

- GENERAL NOTES:**
- EXISTING BOUNDARY AND SITE SURVEY INFORMATION AS PROVIDED BY FRANK J. SMITH JR. INC., MARSHALLS CREEK, PA.
 - ELEVATIONS BASED UPON 1988 NORTH AMERICA VERTICAL DATUM (NAVD 88).
 - MOSIER DEVELOPMENT, LLC, SENIOR LIVING DEVELOPMENT REFERENCED FROM PLANS PREPARED BY RILLY ASSOCIATES.
 - PHASE 1A-1 LAND DEVELOPMENT PLANS REFERENCE MAJOR SUBDIVISION PLAN, DRAWING CB101-1111, PREPARED BY LANGAN, DATED 12/11/2020, LAST REVISED 5/03/2021.
 - THESE PARCELS ARE SUBJECT TO A SUBSEQUENT LAND DEVELOPMENT APPLICATION PROCESS.
 - SEE PARTIAL SITE PLAN DRAWINGS FOR SETBACK DIMENSIONS.
 - ROAD NAMES HAVE BEEN REVISED BASED UPON COORDINATION WITH THE TOWNSHIP: ROAD A CHANGED TO MOSIER FARM DRIVE, ROAD B CHANGED TO GATEWAY DRIVE, AND ROAD C CHANGED TO SMITHFIELD LANE.
 - PHASE I, LOT 1.01 EXCEEDS 65% IMPERVIOUS COVERAGE. THE OTHER PROPOSED LOTS REQUIRE A DEED RESTRICTION, CONSERVATION EASEMENT, OR OTHER TOWNSHIP-APPROVED ENFORCEMENT METHOD THAT ESTABLISHES A MAXIMUM IMPERVIOUS COVERAGE OF LESS THAN SIXTY-FIVE PERCENT (65%). THESE APPROVED PERCENTAGES SHALL GUARANTEE THAT THE TOTAL IMPERVIOUS COVERAGE FOR ALL LOTS IN THE MIXED USE DEVELOPMENT DOES NOT EXCEED SIXTY-FIVE PERCENT (65%).
 - THE APPLICANT/DEVELOPER SHALL CONTACT THE TOWNSHIP IN WRITING TO REQUEST A FINAL INSPECTION FOR ACCEPTANCE AT THE END OF THE GUARANTY PERIOD. THESE INSPECTIONS WILL BE PERFORMED WHEN PLANT MATERIALS ARE IN FULL LEAF ONLY (MAY 1 THROUGH NOVEMBER 15). ALL GUARANTY ESCROW FUNDS WILL BE RELEASED UPON ACCEPTANCE AT THE END OF THE GUARANTY PERIOD. THE GUARANTY WILL BE EXTENDED UNTIL THIRTY (30) DAYS AFTER RECEIPT OF THE REQUEST LETTER FOLLOWING MAY 1. SHOULD THE END OF THE GUARANTY PERIOD OCCUR AFTER NOVEMBER 15, THE GUARANTY PERIOD SHALL BE EXTENDED TO MAY 15.
 - THE CONTRACTOR SHALL PROVIDE A RETAINING WALL DESIGN FOR EACH PROPOSED WALL PREPARED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF PENNSYLVANIA FOR REVIEW BY THE OWNER'S ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR AND THE RETAINING WALL DESIGNER SHALL SPECIFICALLY NOTE ANY EXISTING OR PROPOSED STRUCTURES THAT ARE LOCATED IN OR NEAR THE WALL (UNITS, LIGHT POLES, FENCES, STORM PIPES, UTILITIES, GUIDE RAILS, AND OTHER FEATURES) AND SHALL COORDINATE DESIGN AND INSTALLATION OF RETAINING WALL SUCH THAT THE FEATURES ARE ACCOMMODATED IN THE DESIGN AS APPROPRIATE.
 - ALL EXISTING ON-SITE BUILDINGS/STRUCTURES ARE TO BE DEMOLISHED UNLESS OTHERWISE NOTED. THE EXISTING PUMP STATION IS TO REMAIN AND THE EXISTING FARM HOUSE IS TO BE RELOCATED.
 - THE OWNER, ITS SUCCESSORS AND ASSIGNS, SHALL MAKE PROVISION AND BE RESPONSIBLE FOR THE INSTALLATION, MAINTENANCE, OPERATION AND REPAIR OF THE STORMWATER MANAGEMENT FACILITIES DEPICTED ON THE LAND DEVELOPMENT PLANS. SMITHFIELD TOWNSHIP IS HEREBY GRANTED AN EASEMENT AND RIGHT TO ACCESS THE PROPERTY TO INSPECT THE STORMWATER FACILITIES, AND, IF MAINTENANCE OR REPAIRS ARE NOT BEING PERFORMED BY THE RESPONSIBLE PARTY, THEN THE TOWNSHIP MAY DO SO AT THE COST OF THE OWNER.
 - THE SIDEWALKS SHALL BE PROPERLY MAINTAINED BY THE OWNER OF THE LOT ON WHICH THE SIDEWALKS ARE LOCATED, UNLESS THE TOWNSHIP SPECIFICALLY APPROVES AN ALTERNATIVE RESPONSIBLE PARTY.
 - THE OWNER, ITS SUCCESSORS AND ASSIGNS, SHALL PROVIDE BLANKET EASEMENTS FOR STORMWATER DRAINAGE AND UTILITIES FOR MAINTENANCE.
 - REFER TO THE SMITHFIELD GATEWAY HIGHWAY OCCUPANCY PERMIT PLANS FOR HOP APPLICATION #19968 FOR ROADWAY IMPROVEMENTS ALONG SEVEN BRIDGES ROAD (S.R. 0209) AND INDEPENDENCE ROAD (S.R. 0447).
 - THE STREAM, POND, AND WETLAND DELINEATIONS REFERENCED ON THE LAND DEVELOPMENT PLANS ARE PER DELINEATIONS CONDUCTED ON JUNE 30, JULY 1, AND JULY 2, 2016 BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC. AND APPROVED BY USACE ON JUNE 28, 2016.

- NOTES:**
- REFER TO DRAWING CE101-1121 FOR NPDES PROJECT BOUNDARY LIMITS.
 - REFER TO DRAWINGS CG501-1121 THROUGH CG501-1124 FOR POST CONSTRUCTION STORMWATER MANAGEMENT NOTES AND DETAILS.
 - STREET SWEEPING SHALL BE PERFORMED ON THE PAVED AREAS OF THE PROJECT.
 - RECORD DRAWINGS (AS-BUILT PLANS WITH ASSOCIATED CALCULATIONS FOR ALL CONSTRUCTED STORMWATER MANAGEMENT FACILITIES SHALL BE PROVIDED TO THE TOWNSHIP ENGINEER FOR REVIEW.

APPLICANT STATEMENT

ANY REVISION TO THE APPROVED DRAINAGE PLAN MADE BY THE APPLICANT SHALL BE APPROVED BY THE TOWNSHIP AND THAT A REVISED EROSION AND SEDIMENT CONTROL PLAN MUST BE SUBMITTED TO THE CONSERVATION DISTRICT FOR A DETERMINATION OF ADEQUACY.

DATE _____ APPLICANT SIGNATURE _____

ADDRESS _____ PRINTED NAME _____

PLAN PREPARER'S STATEMENT

I, _____, A LICENSED PROFESSIONAL ENGINEER IN THE COMMONWEALTH OF PENNSYLVANIA, HEREBY CERTIFY THAT THE DRAINAGE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE BRODHEAD CREEK ACT 167 PLAN AND SMITHFIELD TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.

DATE _____ PLAN PREPARER'S SIGNATURE _____

ADDRESS _____ PRINTED NAME _____

Date	Description	No.
06/06/23	TOWNSHIP & TENANT REVISIONS	1

LANGAN
Langan Engineering and Environmental Services, Inc.
300 Kimball Drive
Parsippany, NJ 07054
T: 973.560.4900 F: 973.560.4901 www.langan.com

Project: **SMITHFIELD GATEWAY PHASE 1A-2**

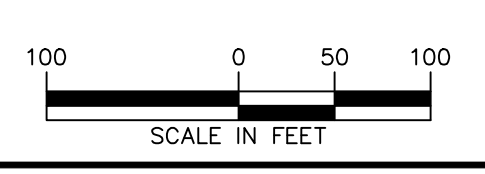
SMITHFIELD TOWNSHIP
MONROE COUNTY PENNSYLVANIA
Drawing Title: **POST CONSTRUCTION STORMWATER MANAGEMENT PLAN**

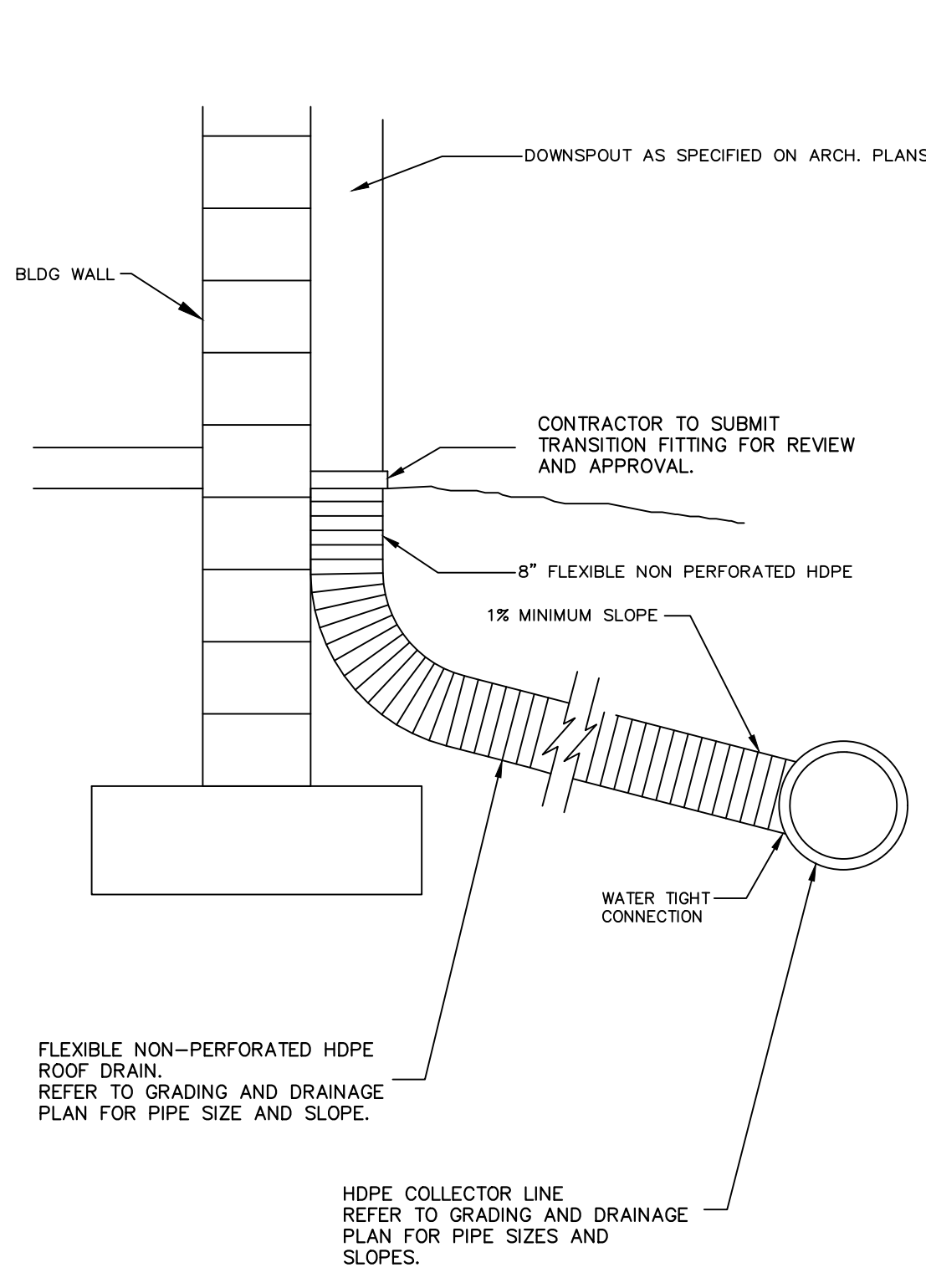
Project No. 100501402
Date: FEBRUARY 17, 2023
Drawn By: TEG
Checked By: TH

Drawing No. CG103
1121
Sheet 16 of 41

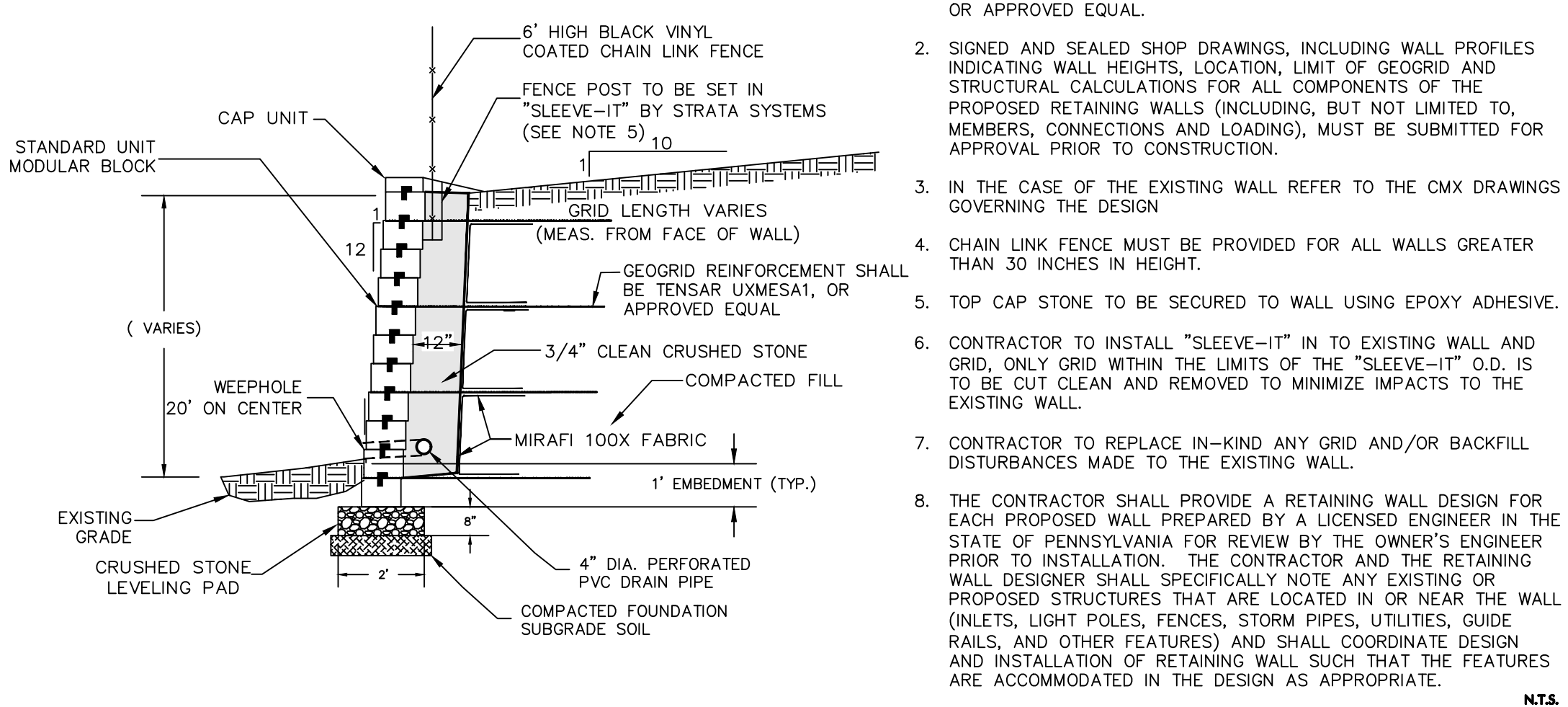
LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW	---	---
CONTOUR	---	---
SPOT ELEVATION	452.50	452.50
STORM MANHOLE	○	●
SANITARY MANHOLE	○	●
CATCH BASIN	○	●
STORM SEWER	---	---
SANITARY SEWER	---	---
RETAINING WALL	---	---





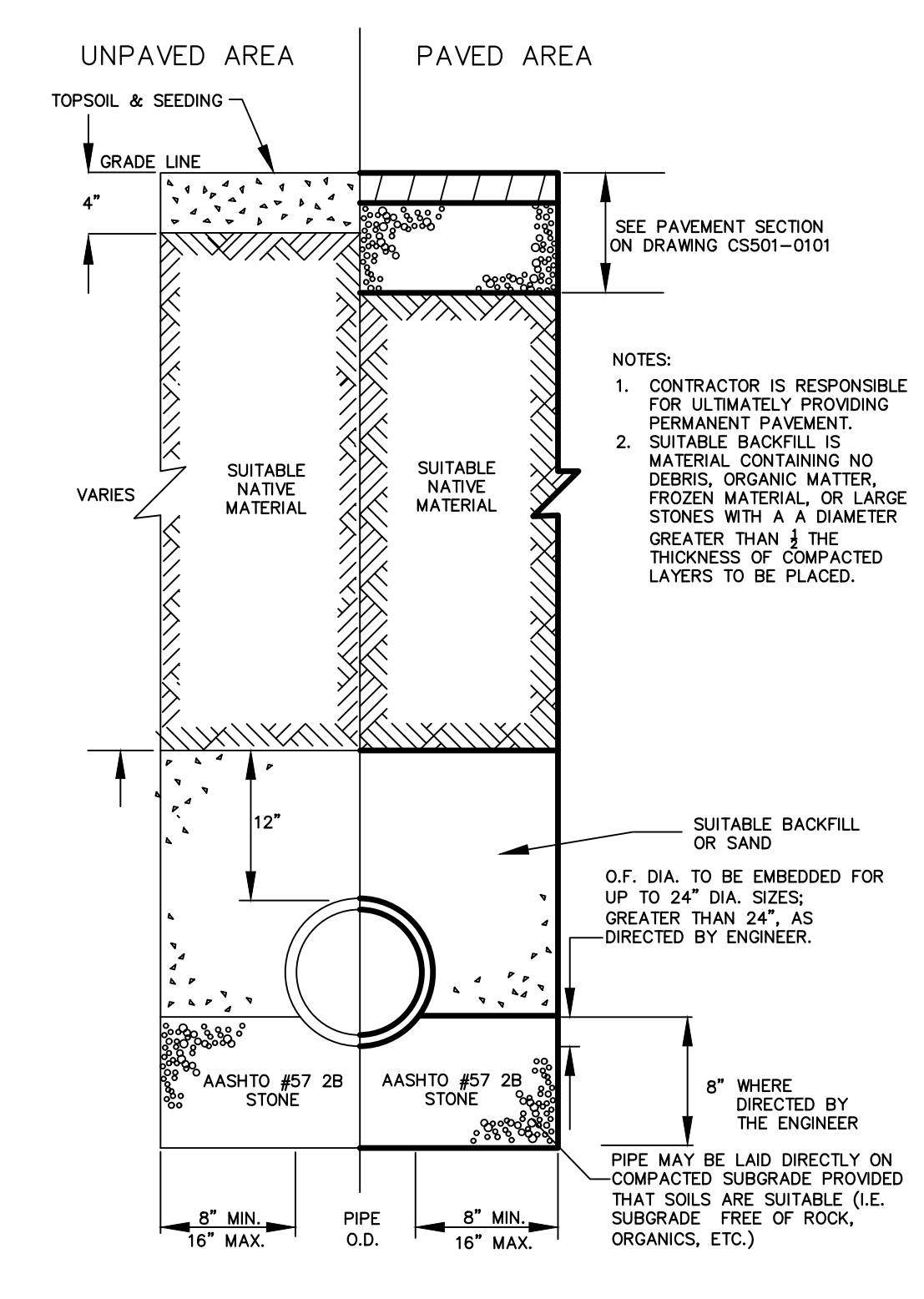
MODULAR BLOCK RETAINING WALL



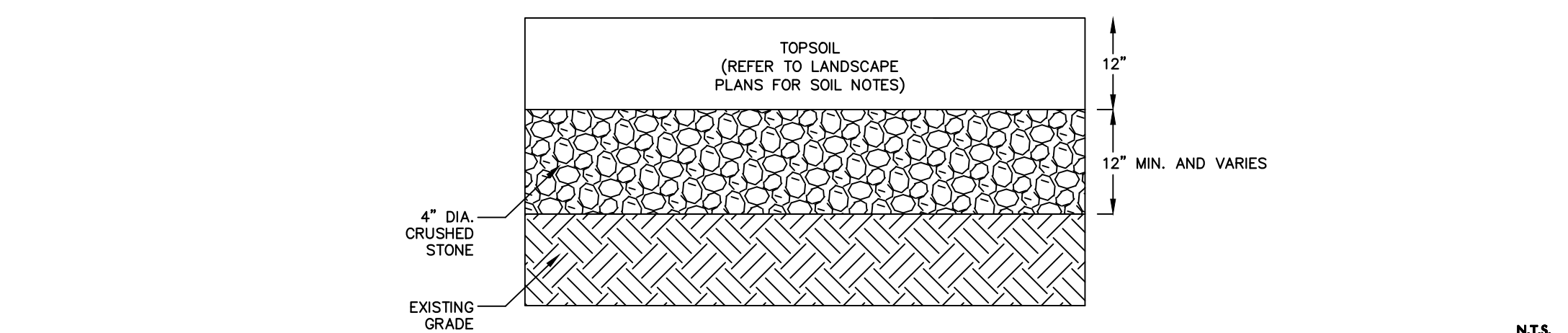
- NOTES:**
1. GEGRID MANUFACTURED BY TENSAR EARTH TECHNOLOGIES, INC. OR APPROVED EQUAL.
 2. SIGNED AND SEALED SHOP DRAWINGS, INCLUDING WALL PROFILES INDICATING WALL HEIGHTS, LOCATION, LIMIT OF GEGRID AND STRUCTURAL CALCULATIONS FOR ALL COMPONENTS OF THE PROPOSED RETAINING WALLS (INCLUDING, BUT NOT LIMITED TO, MEMBERS, CONNECTIONS AND LOADINGS), MUST BE SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION.
 3. IN THE CASE OF THE EXISTING WALL REFER TO THE CMX DRAWINGS GOVERNING THE DESIGN.
 4. CHAIN LINK FENCE MUST BE PROVIDED FOR ALL WALLS GREATER THAN 30 INCHES IN HEIGHT.
 5. TOP CAP STONE TO BE SECURED TO WALL USING EPOXY ADHESIVE.
 6. CONTRACTOR TO INSTALL "SLEEVE-IT" IN EXISTING WALL AND GRID, ONLY GRID WITHIN THE LIMITS OF THE "SLEEVE-IT" O.D. IS TO BE CUT CLEAN AND REMOVED TO MINIMIZE IMPACTS TO THE EXISTING WALL.
 7. CONTRACTOR TO REPLACE IN-KIND ANY GRID AND/OR BACKFILL DISTURBANCES MADE TO THE EXISTING WALL.
 8. THE CONTRACTOR SHALL PROVIDE A RETAINING WALL DESIGN FOR EACH PROPOSED WALL PREPARED BY A LICENSED ENGINEER IN THE STATE OF PENNSYLVANIA FOR REVIEW BY THE OWNER'S ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR AND THE RETAINING WALL DESIGNER SHALL SPECIFICALLY NOTE ANY EXISTING OR PROPOSED STRUCTURES THAT ARE LOCATED IN OR NEAR THE WALL (INLETS, LIGHT POLES, FENCES, STORM PIPES, UTILITIES, GUIDE RAILS, AND OTHER FEATURES) AND SHALL COORDINATE DESIGN AND INSTALLATION OF RETAINING WALL SUCH THAT THE FEATURES ARE ACCOMMODATED IN THE DESIGN AS APPROPRIATE.

STORM DOWNSPOUT COLLECTOR

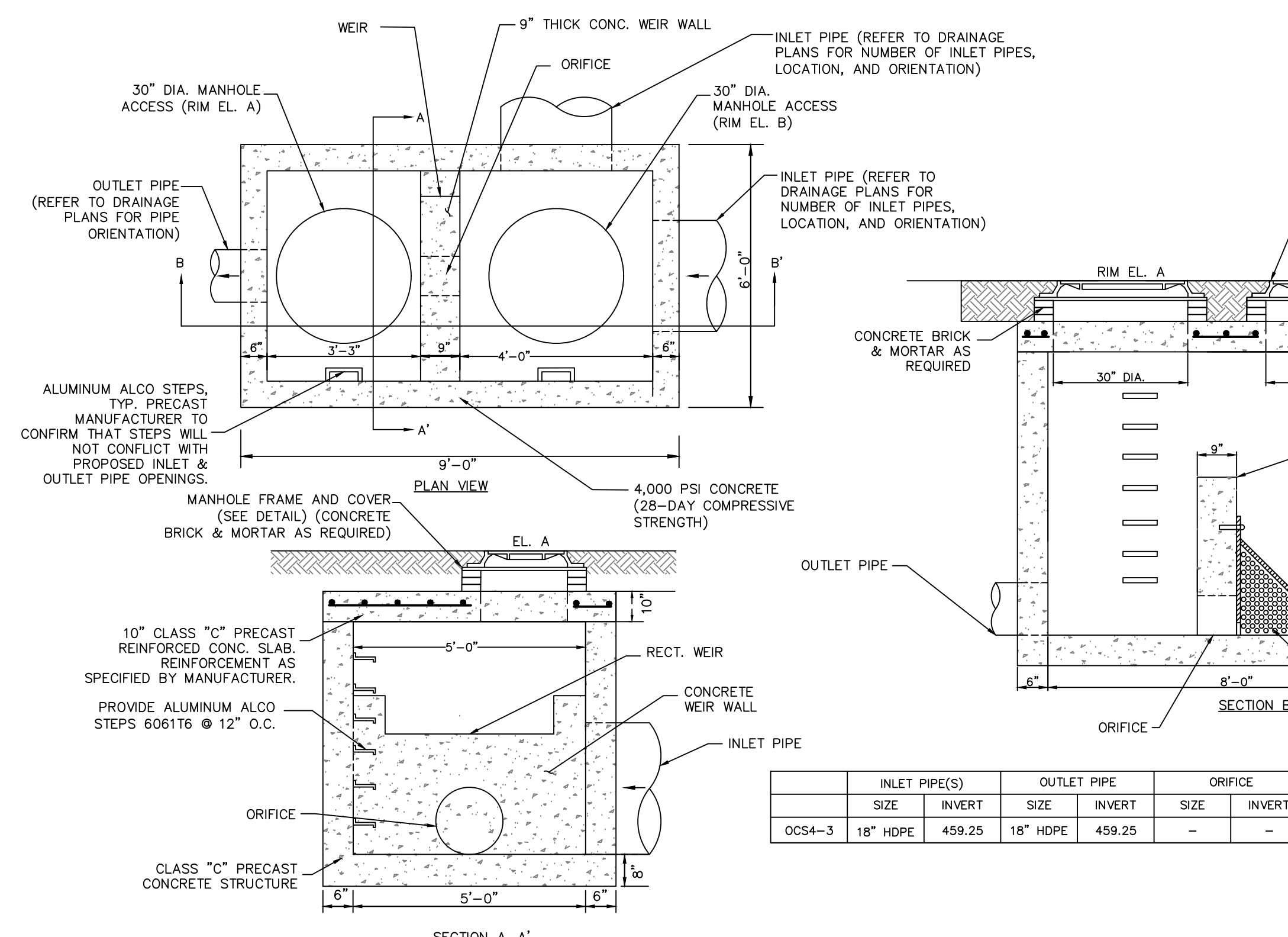
STORM SEWER TRENCH



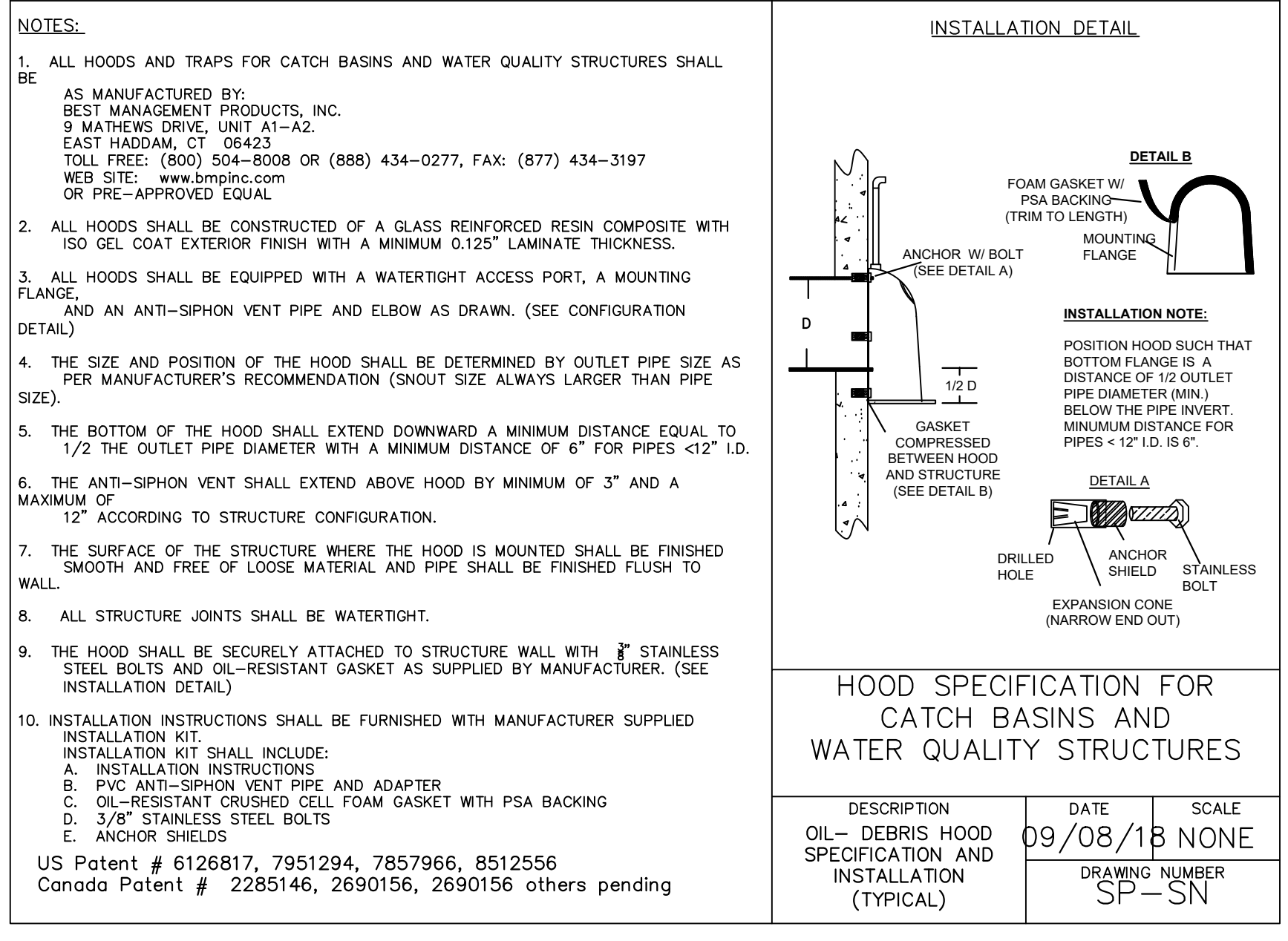
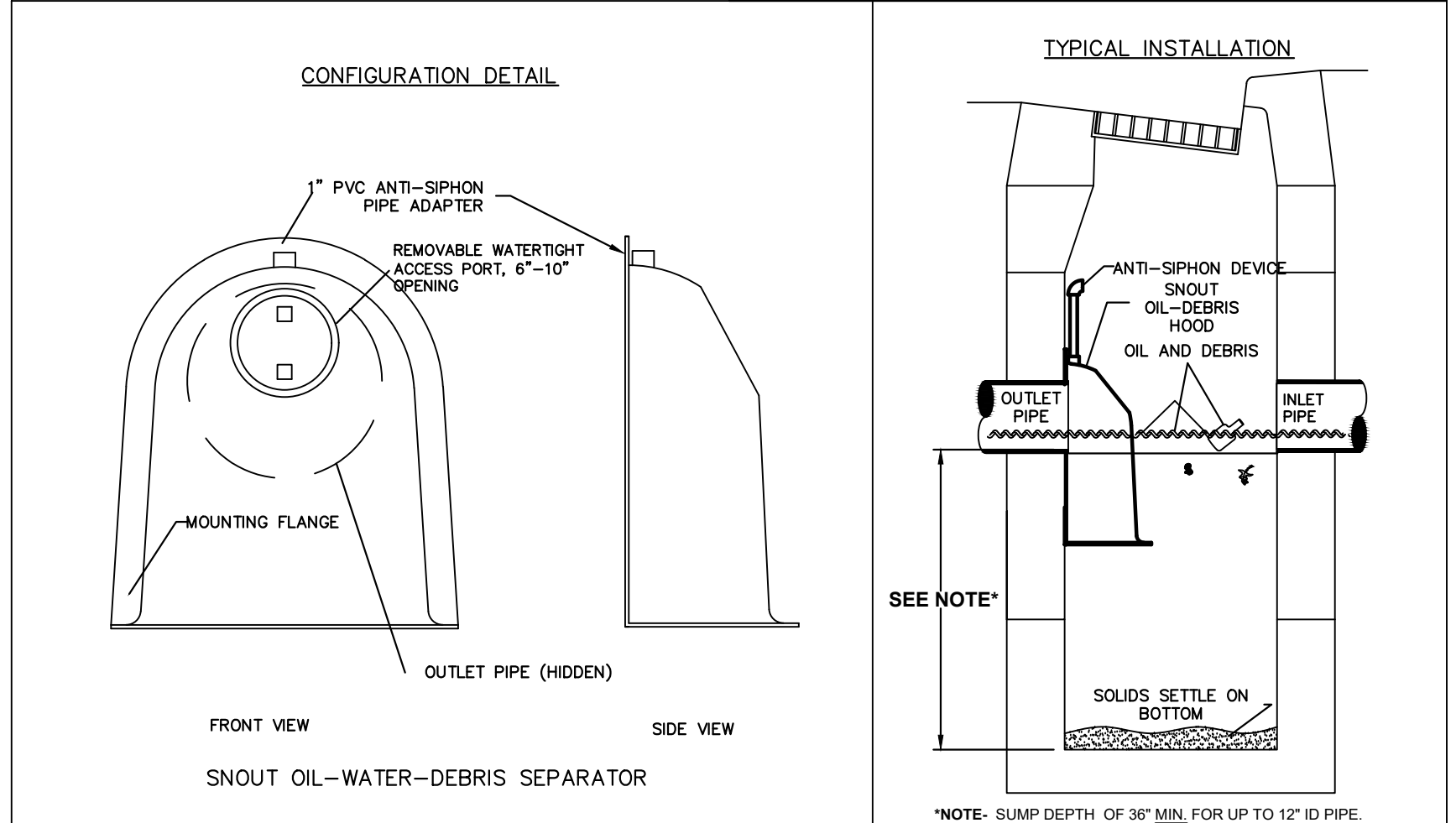
OUTLET CONTROL STRUCTURE DETAIL FOR INFILTRATION BASINS



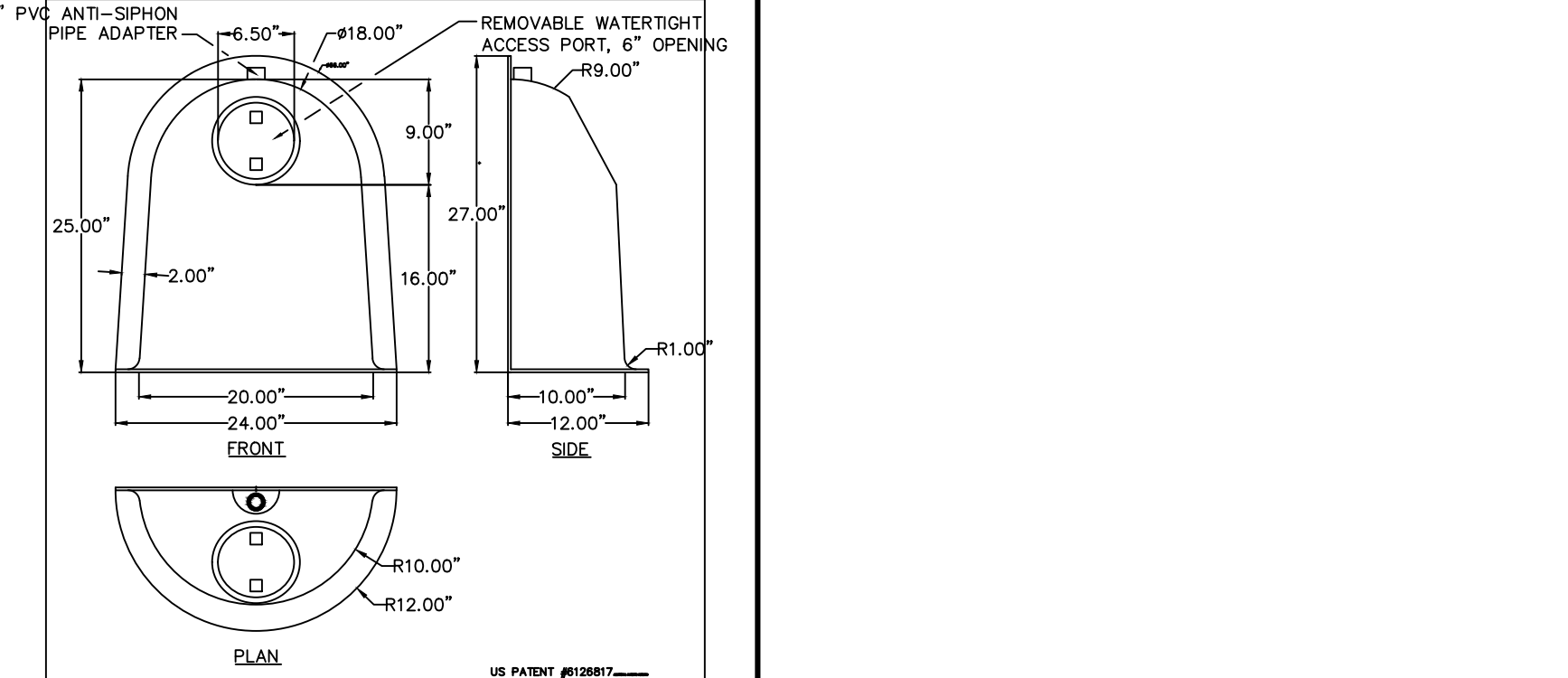
INFILTRATION BASIN DETAIL FOR OVER-EXCAVATED AREAS



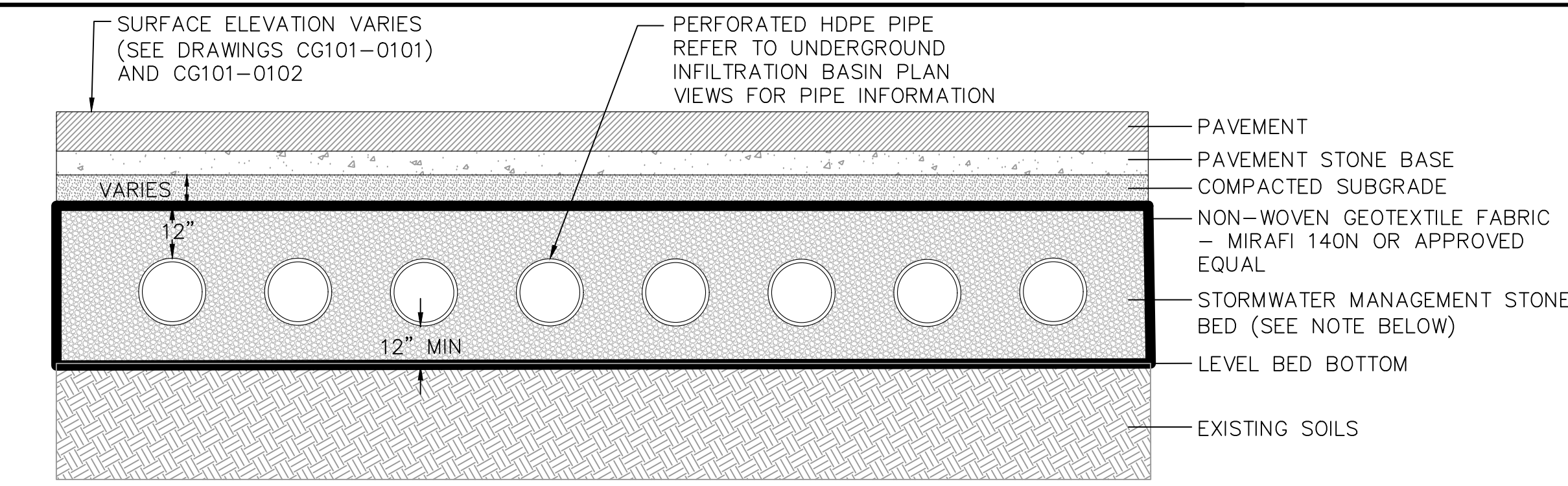
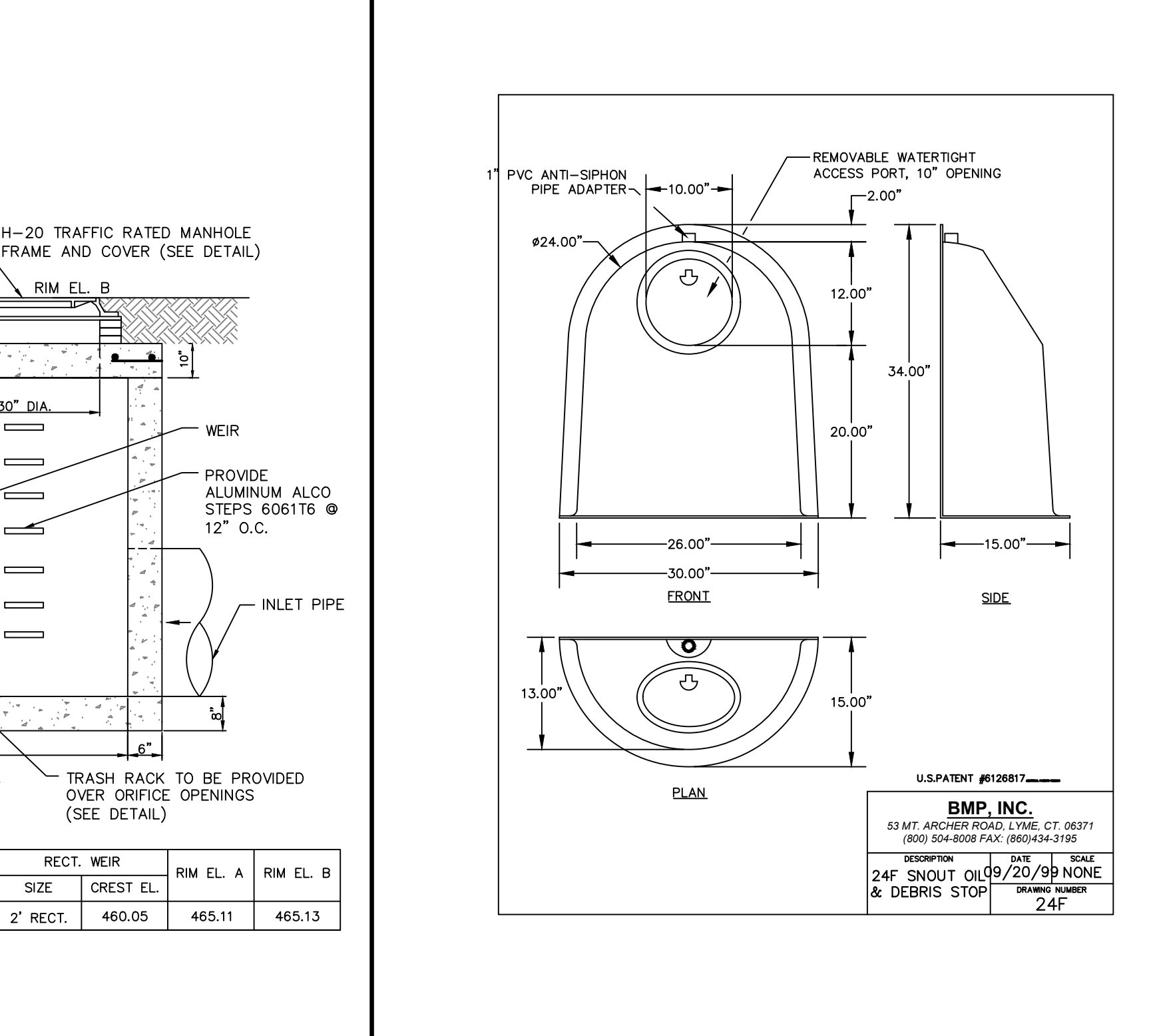
INLET PIPE(S)	OUTLET PIPE	ORIFICE	RECT. WEIR	RM. EL. A	RM. EL. B
SIZE	INVERT	SIZE	INVERT		
OCS4-3	18" HDPE	459.25	18" HDPE	459.25	-



SNOUT NOTES & INSTALLATION DETAILS

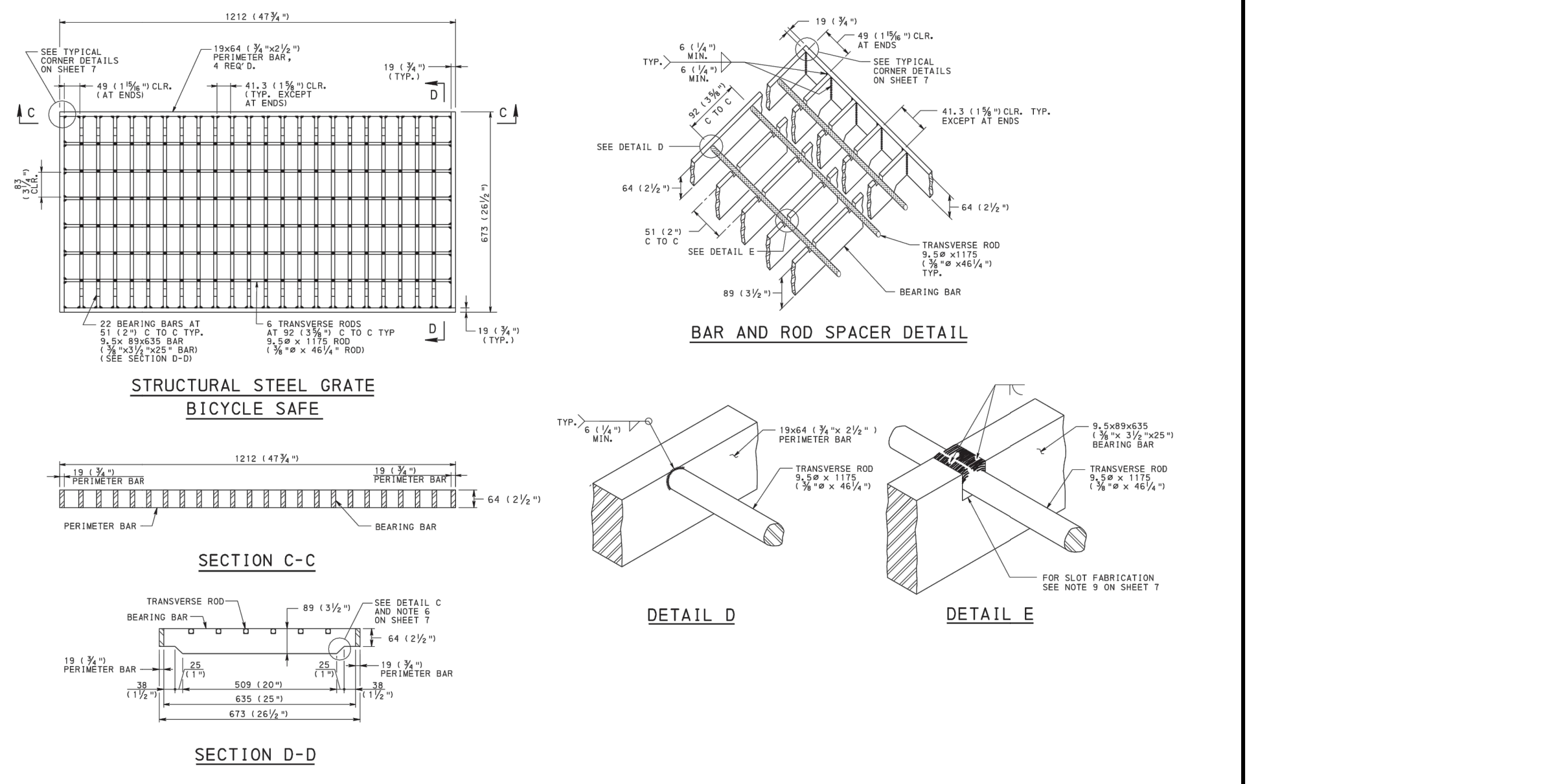


SNOUT 24F



- NOTES:**
1. STORMWATER MANAGEMENT STONE BED SHALL BE 2-INCH TO 1-INCH UNIFORMLY GRADED COARSE AGGREGATE, WITH A WASH LOSS OF NO MORE THAN 0.5%, AASHTO SIZE NUMBER 3 PER AASHTO SPECIFICATIONS, PART 1, 19TH ED., 1998, OR LATER AND SHALL HAVE VOIDS 40% AS MEASURED BY ASTM-C29.
 2. SEE DRAWING FOR PIPE LAYOUT, CONNECTIONS AND CLEAN-OUTS.
 3. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE STORMWATER SYSTEM TO THE DESIGN ENGINEER FOR REVIEW PRIOR TO ORDERING/ CONSTRUCTION. THIS SUBMITTAL MUST INCLUDE THE WITHDRAWAL STRUCTURES AND CONNECTION TO THE UNDERGROUND STORMWATER SYSTEM.
 4. EXISTING SUBGRADE UNDER THE INFILTRATION BMP'S SHALL NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC PRIOR TO CONSTRUCTION OF THE INFILTRATION BMP. SHOULD INFILTRATION BMP AREAS RECEIVE EXCESSIVE CONSTRUCTION TRAFFIC OR SUBJECT TO COMPACTION, ADDITIONAL INFILTRATION TESTS MUST BE PERFORMED AND THE RESULTS SHALL BE SUBMITTED TO MONROE COUNTY CONSERVATION DISTRICT (MCCD) FOR REVIEW.
 5. PRIOR TO CONSTRUCTION, INFILTRATION AREAS SHALL BE MARKED OFF IN THE FIELD. THE AREAS SHALL BE DELINEATED WITH CONSTRUCTION FENCING OR TAPE IN SUCH A MANNER AS TO PREVENT THE PARKING OF OR REPEATED MOVEMENT OF CONSTRUCTION EQUIPMENT ACROSS THE INFILTRATION AREAS.

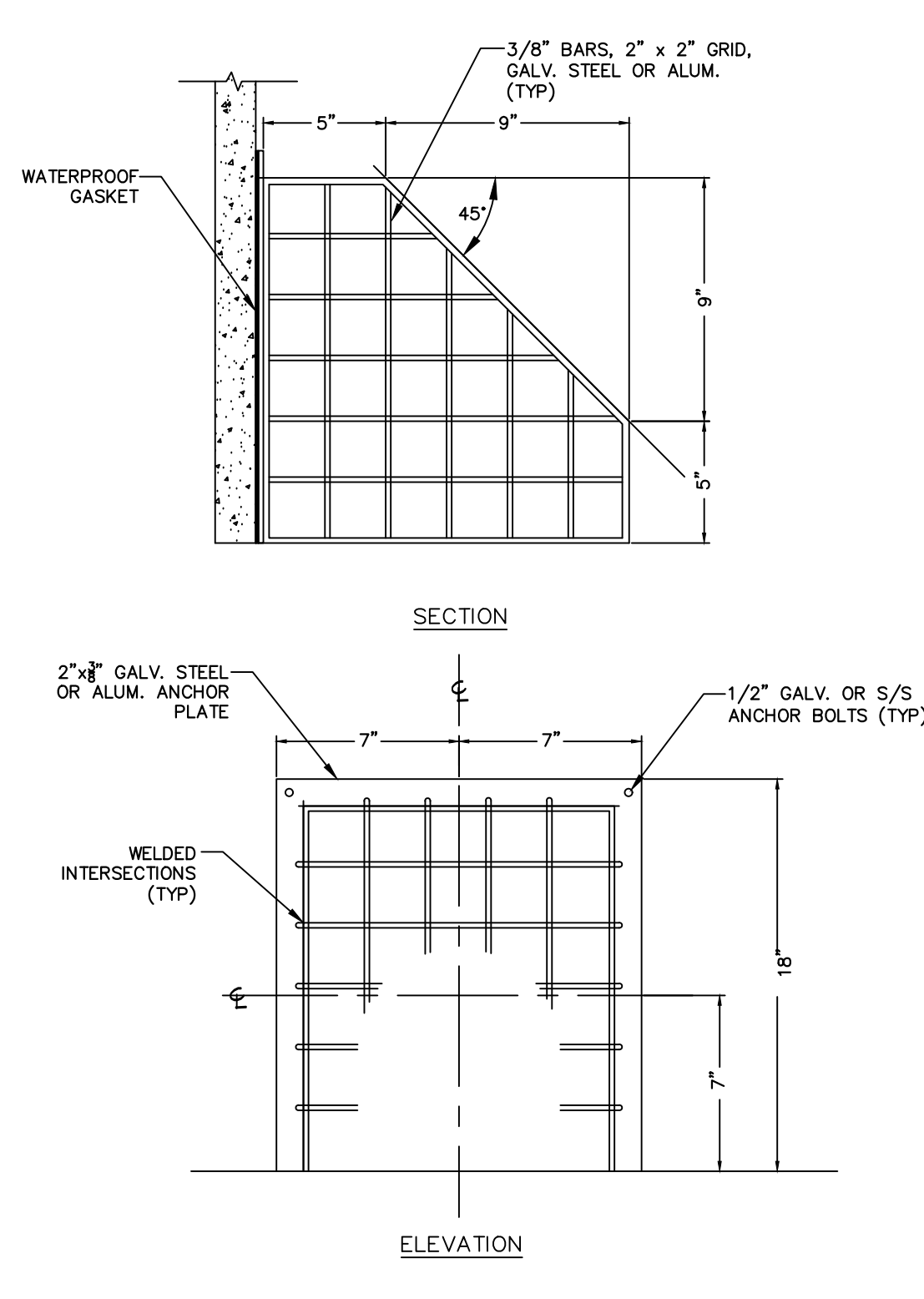
TYPICAL UNDERGROUND INFILTRATION BASIN SECTION



- NOTE:**
1. REFERENCE PADOT RC-45M AND RC-46M FOR ANY ADDITIONAL DETAILS AVAILABLE AT THE WEB ADDRESS SHOWN BELOW: [FTP://FTP.DOT.STATE.PA.US/PUBLIC/BUREAU/DESIGN/PUB72M/TOC-INDEX-CHG1.PDF](http://ftp.dot.state.pa.us/public/bureau/design/pub72m/toc-index-chg1.pdf)

BICYCLE SAFE GRATE DETAIL

TRASH RACK (OCS4-3)



UNDERGROUND INFILTRATION BASIN OUTLET CONTROL STRUCTURES

SNOUT 24F

SNOUT 30F

Date	Description	No.
06/06/23	TOWNSHIP & TENANT REVISIONS	1

REVISIONS

LANGAN
Langan Engineering and Environmental Services, Inc.
300 Kimball Drive
Parsippany, NJ 07054
T: 973.560.4900 F: 973.560.4901 www.langan.com

SMITHFIELD GATEWAY PHASE 1A-2
MONROE COUNTY PENNSYLVANIA
Drawing Title
POST CONSTRUCTION STORMWATER MANAGEMENT NOTES & DETAILS

Project No. **100501402**
Drawing No. **CG501 1121**
Date **FEBRUARY 17, 2023**
Drawn By **SM**
Checked By **TH**
Sheet **20** of **41**

NOTES

- CONSTRUCTION REQUIREMENTS:
 - CONCRETE SHALL BE PLACED AND FINISHED WITHIN THE SPECIFIED TIME PERIOD AFTER THE START OF POURING.
 - MINIMUM CONCRETE CLASS SHALL BE AS SPECIFIED.
 - CONCRETE SHALL BE PROTECTED FROM WEATHER AND DAMAGE BY THE USE OF A PROTECTIVE COVER.
 - CONCRETE SHALL BE CURED BY COVERING WITH MOIST CURING MATERIAL FOR THE SPECIFIED PERIOD.
- THE INLET SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE PENNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS.
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF DESIGN

INLETS
INLET ASSEMBLIES

RECOMMENDED SHEET SIZE: 30" x 42" (1:1)
SHEET NUMBER: RC-34M

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF DESIGN

INLETS
CONCRETE TOP UNITS
CAST-IN-PLACE AND PRECAST

RECOMMENDED SHEET SIZE: 30" x 42" (1:1)
SHEET NUMBER: RC-34M

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF DESIGN

INLETS
STANDARD INLET BOXES
(CAST-IN-PLACE)

RECOMMENDED SHEET SIZE: 30" x 42" (1:1)
SHEET NUMBER: RC-34M

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF DESIGN

INLETS
STANDARD INLET BOXES
(PRECAST)

RECOMMENDED SHEET SIZE: 30" x 42" (1:1)
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF DESIGN

INLETS
MODIFIED INLET BOXES
(CAST-IN-PLACE AND PRECAST)

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NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS, METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF DESIGN

INLETS
STANDARD MANHOLES
CAST-IN-PLACE MANHOLES

RECOMMENDED SHEET SIZE: 30" x 42" (1:1)
SHEET NUMBER: RC-39M

NOTES

- CONSTRUCTION REQUIREMENTS:
 - CONCRETE SHALL BE PLACED AND FINISHED WITHIN THE SPECIFIED TIME PERIOD AFTER THE START OF POURING.
 - MINIMUM CONCRETE CLASS SHALL BE AS SPECIFIED.
 - CONCRETE SHALL BE PROTECTED FROM WEATHER AND DAMAGE BY THE USE OF A PROTECTIVE COVER.
 - CONCRETE SHALL BE CURED BY COVERING WITH MOIST CURING MATERIAL FOR THE SPECIFIED PERIOD.
- THE INLET SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE PENNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS.
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF DESIGN

STANDARD MANHOLES
MODIFIED
CAST-IN-PLACE MANHOLES

RECOMMENDED SHEET SIZE: 30" x 42" (1:1)
SHEET NUMBER: RC-39M

NOTES

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NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS, METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF DESIGN

STANDARD MANHOLES
PRECAST MANHOLES &
MANHOLE STEPS

RECOMMENDED SHEET SIZE: 30" x 42" (1:1)
SHEET NUMBER: RC-39M

NOTES

- ALL BASIN EMBANKMENTS SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO A DEPTH OF TWO FEET PRIOR TO ANY PLACEMENT AND COMPACTION OF EARTHEN FILL. FILL MATERIAL FOR THE EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN LAYERED LIFTS CONSISTING OF MAXIMUM 8-INCH LIFTS. THE MAXIMUM ROCK SIZE SHALL BE NO GREATER THAN 2/3 THE LIFT THICKNESS. EMBANKMENTS SHALL BE COMPACTED TO A MINIMUM OF 95% DRY DENSITY. COMPACTION TESTS SHALL BE PERFORMED USING THE MODIFIED PROCTOR METHOD IN ACCORDANCE WITH ASTM-D-1557.
- KEY TRENCH SHALL HAVE A MINIMUM DEPTH OF FILL MATERIAL THAT IS 2' BELOW THE STRIPPED GRADE (OR SHALLOWER IF BEDROCK IS ENCOUNTERED). MINIMUM WIDTH=4'. MAXIMUM SIDE SLOPE STEEPNESS IS 1H:1V AND FILLED WITH HIGHLY IMPERVIOUS AND WELL COMPACTED CLAY MATERIAL. THE TRENCH MUST BE INSTALLED IN ALL AREAS OF FILL AND EXTEND UP BOTH ABUTMENTS TO 1' BELOW THE TOP OF BERM ELEVATION AND EXCAVATED UNDER THE ENTIRE LENGTH OF THE BERM AND LOCATED AT OR UPSTREAM OF THE CENTERLINE OF THE BERM. COMPACTION REQUIREMENTS SHOULD BE THE SAME AS THOSE FOR THE EMBANKMENT. THE TRENCH SHOULD BE DEWATERED DURING BACKFILLS AND COMPACTION OPERATIONS.

THE TOP OF BASIN 100-YEAR ELEVATION SHALL BE A MINIMUM 1.0 FOOT BELOW TOP OF BERM.

THE MINIMUM BERM WIDTH SHALL BE 8 FEET.

BASIN EMBANKMENT - SEE NOTE #1

KEY TRENCH - SEE NOTE #2

EXISTING STRIPPED GRADE ELEVATION THROUGH BASIN BERM (VARIES - SEE PLANS)

SEE OUTLET CONTROL STRUCTURE DETAILS

1.0 FT MIN.

1.0 FT MIN.

8.0' (MIN.) (VARIES WITH BERM WIDTH)

2'-FEET BETWEEN EXISTING STRIPPED GRADE AND BOTTOM OF KEY TRENCH

BASIN	TOP OF BERM ELEV.	TOP OF SPILLWAY ELEV.	TOP OF 100-YEAR STORM ELEV.	TOP OF CUTOFF TRENCH ELEV.
INF4-1	462.50	461.25	459.98	461.50
INF4-2	463.82	462.65	461.65	462.82

(NOT TO SCALE)

INFILTRATION BASIN BERM DETAIL

Date	Description	No.
-	-	-
-	-	-
-	-	-
-	-	-

REVISIONS

LANGAN
Langan Engineering and Environmental Services, Inc.
300 Kimball Drive
Parishipp, NJ 07054
T: 973.560.4900 F: 973.560.4901 www.langan.com

Project: **SMITHFIELD GATEWAY PHASE 1A-2**

SMITHFIELD TOWNSHIP
MONROE COUNTY PENNSYLVANIA

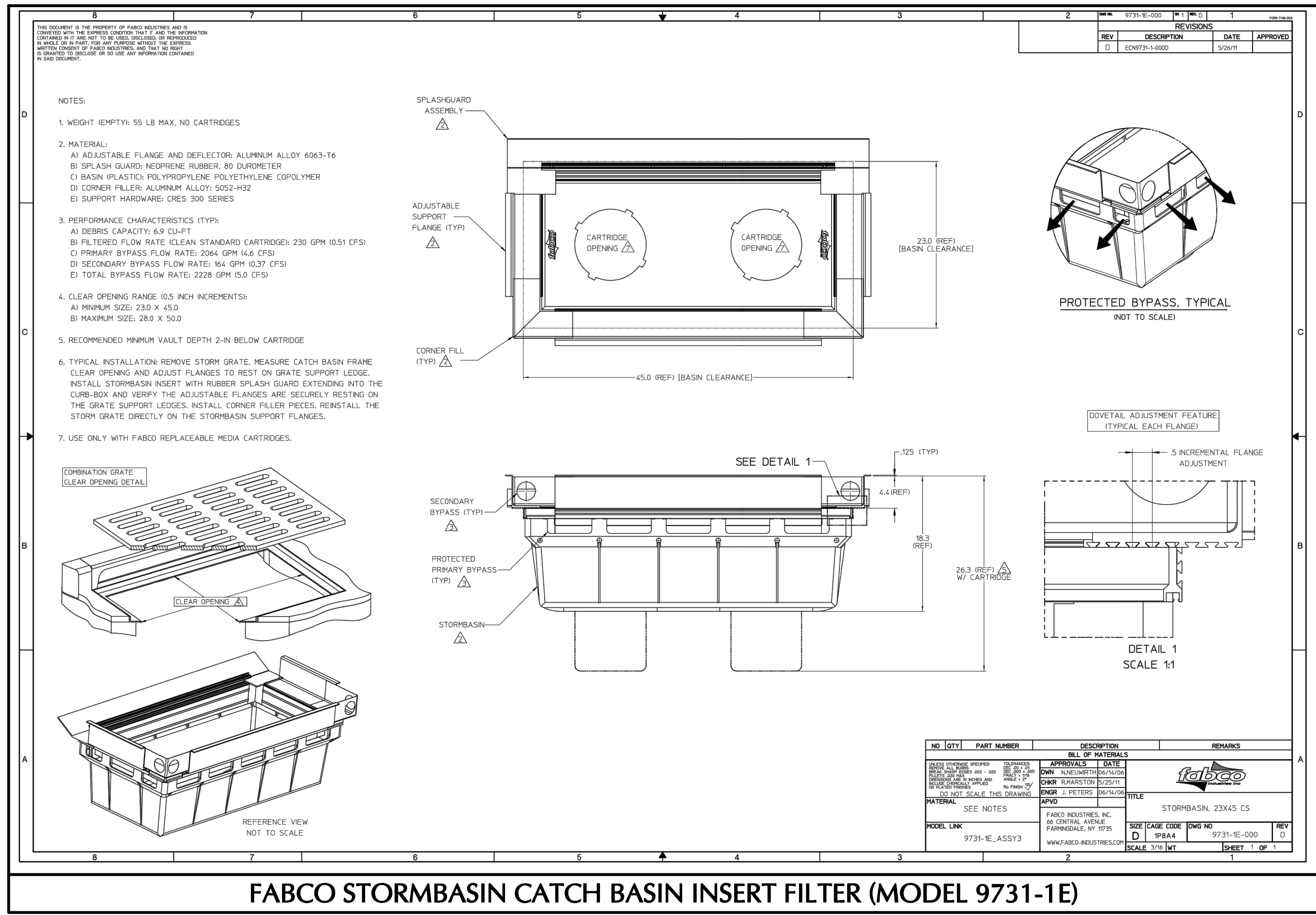
Drawing Title: **POST CONSTRUCTION STORMWATER MANAGEMENT NOTES & DETAILS**

Project No. 100501402 Drawing No. CG502

Date: FEBRUARY 17, 2023

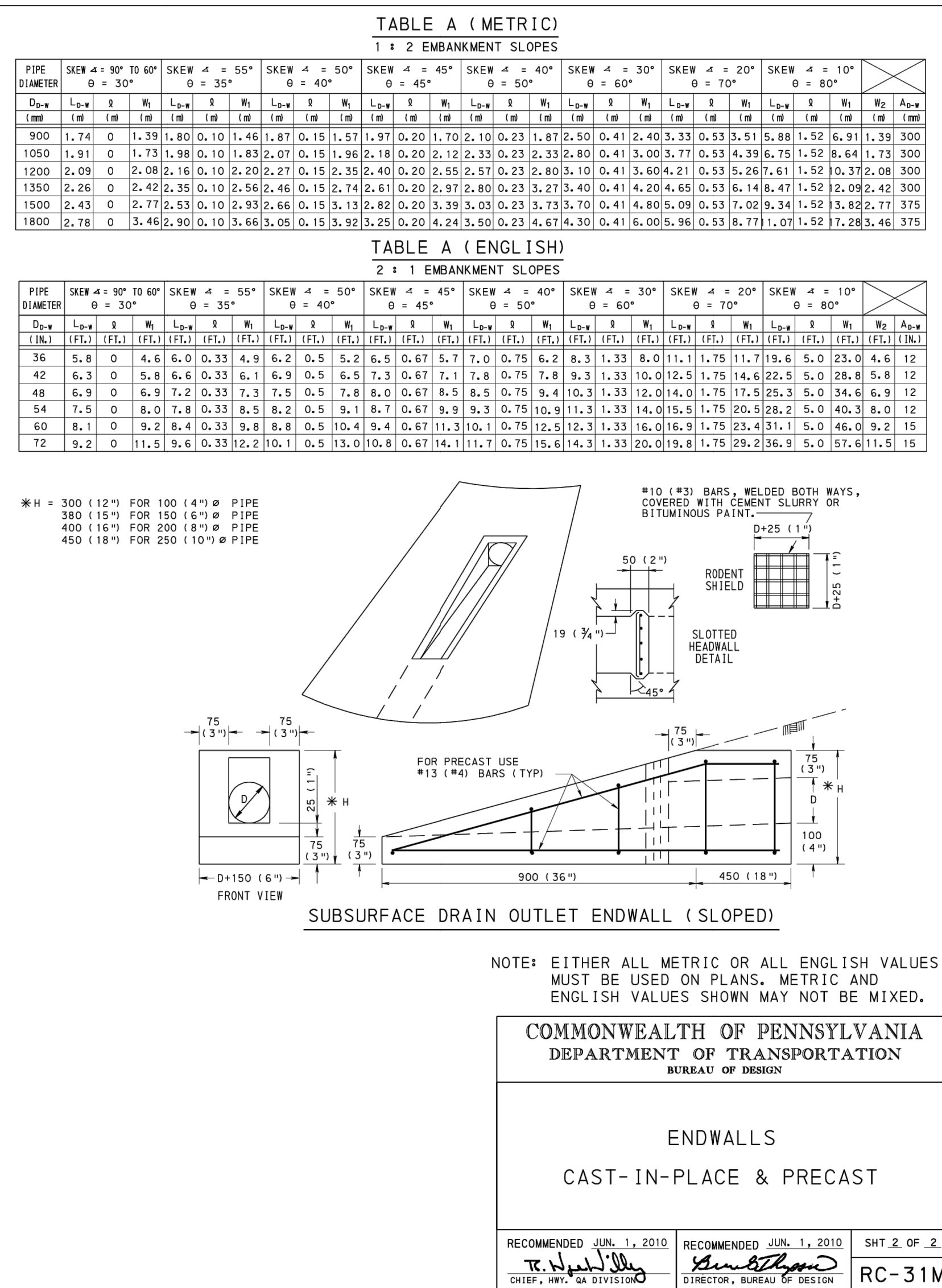
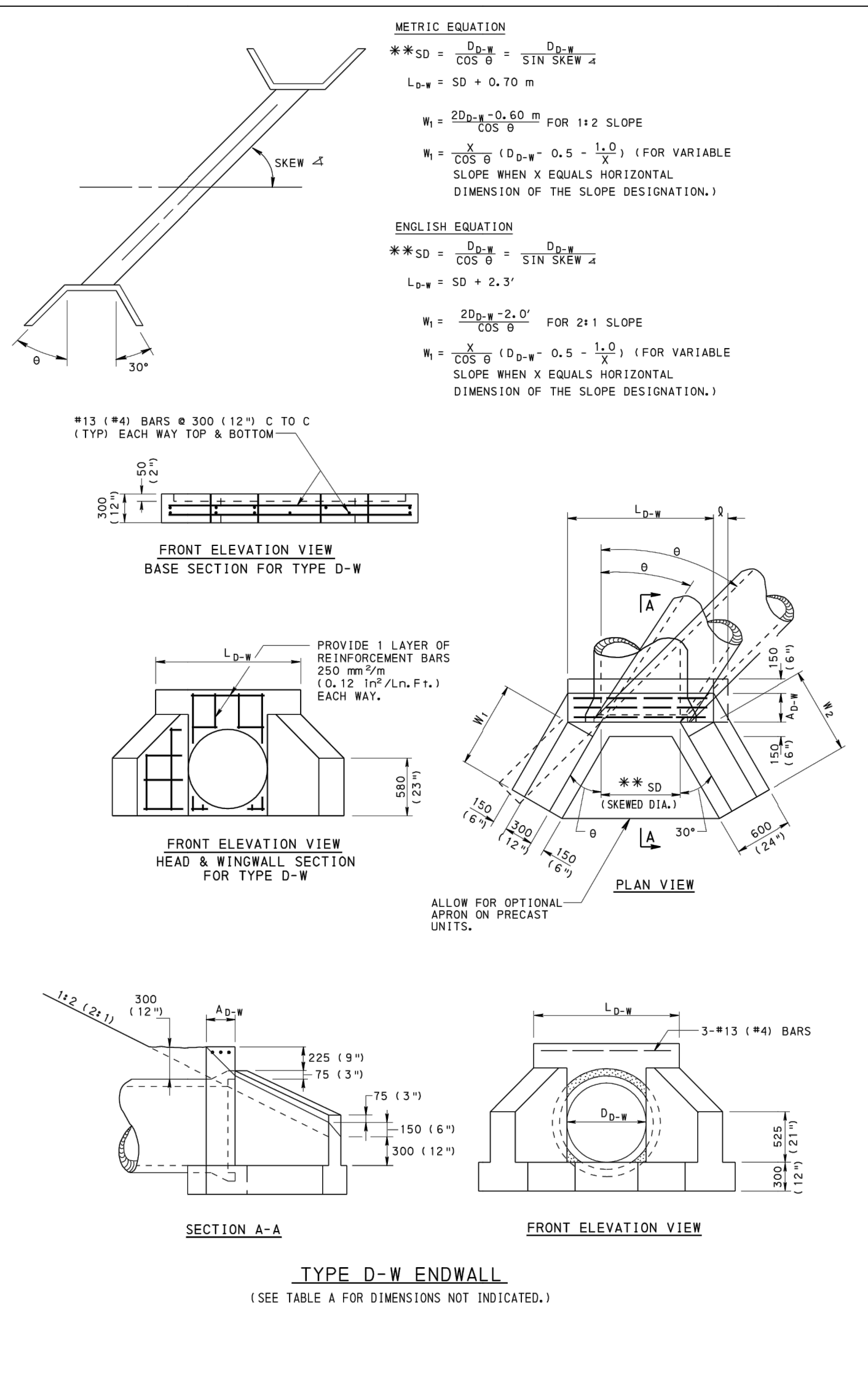
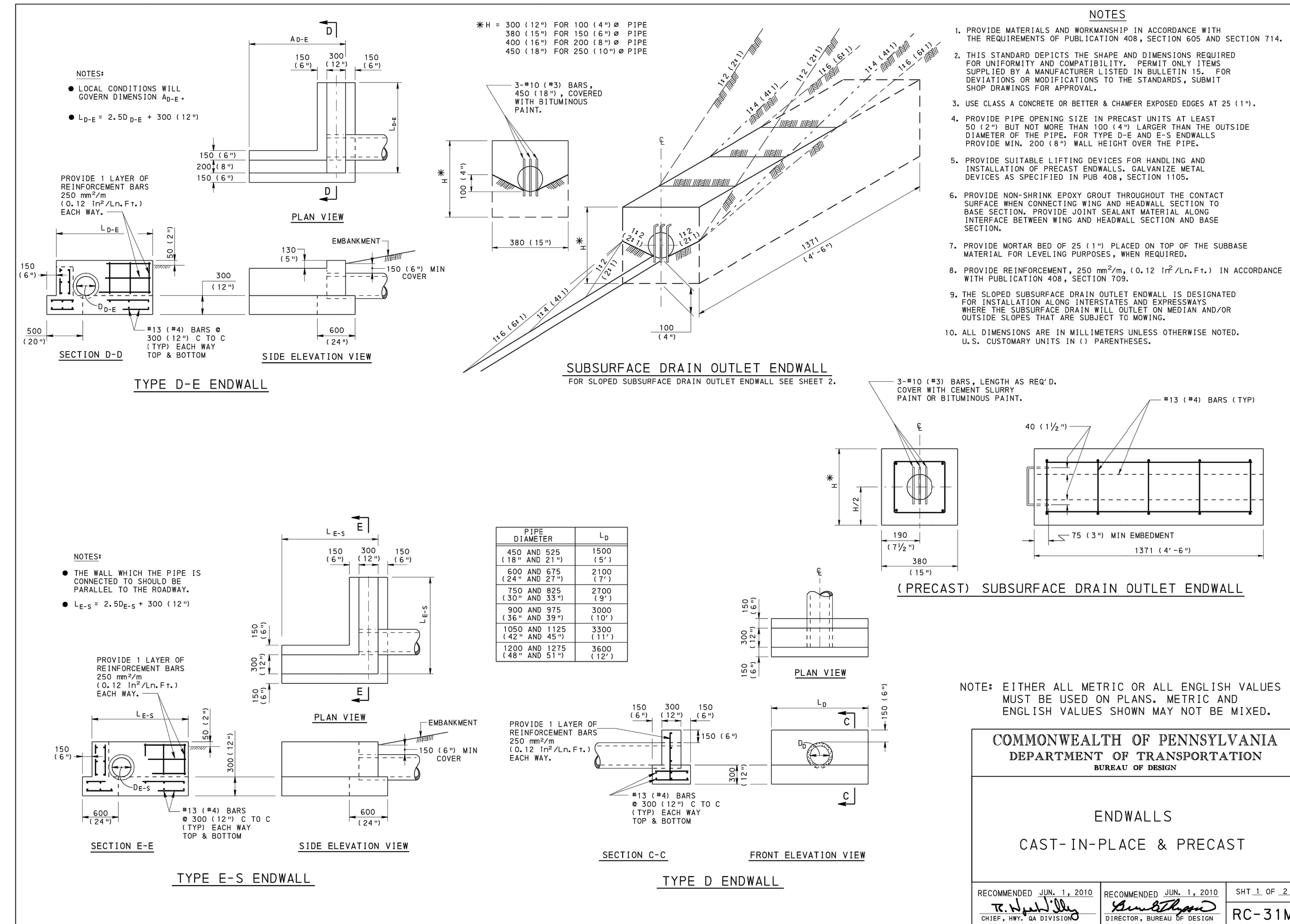
Checked By: SM

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SOIL RESTORATION DETAIL AND SPECIFICATIONS FOR MINOR COMPACTION/SUBSOILING/TILLING:

- WHEN EXCAVATION IS COMPLETED, THE SUBSOIL SHALL BE IN A LOOSE, FRIABLE CONDITION TO A DEPTH OF 8 INCHES BELOW FINAL TOPSOIL GRADE AND THERE SHALL BE NO EROSION RILLS OR WASHOUTS IN THE SUBSOIL SURFACE EXCEEDING 3 INCHES IN DEPTH.
- TO ACHIEVE THIS CONDITION, SUBSOILING, RIPPING, OR SCARIFICATION OF THE SUBSOIL WILL BE REQUIRED AS DIRECTED BY THE OWNER'S REPRESENTATIVE, WHEREVER THE SUBSOIL HAS BEEN COMPACTED BY EQUIPMENT OPERATION OR HAS BECOME DRIED OUT AND CRUSTED, AND WHERE NECESSARY TO OBLITERATE EROSION RILLS. SUB-SOILING SHALL BE REQUIRED TO REDUCE SOIL COMPACTION IN ALL AREAS WHERE PLANT ESTABLISHMENT IS PLANNED. SUB-SOILING SHALL BE PERFORMED BY THE PRIME OR EXCAVATING CONTRACTOR AND SHALL OCCUR BEFORE COMPOST PLACEMENT.
- SUBSOILED AREAS SHALL BE LOOSENED TO LESS THAN 1400 KPA (200 PSI) TO A DEPTH OF 8 INCHES BELOW FINAL TOPSOIL GRADE. WHEN DIRECTED BY THE OWNER'S REPRESENTATIVE, THE CONTRACTOR SHALL VERIFY THAT THE SUB-SOILING WORK CONFORMS TO THE SPECIFIED DEPTH.
- SUB-SOILING SHALL FORM A TWO-DIRECTIONAL GRID. CHANNELS SHALL BE CREATED BY A COMMERCIALY AVAILABLE, MULTI-SHAFTED, PARALLELOGRAM IMPLEMENT (SOLID-SHAFT RIPPER). THE EQUIPMENT SHALL BE CAPABLE OF EXERTING A PENETRATION FORCE NECESSARY FOR THE SITE. NO DISC CULTIVATORS, CHISEL PLOWS, OR SPRING-LOADED EQUIPMENT WILL BE ALLOWED. THE GRID CHANNELS SHALL BE SPACED A MINIMUM OF 12 INCHES TO A MAXIMUM OF 36 INCHES APART, DEPENDING ON EQUIPMENT, SITE CONDITIONS, AND THE SOIL MANAGEMENT PLAN. THE CHANNEL DEPTH SHALL BE A MINIMUM OF 8 INCHES OR AS SPECIFIED IN THE SOIL MANAGEMENT PLAN. IF SOILS ARE SATURATED, THE CONTRACTOR SHALL DELAY OPERATIONS UNTIL THE SOIL WILL NOT HOLD A BALL WHEN SQUEEZED. ONLY ONE PASS SHALL BE PERFORMED ON ERODIBLE SLOPES GREATER THAN 1 VERTICAL TO 3 HORIZONTAL. WHEN ONLY ONE PASS IS USED, WORK SHOULD BE AT RIGHT ANGLES TO THE DIRECTION OF SURFACE DRAINAGE, WHENEVER PRACTICAL.
- EXCEPTIONS TO SUB-SOILING INCLUDE AREAS WITHIN THE DRIP LINE OF ANY EXISTING TREES, OVER UTILITY INSTALLATIONS WITHIN 30 INCHES OF THE SURFACE, WHERE TRENCHING/DRAINAGE LINES ARE INSTALLED, WHERE COMPACTION IS BY DESIGN (ABUTMENTS, FOOTINGS, OR IN SLOPES), AND ON INACCESSIBLE SLOPES, AS APPROVED BY THE OWNER'S REPRESENTATIVE. IN CASES WHERE EXCEPTIONS OCCUR, THE CONTRACTOR SHALL OBSERVE A MINIMUM SETBACK OF 20 FEET OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
- PERMANENT STABILIZATION OF SOIL RESTORATION AREAS TO BE SAME AS PERMANENT STABILIZATION REQUIREMENTS SHOWN ON DRAWING CE101-0101.
- COMPOST SHOULD BE ADDED AT A RATE OF 2:1 (SOIL:COMPOST) OR PER MANUFACTURER'S INSTRUCTION.
- ON-SITE SOILS WITH AN ORGANIC CONTENT OF AT LEAST 5 PERCENT CAN BE PROPERLY STOCKPILED AND REUSED.
- ADD 6 INCHES COMPOST/AMENDMENT AND TILL UP TO 8 INCHES FOR MINOR COMPACTION.
- ADD 10 INCHES COMPOST/AMENDMENT AND TILL UP TO 20 INCHES FOR MAJOR COMPACTION.



HEADWALLS

Date	Description	No.

REVISIONS

LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

300 Kimball Drive
Parlissany, NJ 07054

T: 973.560.4900 F: 973.560.4901 www.langan.com

SMITHFIELD GATEWAY PHASE 1A-2

POST CONSTRUCTION STORMWATER MANAGEMENT NOTES & DETAILS

Project No. 100501402
Date FEBRUARY 17, 2023
Drawn By SM
Checked By TH

Drawing No. CG504
1121
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