST	WET (SATURATED)
-----	----------------	-------	------------	-----------------

CONSISTENCY

COARSE GRAINED SOILS			FINE GRAINED SOILS		
BLOWS/FOOT		DESCRIPTIVE TERM	BLOWS/FOOT		DESCRIPTIVE TERM
SPT	CA SAMPLER		SPT	CA SAMPLER	
0-10	0-16	LOOSE	0-2	0-3	VERY SOFT
11-30	17-50	MEDIUM DENSE	3-4	4-7	SOFT
31-50	51-83	DENSE	5-8	8-13	MEDIUM STIFF
OVER 50	OVER 83	VERY DENSE	9-15	14-25	STIFF
			16-30	26-50	VERY STIFF
			OVER 30	OVER 50	HARD

GRAIN SIZES

U.S. STANDARD SERIES SIEVE				CLEAR SQUARE SIEVE OPENING			
# 200	# 40	# 10	# 4	3/4"	3"	12"	
SILT & CLAY		SAND		GRAVEL		COBBLES	BOULDERS
		FINE	MEDIUM	COARSE	FINE		

TYPICAL BEDROCK HARDNESS

MAJOR DIVISIONS	TYPICAL DESCRIPTIONS
EXTREMELY HARD	CORE, FRAGMENT, OR EXPOSURE CANNOT BE SCRATCHED WITH KNIFE OR SHARP PICK; CAN ONLY BE CHIPPED WITH REPEATED HEAVY HAMMER BLOWS
VERY HARD	CANNOT BE SCRATCHED WITH KNIFE OR SHARP PICK; CORE OR FRAGMENT BREAKS WITH REPEATED HEAVY HAMMER BLOWS
HARD	CAN BE SCRATCHED WITH KNIFE OR SHARP PICK WITH DIFFICULTY (HEAVY PRESSURE); HEAVY HAMMER BLOW REQUIRED TO BREAK SPECIMEN
MODERATELY HARD	CAN BE GROOVED 1/16 INCH DEEP BY KNIFE OR SHARP PICK WITH MODERATE OR HEAVY PRESSURE; CORE OR FRAGMENT BREAKS WITH LIGHT HAMMER BLOW OR HEAVY MANUAL PRESSURE
SOFT	CAN BE GROOVED OR GOUGED EASILY BY KNIFE OR SHARP PICK WITH LIGHT PRESSURE, CAN BE SCRATCHED WITH FINGERNAIL; BREAKS WITH LIGHT TO MODERATE MANUAL PRESSURE
VERY SOFT	CAN BE READILY INDENTED, GROOVED OR GOUGED WITH FINGERNAIL, OR CARVED WITH KNIFE; BREAKS WITH LIGHT MANUAL PRESSURE

TYPICAL BEDROCK WEATHERING

MAJOR DIVISIONS	TYPICAL DESCRIPTIONS
FRESH	NO DISCOLORATION, NOT OXIDIZED
SLIGHTLY WEATHERED	DISCOLORATION OR OXIDATION IS LIMITED TO SURFACE OF, OR SHORT DISTANCE FROM, FRACTURES: SOME FELDSPAR CRYSTALS ARE DULL
MODERATELY WEATHERED	DISCOLORATION OR OXIDATION EXTENDS FROM FRACTURES, USUALLY THROUGHOUT; Fe-Mg MINERALS ARE "RUSTY", FELDSPAR CRYSTALS ARE "CLOUDY"
INTENSELY WEATHERED	DISCOLORATION OR OXIDATION THROUGHOUT; FELDSPAR AND Fe-Mg MINERALS ARE ALTERED TO CLAY TO SOME EXTENT, OR CHEMICAL ALTERATION PRODUCES IN SITU DISAGGREGATION
DECOMPOSED	DISCOLORATION OR OXIDATION THROUGHOUT, BUT RESISTANT MINERALS SUCH AS QUARTZ MAY BE UNALTERED; FELDSPAR AND Fe-Mg MINERALS ARE COMPLETELY ALTERED TO CLAY

draftingmasters@boning.Log.Legend12.17.14.dwg

SYCSD Horizon Drive Groundwater Level Monitoring

	3101	950			
	Horizon	N. Refugio			
	Water	Water	Rainfall		
	Level	Level	Last	Standing	
Date	Site #1	Site #2	24 Hrs.	Water	Comments
12/1/2020	27.5	27.7	None	None	No Water
12/2/2020	27.5	27.7	None	None	No Water
12/3/2020	27.5	27.7	None	None	No Water
12/4/2020	27.5	27.7	None	None	No Water
12/5/2020	27.5	27.7	None	None	No Water
12/6/2020	27.5	27.7	None	None	No Water
12/7/2020	27.5	27.7	None	None	No Water
12/8/2020	27.5	27.7	None	None	No Water
12/9/2020	27.5	27.7	None	None	No Water
12/10/2020	27.5	27.7	None	None	No Water
12/11/2020	27.5	27.7	None	None	No Water
12/12/2020	27.5	27.7	None	None	No Water
12/13/2020	27.5	27.7	None	None	No Water
12/14/2020	27.5	27.7	None	None	No Water
12/15/2020	27.5	27.7	None	None	No Water
12/16/2020	27.5	27.7	None	None	No Water
12/17/2020	27.5	27.7	None	None	No Water
12/18/2020	27.5	27.7	Yes	None	.01" Rain
12/19/2020	27.5	27.7	None	None	No Water
12/20/2020	27.5	27.7	None	None	No Water
12/21/2020	27.5	27.7	None	None	No Water
12/22/2020	27.5	27.7	None	None	No Water
12/23/2020	27.5	27.7	None	None	No Water
12/24/2020	27.5	27.7	None	None	No Water
12/25/2020	27.5	27.7	None	None	No Water
12/26/2020	27.5	27.7	None	None	No Water
12/27/2020	27.5	27.7	None	None	No Water
12/28/2020	27.5	27.7	2"	None	Heavy rain: 2" last 24 hours.
12/29/2020	27.5	27.7	Yes	None	.82" Rain
12/30/2020	27.5	27.7	None	None	No Water
12/31/2020	27.5	27.7	None	None	No Water

SYCSD Horizon Drive Groundwater Level Monitoring

3101 950
Horizon N. Refugio

Water Water Rainfall
Level Level Last Standing
Date Site #1 Site #2 24 Hrs. Water

Comments

Date	Site #1	Site #2	24 Hrs.	Standing Water	Comments
1/1/2021	27.5	27.7	None	None	No Water
1/2/2021	27.5	27.7	None	None	No Water
1/3/2021	27.5	27.7	None	None	No Water
1/4/2021	27.5	27.7	None	None	No Water
1/5/2021	27.5	27.7	None	None	No Water
1/6/2021	27.5	27.7	None	None	No Water
1/7/2021	27.5	27.7	None	None	No Water
1/8/2021	27.5	27.7	None	None	No Water
1/9/2021	27.5	27.7	None	None	No Water
1/10/2021	27.5	27.7	None	None	No Water
1/11/2021	27.5	27.7	None	None	No Water
1/12/2021	27.5	27.7	None	None	No Water
1/13/2021	27.5	27.7	None	None	No Water
1/14/2021	27.5	27.7	None	None	No Water
1/15/2021	27.5	27.7	None	None	No Water
1/16/2021	27.5	27.7	None	None	No Water
1/17/2021	27.5	27.7	None	None	No Water
1/18/2021	27.5	27.7	None	None	No Water
1/19/2021	27.5	27.7	None	None	No Water
1/20/2021	27.5	27.7	None	None	No Water
1/21/2021	27.5	27.7	None	None	No Water
1/22/2021	27.5	27.7	None	None	No Water
1/23/2021	27.5	27.7	Yes	None	.20" Rain
1/24/2021	27.5	27.7	Yes	None	.01" Rain
1/25/2021	27.5	27.7	Yes	None	.14" Rain
1/26/2021	27.5	27.7	Yes	None	.04" Rain
1/27/2021	17.5	27.7	1.25"	None	1.25" rain last 24 hours
1/28/2021	3.7	27.7	.75"	None	1.32" Rain
1/29/2021	2.6	27.7	yes	yes	2.61" Rain
1/30/2021	3.6	27.7	Yes	None	.24" Rain
1/31/2021	4.4	27.7	None	None	No Rain

SYCSD Horizon Drive Groundwater Level Monitoring

3101 950
Horizon N. Refugio

Water Water Rainfall
Level Level Last Standing
Date Site #1 Site #2 24 Hrs. Water

Comments

Date	Site #1	Site #2	24 Hrs.	Standing Water	Comments
2/1/2021	5.4	27.7	None	None	No Rain
2/2/2021	5.5	27.7	None	None	No Rain
2/3/2021	5.7	27.7	None	None	No Rain
2/4/2021	5.6	27.7	None	None	No Rain
2/5/2021	5.8	27.7	None	None	No Rain
2/6/2021	5.9	27.7	None	None	No Rain
2/7/2021	6	27.7	None	None	No Rain
2/8/2021	6.3	27.7	Yes	None	.01" Rain
2/9/2021	6.5	27.7	None	None	No Rain
2/10/2021	6.1	27.7	None	None	No Rain
2/11/2021	7.1	27.7	None	None	No Rain
2/12/2021	7.3	27.7	Yes	None	.08" Rain
2/13/2021	7.6	27.7	None	None	No Rain
2/14/2021	7.7	27.7	None	None	No Rain
2/15/2021	7.1	27.7	None	None	No Rain
2/16/2021	8.1	27.7	None	None	No Rain
2/17/2021	8.3	27.7	None	None	No Rain
2/18/2021	8.5	27.7	None	None	No Rain
2/19/2021	8.7	27.7	None	None	No Rain
2/20/2021	8.7	27.7	None	None	No Rain
2/21/2021	8.8	27.7	None	None	No Rain
2/22/2021	8.9	27.7	None	None	No Rain
2/23/2021	9	27.7	None	None	No Rain
2/24/2021	9.2	27.7	None	None	No Rain
2/25/2021	9.4	27.7	None	None	No Rain
2/26/2021	10.5	27.7	None	None	No Rain
2/27/2021	11.8	27.7	None	None	No Rain
2/28/2021	12.4	27.7	None	None	No Rain

SYCSD Horizon Drive Groundwater Level Monitoring

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Horizon N. Refugio

Water Water Rainfall
Level Level Last Standing

Date Site #1 Site #2 24 Hrs. Water Comments

3/1/2021	24'	27.7	None	None	pumped out 11' water @ 10:35 AM, 13' standing water
3/1/2021	16	27.7	None	None	2:20PM:standing water @ 16'
3/2/2021	13.7	27.7	None	None	No Rain
3/3/2021	14.5	27.7	None	None	No Rain
3/4/2021	14.4	27.7	None	None	No Rain
3/5/2021	14.6	27.7	None	None	No Rain
3/6/2021	14.8	27.7	None	None	No Rain
3/7/2021	15	27.7	None	None	No Rain
3/8/2021	15.5	27.7	None	None	No Rain
3/9/2021	15.8	27.7	None	None	No Rain
3/10/2021	16	27.7	Yes	None	.60" Rain
3/11/2021	16	27.7	Yes	None	.25" Rain
3/12/2021	15.9	27.7	None	None	No Rain
3/13/2021	15.5	27.7	Yes	None	.01 Rain
3/14/2021	15.9	27.7	None	None	No Rain
3/15/2021	16.5	27.7	Yes	None	.10" Rain
3/16/2021	17	27.7	Yes	None	.04" Rain
3/17/2021	17.4	27.7	None	None	No Rain
3/18/2021	19.3	27.7	None	None	No Rain
3/19/2021	19.5	27.7	None	None	No Rain
3/20/2021	19.5	27.7	None	None	No Rain
3/21/2021	19.7	27.7	None	None	No Rain
3/22/2021	19.7	27.7	None	None	No Rain
3/23/2021	19.8	27.7	None	None	No Rain
3/24/2021	19.8	27.7	None	None	No Rain
3/25/2021	19.7	27.7	None	None	No Rain
3/26/2021	19.8	27.7	None	None	No Rain
3/27/2021	19.8	27.7	None	None	No Rain
3/28/2021	19.9	27.7	None	None	No Rain
3/29/2021	19.9	27.7	None	None	No Rain
3/30/2021	20.5	27.7	None	None	No Rain
3/31/2021	20.7	27.7	None	None	No Rain

SYCSD Horizon Drive Groundwater Level Monitoring

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Horizon N. Refugio

Water Water Rainfall
Level Level Last Standing

Date	Site #1	Site #2	24 Hrs.	Water	Comments
4/1/2021	20.8	27.7	None	None	No Rain
4/2/2021	21.2	27.7	None	None	No Rain
4/3/2021	21.6	27.7	None	None	No Rain
4/4/2021	21.8	27.7	None	None	No Rain
4/5/2021	22.3	27.7	None	None	No Rain
4/6/2021	22.8'	27.7	None	None	No Rain
4/7/2021	23.2'	27.7	None	None	No Rain
4/8/2021	23.4	27.7	None	None	No Rain
4/9/2021	23.6'	27.7	None	None	No Rain
4/10/2021	23.8	27.7	None	None	No Rain
4/11/2021	24.1	27.7	None	None	No Rain
4/12/2021	24.5"	27.7	None	None	No Rain
4/13/2021	25.2	27.7	None	None	Well site silted in, now 25.2' deep - no water, damp mud.
4/14/2021	25.2	27.7	None	None	No Rain
4/15/2021	25.2	27.7	None	None	No Rain
4/16/2021	25.2	27.7	None	None	No Rain
4/17/2021	25.2	27.7	None	None	No Rain
4/18/2021	25.2	27.7	None	None	No Rain
4/19/2021	25.2	27.7	None	None	No Rain
4/20/2021	25.2	27.7	None	None	No Rain
4/21/2021	25.2	27.7	None	None	No Rain
4/22/2021	25.2	27.7	None	None	No Rain
4/23/2021	25.2	27.7	None	None	No Rain
4/24/2021	25.2	27.7	None	None	No Rain
4/25/2021	25.2	27.7	None	None	No Rain
4/26/2021	25.2	27.7	None	None	No Rain
4/27/2021	25.2	27.7	None	None	No Rain
4/28/2021	25.2	27.7	None	None	No Rain
4/29/2021	25.2	27.7	None	None	No Rain
4/30/2021	25.2	27.7	None	None	No Rain