

**GENERAL GRADING NOTES:**

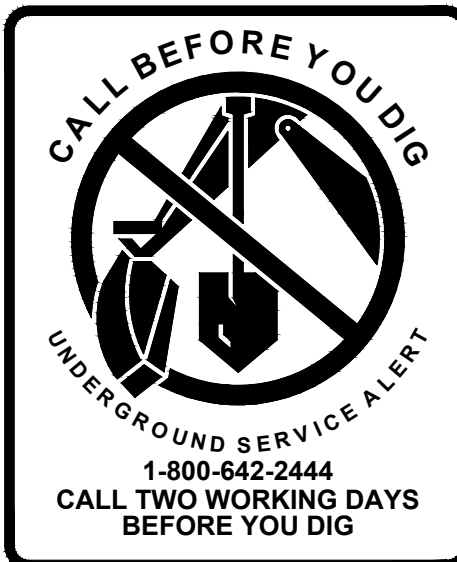
- APPROVAL OF THIS GRADING PLAN DOES NOT CONSTITUTE APPROVAL OF VERTICAL OR HORIZONTAL ALIGNMENT OF ANY PRIVATE ROAD SHOWN HEREON FOR COUNTY ROAD PURPOSES.
- FINAL APPROVAL OF THESE GRADING PLANS IS SUBJECT TO FINAL APPROVAL OF THE ASSOCIATED IMPROVEMENT PLANS WHERE APPLICABLE.
- IMPORT MATERIAL SHALL BE OBTAINED FROM A LEGAL SITE.
- A CONSTRUCTION EXCAVATION OR ENCROACHMENT PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS WILL BE REQUIRED FOR ANY WORK IN THE COUNTY RIGHT-OF-WAY.
- ALL SLOPES WILL BE PLANTED IN ACCORDANCE WITH SAN DIEGO COUNTY SPECIFICATIONS.
- THE CONTRACTOR SHALL VERIFY THE EXISTENCE AND LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK. NOTICE OF THE PROPOSED WORK SHALL BE GIVEN TO THE FOLLOWING AGENCIES.
 

SAN DIEGO GAS AND ELECTRIC	1-800-422-4133
PACIFIC BELL	1-800-422-4133
COX CABLE	1-800-422-4133
HELIX WATER DISTRICT	1-619-443-3805
- A SOILS REPORT MAY BE REQUIRED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.
- APPROVAL OF THESE PLANS BY THE DIRECTOR OF PUBLIC WORKS DOES NOT AUTHORIZE ANY WORK OR GRADING TO BE PERFORMED UNTIL THE PROPERTY OWNER'S PERMISSION HAS BEEN OBTAINED AND A VALID GRADING PERMIT HAS BEEN ISSUED.
- THE DIRECTOR OF PUBLIC WORKS APPROVAL OF THESE PLANS DOES NOT CONSTITUTE COUNTY BUILDING OFFICIAL APPROVAL OF ANY FOUNDATIONS FOR STRUCTURES TO BE PLACED ON THE AREA COVERED BY THESE PLANS. NO WAIVER OF THE GRADING ORDINANCE REQUIREMENTS CONCERNING MINIMUM COVER OVER EXPANSIVE SOILS IS MADE OR IMPLIED (SECTION 87.403 AND 87.410). ANY SUCH WAIVER MUST BE OBTAINED FROM THE DIRECTOR OF PLANNING AND LAND USE.

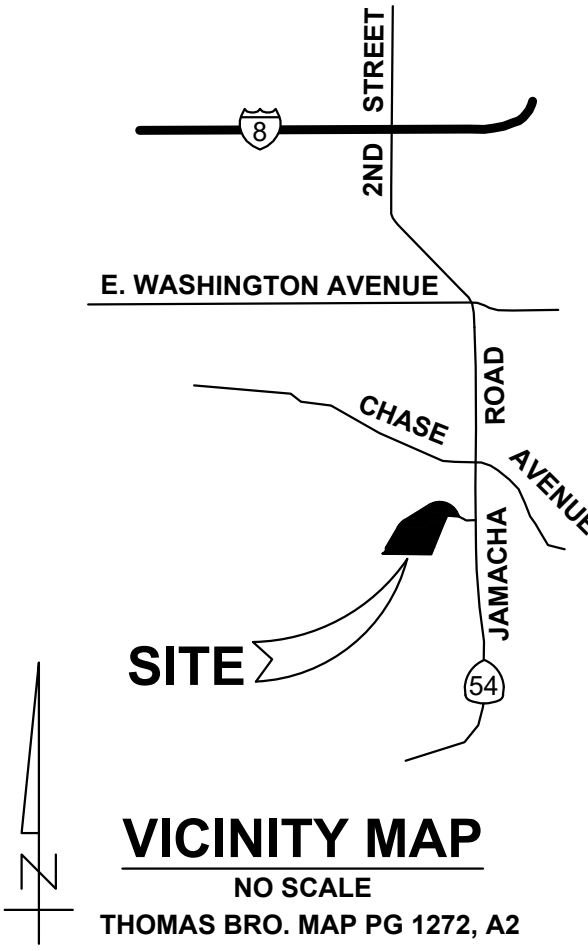
- ALL OPERATIONS CONDUCTED ON THE PREMISES, INCLUDING THE WARMING UP, REPAIR, ARRIVAL, DEPARTURE OR RUNNING OF TRUCKS, EARTH MOVING EQUIPMENT, CONSTRUCTION EQUIPMENT AND ANY OTHER ASSOCIATED GRADING EQUIPMENT SHALL BE LIMITED TO THE PERIOD BETWEEN 7:00 AM AND 6:00 PM EACH DAY, MONDAY THROUGH SATURDAY AND NO EARTH MOVING OR GRADING OPERATIONS SHALL BE CONDUCTED ON THE PREMISES ON SUNDAYS OR HOLIDAYS.
- ALL MAJOR SLOPES SHALL BE ROUNDED INTO EXISTING TERRAIN TO PRODUCE A CONTOURED TRANSITION FROM CUT TO FILL FACES TO NATURAL GROUND AND ABUTTING CUT OR FILL SURFACES.
- NOT WITHSTANDING, THE MINIMUM STANDARDS SET FORTH IN THE GRADING ORDINANCE AND NOT WITHSTANDING THE APPROVAL OF THESE PLANS, THE PERMITTEE IS RESPONSIBLE FOR THE PREVENTION OF DAMAGE TO THE ADJACENT PROPERTY. NO PERSON SHALL EXCAVATE ON LAND SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PUBLIC STREET, SIDEWALK, ALLEY, FUNCTIONS OF ANY SEWER DISPOSAL SYSTEM OR ANY OTHER PUBLIC OR PRIVATE PROPERTY WITHOUT SUPPORTING OR PROTECTING SUCH PROPERTY FROM SETTLING, CRACKING, EROSION, SILTING, SCOUR OR OTHER DAMAGE WHICH MIGHT RESULT FROM THE GRADING DESCRIBED ON THIS PLAN. THE COUNTY WILL HOLD THE PERMITTEE RESPONSIBLE FOR CORRECTION OF NON-DEDICATED IMPROVEMENTS WHICH DAMAGE ADJACENT PROPERTY.

13. SLOPE RATIOS:  
 CUT - 1.5:1 FOR MINOR SLOPES, 2:1 FOR MAJOR SLOPES  
 FILL - 2:1 FOR ALL SLOPES  
 EXCAVATION: 13,000 C.Y. FILL: 13,000 C.Y.  
 IMPORT: 0 C.Y. EXPORT: 0 C.Y.

- A SEPARATE VALID PERMIT MUST BE OBTAINED FOR EITHER WASTE OR IMPORT AREAS.
- SPECIAL CONDITION IF ANY ARCHAEOLOGICAL RESOURCES ARE DISCOVERED ON THE SITE OF THIS GRADING DURING GRADING OPERATIONS. SUCH OPERATIONS WILL CEASE IMMEDIATELY, AND THE PERMITTEE WILL NOTIFY THE DIRECTOR OF PUBLIC WORKS OF THE DISCOVERY. GRADING OPERATIONS WILL NOT RECOMMENCE UNTIL THE PERMITTEE HAS RECEIVED WRITTEN AUTHORITY FROM THE DIRECTOR OF PUBLIC WORKS TO DO SO.
  - COMPACTION TESTING AND THE COMPACTION REPORT IS REQUIRED FOR ALL FILL THAT IS OVER 12 INCHES IN DEPTH.
  - FINISHED GRADING SHALL BE CERTIFIED BY A REGISTERED CIVIL ENGINEER AND INSPECTED BY THE COUNTY ENGINEER FOR DRAINAGE CLEARANCE. APPROVAL OF ROUGH GRADING DOES NOT CERTIFY FINISH GRADING BECAUSE OF POTENTIAL SURFACE DRAINAGE PROBLEMS THAT MAY BE CREATED BY LANDSCAPING ACCOMPLISHED AFTER ROUGH GRADING CERTIFICATION.
  - ALL GRADING WILL BE IN ACCORDANCE WITH THE SAN DIEGO COUNTY STANDARD DRAWINGS DS-8, DS-10, DS-11 AND D-75.



# GRADING PLAN



**PDS ENVIRONMENTAL NOTE:**

NOTICE: THE ISSUANCE OF THIS PERMIT/APPROVAL BY THE COUNTY OF SAN DIEGO DOES NOT AUTHORIZE THE APPLICANT FOR SAID PERMIT/APPROVAL TO VIOLATE ANY FEDERAL, STATE, OR COUNTY LAWS, ORDINANCES, REGULATIONS, OR POLICIES INCLUDING, BUT NOT LIMITED TO, THE FEDERAL ENDANGERED SPECIES ACT AND ANY AMENDMENTS THERETO.

**MONUMENTATION GENERAL NOTE:**

THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT ALL SURVEY CONTROL MEASUREMENTS, WHETHER SHOWN ON THESE PLANS OR NOT, WITHIN THE PROJECT AREA. ALL SURVEY MONUMENTS, WHETHER FOR HORIZONTAL OR VERTICAL CONTROL, THAT WILL OR COULD BE DISTURBED OR REMOVED BY THE CONTRACTOR, OR HIS EMPLOYEES, AGENTS, SUBCONTRACTORS, CONSULTANT OR LICENSEES, SHALL BE LOCATED PRIOR TO BEING DISTURBED OR REMOVED AND REPLACED OR RESET IN ACCORDANCE WITH THE CALIFORNIA BUSINESS & PROFESSIONS CODE SECTION 8771(b), AT THE CONTRACTOR'S SOLE EXPENSE, UNDER THE SUPERVISION OF A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING IN THE STATE OF CALIFORNIA. IN ADDITION, A RECORD OF SURVEY OR CORNER RECORD, AS APPLICABLE, SHALL BE FILED AND/OR RECORDED, IN ACCORDANCE WITH THE PROVISIONS OF SAID CODE.

**OWNER'S CERTIFICATE:**

IT IS AGREED THAT FIELD CONDITIONS MAY REQUIRE CHANGES TO THESE PLANS. IT IS FURTHER AGREED THAT THE OWNER (DEVELOPER) SHALL HAVE A REGISTERED CIVIL ENGINEER MAKE SUCH CHANGES, ALTERATIONS OR ADDITIONS TO THESE PLANS WHICH THE DIRECTOR OF PUBLIC WORKS DETERMINES ARE NECESSARY AND DESIRABLE FOR THE PROPER COMPLETION OF THE IMPROVEMENTS. I HEREBY AGREE TO COMMENCE WORK ON ANY IMPROVEMENTS SHOWN ON THESE PLANS WITHIN EXISTING COUNTY RIGHT-OF-WAY WITHIN 60 DAYS AFTER ISSUANCE OF THE CONSTRUCTION PERMIT AND TO PURSUE SUCH WORK ACTIVELY ON EVERY NORMAL WORKING DAY UNTIL COMPLETED, IRRESPECTIVE AND INDEPENDENT OF ANY OTHER WORK ASSOCIATED WITH THIS PROJECT OR UNDER MY CONTROL.

EMAD YOUSIF \_\_\_\_\_ DATE \_\_\_\_\_  
 1490 SOUTH ORANGE AVENUE, #128  
 EL CAJON, CA 92020  
 (573) 289-5107

**SOILS ENGINEER CERTIFICATION:**

THIS GRADING PLAN HAS BEEN REVIEWED BY THE UNDERSIGNED AND FOUND TO BE IN CONFORMANCE WITH THE RECOMMENDATIONS AS OUTLINED IN THE SOILS REPORT FOR THIS PROJECT. THE SOILS REPORT SHALL BE CONSIDERED AS A PART OF THIS PLAN, AND ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS AND RECOMMENDATIONS OF SAID REPORT DATED 7-30-21 TITLED "PRELIMINARY GEOTECHNICAL INVESTIGATION AND DESIGN RECOMMENDATIONS, SUNDALE 6-LOT SUBDIVISION, SUNDALE ROAD, EL CAJON, COUNTY OF SAN DIEGO, CALIFORNIA" PREPARED BY ADVANCED GEOTECHNICAL SOLUTIONS, INC.

JOHN J. DONOVAN \_\_\_\_\_ RGE 2790 EXP 6-30-25 DATE \_\_\_\_\_  
 ADVANCED GEOTECHNICAL SOLUTIONS, INC.  
 485 CORPORATE DRIVE, SUITE B  
 ESCONDIDO, CA 92029  
 (619) 867-0487



**WORK TO BE DONE**

DRAINAGE AND GRADING WORK CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS, THE SAN DIEGO AREA REGIONAL STANDARD DRAWING (RSD) AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK), CURRENT EDITION AND PER SAN DIEGO COUNTY GRADING ORDINANCE.

LEGEND	REGIONAL STD. DWG.	SYMBOL	QTY.
CONTOUR		700	
GRADED SLOPE (2:1 CUT/2:1 FILL)	DS-08, 10, 11	[Symbol]	
SPOT ELEVATION		720.7	
DAYLIGHT LINE		[Symbol]	
PROPOSED 18"x18" CATCH BASIN WITH STEEL GRATE ("BROOKS" 1818CB)		[Symbol]	10 EA
PROPOSED 24X24" CATCH BASIN WITH STEEL COVER ("BROOKS" 2424CB)		[Symbol]	4 EA
PROPOSED 12"x12" CATCH BASIN WITH STEEL COVER ("BROOKS" 1212CB)		[Symbol]	3 EA
PROPOSED 12"x12" CATCH BASIN WITH STEEL GRATE ("BROOKS" 1212CB)		[Symbol]	1 EA
PROPOSED PRIVATE 6" PVC STORM DRAIN PIPE (SCH. 20)		[Symbol]	478 LF
PROPOSED PRIVATE 10" PVC STORM DRAIN PIPE (SCH. 20)		[Symbol]	195 LF
PROPOSED PRIVATE 12" PVC STORM DRAIN PIPE (SCH. 20)		[Symbol]	183 LF
PROPOSED RETAINING WALL. SPECIAL INSPECTION IS REQUIRED (PER STRUCTURAL ENGINEER SHEETS 6-10)		[Symbol]	1,688 SF
PROPOSED 5' MAX RETAINING WALL	RSD C-02	[Symbol]	123 SF
PROPOSED BERM (SEE DETAIL ON SHEET 2)		[Symbol]	
PROPOSED CURB OUTLET - TYPE B	RSD D-25B	[Symbol]	3 EA
PROPOSED 16' DRIVEWAY	RSD G-14A	[Symbol]	6 EA
PROPOSED TREE WELL FOR STORMWATER TREATMENT PURPOSES (SEE SHEETS 2 & 5 FOR MATURE CANOPY DIAMETER SIZE)		[Symbol]	9 EA
PROPOSED TYPE 2 5'x5'x1.1' THICK NO. 2 BACKING CLASS RIPRAP	RSD D-40	[Symbol]	1 CY

**LEGAL DESCRIPTION:**

PARCELS A, B, C, & D OF CERTIFICATE OF COMPLIANCE NO. BC-21-0016 C(1) RECORDED IN THE OFFICE OF THE COUNTY RECORDER ON JUNE 3, 2021 AS DOCUMENT NO. 2021-0415208

**DECLARATION OF RESPONSIBLE CHARGE**

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT. THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE COUNTY OF SAN DIEGO IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

LAWRENCE W. WALSH R.C.E. 46316 EXP 12-31-24 DATE \_\_\_\_\_



NOTE: ALL REQUIRED FIRE CLEARING WILL NOT CREATE A LAND DISTURBANCE ACTIVITY AS DEFINED BY COUNTY CODE.

DISTURBED AREA CALCS	
PAD + SLOPES:	112,097 SF
ROAD:	8,745 SF
PRIMARY SEPTIC:	8,516 SF
FIRE CLEARING:	0 SF
TOTAL:	129,354 SF
WDID NO. (if greater than 1 acre):	9 37C396570
SWPPP / CONSTRUCTION SITE RISK LEVEL:	LEVEL 1

LOCAL BENCHMARK: CENTERLINE WELL MONUMENT WITH 3" BRASS DISC STAMPED "RCE 18136" AT CENTER OF BULB IN SUNDALE ROAD APPROXIMATELY 31' NORTHWESTERLY FROM THE SOUTHWESTERLY CORNER OF SUBJECT PROPERTY AS SHOWN HEREON. EL: 647.07 (NAVD88)

**OWNER'S / PERMITTEE'S**

NAME: EMAD YOUSIF  
 ADDRESS: 1490 SOUTH ORANGE AVENUE, #128, EL CAJON, CA 92020  
 TELEPHONE NO.: (573) 289-5107  
 SHORT LEGAL DESCRIPTION: LOTS 5, 9 & 10 AND POR. LOTS 4, 6 & 8, MAP 4684  
 A.P.N. 498-192-09  
 SITE ADDRESS: SUNDALE ROAD (VACANT), EL CAJON, CA 92019

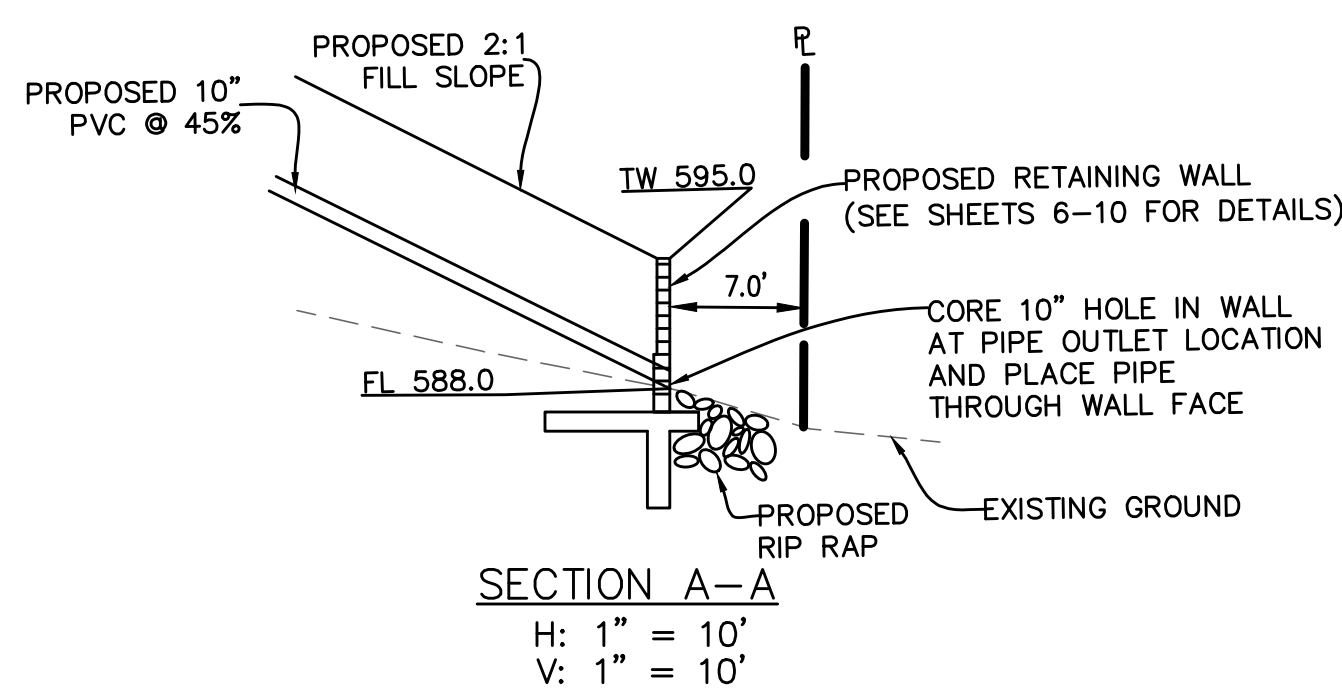
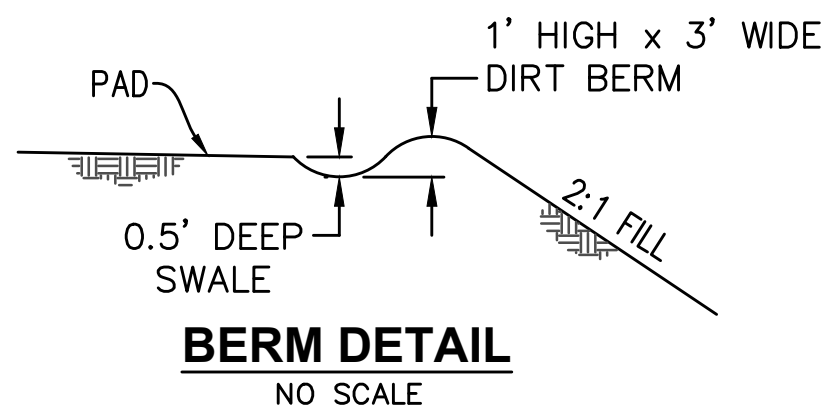
RECORD PLAN	FIRE AGENCY	COUNTY APPROVED CHANGES
BY: _____	SAN MIGUEL FIRE PROTECTION DISRICT	APPROVED BY: _____ DATE: _____
DATE: _____	APPROVED BY: _____	
R.C.E. _____ EXPIRES: _____	DATE: _____	

PERMITS	
CURB GRADE	N/A
SITE PLAN NO.	N/A
LANDSCAPE PERMIT NO.	PDS2021-LP-21-097
IMPROV. PERMIT NO.	N/A
TENTATIVE MAP NO.	TM 2272 APPROVED 8-26-60
N.O.I. NO.	9 37C396570

PRIVATE CONTRACT		
SHEET 1	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	OF 10 SHEETS
GRADING PLANS FOR:		
<b>SUNDALE ROAD</b>		
CALIFORNIA COORDINATE INDEX: 218-1792		

BENCH MARK	
DESCRIPTION:	CENTERLINE WELL MONUMENT WITH 1" PIPE AND DISC STAMPED "SAN DIEGO SURVEYOR"
LOCATION:	CENTERLINE OF JAMACHA ROAD 15' NORTHERLY OF INTERSECTION WITH FALDA DEL CERRO.
RECORD FROM:	SAN DIEGO COUNTY BENCHBOOK AND ROS 17454
ELEVATION:	562.84 DATUM: NAVD88

RECOMMENDED FOR APPROVAL:	APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER
SUBDIVISION ENGINEER	BY: _____ DATE: _____
ENGINEER OF WORK: LAWRENCE W. WALSH	CHECKED BY: _____ TM 2272
RCE 46316 EXP 12-31-24	PDS2021-LDGRMJ-30366



TREE WELL LEGEND:

NO.	CANOPY DIAMETER (FT)	SOIL DEPTH (FT)	FG	TW	BW
1	15	5.5	645.4	645.9	644.9
2	20	6	644.7	646.7	643.7
3	20	6	618.0	620.0	617.0
4	20	4	619.6	620.1	618.6
5	20	6	591.7	593.7	590.7
6	20	6	593.3	593.8	592.3
7	15	6	592.9	593.4	591.9
8	20	6	592.9	593.4	591.9
9	20	6	584.8	585.3	583.8

**LEGEND**

- 1 PROPOSED 6" PVC S.D. PIPE @ 1%
- 2 PROPOSED 12" PVC S.D. PIPE @ 10%
- 3 PROPOSED 6" PVC S.D. PIPE @ 22%
- 4 PROPOSED 6" PVC S.D. PIPE @ 28%
- 5 PROPOSED 10" PVC S.D. PIPE @ 45%
- 6 PROPOSED CURB OUTLET PER RSD D-25B
- 7 PROPOSED 16" DRIVEWAY PER RSD G-14A
- 8 PROPOSED 6" PVC S.D. PIPE @ 8%
- 9 PROPOSED TYPE 2 5'x5'x1.1" THICK NO. 2 BACKING CLASS RIPRAP PER RSD D-40
- 10 PROPOSED 5' MAX RETAINING WALL PER RSD C-02
- 11 PROPOSED TYPE B GRAVITY WALL PER RSD C-09
- 12 PROPOSED 6" PVC S.D. PIPE @ 6%
- 13 PROPOSED 10" PVC S.D. PIPE @ 4%
- 14 PROPOSED 6" PVC S.D. PIPE @ 26%
- 15 PROPOSED 6" PVC S.D. PIPE @ 2%
- 16 PROPOSED 12"x12" CATCH BASIN WITH STEEL GRATE ("BROOKS" 1212CB)
- 17 PROPOSED 10" PVC S.D. PIPE @ 1%
- 18 PROPOSED 12" PVC S.D. PIPE @ 1%

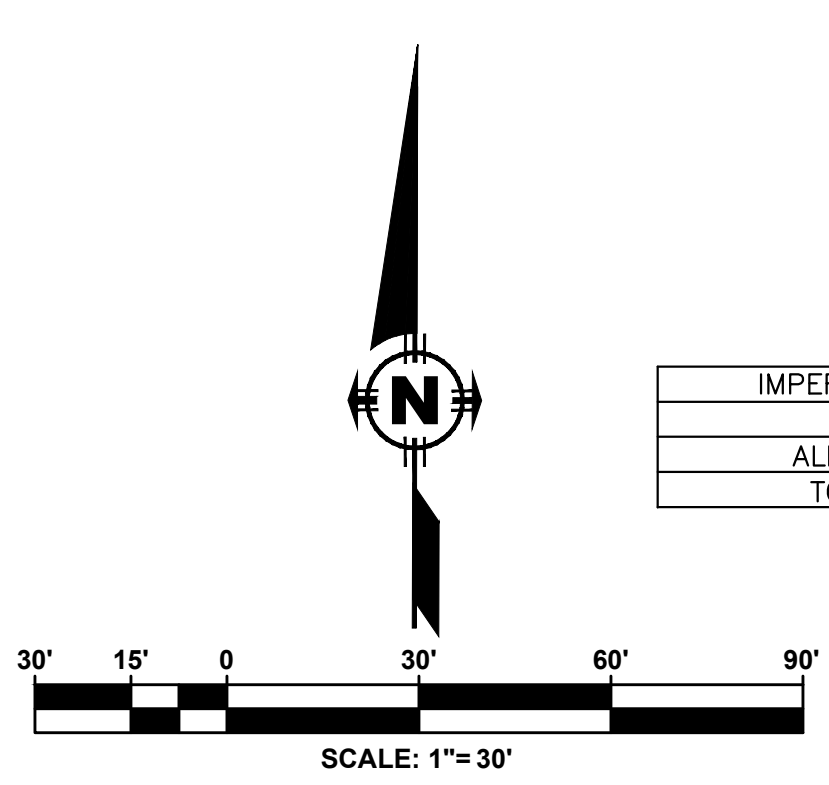
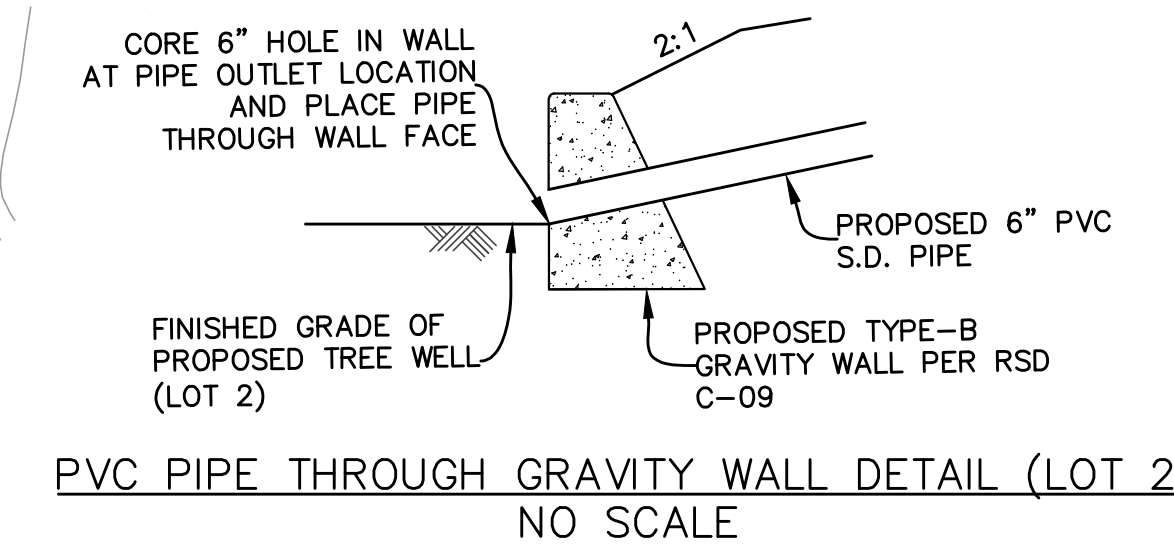
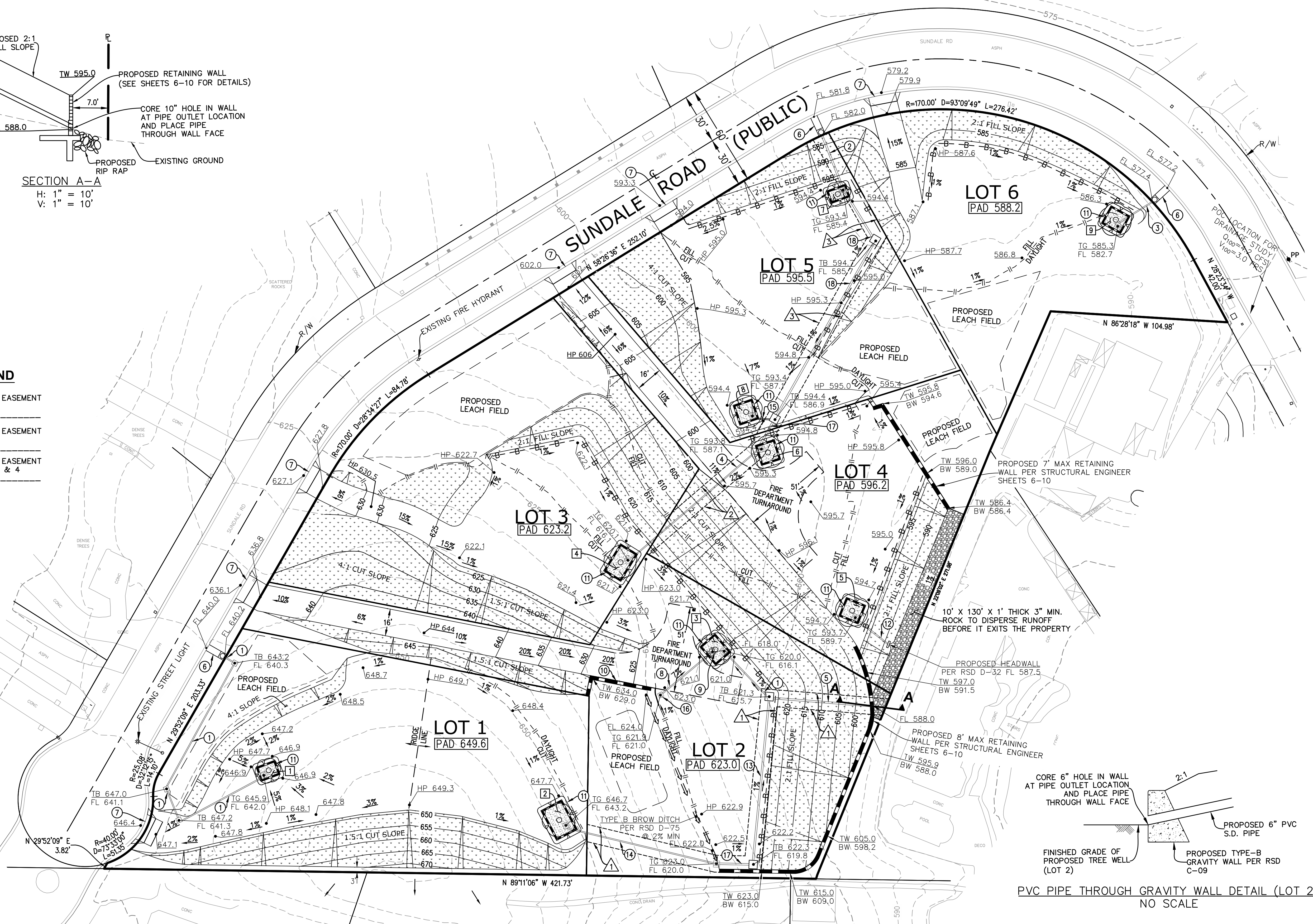
**EASEMENT LEGEND**

- 1 PROPOSED 10' STORM DRAIN EASEMENT FOR THE BENEFIT OF LOT 1 PER DOC.# REC.
- 2 PROPOSED 10' STORM DRAIN EASEMENT FOR THE BENEFIT OF LOT 3 PER DOC.# REC.
- 3 PROPOSED 10' STORM DRAIN EASEMENT FOR THE BENEFIT OF LOTS 3 & 4 PER DOC.# REC.

**NOTE:**

- 1.) CONSTRUCTION/EXCAVATION PERMIT IS REQUIRED FOR WORK WITHIN THE COUNTY RIGHT-OF-WAY, INCLUDING DRIVEWAY ACCESS AND D-25.
- 2.) ALL FIRE APPARATUS ACCESS ROADS 15% OR GREATER IN SLOPE SHALL BE CONCRETE WITH A HEAVY BROOM FINISH
- 3.) ALL SURFACES DESIGNATED FOR FIRE APPARATUS ACCESS SHALL BE DESIGNED TO SUPPORT 75,000 LBS. AND WILL BE ALL WEATHER DRIVING SURFACE.

	LOT 1	LOT 2	LOT 3	LOT 4	LOT 5	LOT 6
IMPERVIOUS SURFACES (SF)						
FUTURE HOUSE (SF)	3,792	1,942	2,104	2,380	3,832	2,540
ALLOWABLE FUTURE PCC (SF)	206	1,318	886	1,763	0	0
TOTAL IMPERVIOUS (SF)	3,998	3,260	2,990	4,143	3,832	2,540



LAWRENCE W. WALSH R.C.E. 46316 DATE  
**Walsh Engineering & Surveying, Inc.**  
 607 Aldwych Road, El Cajon, CA 92020  
 (619) 588-6747 (619) 792-1232 Fax



COUNTY APPROVED CHANGES		BENCH MARK	
NO.	DESCRIPTION	APPROVED BY	DATE

DESCRIPTION: CENTERLINE WELL MONUMENT WITH 1" PIPE AND DISC STAMPED "SAN DIEGO SURVEYOR".  
 LOCATION: CENTERLINE OF JAMACHA ROAD 15' NORTHERLY OF INTERSECTION WITH FALDA DEL CERRO.  
 RECORD FROM: SAN DIEGO COUNTY BENCHMARK AND ROS 17454  
 ELEVATION: 562.84 DATUM: NAVD88

**PRIVATE CONTRACT**

SHEET 2	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	OF 10 SHEETS
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GRADING PLANS FOR:  
**SUNDALE ROAD**

CALIFORNIA COORDINATE INDEX: 218-1792

RECOMMENDED FOR APPROVAL: SUBDIVISION ENGINEER	APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER BY: DATE:
ENGINEER OF WORK: LAWRENCE W. WALSH	CHECKED BY: TM 2272
RCE 46316	EXP 12-31-24

PDS2021-LDGRMJ-30366

**STORM WATER MANAGEMENT NOTES**

1. DURING THE RAINY SEASON THE AMOUNT OF EXPOSED SOIL ALLOWED AT ONE TIME SHALL NOT EXCEED THAT WHICH CAN BE ADEQUATELY PROTECTED BY THE PROPERTY OWNER IN THE EVENT OF A RAIN STORM. 125 SHALL BE RETAINED ON THE JOB SITE IN A MANNER THAT ALLOWS FULL DEPLOYMENT AND COMPLETE INSTALLATION IN 48 HOURS OR LESS OF A FORECAST RAIN.
2. NO AREA BEING DISTURBED SHALL EXCEED 50 ACRES AT ANY GIVEN TIME WITHOUT DEMONSTRATING TO THE SAN DIEGO COUNTY D.P.W. DIRECTOR'S SATISFACTION THAT ADEQUATE EROSION AND SEDIMENT CONTROL CAN BE MAINTAINED. ANY DISTURBED AREA THAT IS NOT ACTIVELY GRADED FOR 15 DAYS MUST BE FULLY PROTECTED FROM EROSION. UNTIL ADEQUATE LONG-TERM PROTECTIONS ARE INSTALLED, THE DISTURBED AREA SHALL BE INCLUDED WHEN CALCULATING THE ACTIVE DISTURBANCE AREA. ALL EROSION CONTROL MEASURES SHALL REMAIN INSTALLED AND MAINTAINED DURING ANY INACTIVE PERIOD.
3. THE PROPERTY OWNER IS OBLIGATED TO INSURE COMPLIANCE WITH ALL APPLICABLE STORM WATER REGULATIONS AT ALL TIMES. THE B.M.P.'S (BEST MANAGEMENT PRACTICES) THAT HAVE BEEN INCORPORATED INTO THIS PLAN SHALL BE IMPLEMENTED AND MAINTAINED TO EFFECTIVELY PREVENT THE POTENTIALLY NEGATIVE IMPACTS OF THIS PROJECT'S CONSTRUCTION ACTIVITIES ON STORM WATER QUALITY. THE MAINTENANCE OF THE B.M.P.'S IS THE PERMITTEE'S RESPONSIBILITY, AND FAILURE TO PROPERLY INSTALL OR MAINTAIN THE B.M.P.'S MAY RESULT IN ENFORCEMENT ACTION BY THE COUNTY OF SAN DIEGO OR OTHERS. IF INSTALLED B.M.P.'S FAIL, THEY MUST BE REPAIRED OR REPLACED WITH AN ACCEPTABLE ALTERNATE WITHIN 24 HOURS, OR AS SOON AS SAFE TO DO SO.
4. A NOTICE OF INTENT (NOI) HAS BEEN, OR WILL BE FILED WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB) AND THAT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN OR WILL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF CALIFORNIA GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (PERMIT NO. CAS000002) FOR ALL OPERATIONS ASSOCIATED WITH THESE PLANS. THE NOI NUMBER ASSIGNED BY SWRCB FOR THIS PROJECT IS [WDID#] [ALTERNATIVE: NOT YET ASSIGNED, BUT WILL BE PROVIDED BEFORE A PERMIT IS ISSUED]. THE PERMITTEE SHALL KEEP A COPY OF THE SWPPP ON SITE AND AVAILABLE FOR REVIEW BY COUNTY.

**EMERGENCY EROSION CONTROL NOTES**

1. ALL BUILDING PADS TO BE DIKED AND THE DIKES MAINTAINED TO PREVENT WATER FROM FLOWING FROM THE PAD UNTIL THE STREETS AND DRIVEWAYS ARE PAVED AND WATER CAN FLOW FROM THE PADS WITHOUT CAUSING EROSION, OR CONSTRUCT DRAINAGE FACILITIES TO THE SATISFACTION OF THE COUNTY DEPARTMENT OF PUBLIC WORKS THAT WILL ALLOW WATER TO DRAIN FROM THE PAD WITHOUT CAUSING EROSION.
2. TOPS OF SLOPES TO BE DIKED OR TRENCHED TO PREVENT WATER FROM FLOWING OVER THE CREST OF SLOPES.
3. MANUFACTURED SLOPES AND PADS SHALL BE ROUNDED VERTICALLY AND HORIZONTALLY AS APPROPRIATE TO BLEND WITH THE SURROUNDING TOPOGRAPHY.
4. AS SOON AS CUTS OR EMBANKMENTS ARE COMPLETED, BUT NOT LATER THAN OCTOBER 1, ALL CUT AND FILL SHALL BE STABILIZED WITH A HYDROMULCH MIXTURE OR AN EQUAL TREATMENT APPROVED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. BETWEEN OCTOBER 1 AND APRIL 15, APPROVED SLOPE PROTECTION MEASURES SHALL PROCEED IMMEDIATELY BEHIND THE EXPOSURE OF CUT SLOPES AND/OR THE CREATION OF EMBANKMENT SLOPES.
5. CATCH BASINS, DESILTING AND STORM SYSTEMS SHALL BE INSTALLED TO THE SATISFACTION OF THE COUNTY DEPARTMENT OF PUBLIC WORKS.
6. GRAVEL BAG CHECK DAMS TO BE PLACED IN A MANNER APPROVED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS IN UNPAVED STREETS WITH GRADIENTS IN EXCESS OF 2% AND OR IN OTHER GRADED OR EXCAVATED AREAS AS REQUIRED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS.
7. THE DEVELOPER TO MAINTAIN THE PLANTING AND EROSION CONTROL MEASURES DESCRIBED ABOVE UNTIL RELIEVED OF THE SAME BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. THE DEVELOPER SHALL REMOVE ALL SOIL INTERCEPTED BY GRAVEL BAGS, CATCH BASINS AND DESILTING BASINS AND KEEP THESE FACILITIES CLEAN AND FREE OF SILT AND SAND AND SHALL REPAIR ANY ERODED SLOPES AS DIRECTED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS.

**IRRIGATION NOTE**

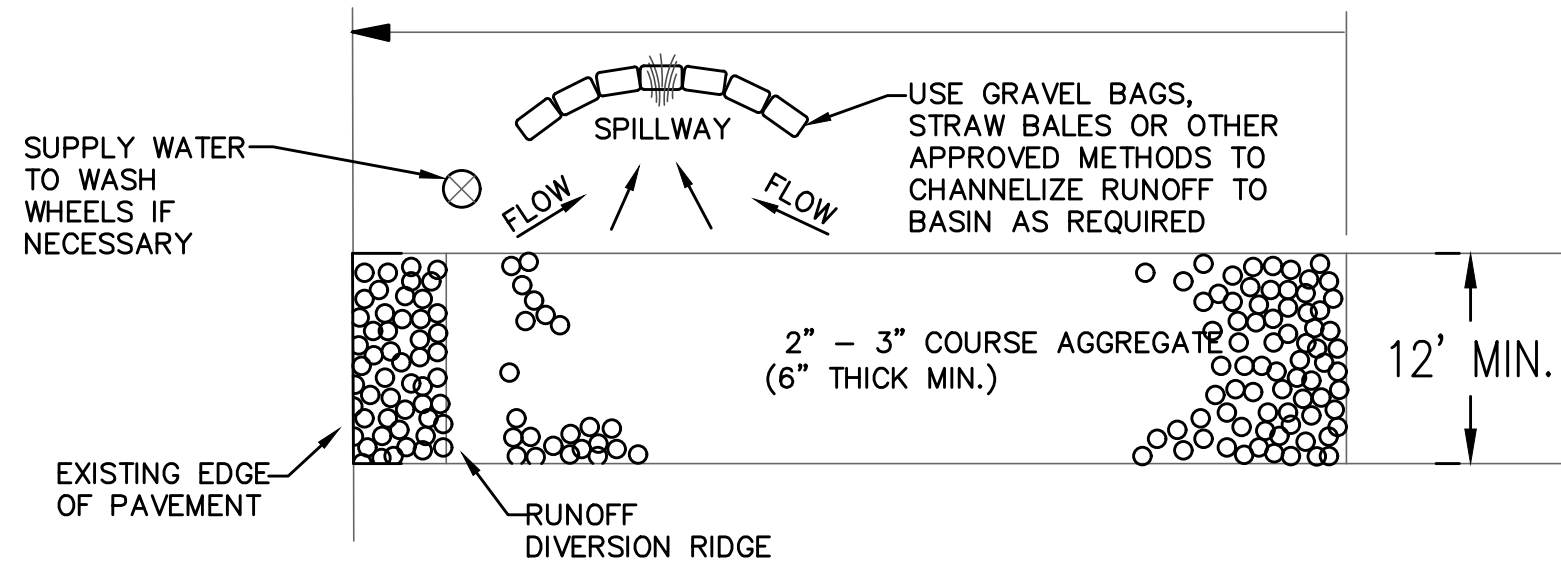
LOCATION AND FREQUENCY OF SPRINKLER HEADS TO BE DETERMINED IN THE FIELD BY CONTRACTOR.

**BONDED FIBER MATRIX (BFM) SLOPE PROTECTION**

APPLICATION RATES SHALL BE 3,500 POUNDS PER ACRE MINIMUM FOR 2:1 OR SHALLOWER SLOPES AND 4,000 POUNDS PER ACRE FOR SLOPES STEEPER THAN 2:1. BFM SHALL BE APPLIED AT LEAST 24 HOURS BEFORE OR AFTER RAINFALL. THE SITE MUST BE PROTECTED WITH BROW DITCHES AND/OR DIVERSION BERMS AT THE TOP OF SLOPES TO DIVERT FLOW FROM THE FACE OF THE SLOPE. BFM SHALL BE APPLIED TO PROVIDE 100% COVERAGE (i.e. APPLICATION FROM MULTIPLE ANGLES).

FOR PERMANENT EROSION CONTROL PURPOSES, BFM MUST BE INSTALLED IN CONJUNCTION WITH SEEDED EROSION CONTROL VEGETATION.

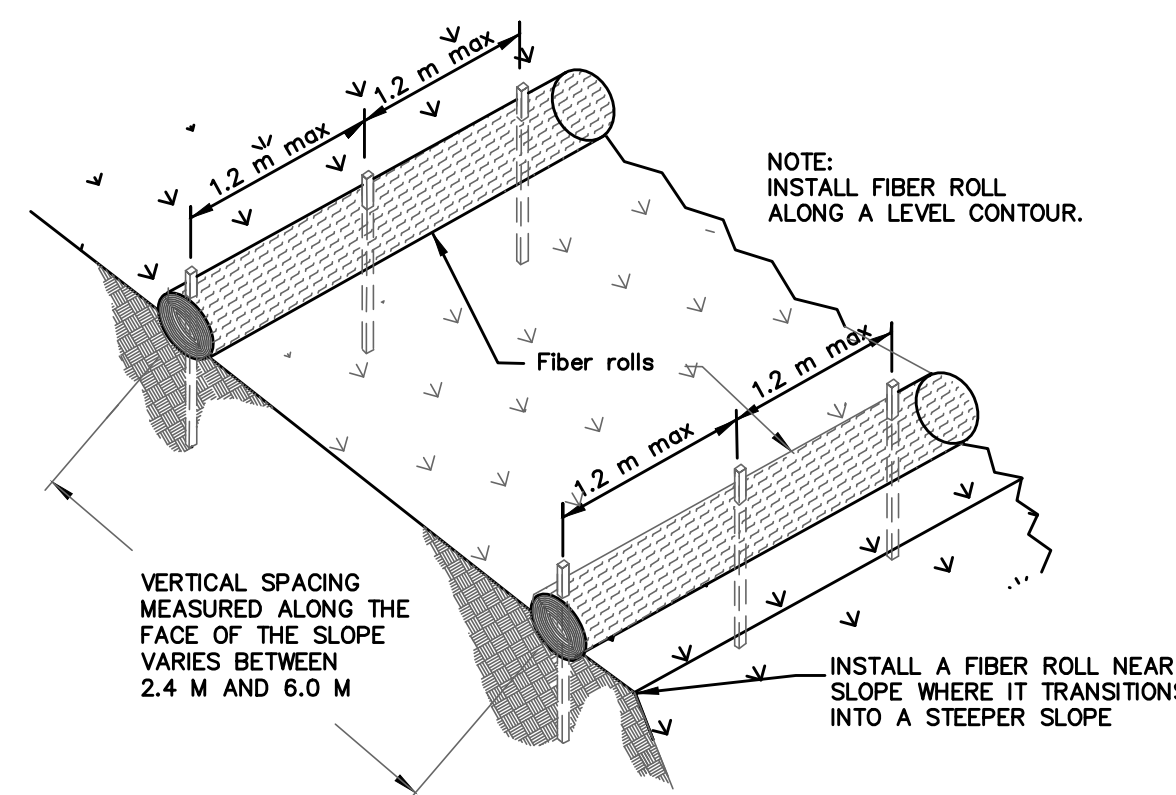
A LETTER FROM THE HYDROSEED CONTRACTOR CERTIFYING THAT THE BFM HAS BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED APPLICATION RATES AND COVERAGE REQUIREMENTS SHALL BE SUBMITTED TO THE COUNTY INSPECTOR FOR APPROVAL.



NOTE: ALL AREAS OF SIGNIFICANT VEHICLE TRAFFIC (SITE ENTRANCES, ACCESS ROADS, PARKING LOTS, ETC.) SHOULD BE STABILIZED IMMEDIATELY AFTER GRADING TO PREVENT EROSION AND CONTROL DUST. SITE ENTRANCES AND EXITS ARE ESPECIALLY IMPORTANT. USE GRAVEL APPROACHES TO LIMIT TRACKING OF SEDIMENT OFFSITE.

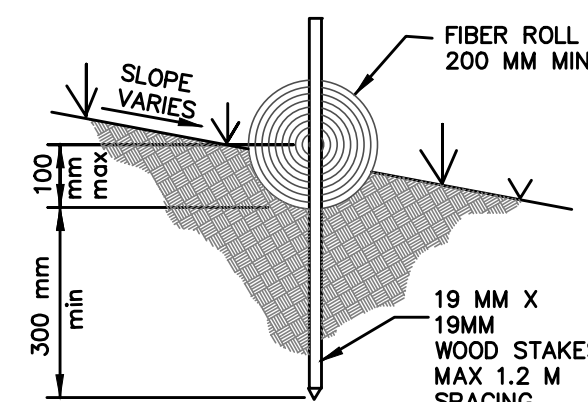
**STABILIZED CONSTRUCTION ENTRANCE**

NO SCALE  
TC-1



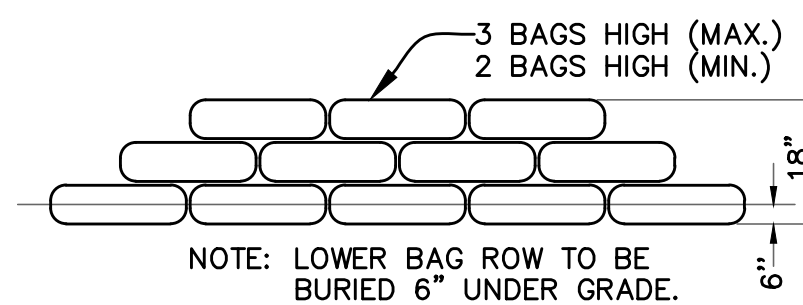
**TYPICAL FIBER ROLL INSTALLATION**

NO SCALE



**ENTRENCHMENT DETAIL**

NO SCALE



**GRAVEL BAG CHECK DAM**

NO SCALE  
SC-6

**SILTATION AND SEDIMENT CONTROL MEASURES NOTES:**

1. THE SEDIMENT BASINS SHALL BE PROVIDED AT THE LOWER END OF EVERY DRAINAGE AREA PRODUCING SEDIMENT RUNOFF. THE BASINS SHALL BE MAINTAINED AND CLEANED TO DESIGN CONTOURS AFTER EVERY RUNOFF PRODUCING STORM. THE BASINS SHOULD BE SEMI-PERMANENT STRUCTURES THAT WOULD REMAIN UNTIL SOIL STABILIZING VEGETATION HAS BECOME WELL ESTABLISHED ON ALL ERODIBLE SLOPES.
2. SEDIMENTATION BASINS MAY NOT BE REMOVED OR MADE INOPERATIVE WITHOUT PRIOR APPROVAL OF THE COUNTY ENGINEER.
3. UTILITY TRENCHES THAT ARE CUT THROUGH BASIN DIKES OR BASIN INLET DIKES SHALL BE PLUGGED WITH SANDBAGS FROM TOP OF PIPE TO TOP OF DIKE.
4. ALL UTILITY TRENCHES SHALL BE BLOCKED AT THE PRESCRIBED INTERVALS WITH A DOUBLE ROW OF GRAVEL BAGS WITH A TOP ELEVATION LEVEL WITH, AND TWO GRAVEL BAGS BELOW, THE GRADED SURFACE OF THE STREET. GRAVEL BAGS ARE TO BE PLACED WITH LAPPED COURSES. THE INTERVALS PRESCRIBED BETWEEN GRAVEL BAG BLOCKING SHALL DEPEND ON THE SLOPE OF THE GROUND SURFACE. BUT NOT EXCEED THE FOLLOWING:

GRADE OF THE STREET	INTERVAL
LESS THAN 2%	AS REQUIRED
2% TO 4%	100 FEET
4% TO 10%	50 FEET
OVER 10%	25 FEET

5. AFTER UTILITY TRENCHES ARE BACKFILLED AND COMPACTED, THE SURFACES OVER SUCH TRENCHES SHALL BE MOUNDED SLIGHTLY TO PREVENT CHANNELING OF WATER IN THE TRENCH AREA. CARE SHOULD BE EXERCISED TO PROVIDE FOR CROSS FLOW AT FREQUENT INTERVALS WHERE TRENCHES ARE NOT ON THE CENTERLINE OF A CROWNED STREET.

6. ALL BUILDING PADS SHOULD BE SLOPED TOWARDS THE DRIVEWAYS AND VELOCITY CHECK DAMS PROVIDED AT THE BASE OF ALL DRIVEWAYS DRAINING INTO THE STREET.

7. PROVIDE VELOCITY CHECK DAMS IN ALL UNPAVED GRADED CHANNELS AT THE INTERVALS INDICATED BELOW:

GRADE OF THE STREET	INTERVAL BETWEEN CHECKDAMS
LESS THAN 3%	100 FEET
3% TO 6%	50 FEET
OVER 6%	25 FEET

8. PROVIDE VELOCITY CHECK DAMS IN ALL STREET AREAS ACCORDING TO INTERVALS INDICATED BELOW. VELOCITY CHECK DAMS MAY BE CONSTRUCTED OF GRAVEL BAGS, TIMBER, OR OTHER EROSION RESISTANT MATERIALS APPROVED BY THE COUNTY ENGINEER. AND SHALL EXTEND COMPLETELY ACROSS THE STREET OR CHANNEL AT RIGHT ANGLES TO THE CENTERLINE. VELOCITY CHECK DAMS MAY ALSO SERVE AS SEDIMENT TRAPS.

GRADE OF THE STREET	INTERVAL	NO. OF BAGS HIGH
LESS THAN 2%	AS REQUIRED	1
2% TO 4%	100 FEET	1
4% TO 6%	50 FEET	1
6% TO 10%	50 FEET	2
OVER 10%	25 FEET	2

9. PROVIDE A GRAVEL BAG SILT BASIN OR TRAP BY EVERY STORM DRAIN INLET TO PREVENT SEDIMENT FROM ENTERING DRAIN SYSTEM.
10. GRAVEL BAGS AND FILL MATERIAL SHALL BE STOCKPILED AT INTERVALS, READY FOR USE WHEN REQUIRED.
11. ALL EROSION CONTROL DEVICES WITHIN THE DEVELOPMENT SHOULD BE MAINTAINED DURING AND AFTER EVERY RUNOFF PRODUCING STORM. IF POSSIBLE, MAINTENANCE CREWS SHOULD BE REQUIRED TO HAVE ACCESS TO ALL AREA.
12. PROVIDE RIP RAP ON CURVES AND STEEP DROPS IN ALL EROSION PRONE DRAINAGE CHANNELS DOWNSTREAM FROM THE DEVELOPMENT. THIS PROTECTION WOULD REDUCE EROSION CAUSED BY THE INCREASED FLOWS THAT MAY BE ANTICIPATED FROM DENUDEED SLOPES. OR FROM IMPERVIOUS SURFACES.
13. ANY PROPOSED ALTERNATE CONTROL MEASURES MUST BE APPROVED IN ADVANCE BY ALL RESPONSIBLE AGENCIES; I.E., COUNTY ENGINEER, DEPARTMENT OF SANITATION AND FLOOD CONTROL, OFFICE OF ENVIRONMENTAL MANAGEMENT, ETC.

LAWRENCE W. WALSH R.C.E. 46316 EXP 12-31-24 DATE  
Walsh Engineering & Surveying, Inc.  
607 Aldwych Road, El Cajon, CA 92020  
(619) 588-6747 (619) 792-1232 Fax



LOCAL BENCHMARK: CENTERLINE WELL MONUMENT WITH 3" BRASS DISC STAMPED "RCE 18136" AT CENTER OF BULB IN SUNDALE ROAD APPROXIMATELY 31' NORTHWESTERLY FROM THE SOUTHWESTERLY CORNER OF SUBJECT PROPERTY AS SHOWN HEREON. EL: 647.07 (NAVD88)

COUNTY APPROVED CHANGES		BENCH MARK	
NO.	DESCRIPTION	APPROVED BY	DATE

PRIVATE CONTRACT		
SHEET 3	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	OF 10 SHEETS
EROSION CONTROL NOTES AND DETAILS FOR:		
<b>SUNDALE ROAD</b>		
CALIFORNIA COORDINATE INDEX: 218-1792		
RECOMMENDED FOR APPROVAL:	APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER	
SUBDIVISION ENGINEER	BY:	DATE:
ENGINEER OF WORK: LAWRENCE W. WALSH	CHECKED BY:	TM 2272
RCE 46316	EXP 12-31-24	PDS2021-LDGRMJ-30366

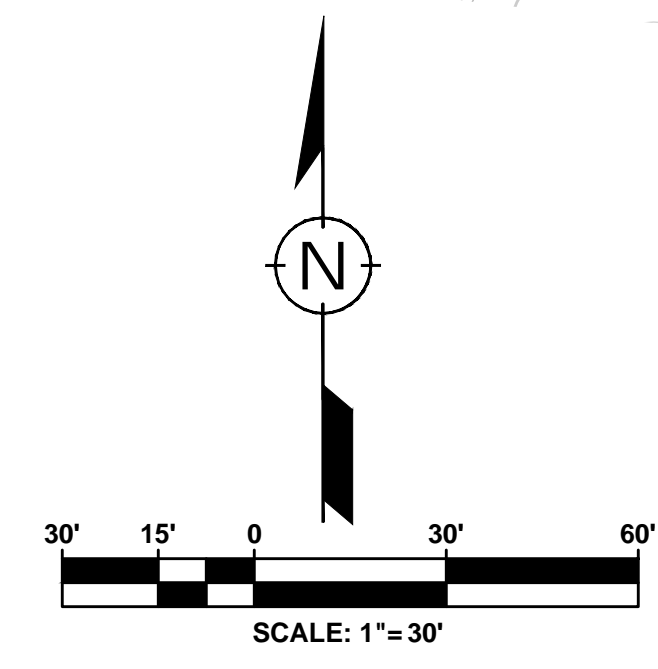
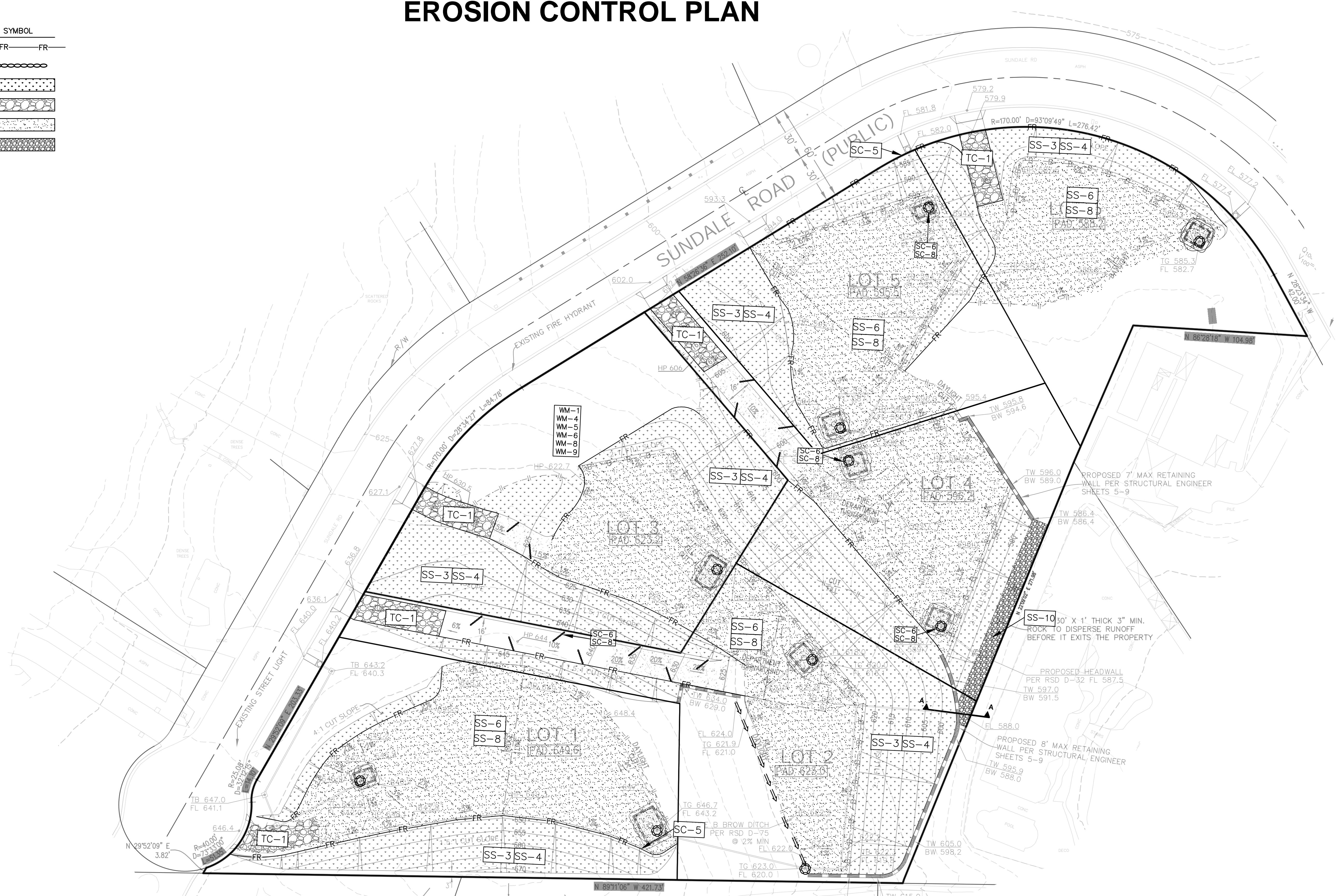
# EROSION CONTROL PLAN

## LEGEND

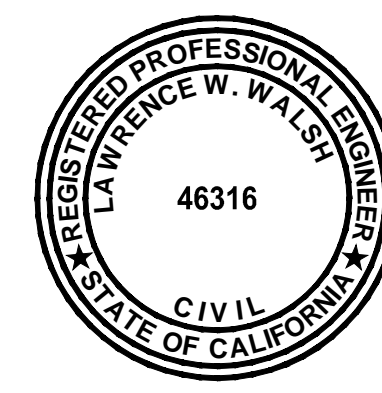
ITEM	STD. DWG.	SYMBOL
FIBER ROLL	SC-5	—FR—FR—
GRAVEL BAGS	SC-6, SC-8	○
HYDROSEEDING & BONDED FIBER MATRIX (B.F.M.)	SS-3, SS-4	▨
STABILIZED CONSTRUCTION ENTRANCE	TC-1	▨
MULCH	SS-6, SS-8	▨
ENERGY DISSIPATER OUTLET PROTECTION	SS-10	▨

## MATERIALS & WASTE MANAGEMENT CONTROL BMPs

WM-1	MATERIAL DELIVERY & STORAGE
WM-4	SPILL PREVENTION AND CONTROL
WM-8	CONCRETE WASTE MANAGEMENT
WM-9	SOLID WASTE MANAGEMENT
WM-9	SANITARY WASTE MANAGEMENT
WM-6	HAZARDOUS WASTE MANAGEMENT



LAWRENCE W. WALSH R.C.E. 46316 EXP 12-31-24 DATE  
**Walsh Engineering & Surveying, Inc.**  
 607 Aldwych Road, El Cajon, CA 92020  
 (619) 588-6747 (619) 792-1232 Fax



LOCAL BENCHMARK: CENTERLINE WELL MONUMENT WITH 3" BRASS DISC STAMPED "RCE 18136" AT CENTER OF BULB IN SUNDALE ROAD APPROXIMATELY 31' NORTHWESTERLY FROM THE SOUTHWESTERLY CORNER OF SUBJECT PROPERTY AS SHOWN HEREON. EL: 647.07 (NAVD88)

COUNTY APPROVED CHANGES		BENCHMARK	
NO.	DESCRIPTION	APPROVED BY	DATE
DESCRIPTION: CENTERLINE WELL MONUMENT WITH 1" PIPE AND DISC STAMPED "SAN DIEGO SURVEYOR".			
LOCATION: CENTERLINE OF JAMACHA ROAD 15' NORTHERLY OF INTERSECTION WITH FALDA DEL CERRO.			
RECORD FROM SAN DIEGO COUNTY BENCHBOOK AND ROS 17454			
ELEVATION: 562.84 DATUM: NAVD88			

PRIVATE CONTRACT		
SHEET 4	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	OF 10 SHEETS
EROSION CONTROL PLAN FOR:		
<b>SUNDALE ROAD</b>		
CALIFORNIA COORDINATE INDEX: 218-1792		
RECOMMENDED FOR APPROVAL:	APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER	
SUBDIVISION ENGINEER	BY:	DATE:
ENGINEER OF WORK: LAWRENCE W. WALSH	CHECKED BY:	TM 2272
RCE 46316	EXP 12-31-24	PDS2021-LDGRMJ-30366

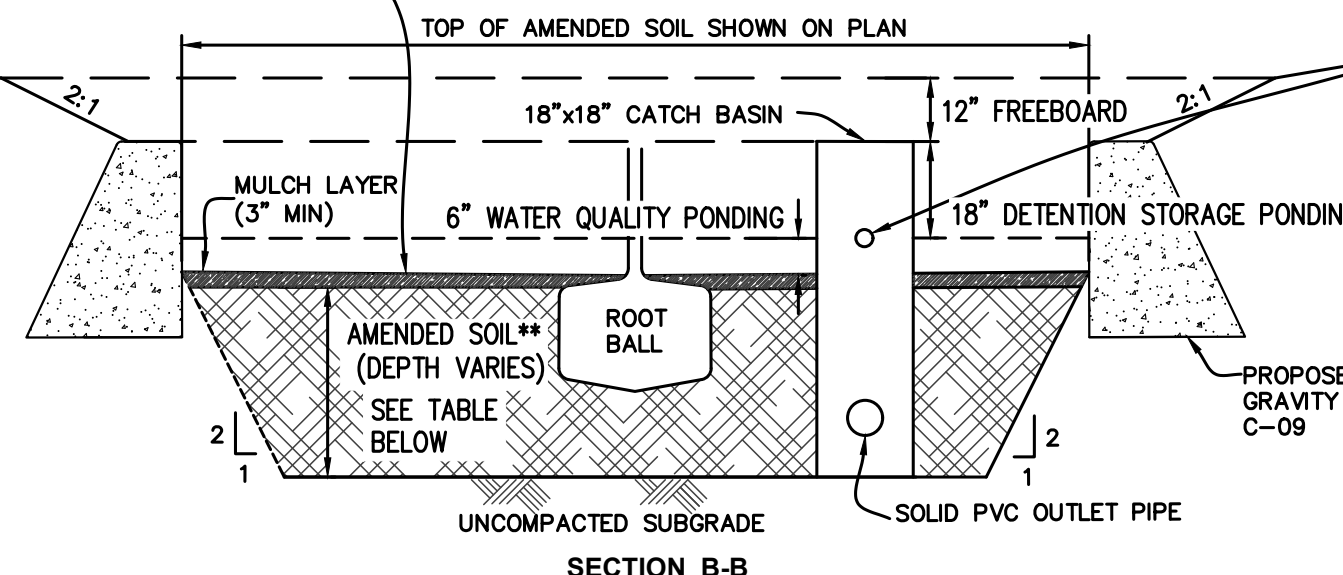
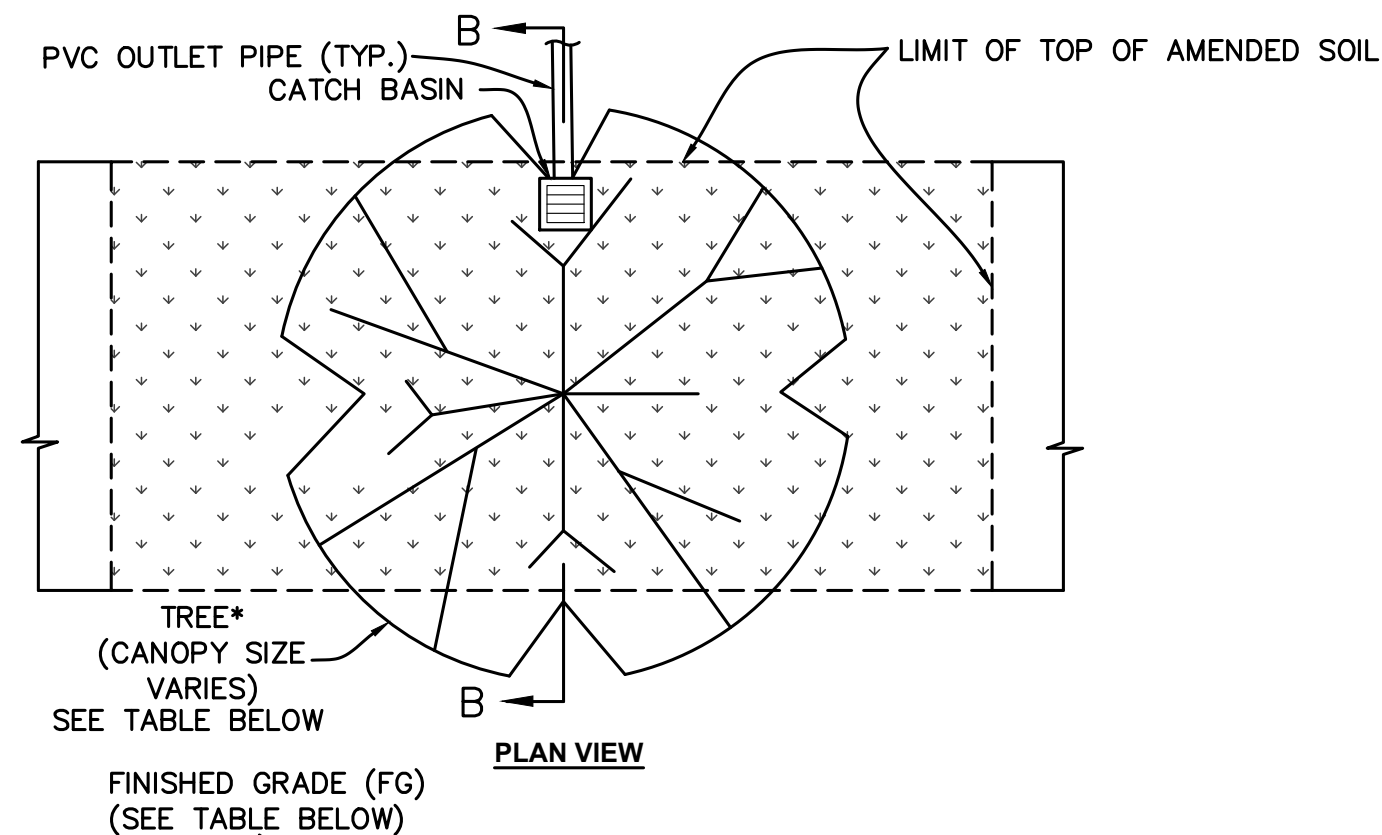
# DMA SHEET

## LEGEND:

- DMA BOUNDARY
- ⊗ 15' DIAMETER TREE WELL
- ⊗ 20' DIAMETER TREE WELL

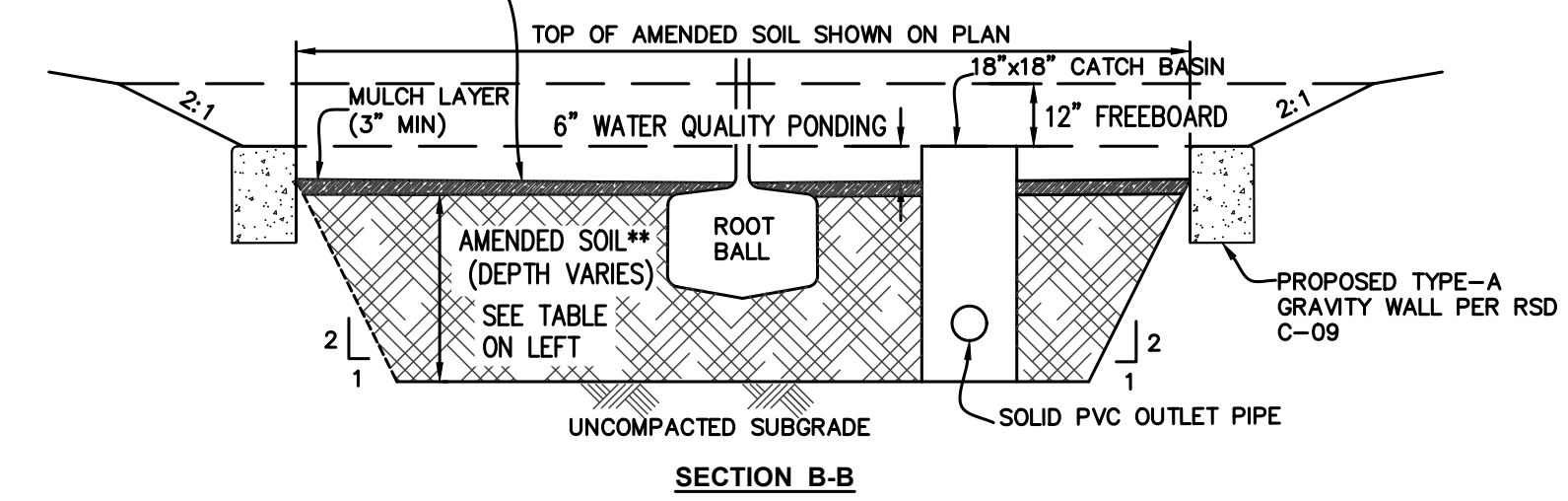
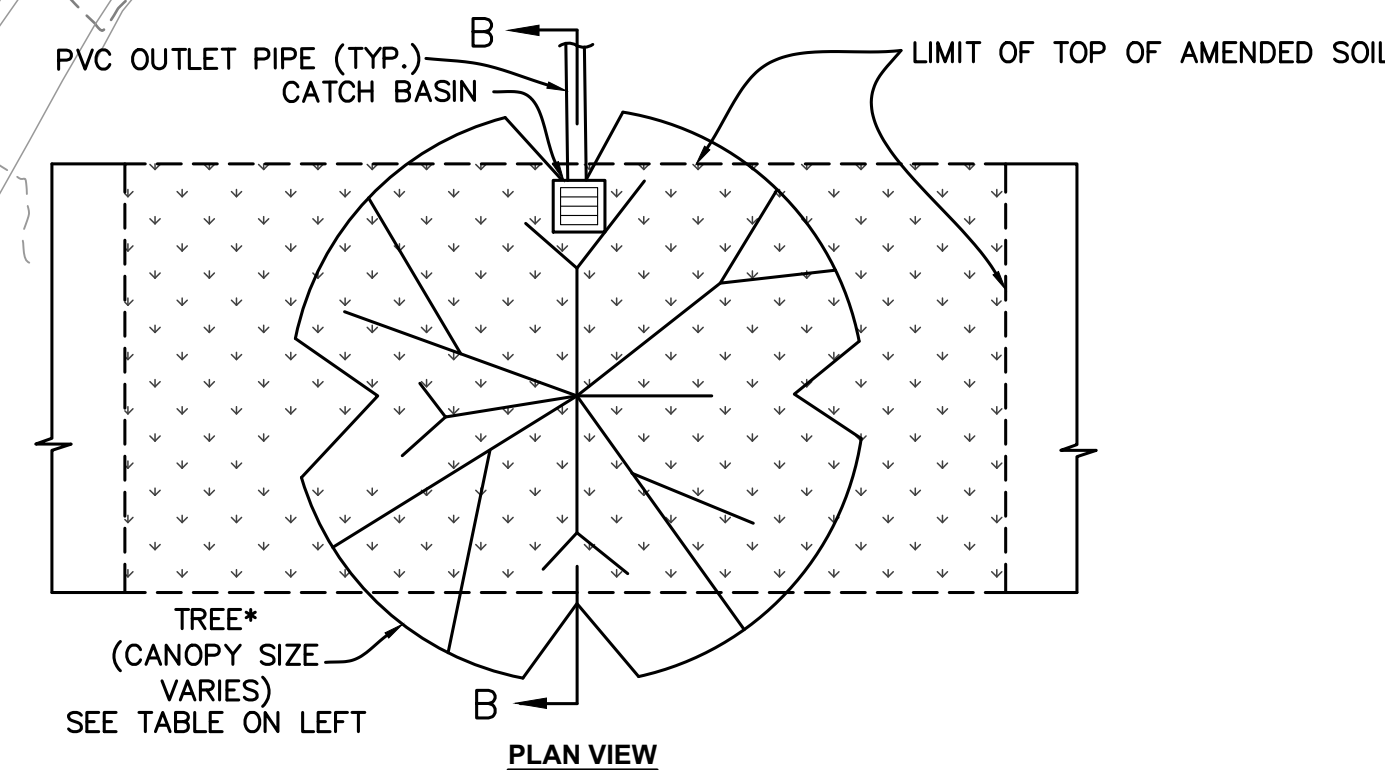
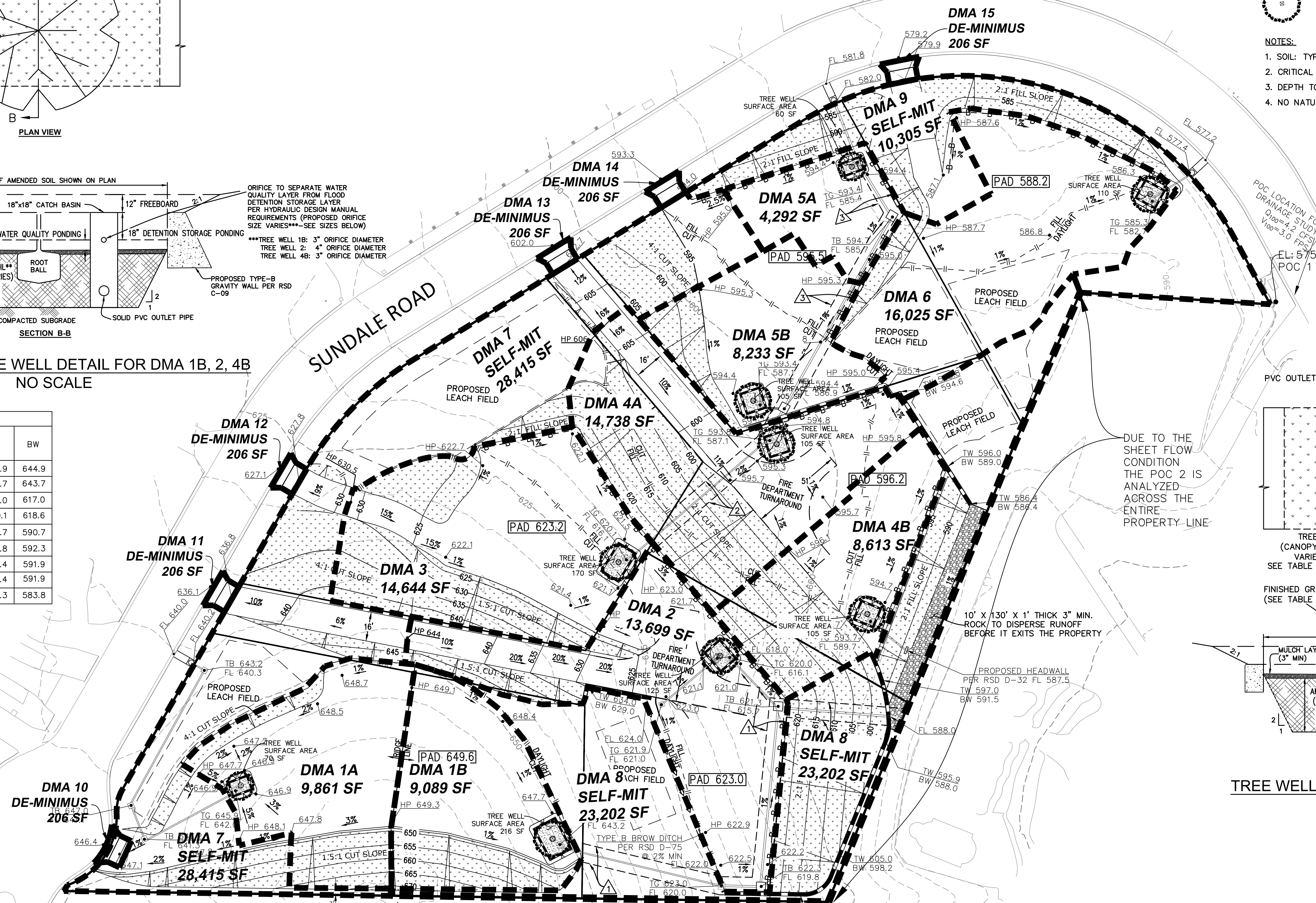
### NOTES:

1. SOIL: TYPE B
2. CRITICAL SEDIMENT YIELD COARSE AREAS: NONE
3. DEPTH TO GROUNDWATER: UNKNOWN
4. NO NATURAL HYDROLOGIC FEATURES EXIST ON-SITE



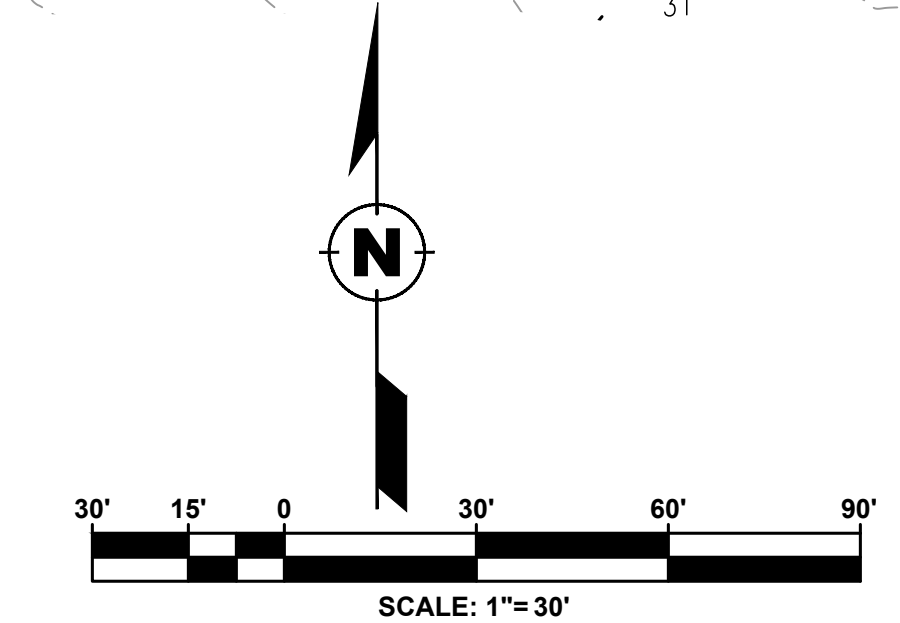
CONJUNCTIVE USE TREE WELL DETAIL FOR DMA 1B, 2, 4B  
NO SCALE

TREE WELL LEGEND:					
DMA NO.	*CANOPY DIAMETER (FT)	**SOIL DEPTH (FT)	FG	TW	BW
1A	15	5.5	645.4	645.9	644.9
1B	20	6	644.7	646.7	643.7
2	20	6	618.0	620.0	617.0
3	20	4	619.6	620.1	618.6
4B	20	6	591.7	593.7	590.7
4A	20	6	593.3	593.8	592.3
5A	15	6	592.9	593.4	591.9
5B	20	6	592.9	593.4	591.9
6	20	6	584.8	585.3	583.8



TREE WELL DETAIL FOR DMA 1A, 3, 4A, 5A, 5B & 6  
NO SCALE

DUE TO THE SHEET FLOW CONDITION THE POC 2 IS ANALYZED ACROSS THE ENTIRE PROPERTY LINE



LAWRENCE W. WALSH R.C.E. 46316 DATE  
**Walsh Engineering & Surveying, Inc.**  
607 Aldwych Road, El Cajon, CA 92020  
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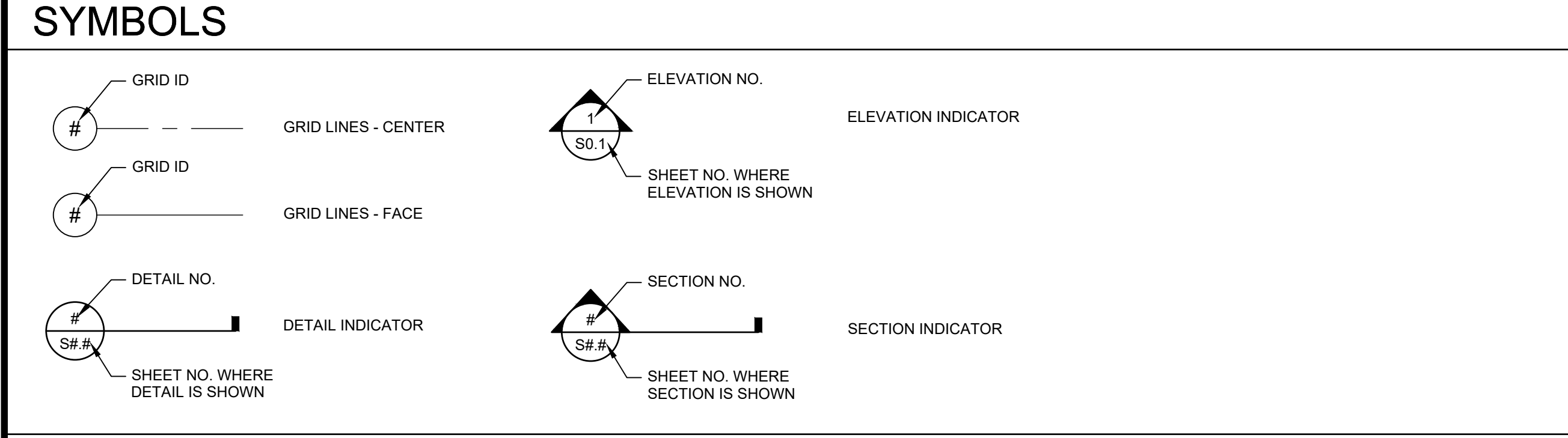
COUNTY APPROVED CHANGES		BENCH MARK	
NO.	DESCRIPTION	APPROVED BY	DATE

DESCRIPTION: CENTERLINE WELL MONUMENT WITH 1" PIPE AND DISC STAMPED "SAN DIEGO SURVEYOR".  
LOCATION: CENTERLINE OF JAMACHA ROAD 15' NORTHERLY OF INTERSECTION WITH FALDA DEL CERRO.  
RECORD FROM: SAN DIEGO COUNTY BENCHBOOK AND ROS 17454  
ELEVATION: 562.84 DATUM: NAVD88

PRIVATE CONTRACT		
SHEET 5	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	OF 10 SHEETS
GRADING PLANS FOR: <b>SUNDALE ROAD</b>		
CALIFORNIA COORDINATE INDEX: 218-1792		
RECOMMENDED FOR APPROVAL: SUBDIVISION ENGINEER	APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER	BY: DATE:
ENGINEER OF WORK: LAWRENCE W. WALSH	CHECKED BY: TM 2272	PDS2021-LDGRMJ-30366
RCE 46316	EXP 12-31-24	

DESIGN BASIS
A. APPLICABLE CODES:
2019 CBC, "CALIFORNIA BUILDING CODE"
B. LATERAL LOADS
1. SEISMIC LOAD
RISK CATEGORY
SEISMIC IMPORTANCE FACTOR II
SITE CLASS B
SEISMIC DESIGN CATEGORY C
SITE COORDINATES 32.7647278, -116.9296684
SEISMIC PARAMETERS
PGA 0.288 SITE MODIFIED PEAK GROUND ACCELERATION
S0 = 0.746g
S1 = 0.275g
S2 = 0.447g
S3 = 0.147g

SUMMARY OF WORK
CANTILEVERED CONCRETE MASONRY UNIT (CMU) RETAINING WALL FOR RESIDENTIAL DEVELOPEMENT LOCATED AT SUNDAL RD. EL CAJON, CALIFORNIA.
SHEET INDEX
SHEET SHEET TITLE
5 STRUCTURAL COVER SHEET & STRUCTURAL NOTES
6 STRUCTURAL NOTES CONTD, VERIFICATION & INSPECTION SCHEDULES
7 TYPICAL CONSTRUCTION DETAILS
8 CMU RETAINING WALL LOCATION PLAN
9 RETAINING WALL CONSTRUCTION DETAILS



ABBREVIATIONS

Table listing various construction abbreviations such as: # NUMBER, C CHANNEL, CMU CONCRETE MASONRY UNIT, EQ EQUAL, etc.

GENERAL NOTES
1. ALL MATERIALS AND WORKMANSHIP SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL STANDARDS AND APPLICABLE PROVISIONS OF THE CURRENT BUILDING CODES LISTED HEREIN.
2. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE, AND SHALL BE RESPONSIBLE FOR CONDITIONS OF ALL WORK AND MATERIALS, INCLUDING THOSE FURNISHED BY SUB-CONTRACTORS.

DEMOLITION NOTES
1. THESE PLANS REPRESENT INFORMATION TAKEN FROM THE ORIGINAL CONSTRUCTION DOCUMENTS WHERE AVAILABLE AND SITE OBSERVATION. DURING DEMOLITION ALL CONDITIONS LISTED AS EXISTING ARE TO BE CONFIRMED IN THE FIELD.
2. THE CONTRACTOR SHALL SUPPLY ALL SHORING AND TEMPORARY BRACING AND STRUCTURAL ENGINEERING NECESSARY TO PERFORM WORK EXCEPT WHERE SPECIFICALLY DETAILED IN THESE DRAWINGS.

STRUCTURAL OBSERVATION NOTES

1. THE OWNER SHALL EMPLOY THE ENGINEER RESPONSIBLE FOR THE STRUCTURAL DESIGN, TO PERFORM STRUCTURAL OBSERVATION AS DEFINED IN IBC. OBSERVED DEFICIENCIES SHALL BE REPORTED IN WRITING TO THE OWNER'S REPRESENTATIVE, SPECIAL INSPECTOR, CONTRACTOR AND THE BUILDING OFFICIAL.
2. STRUCTURAL OBSERVATION IS THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM BY SEOR FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS AT CONSTRUCTION STAGES LISTED BELOW.
3. THE STRUCTURAL OBSERVER SHALL PERFORM SITE VISITS AT THOSE STEPS IN THE PROGRESS OF THE WORK THAT ALLOW FOR CORRECTION OF THE DEFICIENCIES WITHOUT SUBSTANTIAL EFFORT OR UNCOVERING OF THE WORK INVOLVED.

DECLARATION OF RESPONSIBLE CHARGE
I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR SHEETS 5-9, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.
BY: DANIEL A. JUNKER, SE. DATE: 05/20/21
RSE NO: 56178. EXPIRES: 09/30/25

STRUCTURAL NOTES

SHOP DRAWINGS/SUBMITTALS
1. THE FOLLOWING SUBMITTAL SHALL BE SUBMITTED TO THE SEOR PRIOR TO FABRICATION FOR APPROVAL:
a. MIX DESIGN FOR:
i. CONCRETE
ii. GROUT
iii. MORTAR
b. REINFORCING BAR LAYOUT FOR:
i. CONCRETE
ii. MASONRY
2. STRUCTURAL FRAMING AND REINFORCING LISTS, QUANTITIES AND LENGTHS OF ALL MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE COMPLIANCE WITH THE CONTRACT DOCUMENTS.

RETAINING WALLS

1. BACKFILLING OF RETAINING WALLS SHALL BE PERFORMED ONLY WHEN THE WALL HAS REACHED 90% OF ITS DESIGN STRENGTH.
2. SLAB ON GRADE RESTRAINING THE BOTTOM OF RETAINING WALLS SHALL BE IN PLACE A MINIMUM OF 3 DAYS OR HAS REACHED 80% OF ITS DESIGNED STRENGTH, WHICH EVER CONTROLS, PRIOR TO BACKFILLING OF WALLS.
3. ALL RETAINING WALLS SHALL BE PROVIDED WITH PROPER DRAINAGE TO AVOID BUILD UP OF HYDROSTATIC PRESSURE. REFER TO OTHER DRAWINGS & GEOTECHNICAL REPORT FOR RETAINING WALL DRAINAGE.
4. RETAINING WALL DESIGN IS BASED ON THE FOLLOWING PARAMETERS FROM THE ABOVE-REFERENCED GEOTECHNICAL REPORT:

Table for CANTILEVERED WALL showing values for ACTIVE PRESSURE W/ LEVEL BACKFILL (42 PSF/FT), ACTIVE PRESSURE W/ SLOPED BACKFILL 2:1 (H:V) (61 PSF/FT), etc.

Table for COUNTY APPROVED CHANGES and BENCH MARK. Includes descriptions and approved by dates.

SOILS / FOUNDATION

- a. SOIL TYPE: SEE SOILS REPORT PREPARED BY: AGS, INC. 485 CORPORATE DRIVE, SUITE B, ESCONCUDIO, CA 92029. PROJECT NO.: 2106-08-B-2. DATED: JULY 30 2021.
b. ADDENDUM GEOTECHNICAL REPORT PROVIDED BY ADVANCED GEOTECHNICAL SOLUTIONS (AGS), INC, P/W 2106-08 REPORT NO. 2106-08-B-3, DATED: DECEMBER 03, 2121.
2. GEOTECHNICAL REPORT AND ALL UPDATES ARE PART OF THESE CONTRACT DOCUMENTS AND SHALL BE COMPLIED WITH BY CONTRACT.
3. FOOTING DEPTHS SHOWN ARE A MINIMUM AND MAY REQUIRE DEEPENING PER DIRECTION OF THE GEOTECHNICAL ENGINEER.

Table showing ALLOWABLE SOIL BEARING (2,000 PSF), MAX ALLOWABLE SOIL BEARING (3,000 PSF), etc.

- 5. UNDERLYING FILL MATERIALS ARE COMPACTED TO 95% RELATIVE COMPACTION.
6. UTILITY TRENCH BACKFILL SHALL BE MECHANICALLY COMPACTED IN LAYERS TO THE APPROVAL OF THE GEOTECHNICAL ENGINEER.
7. ALL ABANDONED FOOTINGS, UTILITIES, ETC. THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.
8. WALL FOOTINGS ARE CENTERED UNDER WALLS AND COLUMN FOOTINGS ARE CENTERED UNDER COLUMNS, UNO.
9. PROVIDE FOR DESIGN AND INSTALLATION OF ALL CRIBBING, SHEATHING AND SHORING REQUIRED TO SAFELY RETAIN ALL GRADES.

21. SIGNATURE [Signature] OWNER/LICENSED ENGINEER OR ARCHITECT.

20. THE STRUCTURE(S) WILL BE LOCATED ENTIRELY ON UNDISTURBED NATIVE SOIL. IF THE BUILDING INSPECTOR SUSPECTS FILL, EXPANSIVE SOILS OR ANY GEOLOGIC INSTABILITY BASED UPON OBSERVATION OF THE FOUNDATION EXCAVATION, A SOILS OR GEOLOGICAL REPORT, AND RESUBMITTAL OF PLANS TO PLAN CHECK TO VERIFY THAT THE REPORT RECOMMENDATIONS HAVE BEEN INCORPORATED, MAY BE REQUIRED.

STRUCTURAL COVERSHEET & NOTES



LOCAL BENCHMARK: CENTERLINE WELL MONUMENT WITH 3" BRASS DISC STAMPED "RCE 18136" AT CENTER OF BULB IN SUNDAL RD ROAD APPROXIMATELY 31' NORTHWESTERLY FROM THE SOUTHWESTERLY CORNER OF SUBJECT PROPERTY AS SHOWN HEREON. EL: 647.07 (NAVD88)

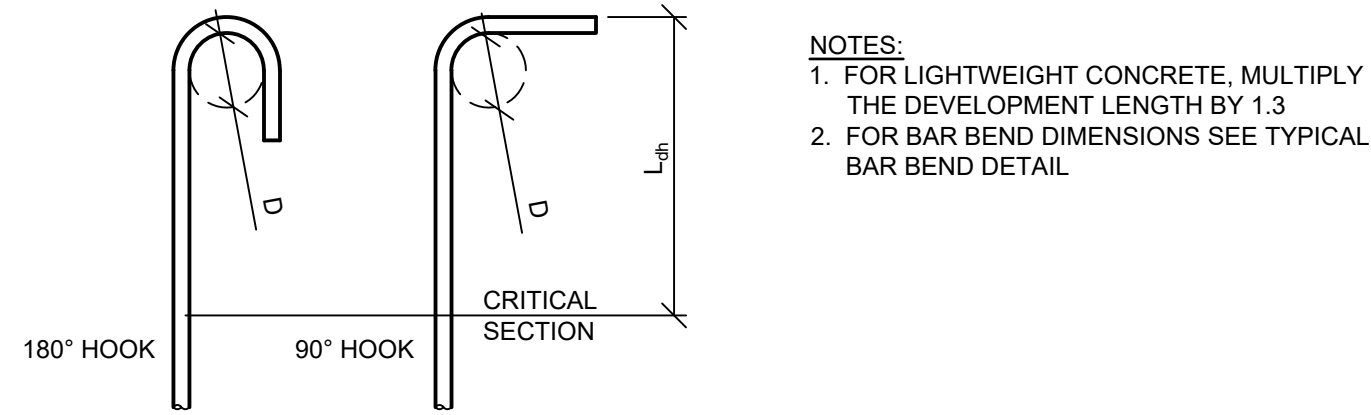
PRIVATE CONTRACT
SHEET 6
COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS
GRADING PLANS FOR: SUNDAL ROAD
CALIFORNIA COORDINATE INDEX: 218-1792
RECOMMENDED FOR APPROVAL: [Signatures]
ENGINEER OF WORK: DANIEL AARON JUNKER
CHECKED BY: [Signature]
DATE: TM 2272
EXP 09-30-25
PDS2021-LDGRM-30366

ENGINEER'S NAME: WALSH ENGINEERING & SURVEYING, INC. PHONE NO.: 619-588-6747



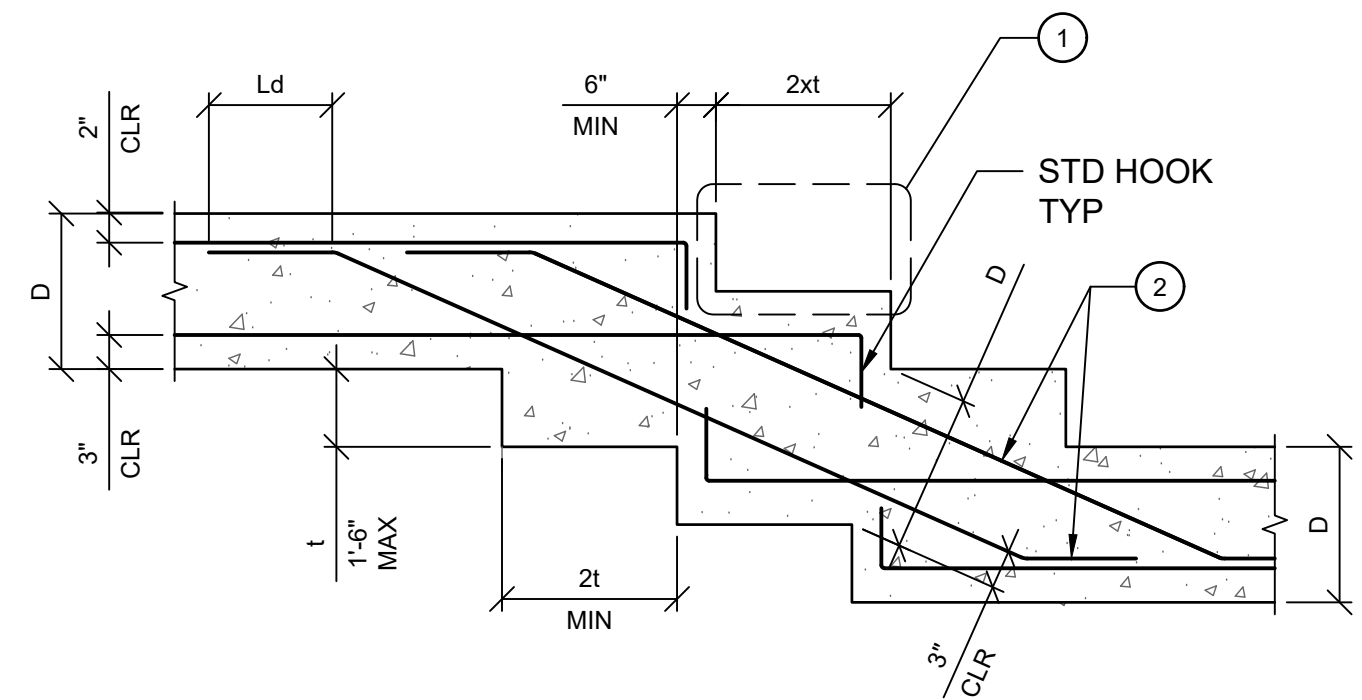
**DEVELOPMENT LENGTH ( $L_{dh}$ ) OF STANDARD HOOKS FOR GRADE 60 BAR IN TENSION**

BAR SIZE NO	$f'_c$ (NORMAL WEIGHT CONCRETE), psi					
	3000	4000	5000	6000	8000	10,000
#3	9"	8"	7"	6"	6"	6"
#4	11"	10"	9"	8"	7"	6"
#5	14"	12"	11"	10"	9"	8"
#6	17"	15"	13"	12"	10"	9"
#7	20"	17"	15"	14"	12"	11"
#8	22"	19"	17"	16"	14"	12"
#9	25"	22"	20"	18"	16"	14"
#10	28"	25"	22"	20"	17"	16"
#11	31"	27"	24"	22"	19"	17"



NOTES:  
1. FOR LIGHTWEIGHT CONCRETE, MULTIPLY THE DEVELOPMENT LENGTH BY 1.3  
2. FOR BAR BEND DIMENSIONS SEE TYPICAL BAR BEND DETAIL

**10 TYP REINF DEV LENGTH**  
SCALE: NTS

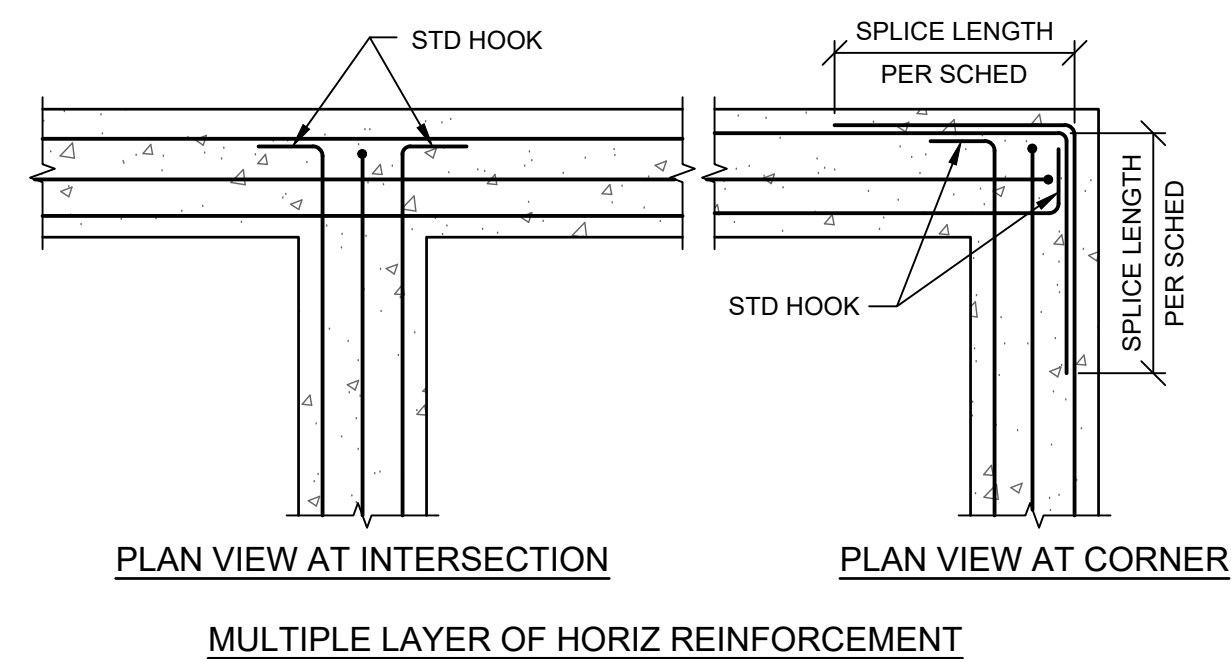
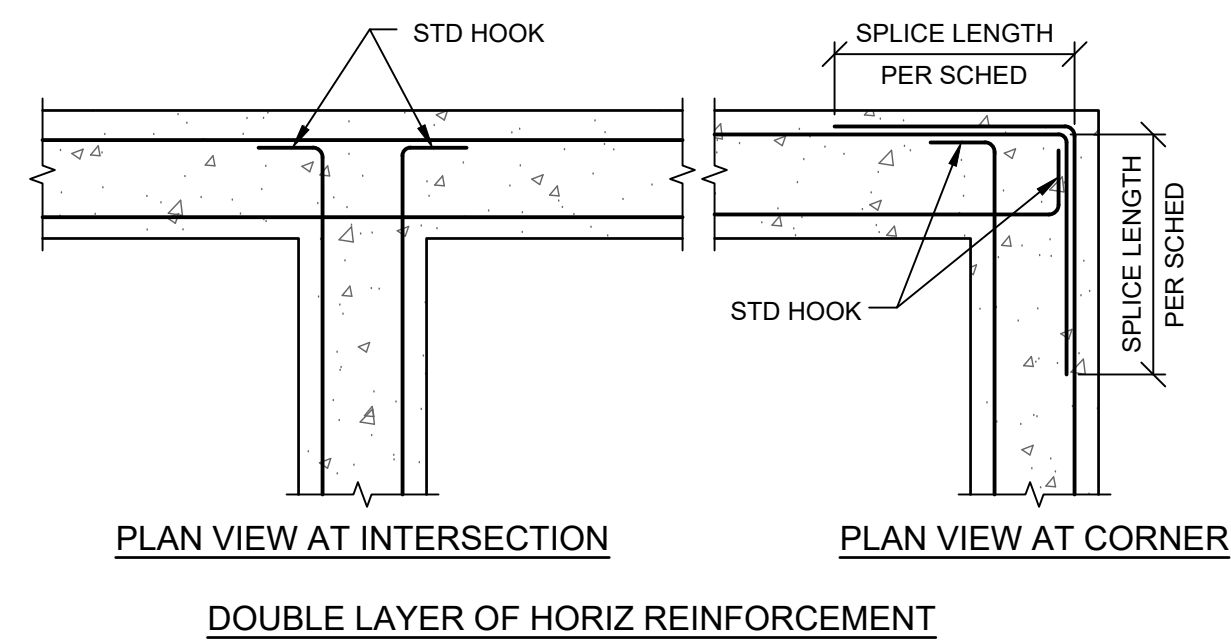
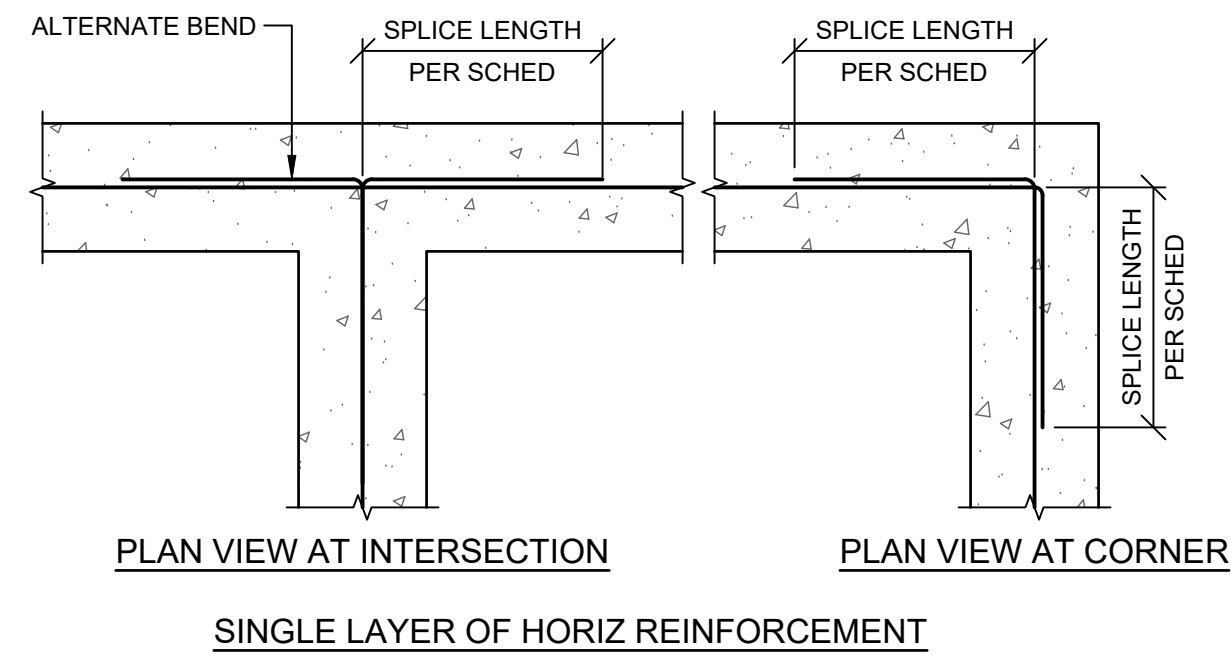


NOTES:  
1. MAXIMUM STEP SLOPE TO BE 1 VERTICAL TO 2 HORIZONTAL EXCEPT WHERE APPROVED BY GEOTECHNICAL ENGINEER.  
2. REINFORCING WITHIN THE STEPS SHALL MATCH FOOTING REINFORCING IN SIZE & SPACING.

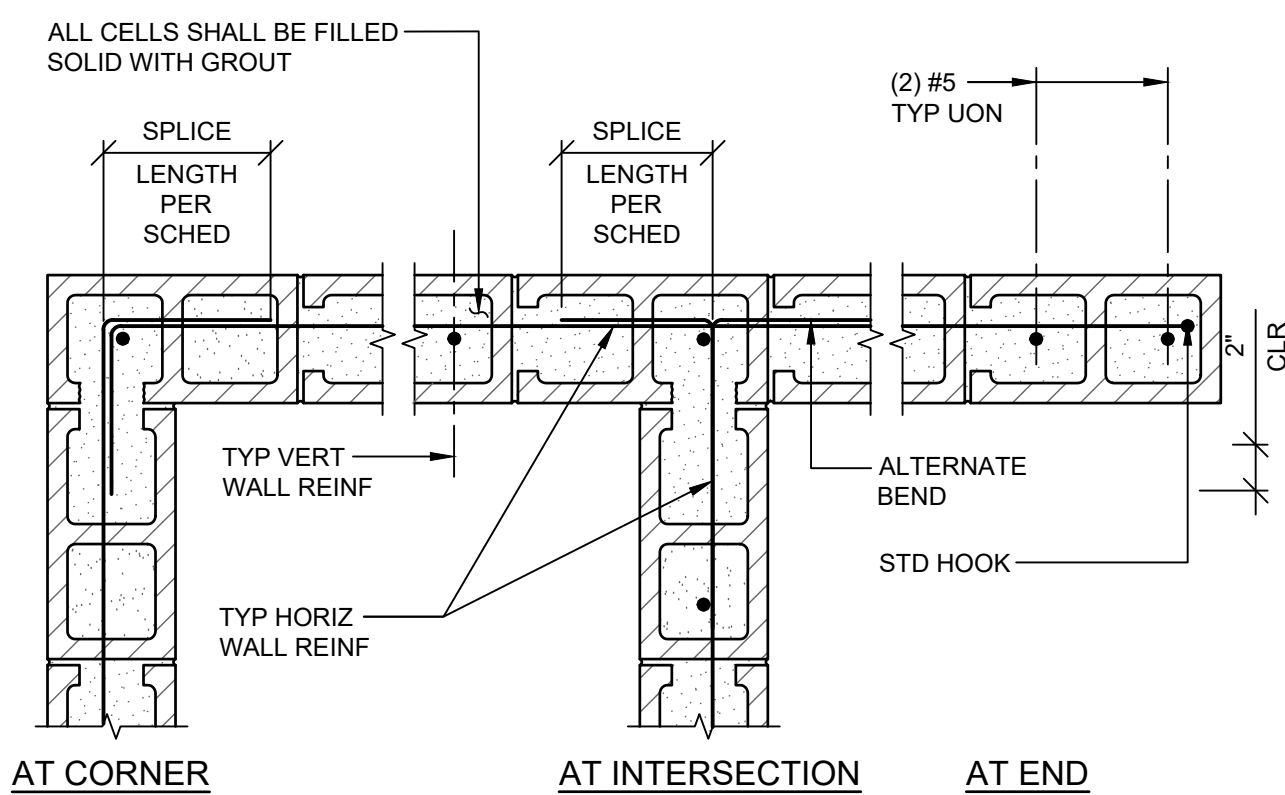
**11 TYP STEPPED FOOTING DETAIL**  
SCALE: NTS

**NOTES:**

- FOR FOOTINGS WITH A SINGLE LAYER OF REINFORCEMENT, USE THE OUTER LAYER REINFORCING LAYOUT AND PLACE AT CENTER OF THE FOOTING.
- FOR FOOTINGS WITH MORE THAN TWO LAYERS OF REINFORCEMENT, EXTEND THE MIDDLE LAYER REINFORCEMENT AS FAR AS POSSIBLE AND PROVIDE A STANDARD HOOK AT THE ENDS.
- FOR DEVELOPMENT/SPICE LENGTHS SEE SCHEDULE



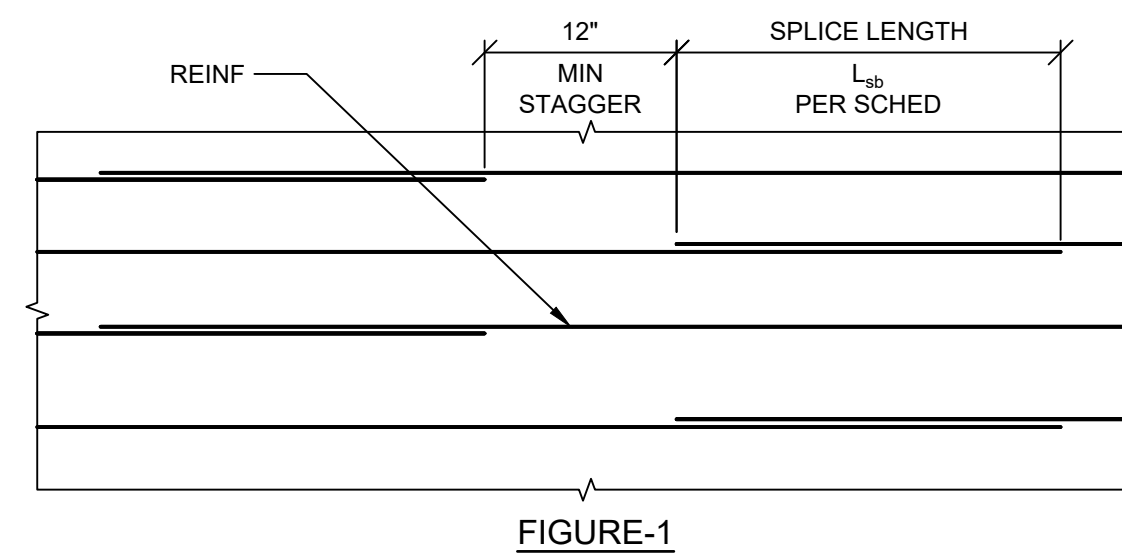
**8 TYP REINF AT FOOTING INTERSECTIONS**  
SCALE: NTS



**6 TYP REINF AT CMU WALL INTERSECTIONS**  
SCALE: NTS

**NOTES:**

- DEVELOPMENT/SPICE LENGTH LISTED IN TABLES ABOVE ARE FOR GRADE 60, UNCOATED, BOTTOM REINFORCEMENT IN NORMAL WEIGHT CONCRETE. BOTTOM BAR IS DEFINED AS HORIZONTAL REINF WITH A MIN OF 12" OF FRESH CONCRETE CAST ABOVE DEVELOPMENT/SPICE LENGTH. MINIMUM DEVELOPMENT/SPICE LENGTH IS 12".
- FOR GRADE 40 STEEL, MULTIPLY DEVELOPMENT/SPICE LENGTHS BY 0.67.
- FOR LIGHTWEIGHT CONCRETE, MULTIPLY DEVELOPMENT/SPICE LENGTHS BY 1.3.
- FOR TOP BARS, MULTIPLY DEVELOPMENT/SPICE LENGTH BY 1.3. TOP BAR IS DEFINED AS HORIZONTAL REINFORCEMENT PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST BELOW DEVELOPMENT/SPICE LENGTH.
- ALL SPLICES SHALL BE STAGGERED PER FIGURE 1 BELOW EXCEPT FOOTING AND SLAB ON GRADE.
- IN THE CASE OF TWO BARS WITH DIFFERENT DIAMETERS, THE SPICE LENGTH SHALL BE BASED ON THE LARGER BAR SIZE.



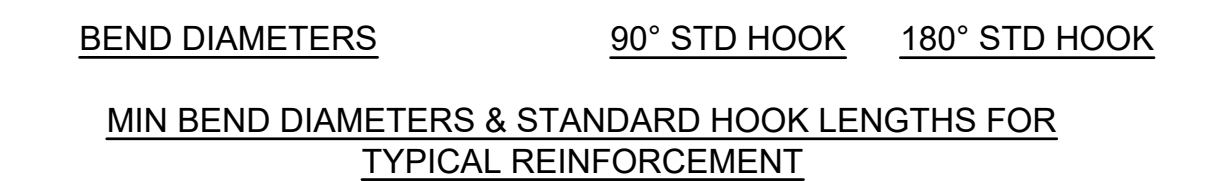
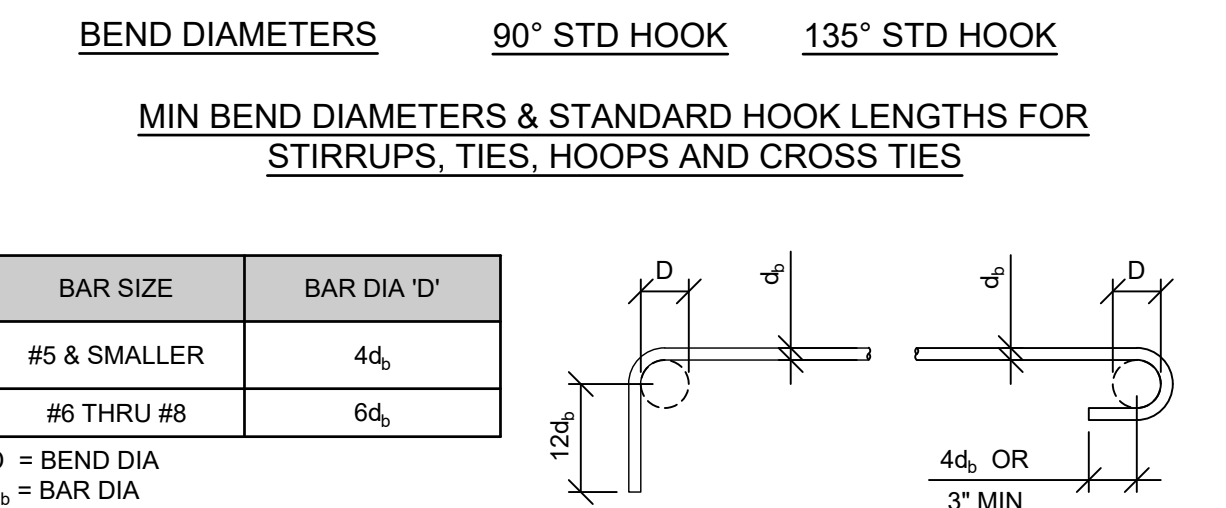
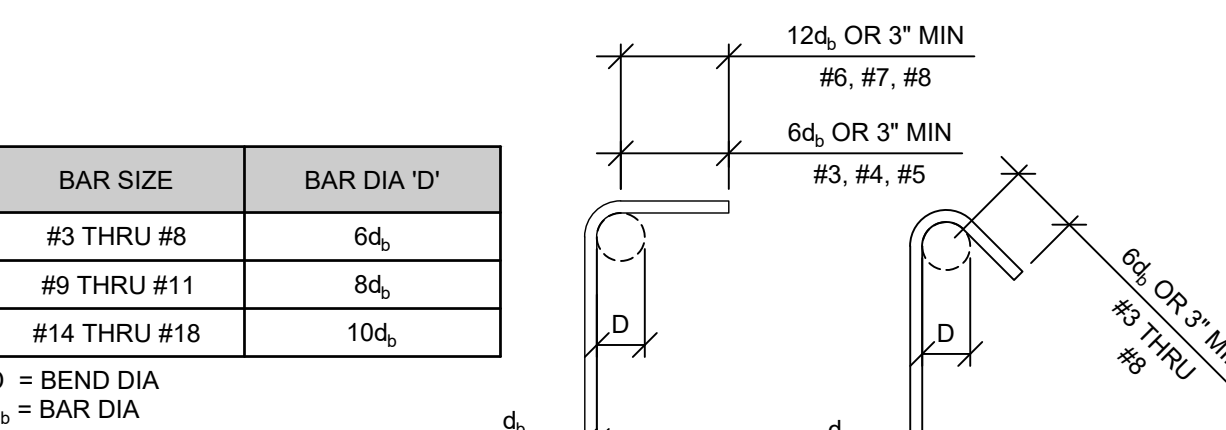
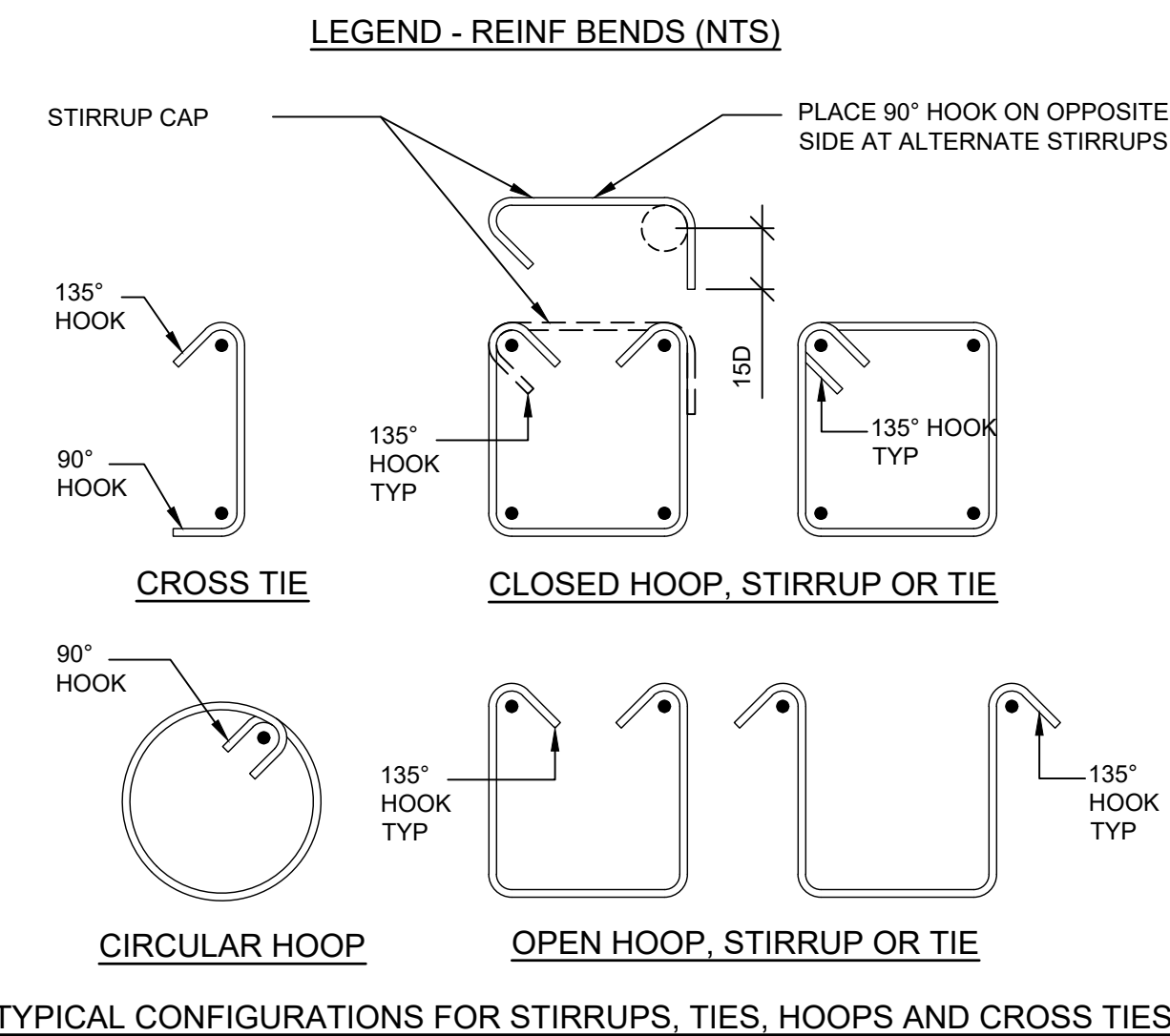
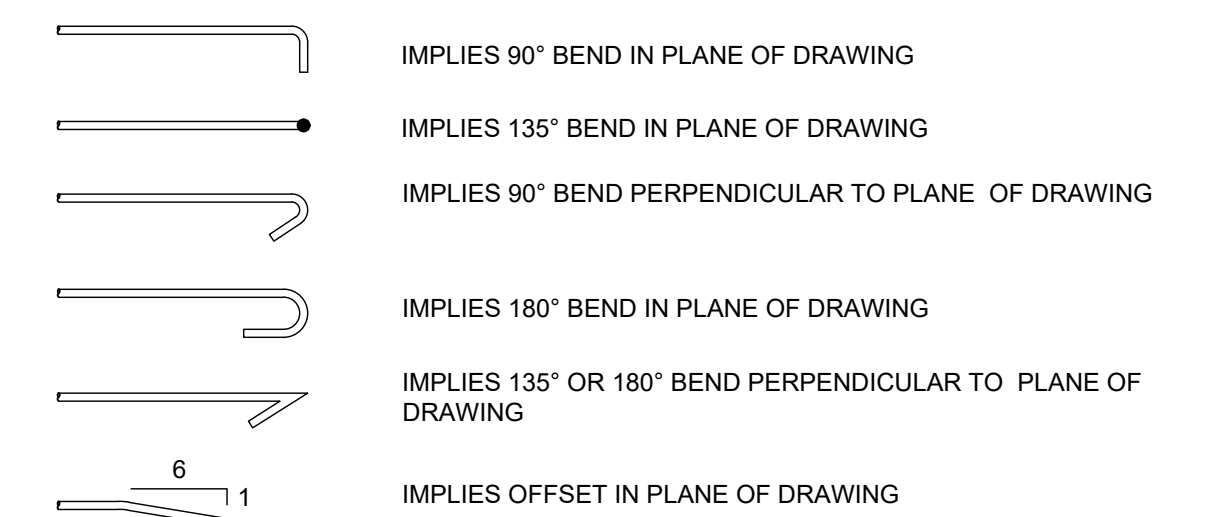
**DEVELOPMENT LENGTH FOR DEFORMED BARS ( $L_d$ )**

MIN $f'_c$ psi	#6 & SMALLER BARS & DEFORMED WIRES	#7 AND LARGER BARS
3000	44 $d_b$	55 $d_b$
4000	38 $d_b$	47 $d_b$
5000	34 $d_b$	42 $d_b$
6000	31 $d_b$	39 $d_b$
8000	27 $d_b$	34 $d_b$
10000	24 $d_b$	30 $d_b$
OTHER CASES		
3000	66 $d_b$	82 $d_b$
4000	57 $d_b$	71 $d_b$
5000	51 $d_b$	64 $d_b$
6000	46 $d_b$	58 $d_b$
8000	40 $d_b$	51 $d_b$
10000	36 $d_b$	45 $d_b$

**SPLICE LENGTH FOR DEFORMED BARS CLASS 'B' SPLICE ( $L_{sb}$ )**

MIN $f'_c$ psi	#6 & SMALLER BARS & DEFORMED WIRES	#7 AND LARGER BARS
3000	58 $d_b$	72 $d_b$
4000	50 $d_b$	62 $d_b$
5000	45 $d_b$	55 $d_b$
6000	41 $d_b$	51 $d_b$
8000	36 $d_b$	45 $d_b$
10000	32 $d_b$	39 $d_b$
OTHER CASES		
3000	86 $d_b$	107 $d_b$
4000	75 $d_b$	93 $d_b$
5000	67 $d_b$	84 $d_b$
6000	60 $d_b$	76 $d_b$
8000	52 $d_b$	65 $d_b$
10000	49 $d_b$	59 $d_b$

**5 SPLICE LENGTHS**  
SCALE: NTS



**3 TYP REINFORCING BAR BENDS**  
SCALE: NTS

**TYPICAL CONSTRUCTION DETAILS**

**junker**  
engineering group  
8285 La Mesa Blvd. Ste. C  
La Mesa, CA 91941  
designgroup@junkeregroup.com  
www.junkeregroup.com  
619.606.5058

LOCAL BENCHMARK: CENTERLINE WELL MONUMENT WITH 3" BRASS DISC STAMPED "RCE 18136" AT CENTER OF BULB IN SUNDALE ROAD APPROXIMATELY 31' NORTHWESTERLY FROM THE SOUTHWESTERLY CORNER OF SUBJECT PROPERTY AS SHOWN HERON. EL: 647.07 (NAVD88)

**PRIVATE CONTRACT**

SHEET 8 OF 10 SHEETS

COUNTY OF SAN DIEGO  
DEPARTMENT OF PUBLIC WORKS

GRADING PLANS FOR:  
**SUNDALE ROAD**

CALIFORNIA COORDINATE INDEX: 218-1792

COUNTY APPROVED CHANGES		BENCH MARK	
NO.	DESCRIPTION	APPROVED BY	DATE

RECOMMENDED FOR APPROVAL: SUBDIVISION ENGINEER

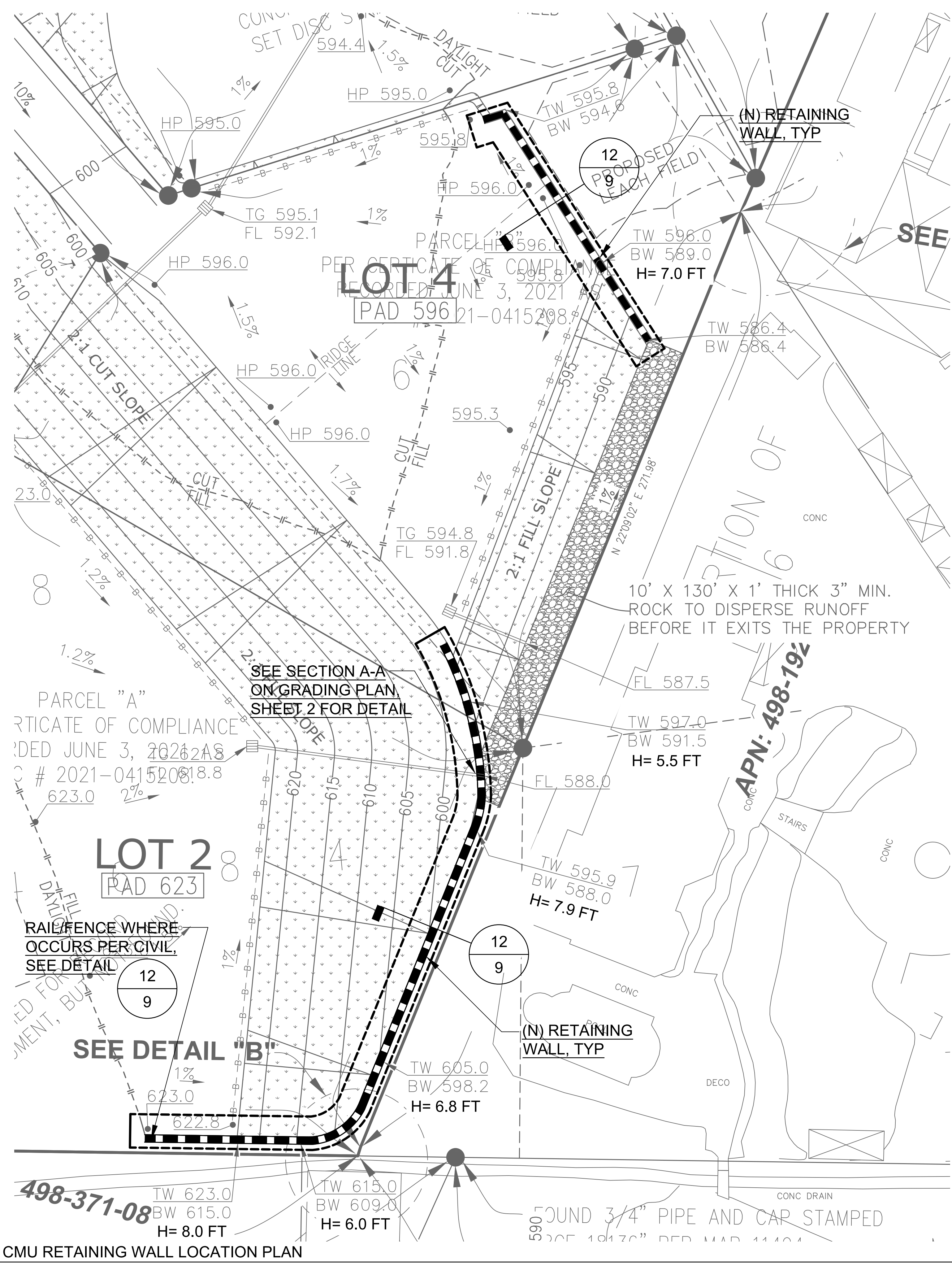
APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER

ENGINEER OF WORK: DANIEL AARON JUNKER

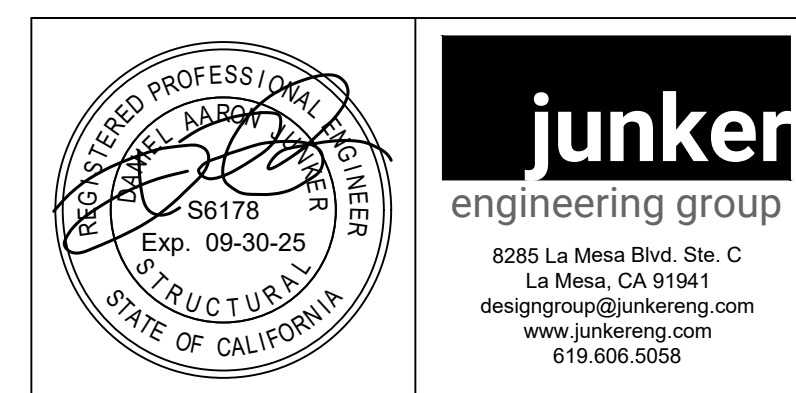
CHECKED BY: TM 2272

SE6178 EXP 09-30-25 PDS2021-LDGRM-30366





- NOTES:**
1. THE UNDERLYING FILL MATERIALS SHALL BE COMPACTED TO 95% RELATIVE COMPACTION PER REQUIREMENTS OF GEOTECHNICAL ENGINEER.
  2. THE WALL BACKFILL MATERIALS SHALL HAVE A MINIMUM FRICTION ANGLE OF 32 DEGREES AND COMPACTED UNIT WEIGHT OF 130 PCF.
  3. THE SOIL SHALL BE LEVEL ON NON-RETAINING SIDE OF EACH WALL SHOWN HEREIN.
  4. ALL SOIL SHALL BE REMOVED AND RE-COMPACTED PER REQUIREMENTS OF GEOTECHNICAL ENGINEER.



LOCAL BENCHMARK: CENTERLINE WELL MONUMENT WITH 3" BRASS DISC STAMPED "RCE 18136" AT CENTER OF BULB IN SUNDALE ROAD APPROXIMATELY 31' NORTHWESTERLY FROM THE SOUTHWESTERLY CORNER OF SUBJECT PROPERTY AS SHOWN HEREON. EL: 647.07 (NAVD88)

COUNTY APPROVED CHANGES		BENCH MARK	
NO.	DESCRIPTION	APPROVED BY	DATE

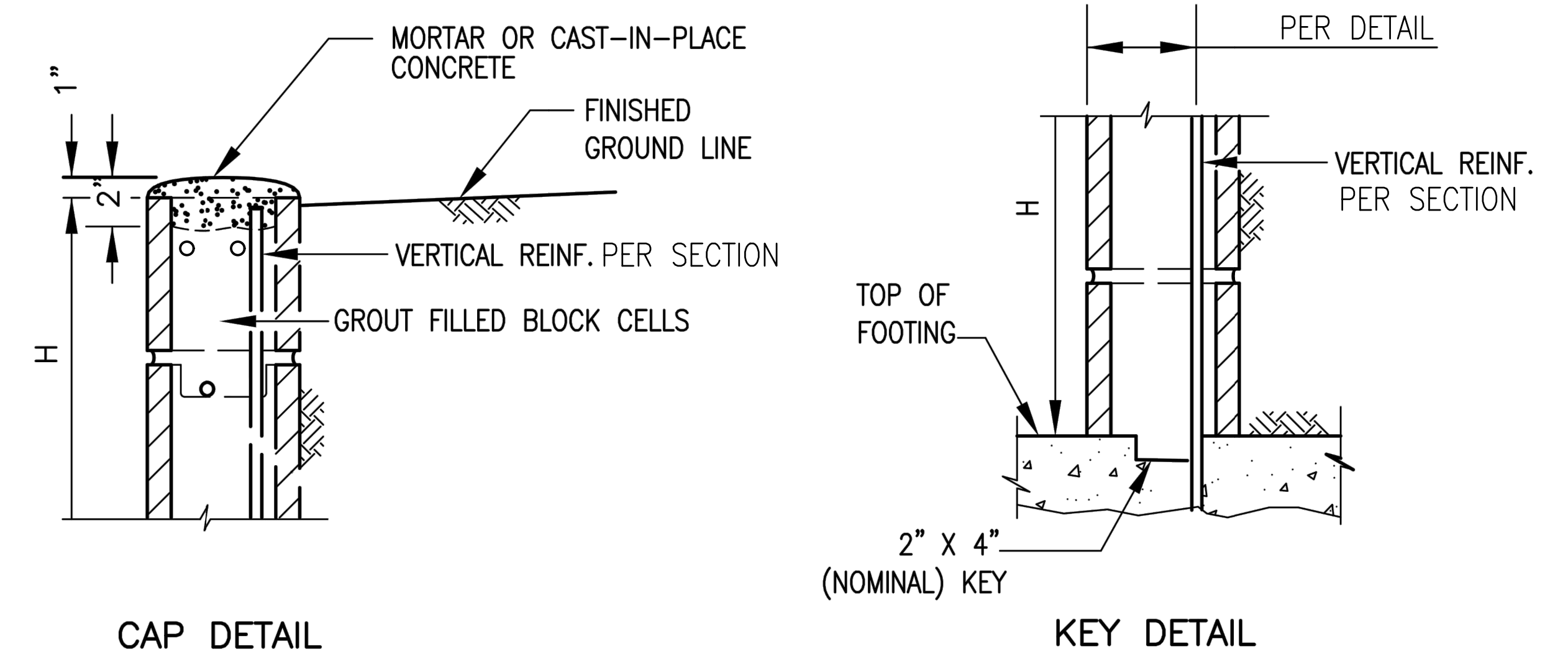
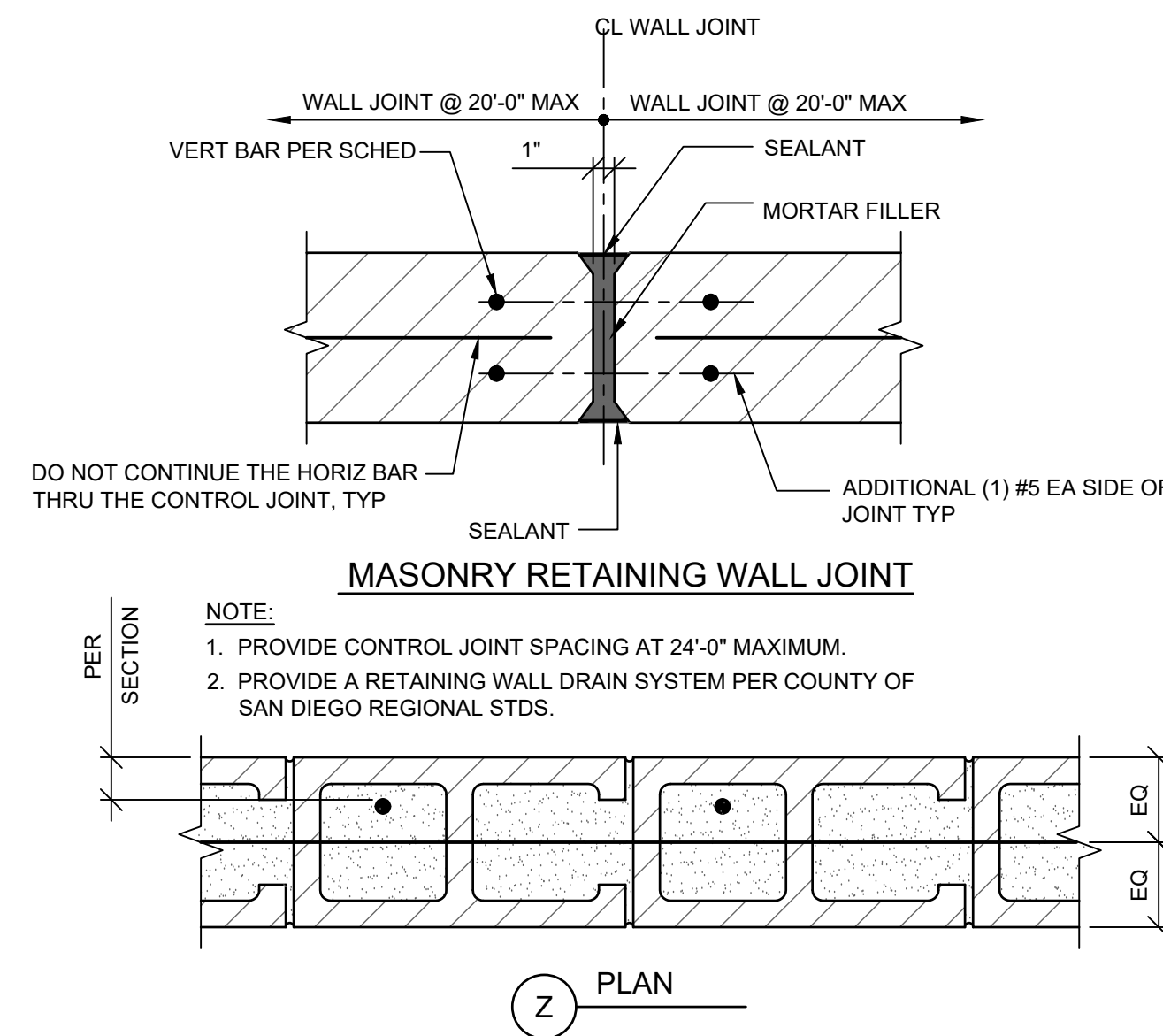
DESCRIPTION: CENTERLINE WELL MONUMENT WITH 1" PIPE AND DISC STAMPED "SAN DIEGO SURVEYOR".
LOCATION: CENTERLINE OF JAMACHA ROAD 15' NORTHERLY OF INTERSECTION WITH FALDA DEL CERRO.
RECORD FROM: SAN DIEGO COUNTY BENCHBOOK AND ROS 17454
ELEVATION: 562.84 DATUM: NAVD88

**CMU RETAINING WALL LOCATION PLAN**

PRIVATE CONTRACT			
SHEET 9	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS		OF 10 SHEETS
GRADING PLANS FOR:			
<b>SUNDALE ROAD</b>			
CALIFORNIA COORDINATE INDEX: 218-1792			
RECOMMENDED FOR APPROVAL:	APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER		
SUBDIVISION ENGINEER	BY:	DATE:	
ENGINEER OF WORK: DANIEL AARON JUNKER	CHECKED BY:	TM 2272	
SE6178	EXP 09-30-25	PDS2021-LDGRM-30366	

12 CMU RETAINING WALL LOCATION PLAN

ENGINEER'S NAME: WALSH ENGINEERING & SURVEYING, INC. PHONE NO.: 619-588-6747

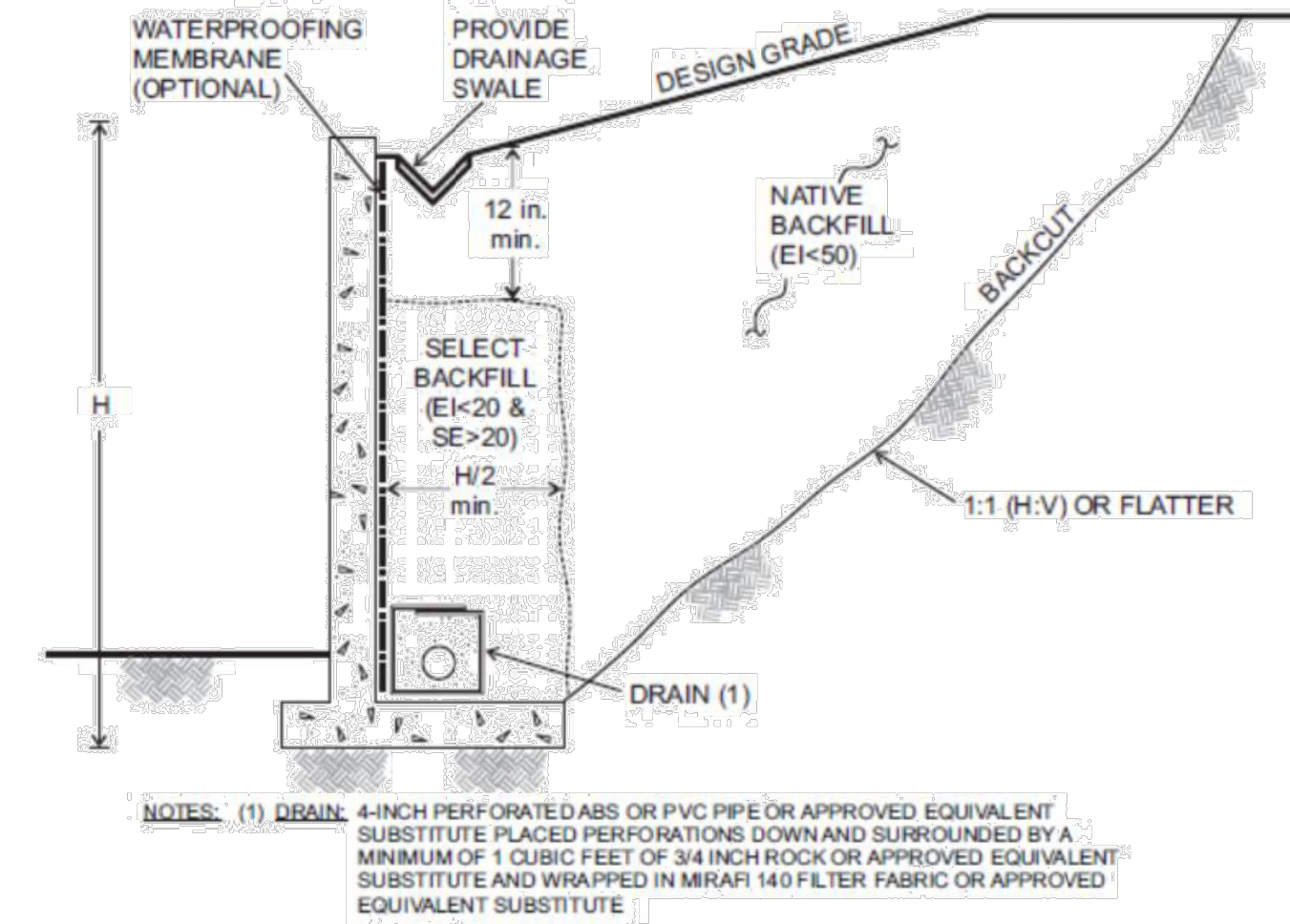


6 DETAILS FOR MASONRY RETAINING WALL  
NTS

9.1.9. Retaining Wall Backfill and Drainage Recommendations

Retaining wall backfill should consist of free-draining granular soil with sand equivalent "SE" >20. Retaining walls should be provided with a drainage system adequate to prevent buildup of hydrostatic pressures. A heel drain should be placed at the heel of the wall (see Figure 9.1.8), and should consist of a 4-inch diameter perforated pipe (SDR35 or SCHD 40) surrounded by 1 cubic foot of crushed rock (3/4-inch) per lineal foot, wrapped in filter fabric (Mirafi® 140N or equivalent).

FIGURE 9.1.9 Retaining Wall Backfill and Drainage

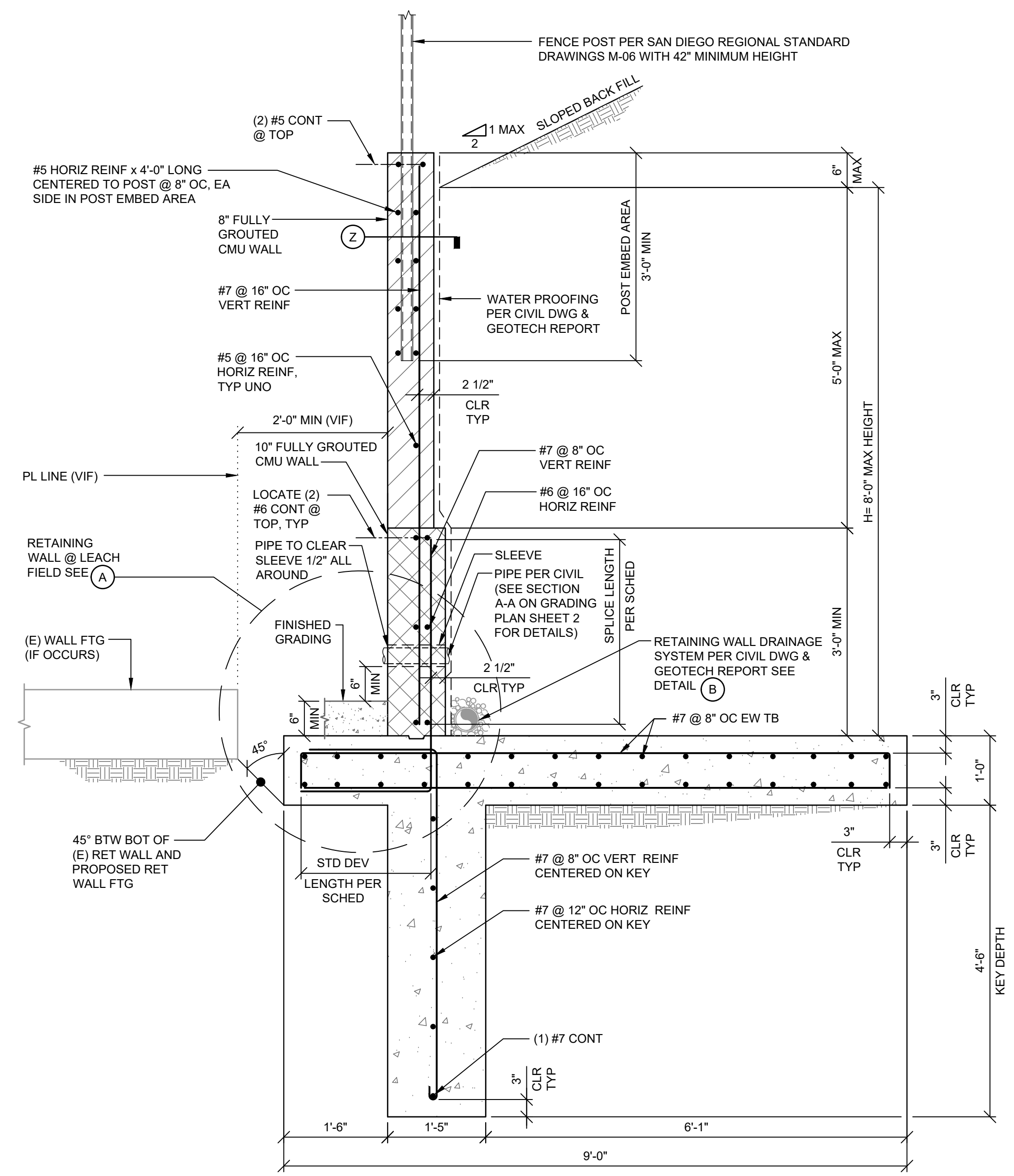


Proper drainage devices should be installed along the top of the wall backfill, which should be properly sloped to prevent surface water ponding adjacent to the wall. In addition to the wall drainage system, for building perimeter walls extending below the finished grade, the wall should be waterproofed and/or damp-proofed to effectively seal the wall from moisture infiltration through the wall section to the interior wall face.

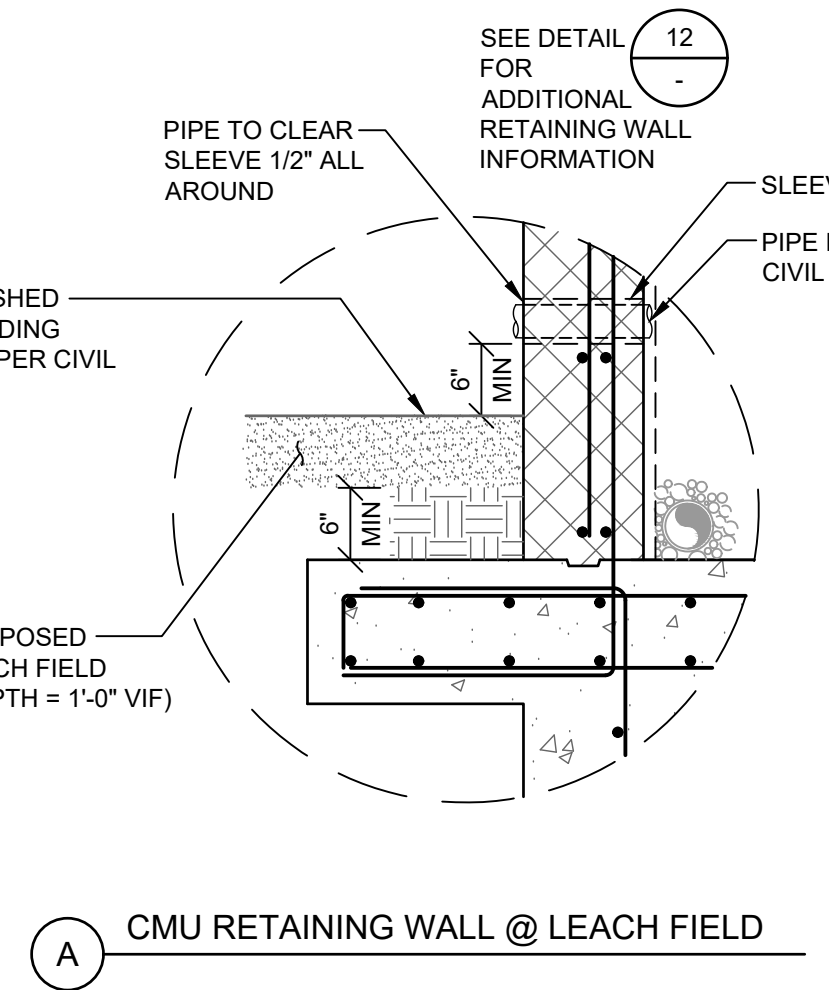
The wall should be backfilled with granular soils placed in loose lifts no greater than 8-inches thick, at or near optimum moisture content, and mechanically compacted to a

B RETAINING WALL BACKFILL & DRAINAGE RECOMMENDATIONS PER GEOTECHNICAL REPORT

RETAINING WALL CONSTRUCTION DETAILS



12 CMU RETAINING WALL DETAIL @ PL LINE W/ H <= 8'-0\"/>



A CMU RETAINING WALL @ LEACH FIELD

PRIVATE CONTRACT		
SHEET 10	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	OF 10 SHEETS
GRADING PLANS FOR:		
<b>SUNDALE ROAD</b>		
CALIFORNIA COORDINATE INDEX: 218-1792		
RECOMMENDED FOR APPROVAL:	APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER	
SUBDIVISION ENGINEER	BY:	DATE:
ENGINEER OF WORK: DANIEL AARON JUNKER	CHECKED BY:	TM 2272
SE6178	EXP 09-30-25	PDS2021-LDGRM-30366

COUNTY APPROVED CHANGES		BENCH MARK	
NO.	DESCRIPTION	APPROVED BY	DATE
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	ELEVATION: 562.84 DATUM: NAVD88		

**junker**  
engineering group  
8285 La Mesa Blvd. Ste. C  
La Mesa, CA 91941  
designgroup@junkereg.com  
www.junkereg.com  
619.606.5058