

STANDARD EL PASO COUNTY GRADING & EROSION CONTROL PLAN NOTES

- Stormwater discharges from construction sites shall not cause or threaten to cause pollution, contamination, or degradation of State Waters. All work and earth disturbance shall be done in a manner that minimizes pollution of any on-site or off-site waters, including wetlands.
- Notwithstanding anything depicted in these plans in words or graphic representation, all design and construction related to roads, storm drainage and erosion control shall conform to the standards and requirements of the most recent version of the most recent adopted El Paso County standards, including the Land Development Code, the Engineering Criteria Manual, the Drainage Criteria Manual, and the Drainage Criteria Manual Volume 2. Any deviations from regulations and standards must be requested, and approved, in writing.
- A separate Stormwater Management Plan (SMWP) for this project shall be completed and an Erosion and Stormwater Quality Control Permit (ESQCP) issued prior to commencing construction. Management of the SWMP during construction is the responsibility of the designated Qualified Stormwater Manager or Certified Erosion Control Inspector. The SWMP shall be located on site at all times during construction and shall be kept up to date with work progress and changes in the field.
- Once the ESQCP is approved and a "Notice to Proceed" has been issued, the contractor may install the initial stage erosion and sediment control measures as indicated on the approved GEC. A Preconstruction Meeting between the contractor, engineer, and El Paso County will be held prior to any construction. It is the responsibility of the applicant to coordinate the meeting time and place with County staff.
- Control measures must be installed prior to commencement of activities that could contribute pollutants to stormwater. Control measures for all slopes, channels, ditches, and disturbed land areas shall be installed immediately upon completion of the disturbance.
- All temporary sediment and erosion control measures shall be maintained and remain in effective operating condition until permanent soil erosion control measures are implemented and final stabilization is established. All persons engaged in land disturbance activities shall assess the adequacy of control measures at the site and identify if changes to those control measures are needed to ensure the continued effective performance of the control measures. All changes to temporary sediment and erosion control measures must be incorporated into the Stormwater Management Plan.
- Temporary stabilization shall be implemented on disturbed areas and stockpiles where ground disturbing construction activity has permanently ceased or temporarily ceased for longer than 14 days.
- Final stabilization must be implemented at all applicable construction sites. Final stabilization is achieved when all ground disturbing activities are complete and all disturbed areas either have a uniform vegetative cover with individual plant density of 70 percent of pre-disturbance levels established or equivalent permanent alternative stabilization method is implemented. All temporary sediment and erosion control measures shall be removed upon final stabilization and before permit closure.
- All permanent stormwater management facilities shall be installed as designed in the approved plans. Any proposed changes that effect the design or function of permanent stormwater management structures must be approved by the ECM Administrator prior to implementation.
- Earth disturbances shall be conducted in such a manner so as to effectively minimize accelerated soil erosion and resulting sedimentation. All disturbances shall be designed, constructed, and completed so that the exposed area of any disturbed land shall be limited to the shortest practical period of time. Pre-existing vegetation shall be protected and maintained within 50 horizontal feet of a waters of the state unless shown to be infeasible and specifically requested and approved.
- Compaction of soil must be prevented in areas designated for infiltration control measures or where final stabilization will be achieved by vegetative cover. Areas designated for infiltration control measures shall also be protected from sedimentation during construction until final stabilization is achieved. If compaction prevention is not feasible due to site constraints, all areas designated for infiltration and vegetation control measures must be loosened prior to installation of the control measure(s).
- Any temporary or permanent facility designed and constructed for the conveyance of stormwater around, through, or from the earth disturbance area shall be a stabilized conveyance designed to minimize erosion and the discharge of sediment off site.
- Concrete wash water shall be contained and disposed of in accordance with the SWMP. No wash water shall be discharged to or allowed to enter State Waters, including any surface or subsurface storm drainage system or facilities. Concrete washouts shall not be located in an area where shallow groundwater may be present, or within 50 feet of a surface water body, creek or stream.
- During dewatering operations of uncontaminated ground water may be discharged on site, but shall not leave the site in the form of surface runoff unless an approved State dewatering permit is in place.
- Erosion control blanketing or other protective covering shall be used on slopes steeper than 3:1.
- Contractor shall be responsible for the removal of all wastes from the construction site for disposal in accordance with local and State regulatory requirements. No construction debris, tree slash, building material wastes or unused building materials shall be buried, dumped, or discharged at the site.
- Waste materials shall not be temporarily placed or stored in the street, alley, or other public way, unless in accordance with an approved Traffic Control Plan, control measures may be required by El Paso County Engineering if deemed necessary, based on specific conditions and circumstances.
- Tracking of soils and construction debris off-site shall be minimized. Materials tracked off-site shall be cleaned up and properly disposed of immediately.
- The owner/developer shall be responsible for the removal of all construction debris, dirt, trash, rock, sediment, soil, and sand that may accumulate in roads, storm drains and other drainage conveyance systems and stormwater appurtenances as a result of site development.
- The quantity of materials stored on the project site shall be limited, as much as practical, to that quantity required to perform the work in an orderly sequence. All materials stored on-site shall be stored in a neat, orderly manner, in their original containers, with original manufacturer's labels.
- No chemical(s) having the potential to be released in stormwater are to be stored or used onsite unless permission for the use of such chemical(s) is granted in writing by the ECM Administrator. In granting approval for the use of such chemical(s), special conditions and monitoring may be required.
- Bulk storage of allowed petroleum products or other allowed liquid chemicals in excess of 55 gallons shall require adequate secondary containment protection to contain all spills onsite and to prevent any spilled materials from entering State Waters, any surface or subsurface storm drainage system or other facilities.
- No person shall cause the impediment of stormwater flow in the curb and gutter or ditch except with approved sediment control measures.
- Owner/developer and their agents shall comply with the "Colorado Water Quality Control Act" (Title 25, Article 8, CRS), and the "Clean Water Act" (33 USC 1344), in addition to the requirements of the Land Development Code, DCM Volume I and the ECM Appendix I. All appropriate permits must be obtained by the contractor prior to construction (1041, NPDES, Floodplain, 404, fugitive dust, etc.). In the event of conflicts between these requirements and other laws, rules, or regulations of other Federal, State, local, or County agencies, the most restrictive laws, rules, or regulations shall apply.
- All construction traffic must enter/exit the site only at approved construction access points.
- Prior to construction the permittee shall verify the location of existing utilities.
- A water source shall be available on site during earthwork operations and shall be utilized as required to minimize dust from earthwork equipment and wind.
- The soils report for this site has been prepared by [Call out the report.](#) and shall be considered a part of these plans.
- At least ten (10) days prior to the anticipated start of construction, for projects that will disturb one (1) acre or more, the owner or operator of construction activity shall submit a permit application for stormwater discharge to the Colorado Department of Public Health and Environment, Water Quality Division. The application contains certification of completion of a stormwater management plan (SWMP), of which this Grading and Erosion Control Plan may be a part. For information or application materials contact:

Colorado Department of Public Health and Environment
Water Quality Control Division
WQCD - Permits
4300 Cherry Creek Drive South
Denver, CO 80246-1530
Attn: Permits Unit

GRADING NOTES:

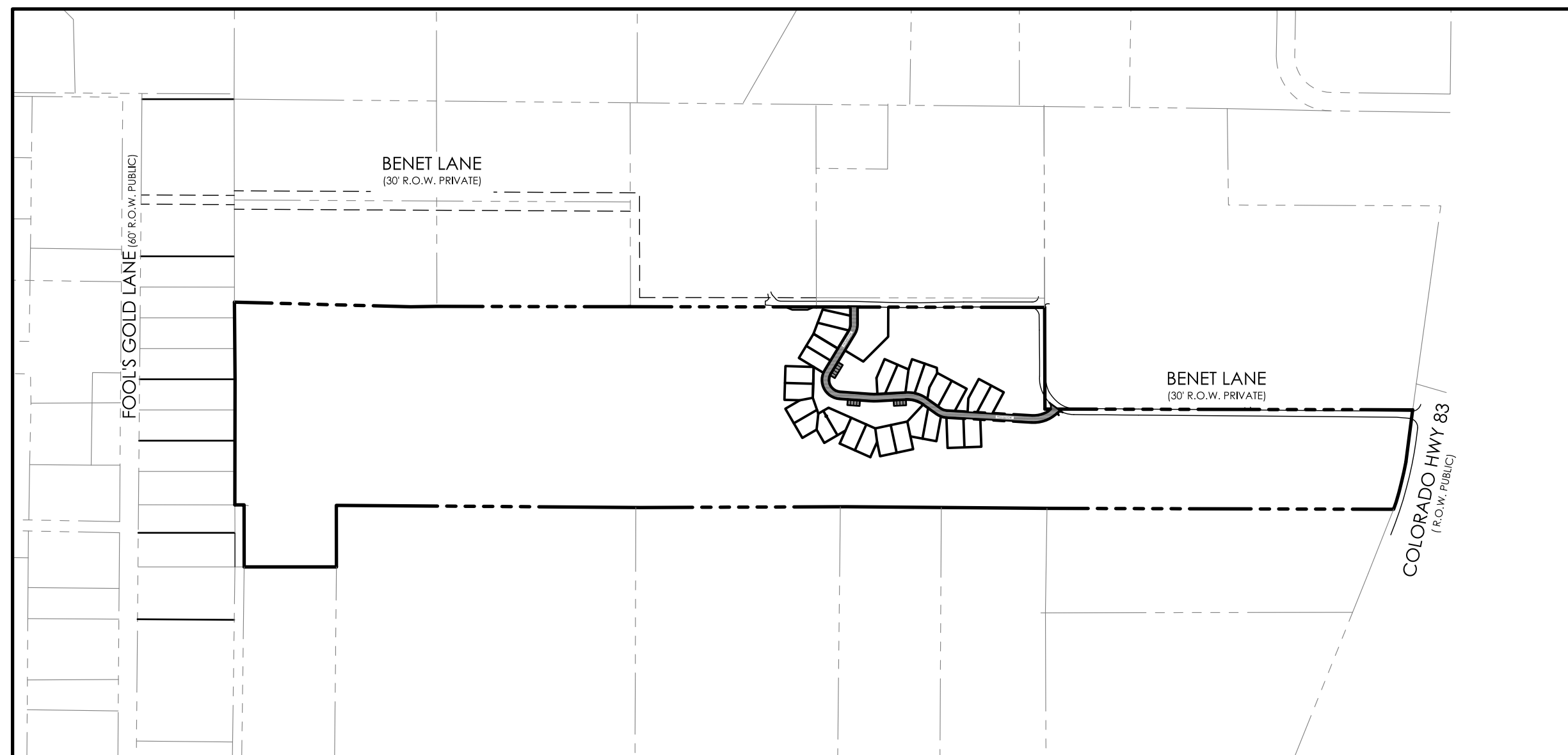
- UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN DRAWN FROM AVAILABLE RECORDS AND/OR SURFACE EVIDENCE. THE LOCATION OF ALL UTILITIES MAY NOT BE SHOWN OR MAY NOT HAVE BEEN LOCATED. BELOW GROUND LOCATIONS HAVE NOT BEEN PERFORMED. THEREFORE, THE RELATIONSHIP BETWEEN PROPOSED WORK AND EXISTING FACILITIES, STRUCTURES AND UTILITIES MUST BE CONSIDERED APPROXIMATE. ALL UTILITIES SHALL BE LOCATED PRIOR TO ANY EARTH WORK OR DIGGING (1-800-922-1987 OR 811). THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL SUBSURFACE UTILITY OWNERS PRIOR TO BEGINNING WORK TO DETERMINE LOCATION OF UTILITY FACILITIES.
- EXISTING CONDITIONS SHALL BE VERIFIED BY THE GENERAL CONTRACTOR. DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION.
- M.V.E., INC. OR THE ENGINEER ASSUMES NO RESPONSIBILITY OR LIABILITY FOR USE OF THIS GRADING PLAN FOR ANY OTHER PURPOSE THAN OVER LOT GRADING OPERATIONS.
- ALL WEEDS, TRASH, DEBRIS, RUBBLE, BROKEN ASPHALT, ORGANIC MATERIAL (EXCLUDING TOPSOIL) AND REFUSE, OR ANY OTHER MATERIAL WHICH WOULD NOT BE DELETTERIOUS AS FILL MATERIAL OR INCAPABLE OF SUPPORTING THE BUILDING, VEHICULAR AND/OR OVERBURDEN LOADS TO BE IMPOSED SHALL BE CLEARED, GRUBBED OR EXCAVATED AS THE CASE MAY DICTATE PRIOR TO GRADING AND SHALL BE REMOVED FROM SITE AND DISPOSED OF LEGALLY.
- PROPOSED CONTOURS SHOWN ARE FINISH GRADES AND READ TO TOP OF PAVEMENT AND FINISH SOIL GRADE.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT GRADED AREAS FROM, AND AS NECESSARY RESTORE TO GRADE, ANY RUTS, WASHES OR OTHER CHANGES FROM THE DESIGN ELEVATIONS SHOWN HEREON, UNTIL GRADING WORK IS ACCEPTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL ENDEAVOR NOT TO DISTURB ANY OFFSITE AREAS. THE CONTRACTOR SHALL RESTORE TO THE ORIGINAL CONDITION, ADJACENT (OFF-SITE) PROPERTY DISTURBED BY HIS OPERATIONS.
- THE GENERAL CONTRACTOR SHALL STRIP TOPSOIL FROM CONSTRUCTION AREAS AND STOCKPILE TOPSOIL AT AREA SHOWN ON THIS PLAN. PLACE TOPSOIL WITH APPROPRIATE EROSION CONTROL AND IN A MANNER SO AS TO NOT CONFLICT WITH OTHER TRADES AND CONSTRUCTION PROCESS.
- ALL GRADING SHALL BE DONE TO INSURE POSITIVE DRAINAGE AWAY FROM FOUNDATIONS AND STRUCTURES.
- FINISHED GRADE OF ALL PERVIOUS EARTH SURFACES THAT CONTACT FOUNDATION WALLS SHALL BE A MINIMUM OF 6" BELOW ANY UNTREATED WOOD MATERIAL OR IN ACCORDANCE WITH APPLICABLE CODES AND THE RECOMMENDATIONS OF THE OWNER'S GEOTECHNICAL ENGINEERING REPORT OR DESIGN.
- PERVIOUS EARTH SURFACES SHALL SLOPE AWAY FROM ALL FOUNDATION WALLS AT A MINIMUM RATE OF 6" IN 10 FEET (5%) FOR THE FIRST 10 FEET ADJACENT TO THE FOUNDATION OR IN ACCORDANCE WITH APPLICABLE CODES AND THE RECOMMENDATIONS OF THE OWNER'S GEOTECHNICAL ENGINEERING REPORT OR DESIGN.
- CONCRETE OR OTHER IMPERVIOUS SURFACES THAT CONTACT FOUNDATION WALLS SHALL SLOPE AWAY FROM ALL FOUNDATION WALLS AT A MINIMUM RATE OF 1/4" PER FOOT (2.0%) OR IN ACCORDANCE WITH APPLICABLE CODES AND THE RECOMMENDATIONS OF THE OWNER'S GEOTECHNICAL ENGINEERING REPORT OR DESIGN.

GRADING AND EROSION CONTROL PLAN

for

SANCTUARY OF PEACE RESIDENTIAL COMMUNITY

EL PASO COUNTY, COLORADO



SITE MAP
1" = 400'

SHEET INDEX

PLAN SET SHEET NO.	SHEET TITLE	MVE DRAWING NO.
C-1	COVER SHEET	61087-GEC-CS
C-2	GRADING PLAN (OVERALL)	61087-GEC-GP
C-3	GRADING PLAN (DETAIL)	61087-GEC-GP1
C-4	PRIVATE DRIVE PLAN / PROFILE	61087-GEC-PP
C-5	POND PLAN (A1)	61087-GEC-PD1
C-6	POND PLAN (C1)	61087-GEC-PD2
C-7	POND PLAN (C2)	61087-GEC-PD3
C-8	EROSION CONTROL PLAN	61087-GEC-EC
C-9	EROSION CONTROL DETAILS	61087-GEC-ED

Engineering Review
10/15/2019 1:40:32 PM
d.kuehler
stevekuehler@elpaso.com
(719) 520-6813
EPC Planning & Community Development Department

MAP NOTES

- BOUNDARY BEARINGS AND DISTANCES SHOWN ON THIS MAP ARE RELATIVE TO THE SOUTH LINE OF SANCTUARY OF PEACE RESIDENTIAL COMMUNITY TO BEAR N89°51'41" W.
- THE EXISTING TOPOGRAPHY SHOWN ON THIS PLAN WAS PREPARED BY MVE, INC. USING DATA PROVIDED BY POLARIS SURVEYING INC. ELEVATIONS SHOWN ARE RELATIVE TO THE CITY OF COLORADO SPRINGS CONTROL NETWORK (FIMS DATUM).

FLOODPLAIN STATEMENT

NO PORTION OF THE SUBJECT PROPERTY IS LOCATED WITHIN FEMA DESIGNATED SPECIAL FLOOD HAZARD AREA (SFHA) AS INDICATED ON THE FLOOD INSURANCE RATE MAP (FIRM) FOR EL PASO COUNTY, COLORADO AND INCORPORATED AREAS - MAP NUMBER 08041C0295G, EFFECTIVE DECEMBER 7, 2018

TIMING

ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING: NOVEMBER 2019 - MARCH 2020
EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETED: FALL 2020

AREAS

TOTAL AREA OF THE SITE TO BE CLEARED, EXCAVATED OR GRADED: 3.61 ACRES

RECEIVING WATERS

NAME OF RECEIVING WATERS: BLACK SQUIRREL & SMITH CREEKS

LEGEND

	PROPERTY LINE		ADJACENT PROPERTY LINE
	EASEMENT LINE		BUILDING SETBACK LINE
	LOT LINE		BUILDING/ BUILDING OVERHANG
	DECK		RETAINING WALL - SOLID/ ROCK
	BOLLARD		BOLLARD
	WOOD FENCE		SHRUB
	CHAIN LINK FENCE		SHRUB
	BARBED WIRE FENCE		SHRUB
	TREE (EVERGREEN/DECIDUOUS)		SHRUB
	ROCK		SHRUB

	EXISTING INDEX CONTOUR		PROPOSED INDEX CONTOUR
	EXISTING INTERMEDIATE CONTOUR		PROPOSED INTERMEDIATE CONTOUR
	EXISTING CONCRETE AREA		PROPOSED CONCRETE AREA
	EXISTING ASPHALT AREA		PROPOSED ASPHALT AREA
	EXISTING CURB AND GUTTER		PROPOSED CURB AND GUTTER
	EXISTING BUILDING/ BUILDING OVERHANG		PROPOSED BUILDING/ BUILDING OVERHANG
	EXISTING DECK		PROPOSED DECK
	EXISTING RETAINING WALL - SOLID/ ROCK		PROPOSED RETAINING WALL - SOLID/ ROCK
	EXISTING SIGN		PROPOSED SIGN
	EXISTING BOLLARD		PROPOSED BOLLARD
	EXISTING WOOD FENCE		PROPOSED WOOD FENCE
	EXISTING CHAIN LINK FENCE		PROPOSED CHAIN LINK FENCE
	EXISTING BARBED WIRE FENCE		PROPOSED BARBED WIRE FENCE
	EXISTING TREE (EVERGREEN/DECIDUOUS)		PROPOSED TREE (EVERGREEN/DECIDUOUS)
	EXISTING SHRUB		PROPOSED SHRUB
	EXISTING ROCK		PROPOSED ROCK

OWNERS STATEMENT

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN AND ALL OF THE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATIONS.

CHARLES C. CRUM, P.E. COLORADO NO. 13348 _____ DATE _____
FOR AND ON BEHALF OF M.V.E., INC.

ENGINEER'S STATEMENT

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

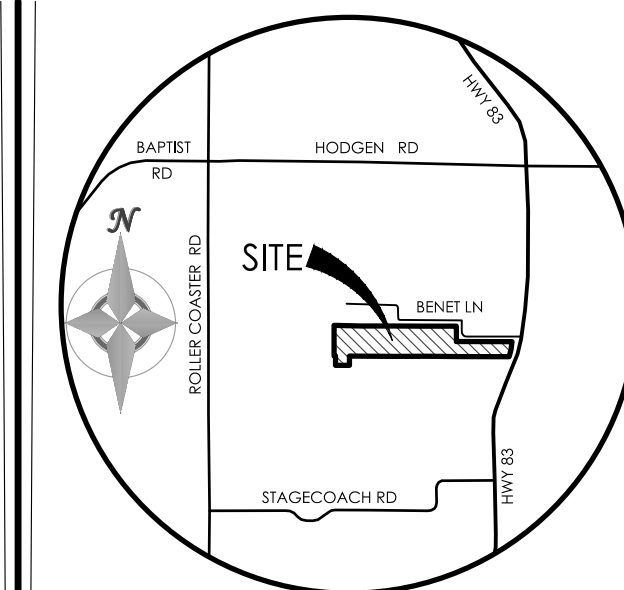
CHARLES C. CRUM, P.E. COLORADO NO. 13348 _____ DATE _____
FOR AND ON BEHALF OF M.V.E., INC.

EL PASO COUNTY

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/ OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/ OR ACCURACY OF THIS DOCUMENT. FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL, AS AMENDED.

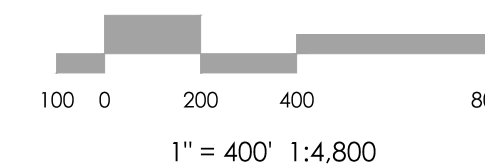
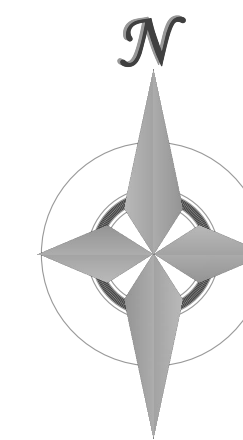
IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

JENNIFER IRVINE, P.E. _____ DATE _____
COUNTY ENGINEER / ECM ADMINISTRATOR



VICINITY MAP
NOT TO SCALE

BENCHMARK
FOUND PROPERTY CORNER SOUTHWEST OF BENET LANE
WHERE BENET LANES TURNS NORTH (APPROX. 1200 FT FROM
HIGHWAY 83), ELEVATION = 7302.79'



REVISIONS

DESIGNED BY _____
DRAWN BY _____
CHECKED BY _____
AS-BUILTS BY _____
CHECKED BY _____

SANCTUARY OF PEACE
RESIDENTIAL COMMUNITY

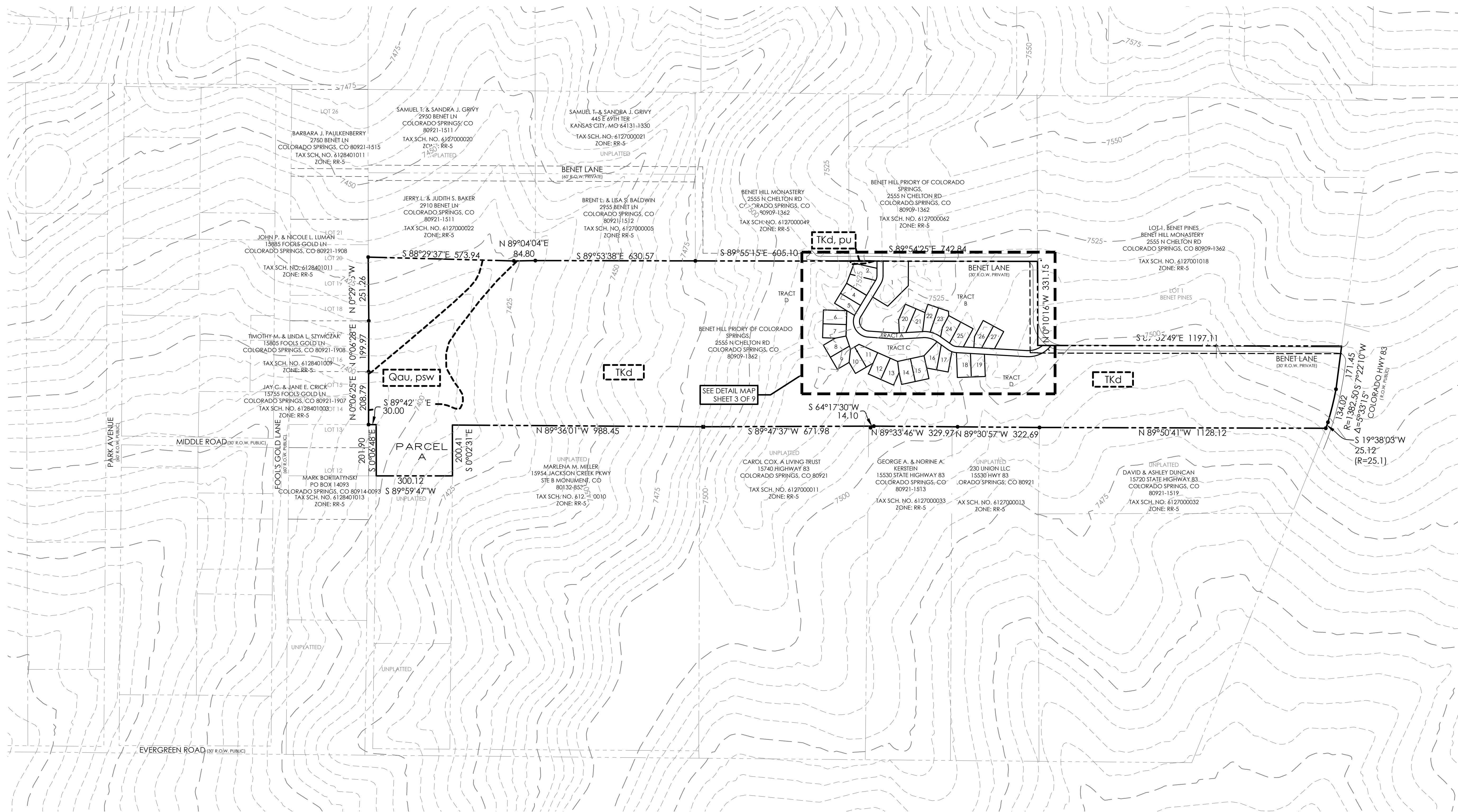
GRADING & EROSION
CONTROL PLAN
COVER SHEET

C-1 MVE PROJECT 61087
MVE DRAWING -GEC-CS

SEPTEMBER 12, 2019
SHEET 1 OF 9

PUDSP-19-002

CALL BEFORE YOU DIG...
48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS FOR LOCATING AND MARKING GAS, ELECTRIC, WATER AND WASTEWATER.
CALL 811 OR 1-800-922-1987



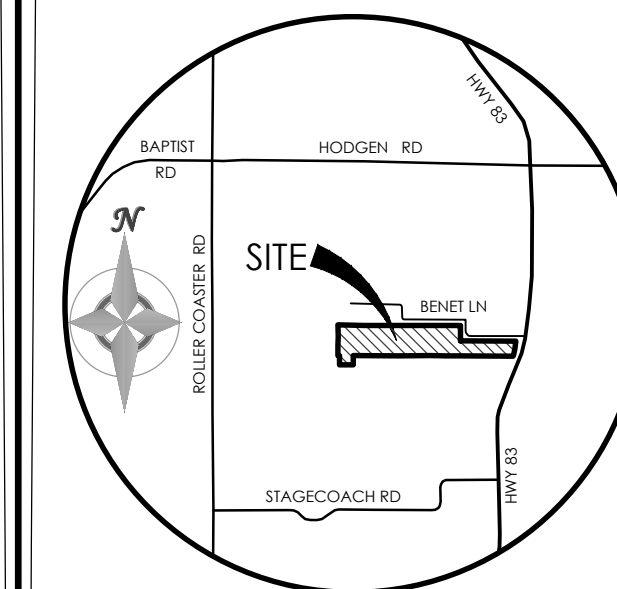
OVERALL SITE MAP
1" = 200'

GEOLOGIC HAZARD LEGEND

Qau	RECENT ALLUVIUM OF QUATERNARY AGE
TKda	DAWSON FORMATION OF TERTIARY TO CRETACEOUS AGE
psw	POTENTIALLY SEASONAL SHALLOW GROUNDWATER
pu	POTENTIALLY UNSTABLE SLOPE

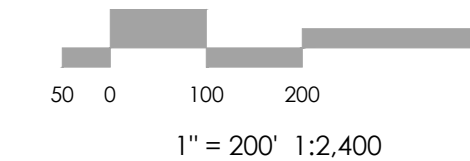
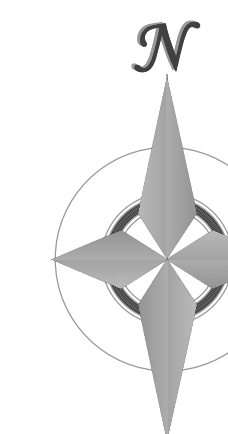
MAP NOTES

- BOUNDARY BEARINGS AND DISTANCES SHOWN ON THIS MAP ARE RELATIVE TO THE SOUTH LINE OF LOT 1, BENET PINES, ASSUMED TO BEAR S89°52'49"E.
- THE EXISTING TOPOGRAPHY SHOWN ON THIS PLAN WAS PREPARED AND PROVIDED BY POLARIS SURVEYING INC. ELEVATIONS SHOWN ARE RELATIVE TO THE CITY OF COLORADO SPRINGS CONTROL NETWORK. (FIMS DATA)
- ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS MAP ARE FROM UTILITY MAIN RECORD MAPS AND UTILITY SERVICE LOCATION MAPS. THE LOCATION OF UTILITIES AS SHOWN ARE APPROXIMATE. ALL UTILITIES MAY NOT BE SHOWN OR MAY NOT HAVE BEEN LOCATED. BELOW GROUND UTILITY LOCATIONS WERE NOT PERFORMED.



VICINITY MAP
NOT TO SCALE

BENCHMARK
FOUND PROPERTY CORNER SOUTHWEST OF BENET LANE
WHERE BENET LANES TURNS NORTH (APPROX. 1200 FT FROM
HIGHWAY 83), ELEVATION = 7302.79'



REVISIONS

DESIGNED BY _____
DRAWN BY _____
CHECKED BY _____
AS-BUILTS BY _____
CHECKED BY _____

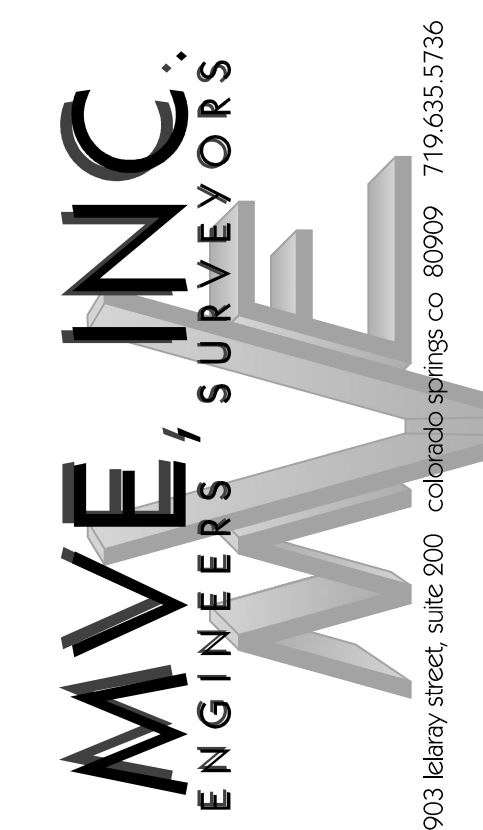
SANCTUARY OF PEACE
RESIDENTIAL COMMUNITY

GRADING & EROSION
CONTROL PLAN
OVERALL GRADING

C-2 MVE PROJECT 61087
MVE DRAWING -GEC-CS

SEPTEMBER 12, 2019
SHEET 2 OF 9

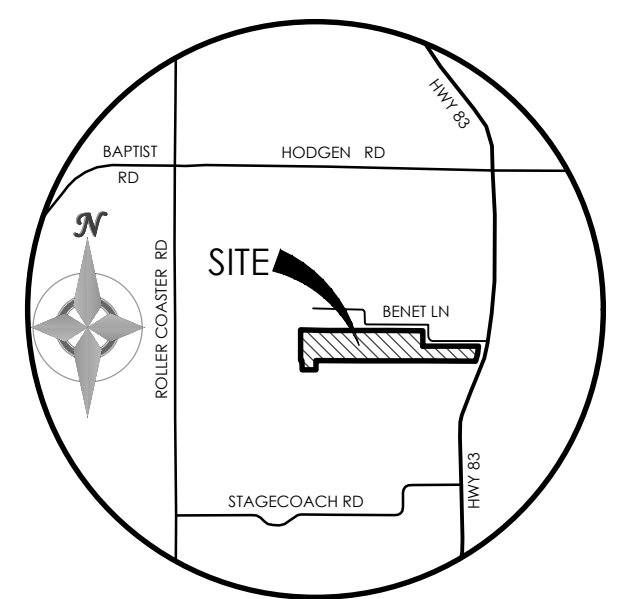
PUDSP-19-002



1903 Library Street, Suite 200 Colorado Springs, CO 80909 719.635.5726

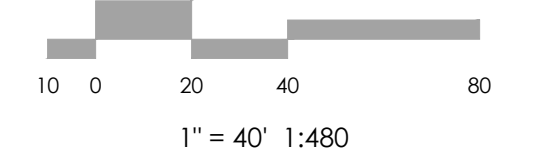
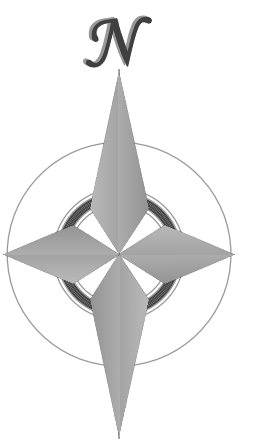


Show finished contours for building pads. Call out erosion protection for this disturbed area.



VICINITY MAP
NOT TO SCALE

BENCHMARK
FOUND PROPERTY CORNER SOUTHWEST OF BENET LANE
WHERE BENET LANES TURNS NORTH (APPROX. 1200 FT FROM
HIGHWAY 83). ELEVATION = 7502.79'



MVE, INC.
ENGINEERS / SURVEYORS

1903 Library Street, Suite 200 Colorado Springs, CO 80909 719.635.5726

REVISIONS

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SANCTUARY OF PEACE
RESIDENTIAL COMMUNITY

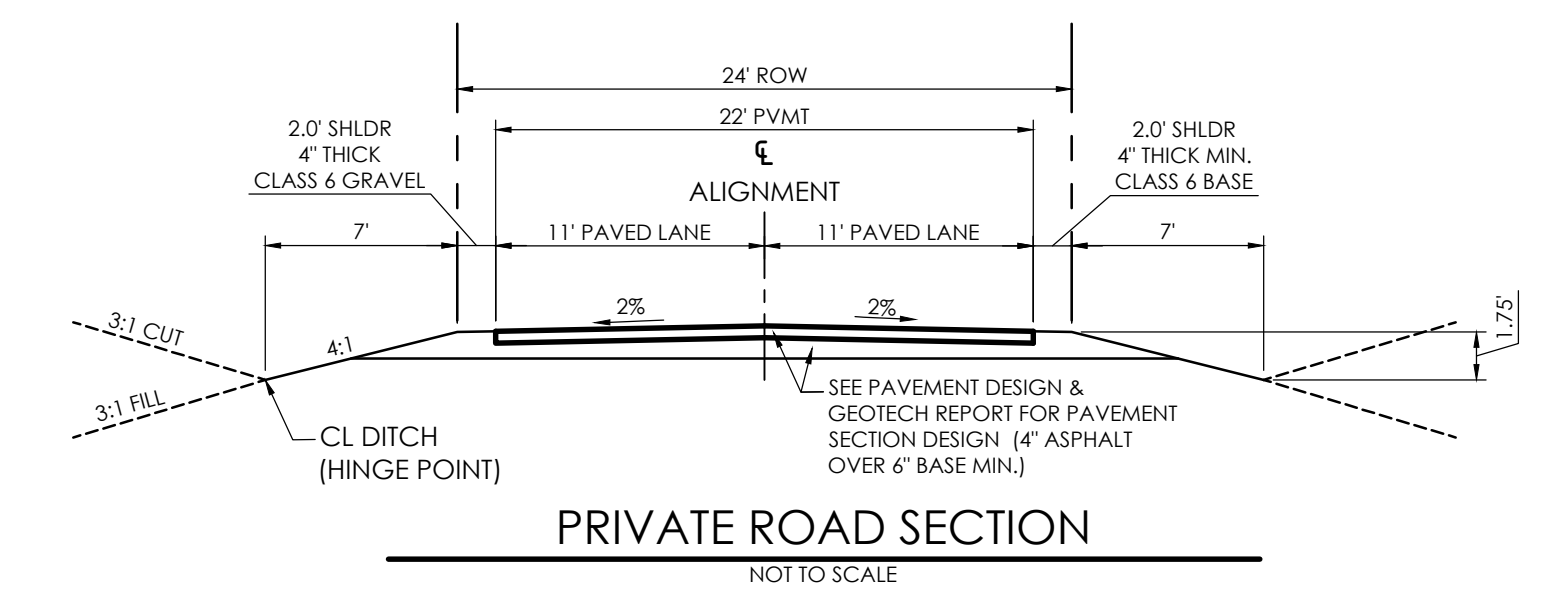
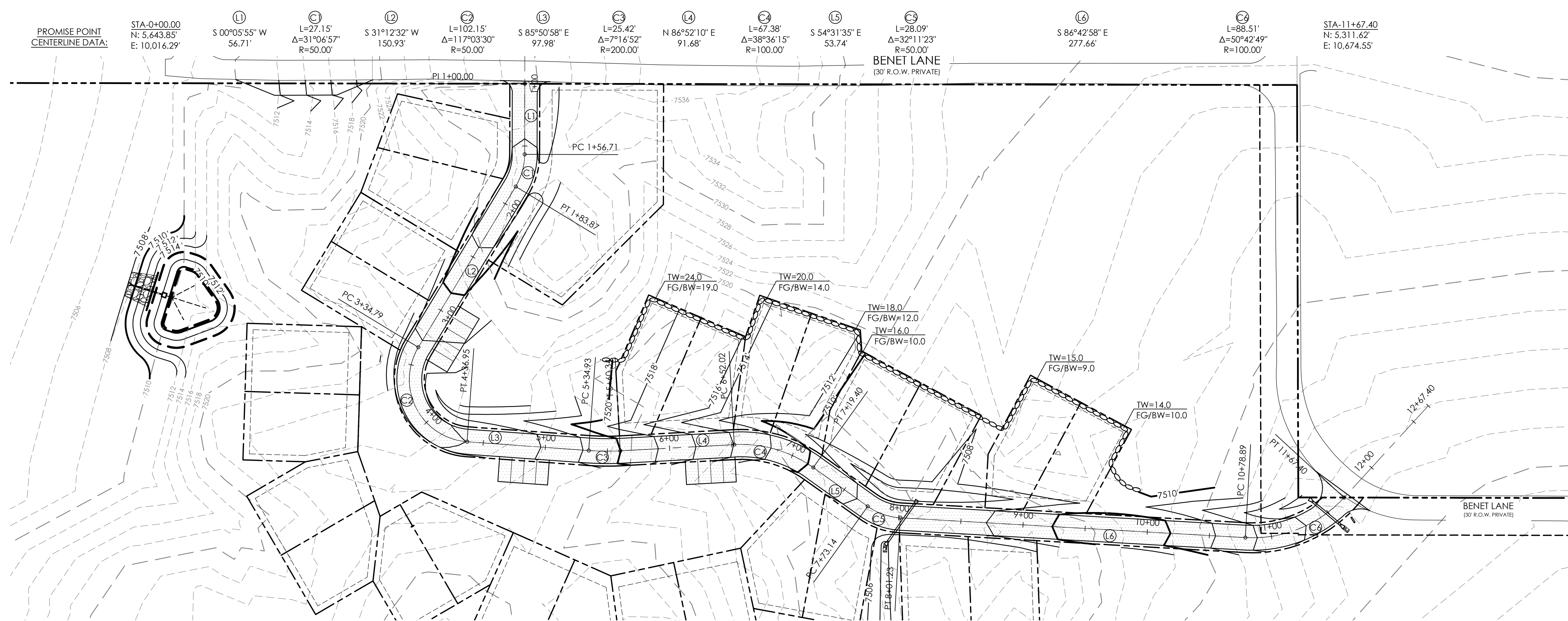
GRADING & EROSION
CONTROL PLAN
GRADING PLAN

C-3 MVE PROJECT 61087
MVE DRAWING -GEC-GP

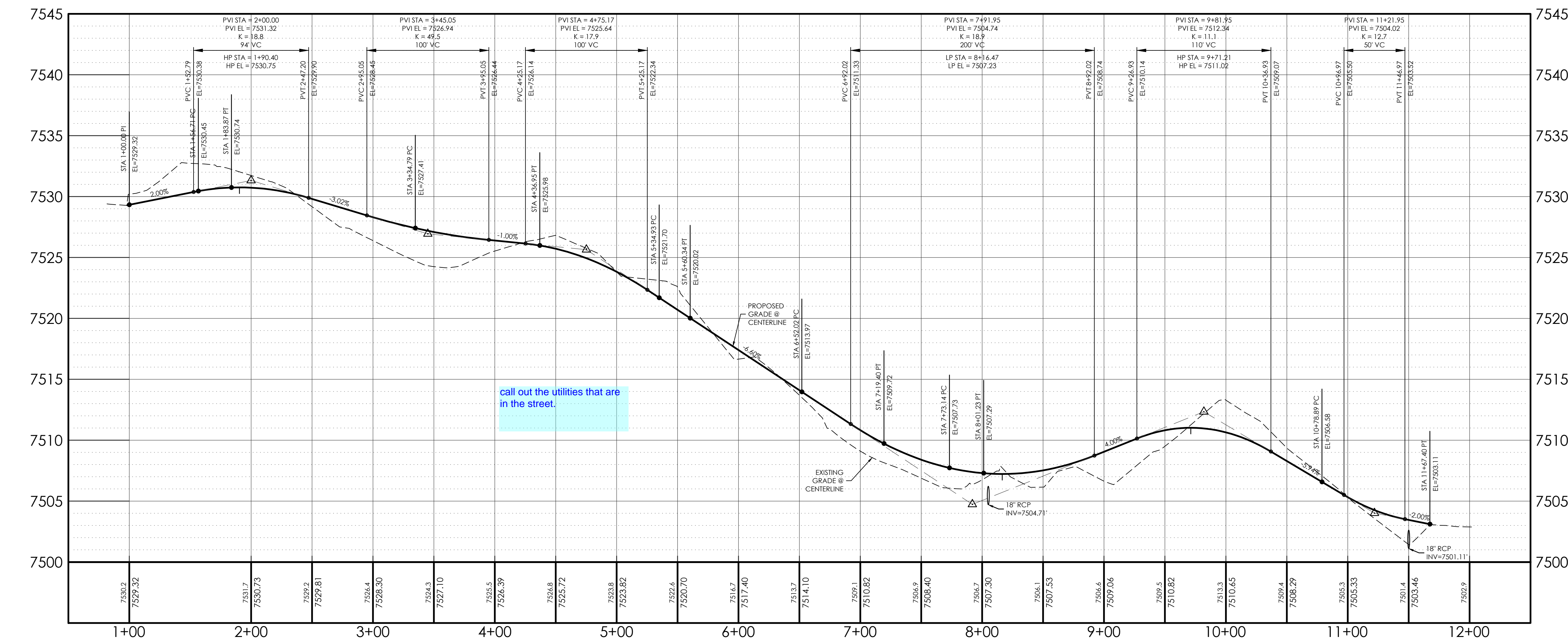
SEPTEMBER 12, 2019
SHEET 3 OF 9

PUDSP-19-002

Z:\1819\Sanctuary of Peace\1819-GEC-GP.dwg, 9/14/2019 10:12:52 AM, LTJ:ADJ



Call out the name of the street and identify as Private.

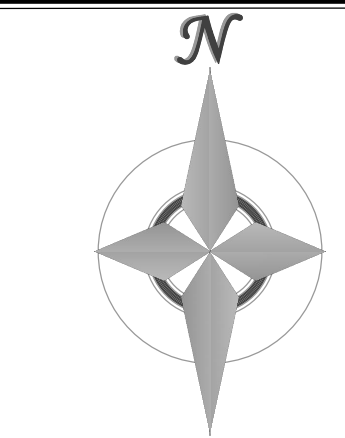
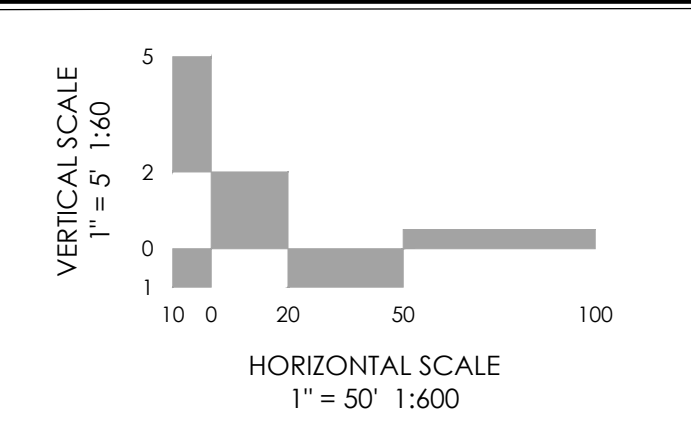


PUDSP-19-002

BENCHMARK:
 FOUND PROPERTY CORNER SOUTHWEST OF BENET LANE
 WHERE BENET LANES TURNS NORTH (APPROX. 1200 FT FROM
 HIGHWAY 83). ELEVATION = 7502.79'

DESIGN DATA:
 SIDEWALKS: WIDTH _____
 LOCATION: Attached Detached
 DESIGN SPEED _____
 CURB TYPE: 1 2 3 4 5
 ROW WIDTH: _____ FL-FL _____
 STREET TYPE: _____

PAVEMENT:
 TYPE: HMA PCC
 THICKNESS: _____
 COMPOSITE SECTION:
 HMA _____ BASE _____
 SUBGRADE STABILIZATION:
 CHEMICAL TYPE _____ MECHANICAL THICKNESS _____



MVE, INC.
 ENGINEERS SURVEYORS

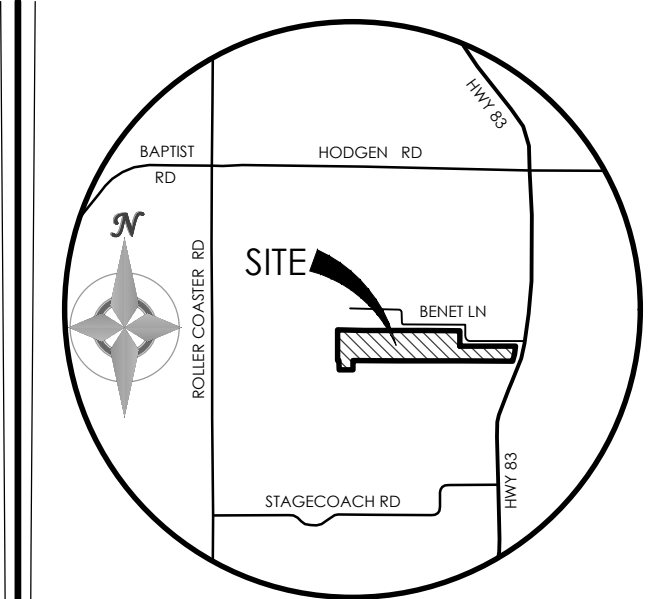
1903 Ictary street
 colorado springs
 719.635.5736

suite 200
 co 80909
 www.mvecivil.com

REVISIONS

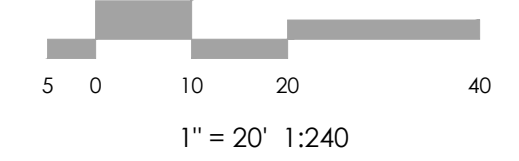
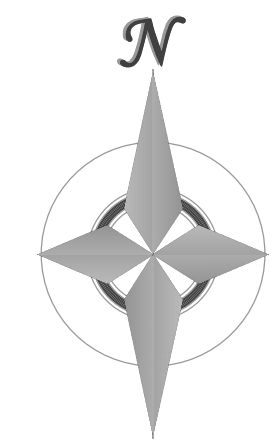
MVE PROJECT
 MVE DRAWING 61087-GEC-PP
 SEPTEMBER 12, 2019
 DESIGNED BY _____
 DRAWN BY _____
 CHECKED BY _____
 AS-BUILT BY _____
 CHECKED BY _____

PLAN & PROFILE SHEET
 FROM STA 0+00.00
 TO STA 15+00.00



VICINITY MAP
NOT TO SCALE

BENCHMARK
FOUND PROPERTY CORNER SOUTHWEST OF BENET LANE
WHERE BENET LANES TURNS NORTH (APPROX. 1200 FT FROM
HIGHWAY 83), ELEVATION = 7302.79'



REVISIONS

DESIGNED BY _____
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AS-BUILTS BY _____
CHECKED BY _____

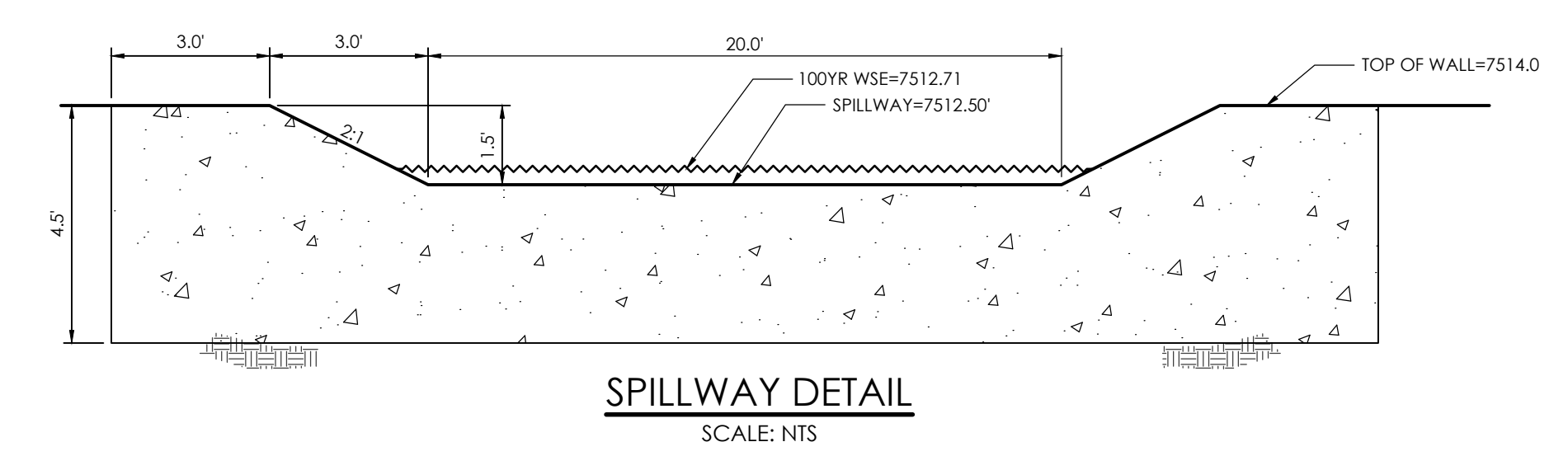
SANCTUARY OF PEACE
RESIDENTIAL COMMUNITY

GRADING & EROSION
CONTROL PLAN
POND PLAN (A1)

C-5 MVE PROJECT 61087
MVE DRAWING -GEC-PD1

SEPTEMBER 12, 2019
SHEET 5 OF 9

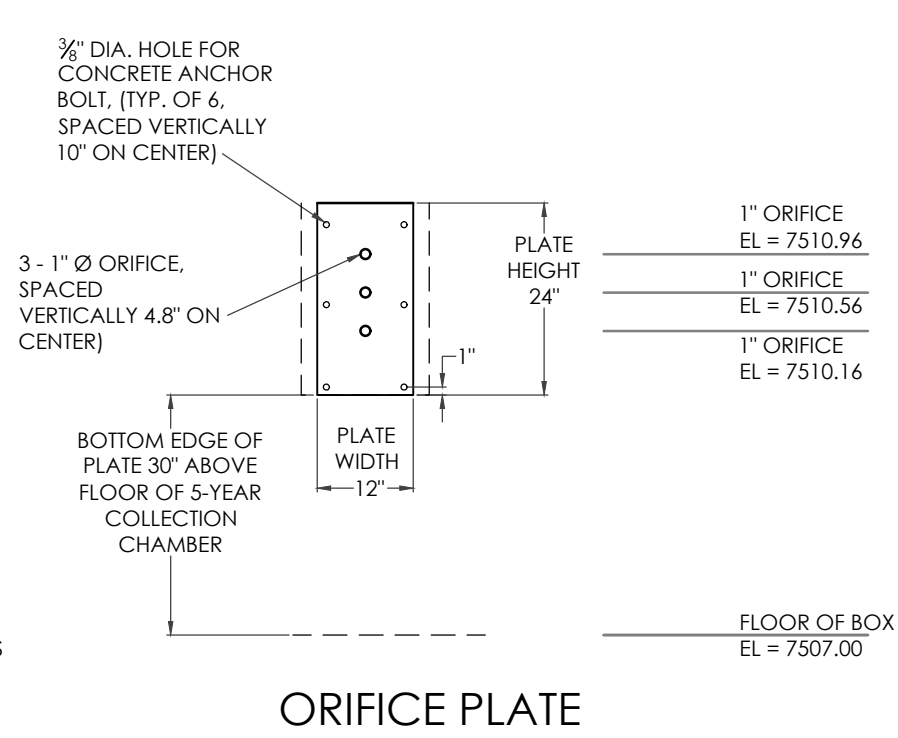
PUDSP-19-002



SPILLWAY DETAIL
SCALE: NTS

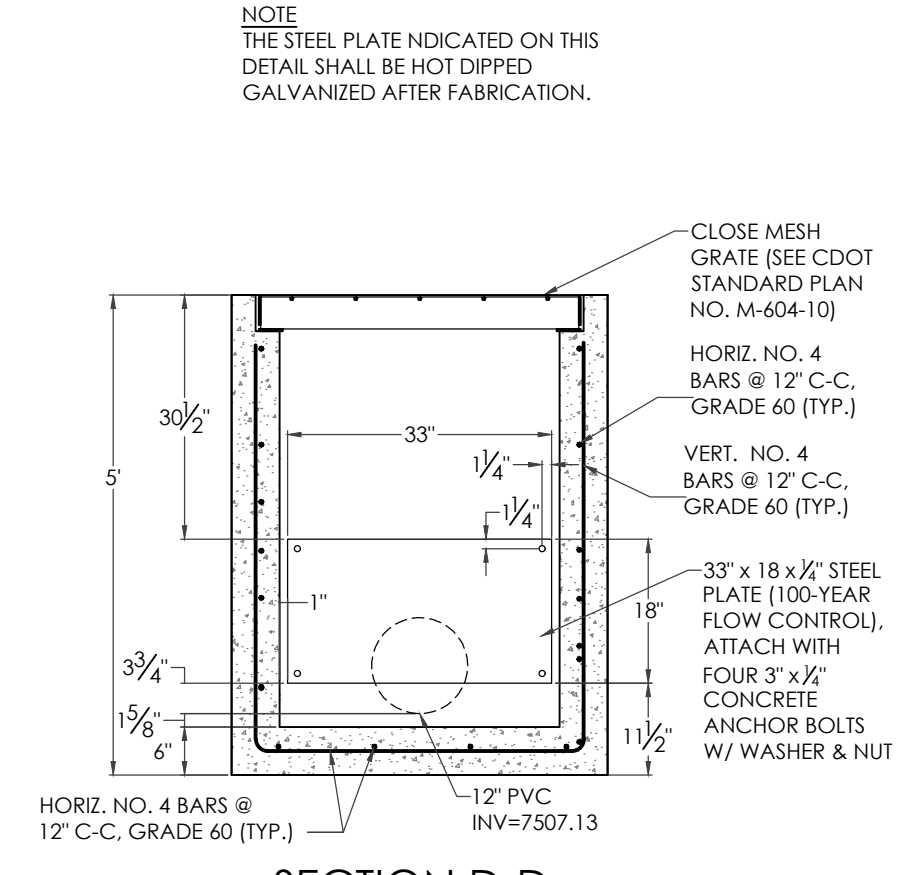
TABLE SF-2 (SLOTTED PIPE DIMENSIONS)

PIPE Ø	SLOT LENGTH	SLOT WIDTH	SLOT CENTERS	OPEN AREA (PER SF)
4"	1-1/16"	0.032"	0.413"	1.90 SQ. IN.

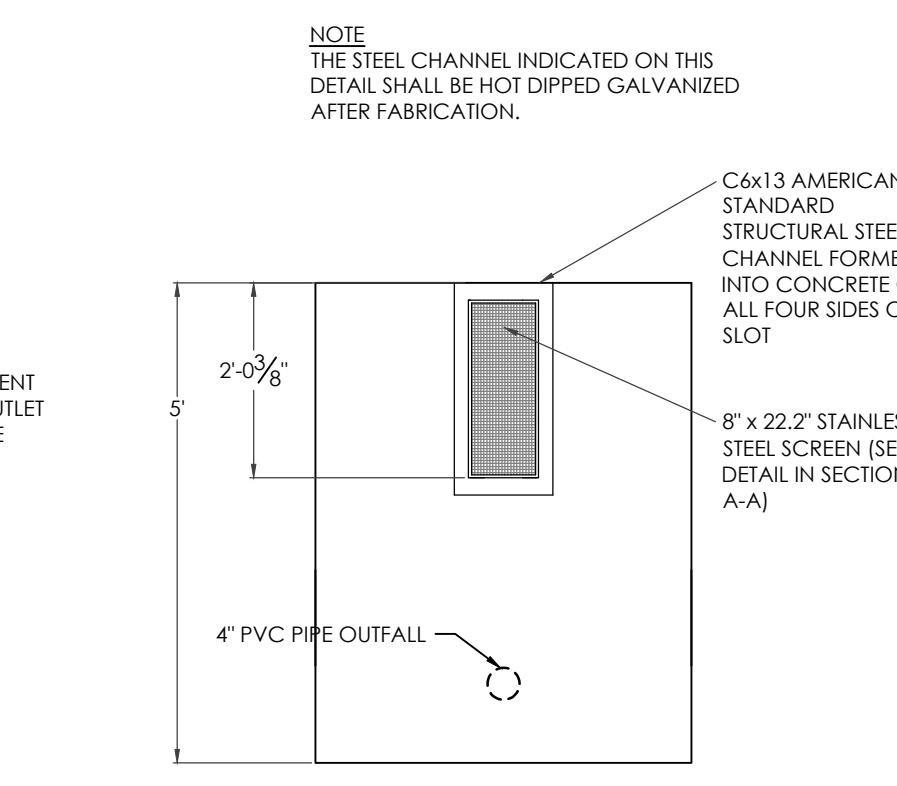


ORIFICE PLATE

- NOTES:
1. INSTALL NEOPRENE CLOSED CELL MEDIUM GASKETS WITH ADHESIVE ON ONE SIDE. 1/4" THICK x 2" WIDE BETWEEN ORIFICE PLATE AND STRUCTURE.
 2. ALL ORIFICE PLATES, STRUCTURAL STEEL CHANNEL AND CLOSE MESH GRATES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
 3. ALL ORIFICE PLATES SHALL BE MOUNTED WITH 3" x 1/2" STAINLESS STEEL CONCRETE ANCHOR BOLTS W/ WASHERS, AND NUTS AS SHOWN.



SECTION D-D

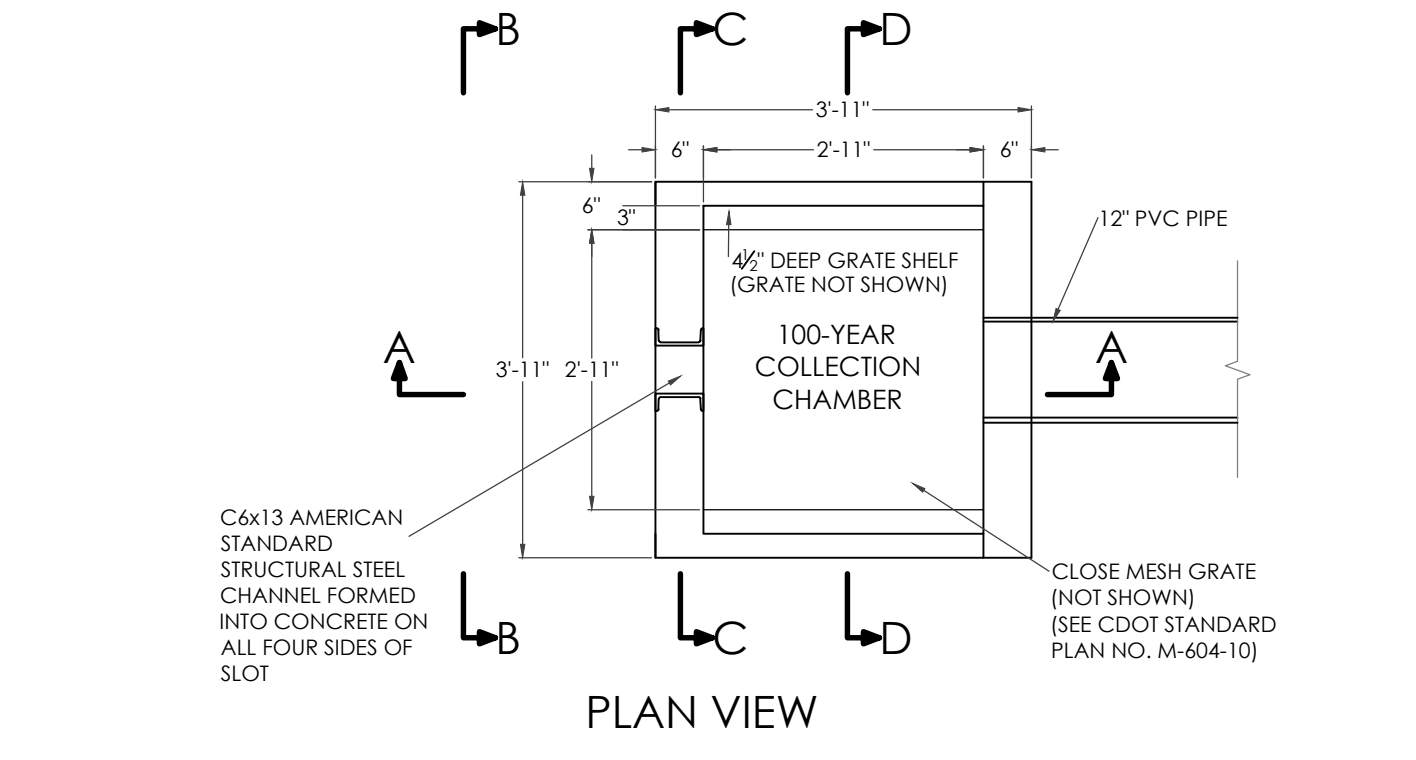


SECTION B-B

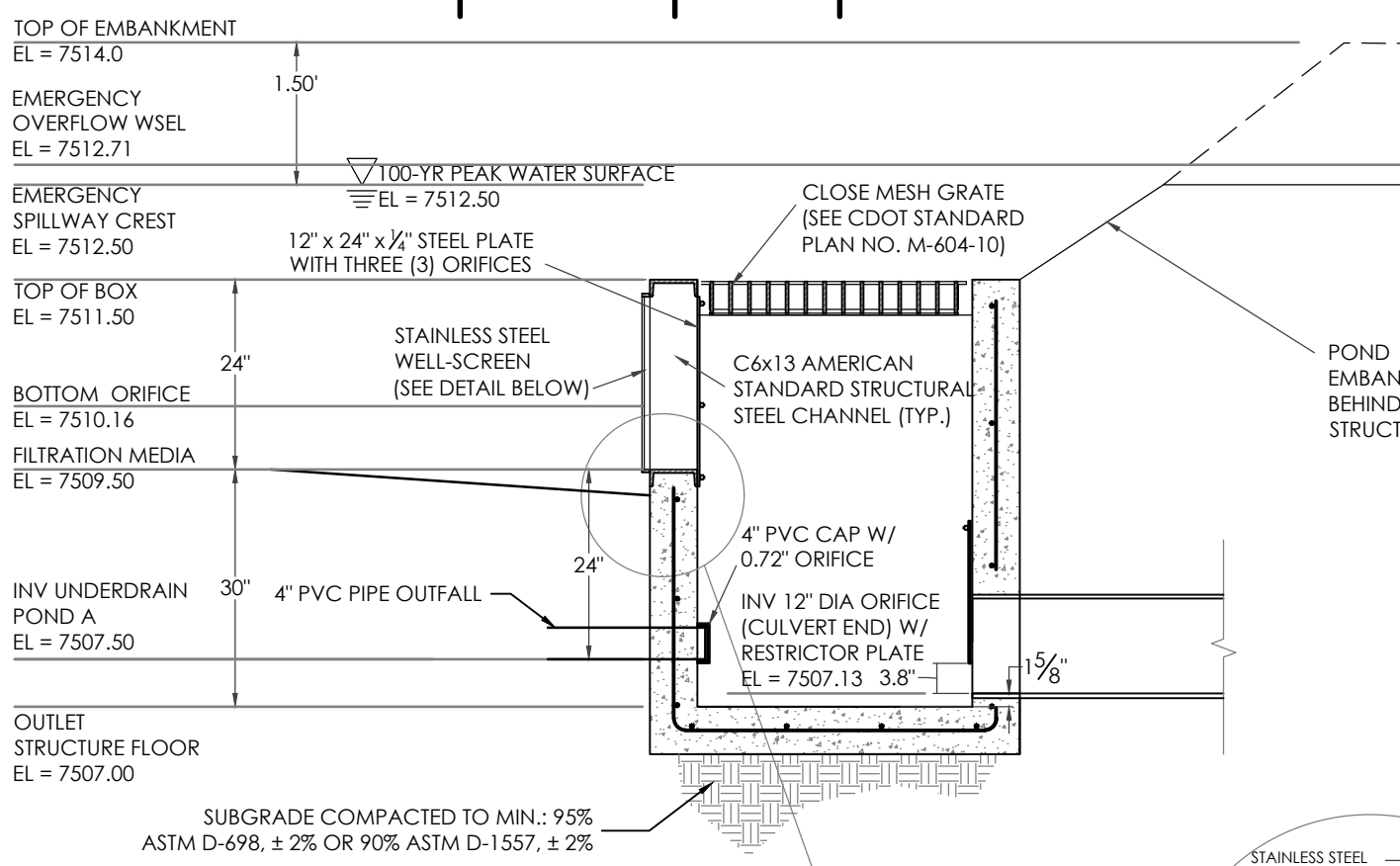
SECTION C-C

SAND FILTER BASIN OUTLET STRUCTURE DETAILS (POND A1)

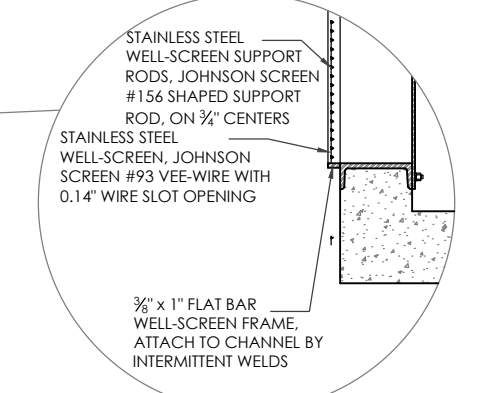
SCALE: 1" = 2"



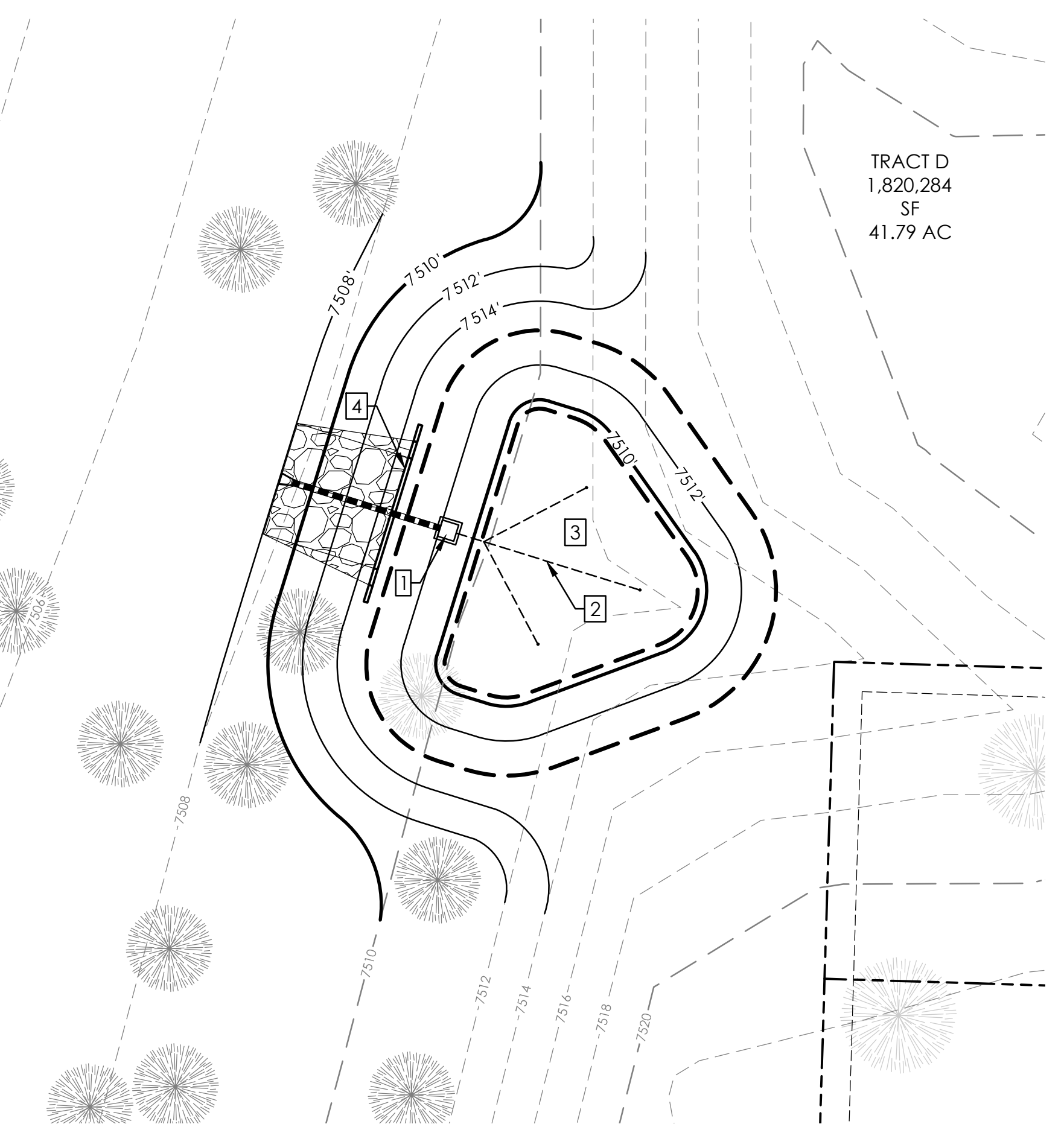
PLAN VIEW



SECTION A-A



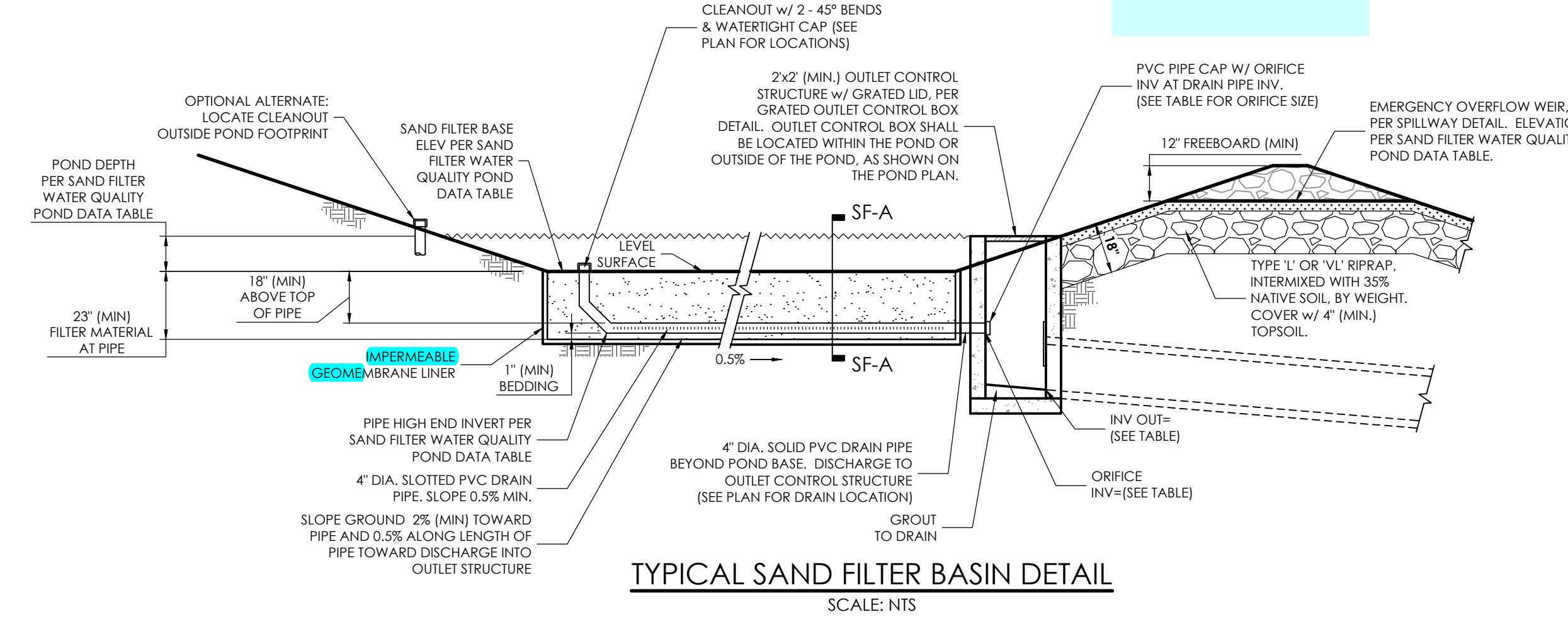
3x1" FLAT BAR WELL SCREEN FRAME ATTACH TO CHANNEL BY INTERMITTENT WELDS.



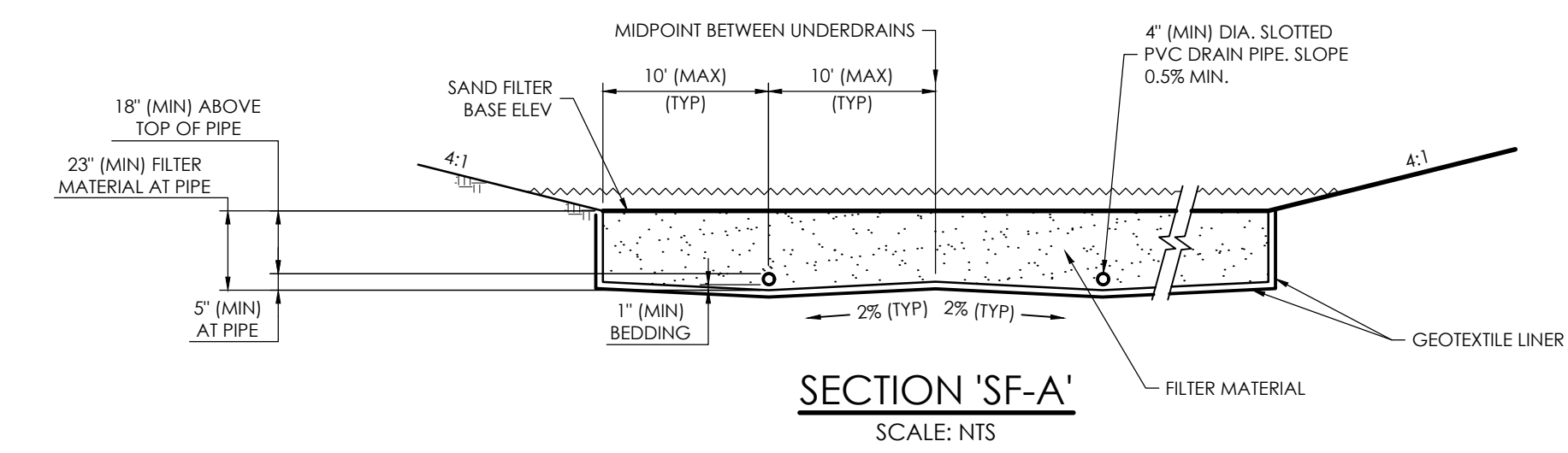
EXTENDED DETENTION SAND
FILTER BASIN DETAIL (POND A1)

SCALE: 1" = 20'

- NOTE LEGEND:
1. INSTALL OUTLET STRUCTURE (SEE OUTLET STRUCTURE DETAIL)
 2. INSTALL 4" PVC SLOTTED UNDERDRAIN (SEE DETAIL)
 3. SAND FILTER (SEE DETAIL).
 4. 20' WIDE EMERGENCY SPILLWAY (SEE SPILLWAY DETAIL)

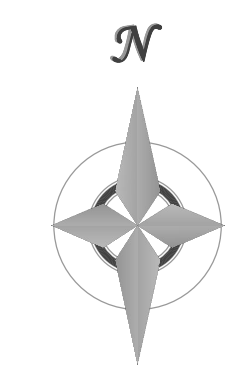


TYPICAL SAND FILTER BASIN DETAIL
SCALE: NTS

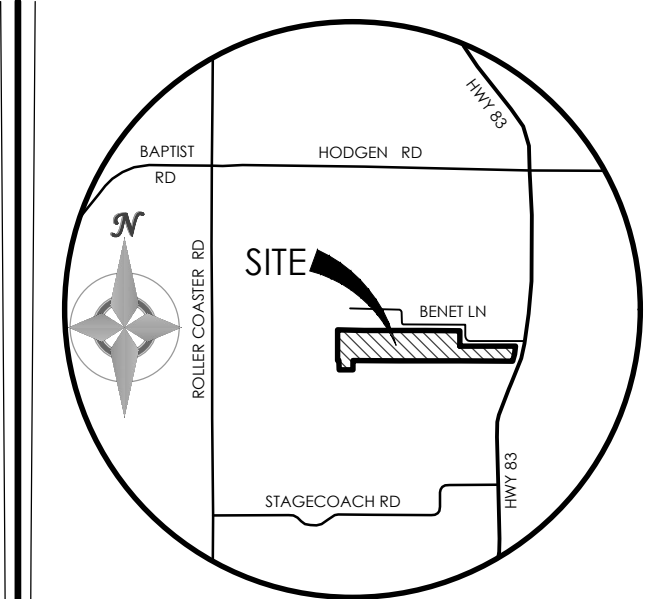


SECTION 'SF-A'
SCALE: NTS

There are two different callouts, permeable and impermeable.

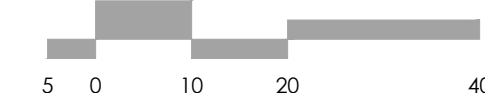
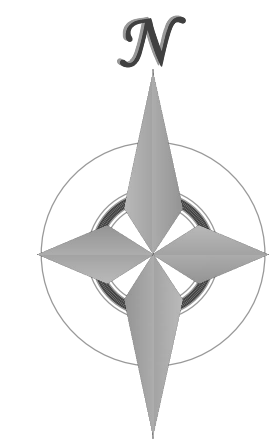


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VICINITY MAP
NOT TO SCALE

BENCHMARK
FOUND PROPERTY CORNER SOUTHWEST OF BENET LANE
WHERE BENET LANES TURNS NORTH (APPROX. 1200 FT FROM
HIGHWAY 83), ELEVATION = 7302.79'



1" = 20' 1:240



REVISIONS

DESIGNED BY _____
DRAWN BY _____
CHECKED BY _____
AS-BUILTS BY _____
CHECKED BY _____

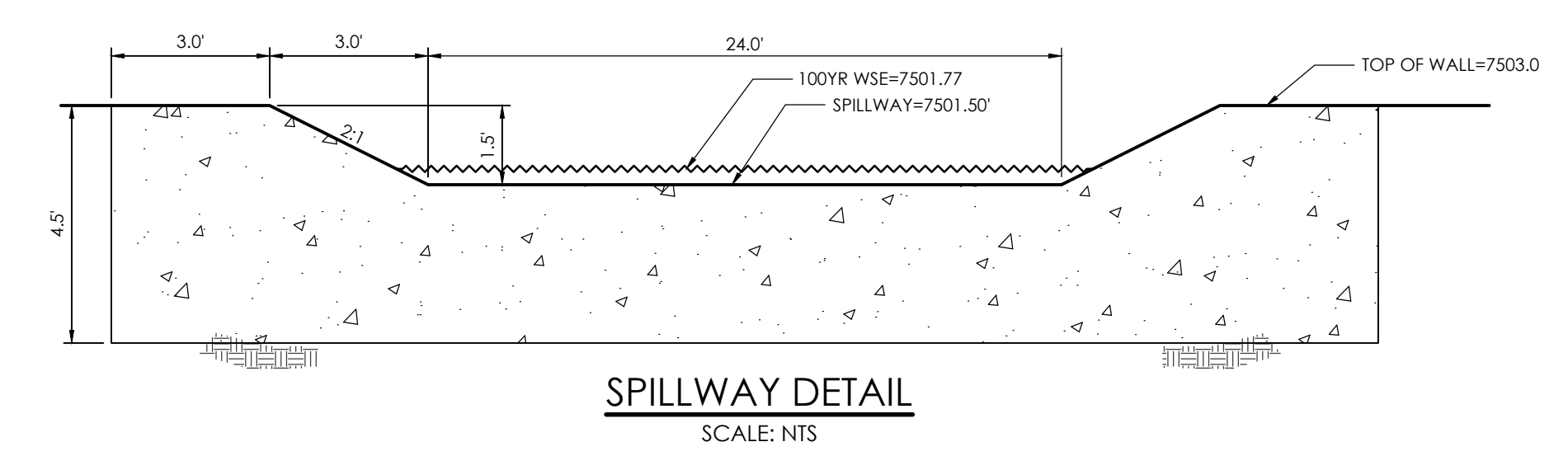
SANCTUARY OF PEACE
RESIDENTIAL COMMUNITY

GRADING & EROSION
CONTROL PLAN
POND PLAN (C1)

C-6 MVE PROJECT 61087
MVE DRAWING -GEC-PD2

SEPTEMBER 12, 2019
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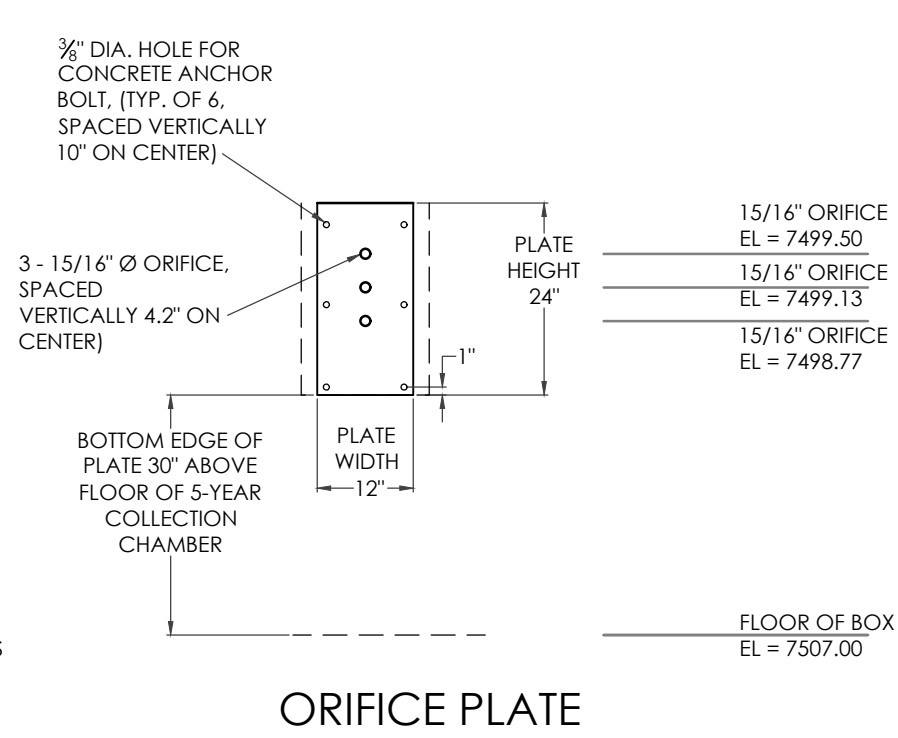
PUDSP-19-002



SPILLWAY DETAIL
SCALE: NTS

TABLE SF-2 (SLOTTED PIPE DIMENSIONS)

PIPE Ø	SLOT LENGTH	SLOT WIDTH	SLOT CENTERS	OPEN AREA (PER SF)
4"	1-1/16"	0.032"	0.413"	1.90 SQ. IN.



ORIFICE PLATE

SOIL MATERIAL GRADATION TABLE
(SOURCE: USDCD BOKSTATION; RGS TABLE 9-1 & SAND FILTER BASIN (SF) TABLE SF-1)

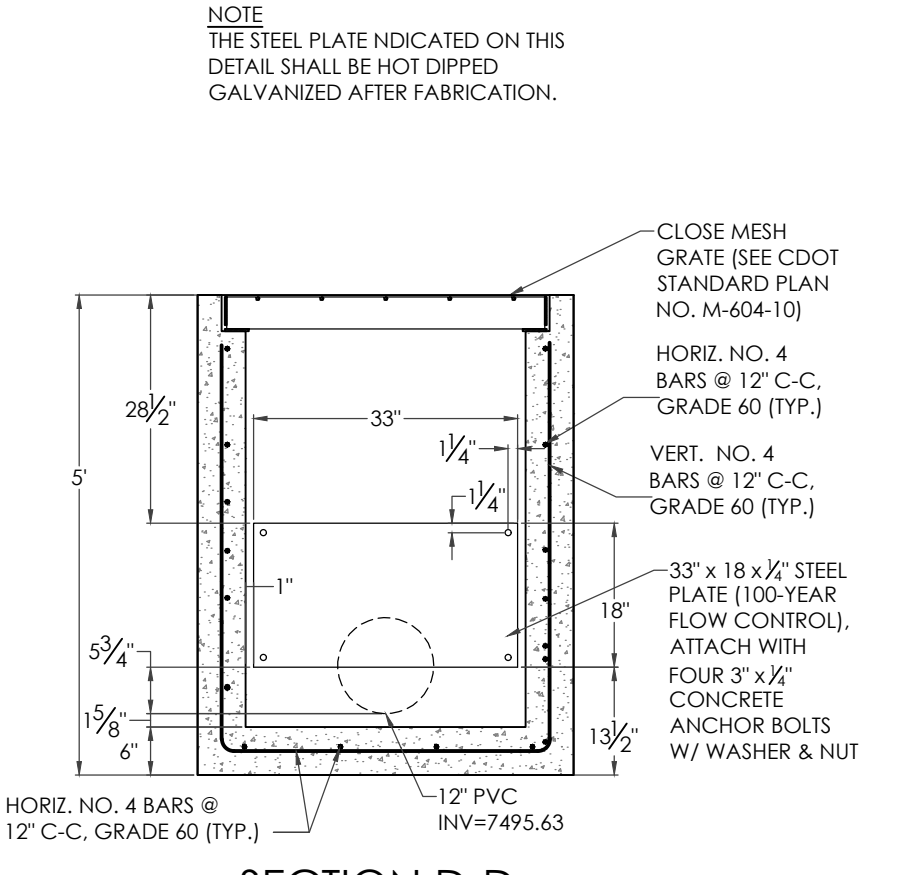
STANDARD SIEVE SIZE	% PASSING		
	GROWING MEDIA ⁽¹⁾⁽²⁾	FILTER MATERIAL ⁽³⁾	
		CLASS B	CLASS C
1-1/2"	100	100	100
3/4"	100	20-60	60-100
NO. 10	85-100	10-30	10-30
NO. 50		10-30	0-10
NO. 100		80-90	3-17
NO. 200			
NO. 250			

⁽¹⁾ RAIN GARDEN ONLY
⁽²⁾ LESS THAN 1.5% ORGANIC MATERIAL
⁽³⁾ APPLIES TO BOTH SAND FILTER BASIN AND RAIN GARDEN

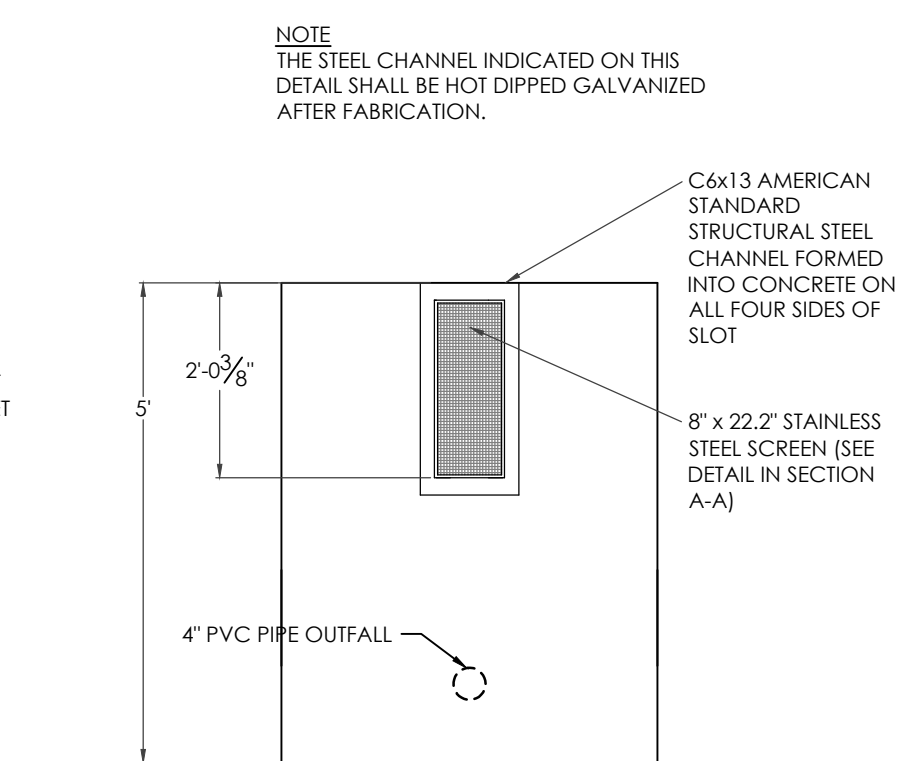
SAND FILTER SPECIFICATIONS, NOTES & REFERENCES:
REFERENCE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT (UDFCD), URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3, SECTION 1-4, FOR FULL SET OF SAND FILTER DETAILS AND SPECIFICATIONS AS IDENTIFIED.
- **FILTER MATERIAL** - CLASS B or CLASS C FILTER MATERIAL, PER SOIL MATERIAL GRADATION TABLE SF-3.
- **PERMEABLE GEOTEXTILE SEPARATOR FABRIC** - TENCATE MIRAFI 170N, OR EQUAL, PER UDFCD TABLE SF-3.
- **CONCENTRATED INFLOW** - PER CONCENTRATED INFLOW DETAIL.
- **SLOTTED PIPE** - CONTECH A-2000, OR EQUAL, PER PIPE SPECIFICATION TABLE.

BASIN DATA TABLE

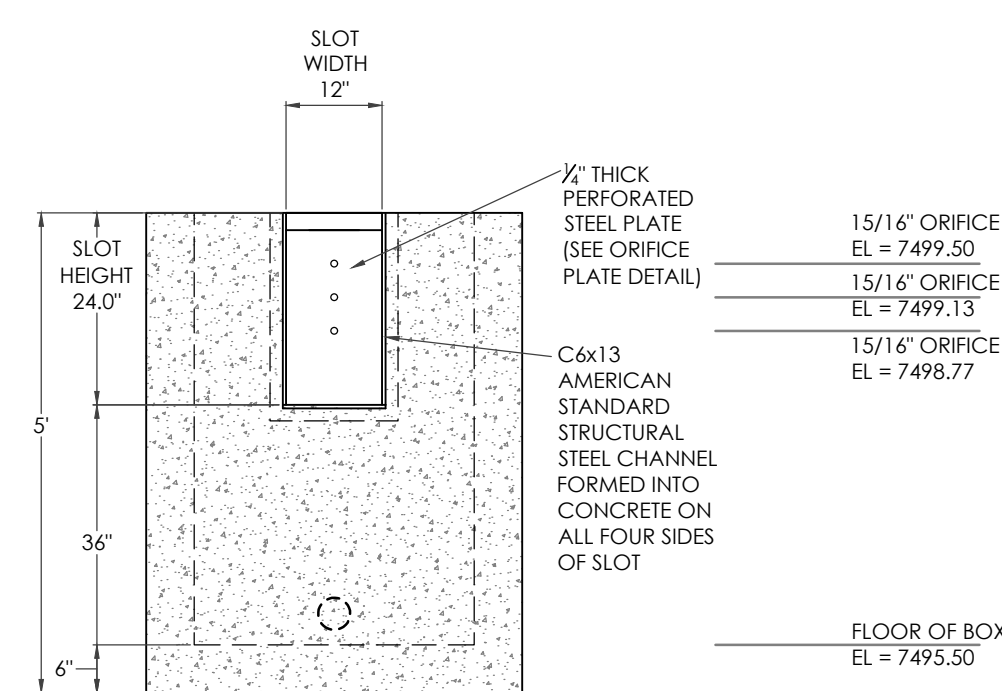
SAND FILTER BASIN	BASE AREA (SQ. FEET)	FILTER BASIN VOLUME (FT ³)	FILTER BASIN BTM/INV IN ELEV	POND DEPTH (FT)	TOP OF BOX ELEVATION (W.S.)	OUTLET ORIFICE INV	OUTLET ORIFICE DIAMETER (IN)	INV OUT ELEV	RESTRICTOR PLATE HEIGHT (FT)
POND C1	1,843	10,563	7498.0	3.5	7500.0	7496.0	1"	7495.63	5.8"



SECTION D-D

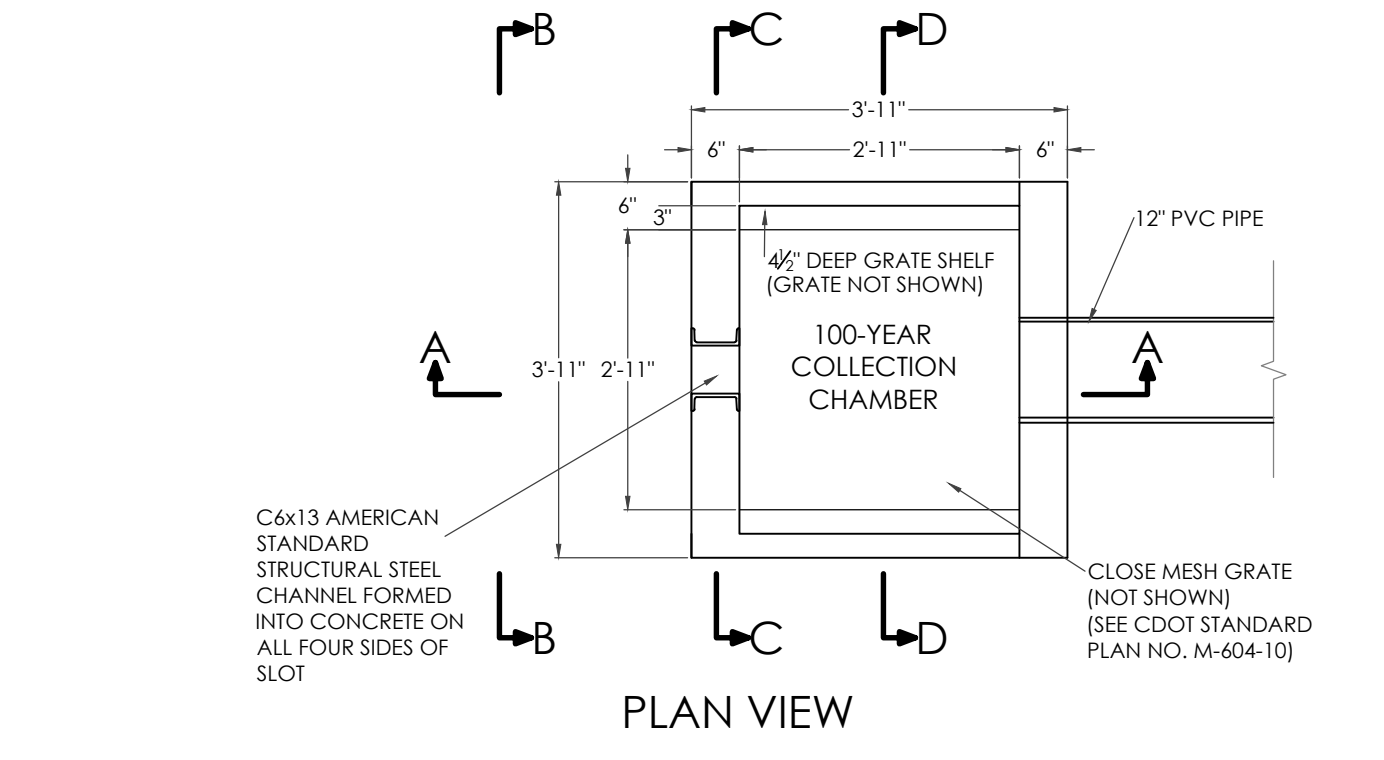


SECTION B-B

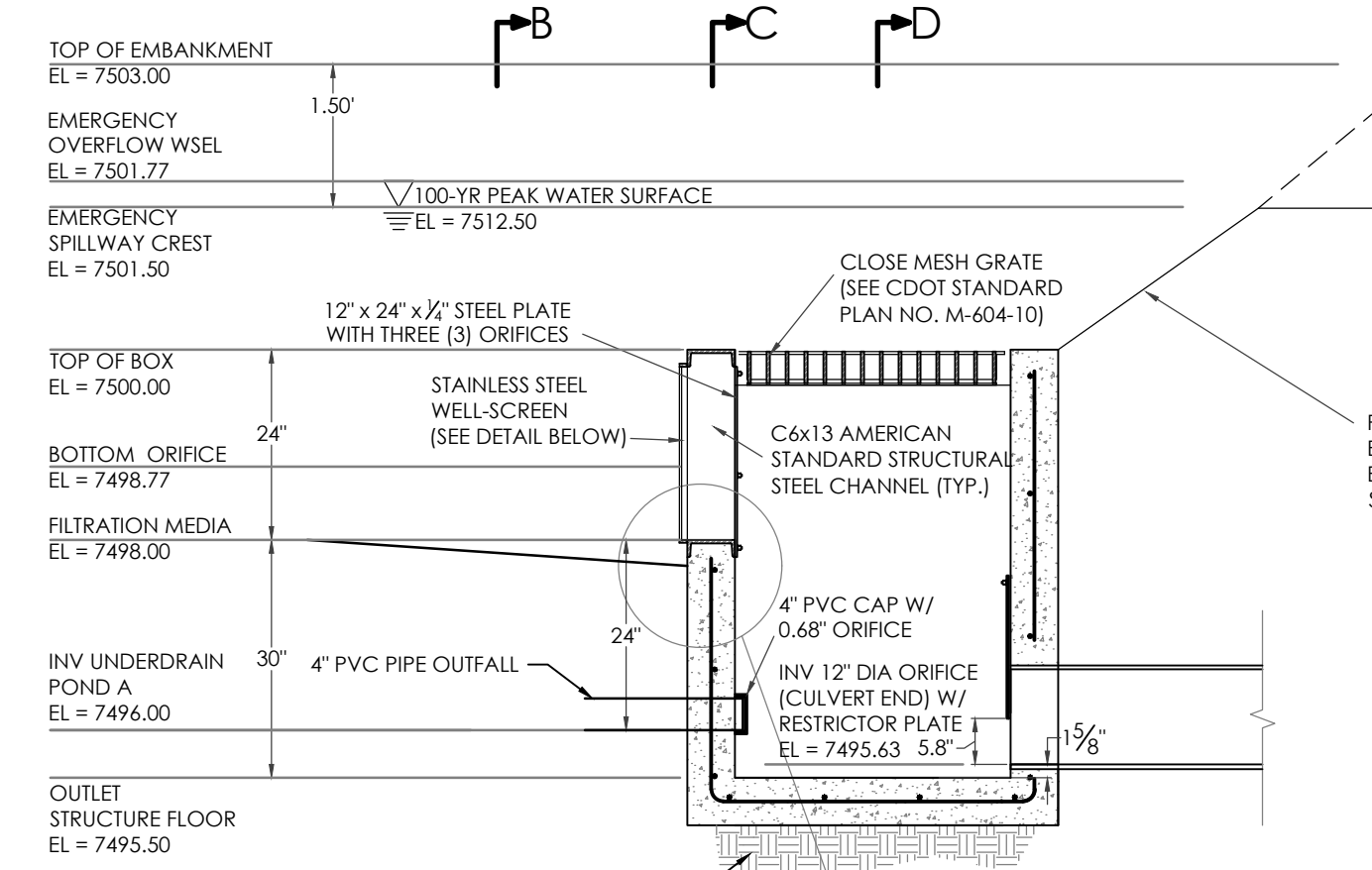


SECTION C-C

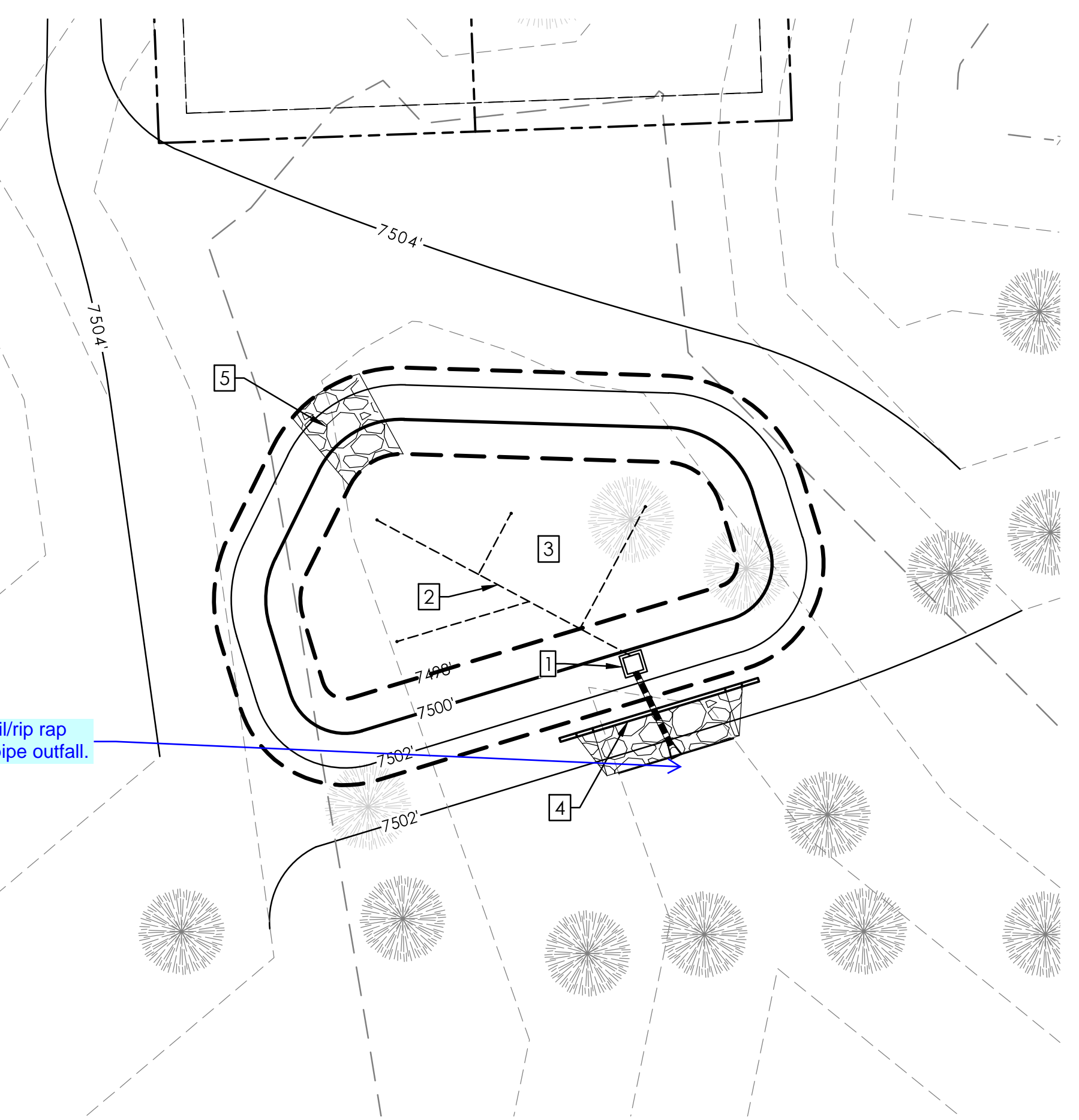
SAND FILTER BASIN OUTLET STRUCTURE DETAILS (POND C1)
SCALE: 1" = 2'



PLAN VIEW

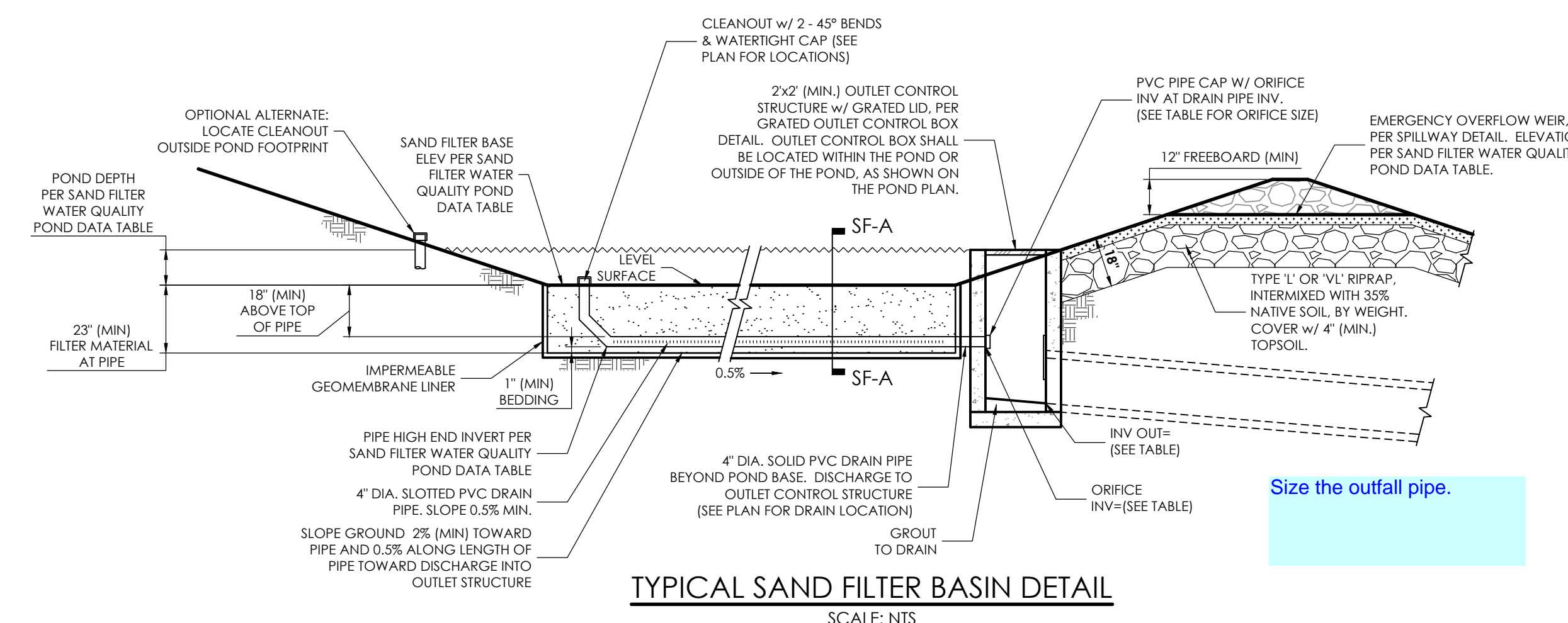


SECTION A-A

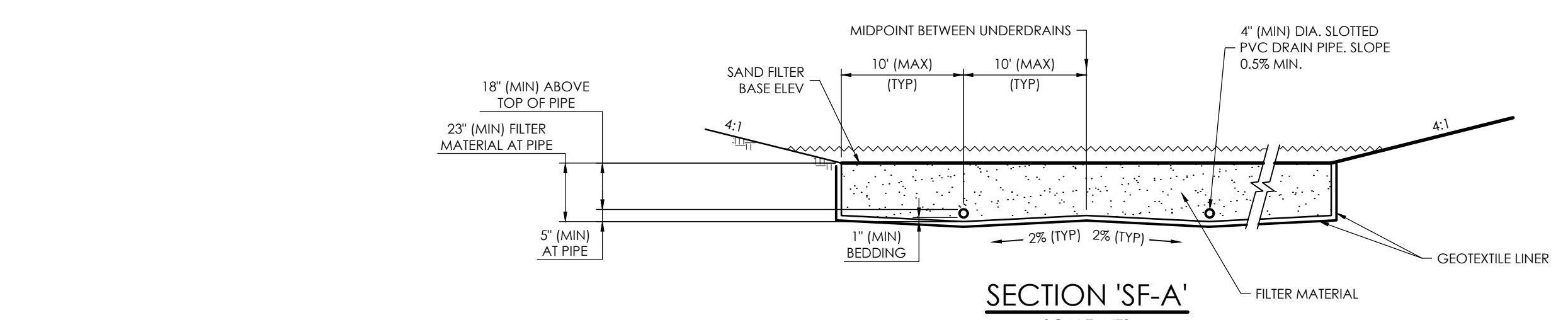


EXTENDED DETENTION SAND FILTER BASIN DETAIL (POND C1)
SCALE: 1" = 20'

- NOTE LEGEND:
- INSTALL OUTLET STRUCTURE (SEE OUTLET STRUCTURE DETAIL)
 - INSTALL 4" PVC SLOTTED UNDERDRAIN (SEE DETAIL)
 - SAIND FILTER (SEE DETAIL).
 - 24" WIDE EMERGENCY SPILLWAY (SEE SPILLWAY DETAIL)
 - INSTALL 14" WIDE TYPE VL SOIL RIPRAP 18" THICK



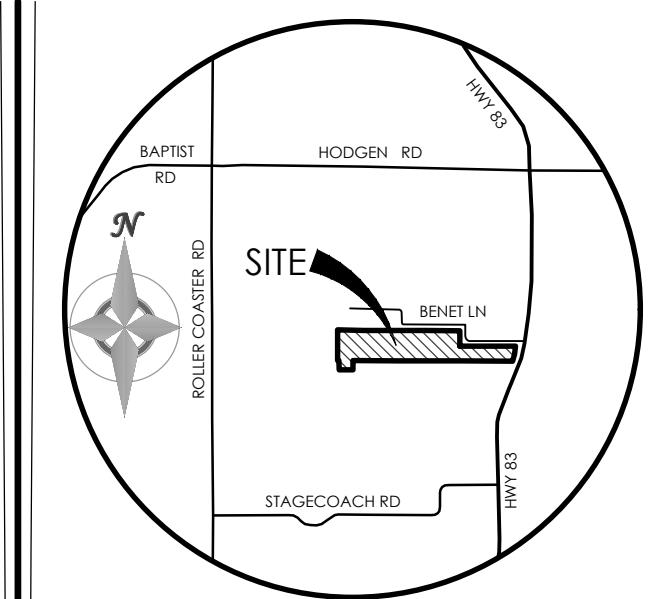
TYPICAL SAND FILTER BASIN DETAIL
SCALE: NTS



SECTION 'SF-A'
SCALE: NTS

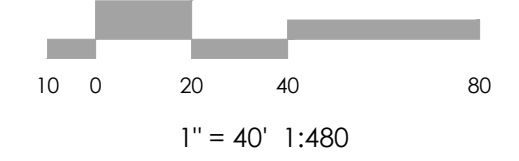
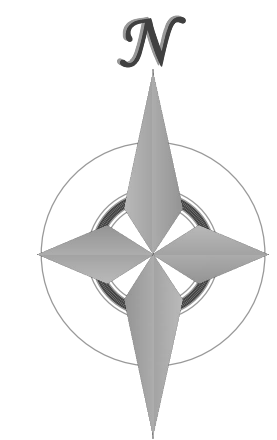
See sheet 5 for comments

provide a soil/rip rap pad for the pipe outfall.



VICINITY MAP
NOT TO SCALE

BENCHMARK
FOUND PROPERTY CORNER SOUTHWEST OF BENET LANE
WHERE BENET LANES TURNS NORTH (APPROX. 1200 FT FROM
HIGHWAY 83), ELEVATION = 7302.79'



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1903 Library Street, Suite 200 Colorado Springs, CO 80909 719.635.5736

REVISIONS

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DRAWN BY _____
CHECKED BY _____
AS-BUILTS BY _____
CHECKED BY _____

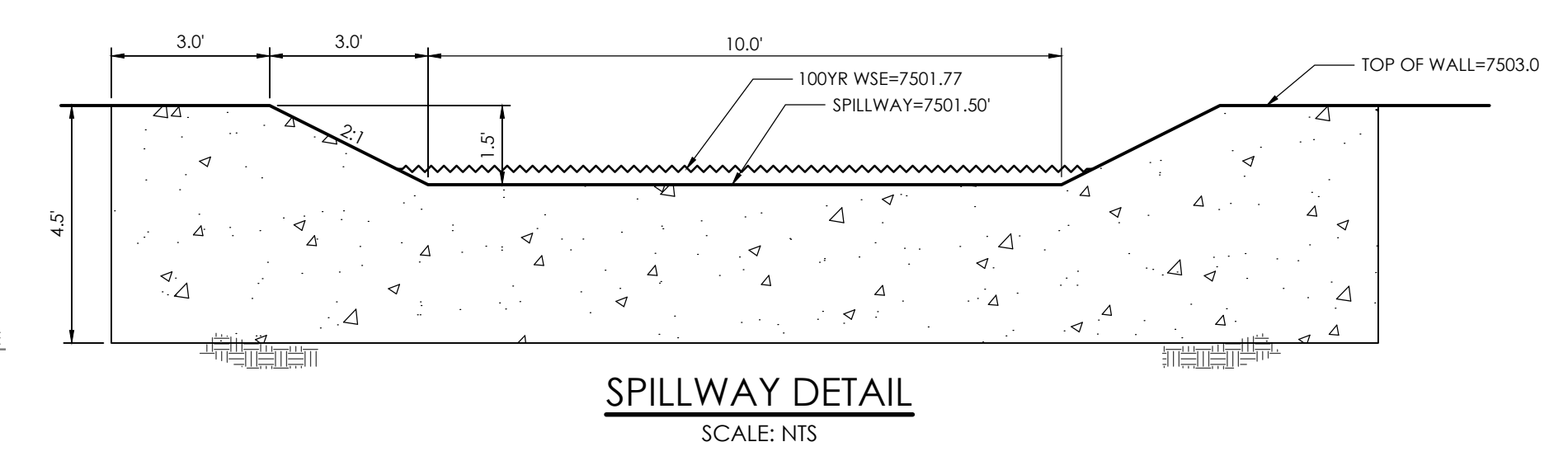
SANCTUARY OF PEACE
RESIDENTIAL COMMUNITY

GRADING & EROSION
CONTROL PLAN
POND PLAN (C2)

C-7 MVE PROJECT 61087
MVE DRAWING -GEC-PD3

SEPTEMBER 12, 2019
SHEET 7 OF 9

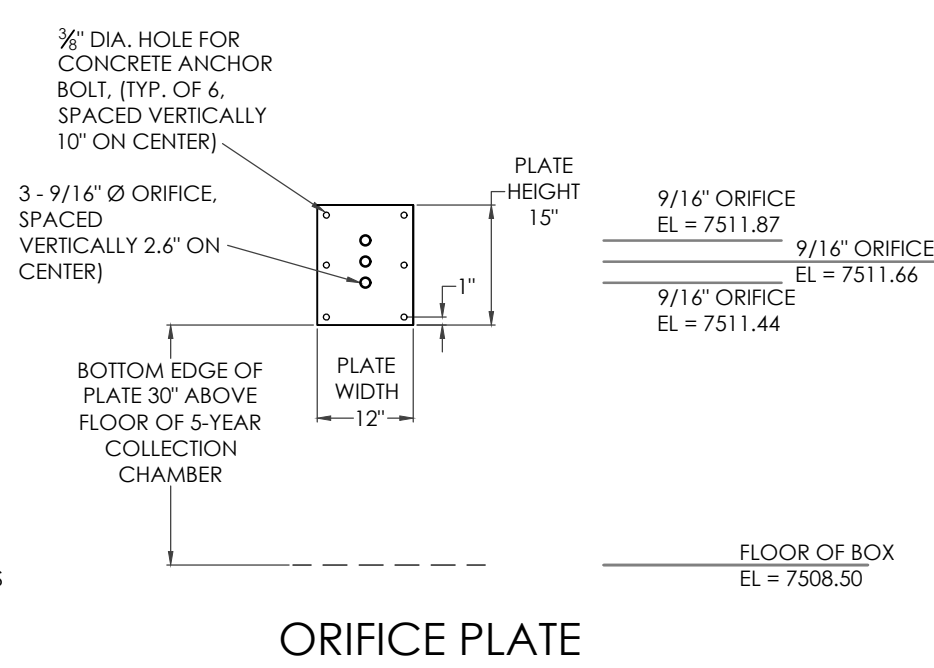
PUDSP-19-002



SPILLWAY DETAIL
SCALE: NTS

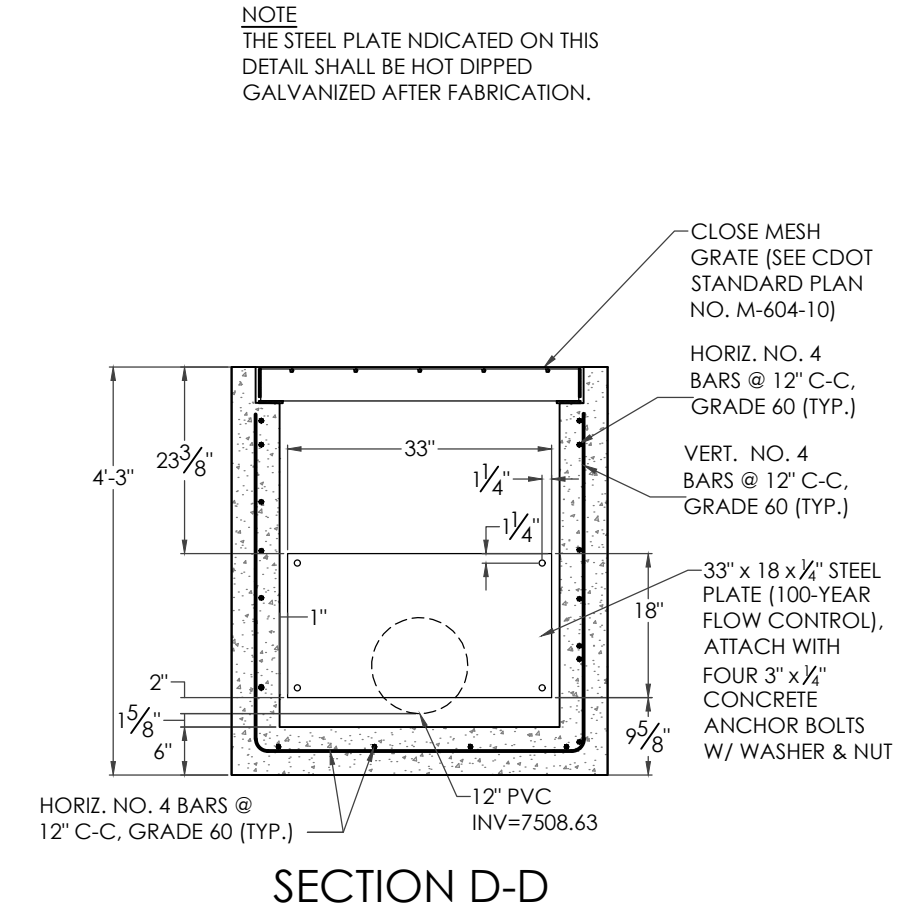
TABLE SF-2 (SLOTTED PIPE DIMENSIONS)

PIPE Ø	SLOT LENGTH	SLOT WIDTH	SLOT CENTERS	OPEN AREA (PER SF)
4"	1-1/16"	0.032"	0.413"	1.90 SQ. IN.

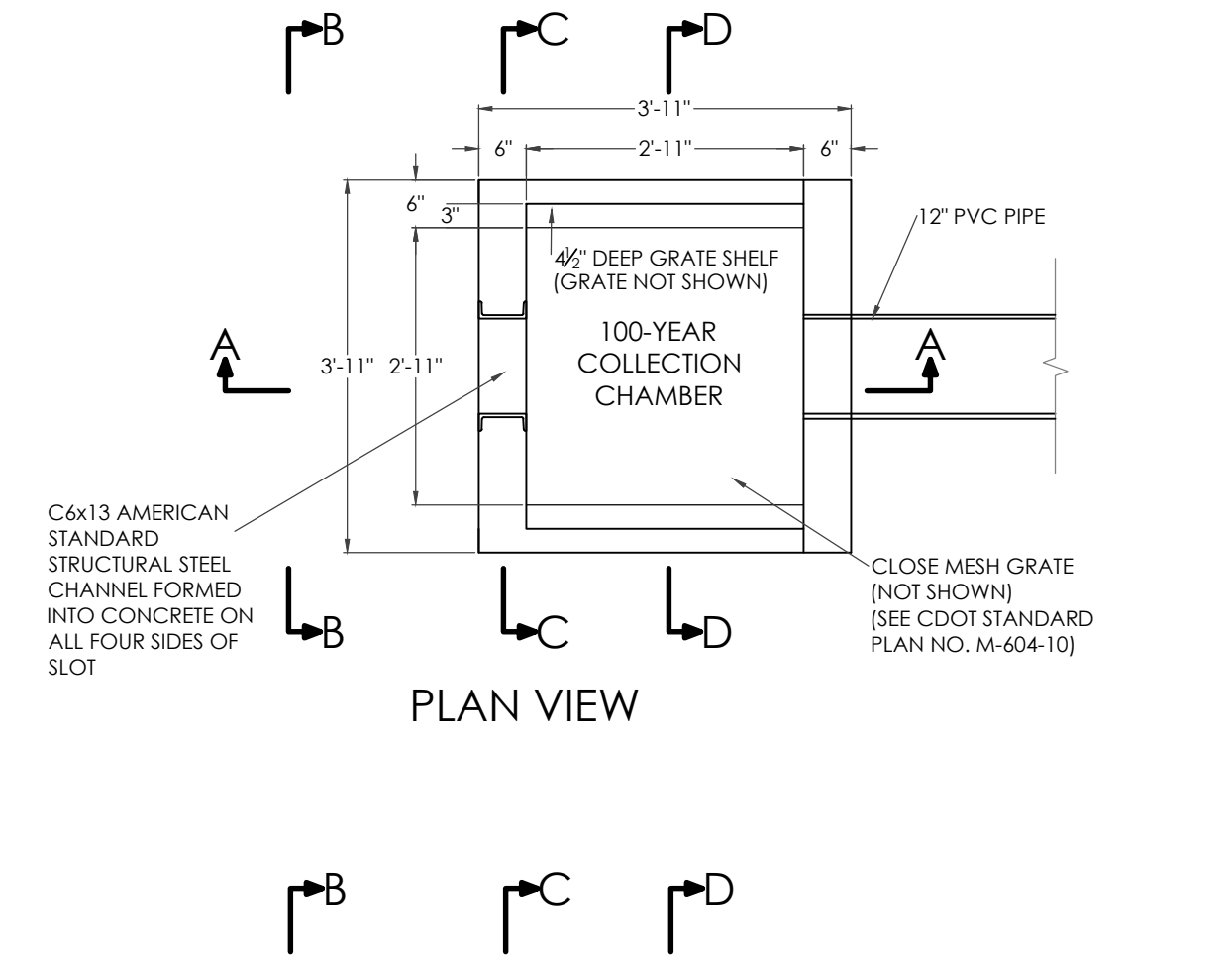


ORIFICE PLATE

NOTES:
1. INSTALL NEOPRENE CLOSED CELL MEDIUM GASKETS WITH ADHESIVE ON ONE SIDE. 1/4" THICK x 2" WIDE BETWEEN ORIFICE PLATE AND STRUCTURE.
2. ALL ORIFICE PLATES, STRUCTURAL STEEL CHANNEL AND CLOSE MESH GRATES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
3. ALL ORIFICE PLATES SHALL BE MOUNTED WITH 3" x 1/2" STAINLESS STEEL CONCRETE ANCHOR BOLTS W/ WASHERS, AND NUTS AS SHOWN.



SECTION D-D



PLAN VIEW

SOIL MATERIAL GRADATION TABLE
(SOURCE: USDCD BOKREINING; RGS TABLE 9-1 & SAND FILTER BASIN (SF) TABLE SF-1)

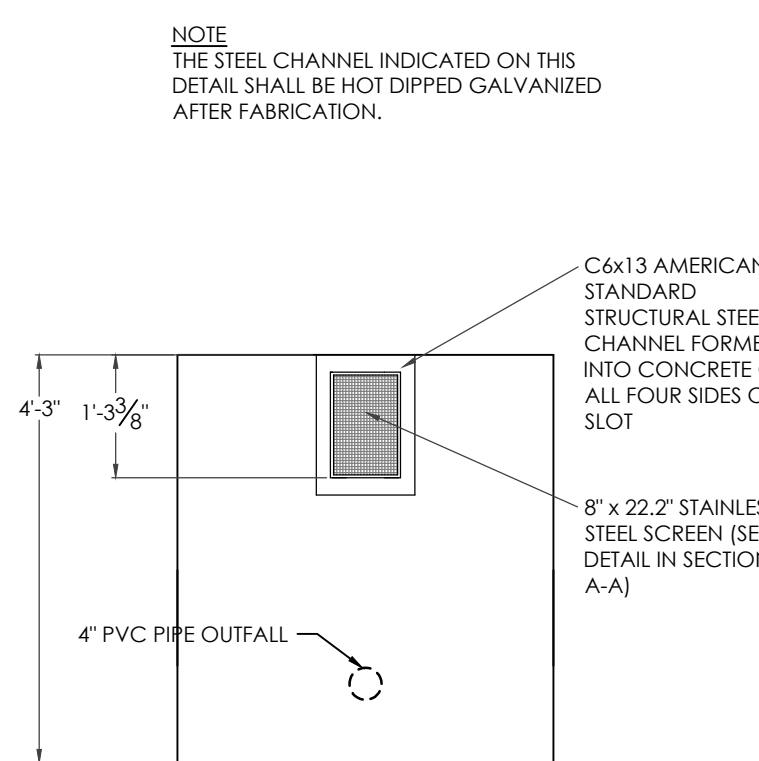
STANDARD SIEVE SIZE	% PASSING		
	GROWING MEDIA ⁽¹⁾⁽²⁾	CLASS B	CLASS C
1-1/2"	100	100	100
3/4"	100	20-60	60-100
NO. 10	85-100	10-30	10-30
NO. 50		0-3	0-3
NO. 100	80-90		
NO. 200	3-17		

⁽¹⁾RAIN GARDEN ONLY
⁽²⁾LESS THAN 1.5% ORGANIC MATERIAL
⁽³⁾APPLIES TO BOTH SAND FILTER BASIN AND RAIN GARDEN

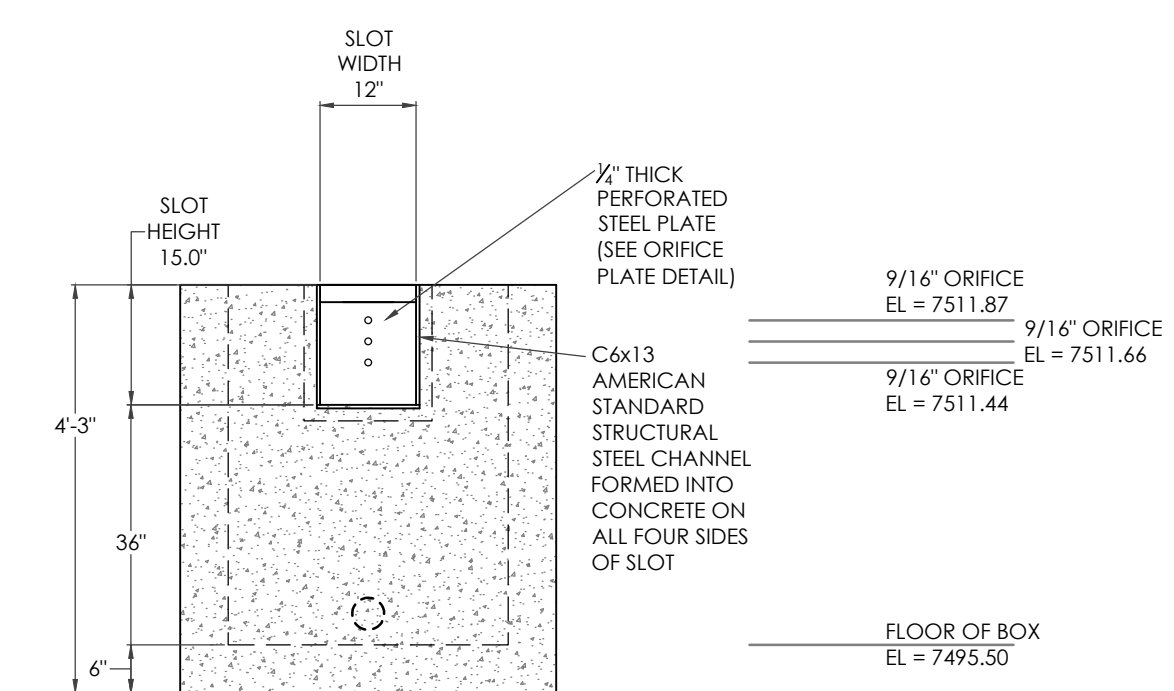
SAND FILTER SPECIFICATIONS, NOTES & REFERENCES:
REFERENCE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT (UDFCD), URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3, SECTION 1-4, FOR FULL SET OF SAND FILTER DETAILS AND SPECIFICATIONS AS IDENTIFIED.
- **FILTER MATERIAL** - CLASS B or CLASS C FILTER MATERIAL, PER SOIL MATERIAL GRADATION TABLE SF-3.
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- **CONCENTRATED INFLOW** - PER CONCENTRATED INFLOW DETAIL.
- **SLOTTED PIPE** - CONTECH A-2000, OR EQUAL, PER PIPE SPECIFICATION TABLE.

BASIN DATA TABLE

SAND FILTER BASIN	BASE AREA (SQUARE FEET)	FILTER BASIN VOLUME (FT ³)	FILTER BASIN BTM/INV IN ELEV	POND DEPTH (FT)	TOP OF BOX ELEVATION (W.S.)	OUTLET ORIFICE INV	OUTLET ORIFICE DIAMETER (IN)	INV OUT ELEV	RESTRICTOR PLATE HEIGHT (FT)
POND C2	546	1,783	7511.0	2.0	7512.25	7509.0	.38"	7509.63	2.0"



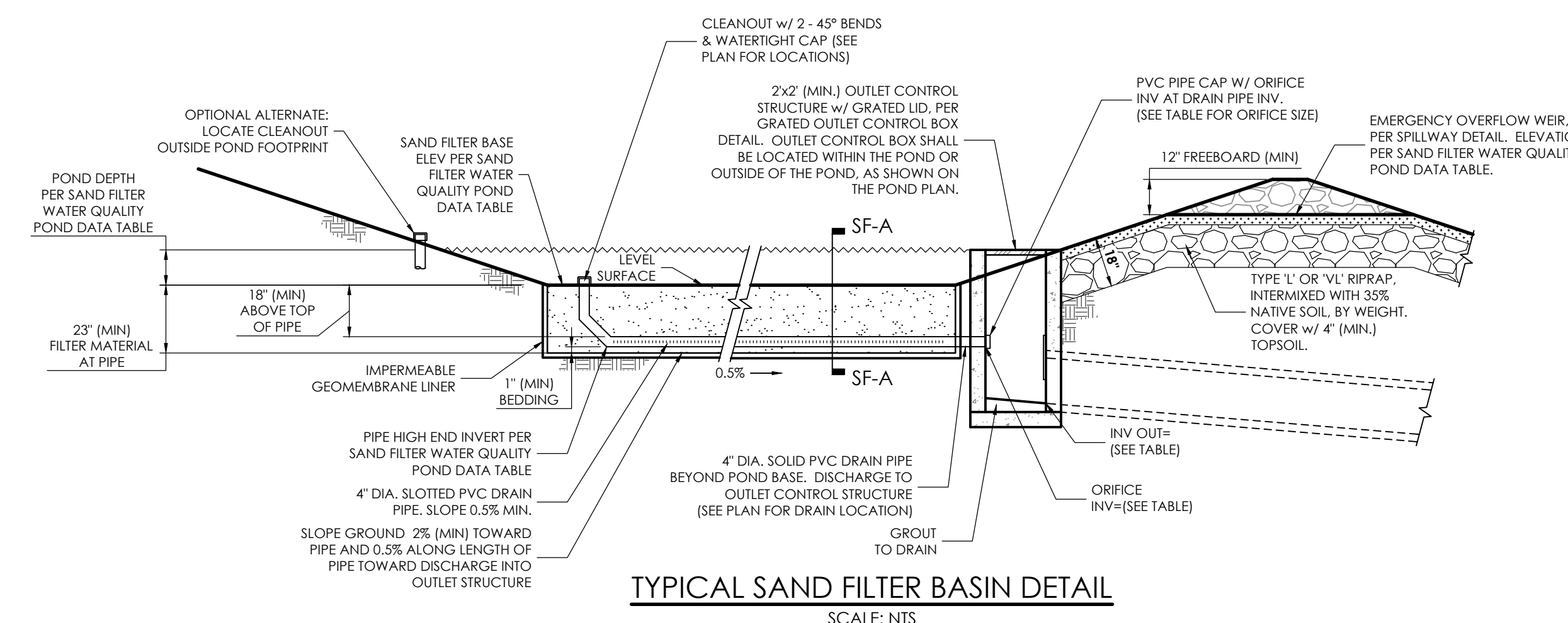
SECTION B-B



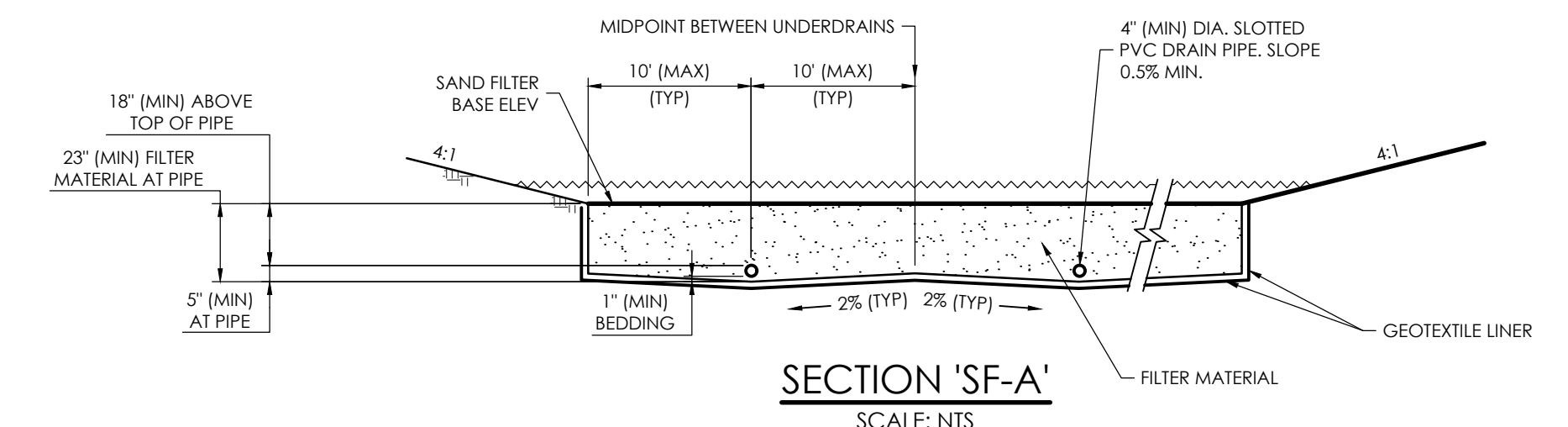
SECTION C-C

SAND FILTER BASIN OUTLET STRUCTURE DETAILS (POND C2)

SCALE: 1" = 2"

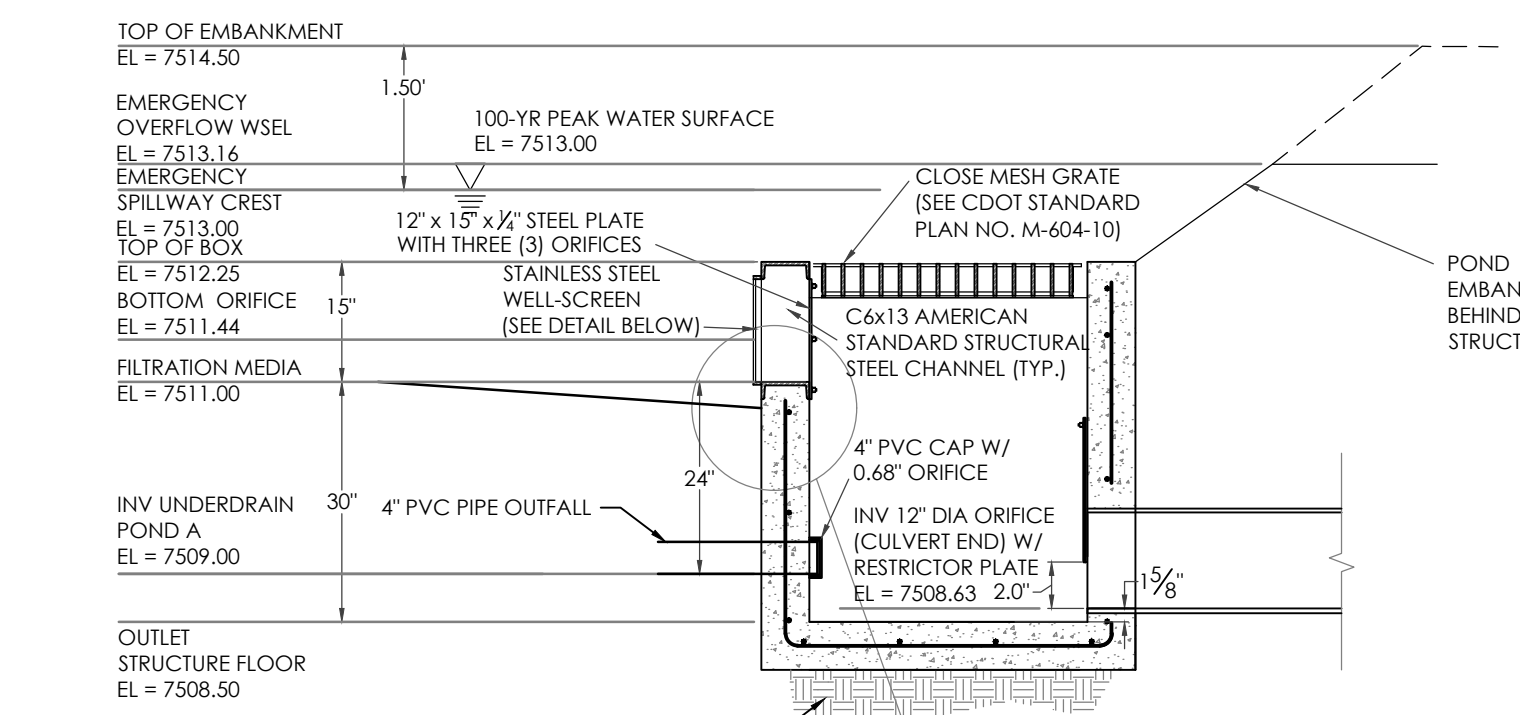


TYPICAL SAND FILTER BASIN DETAIL
SCALE: NTS

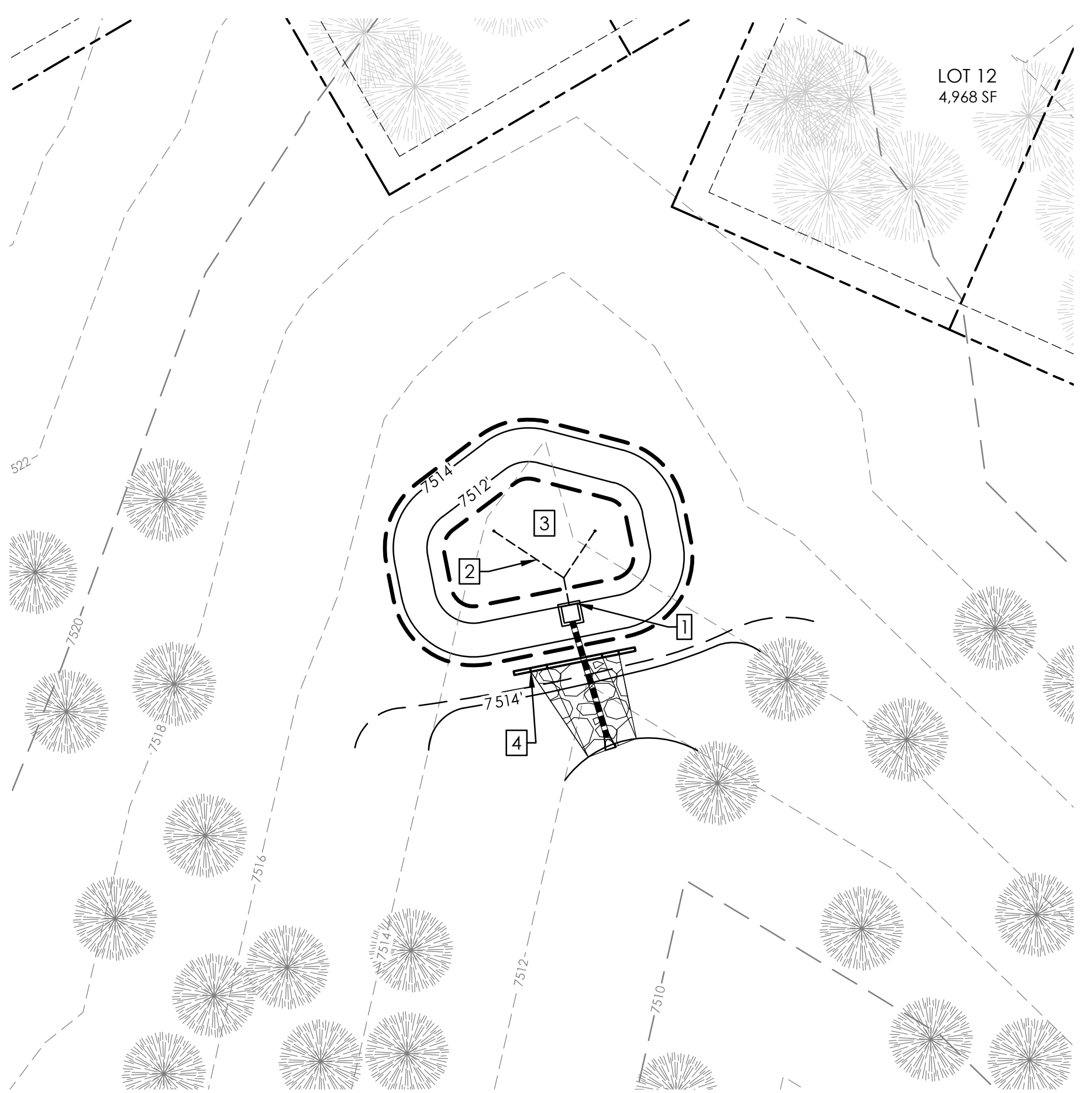
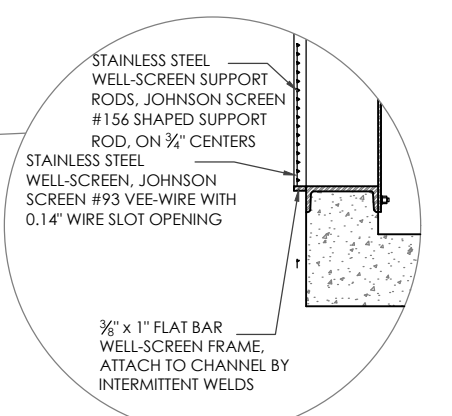


SECTION 'SF-A'
SCALE: NTS

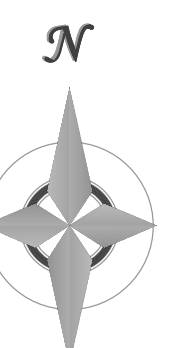
See sheet 5 for comments



SECTION A-A



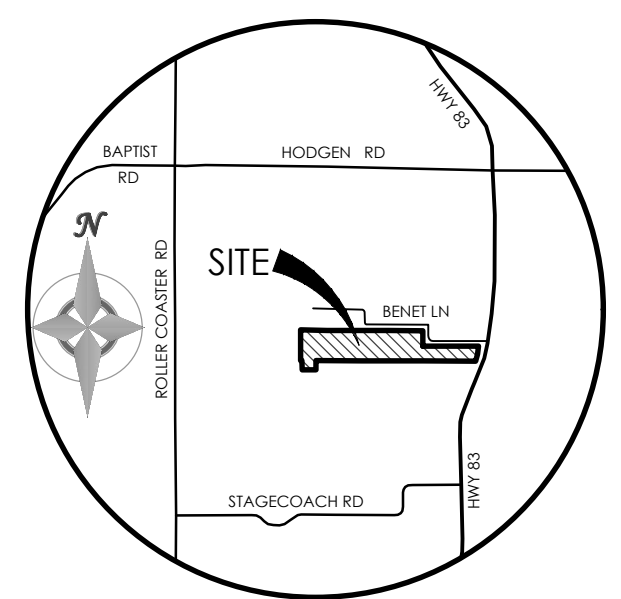
EXTENDED DETENTION SAND
FILTER BASIN DETAIL (POND C2)



SCALE: 1" = 20"

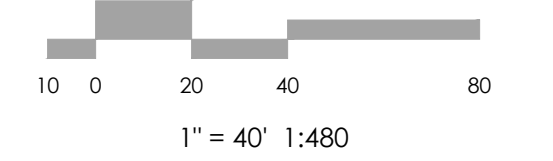
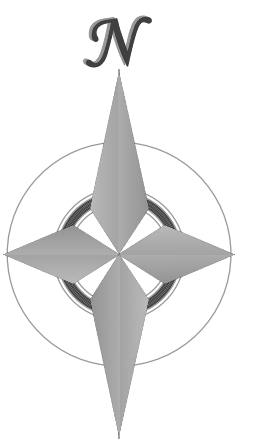
- NOTE LEGEND:
1. INSTALL OUTLET STRUCTURE (SEE OUTLET STRUCTURE DETAIL)
 2. INSTALL 4" PVC SLOTTED UNDERDRAIN (SEE DETAIL)
 3. SAND FILTER (SEE DETAIL).
 4. 10' WIDE EMERGENCY SPILLWAY (SEE SPILLWAY DETAIL)

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VICINITY MAP
NOT TO SCALE

BENCHMARK



1" = 40' 1:480

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AS-BUILTS BY _____
CHECKED BY _____

**SANCTUARY OF PEACE
RESIDENTIAL COMMUNITY**

**GRADING & EROSION
CONTROL PLAN
EROSION CONTROL**

C-8 MVE PROJECT 61087
-GEC-EC MVE DRAWING

SEPTEMBER 12, 2019
SHEET 8 OF 9

PUDSP-19-002

BMP LEGEND

MAP SYMBOL	KEY	DESCRIPTION
	ED/DS	EARTH DIKE / DRAINAGE SWALE (FINAL)
	SF	SILT FENCE (INITIAL)
	SCL	SEDIMENT CONTROL LOG (INTERIM)
	SBB	STRAW BALE BARRIER (INTERIM)
	VTC	VEHICLE TRACKING CONTROL (INITIAL)
		LIMITS OF CONSTRUCTION SITE BOUNDARIES
		LIMITS OF CUT/FILL/NO GRADE CHANGE
		LIMITS OF SOIL TYPE

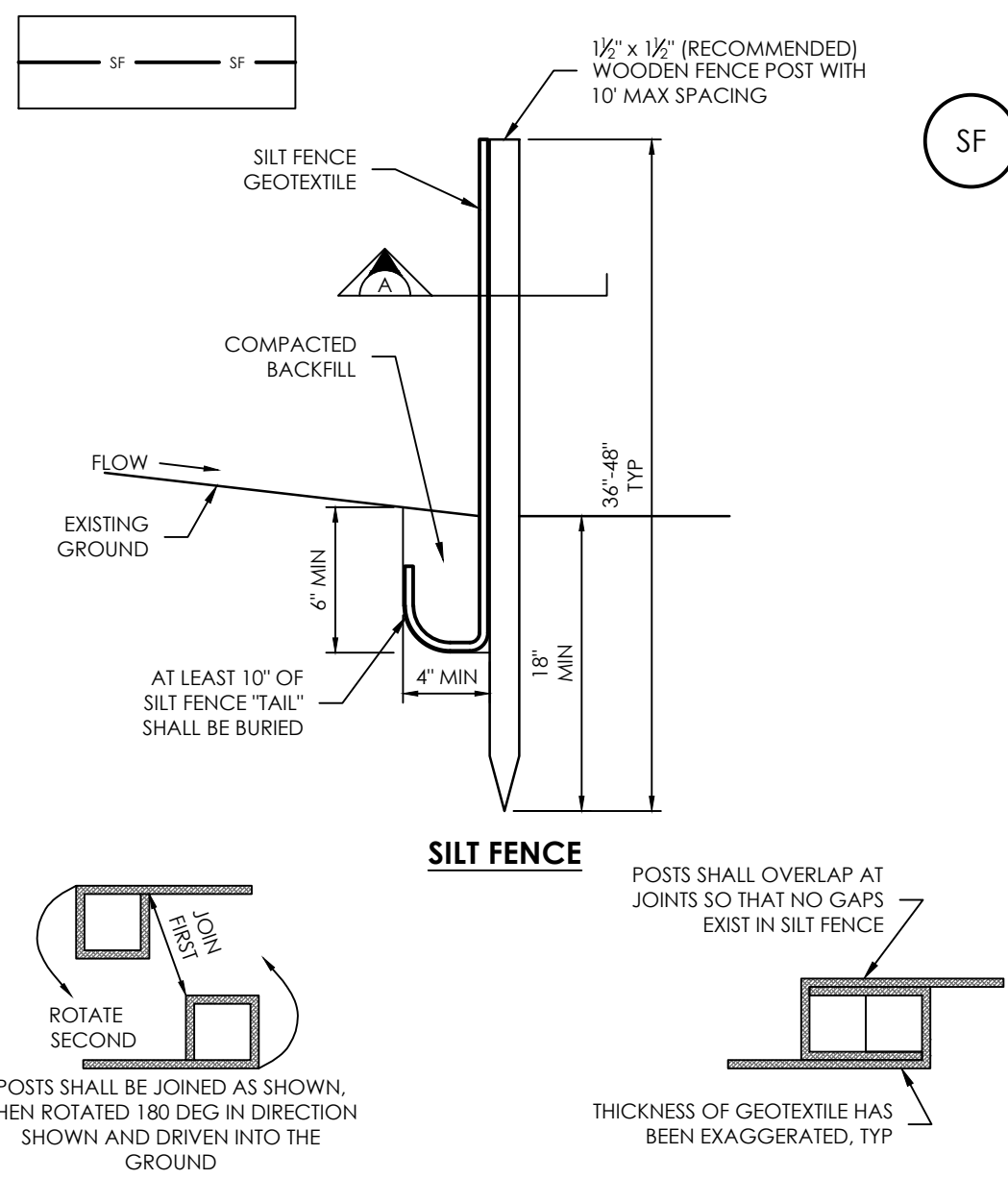
BMP LEGEND

MAP SYMBOL	KEY	DESCRIPTION
	SB	TEMPORARY SEDIMENT BASIN (INITIAL)
	VTC	PERMANENT RIPRAP PROTECTION (FINAL) (SEE CONSTRUCTION PLANS)
	SSA	STABILIZED STAGING AREA (INITIAL)

EROSION CONTROL DATA

TIMING	
ANTICIPATED START & COMPLETION TIME PERIOD OF SITE GRADING	NOV 2019 TO MARCH 2020
EXPECTED DATE ON WHICH FINAL STABILIZATION WILL BE COMPLETED	FALL 2020
AREAS	
TOTAL AREA OF THE SITE TO BE CLEARED, EXCAVATED OR GRADED	3.61 ACRES
RECEIVING WATERS	
NAME OF RECEIVING WATERS	SMITH & BLACK SQUIRREL CREEKS
SOIL DATA	
PRIMARY SOIL DESCRIPTION	KETTLE GRAVELLY LOAMY SAND
PERMEABILITY	RAPID
SURFACE RUNOFF	MEDIUM
HAZARD OF EROSION	MODERATE
HYDROLOGIC SOIL GROUP	B
EXISTING PERCENT IMPERVIOUS	0.0%
DEVELOPED PERCENT IMPERVIOUS	7.44%

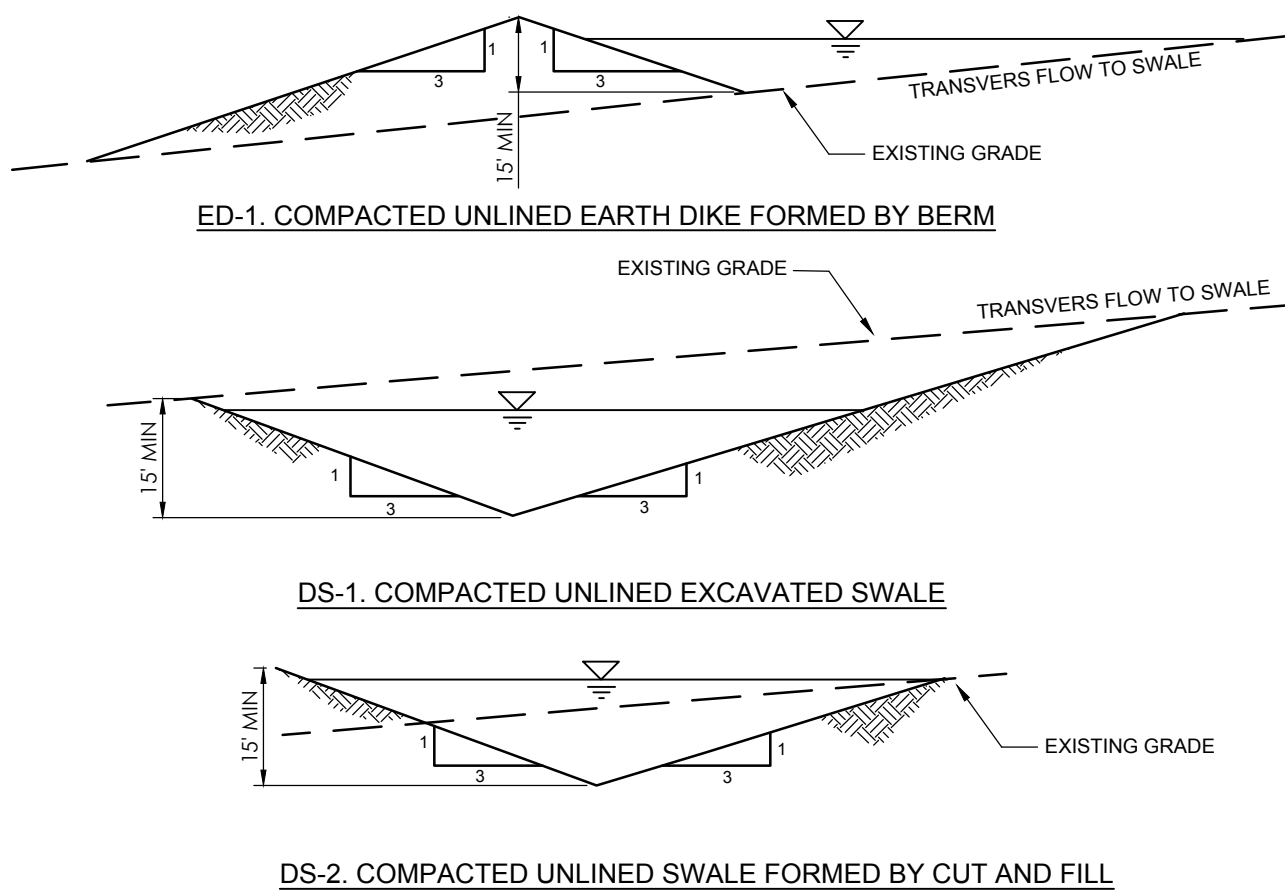
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**SECTION A
SF-1. SILT FENCE**

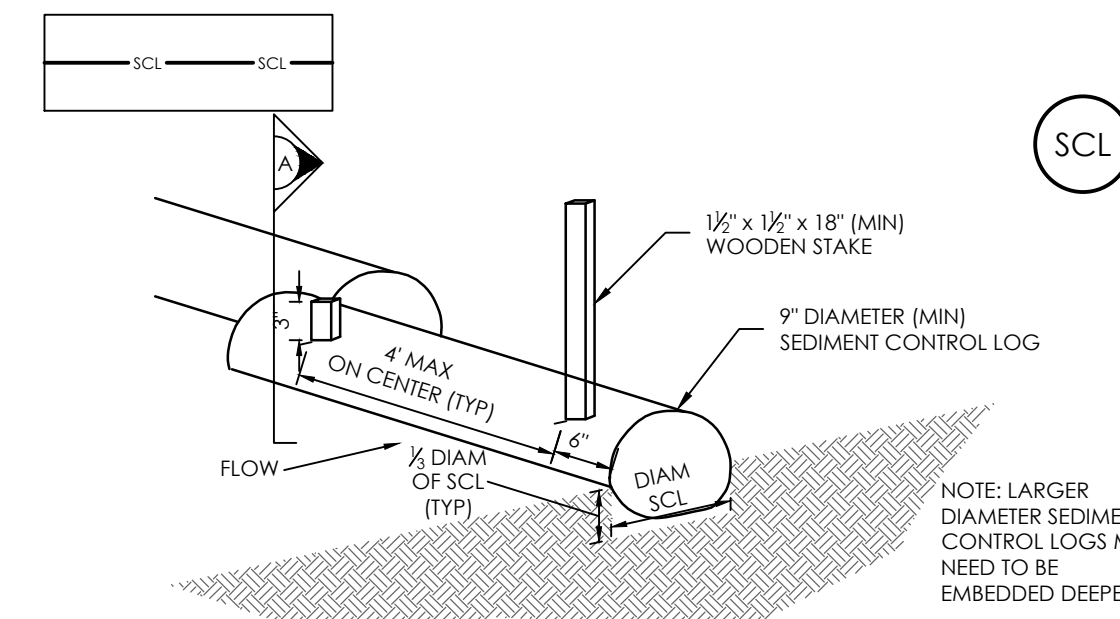
- SILT FENCE INSTALLATION NOTES:**
- SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.
 - A UNIFORM 6" x 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.
 - COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTATION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
 - SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
 - SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.
 - AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK". THE "J-HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 20').
 - SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

- SILT FENCE MAINTENANCE NOTES:**
- INSPECT BMPS EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPS SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
 - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 - WHERE BMPS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 - SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2.
 - REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
 - SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
 - WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

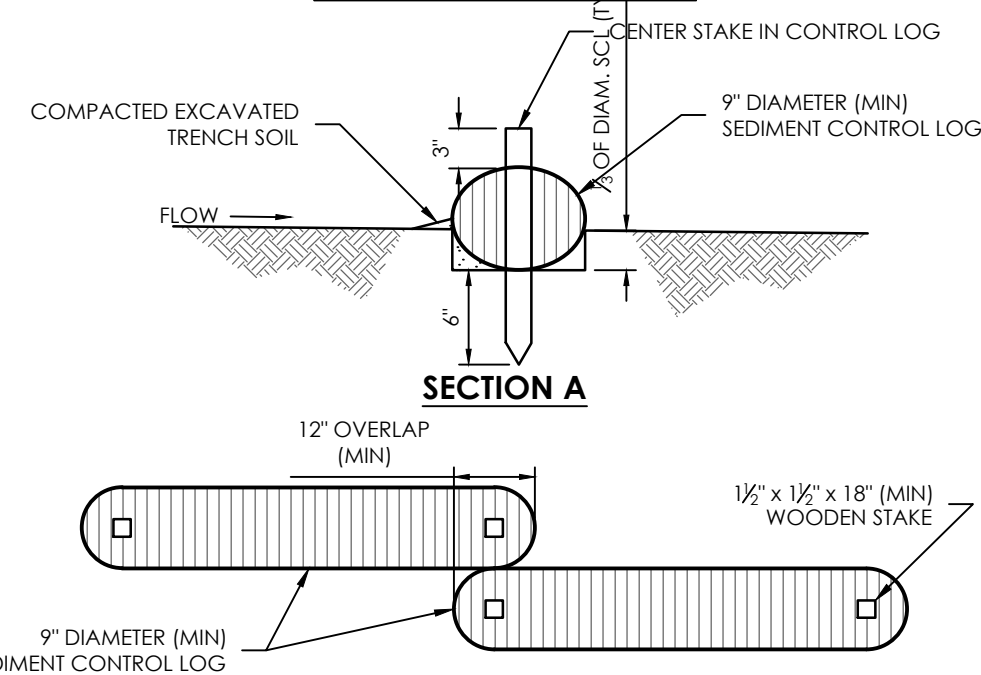


**Earth Dikes and Drainage Swales (ED/DS)
NOT TO SCALE**

- INSPECT BMPS EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPS SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- SWALES SHALL REMAIN IN PLACE UNTIL THE END OF CONSTRUCTION; IF APPROVED BY LOCAL JURISDICTION, SWALES MAY BE LEFT IN PLACE.
- WHEN A SWALE IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOPSOIL, SEEDED, AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.



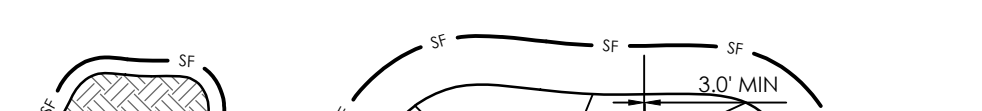
SEDIMENT CONTROL LOG



SCL-1. SEDIMENT CONTROL LOG JOINTS

- SEDIMENT CONTROL LOG INSTALLATION NOTES:**
- SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.
 - SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADIENT LAND-DISTURBING ACTIVITIES.
 - SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELORON OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
 - SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS OR HIGH VELOCITY DRAINAGE WAYS.
 - IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY 1/3 OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING.
 - THE UPRILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER.
 - FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED.

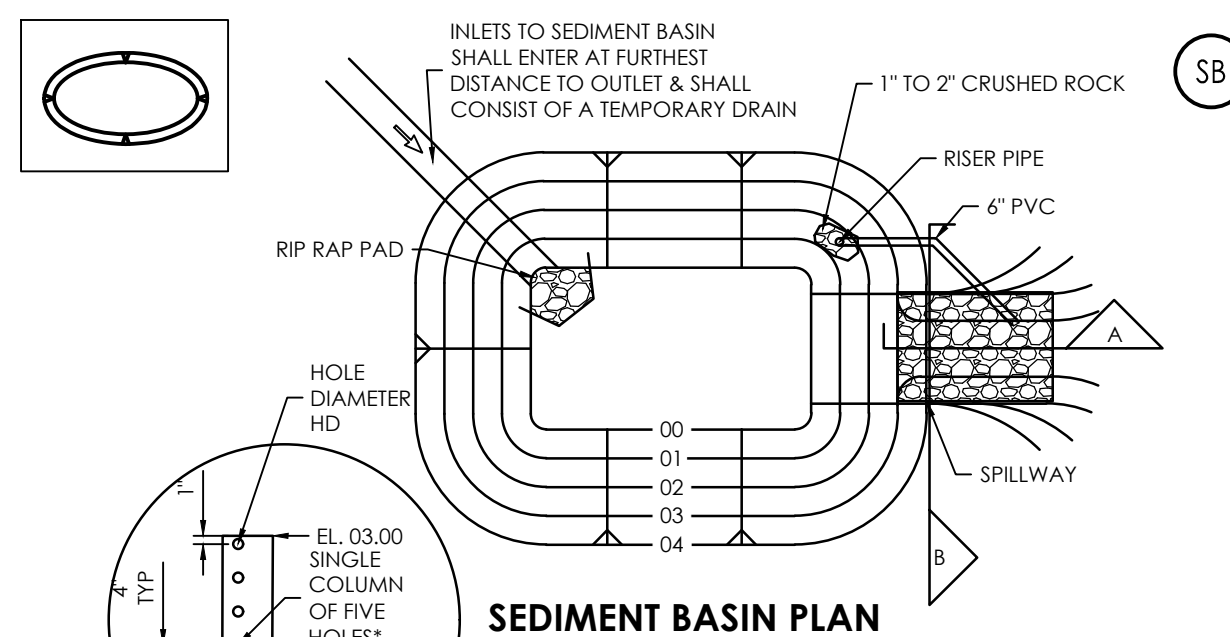
- SEDIMENT CONTROL LOG MAINTENANCE NOTES:**
- INSPECT BMPS EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPS SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
 - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 - WHERE BMPS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 - SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
 - SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.



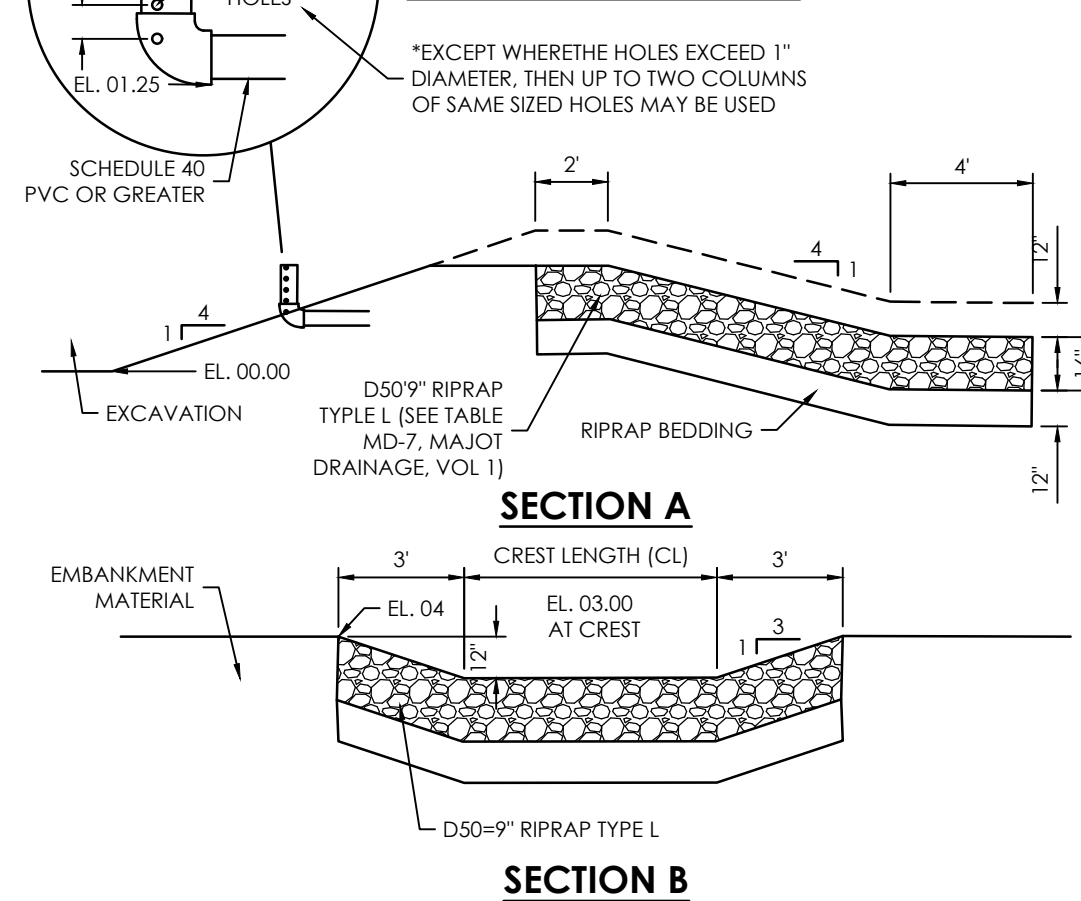
STOCKPILE PROTECTION PLAN

- STOCKPILE PROTECTION INSTALLATION NOTES:**
- SEE PLAN VIEW FOR:
 - LOCATION OF STOCKPILES.
 - TYPE OF STOCKPILE PROTECTION.
 - INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.
 - STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30-60 DAYS).
 - FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

- STOCKPILE PROTECTION MAINTENANCE NOTES:**
- INSPECT BMPS EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPS SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
 - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 - WHERE BMPS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 - IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.
 - STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.



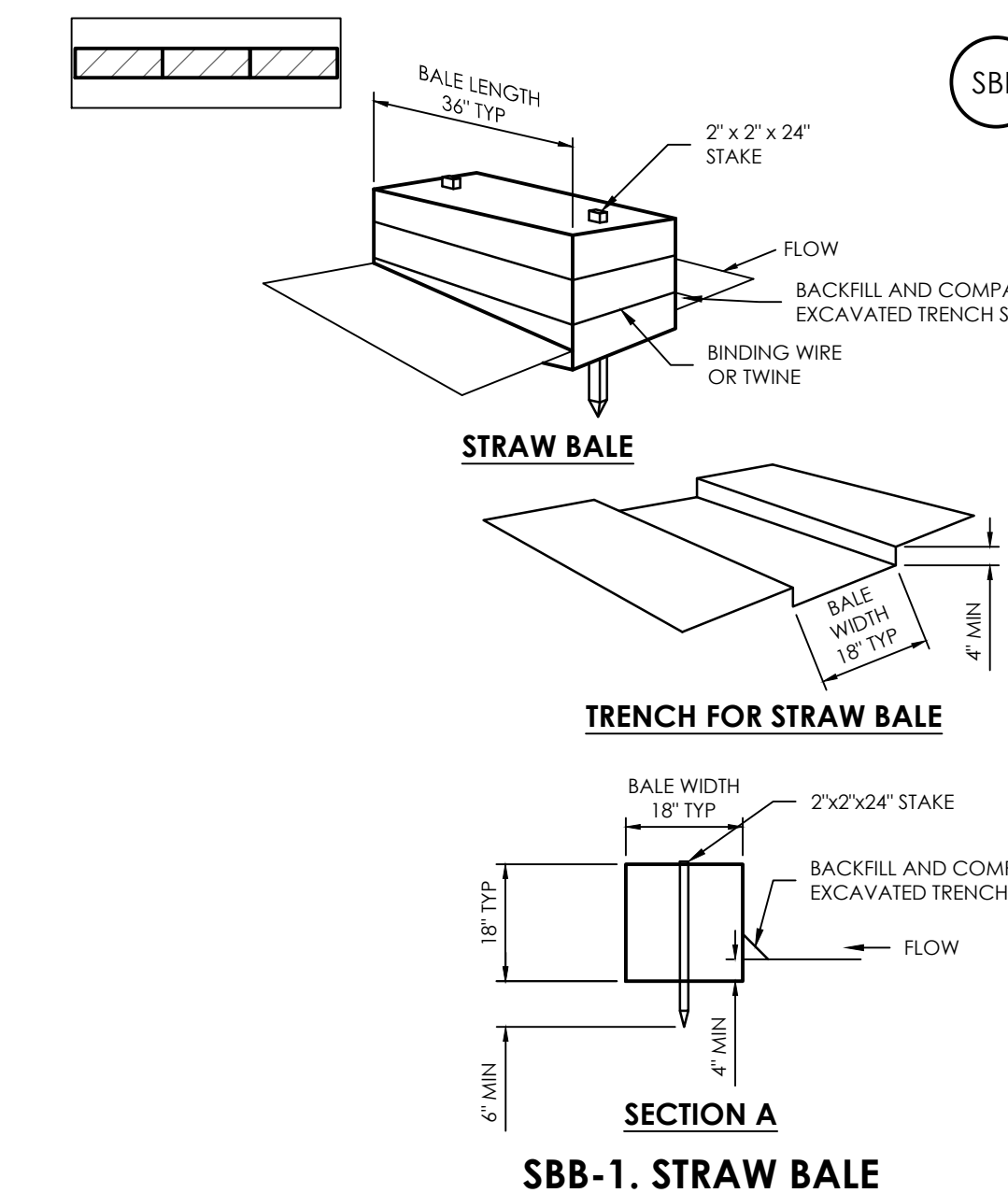
SEDIMENT BASIN PLAN



- SEDIMENT BASIN INSTALLATION NOTES:**
- SEE PLAN VIEW FOR:
 - LOCATION OF SEDIMENT BASIN.
 - TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN).
 - FOR STANDARD BASIN, BOTTOM WIDTH W, CREST LENGTH CL, AND HOLE DIAMETER, HD.
 - FOR NONSTANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT H, NUMBER OF COLUMNS N, HOLE DIAMETER HD AND PIPE DIAMETER D.
 - FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
 - SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY THAT RELIES ON ON BASINS AS A STORAGE WATER CONTROL.
 - EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.
 - EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
 - PIPE SCH 40 OR GREATER SHALL BE USED.
 - THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASINS (FOR DRAINAGE AREAS LESS THAN 1 ACRE). SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASINS THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 1 ACRE.

- SEDIMENT BASIN MAINTENANCE NOTES:**
- INSPECT BMPS EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPS SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
 - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 - WHERE BMPS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 - SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E., TWO FEET BELOW THE SPILLWAY CREST).
 - SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE LOCAL JURISDICTION.
 - WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION. (DETAILS ADOPTED FROM DOUGLAS COUNTY, COLORADO.)

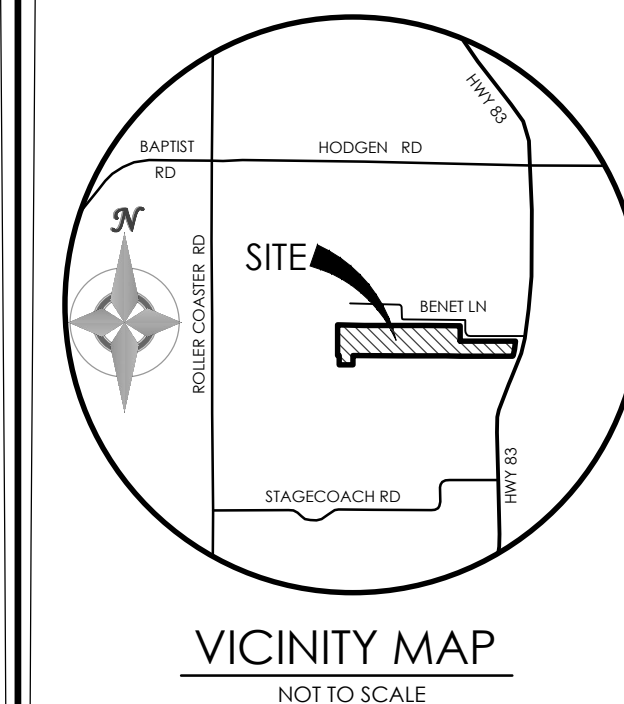
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.



SBB-1. STRAW BALE

- STRAW BALE INSTALLATION NOTES:**
- SEE PLAN VIEW FOR:
 - LOCATION(S) OF STRAW BALES.
 - STRAW BALES SHALL CONSIST OF CERTIFIED WEED FREE STRAW OR HAY. LOCAL JURISDICTIONS MAY REQUIRE PROOF THAT BALES ARE WEED FREE.
 - STRAW BALES SHALL CONSIST OF APPROXIMATELY 5 CUBIC FEET OF STRAW OR HAY AND WEIGH NOT LESS THAN 35 POUNDS.
 - WHEN STRAW BALES ARE USED IN SERIES AS A BARRIER, THE END OF EACH BALE SHALL BE TIGHTLY ABUTTING ONE ANOTHER.
 - STRAW BALE DIMENSIONS SHALL BE APPROXIMATELY 36"x18"x18".
 - A UNIFORM ANCHOR TRENCH SHALL BE EXCAVATED TO A DEPTH OF 4". STRAW BALES SHALL BE PLACED SO THAT BINDING TWINE IS ENCOMPASSING THE VERTICAL SIDES OF THE BALES. ALL EXCAVATED SOIL SHALL BE PLACED ON THE UPRILL SIDE OF THE STRAW BALES AND COMPACTED.
 - TWO (2) WOODEN STAKES SHALL BE USED TO HOLD EACH BALE IN PLACE. WOODEN STAKES SHALL BE 2"x2"x24". WOODEN STAKES SHALL BE DRIVEN 6" INTO THE GROUND.

- STRAW BALE MAINTENANCE NOTES:**
- INSPECT BMPS EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPS SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
 - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 - WHERE BMPS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 - STRAW BALES SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, ROTTEN, OR DAMAGED BEYOND REPAIR.
 - SEDIMENT ACCUMULATED UPSTREAM OF STRAW BALE BARRIER SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE STRAW BALE BARRIER.
 - STRAW BALES ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
 - WHEN STRAW BALES ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.



BENCHMARK

MVE INC.
ENGINEERS & SURVEYORS

1903 library street, suite 200 colorado springs co 80909 719.635.5726

REVISIONS

DESIGNED BY _____
DRAWN BY _____
CHECKED BY _____
AS-BUILTS BY _____
CHECKED BY _____

**SANCTUARY OF PEACE
RESIDENTIAL COMMUNITY**

**GRADING & EROSION
CONTROL PLAN
EROSION DETAIL**

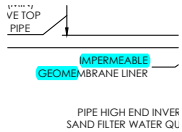
C-9 MVE PROJECT 610ED
MVE DRAWING -GEC-CS

SEPTEMBER 12, 2019
SHEET 9 OF 9

PUDSP-19-002

GEC V_2 redlines.pdf Markup Summary 10-16-2019

Steve Kuehster (14)



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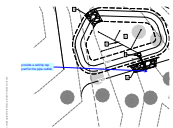
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See sheet 5 for comments

See sheet 5 for comments

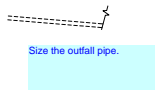
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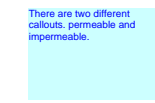
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provide a soil/rip rap pad for the pipe outfall.



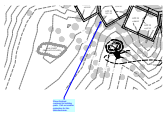
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Size the outfall pipe.



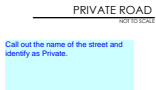
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There are two different callouts, permeable and impermeable.



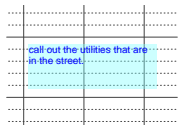
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Show finished contours for building pads. Call out erosion protection for this disturbed area.



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Call out the name of the street and identify as Private.

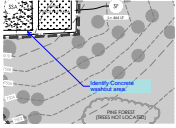


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call out the utilities that are in the street.



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Subject: arrow & box
Page Label: [8] 61087-GEC-EC-C-8
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Identify Concrete washout area.

to all approved construction access points.
by the location of existing utilities.
ing earthwork operations and that be utilized as rec
ed by [Call out the report.](#) and shall
d start of construction, for projects that will disturb or
ation for stormwater discharge to the Colorado Dep
ction of completion of a stormwater management
specification materials contact:
id Environment

Subject: text box
Page Label: [2] 61087-GEC-GP1-C-2
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Call out the report.