

The site has a current permit for the construction of a single family residence and septic system. There was a grading violation at the site due to an unpermitted cut in the area of the proposed septic system. This is the mitigation plan to bring the unpermitted cut back to the original grade using engineered fill in accordance with the geotechnical parameters at the site.

EROSION CONTROL:

1. Best Management Practices (BMPs) Materials and Their Installation shall be applied according to the County of Santa Clara's BMP.
2. Between October 15th and April 15th, exposed soil shall be protected from erosion at all times. Hay bales, filter bars, bioswales or other means shall be employed to prevent turbid runoff to the drainage area or to adjoining properties. These measures are intended to be used for interim erosion and sediment water pollution control only and are not to be used for final elevations or permanent improvements.
3. Unnecessary grading shall be avoided and disturbing of soil shall be avoided.
4. Actual grading shall begin within 30 days of vegetation removal or the area shall be planted to control erosion.
5. Contractor shall be responsible for monitoring erosion and sediment control prior to, during, and after storm events, and shall promptly correct any deficiencies noted.
6. Any excess material shall be disposed of off-site or stockpiled in a manner to avoid runoff onto adjoining properties.
7. Any material stockpiled during construction shall be covered with plastic.
8. Reasonable care shall be taken when hauling any earth, sand, gravel, stone, debris, paper, or any other substance over any public street, alley or other public place. Should any blow, slip or track over and upon said public or adjacent private property, immediately remedy shall occur.
9. Construction operations shall be carried out in such a manner that erosion and water pollution will be minimized. State and local laws concerning pollution abatement shall be complied with.
10. Contractor shall provide dust control as required by federal, state, and local agency requirements.
11. Provide temporary "effective soil cover" on all inactive disturbed areas (areas which have not been disturbed for at least 14 days) prior to installation of final landscaping, if required due to project scheduling. All areas exposed during construction, if not permanently landscaped per plans, shall be seeded with the following native California erosion control seed mixture and protected with erosion control blankets.

Seed Mixture (or equivalent as approved):

- Prostrate *Hordeum Californicum* (Prostrate California Barley) @ 16 lb/acre
- Elymus Glaucus* (Berkeley Blue Wildrye) @ 12 lb/acre
- Bromus Carinatus* (SF Bay Area California Brome) @ 10 lb/acre
- Vulpia Microstachys* (Three-weeks Fescue) @ 5 lb/acre

12. Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site (straw wattles where indicated on plans).

REQUIRED INSPECTION:

1. Special inspections shall be performed per the approved geotechnical report, and the construction documents prepared by the design professionals shall be used to determine compliance.

SITE HOUSEKEEPING:

Note: No on-site storage of materials or supplies. All materials and construction shall be kept on this property. At no time shall materials or construction enter the adjacent parcel.

- Construction Materials:
 - All chemicals shall be stored in water tight containers off-site.
 - Exposure of construction materials shall be minimized.
 - Best Management Practices to prevent the off-site tracking of loose construction and landscape materials shall be implemented.
- 2. Waste Management:
 - Disposal of any rinse or wash waters on impervious or previous site surfaces or into the storm drain system shall be prevented.
 - Sanitation facilities shall be contained (e.g. portable toilets), and shall be located 20 ft from an inlet, street or driveway, stream, riparian area or other drainage facility.
 - Sanitation facilities shall be inspected regularly for leaks and spills and cleaned or replaced as necessary.
 - Covered waste disposal containers are used at the end of every business day and during a rain event.
 - Discharges from waste disposal containers to the storm drain drainage system or receiving water shall be prevented.
 - Stockpiled waste materials shall be contained and securely protected from wind and rain at all times unless actively being used.
 - Procedures that effectively address hazardous and non-hazardous spills shall be implemented.
 - Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly.
 - All concrete shall be poured using self contained concrete trucks.
 - A stabilized construction entrance per BMP-23 shall be maintained at all times.
 - A suitable portable restroom shall be maintained on-site at all times during construction.
 - A water tank shall be on-site at all times for washing down vehicles prior to leaving site.
- 3. Vehicle Storage and Maintenance:
 - No more than two contractors vehicles allowed on-site.
 - No more than two pieces of heavy equipment allowed on-site.
 - Measures shall be taken to prevent oil, grease, or fuel to leak into the ground, storm drains or surface waters.
 - All equipment or vehicles, which are to be fueled, maintained and stored onsite shall be in a designated area fitted with appropriate BMPs as approved by the project civil engineer.
 - Leaks shall be immediately cleaned and leaked materials shall be disposed of properly.

LANDSCAPE MATERIALS:

- Contain stockpiled materials such as mulches and topsoil when they are not actively being used.
- Contain fertilizers and other landscape materials when they are not actively being used.
- Discontinue the application of any erodible landscape material within 2 days before a forecasted rain event or during periods of precipitation.
- Apply erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specification
- Stack erodible landscape material on pallets and covering or storing such materials when not being used or applied.

CONSTRUCTION WASTE:

All construction waste including but not limited to the concrete wash basin shall be discarded in a county approved location. It is the responsibility of the contractor to comply with all county and state regulations for disposal of construction materials. The contractor shall track waste and provide the county with the applicable Cal Green Construction Waste Management Form. These forms can be found on the CalGreen website: <http://www.hcd.ca.gov/calgreen.html>

UTILITIES:

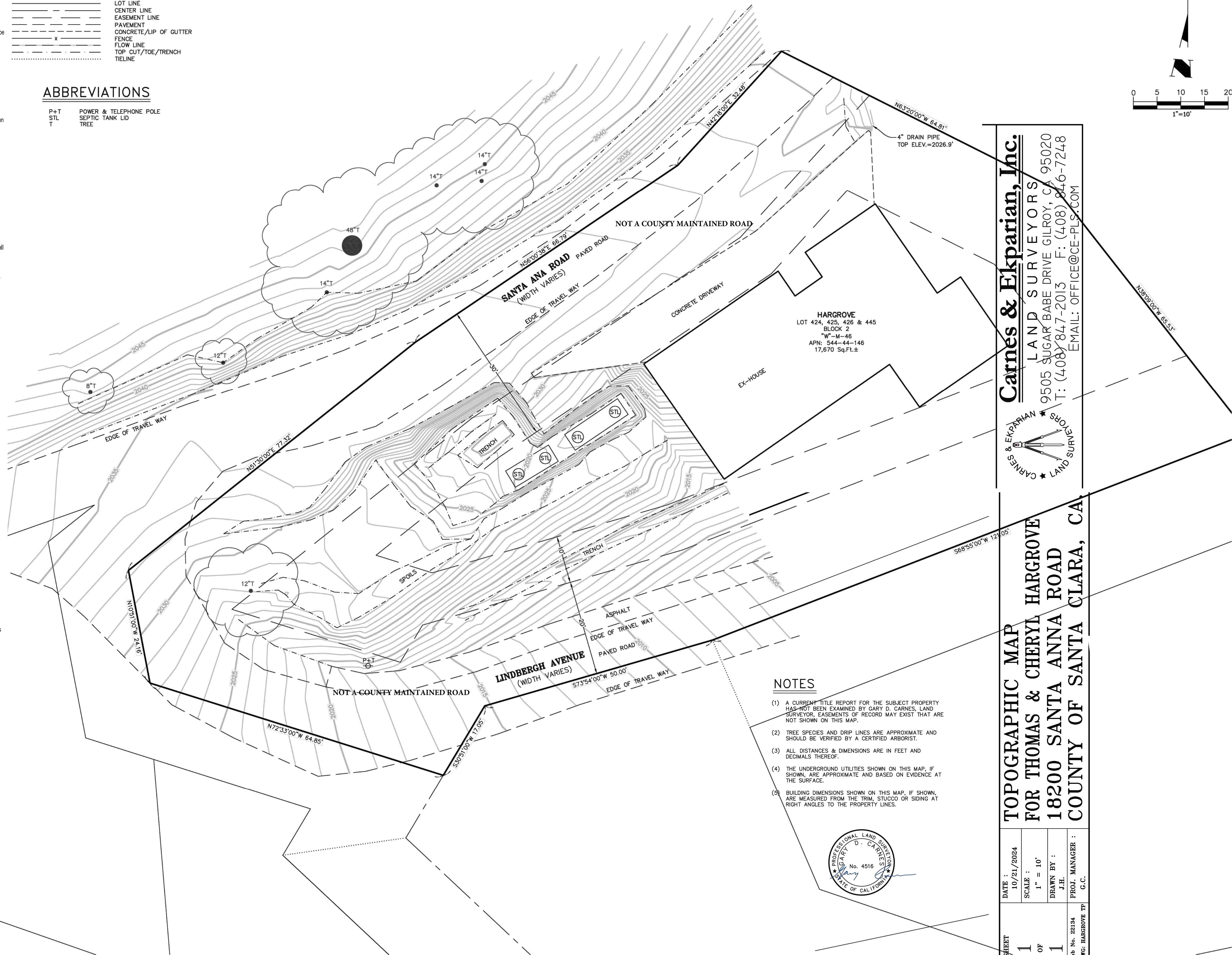
1. All pipe systems shall be installed in accordance with ASTM D2321.
2. Where the trench bottom is unstable the contractor shall excavate to a depth required by the geotechnical engineer and replace with suitable material as specified.
3. Tracer wires shall be installed on all thermoplastic utilities. Caution tape shall be run above all bedding sand.
4. Utilities in joint trenches to be separated per state and county standards.

DUST CONTROL:

Compliance with standard dust control measures set forth by land engineering and Bay Area Air Quality Management

PROPERTY BOUNDARY
LOT LINE
CENTER LINE
EASEMENT LINE
PAVEMENT
CONCRETE/LIP OF GUTTER
FENCE
FLOW LINE
TOP CUT/TOE/TRENCH
TIE LINE

P+T	POWER & TELEPHONE POLE
STL	SEPTIC TANK LID
T	TREE



Carnes & Ekparian, Inc.
LAND SURVEYORS
9505 SUGAR BABE DRIVE GILROY, CA 95020
T: (408) 847-2013 F: (408) 846-7248
EMAIL: OFFICE@CE-PLS.COM

TOPOGRAPHIC MAP
FOR THOMAS & CHERYL HARGROVE
118200 SANTA ANNA ROAD
COUNTY OF SANTA CLARA, CA

<div style="writing-mode: vertical-rl; transform: rotate(180deg);">SHEET</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">1 OF 1</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Job No. 22134</div>	DATE : 10/21/2024
	SCALE : 1" = 10'
	DRAWN BY : J.H.
	PROJ. MANAGER :

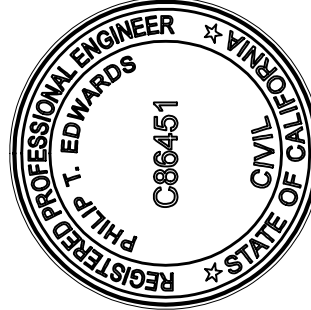
NOTES

- (1) A CURRENT TITLE REPORT FOR THE SUBJECT PROPERTY HAS NOT BEEN EXAMINED BY GARY D. CARNES, LAND SURVEYOR. EASEMENTS OF RECORD MAY EXIST THAT ARE NOT SHOWN ON THIS MAP.
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- (5) BUILDING DIMENSIONS SHOWN ON THIS MAP, IF SHOWN, ARE MEASURED FROM THE TRIM, STUCCO OR SIDING AT RIGHT ANGLES TO THE PROPERTY LINES.



COUNTY FILE: RELATED 2018-49219

	DATE	REVISION	BY



ALL EARTH
Geotechnical Engineering Inc.

303 POTRERO ST STE 7
SANTA CRUZ, CALIFORNIA 95060
OFFICE: 831.345.8852

GRADING VIOLATION ABATEMENT - EXISTING CONDITIONS

REDWOOD ESTATES-NO SITUS
CORNER OF SANTA ANA RD. AND LINDBERG DR.
SANTA CLARA COUNTY, CALIFORNIA
APN 544-44-146

PROJECT: 21-107-SCL

DATE: JAN.21.25

DRAWN: PE

SCALE: 1"=10'

SHEET

GV-1

LEGEND

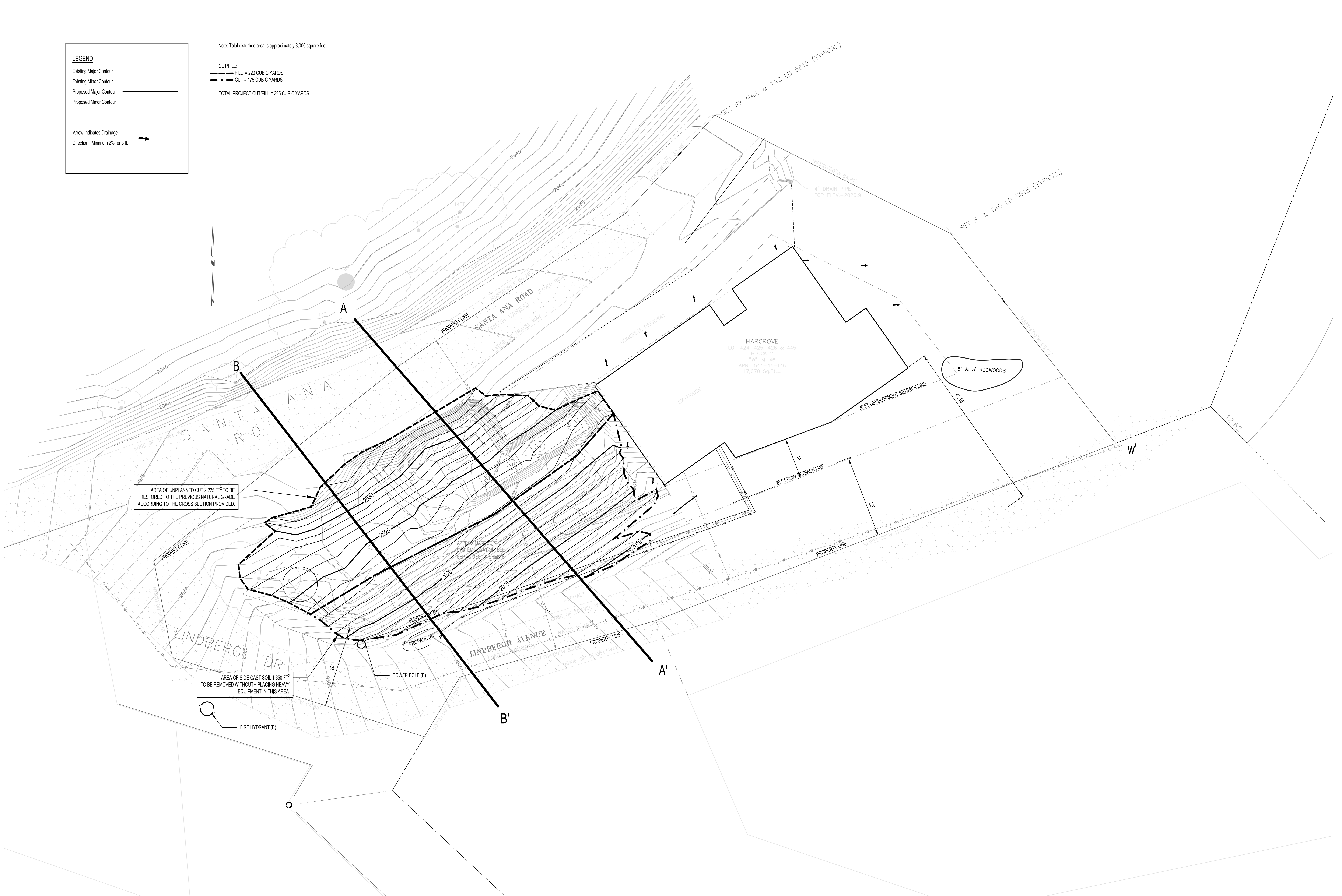
Existing Major Contour
Existing Minor Contour
Proposed Major Contour
Proposed Minor Contour

Arrow Indicates Drainage
Direction, Minimum 2% for 5 ft.

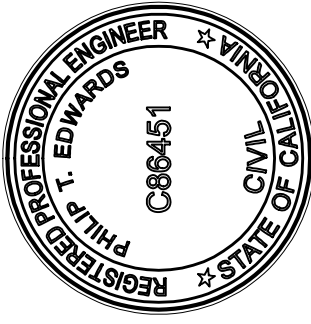
Note: Total disturbed area is approximately 3,000 square feet.

CUT/FILL:
--- FILL = 220 CUBIC YARDS
--- CUT = 175 CUBIC YARDS

TOTAL PROJECT CUT/FILL = 395 CUBIC YARDS



DATE	REVISION	BY

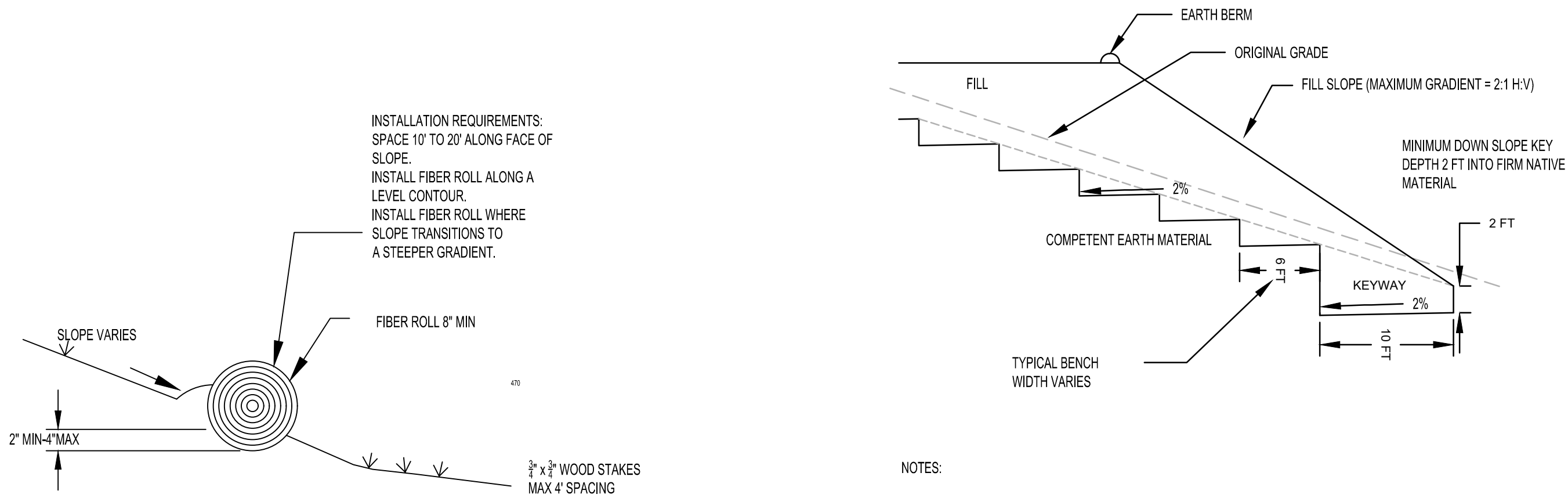


ALL EARTH
Geotechnical Engineering Inc.
303 POTRERO ST STE 7
SANTA CRUZ, CALIFORNIA 95060
OFFICE: 831.345.8852

GRADING VIOLATION ABATEMENT - GRADING PLAN
REDWOOD ESTATES-NO SITUS
CORNER OF SANTA ANA RD. AND LINDBERGH DR.
SANTA CLARA COUNTY, CALIFORNIA
APN 544-44-146

PROJECT: 21-107-SCL
DATE: JAN.21.25
DRAWN: PE
SCALE: 1"=10'

SHEET
GV-2



- NOTES:
1. DRAWING IS NOT TO SCALE.
 2. FILLS SITUATED ON SLOPES STEEPER THAN 5:1 (H:V) SHOULD BE KEYED AND BENCHED.
 3. FILL MATERIAL SHOULD BE PLACED PER THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT.
 4. LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE GEOTECHNICAL ENGINEER.
 5. KEYWAY AND BENCH WIDTHS ARE TYPICAL AND MAY BE ADJUSTED BY THE GEOTECHNICAL ENGINEER.
 6. A SMOOTH BASE SHOULD BE GRADED PRIOR TO PLACEMENT OF FILL AT 2% SLOPE INBOARD.

1

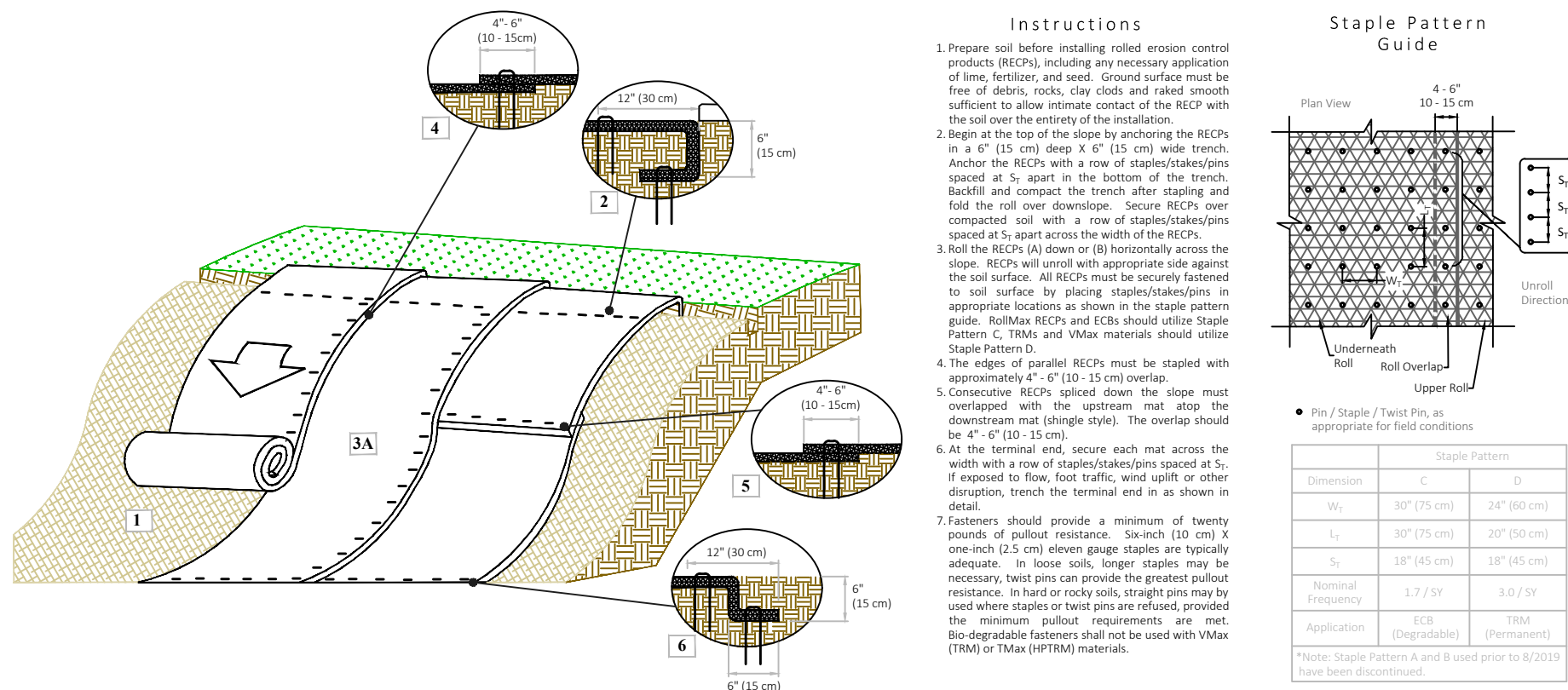
STRAW WATTLE

N.T.S.

2

KEYING AND BENCHING

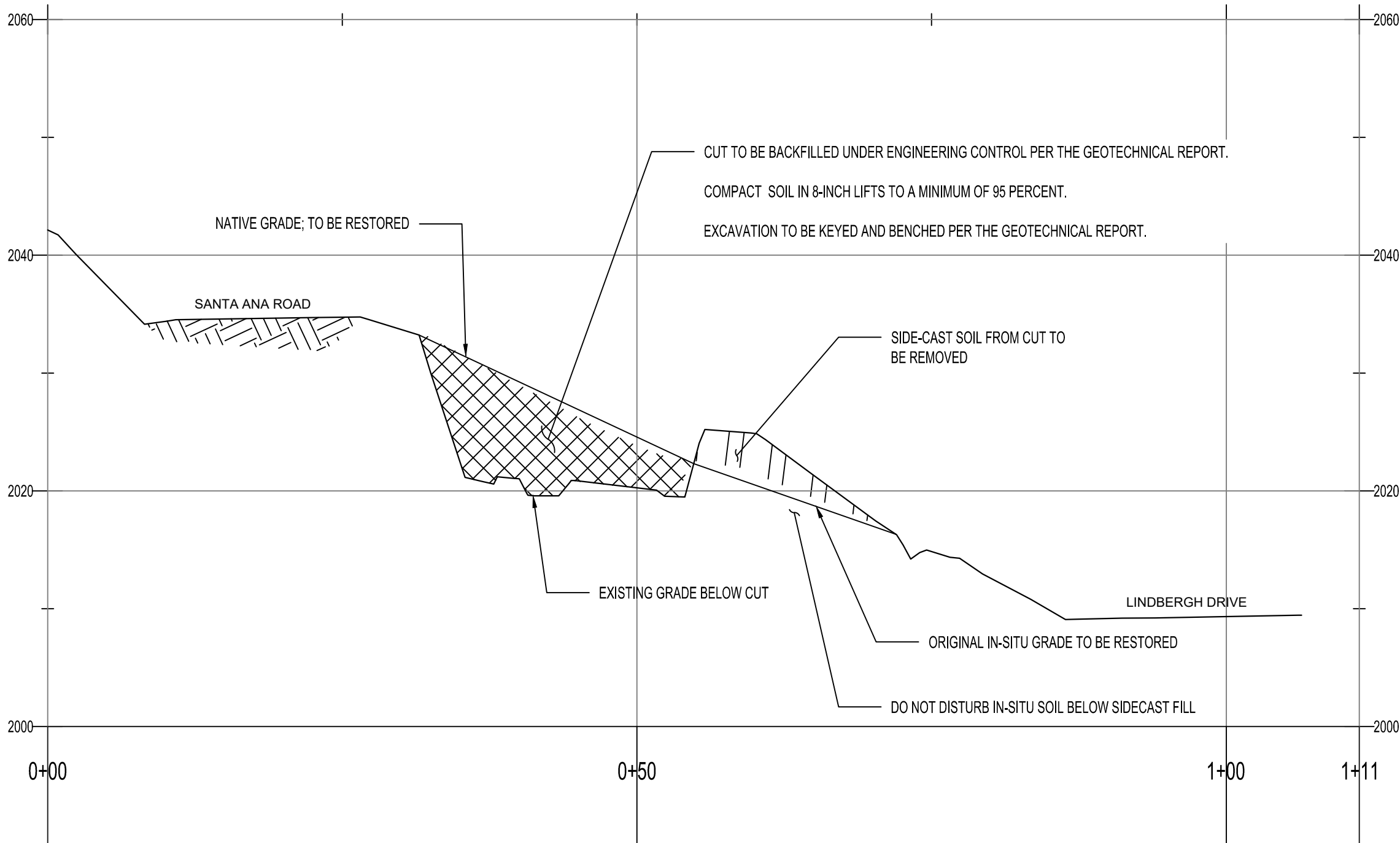
N.T.S.



3

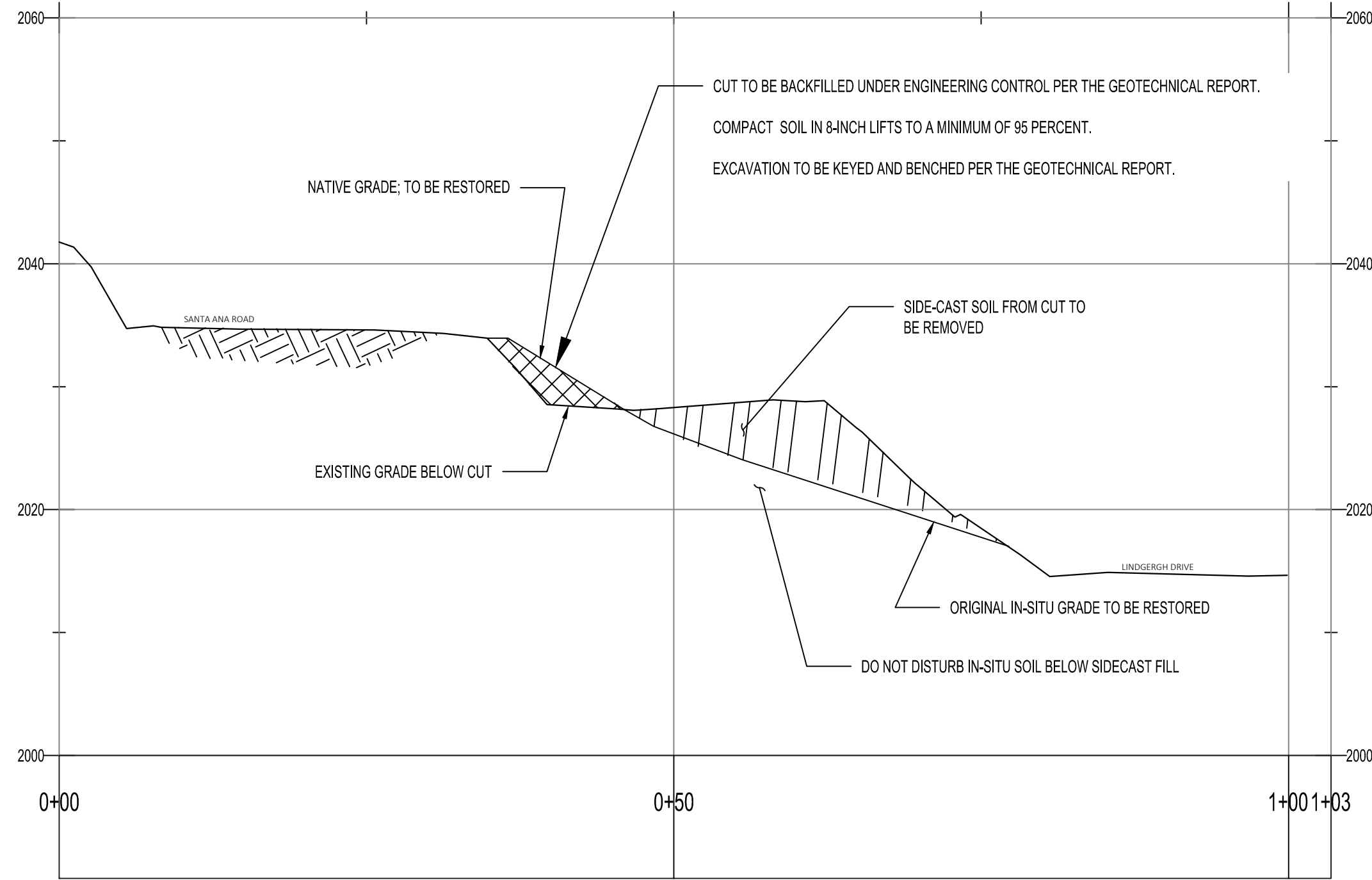
EROSION CONTROL BLANKET

N.T.S.



ABATEMENT SECTION A-A'

SCALE 1" = 10'



ABATEMENT SECTION B-B'

SCALE 1" = 10'

DATE	REVISION	BY

REGISTERED PROFESSIONAL ENGINEER
WILLIAM T. EDWARDS
C86451
CIVIL
STATE OF CALIFORNIA

ALL EARTH

Geotechnical Engineering Inc.

303 POTRERO ST STE 7
SANTA CRUZ, CALIFORNIA 95060
OFFICE: 831.345.8852

GRADING VIOLATION ABATEMENT - CROSS SECTIONS

REDWOOD ESTATES-NO SITUS
CORNER OF SANTA ANA RD. AND LINDBERGH DR.
SANTA CLARA COUNTY, CALIFORNIA
APN 544-44-146

PROJECT: 21-107-SCL

DATE: JAN.21.25

DRAWN: PE

SCALE: 1"=10'

SHEET

GV-3

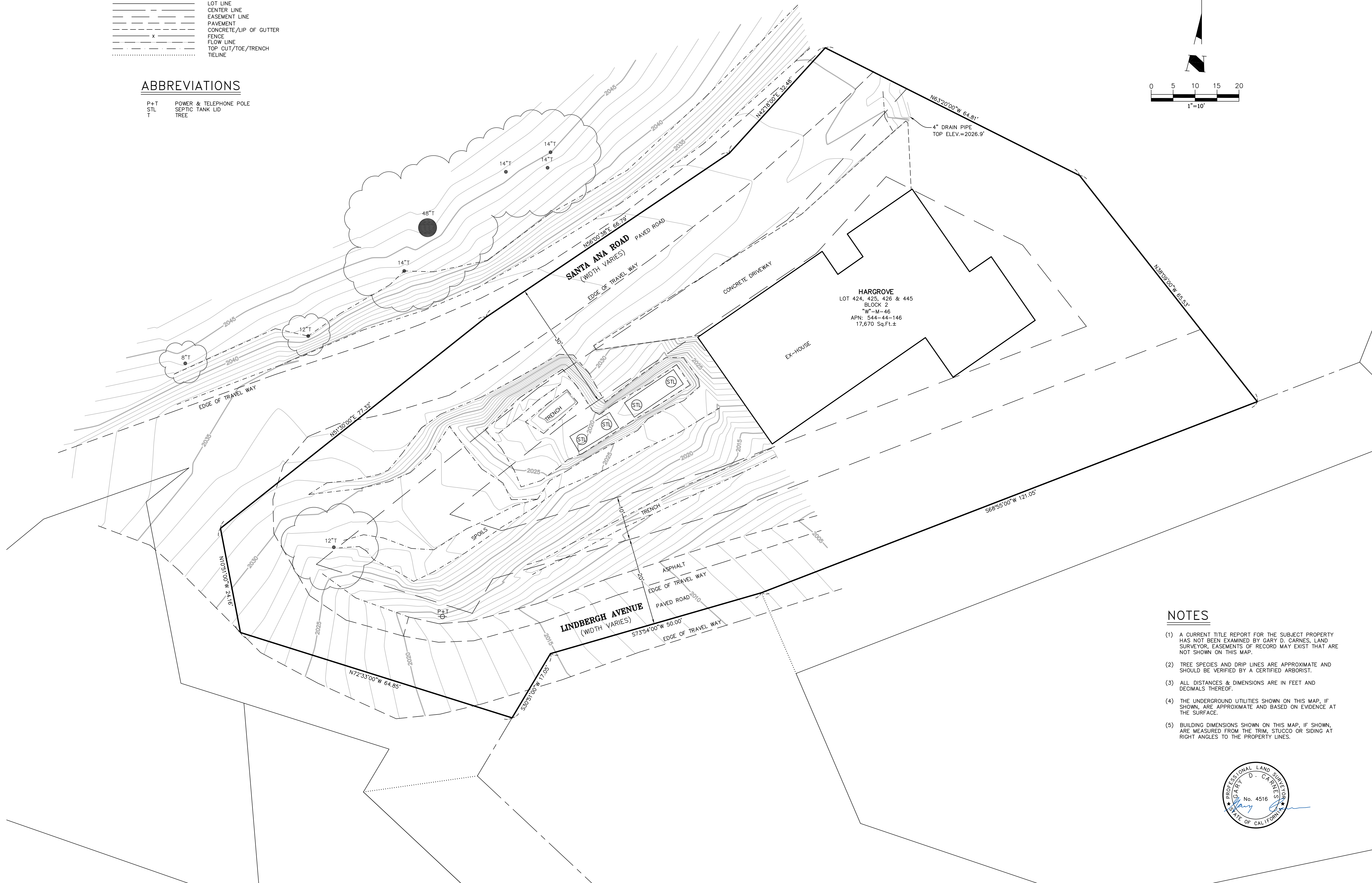
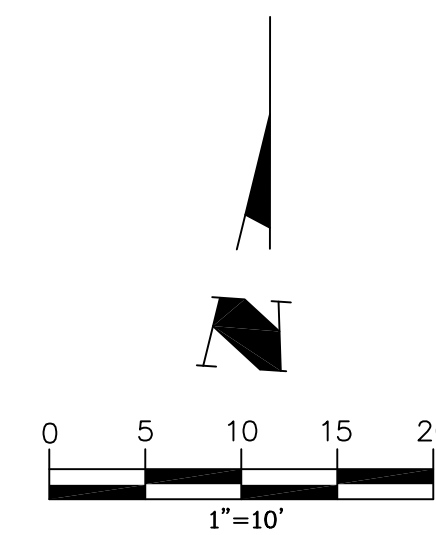
APPLICANT: HARGROVE ROAD: SANTA ANA COUNTY FILE: RELATED 2018-49219

LEGEND

—	PROPERTY BOUNDARY
---	LOT LINE
-.-.-	CENTER LINE
-.-.-	EASEMENT LINE
-.-.-	PAVEMENT
-.-.-	CONCRETE/LIP OF GUTTER
x	FENCE
-.-.-	FLOW LINE
-.-.-	TOP CUT/TOE/TRENCH
-.-.-	TIELINE

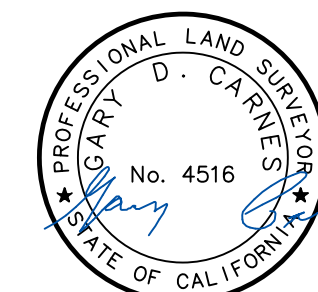
ABBREVIATIONS

P+T	POWER & TELEPHONE POLE
STL	SEPTIC TANK LID
T	TREE

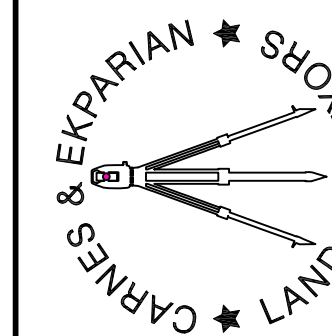


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TOPOGRAPHIC MAP
FOR THOMAS & CHERYL HARGROVE
18200 SANTA ANNA ROAD
COUNTY OF SANTA CLARA, CA.

SHEET	DATE :	10/21/2024
1	SCALE :	1" = 10'
OF	DRAWN BY :	J.H.
1	PROJ. MANAGER :	G.C.
Job No. 22134		
DWG: HARGROVE TP		

APPLICANT: HARGROVE

ROAD: SANTA ANA

COUNTY FILE: RELATED 2018-49219

LEGEND

	PROPERTY BOUNDARY
	LOT LINE
	CENTER LINE
	EASEMENT LINE
	PAVEMENT
	CONCRETE/LIP OF GUTTER
	FENCE
	FLOW LINE
	TOP CUT/TOE/TRENCH
	TIE LINE

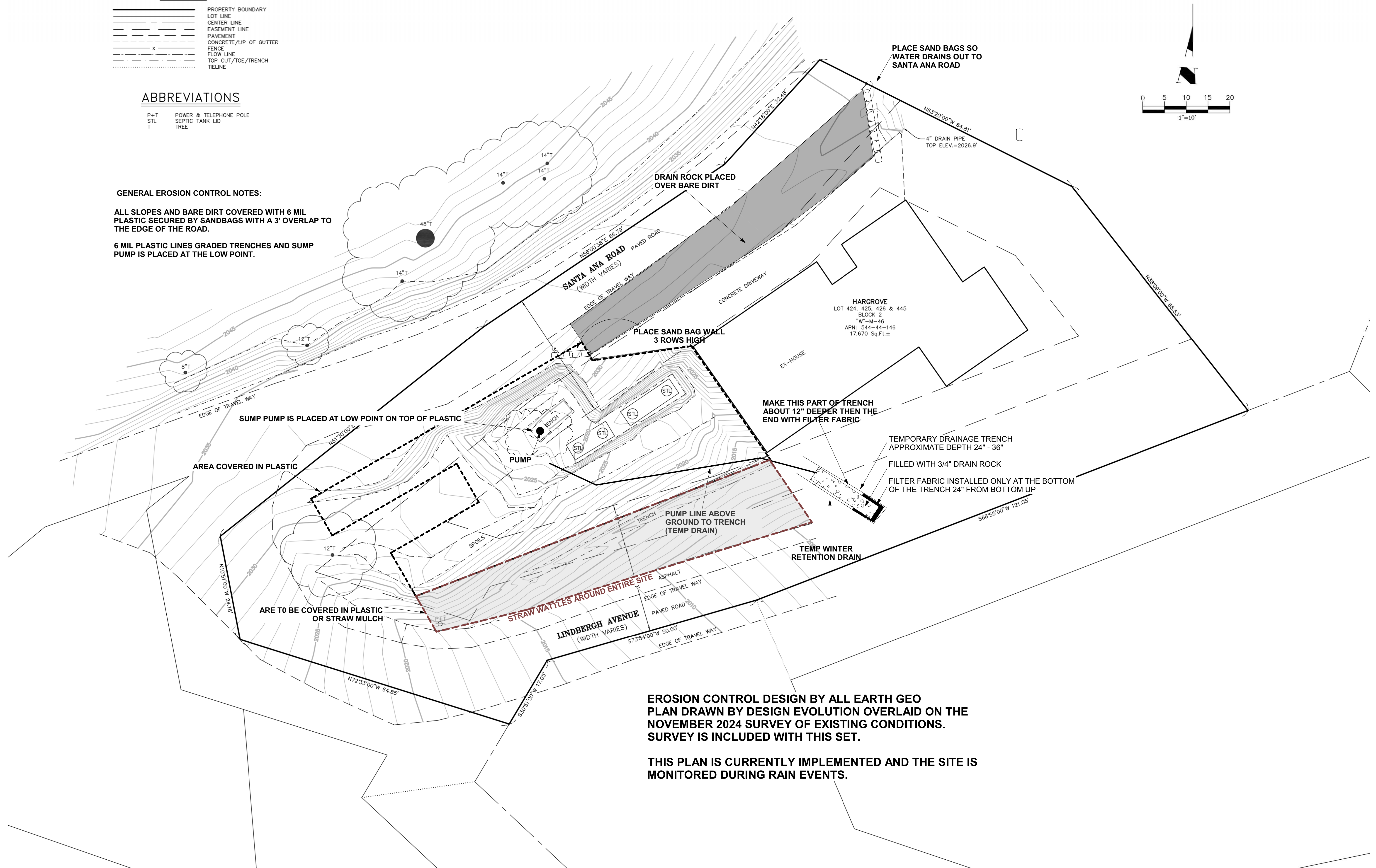
ABBREVIATIONS

P+T	POWER & TELEPHONE POLE
STL	SEPTIC TANK LID
T	TREE

GENERAL EROSION CONTROL NOTES:

ALL SLOPES AND BARE DIRT COVERED WITH 6 MIL PLASTIC SECURED BY SANDBAGS WITH A 3' OVERLAP TO THE EDGE OF THE ROAD.

6 MIL PLASTIC LINES GRADED TRENCHES AND SUMP PUMP IS PLACED AT THE LOW POINT.



DATE	
NO.	

SHEET TITLE:
EROSION CONTROL PLAN
CURRENTLY INSTALLED TO
PROTECT THE SITE OVER THE
WINTER.

PROJECT DESCRIPTION:
HARGROVE GRADING
VIOLATION
SITE WINTERIZING

PLANNER / OWNERS AGENT:
DESIGN EVOLUTION
GRACE GURRERI
P.O. BOX 946
BOULDER CREEK, CA 95006

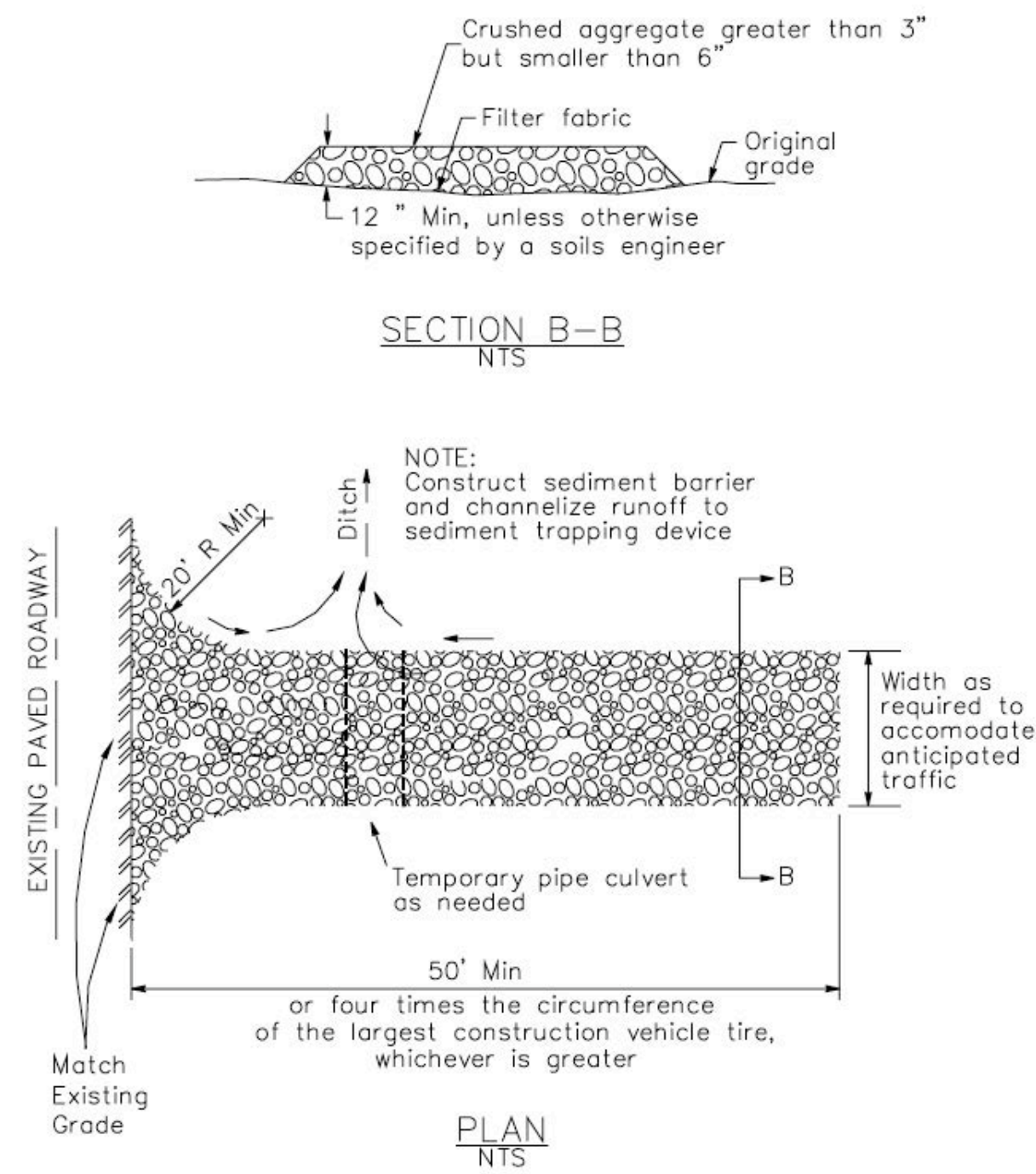
DATE:
11-5-24

SCALE:
NTS

SHEET:
EC-1

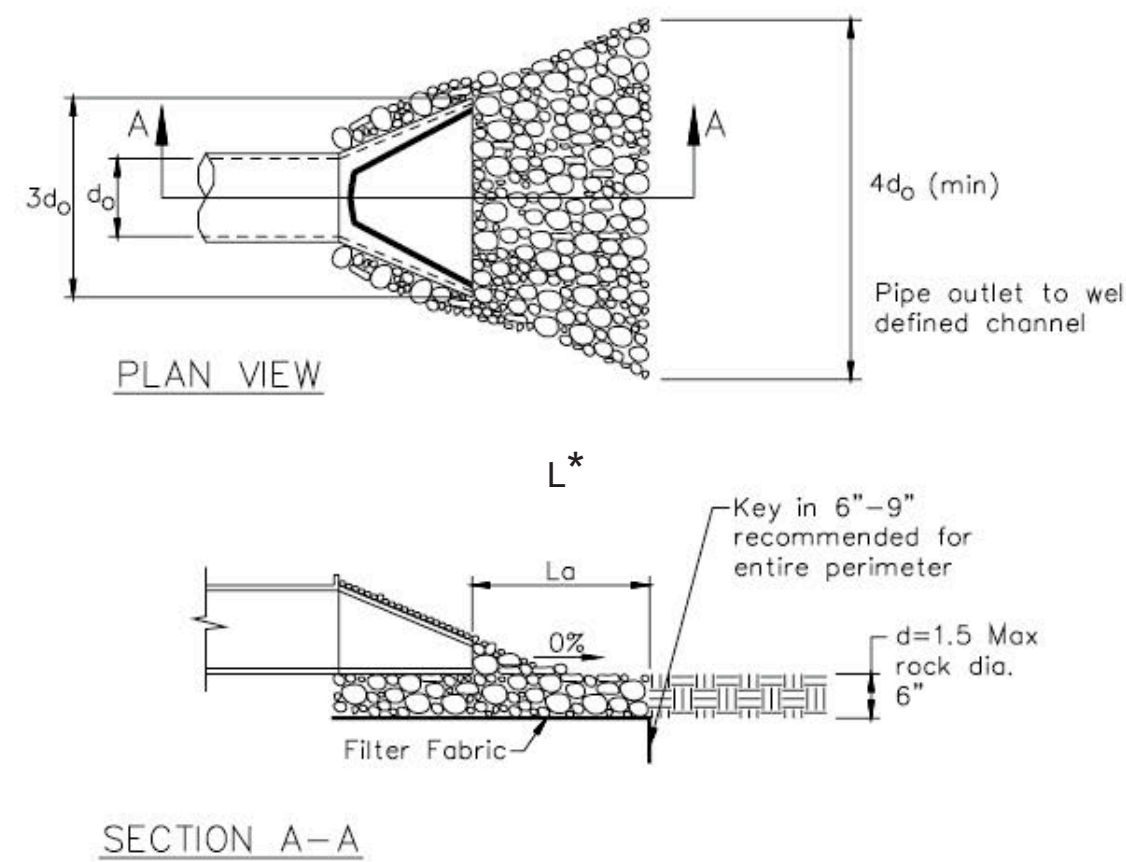
3 Stabilized Construction Entrance/Exit

CASQA Detail TC-1



4 Velocity Dissipation Devices

CASQA Detail EC-10

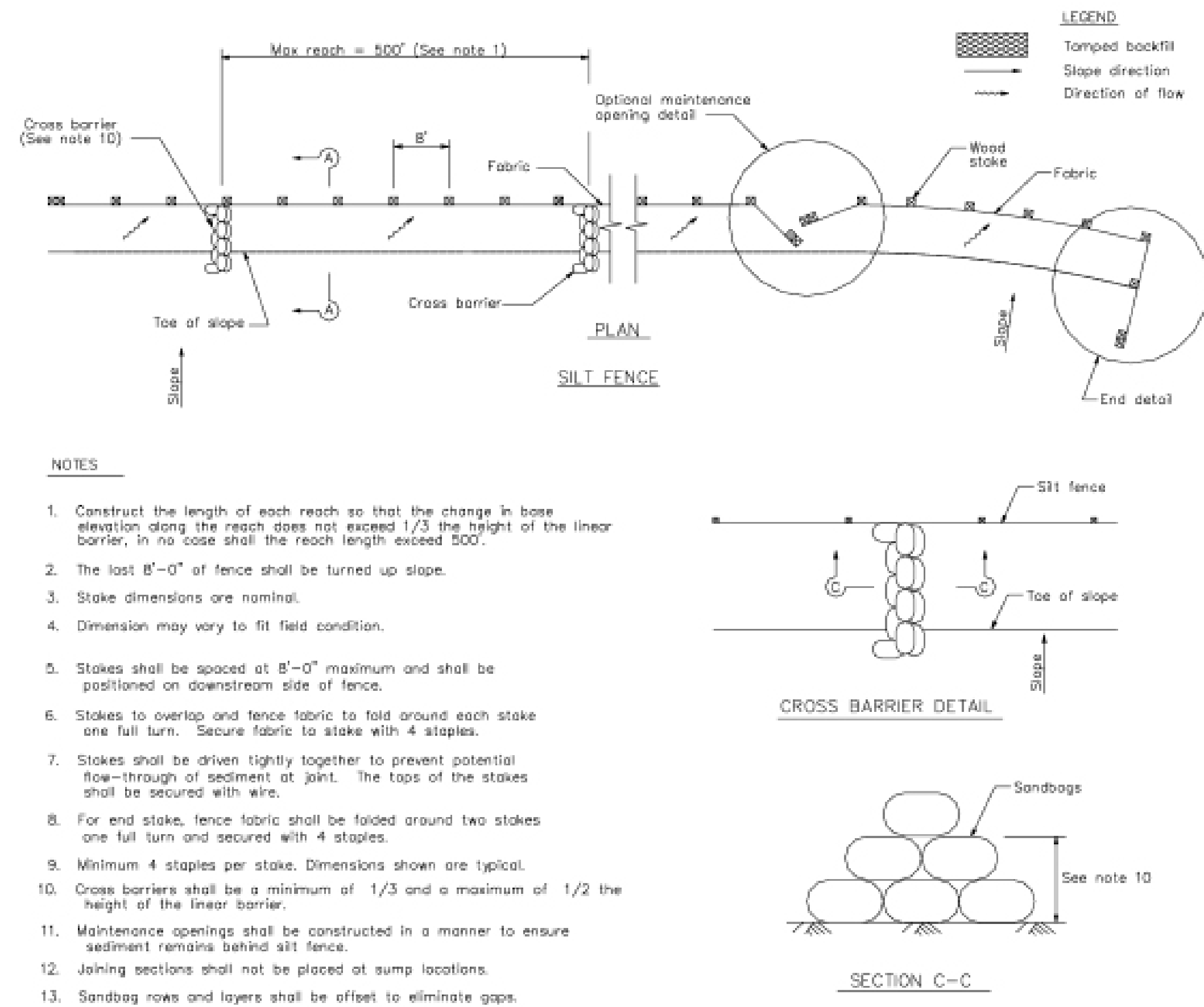


* Length per ABAG Design Standards

Source for Graphics: California Stormwater BMP Handbook, California Stormwater Quality Association, January 2003.
Available from www.cabmphandbooks.com.

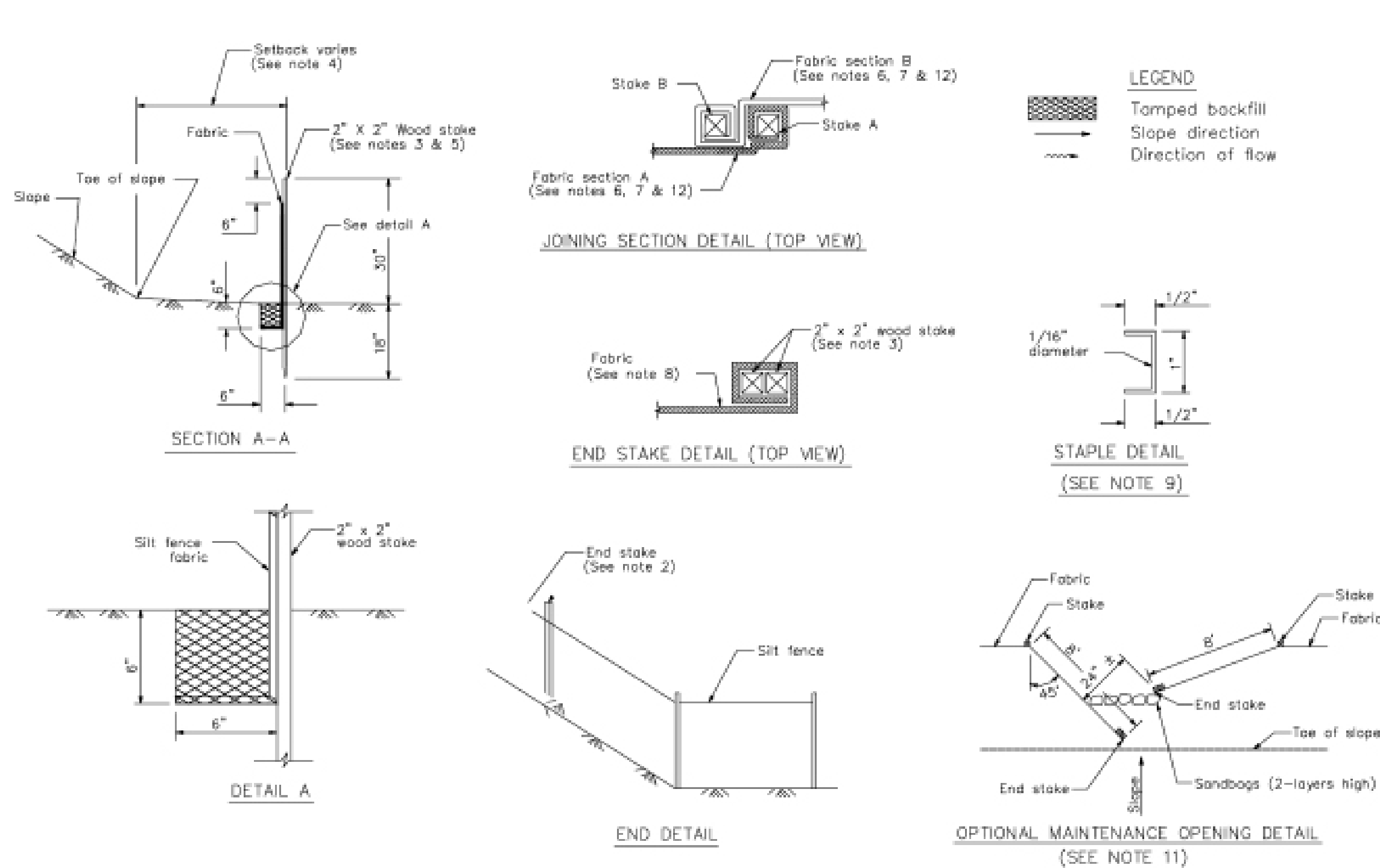
1 Silt Fence

CASQA Detail SE-1



2 Silt Fence

CASQA Detail SE-1



STANDARD BEST MANAGEMENT PRACTICE NOTES

- Solid and Demolition Waste Management:** Provide designated waste collection areas and containers on site away from streets, gutters, storm drains, and waterways, and arrange for regular disposal. Waste containers must be watertight and covered at all times except when waste is deposited. Refer to Erosion & Sediment Control Field Manual, 4th Edition (page C3) or latest.
- Hazardous Waste Management:** Provide proper handling and disposal of hazardous wastes by a licensed hazardous waste material hauler. Hazardous wastes shall be stored and properly labeled in sealed containers constructed of suitable materials. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-5 to C-6) or latest.
- Spill Prevention and Control:** Provide proper storage areas for liquid and solid materials, including chemicals and hazardous substances, away from streets, gutters, storm drains, and waterways. Spill control materials must be kept on site where readily accessible. Spills must be cleaned up immediately and contaminated soil disposed properly. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-7 to C-8, C-13 to C-14) or latest.
- Vehicle and Construction Equipment Service and Storage:** An area shall be designated for the maintenance, where on-site maintenance is required, and storage of equipment that is protected from stormwater run-on and runoff. Measures shall be provided to capture any waste oils, lubricants, or other potential pollutants and these wastes shall be properly disposed of off site. Fueling and major maintenance/repair, and washing shall be conducted off-site whenever feasible. Refer to Erosion & Sediment Control Field Manual, 4th Edition (page C9) or latest.
- Material Delivery, Handling and Storage:** In general, materials should not be stockpiled on site. Where temporary stockpiles are necessary and approved by the County, they shall be covered with secured plastic sheeting or tarp and located in designated areas near construction entrances and away from drainage paths and waterways. Barriers shall be provided around storage areas where materials are potentially in contact with runoff. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-11 to C-12) or latest.
- Handling and Disposal of Concrete and Cement:** When concrete trucks and equipment are washed on-site, concrete wastewater shall be contained in designated containers or in a temporary lined and watertight pit where wasted concrete can harden for later removal. If possible have concrete contractor remove concrete wash water from site. In no case shall fresh concrete be washed into the road right-of-way. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-15 to C-16) or latest.
- Pavement Construction Management:** Prevent or reduce the discharge of pollutants from paving operations, using measures to prevent run-on and runoff pollution and properly disposing of wastes. Avoid paving in the wet season and reschedule paving when rain is in the forecast. Residue from saw-cutting shall be vacuumed for proper disposal. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-17 to C-18) or latest.
- Contaminated Soil and Water Management:** Inspections to identify contaminated soils should occur prior to construction and at regular intervals during construction. Remediating contaminated soil should occur promptly after identification and be specific to the contaminant identified, which may include hazardous waste removal. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-19 to C-20) or latest.
- Sanitary/Septic Water Management:** Temporary sanitary facilities should be located away from drainage paths, waterways, and traffic areas. Only licensed sanitary and septic waste haulers should be used. Secondary containment should be provided for all sanitary facilities. Refer to Erosion & Sediment Control Field Manual, 4th Edition (page C-21) or latest.
- Inspection & Maintenance:** Areas of material and equipment storage sites and temporary sanitary facilities must be inspected weekly. Problem areas shall be identified and appropriate additional and/or alternative control measures implemented immediately, within 24 hours of the problem being identified.

STANDARD EROSION CONTROL NOTES

- Sediment Control Management:**
 - Tracking Prevention & Clean Up:** Activities shall be organized and measures taken as needed to prevent or minimize tracking of soil onto the public street system. A gravel or proprietary device construction entrance/exit is required for all sites. Clean up of tracked material shall be provided by means of a street sweeper prior to an approaching rain event, or at least once at the end of each workday that material is tracked, or, more frequently as determined by the County Inspector. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages B-31 to B-33) or latest.
 - Storm Drain Inlet and Catch Basin Inlet Protection:** All inlets within the vicinity of the project and within the project limits shall be protected with gravel bags placed around inlets or other inlet protection. At locations where exposed soils are present, staked fiber roles or staked silt fences can be used. Inlet filters are not allowed due to clogging and subsequent flooding. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages B-49 to B-51) or latest.
 - Storm Water Runoff:** No storm water runoff shall be allowed to drain in to the existing and/or proposed underground storm drain system or other above ground watercourses until appropriate erosion control measures are fully installed.
 - Dust Control:** The contractor shall provide dust control in graded areas as required by providing wet suppression or chemical stabilization of exposed soils, providing for rapid clean up of sediments deposited on paved roads, furnishing construction road entrances and vehicle wash down areas, and limiting the amount of areas disturbed by clearing and earth moving operations by scheduling these activities in phases.
 - Stockpiling:** Excavated soils shall not be placed in streets or on paved areas. Borrow and temporary stockpiles shall be protected with appropriate erosion control measures(tarps, straw bales, silt fences, ect.) to ensure silt does not leave the site or enter the storm drain system or neighboring watercourse.
- Erosion Control:** During the rainy season, all disturbed areas must include an effective combination of erosion and sediment control. It is required that temporary erosion control measures are applied to all disturbed soil areas prior to a rain event. During the non-rainy season, erosion control measures must be applied sufficient to control wind erosion at the site.
- Inspection & Maintenance:** Disturbed areas of the Project's site, locations where vehicles enter or exit the site, and all erosion and sediment controls that are identified as part of the Erosion Control Plans must be inspected by the Contractor before, during, and after storm events, and at least weekly during seasonal wet periods. Problem areas shall be identified and appropriate additional and/or alternative control measures implemented immediately, within 24 hours of the problem being identified.
- Project Completion:** Prior to project completion and signoff by the County Inspector, all disturbed areas shall be reseeded, planted, or landscaped to minimize the potential for erosion on the subject site.
- It shall be the Owner's/Contractor's responsibility to maintain control of the entire construction operation and to keep the entire site in compliance with the erosion control plan.
- Erosion and sediment control best management practices shall be operable year round or until vegetation is fully established on landscaped surfaces.

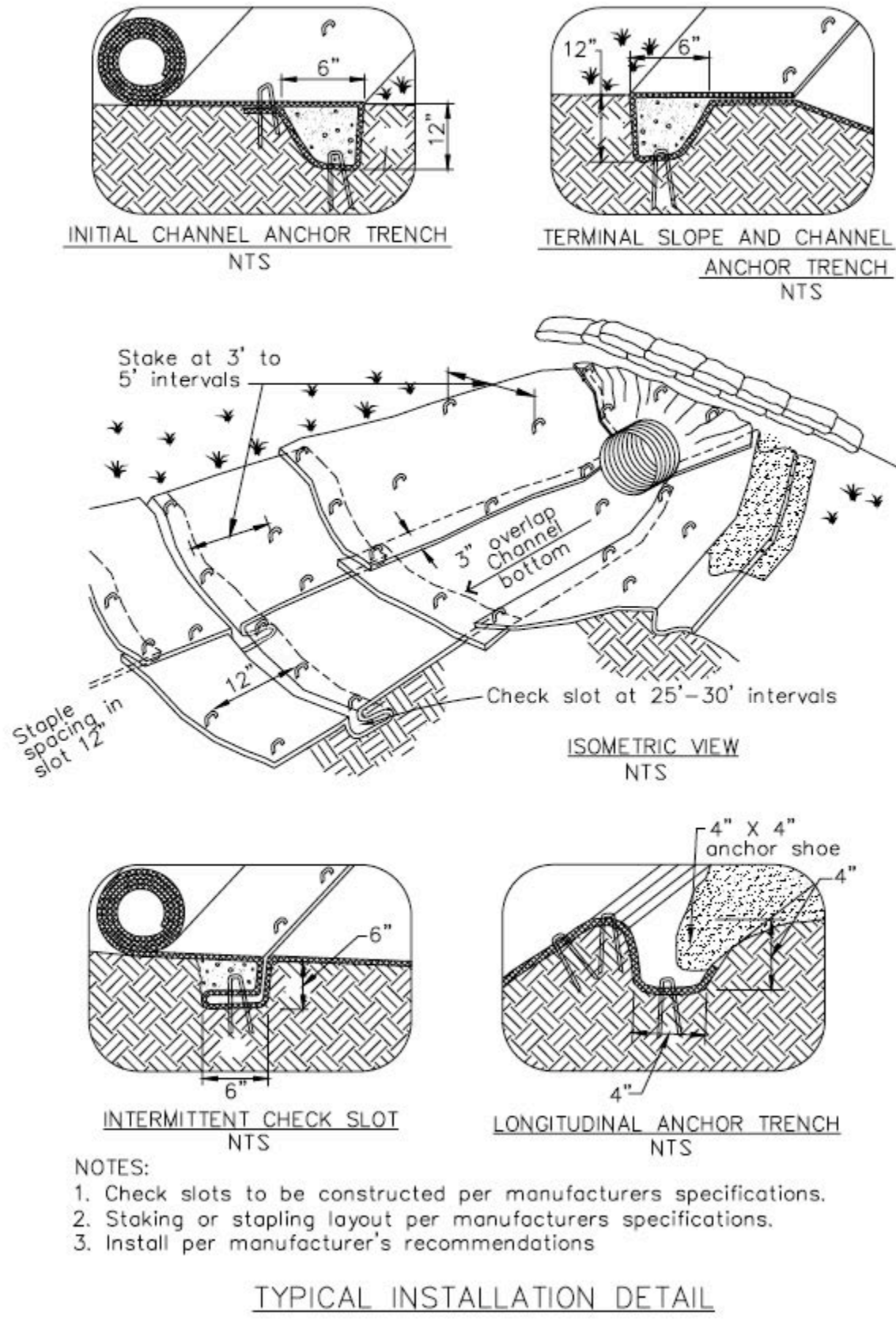
Project Information: 18200 SANTA ANA ROAD - GRADING ABATEMENT



7

Geotextiles and Mats

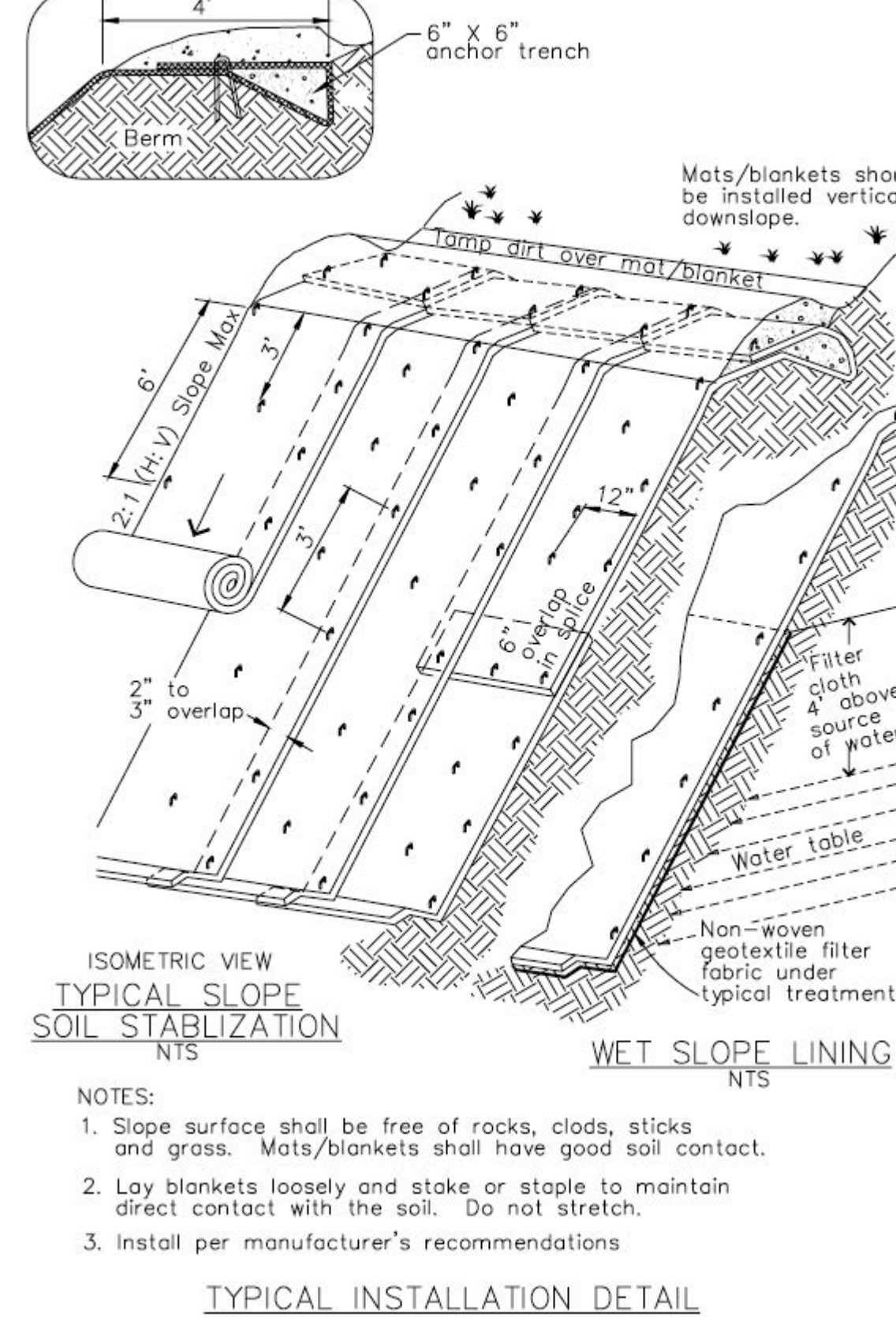
CASQA Detail EC-7



5

Geotextiles and Mats

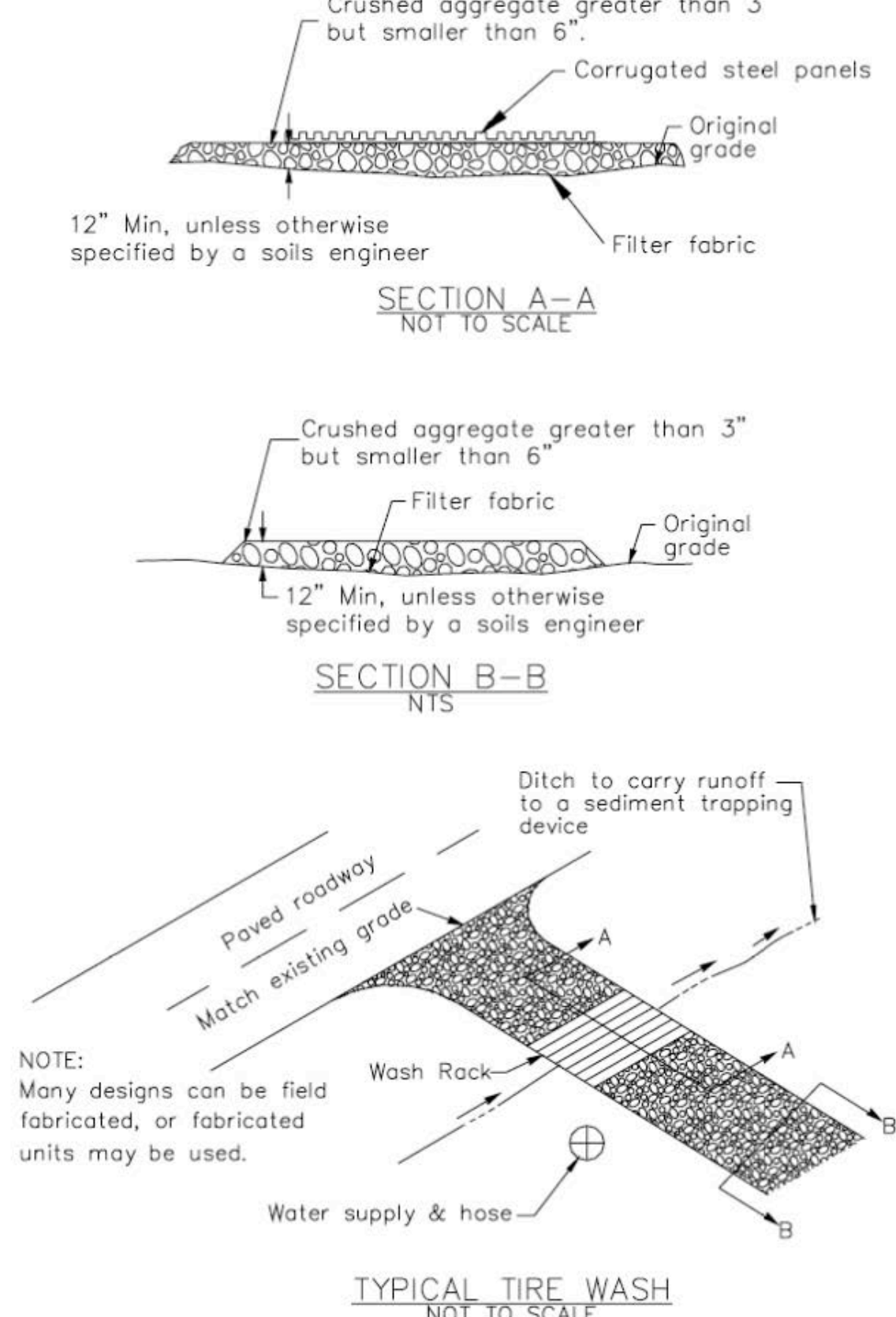
CASQA Detail EC-7



3

Entrance/Outlet Tire Wash

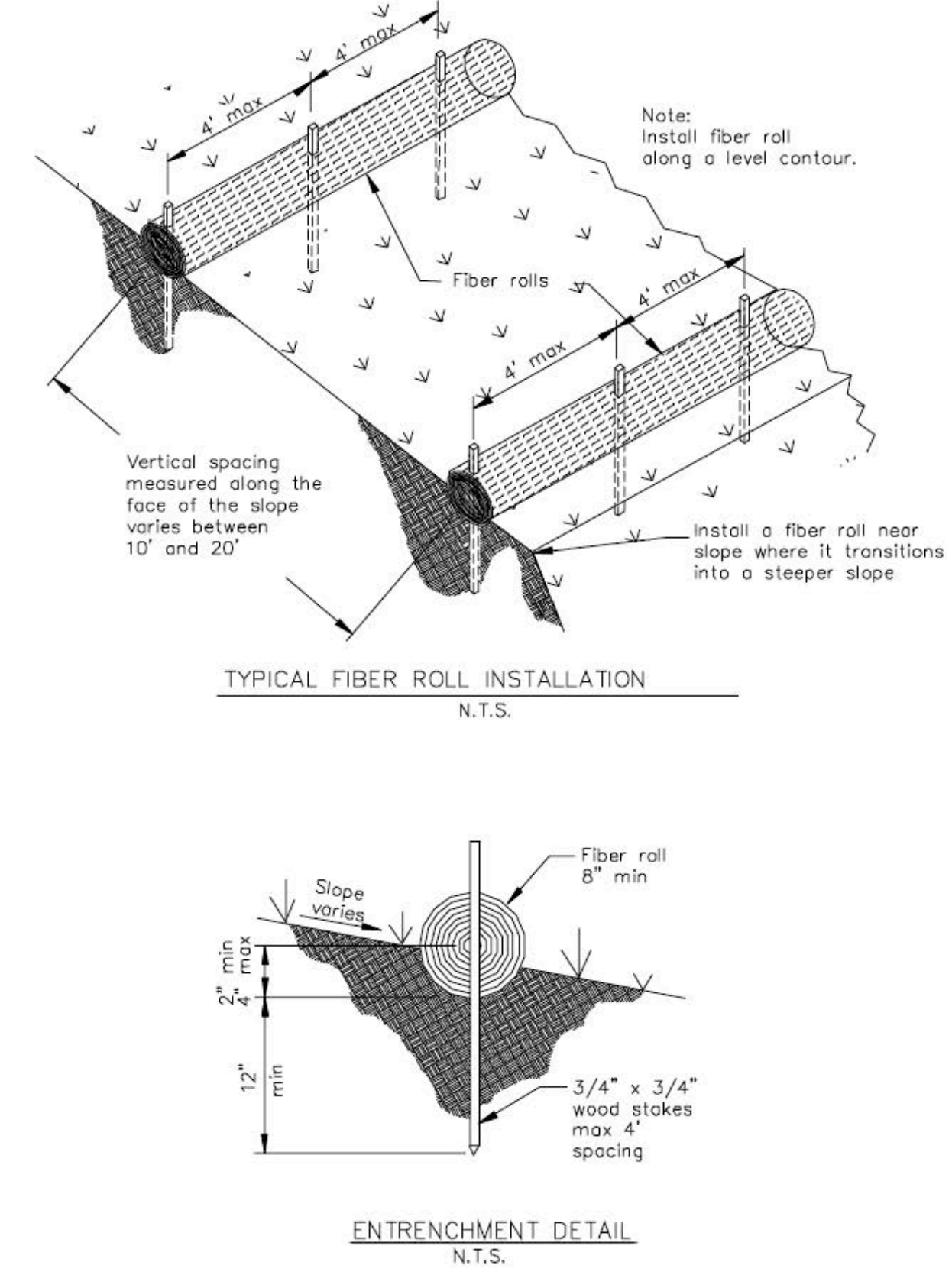
CASQA Detail TC-3



1

Fiber Rolls

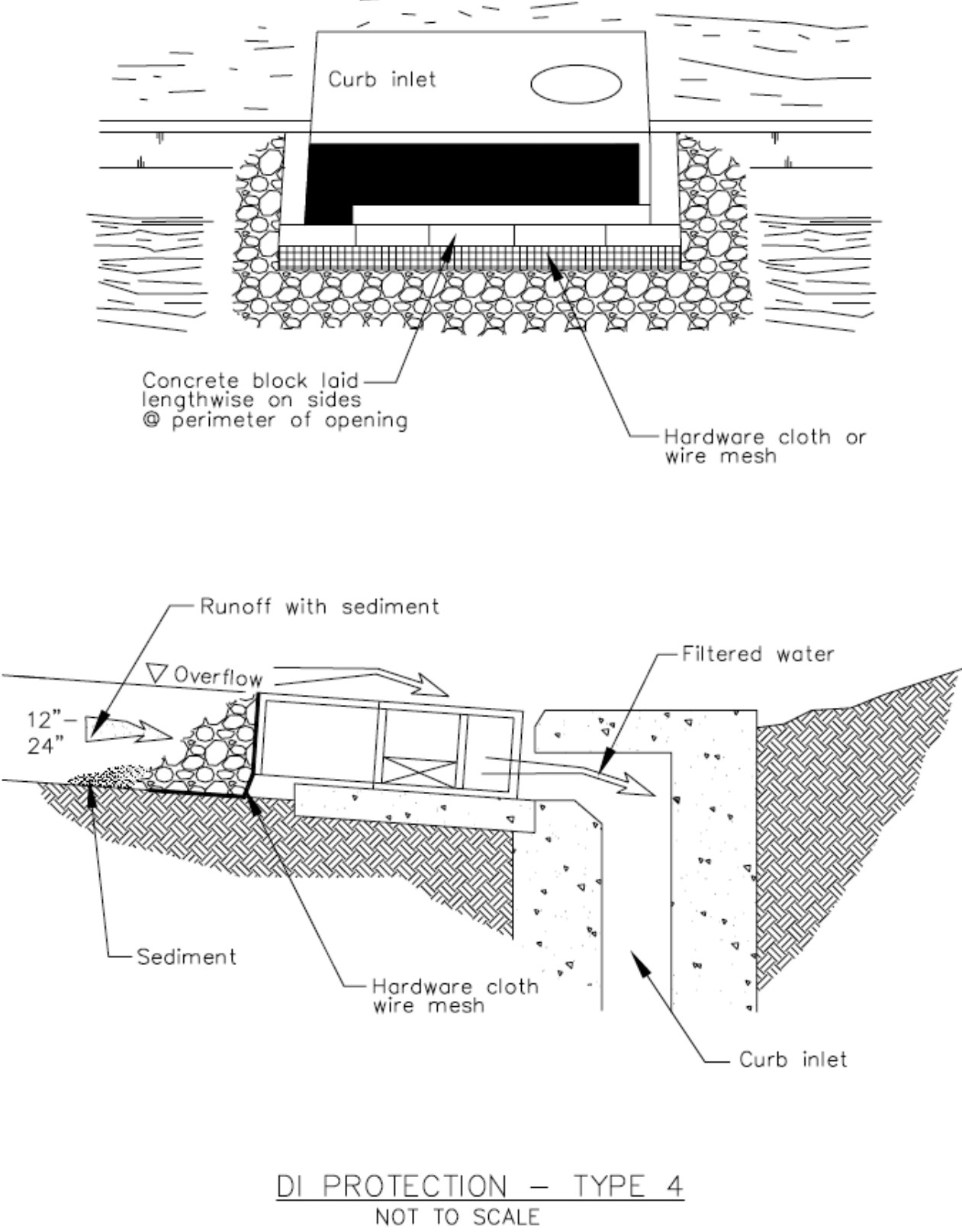
CASQA Detail SE-5



8

Storm Drain Inlet Protection

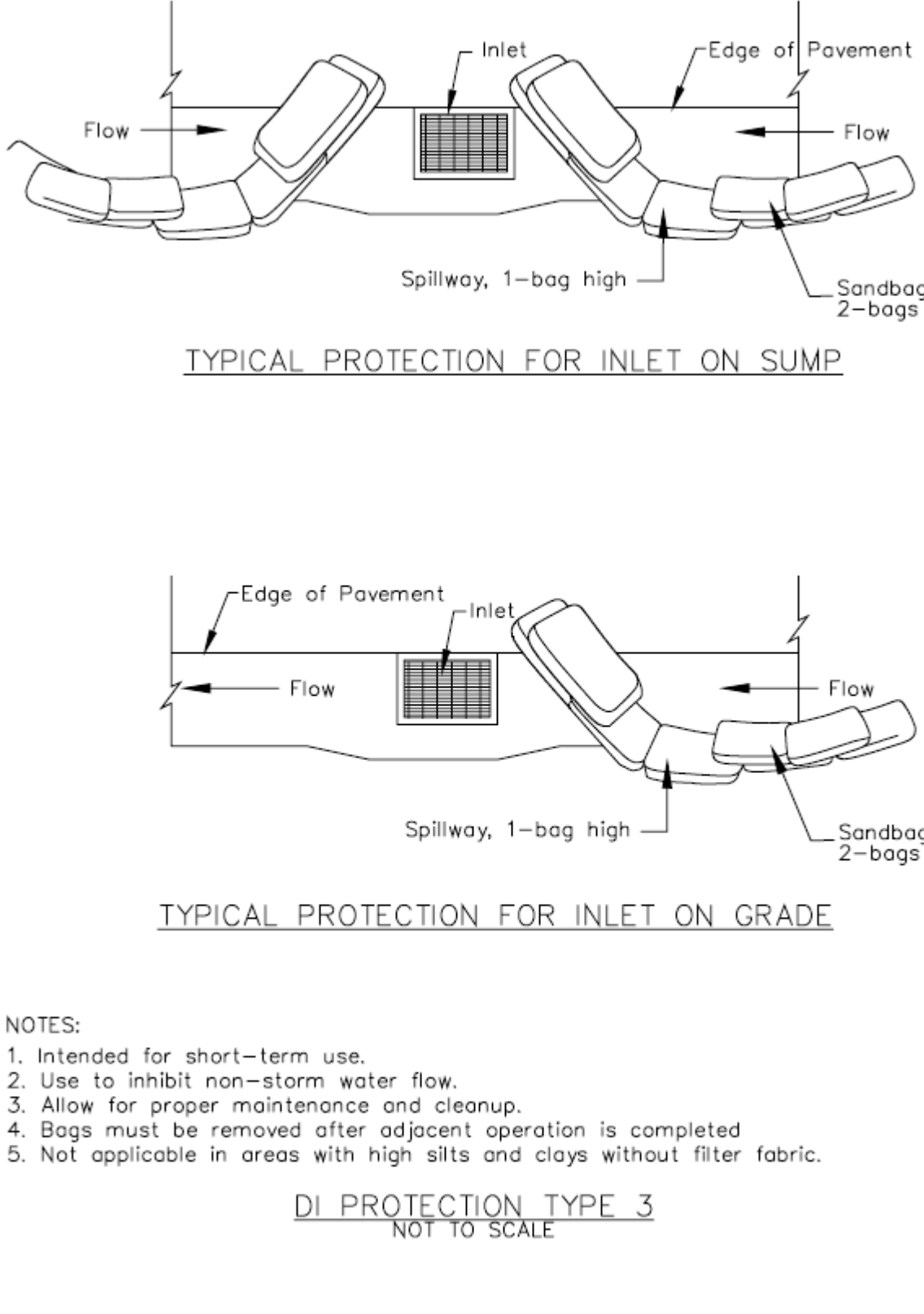
CASQA Detail SE-10



6

Storm Drain Inlet Protection

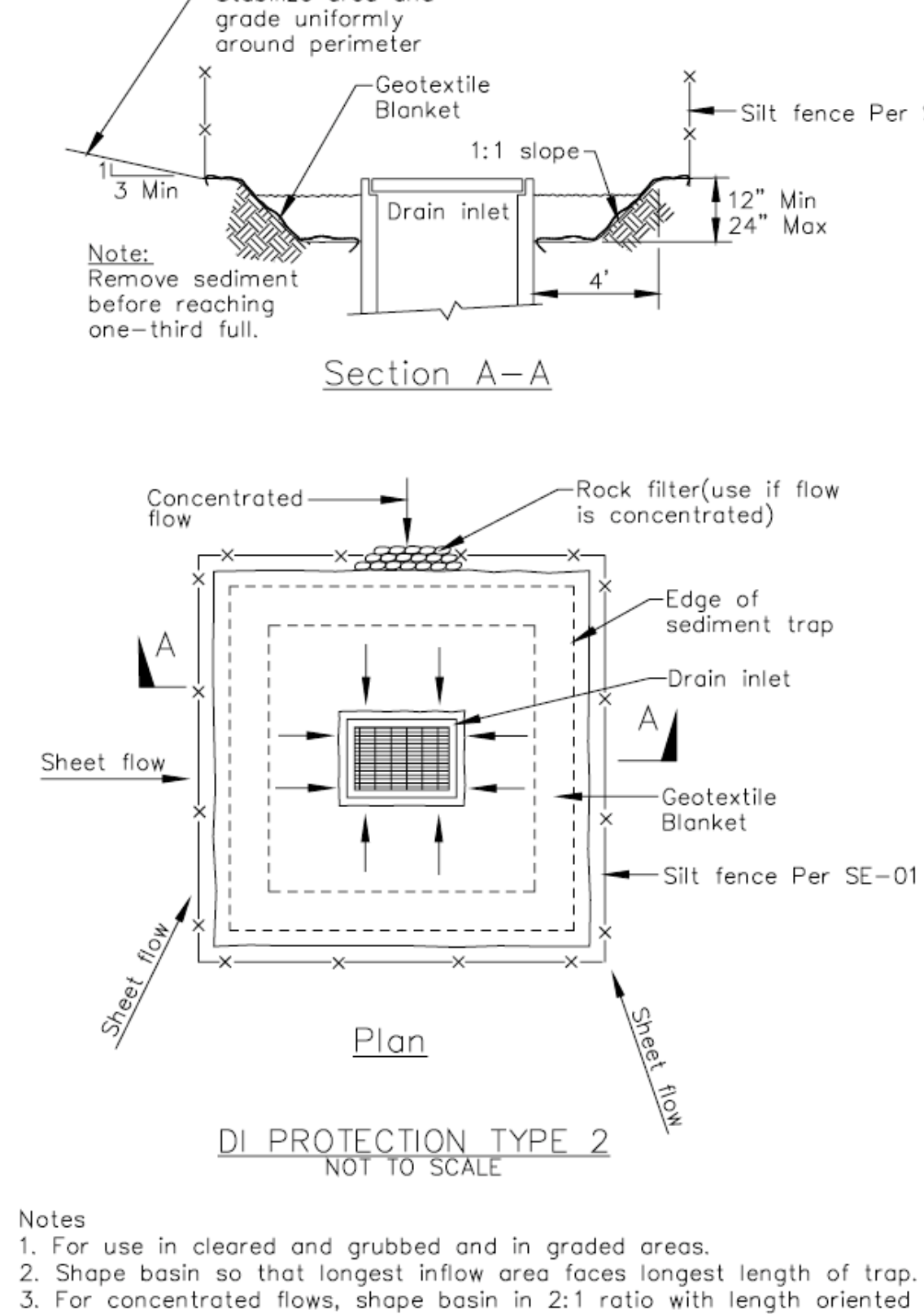
CASQA Detail SE-10



4

Storm Drain Inlet Protection

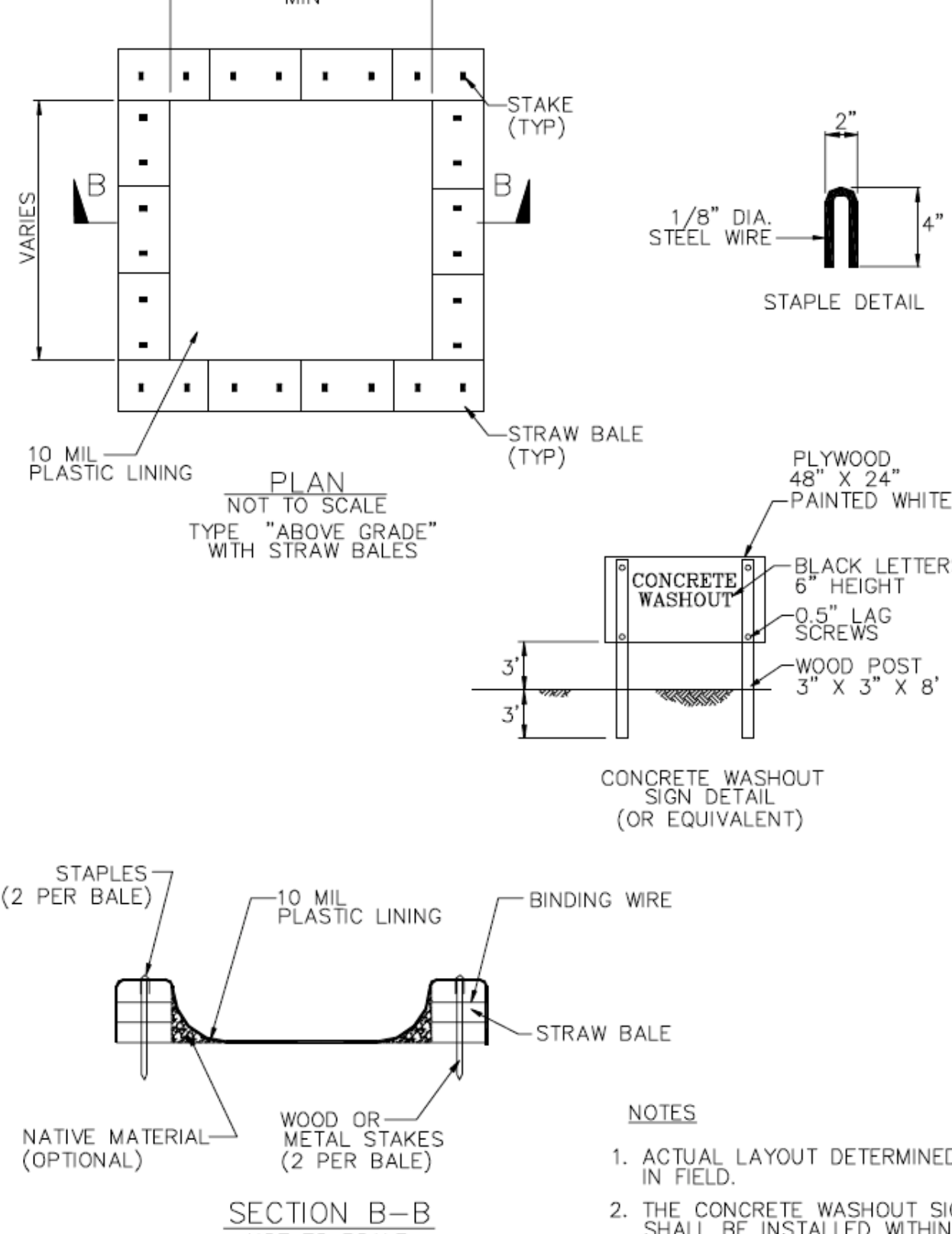
CASQA Detail SE-10



2

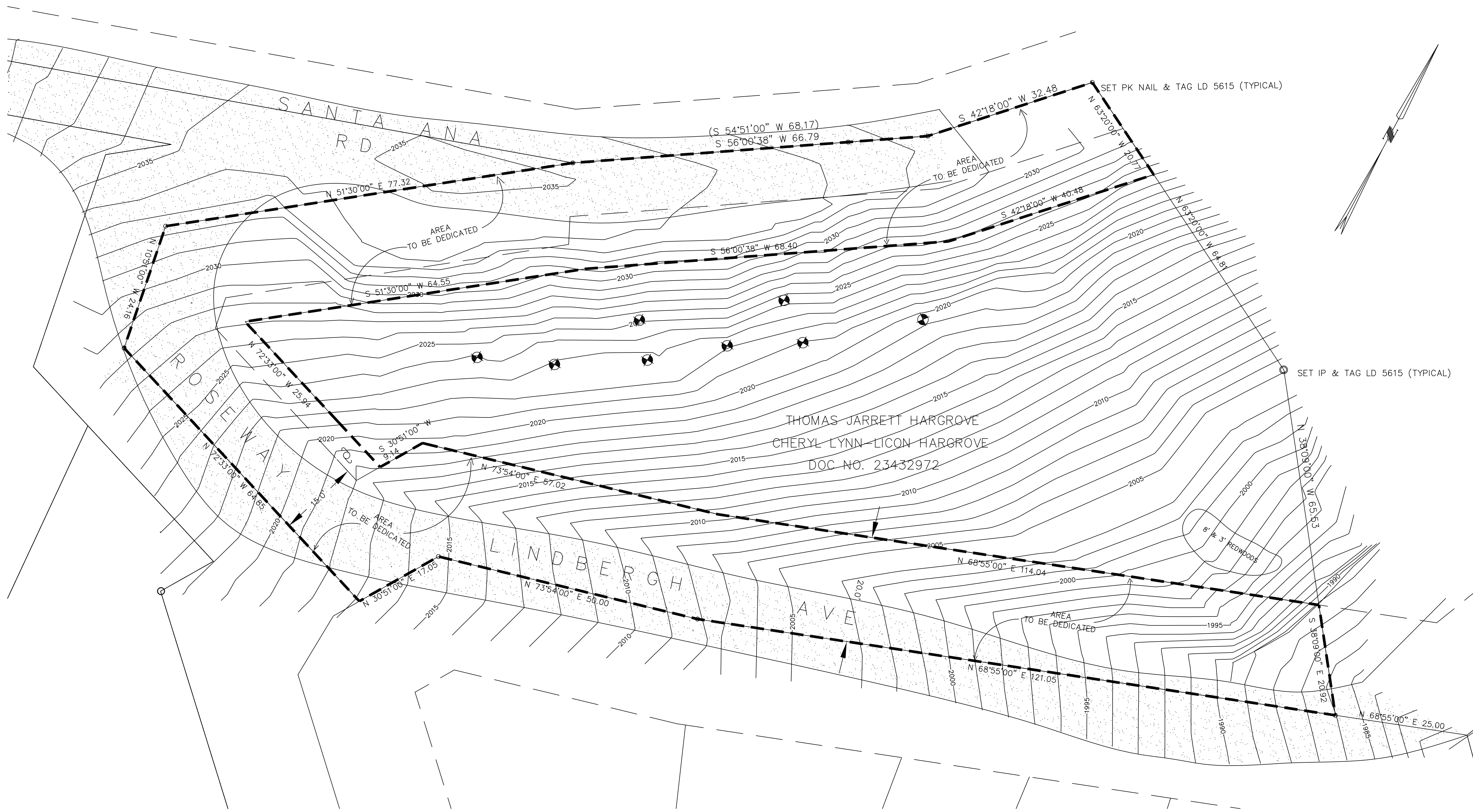
Concrete Waste Management

CASQA Detail WM-8



Source for Graphics: California Stormwater BMP Handbook, California Stormwater Quality Association, January 2003. Available from www.cabmphandbooks.com.





LEGEND

ABBREVIATION LEGEND

ACC/AB	ASPHALT BERM	HVLT	HIGH VOLTAGE VAULT
AD	AREA DRAIN	ICV	IRRIGATION CONTROL VALVE
BFP	BACK FLOW PREVENTER	JP	JOINT UTILITY POLE
BOL	BOLLARD	MON	MONUMENT
BW	BACK OF WALK	PL	PLANTER
CB	CATCH BASIN	RWD	REDWOOD TREE
COL	COLUMN	SDCO	STORM DRAIN CLEANOUT
COMM	COMMUNICATION BOX	SDMH	STORM DRAIN MANHOLE
CC/CNC	CONCRTE (SPOT ELEVATION)	SDI	STORM DRAIN INLET
COR	BUILDING CORNER	SLB	STREET LIGHT BOX
CPNT	CONTROL POINT	SQ FT	SQUARE FEET
DOC. NO.	DOCUMENT NUMBER	SSCO	SANITARY SEWER CLEANOUT
E BX	ELECTRIC BOX	SSMH	SANITARY SEWER MANHOLE
ELEC	ELECTRIC	LITE	STREET LIGHT
EP	EDGE OF PAVEMENT	TC	TOP CURB
FDC	FIRE DEPARTMENT CONNECTION	TYP	TYPICAL
FL	FLOWLINE	VLT	VAULT (UNKNOWN UTILITY)
FNC	FENCE	VG	VALLEY GUTTER
G/GND	GROUND SPOT ELEVATION	WM	WATER METER
GV	GATE VALVE	WV	WATER VALVE
HC	HANDICAPPED		
HDR	HEADER BOARD		

SYMBOL LEGEND

○ AD	AREA DRAIN	○ RWLUG	RAIN WATER LEADER TO UNDERGROUND
⊕	BORING	○ RWLS	RAIN WATER LEADER SPLASH
— BFP	BLOW OFF PREVENTOR	⊙	SANITARY SEWER MANHOLE
B _o ○	BOLLARD/POLE	⊕	STORM DRAIN MANHOLE
▢	CATCH BASIN	△	SURVEY CONTROL POINT
○ CO	CLEAN OUT	—	SIGN
⊕	DROP INLET	—	UTILITY POLE
□ ELEC	ELECTRIC CONTROL BOX	⊗ WV	WATER VALVE
⊙	ELECTROLIER/SIGNAL POLE	● 20"	TREE WITH TRUNK DIAMETER
⊙	FIRE HYDRANT		
GV	GAS VALVE		
○ HB	HOSE BIB		
♿	HANDICAP PARKING		

×222.03	SPOT ELEVATION WITH DESCRIPTION
— 60 —	INDEX ELEVATION CONTOUR
— 59 —	INTERMEDIATE ELEVATION CONTOUR

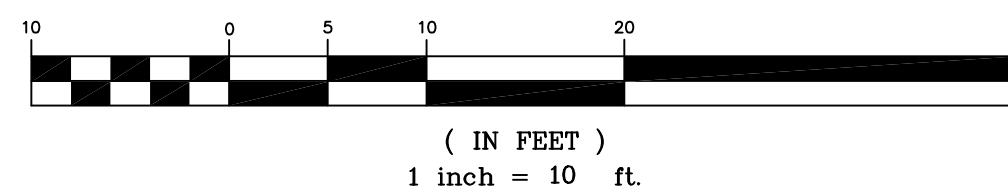
SYMBOL LEGEND

●	= FD 1" I P, OPEN
□	= FD ORIGINAL 2X2 STAKE
○	= SET 1/2" IP, TAGGED LS 5615
R&M	= RECORD AND MEASURED
(100)	= RECORD DATA PER "W-MAPS-46"
ALL DIMENSIONS IN FEET AND DECIMALS THEREOF	

BASIS OF BEARINGS

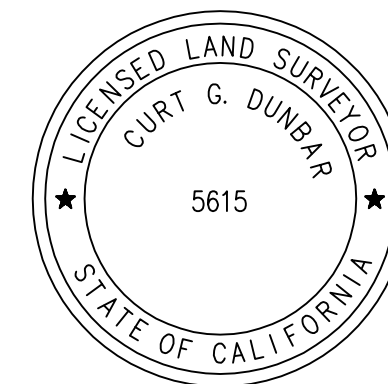
BEARINGS ARE BASED UPON A COMPUTED TIE BETWEEN THE FOUND ORIGINAL STAKE AT LOT 464 BLOCK 1 AND THE FOUND 1" IP AT THE WESTERN CORNER OF LOT 418 BLOCK 15 REDWOOD ESTATES NO. 4 (SHEET 2) RECORDED IN BOOK 'W' OF MAPS AT PAGE 46

SCALE



Curt Dunbar

CURT DUNBAR, PLS 5615



ALPHA LAND SURVEYS, INC.

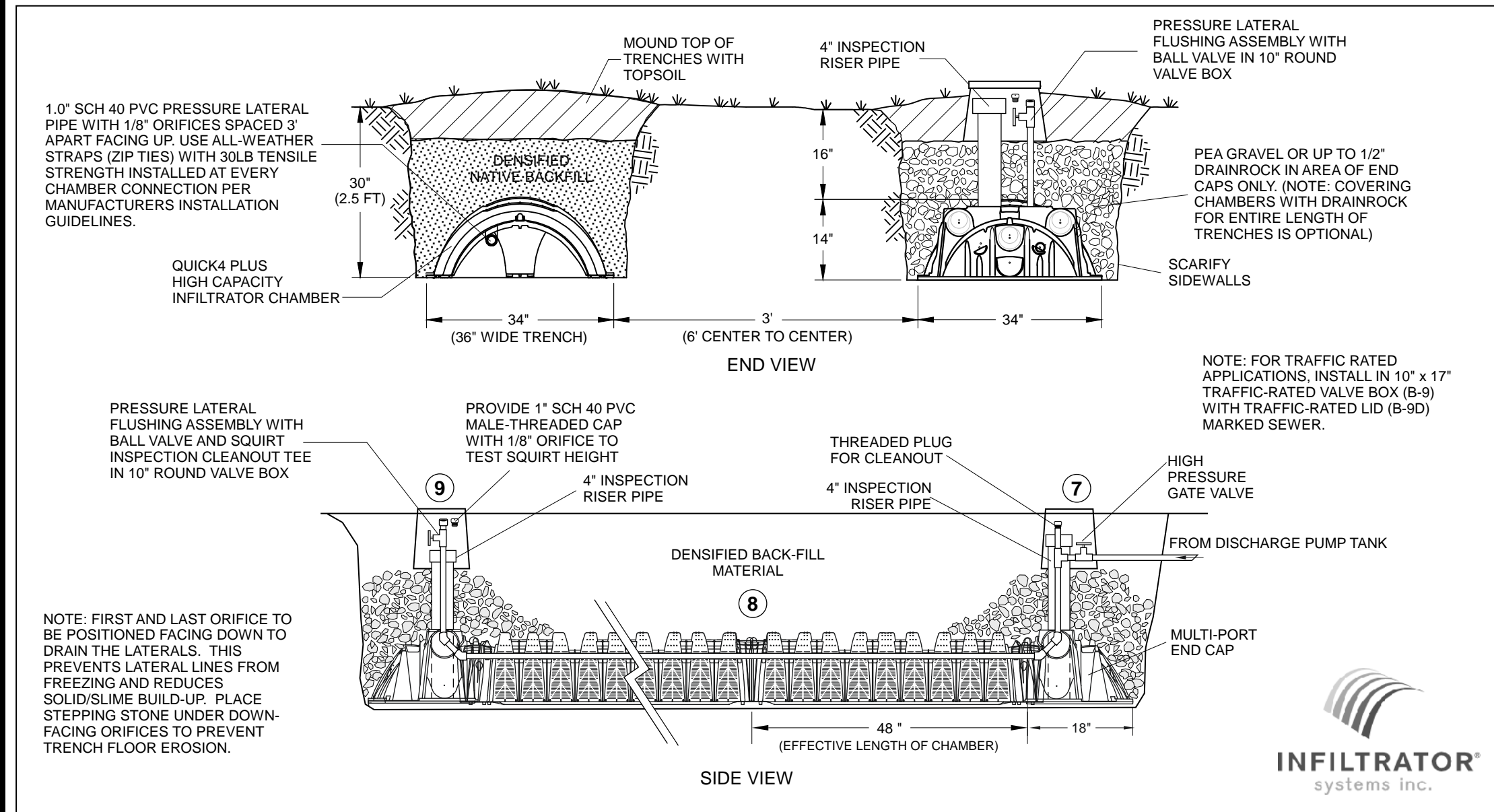
4444 SCOTTS VALLEY DR. #7 SCOTTS VALLEY, CA 95066 (831) 438-4453	P.O. BOX 1146 MORGAN HILL, CA 95038 (831) 438-4453	TOPOGRAPHIC MAP OF LOTS 424-426 & 445 BLOCK Z MAP NO. 4 REDWOOD ESTATES SANTA CLARA COUNTY	SHEET 1 OF ONE
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APPLICANT: HARGROVE

ROAD: SANTA ANA

COUNTY FILE: RELATED 2018-49219

⑦ ⑧ ⑨ INFILTRATOR QUICK4 PLUS HIGH-CAPACITY
SEPTIC DRAINFIELD TRENCH CONSTRUCTION DETAIL



EROSION CONTROL
PER DIVISION C12, CHAPTER III OF THE COUNTY CODE (Sec. C12-513. Temporary erosion control.)
"The permittee and any person(s) doing, causing or directing the grading shall install and maintain all precautionary measures necessary to protect adjacent watercourses and public or private property from damage by erosion, flooding, or deposition of mud or debris originating from the site. Precautionary measures must include provisions of properly designed erosion prevention and sediment control measures, so that downstream properties are not affected by upstream erosion or sediment transport by stormwater."

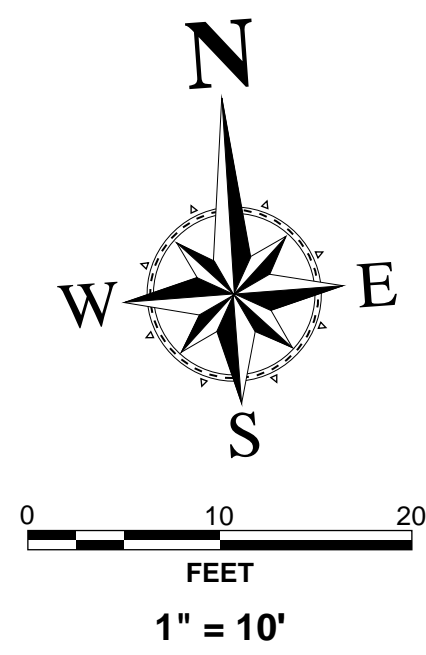
IMPORTANT! SPECIFIED WASTEWATER DRAINFIELD DISPERSAL AREAS SHALL BE FENCED OFF PRIOR TO ANY SITE DEVELOPMENT IN ORDER TO PROHIBIT ANY GRADING EQUIPMENT OR STAGING OF MATERIALS IN THESE AREAS. IT IS IMPORTANT THAT THE NATURAL SOIL CONDITIONS IN THESE AREAS BE PRESERVED FOR PROPER FUNCTION OF THE SHALLOW SOIL DISCHARGE SYSTEM. DO NOT ALLOW SOILS IN THESE AREAS TO BE COMPACTED. DO NOT ROUTE UTILITY TRENCHES THROUGH THE PROPOSED DRAINFIELDS. ALL STORMWATER LINES, INLETS/OUTLETS AND DRAINAGEWAYS SHALL MAINTAIN THE REQUIRED DEH SETBACKS TO THE PROPOSED DRAINFIELDS.

ALL BUILDING PLANS PREPARED FOR THE PROJECT SHOULD INCLUDE THIS NOTE.

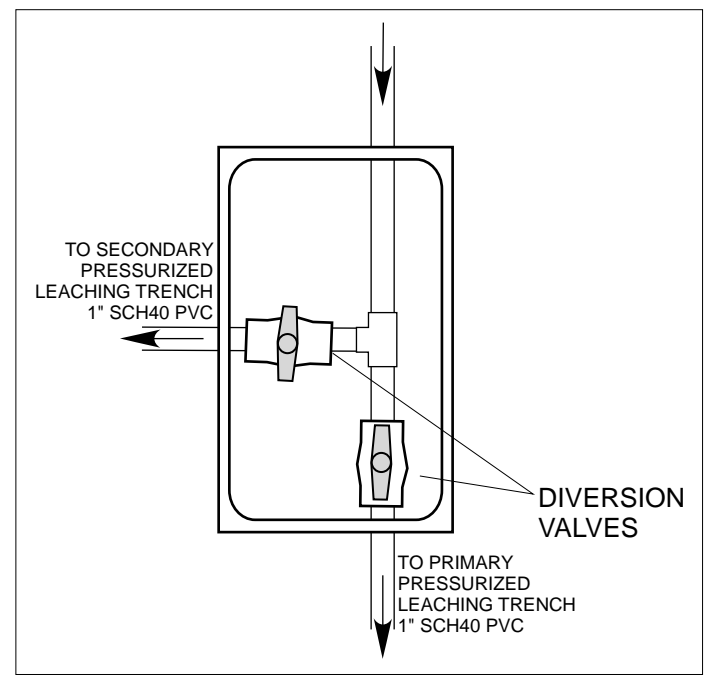
NOTES:

- ① 4" ABS GRAVITY SEWER LINE WITH MINIMUM 2% GRADIENT AND 2-WAY CLEANOUTS
- ② 1,500 GALLON ROTH MULTITANK WITH 24" ORENCO RISERS. **SEPTIC TANK ALSO REQUIRES ANTI-FLOATATION COLLAR PER MANUFACTURER.**
- ③ 1,060 GALLON ORENCO™ FRP PUMP TANK WITH PF2005 EFFLUENT PUMP
NOTE: INSTALLER SHALL FOLLOW ROTH BUOYANCY RESTRAINING COLLAR INSTALLATION SPECIFICATIONS FOR HIGH GROUNDWATER CONDITIONS.
- ④ MVP CONTROL PANEL. REQUIRES TWO 115 VOLT, 20 AMP CIRCUITS
- ⑤ 1" SCH 40 PVC PRESSURIZED PIPE RATED FOR MINIMUM OF 150 PSI
- ⑥ DIVERSION VALVE BOX
- ⑦ **SHUT-OFF VALVE:** HIGH-PRESSURE GATE VALVE WITH PRESSURE LATERAL CLEANOUT AND 4" CAPPED TRENCH INSPECTION RISER PIPE IN A 10"-ROUND VALVE BOX (TYP.)
- ⑧ PRIMARY AND SECONDARY DRAINFIELDS EACH CONSISTING OF ONE 60 FT LONG PRESSURIZED INFILTRATOR TRENCH (15 CHAMBERS PER TRENCH). TRENCHES SHALL HAVE A 1" PRESSURIZED PVC LATERAL WITH 1/8" ORIFICES SPACED 3 FT APART. TRENCHES SHALL BE 3 FT WIDE, 2.5 FT DEEP AND SHALL BE SPACED 6 FT ON CENTER. TOTAL: 30 QUICK4 PLUS HIGH-CAPACITY INFILTRATOR CHAMBERS / 120 LF OF TRENCH
- ⑨ **END RISER:** PRESSURE LATERAL FLUSHING BALL VALVE AND 4" CAPPED TRENCH INSPECTION RISER PIPE IN A 10"-ROUND VALVE BOX
- ⑩ 5.5'-DEEP INSPECTION WELL (SEE DETAIL) 3X
- ⑪ CONCRETE THRUST BLOCK OR EQUIVALENT RESTRAINT

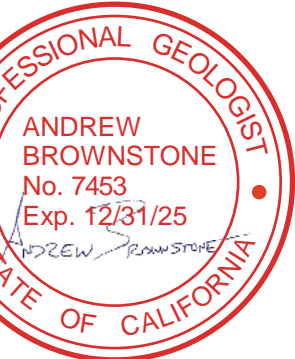
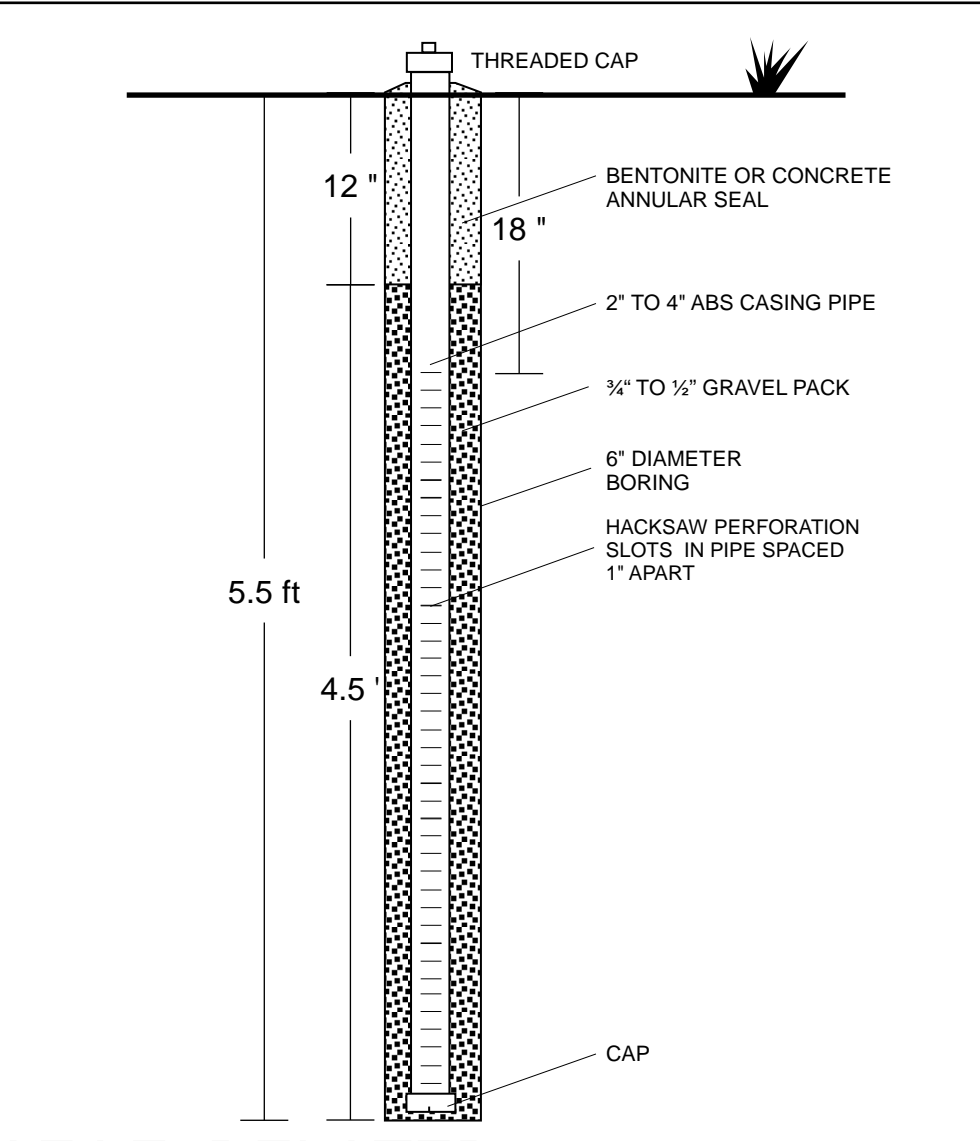
APPLICANT: HARGROVE



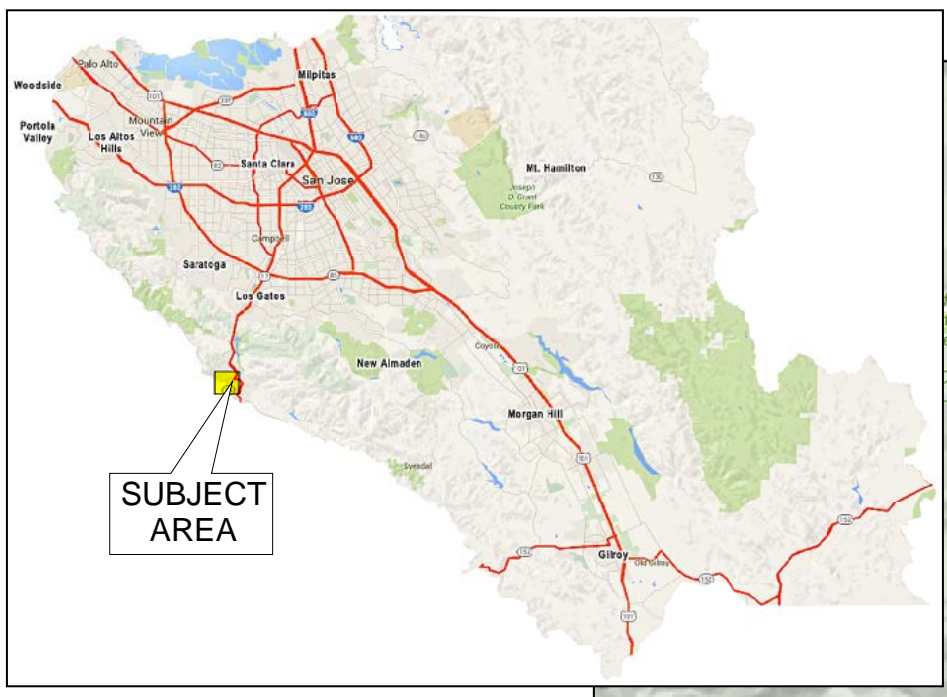
⑥ DIVERSION VALVE BOX DETAIL



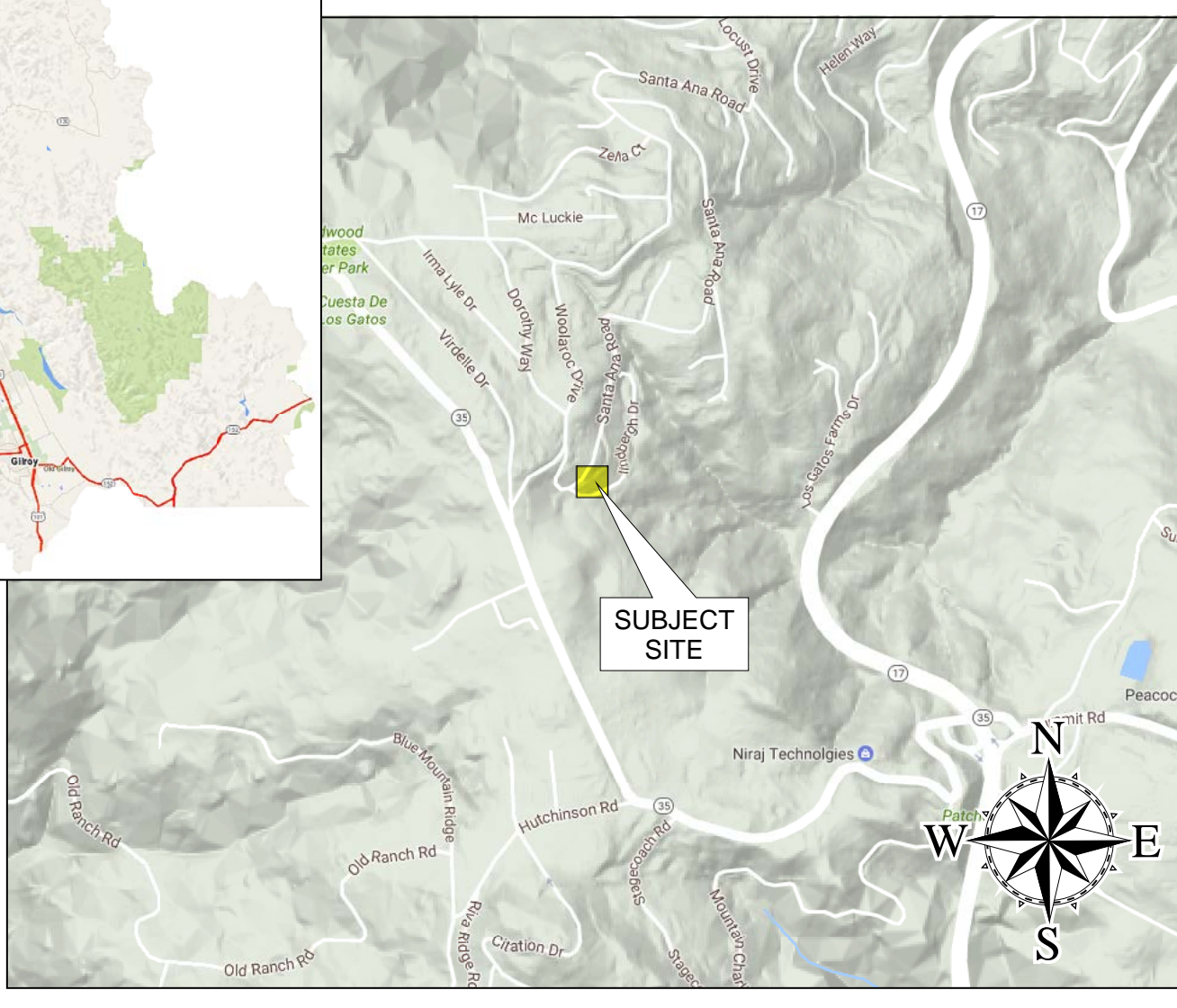
⑩ INSPECTION WELL CONSTRUCTION DETAIL



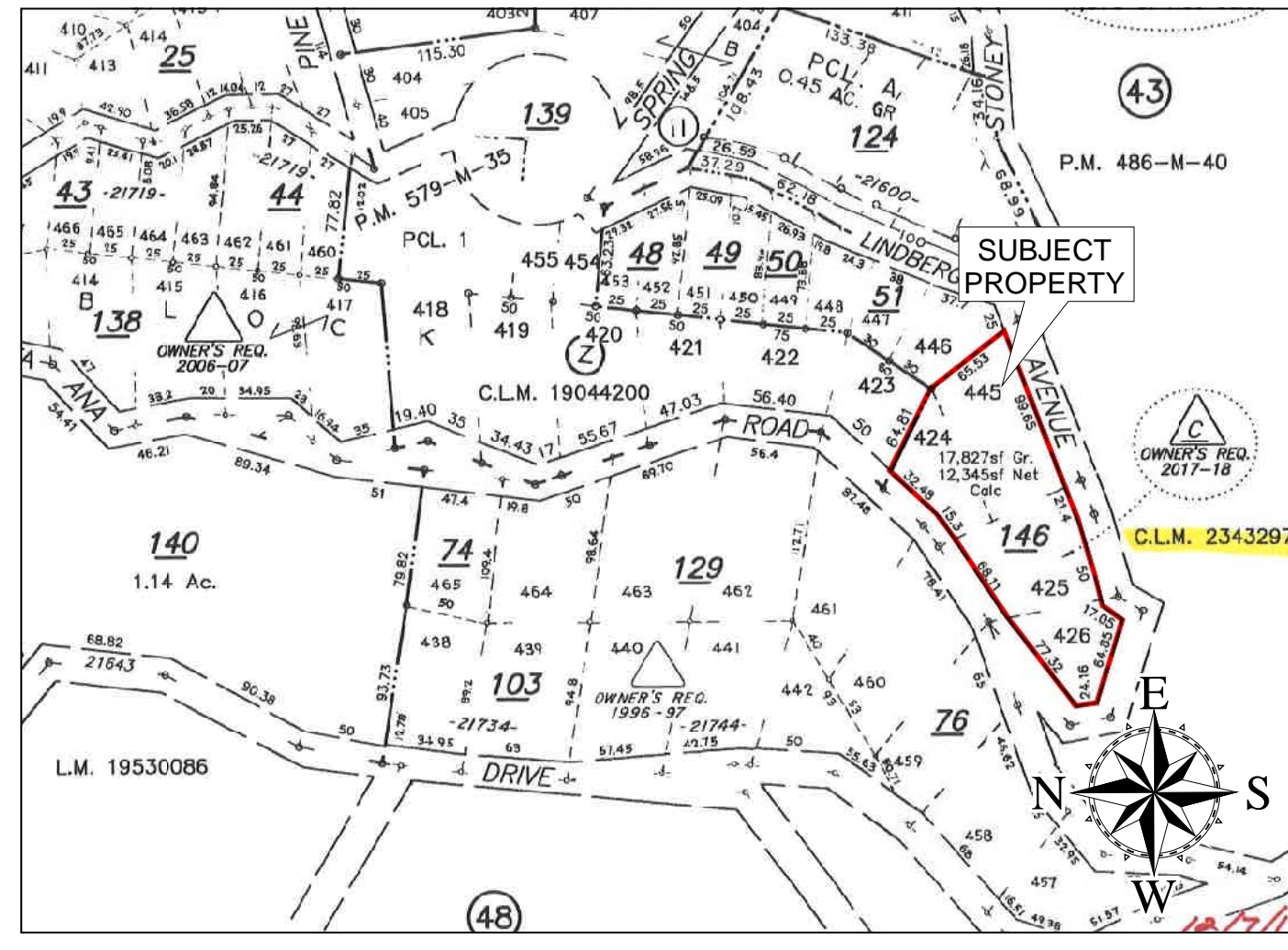
COUNTY INDEX MAP



TOPOGRAPHIC VICINITY MAP



PARCEL INDEX MAP



COUNTY E.H. ACCEPTANCE/APPROVAL STAMPS

BioSphere Consulting
Alternative Wastewater System Design
Incorporated

- Site Evaluation & Mapping
- Soil Analysis & Percolation Testing
- New Development, Upgrade & Repairs
- Residential & Commercial

1315 King Street
Santa Cruz, CA 95060
Tel: (831) 430-9116
www.biosphere-consulting.com

SHALLOW PRESSURE DISTRIBUTION WASTEWATER SYSTEM FOR A TWO BEDROOM SFD				
Project Location:	Lindbergh Dr, Los Gatos, California			[Santa Clara County]
Property Owner:	Thomas Hargrove & Cheryl Licon			
Mailing Address:	21771 Virdelle Dr., Los Gatos, CA 95033			
Owner Phone #:	(408) 821-8214			email: thomas_j.hargrove@progressive.com
Directions to Site:	From 17N, take the exit toward CA-35. Left onto CA-35. Slight right onto Woolacore Drive. Continue straight onto Virdelle Dr. Sharp right onto Bayview Drive. Right onto Woolacore Drive. Continue straight onto Santa Ana Road. Right onto Lindbergh Dr.			Sheet:
Date:	02/23/17	By:	David Quinn	Job No.: 15041
APN: 544-44-146		1 OF 2		
CHANGE ORDER REVISION: 05/10/24				

PROJECT DESCRIPTION

An onsite wastewater system with pressurized trenches is proposed to serve the development of a proposed 2 bedroom single family dwelling to be constructed on Lindbergh Dr, Los Gatos, in Santa Clara County, California. A 1,500 gallon Roth septic tank and a 500 gallon Orenco FRP pump tank without a baffle is specified. Pressurized trenches are specified in order to meet the slope requirements.

DESIGN CRITERIA

- The septic system is designed to serve a 2 bedroom single family dwelling generating 300 gallons per day of wastewater. The septic system is designed to treat 300 gallons of water per day.
- The lot is served by a municipal water supply.

TRENCH CONSTRUCTION DESIGN

300 GPD Design Flow for Two Bedroom House

8.3 MPI perc rate = 0.88 gal/ft²

300 GPD ÷ 0.88 gal/ft² = 341 ft² of infiltrative area

341 ft² ÷ 4 ft²/ft = 85.25 ft of trench

85.25 ft × 0.7 (30% infiltrator chamber reduction) = 60ft

The leachfield therefore consists of 120 LF of leaching trenches, 2.5 ft deep, 3 ft wide, consisting of 30 quick4 Plus High-Capacity Infiltrator chambers.

SPECIFICATIONS

1. Building Sewer, Septic Tank & Pump Tank

- 1.1. A New 4" ABS building sewer line shall be installed to convey all raw sewage from the proposed 2 bedroom house to the septic tank. All gravity sewer piping must maintain a minimum 2% continuous gradient. All wastewater including graywater shall be discharged to the septic tank.
- 1.2. Locate 2-way, 4" ABS cleanout fittings on the building sewer to facilitate snaking and for line location.
- 1.3. The primary septic tank shall be a 1,500 gallon Roth MultiTank followed by a 1,060 gallon Orenco FRP pump tank without a baffle.
- 1.4. The septic tank shall have an effluent filter (Model: FT-36-04) installed at tank outlet.
- 1.5. All tanks shall each have two 24" diameter, OSI access risers with fiberglass bolt-down lids. Riser heights will be determined by tank burial depth (ideally 12" to 24"). Risers shall be installed 2" above finished grade. Install the access risers with a watertight joint using the adhesives supplied by manufacturer. The tank shall be installed according to the manufacturer's guidelines including anti-floatation specifications.
- 1.6. The hole for the new tanks shall be excavated so that each tank sits level.
- 1.7. Fill the tank with clean water 2" above the joint between the riser and the tank top. Repair any leaks.
- 1.8. Obtain a watertight tank inspection by DEH with 24 hours notice.
- 1.9. An OSI PF2005 lift pump with EasyPak Pump Package vault shall be installed in the pump tank.
- 1.10. An OSI MVP control panel is specified for float and pump operation.
- 1.11. Float heights are specified in order to supply a minimum of 3 doses per day at design flow conditions.

2. Shallow Pressurized Dispersal Trenches

- 2.1. A high pressure gate valve at the head of each trench shall be installed in order to distribute treated effluent evenly to each of the dispersal trenches.
- 2.2. Primary and Secondary drainfields each consisting of one chambered dispersal trench. Trenches shall be 60'-long, 3'-wide, and 2.5'-deep. Each drainfield shall consist of 15 Quick4 Plus High-Capacity Infiltrator Chambers for a combined total of 120 linear feet of trench (30 Quick4 Plus High-Capacity Infiltrator Chambers). Trenches shall be installed in the general location shown on the plan. The floor of each trench shall be level. Installer to scarify trench walls to remove smear and increase surface area for absorption.
- 2.3. Installer shall assure that surface drainage is directed away from the finished dispersal trenches.
- 2.4. The leachfield pressurized pipe shall be 1" SCH40 PVC with 1/8" orifices spaced 3 ft apart.
- 2.5. All pressurized piping shall be SCH40 PVC and labelled according to current UPC requirements "treated wastewater - do not drink". Pressure piping shall be pressure-rated to 150 psi and solvent welded.
- 2.6. Concrete thrust blocks, or equivalent restraint, shall be provided at sharp changes in piping direction.
- 2.7. Drainfield shall meet Santa Clara County guidelines for Tree Protection and Preservation for Land Use Applications.

3. Piping Schedule

- 3.1. All piping shall be installed to conform to requirements in the current California Plumbing Code and have a minimum pressure-rating of 150 psi.
- 3.2. The house sewer pipe to the septic tank shall be constructed of 4" ABS and shall include a 2-way clean out fitting near dwelling as shown on the plan.
- 3.3. The pressurized piping from the pump tank to the dispersal trenches shall be 1" Schedule 40 PVC.
- 3.4. The leach field pressurized pipe shall be 1" SCH40 PVC with a gate valve at the head of the lateral and 1/8" orifices spaced 3' apart.

4. Installer Qualifications and Responsibilities

- 4.1. The system installer shall be licensed by the State of California, Department of Consumer Affairs, to install septic systems.
- 4.2. All piping shall conform to the current edition of the California Plumbing Code.
- 4.3. The installer shall be responsible for locating any property lines, underground utilities or piping. Any damage to these facilities shall be the responsibility of the installer.

5. Site Clean up and Erosion Control Measures

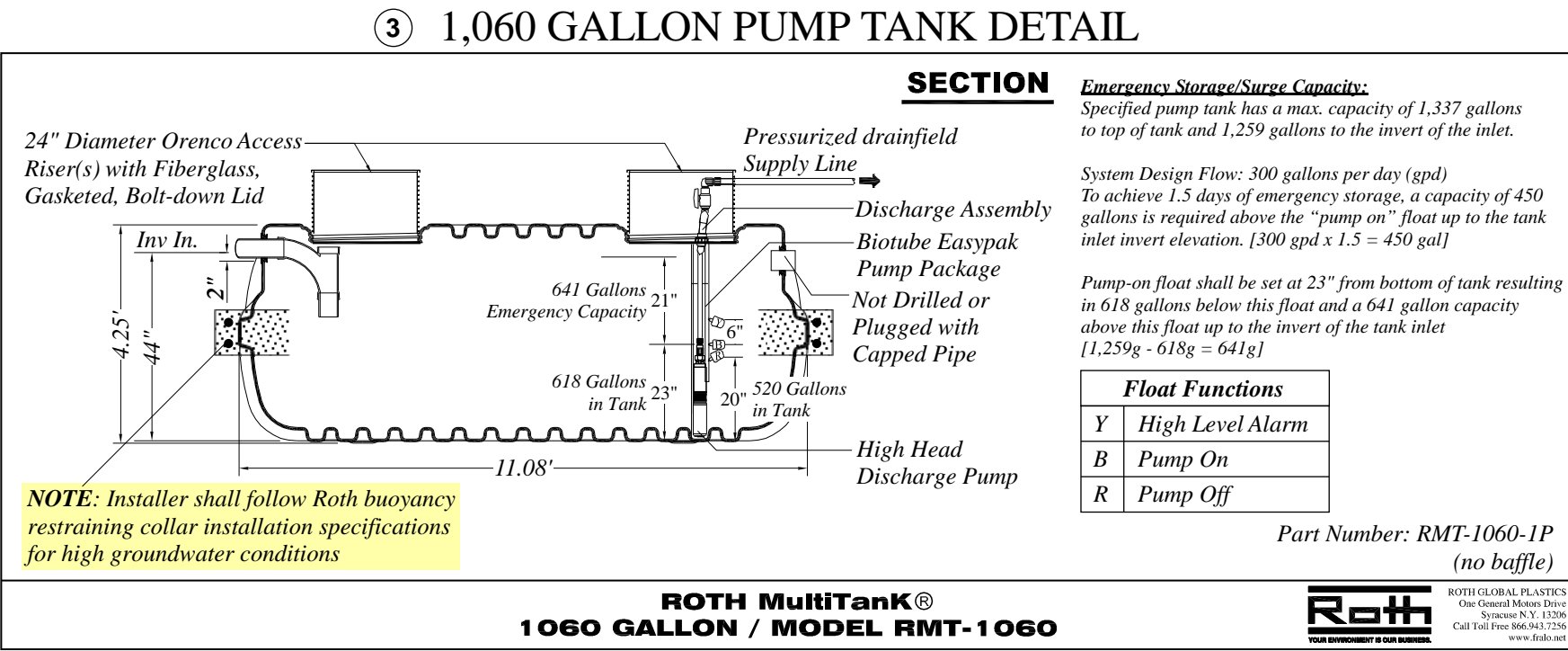
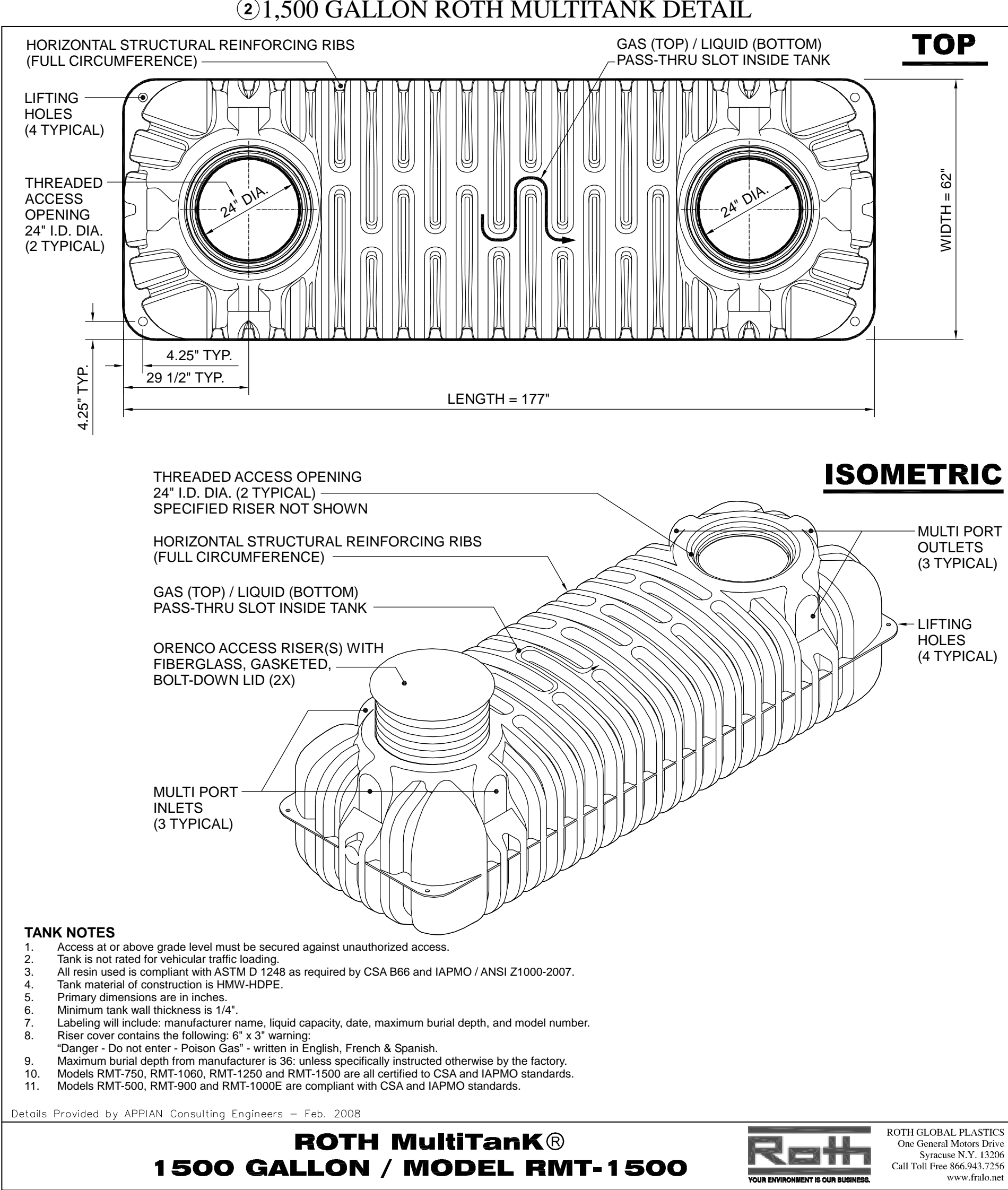
- 5.1. All excavated areas shall be smoothed and all construction debris shall be removed from the site.
- 5.2. All disturbed soils shall be seeded and mulched. Erosion Control Mix seed shall be used at the coverage recommended on the package for all disturbed soil.
- 5.3. Straw shall be used to cover all disturbed soil.
- 5.4. PER DIVISION C12, CHAPTER III OF THE COUNTY CODE (Sec. C12-513. Temporary erosion control.)
"The permittee and any person(s) doing, causing or directing the grading shall install and maintain all precautionary measures necessary to protect adjacent watercourses and public or private property from damage by erosion, flooding, or deposition of mud or debris originating from the site. Precautionary measures must include provisions of properly designed erosion prevention and sediment control measures, so that downstream properties are not affected by upstream erosion or sediment transport by stormwater."

6. Final Permitting

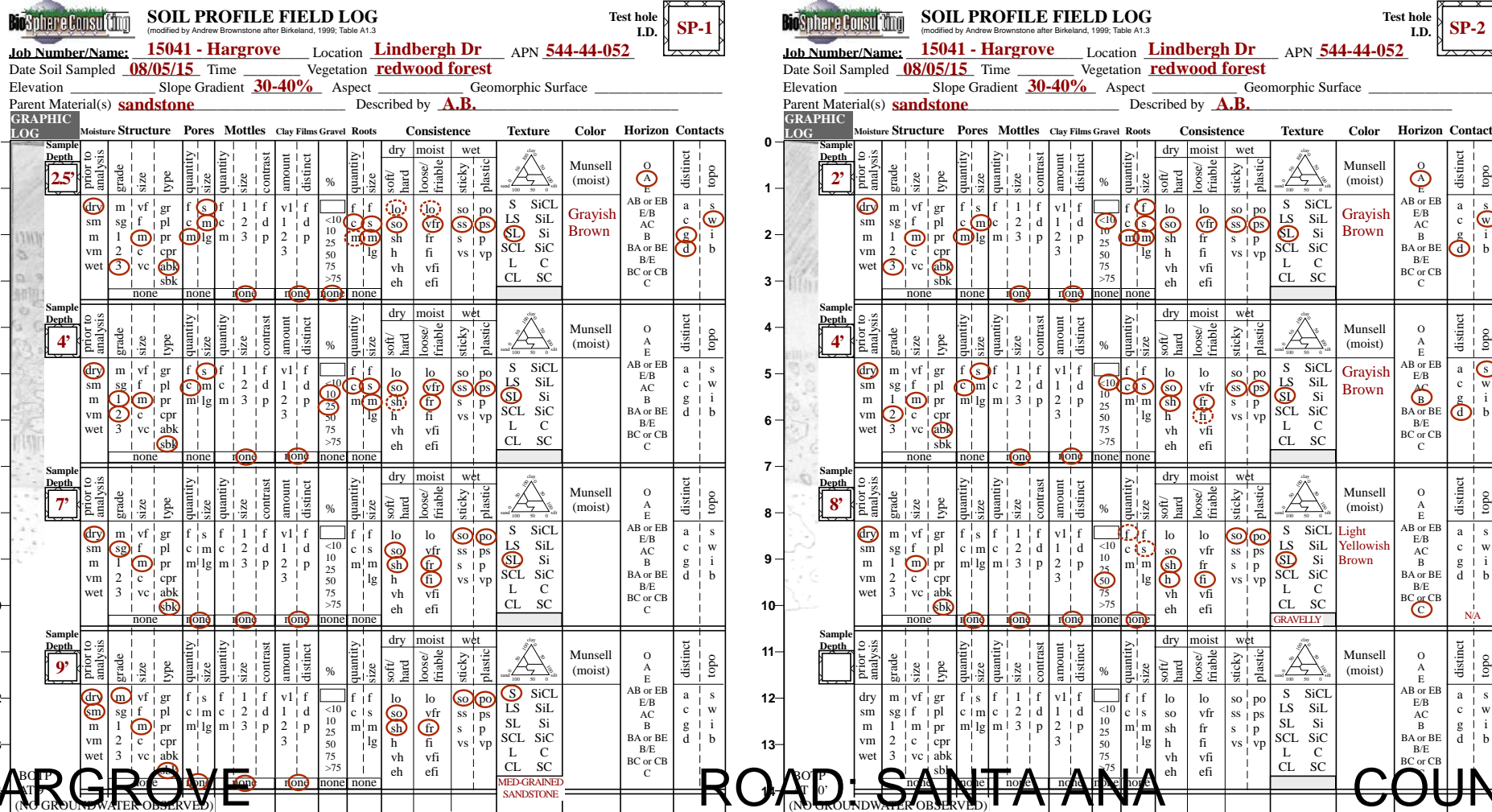
- 6.1. Designer to provide As-Built drawing at completion of installation.
- 6.2. Designer to provide final letter for pump system verification.
- 6.3. Construction inspections of the shallow PD system installation should include the items listed below.
 - Pre-construction inspection where the construction staking or marking of the various system components is provided and construction procedures discussed;
 - Water tightness of septic tank and dosing (pump) tank;
 - Layout and excavation of dispersal trenches and piping;
 - Placement of infiltrator chambers;
 - Piping installation and hydraulic ("squirrt") test of the distribution system;
 - Functioning and setting of all control devices; and
 - Final Inspection to verify that all construction elements are in conformance with the approved plans and specifications, all performance wells are installed; and erosion control has been completed.

SOIL PERCOLATION SUMMARY TABLE 8-6-15

HOLE		1	2	3	4	5	6	7	8
Stabilized MPI	R	11.40	6.90	7.80	4.90	11.40	3.80	4.00	2.90
Adjusted Stabilized MPI	R ₂ =R x 1.4		9.66	10.92	6.86	15.96	5.32	5.60	4.06
Avg. Adj. Stabilized MPI	R ₂ =(Σ R ₂)/#Holes								
# Bedrooms:	FOR OFFICE USE ONLY	TANK SIZE (Gal)				Leach Line (Ft)			



SOIL PROFILE LOGS AND PERCOLATION TEST RESULTS



PUMP SELECTION CHART

HARGROVE

Parameters	
Discharge Assembly Size	1.00 inches
Transport Length	30 feet
Transport Pipe Class	40
Transport Line Size	1.00 inches
Distributing Valve Model	None
Max Elevation Lift	12 feet
Manifold Length	19 feet
Manifold Pipe Class	40
Manifold Pipe Size	1.00 inches
Number of Laterals per Cell	1
Lateral Length	60 feet
Lateral Pipe Class	40
Lateral Pipe Size	1.00 inches
Orifice Size	1/8 inches
Orifice Spacing	3 feet
Residual Head	5 feet
Flow Meter	None
Add-on Friction Losses	20 feet

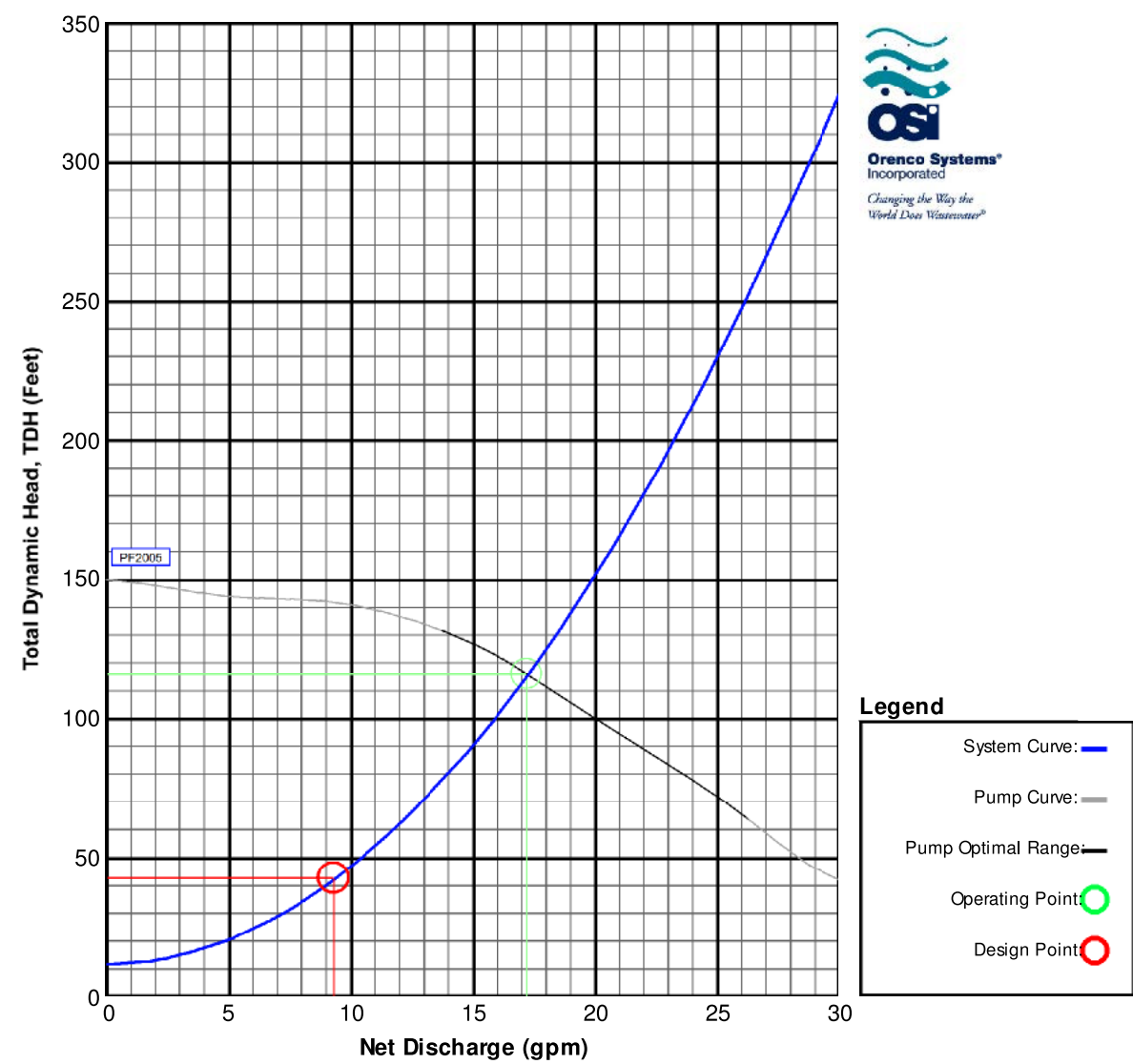
Calculations	
Minimum Flow Rate per Orifice	0.43 gpm
Number of Orifices per Zone	21
Total Flow Rate per Zone	9.3 gpm
Number of Laterals per Zone	1
% Flow Differential 1st/Last Orifice	9.3 %
Transport Velocity	3.5 fps

Frictional Head Losses	
Loss through Discharge	2.9 feet
Loss in Transport	1.5 feet
Loss through Valve	0.0 feet
Loss in Manifold	0.3 feet
Loss in Lateral	1.1 feet
Loss through Flowmeter	0.0 feet
Add-on Friction Losses	20.0 feet

Pipe Volumes	
Vol of Transport Line	1.3 gals
Vol of Manifold	0.9 gals
Vol of Laterals per Zone	2.7 gals
Total Volume	4.9 gals

Minimum Pump Requirements	
Design Flow Rate	9.3 gpm
Total Dynamic Head	42.7 feet

PumpData	
PF2005 High Head Effluent Pump	
20 GPM, 1/2HP	
11 5/230 V 10 60Hz 2.00W 30/6 0Hz	



SYSTEM OPERATION AND MAINTENANCE

- The owner should read and operate the system according to the Orenco pump operation and maintenance literature.
- County Environmental Health will issue an OWTS Annual Operating Permit. This requirement will be placed on the title deed for the property.
- The pressurized trenches shall be automatically flushed one zone at a time every 12 months at a minimum.
- Property owner to follow maintenance requirements outlined in table PD-3 shown on this plan.
- The treatment tank is alive with important microorganisms. Do not add any materials (paint thinner, paint, motor oil, unused medicine, etc.) that may disrupt the biologic treatment process. The primary tank should be pumped when the total of the scum/sludge thickness is greater than 1/3 of the total liquid level depth.
- DO NOT ROUTE WATER SOFTENER BACKFLUSH DISCHARGE TO TREATMENT SYSTEM!** This discharge may be routed directly to a drainfield trench or an approved dispersal field.
- Repair all plumbing leaks (especially toilet leaks) promptly.

TABLE PD-3. SHALLOW PRESSURE DISTRIBUTION SYSTEM MANAGEMENT REQUIREMENTS

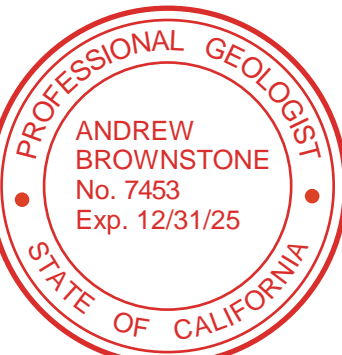
	WORK	FREQUENCY
Inspection	<ul style="list-style-type: none">Conduct routine visual observations of disposal field and downslope area and surroundings for wet areas, pipe leaks or damage, soil erosion, drainage issues, abnormal vegetation, gophers or other problems.Perform inspections of pump and appurtenances (per O&M manual and Performance Evaluation Guidelines, Part 5 of this Manual).	<ul style="list-style-type: none">Every 6 to 12 months.
Maintenance	<ul style="list-style-type: none">Purge laterals, squirt and balance.Exercise valves to ensure functionality.Perform all maintenance work as recommended by equipment manufacturer for any special valves or other components.Investigate and repair erosion, drainage or other disposal field problems, as needed.Investigate and perform distribution system corrective work, as required.Record work done.	<ul style="list-style-type: none">Distribution system maintenance annually.Other maintenance as required.
Water Monitoring & Sampling	<ul style="list-style-type: none">Measure and record water levels in trench observation wells.Measure and record water levels in dispersal field monitoring wells, as applicable, per permit requirements.Obtain and analyze water samples from monitoring wells, as applicable, per permit requirements.	<ul style="list-style-type: none">Measure trench water levels annually.Other monitoring according to permit conditions, as applicable.
Reporting	<ul style="list-style-type: none">Report findings to DEH per permit requirements.Standard report to include dates, observation well and monitoring well readings and other data collected, work performed, corrective actions taken, and performance summary.Report public health/water quality emergency to DEH immediately.	<ul style="list-style-type: none">According to permit conditions, typically every 1 to 2 years, depending on systems size, usage, history, location.

COUNTY E.H. ACCEPTANCE/APPROVAL STAMPS



SHALLOW PRESSURE DISTRIBUTION WASTEWATER SYSTEM FOR A TWO BEDROOM SFD

Project Location:	Lindbergh Dr, Los Gatos, California	(Santa Clara County)
Property Owner:	Thomas Hargrove & Cheryl Licon	
Mailing Address:	21771 Virdelle Dr., Los Gatos, CA 95033	
Owner Phone #:	(408) 821-8214	email: thomas_j_hargrove@pnsgressive.com
Directions to Site:	From 17N, take the exit toward CA-35. Left onto CA-35. Slight right onto Woolacore Drive. Continue straight onto Virdelle Dr. Sharp right onto Bayview Drive. Right onto Woolacore Drive. Continue straight onto Santa Ana Road. Right onto Lindbergh Dr.	Sheet:
Date:	02/23/17	By: David Quinn
Job No.:	15041	APN: 544-44-146
CHANGE ORDER REVISION:	05/10/24	2 OF 2



APPLICANT: HARGROVE

ROAD: SANTA ANA

COUNTY FILE: RELATED 2018-49219