

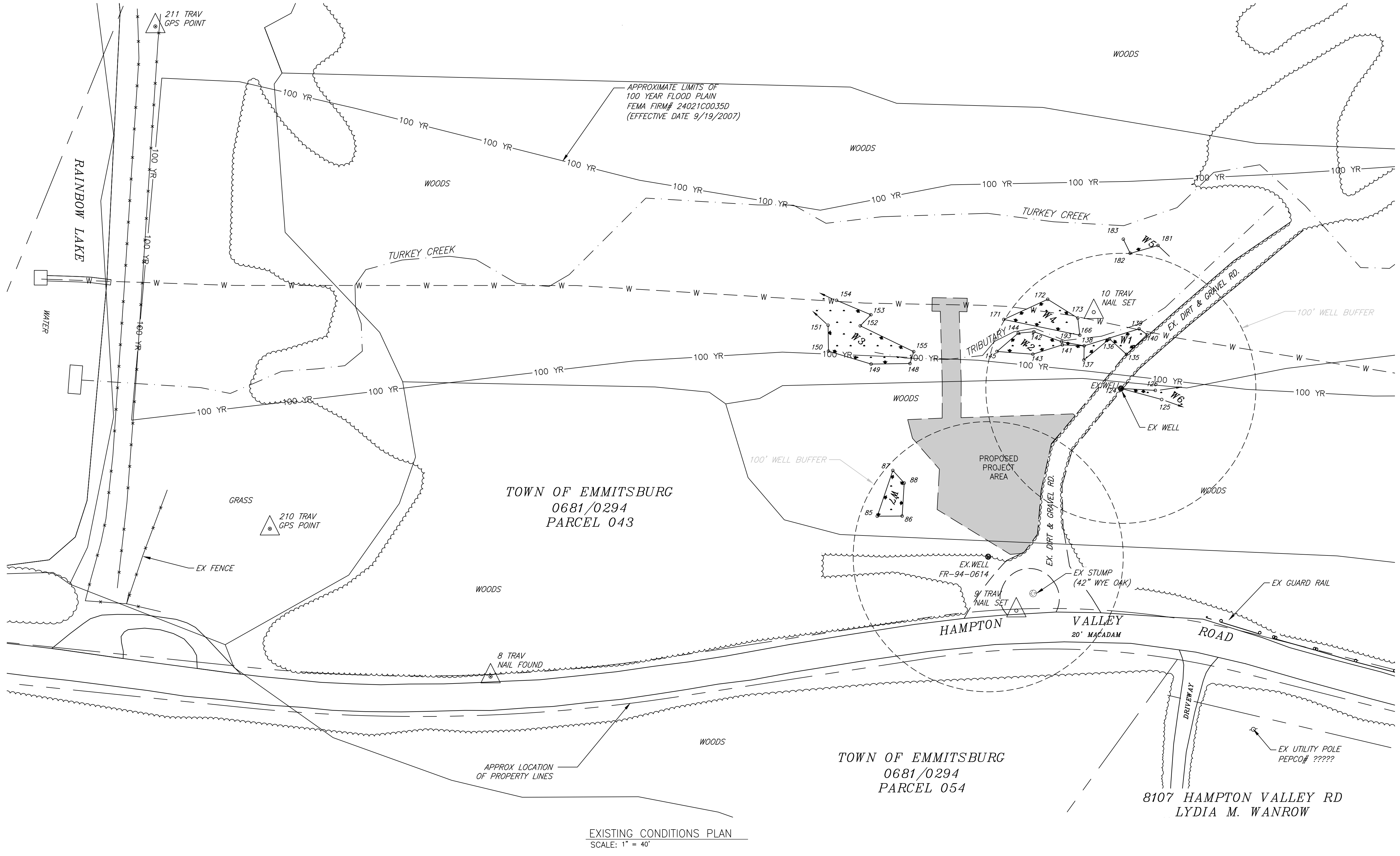
PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NO. 20586 EXPIRATION DATE 09/06/2024

NO.	DESCRIPTION	DATE
1	REISSUED FOR BID - ADDENDUM NO. 3	02/06/2024

TOWN OF EMMITSBURG, MARYLAND
 WATER PLANT CLARIFIER
 CIP NO. 4-1600-40-160-1
 HAMPTON VALLEY ROAD, EMMITSBURG ELECTION DISTRICT NO. 5, FREDERICK COUNTY, MARYLAND

ENGINEER: WJG
 CHECKED BY: JCM
 DRAWN BY: WJG
 DATE: 2023
 R&K PROJECT NUMBER: 20119

DRAWING NUMBER: C-01
 SHEET NO. 05 OF 42



SURVEY & PLAT BY
R.F. GAUSS & ASSOC., INC.
 PROFESSIONAL LAND SURVEYORS
 103 E. MAIN ST., P.O. BOX 128
 EMMITSBURG, MARYLAND 21727
 301-447-2222 FAX 301-447-3158

TRAVERSE COORDINATES				
TRAV	NORTHING	EASTING	ELEVATION	DESCRIPTION
8	739,276.55	1,203,344.80	861.32'	NAIL FOUND
9	739,539.89	1,203,635.75	835.80'	NAIL SET
10	739,753.78	1,203,555.98	818.54'	NAIL SET
210	739,272.46	1,203,148.10	859.50'	TRAV
211	739,528.45	1,202,865.35	865.97'	TRAV

- NOTES:
- SURVEY CONDUCTED BY R.F. GAUSS & ASSOCIATES ON MAY 24, 2021.
 - HORIZONTAL DATUM: MARYLAND STATE GRID NORTH NAD 83, 2011 BY GPS OBSERVATION NGS OPUS STATIC SOLUTION AT TRAVERSE STATION #210
 VERTICAL DATUM: NAVD 88 (GEOID 18) BY GPS OBSERVATION NGS OPUS STATIC SOLUTION AT TRAVERSE STATION #210
 - NON-TIDAL WETLANDS DELINEATED BY WATERSHED ENVIRONMENTAL, LLC ON APRIL 23, 2021.
 - THE LOCATIONS OF PROPERTY LINES SHOWN ARE APPROXIMATE AND ARE BASED ON PARCEL DATA FROM THE FREDERICK COUNTY GIS DATABASE UPDATED APRIL 2022. PARCEL NUMBER, OWNER NAME AND LIBER/FOLIO ARE BASED ON MARYLAND DEPARTMENT OF ASSESSMENTS AND TAXATION REAL PROPERTY DATA (SDAT) AS OF APRIL 2022.
 - THE LOCATIONS OF UNDERGROUND UTILITIES ARE BASED ON ABOVEGROUND FIELD OBSERVATIONS AND RECORD DRAWINGS. ADDITIONAL BURIED UTILITIES OR STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE TO LOCATE BURIED UTILITIES/STRUCTURES. ALL SUBSURFACE UTILITIES/STRUCTURES SHOWN ARE TO BE CONSIDERED APPROXIMATE LOCATIONS ONLY. UNDERGROUND UTILITIES MUST BE VERIFIED BY TEST PITS.

NON-TIDAL WETLAND DELINEATION				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
140	739,762.8861	1,203,597.8674	817.33'	W1
139	739,762.9495	1,203,590.5622	817.30'	W1
138	739,729.2814	1,203,564.4530	818.83'	W1
137	739,720.5846	1,203,570.2846	818.50'	W1
136	739,744.2640	1,203,576.8953	818.30'	W1
135	739,742.1224	1,203,593.6972	818.10'	W1
145	739,688.8469	1,203,513.9414	819.22'	W2
144	739,708.9511	1,203,519.0279	818.87'	W2
142	739,716.4811	1,203,527.9929	818.74'	W2
143	739,702.4561	1,203,536.9133	819.30'	W2
141	739,720.6669	1,203,550.8108	818.52'	W2
155	739,653.3535	1,203,463.5317	822.99'	W3
154	739,651.6976	1,203,394.9066	824.06'	W3
153	739,657.5508	1,203,421.8732	823.27'	W3
151	739,632.9934	1,203,400.3397	824.54'	W3
150	739,617.4317	1,203,411.5906	824.51'	W3
149	739,627.7436	1,203,442.9231	823.27'	W3
148	739,644.5988	1,203,466.2782	822.26'	W3
152	739,646.3146	1,203,420.1026	823.77'	W3

NON-TIDAL WETLAND DELINEATION				
Point #	Northing	Easting	Elevation	Description
173	739743.4572	1203548.7692	818.24	W4
172	739742.0399	1203522.5714	818.36	W4
171	739711.1468	1203504.4832	819.69	W4
166	739733.9088	1203557.2894	818.19	W4
183	739810.6170	1203542.9143	815.53	W5
182	739804.9818	1203553.0459	816.00	W5
181	739821.5245	1203566.6449	815.14	W5
126	739732.5082	1203626.5270	816.93	W6
125	739729.7115	1203634.2739	816.97	W6
124	739719.0737	1203604.7831	818.95	W6/EX WELL
88	739569.6509	1203513.5628	831.09	W7
87	739572.4184	1203501.3133	830.63	W7
86	739548.7642	1203526.3221	832.21	W7
85	739538.0966	1203511.2857	833.06	W7

WETLANDS DELINEATION BY
WATERSHED ENVIRONMENTAL, LLC.
 NATURAL RESOURCE CONSULTING • WETLANDS • FORESTS • STREAMS
 1306 KNOPP ROAD., P.O. BOX 562
 JARRETTSVILLE, MARYLAND 21084
 PH: 410-260-0290 MOBILE: 410-459-9522





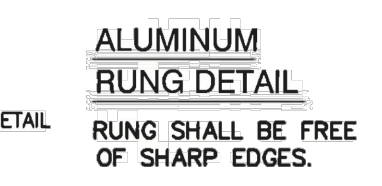
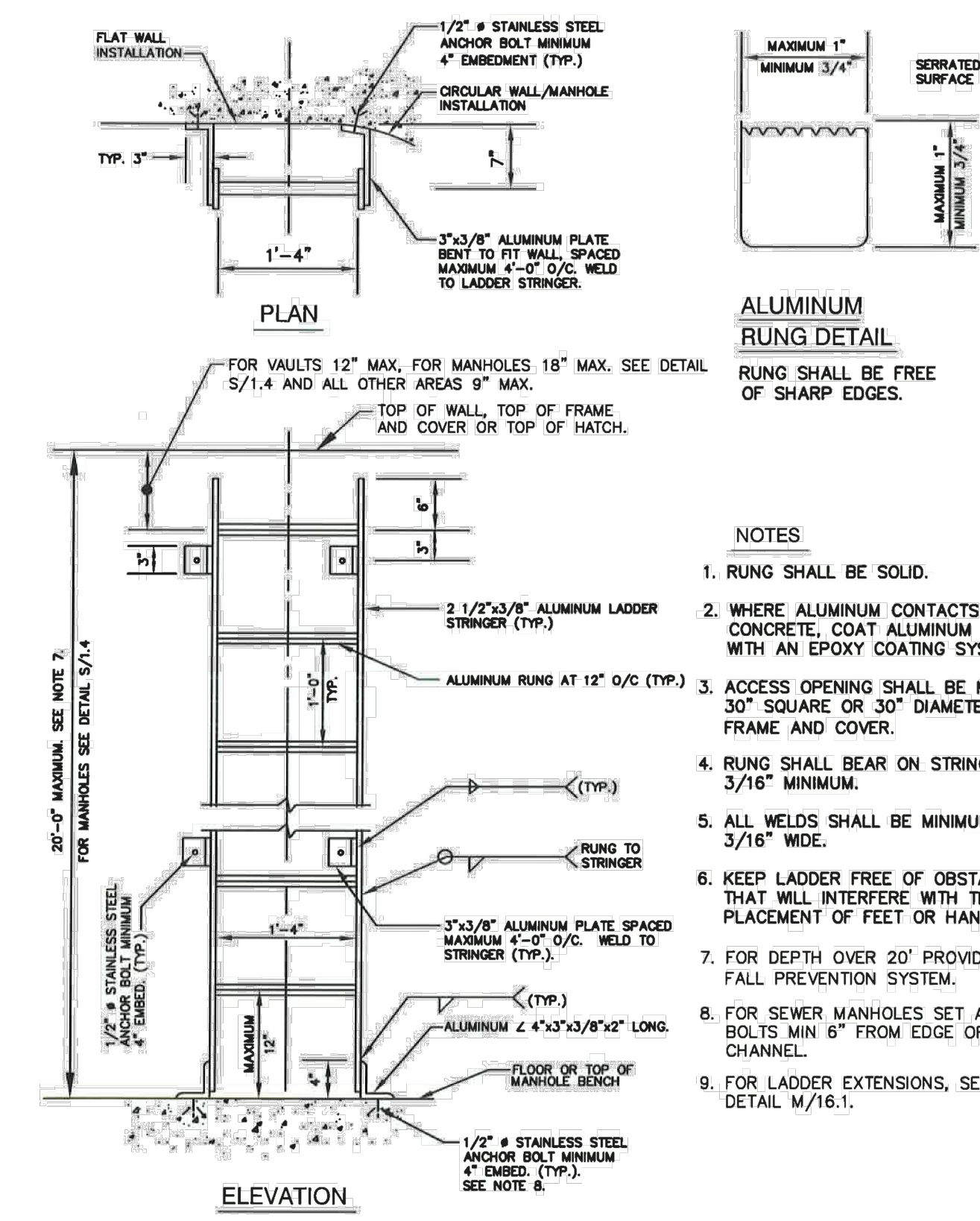
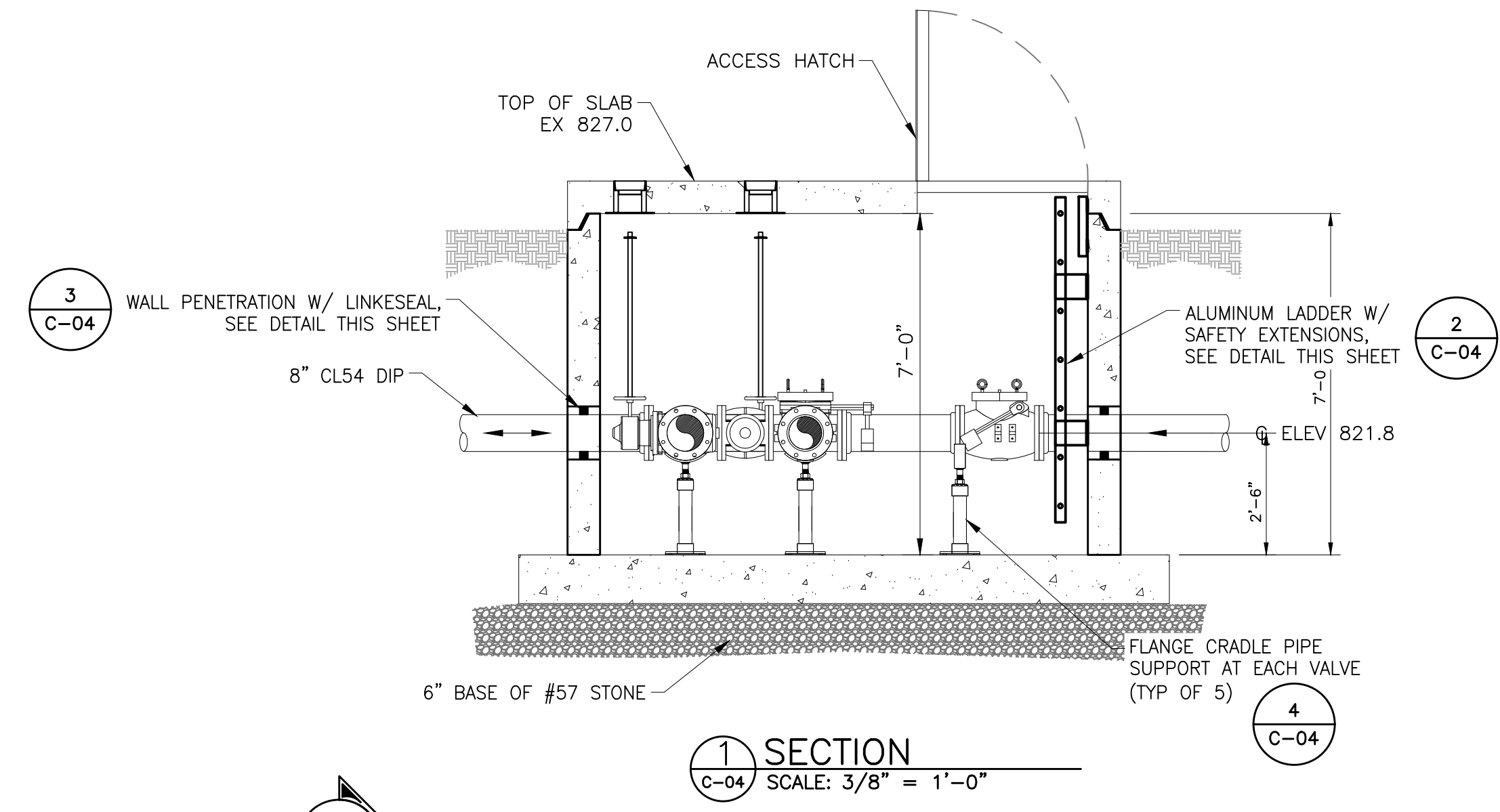
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RK&K
 700 EAST PRATT STREET, SUITE 500
 BALTIMORE, MARYLAND 21202
 800.787.3755

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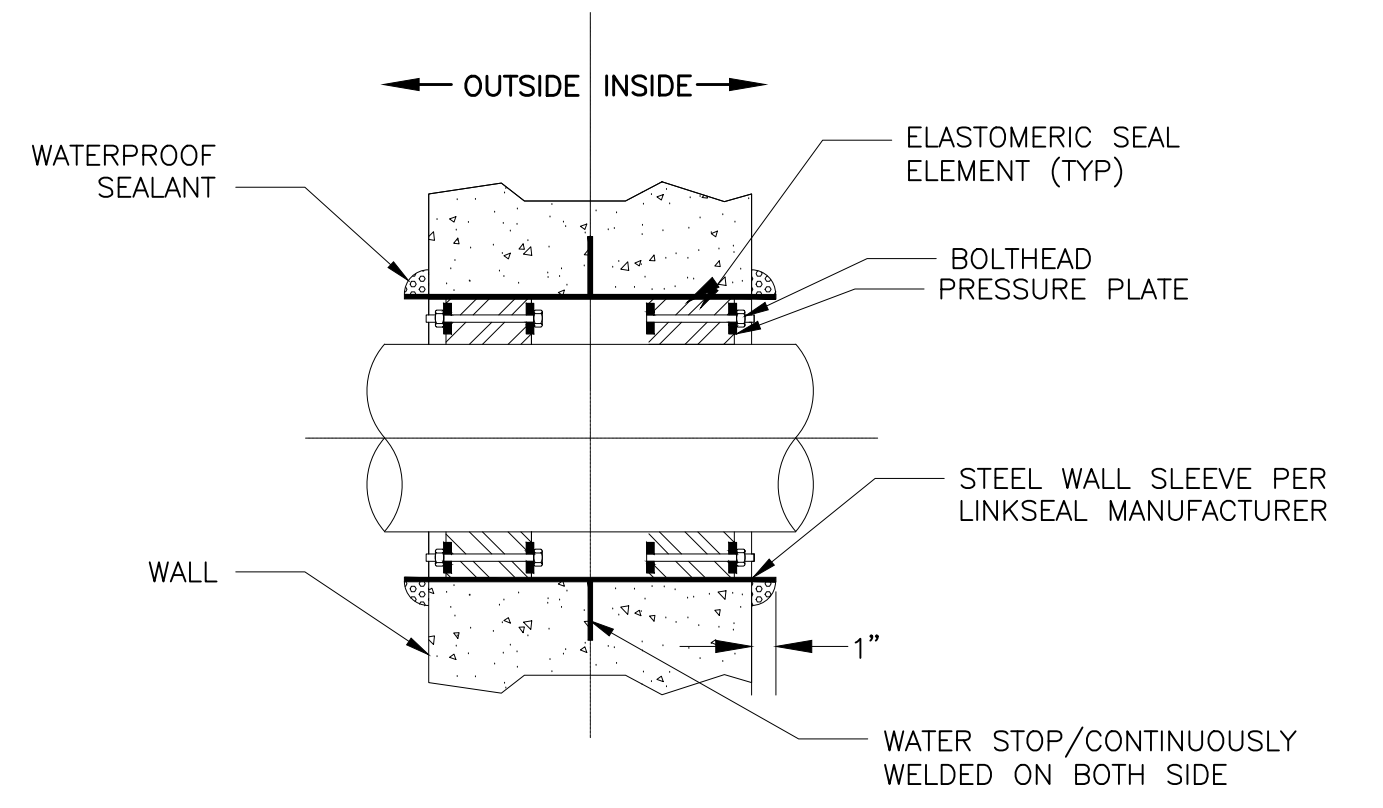
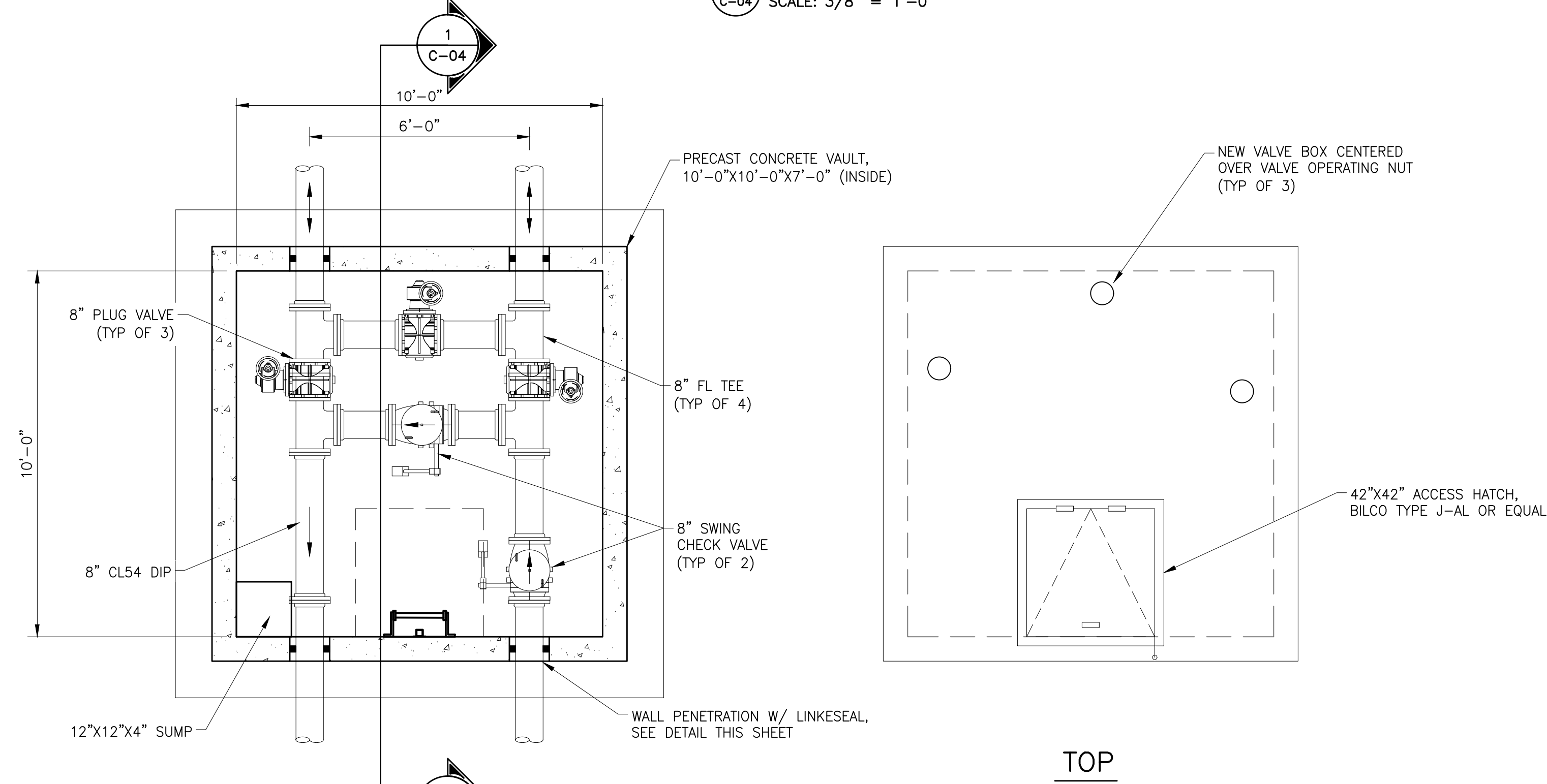
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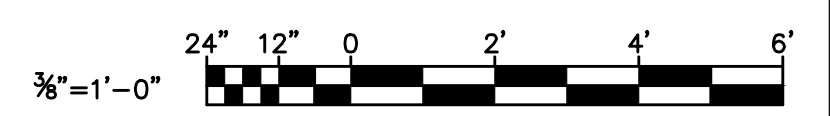
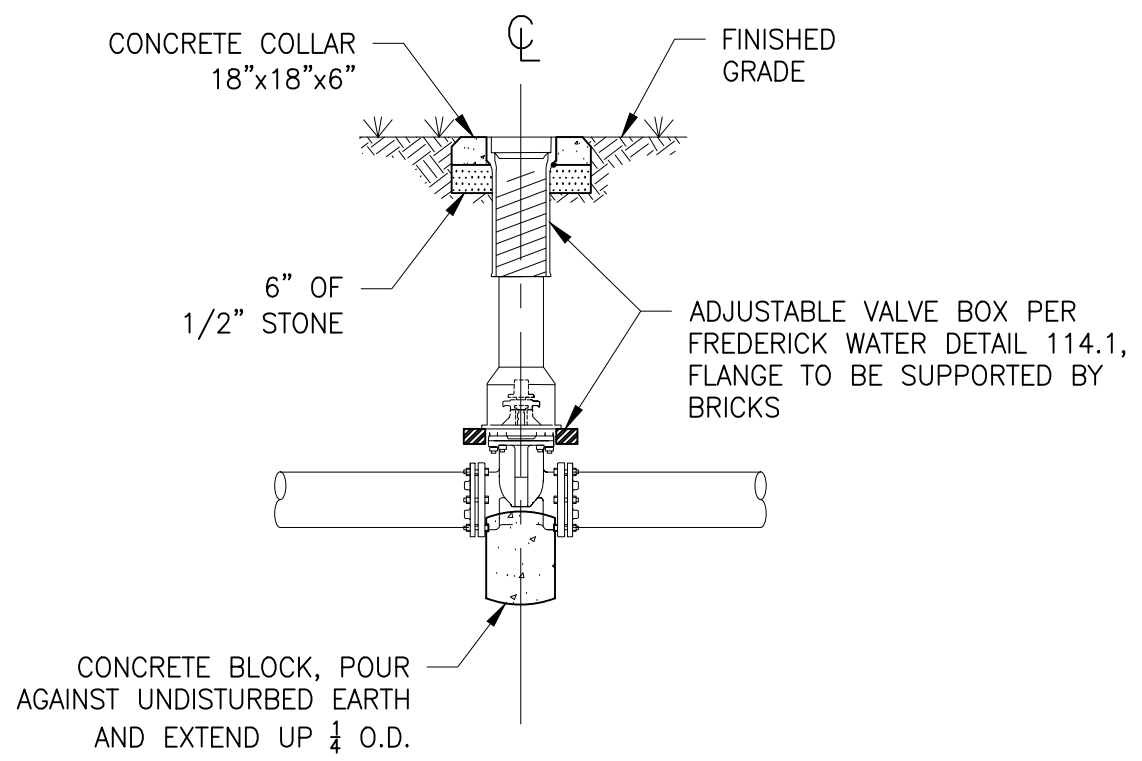
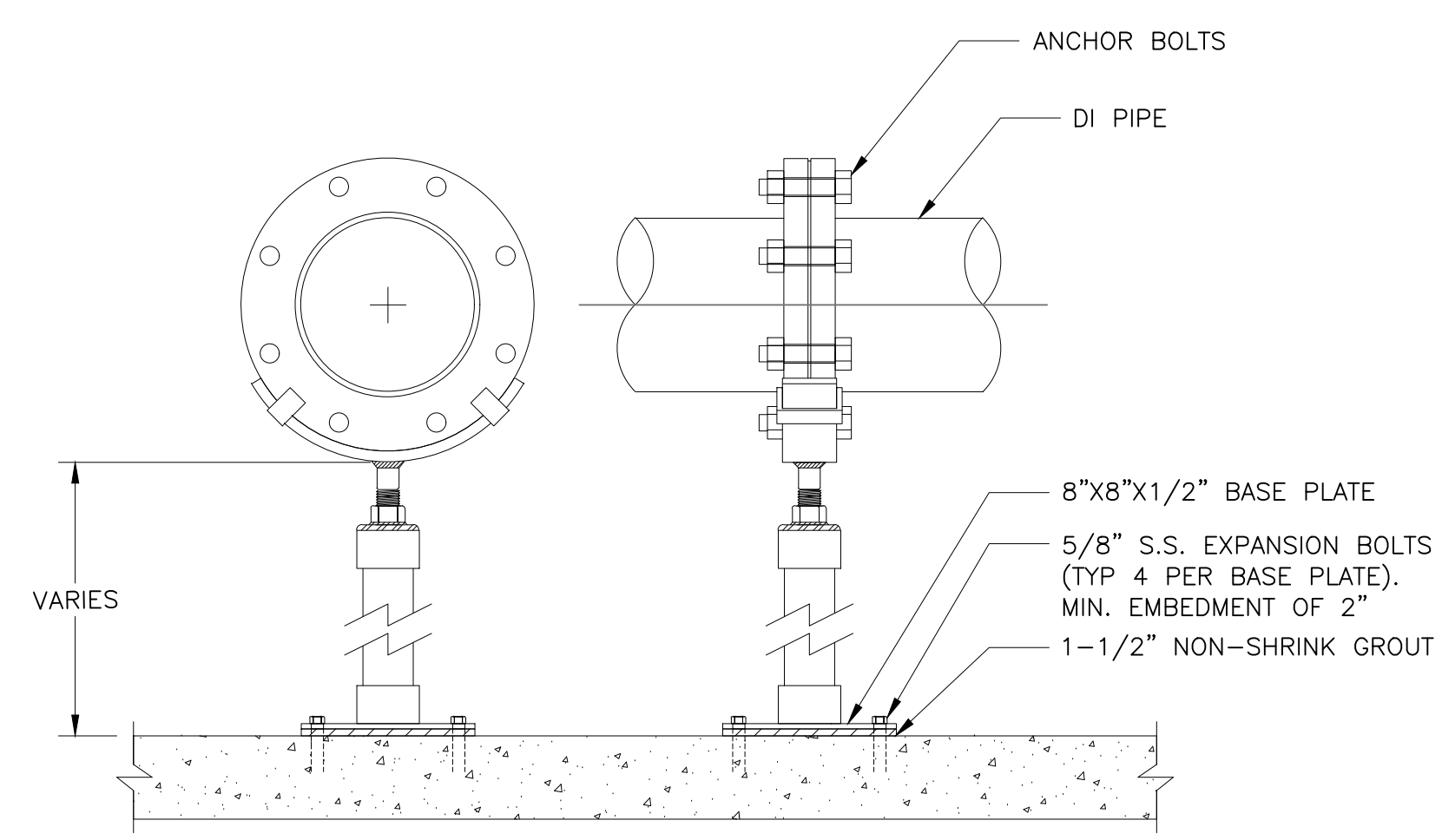
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C-04
 SHEET NO. 08 OF 42



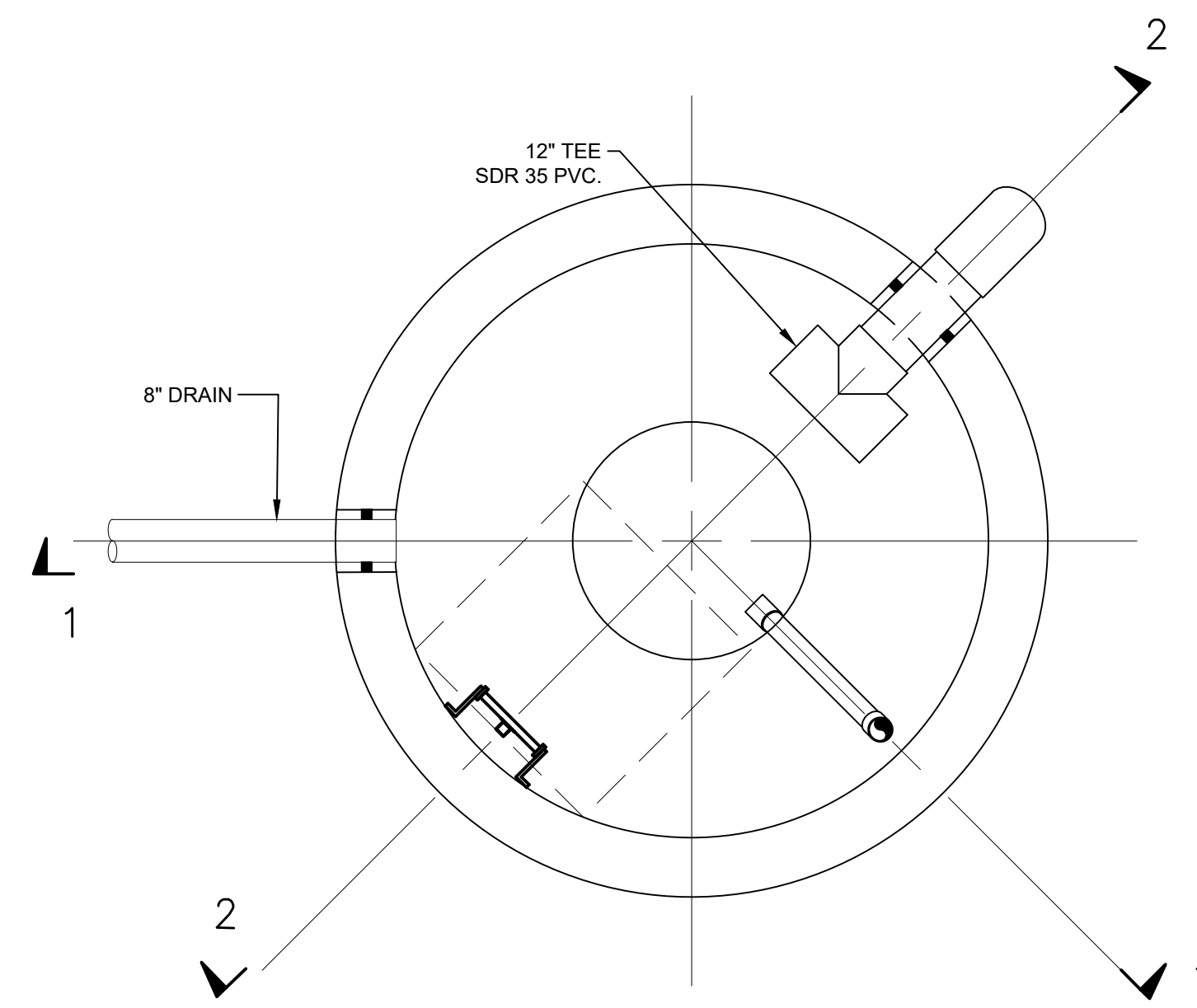
- NOTES
- RUNG SHALL BE SOLID.
 - WHERE ALUMINUM CONTACTS CONCRETE, COAT ALUMINUM WITH AN EPOXY COATING SYSTEM.
 - ACCESS OPENING SHALL BE MINIMUM 30" SQUARE OR 30" DIAMETER FRAME AND COVER.
 - RUNG SHALL BEAR ON STRINGER 3/16" MINIMUM.
 - ALL WELDS SHALL BE MINIMUM 3/16" WIDE.
 - KEEP LADDER FREE OF OBSTACLES THAT WILL INTERFERE WITH THE PLACEMENT OF FEET OR HANDS.
 - FOR DEPTH OVER 20' PROVIDE FALL PREVENTION SYSTEM.
 - FOR SEWER MANHOLES SET ANCHOR BOLTS MIN 6" FROM EDGE OF CHANNEL.
 - FOR LADDER EXTENSIONS, SEE DETAIL M/16.1.



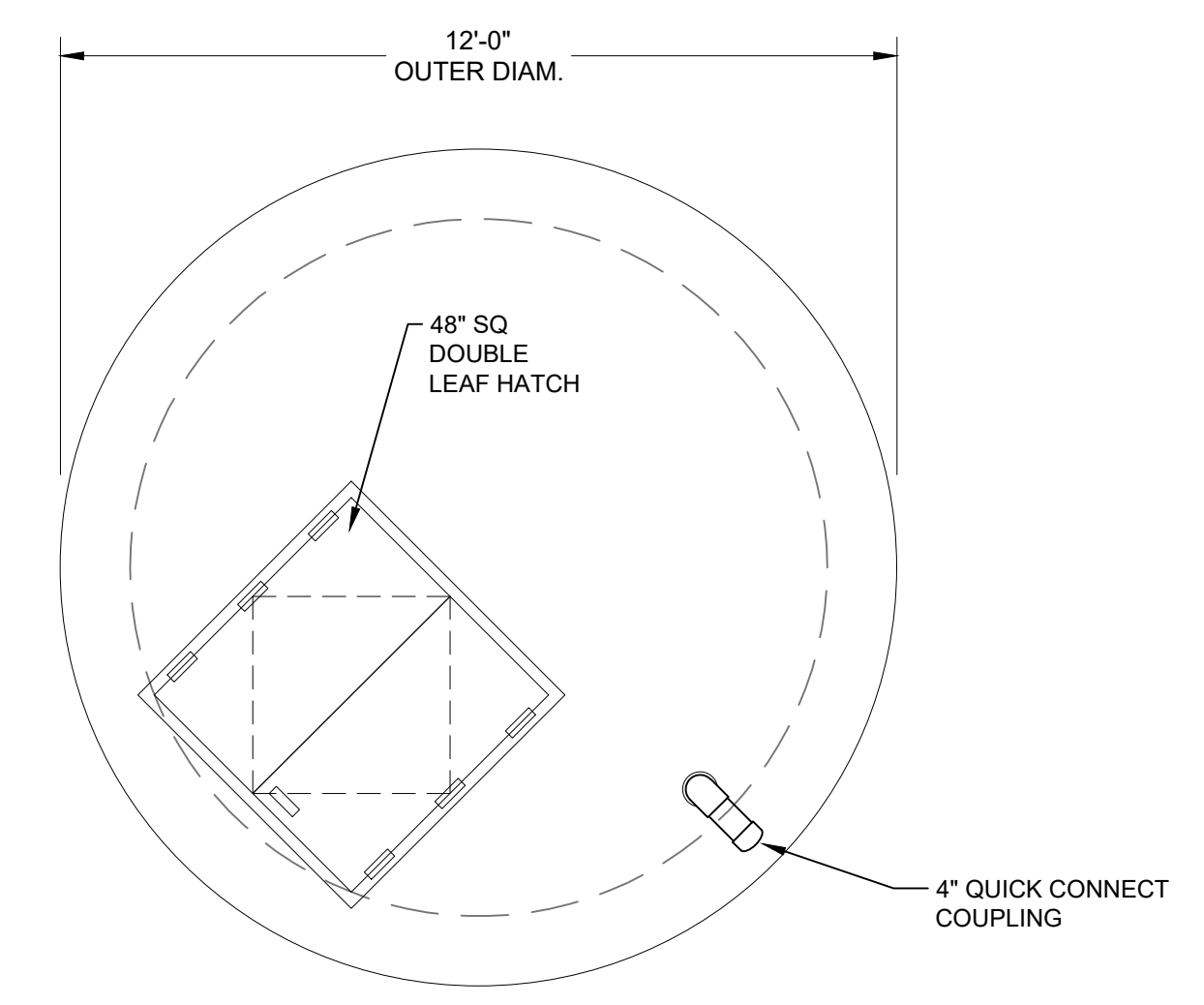
NOTE: BOLTHEADS MUST BE POSITIONED TOWARDS THE INSIDE OF THE VAULT SO THAT THEY MAY BE ACCESSED EASILY.



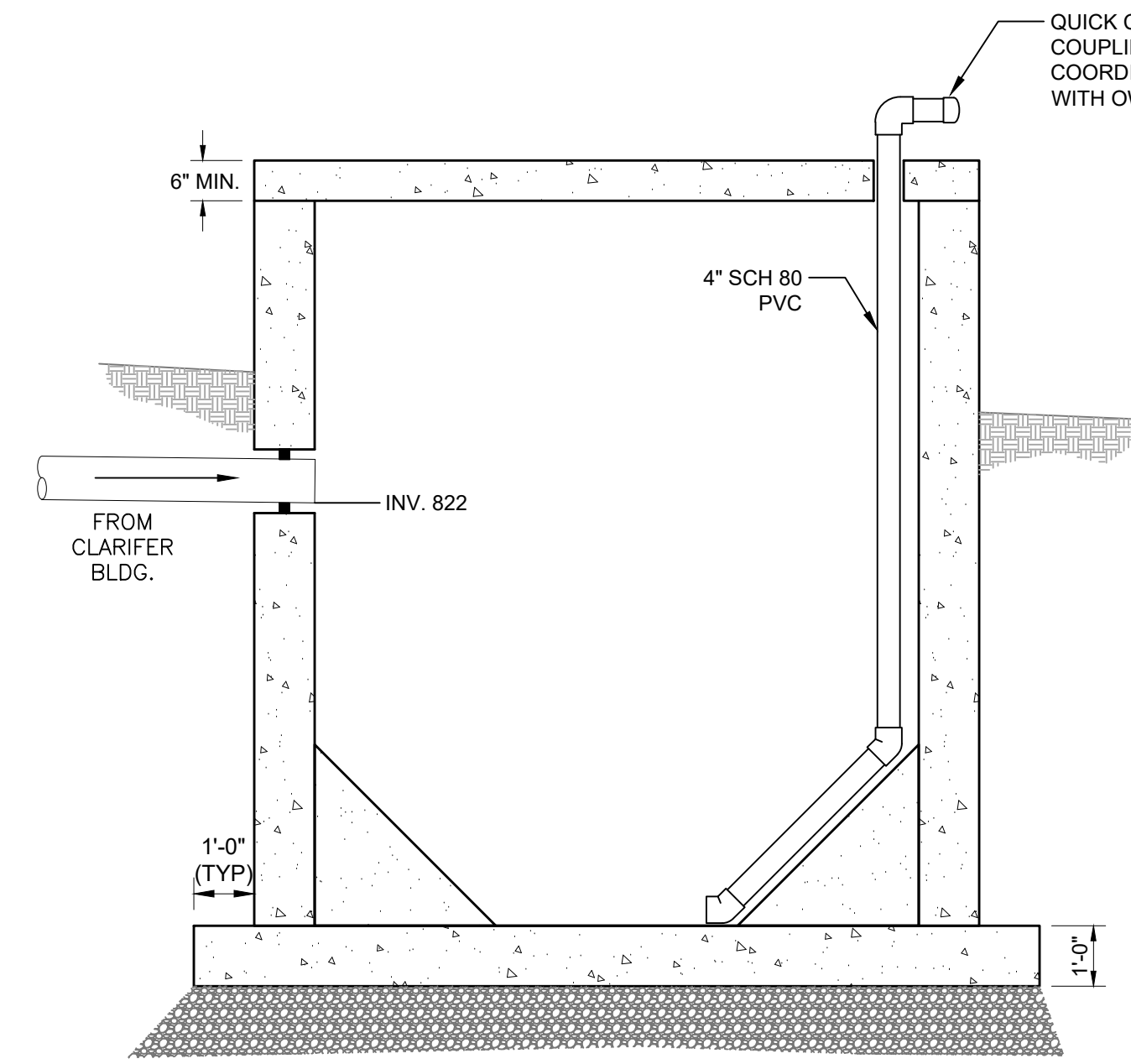
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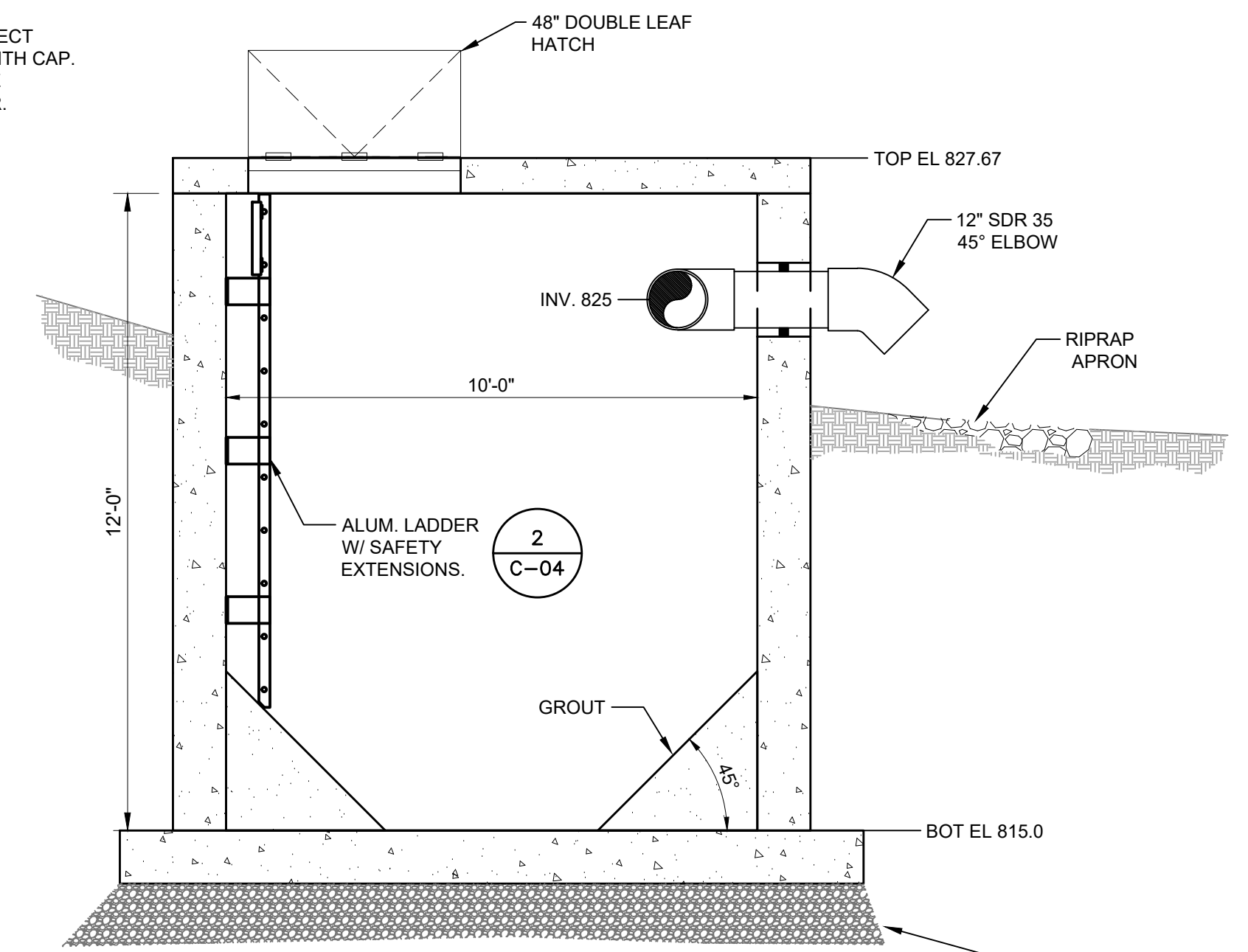
PLAN



TOP ELEV.

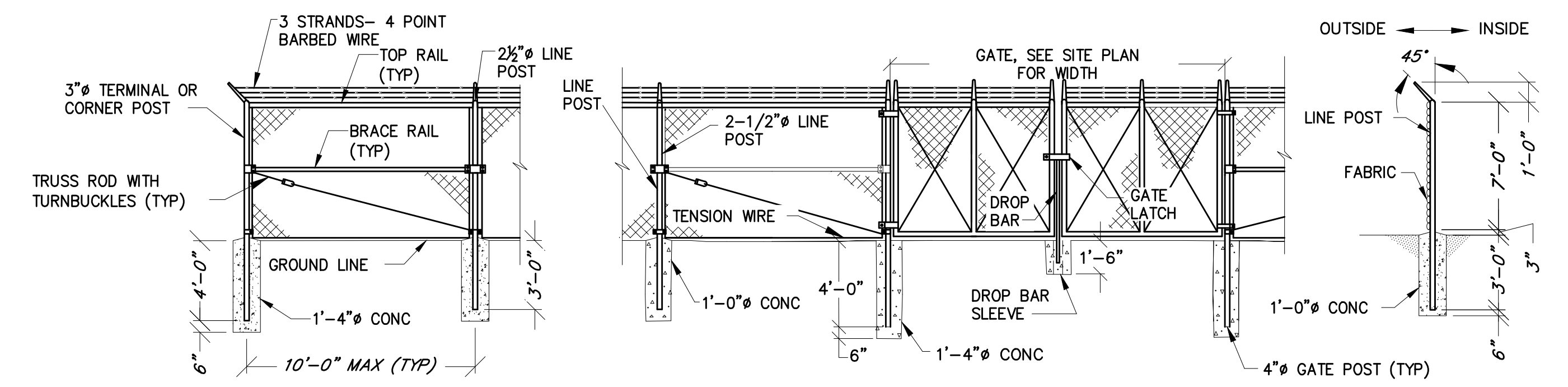


SECTION 1



SECTION 2

B SLUDGE HOLDING TANK
C-03/ SCALE: 3/8" = 1'-0"



NOTE:
1. THE BOTTOM OF THE FABRIC SHALL BE TO FINISHED GRADE, BUT NOT MORE THAN 2" ABOVE THE GROUND.

A CHAIN-LINK FENCE DETAIL
C-03/ SCALE: NTS

R:\21\1515 - \Vof\ok.com\1\Chief\Projects\2020\2019_Emmitsburg\CAD\VP\AKS\C-05.dwg Jan 05, 2024 - 2:08pm Plot Scale: 1:1



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CIP NO. 4-1600-40-160-1
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DETAILS

ENGINEER	CHECKED BY
WJG	JCM
DRAWN BY	DATE
KMR	2023
RK&K PROJECT NUMBER	
20119	

DRAWING NUMBER
C-05
SHEET NO. 09 OF 42



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TOWN OF EMMITSBURG, MARYLAND
WATER PLANT CLARIFIER
CIP NO. 4-1000-40-160-1
HAMPTON VALLEY ROAD, EMMITSBURG ELECTION DISTRICT NO. 6, FREDERICK COUNTY, MARYLAND

ENGINEER	CHECKED BY
WJG	JCM
DRAWN BY	DATE
KMR	2023
PROJECT NUMBER	20119

DRAWING NUMBER
ESC-01
SHEET NO. 10 OF 42

B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

DEFINITION
THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

PURPOSE
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

CONDITIONS WHERE PRACTICE APPLIES
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA

- A. SOIL PREPARATION
1. TEMPORARY STABILIZATION
a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT...
b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
2. PERMANENT STABILIZATION
a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE...
i. SOIL PH BETWEEN 6.0 AND 7.0.
ii. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
iii. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL...
iv. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
v. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
c. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN...
d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS...

- B. TOPSOILING
1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION...
2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS...
3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND...
b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUUDA GRASS, QUACK GRASS...
c. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST...

- 6. TOPSOIL APPLICATION
a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES...
c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION...

- C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER...
2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION...
3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIMESTONE)...
4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL...
5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE...

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

DEFINITION
THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

PURPOSE
TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES
TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA

- A. SEEDING
1. SPECIFICATIONS
a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW...
b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES...
c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA...
d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS...
2. APPLICATION
a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
i. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1...
ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER...
b. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
i. CULTIPACKER SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING...
ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER...
c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER...
i. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING...
ii. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE...
iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

- B. MULCHING
1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR...
b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
i. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE...
ii. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
iii. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION...
iv. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
v. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS...
2. APPLICATION
a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE...
c. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE...
3. ANCHORING
a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER...

SOIL EROSION AND SEDIMENT CONTROL NOTES:

- 1. REFER TO "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN.
2. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, MINOR FIELD ADJUSTMENTS CAN AND WILL BE MADE TO INSURE THE CONTROL OF ANY SEDIMENT. CHANGES IN SEDIMENT CONTROL PRACTICES REQUIRE PRIOR APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE CATOCTIN & FREDERICK SOIL CONSERVATION DISTRICTS.
3. AT THE END OF EACH WORKING DAY, ALL SEDIMENT CONTROL PRACTICES WILL BE INSPECTED AND LEFT IN OPERATIONAL CONDITION.
4. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN: A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN THREE HORIZONTAL TO ONE VERTICAL (3:1), AND B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
5. ANY CHANGE TO THE GRADING PROPOSED ON THIS PLAN REQUIRES RE-SUBMISSION TO CATOCTIN & FREDERICK COUNTY SOIL CONSERVATION DISTRICTS FOR APPROVAL.
6. DUST CONTROL WILL BE PROVIDED FOR ALL DISTURBED AREAS, REFER TO "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", PG H.22, FOR ACCEPTABLE METHODS AND SPECIFICATIONS FOR DUST CONTROL.
7. ANY VARIATIONS FROM THE SEQUENCE OF OPERATIONS STATED ON THIS PLAN REQUIRES THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE CATOCTIN & FREDERICK SOIL CONSERVATION DISTRICTS PRIOR TO THE INITIATION OF THE CHANGE.
8. EXCESS CUT OR BORROW MATERIAL SHALL GO TO, OR COME FROM, RESPECTIVELY, A SITE WITH AN OPEN GRADING PERMIT AND APPROVED SEDIMENT AND CONTROL PLAN.
9. THE FOLLOWING ITEM MAY BE USED AS APPLICABLE: REFER TO "MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION" BY THE WATER MANAGEMENT ADMINISTRATION OF THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, REVISED NOVEMBER 2000, FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN FOR WATERWAY CONSTRUCTION.
10. PUMPING SEDIMENT-LOADED WATER INTO WATERS OF THE STATE IS STRICTLY PROHIBITED. ANY PORTABLE DEWATERING DEVICE MUST BE LOCATED WITHIN THE LIMIT OF DISTURBANCE.
11. NOTHING HEREIN RELIEVES THE CONTRACTOR FROM COMPLYING WITH ANY AND ALL OTHER FEDERAL, STATE OR MUNICIPAL REGULATIONS.
12. NO PUMPING FROM FOUNDATION EXCAVATIONS WILL BE ALLOWED DIRECTLY INTO THE TOWN SYSTEM UNLESS IT IS FILTERED BY WAY OF SEDIMENT TRAPS OR DEWATERING DEVICE.
13. ALL EXCAVATION MATERIAL SHALL BE PLACED ON THE HIGH SIDE WHENEVER POSSIBLE AND CONFINED TO AN AREA WHERE IT WILL NOT OBSTRUCT THE NORMAL FLOW OF DRAINAGE COURSES.
14. CONTINUOUS INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL DEVICES WILL BE REQUIRED.
15. THE CONTRACTOR SHALL NOT DEVIATE FROM THE APPROVED SEDIMENT AND EROSION CONTROL PLANS WITHOUT PRIOR APPROVAL OF THE CATOCTIN & FREDERICK SOIL CONSERVATION DISTRICTS. VARIATIONS TO THE PLAN MUST BE SUBMITTED IN WRITING, ACCOMPANIED BY A COPY OF THE ORIGINALLY APPROVED PLAN MODIFIED TO SHOW THE REQUESTED CHANGES, FOR THIS APPROVAL. SUBSTANTIAL CHANGES WILL NECESSITATE AMENDING THE BUILDING AND/OR GRADING PERMIT IF APPLICABLE.

UTILITY NOTES:

- 1. CONTRACTOR SHOULD OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE OF) THE TRENCH.
2. PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
3. ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

SECTION 1 - CERTIFICATIONS:

A. OWNER'S/DEVELOPER'S CERTIFICATION:
I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THIS CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/WE ALSO CERTIFY THAT THE SITE WILL BE INSPECTED AT THE END OF EACH WORKING DAY, AND THAT ANY NEEDED MAINTENANCE WILL BE COMPLETED SO AS TO INSURE THAT ALL SEDIMENT CONTROL PRACTICES ARE LEFT IN OPERATIONAL CONDITION. I/WE AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY THE CATOCTIN & FREDERICK SOIL CONSERVATION DISTRICTS BOARD OF SUPERVISORS OR THEIR AUTHORIZED AGENTS.

SIGNATURE OF OWNER/DEVELOPER DATE
PRINT NAME TITLE

B. CONSULTANT'S CERTIFICATION:
I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CATOCTIN & FREDERICK SOIL CONSERVATION DISTRICTS AND THE CURRENT STATE OF MARYLAND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. I HAVE REVIEWED THIS EROSION AND SEDIMENT CONTROL PLAN WITH THE OWNER/DEVELOPER.

SIGNATURE DATE
JOHN C. MOORE, PE 20566
PRINT NAME MD LICENSE NUMBER

Frederick Soil Conservation District
Erosion and Sediment Control Plan Approval
By: [Signature] District Manager or Designee
Date: 12/13/2023
Plan is valid for 2 years from date of approval
SCD approval for sediment and erosion control is in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control and is contingent upon issuance of all applicable regulatory permits.

B-4-5 STANDARDS AND SPECIFICATIONS

FOR PERMANENT STABILIZATION

DEFINITION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

A. SEED MIXTURES

1. GENERAL USE

- a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
- b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
- c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
- d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

2. TURFGRASS MIXTURES

- a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
- b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
 - i. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
 - ii. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
 - iii. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
 - iv. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1 1/2 TO 3 POUNDS PER 1000 SQUARE FEET.

NOTES:

SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND"

CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE

c. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES

- WESTERN MD:** MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A)
- CENTRAL MD:** MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)
- SOUTHERN MD, EASTERN SHORE:** MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)
- d. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1 1/2 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
- e. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

PERMANENT SEEDING SUMMARY

HARDINESS ZONE: 7A SEEDING MIXTURE TABLE B.3					FERTILIZER RATE (10-20-20)			LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	* SEEDING DATES	SEEDING DEPTHS	N	P2O5	K2O	
9	TALL FESCUE (LOLIUM ARUNDINACEUM)	60	2/15-4/30 8/15-10/31	1/2-1/2 IN	45 LB/AC (1.0 LB/1,000 SF)	90 LB/AC (2 LB/1,000 SF)	90 LB/AC (2 LB/1,000 SF)	2 TONS/AC (90 LB/1,000 SF)
	KENTUCKY BLUEGRASS (POA PRATENSIS)	40						
	PERENNIAL RYEGRASS (LOLIUM PERENNE)	20						

* FOR SEEDING DATES 5/1-8/14, PLEASE ADD 6.0 LBS PER ACRE OF FOXTAIL MILLET TO SEED MIXTURE NO. 9.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

PURPOSE

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

CRITERIA

- 1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
- 2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
- 3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING SUMMARY

HARDINESS ZONE: 7A SEEDING MIXTURE TABLE B.1					FERTILIZER RATE (10-20-20)	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS		
	BARLEY (HORDEUM VULGARE)	96	FEB 15 TO APR 30; AUG 15 TO NOV 30	1.0"	436 LB/AC (10 LB/1,000 SF)	2 TONS/AC (90 LB/1,000 SF)
	CEREAL RYE (SECALE CEREALE)	112	FEB 15 TO APR 30; AUG 15 TO DEC 15	1.0"		
	FOXTAIL MILLET (SETARIA ITALICA)	30	MAY 1 TO AUG 14	0.5"		

NOTES:

- 1. SEEDING RATES FOR THE WARM-SEASON GRASSES ARE IN POUNDS OF PURE LIVE SEED (PLS). ACTUAL PLANTING RATES SHALL BE ADJUSTED TO REFLECT PERCENT SEED GERMINATION AND PURITY, AS TESTED. ADJUSTMENTS ARE USUALLY NOT NEEDED FOR THE COOL-SEASON GRASSES.

SEEDING RATES LISTED ABOVE ARE FOR TEMPORARY SEEDINGS, WHEN PLANTED ALONE. WHEN PLANTED AS A NURSE CROP WITH PERMANENT SEED MIXES, USE 1/3 OF THE SEEDING RATE LISTED ABOVE FOR BARLEY, OATS, AND WHEAT. FOR SMALLER-SEEDED GRASSES (ANNUAL RYEGRASS, PEARL MILLET, FOXTAIL MILLET), DO NOT EXCEED MORE THAN 5% (BY WEIGHT) OF THE OVERALL PERMANENT SEEDING MIX. CEREAL RYE GENERALLY SHOULD NOT BE USED AS A NURSE CROP, UNLESS PLANTING WILL OCCUR IN VERY LATE FALL BEYOND THE SEEDING DATES FOR OTHER TEMPORARY SEEDINGS. CEREAL RYE HAS ALLELOPATHIC PROPERTIES THAT INHIBIT THE GERMINATION AND GROWTH OF OTHER PLANTS. IF IT MUST BE USED AS A NURSE CROP, SEED AT 1/3 OF THE RATE LISTED ABOVE.

OATS ARE THE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES.

- 2. FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.
- 3. THE PLANTING DATES LISTED ARE AVERAGES FOR EACH ZONE AND MAY REQUIRE ADJUSTMENT TO REFLECT LOCAL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONE.

B: SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

1. GENERAL SPECIFICATIONS

- a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
- b. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/8 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
- c. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
- d. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
- e. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

2. SOD INSTALLATION

- a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
- b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
- c. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
- d. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.

3. SOD MAINTENANCE

- a. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
- b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
- c. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

SEDIMENT CONTROL/STORM WATER MANAGEMENT REQUIRED INSPECTIONS

YOU MUST NOTIFY THE SEDIMENT CONTROL AND STORMWATER MANAGEMENT OFFICE AT 301-694-1679 BEFORE 9:00 AM - 24 HOURS PRIOR TO THE REQUIRED INSPECTION. FAILURE TO NOTIFY THIS OFFICE WILL RESULT IN A STOP WORK ORDER OR OTHER PENALTIES AS OUTLINED IN FREDERICK COUNTY CODES.

*****NOTICE*****

THIS LIST IS FOR SEQUENCE OF CONSTRUCTION ONLY. THIS OFFICE ASSUMES NO RESPONSIBILITY OR LIABILITY FOR IMPROPER INSTALLATION OF ANY ITEMS ON THIS CHECKLIST, THIS OFFICE RECOMMENDS THAT A PROFESSION

TYPE OF INSPECTION	MISC. COMMENTS/INITIALS
1. PRECONSTRUCTION MEETING	
2. COMPLETION OF SEDIMENT CONTROL MEASURE (IF USING BASIN SEE #6 BELOW)	
3. PRIOR TO MODIFICATION OR REMOVAL OF SED CONTROL.	
4. INFILTRATION SYSTEMS A. SITE READINESS PER SEQUENCE OF CONSTRUCTION B. INFILTRATION AREA. PROTECTED FROM SEDIMENTATION C. DIMENSIONS D. FILTERING MATERIAL E. FILL MATERIAL F. SIZE, PLACEMENT, TYPE OF PIPING G. OBSERVATION WELL H. COVER/STABILIZATION	
5. OPEN CHANNEL FLOW ATTENUATION A. SITE READINESS PER SEQUENCE OF CONSTRUCTION B. CROSS SECTION CONFORMANCE C. MATERIAL (TYPE/SIZE) D. STABILIZATION	
6. RETENTION/DETENTION STRUCTURES (BASIN/PONDS) A. SUBGRADE PREPARATION 1. CORE TRENCH 2. SUITABLE MATERIAL/COMPACTION B. EMBANKMENT CONSTRUCTION 1. SUITABLE MATERIAL/COMPACTION 2. SLOPE GRADE 3. DIMENSIONS C. BARREL AND RISER ASSEMBLY 1. CORRECT MATERIAL ONSITE 2. SIZING 3. ANTI-SEEP COLLARS 4. ANTI-FLOTATION DEVICE 5. CONCRETE GRADLE (RCP ONLY) 6. INSTALLATION/BACKFILL/COMPACTION D. CONCRETE STRUCTURES 1. FOOTER DIMENSIONS 2. REINFORCING MATERIAL (SIZE, TYPE, PLACEMENT) 3. WEIR POUR/MATERIAL/SLUMP TEST 4. FORM STRIP AND FINISHING E. IMPOUNDING AREA 1. LOW FLOW CHANNELS/STABILIZATION 2. DEWATERING DEVICE 3. EMERGENCY SPILLWAY 4. EXTENDED DETENTION DEVICE F. OUTFALL AREA (LEVEL SPREADER RIPRAP CHANNEL ETC...) G. VEGETATIVE STABILIZATION H. MISCELLANEOUS	

Frederick Soil Conservation District
Erosion and Sediment Control Plan Approval

By: [Signature]
District Manager or Designee

Date: 12/13/2023

Plan is valid for 2 years from date of approval

SCD approval for sediment and erosion control is in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control and is contingent upon issuance of all applicable regulatory permits.



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. EXPIRATION DATE: 09/08/2024. LICENSE NO.: 20968

700 EAST PRATT STREET, SUITE 500
BALTIMORE, MARYLAND 21202
800.787.3755

NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR BID - ADDENDUM NO. 3	02/06/2024	

TOWN OF EMMITSBURG, MARYLAND
WATER PLANT CLARIFIER
CIP NO. 4-1600-00-160-1
HAMPTON VALLEY ROAD, EMMITSBURG ELECTION DISTRICT No. 5, FREDERICK COUNTY, MARYLAND

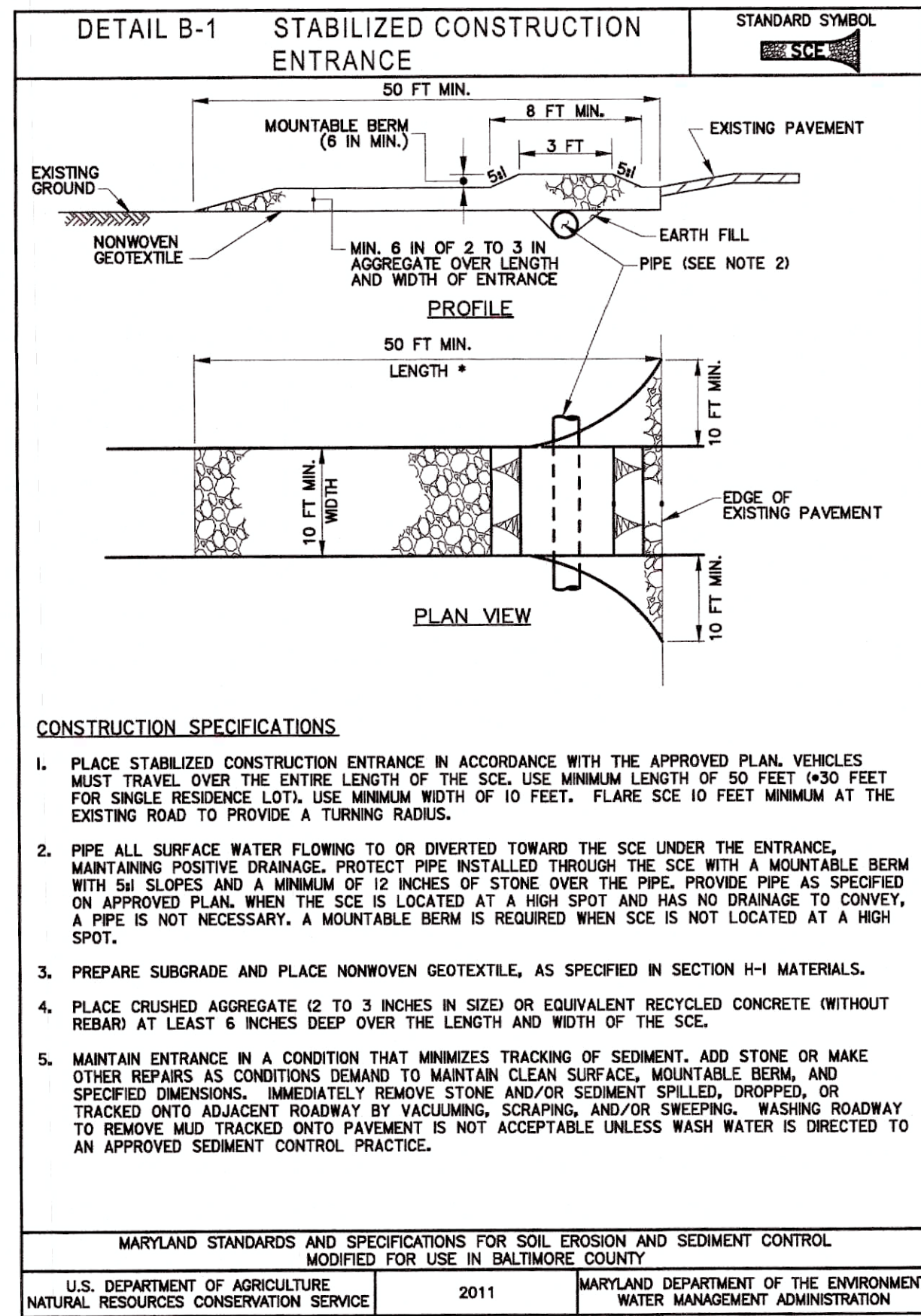
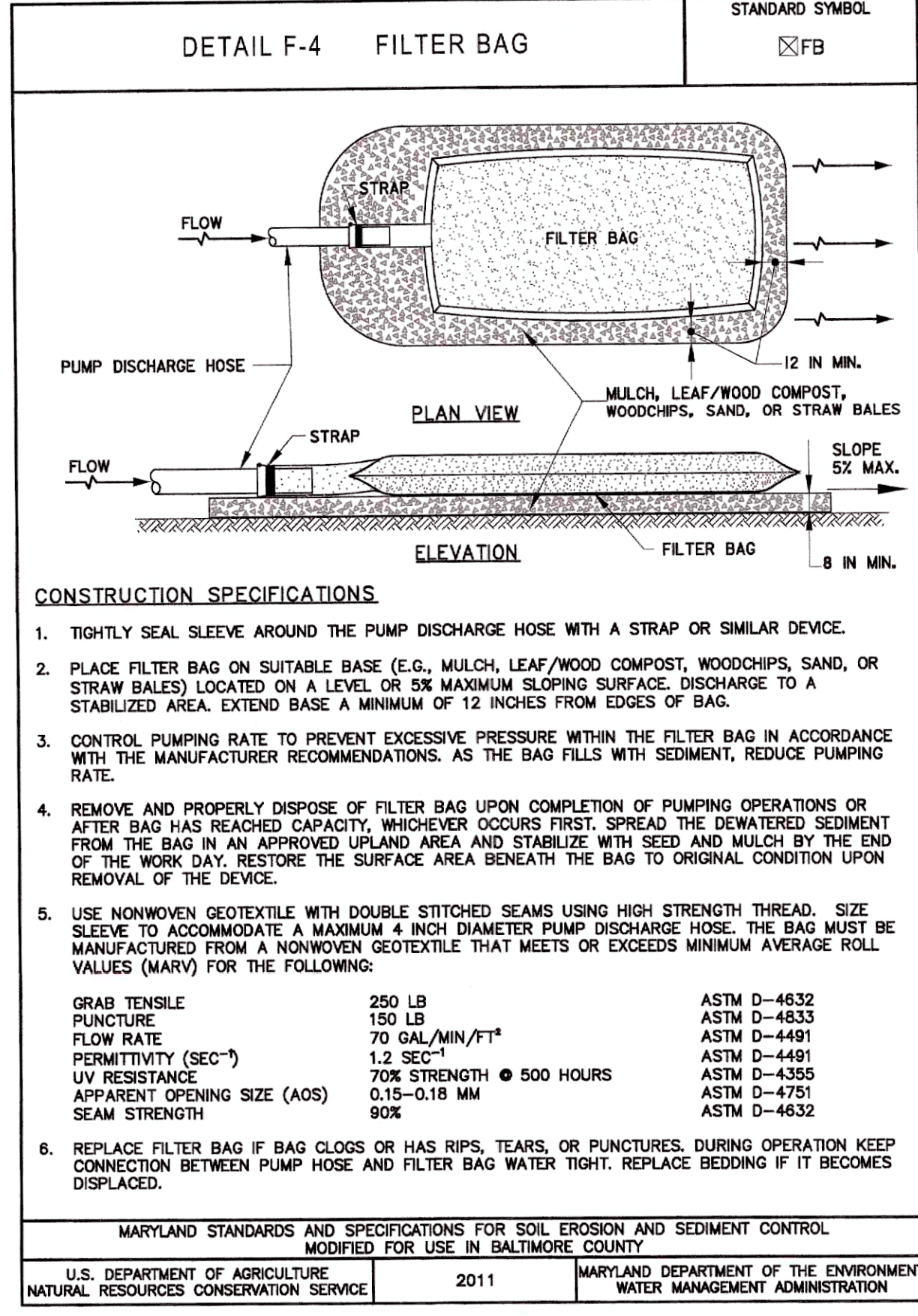
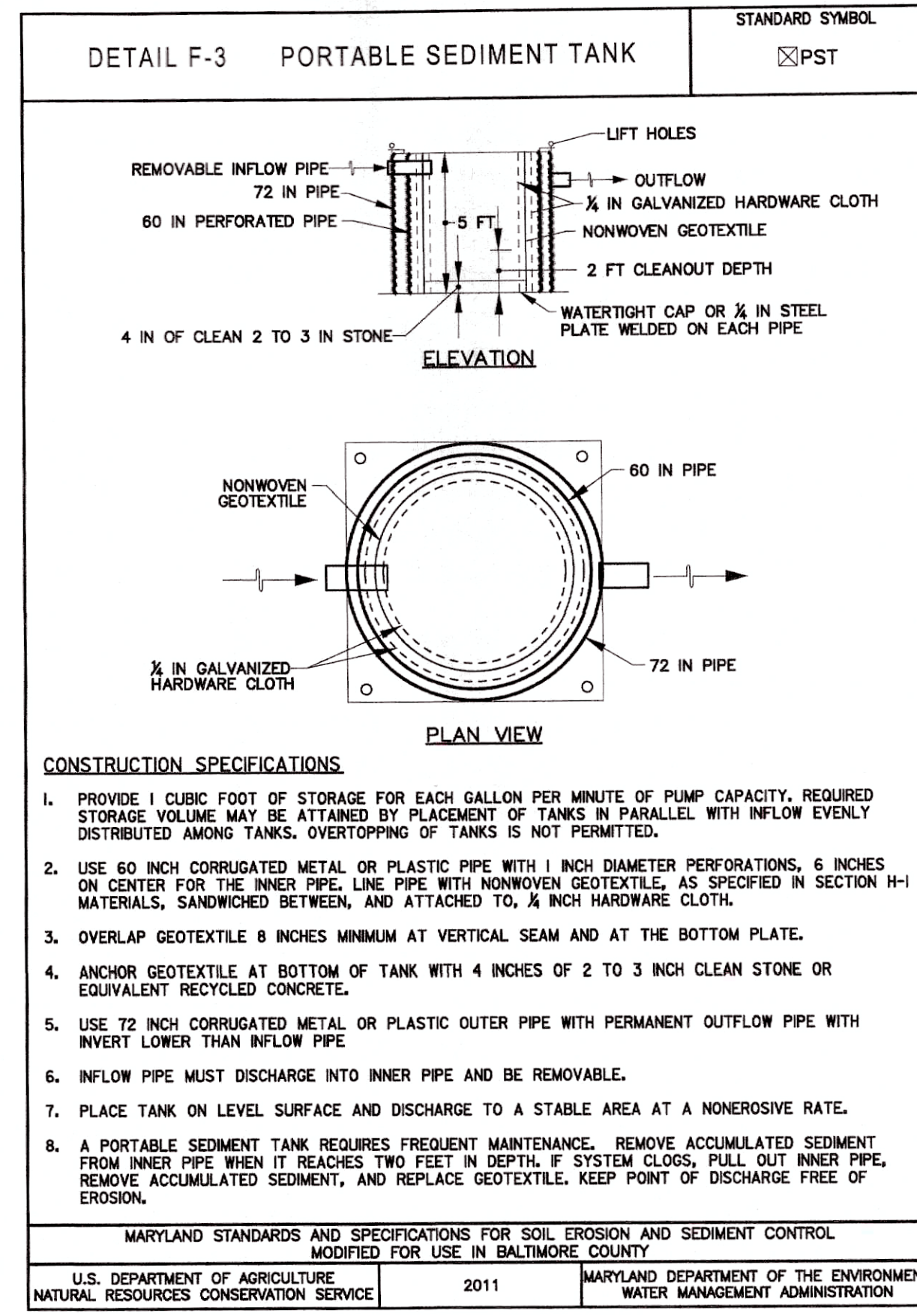
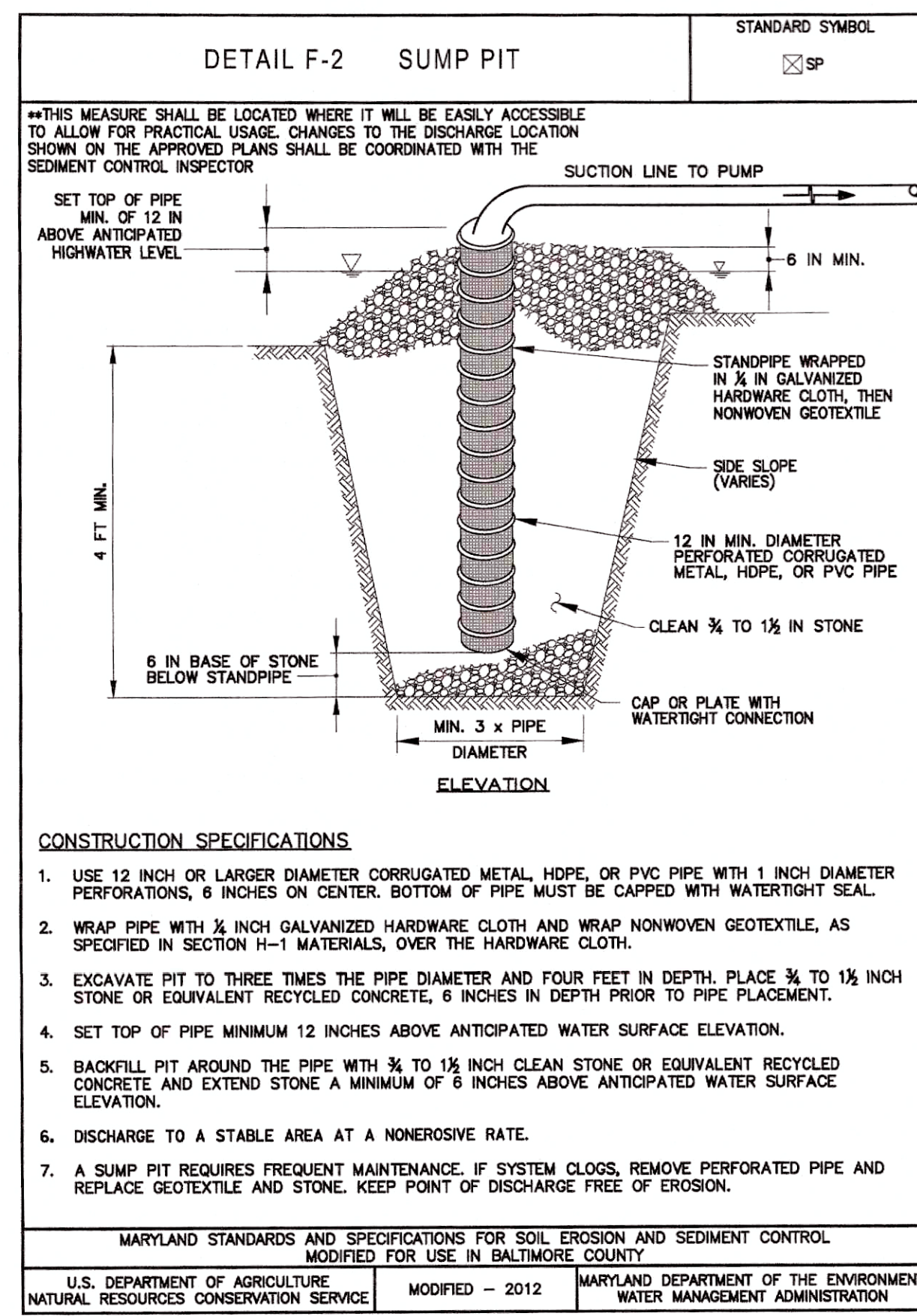
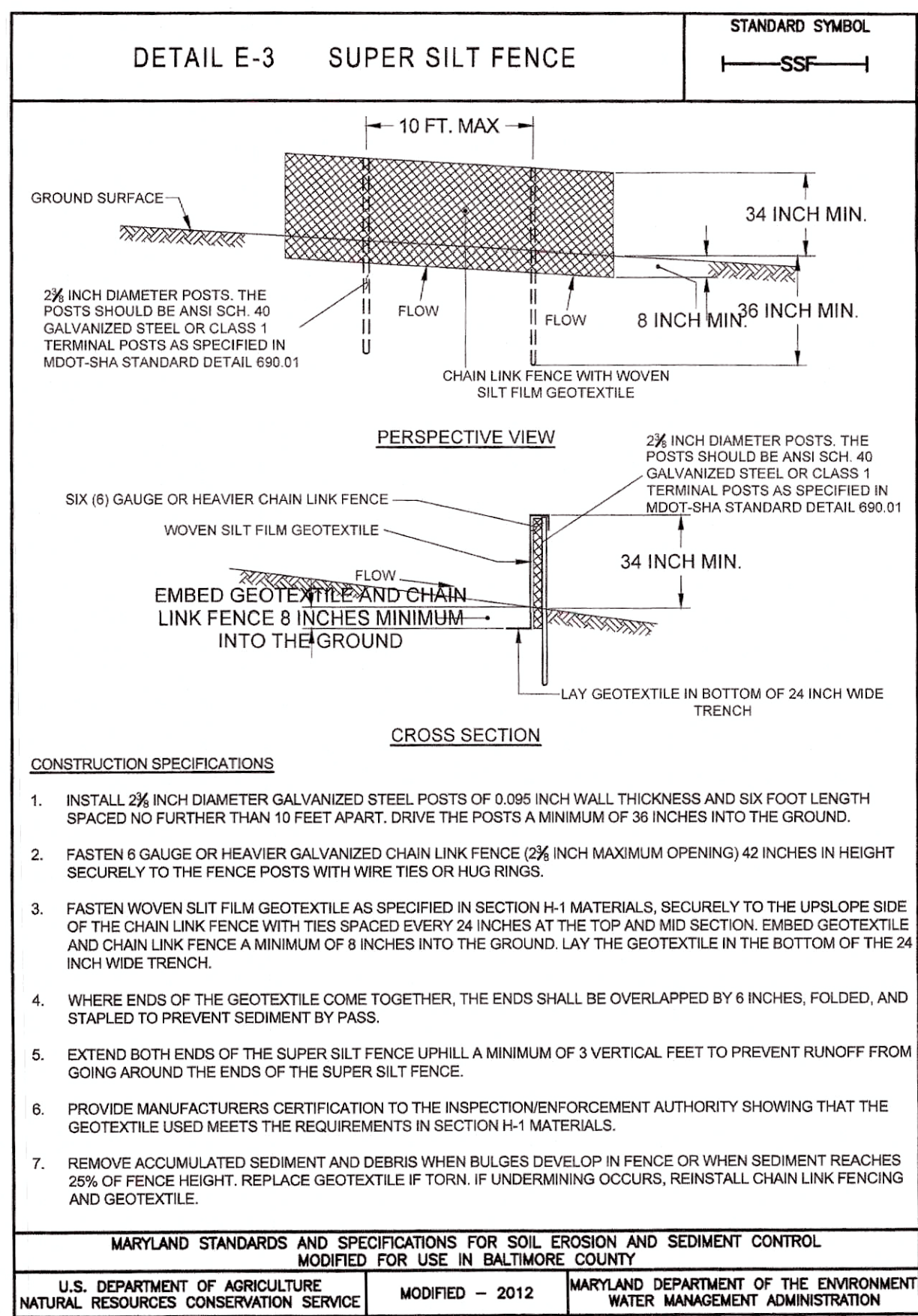
GRADING AND SEDIMENT CONTROL NOTES

ENGINEER	CHECKED BY
WJG	JCM
DRAWN BY	DATE
KMR	2023
RK&K PROJECT NUMBER	
20119	

DRAWING NUMBER

ESC-02

SHEET NO. 11 OF 42



H-1 STANDARDS AND SPECIFICATIONS FOR MATERIALS

TABLE H.1: GEOTEXTILE FABRICS

PROPERTY	TEST METHOD	MINIMUM AVERAGE ROLL VALUE ¹					
		WOVEN SLIT FILM GEOTEXTILE		WOVEN MONOFILAMENT GEOTEXTILE		NONWOVEN GEOTEXTILE	
		MD	CD	MD	CD	MD	CD
GRAB TENSILE STRENGTH	ASTM D-4632	200 lb	200 lb	370 lb	250 lb	200 lb	200 lb
GRAB TENSILE ELONGATION	ASTM D-4632	15%	10%	15%	15%	50%	50%
TRAPEZOIDAL TEAR STRENGTH	ASTM D-4533	75 lb	75 lb	100 lb	60 lb	80 lb	80 lb
PUNCTURE STRENGTH	ASTM D-6241	450 lb		900 lb		450 lb	
APPARENT OPENING SIZE ²	ASTM D-4751	U.S. SIEVE 30 (0.59 mm)		U.S. SIEVE 70 (0.21 mm)		U.S. SIEVE 70 (0.21 mm)	
PERMITTIVITY	ASTM D-4491	0.05 SEC ⁻¹		0.28 SEC ⁻¹		1.1 SEC ⁻¹	
ULTRAVIOLET RESISTANCE RETAINED AT 500 HOURS	ASTM D-4355	70% STRENGTH		70% STRENGTH		70% STRENGTH	

¹ ALL NUMERIC VALUES EXCEPT APPARENT OPENING SIZE (AOS) REPRESENT MINIMUM AVERAGE ROLL VALUES (MARV). MARV IS CALCULATED AS THE TYPICAL MINUS TWO STANDARD DEVIATIONS. MD IS MACHINE DIRECTION; CD IS CROSS DIRECTION.

² VALUES FOR AOS REPRESENT THE AVERAGE MAXIMUM OPENING.

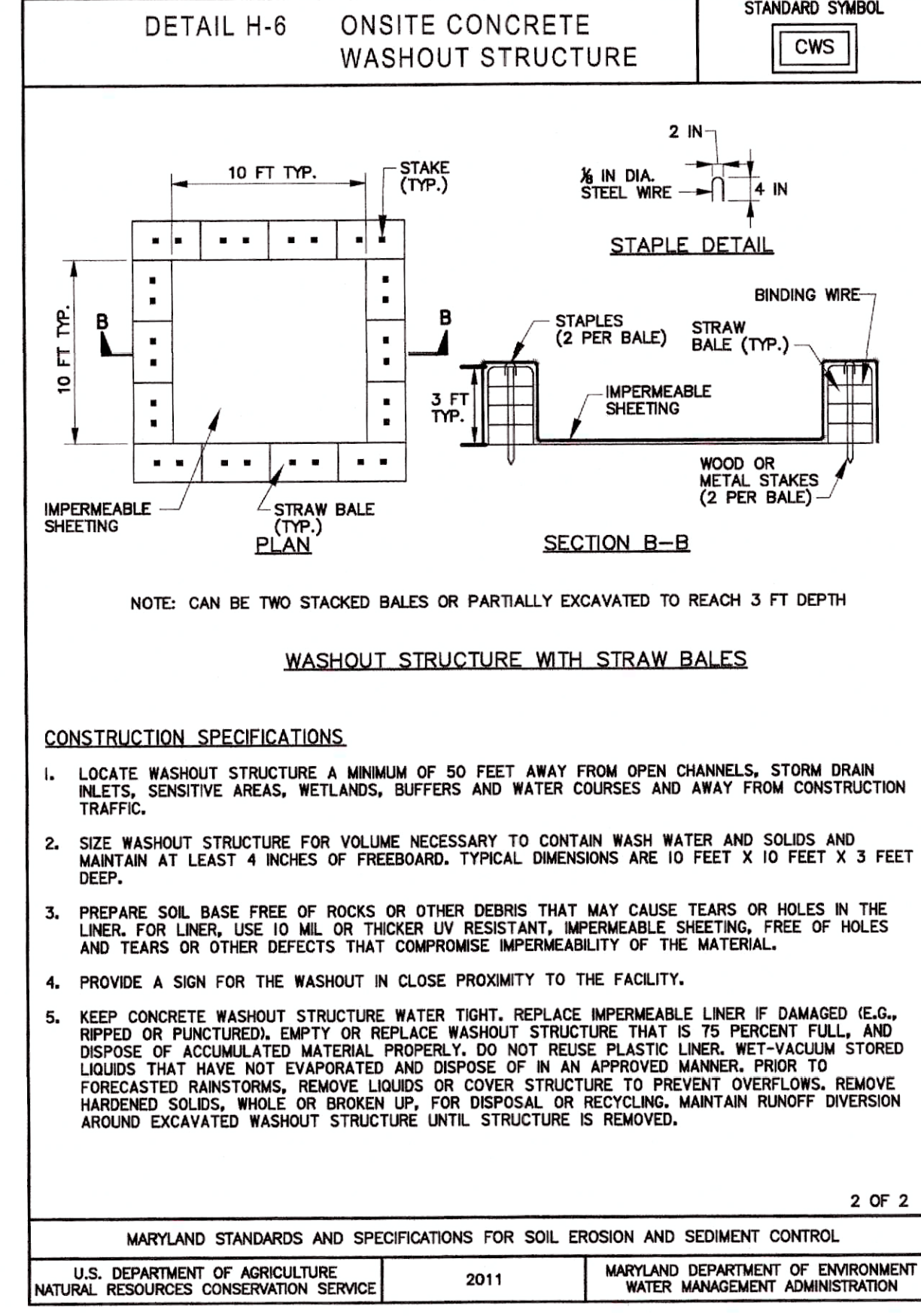
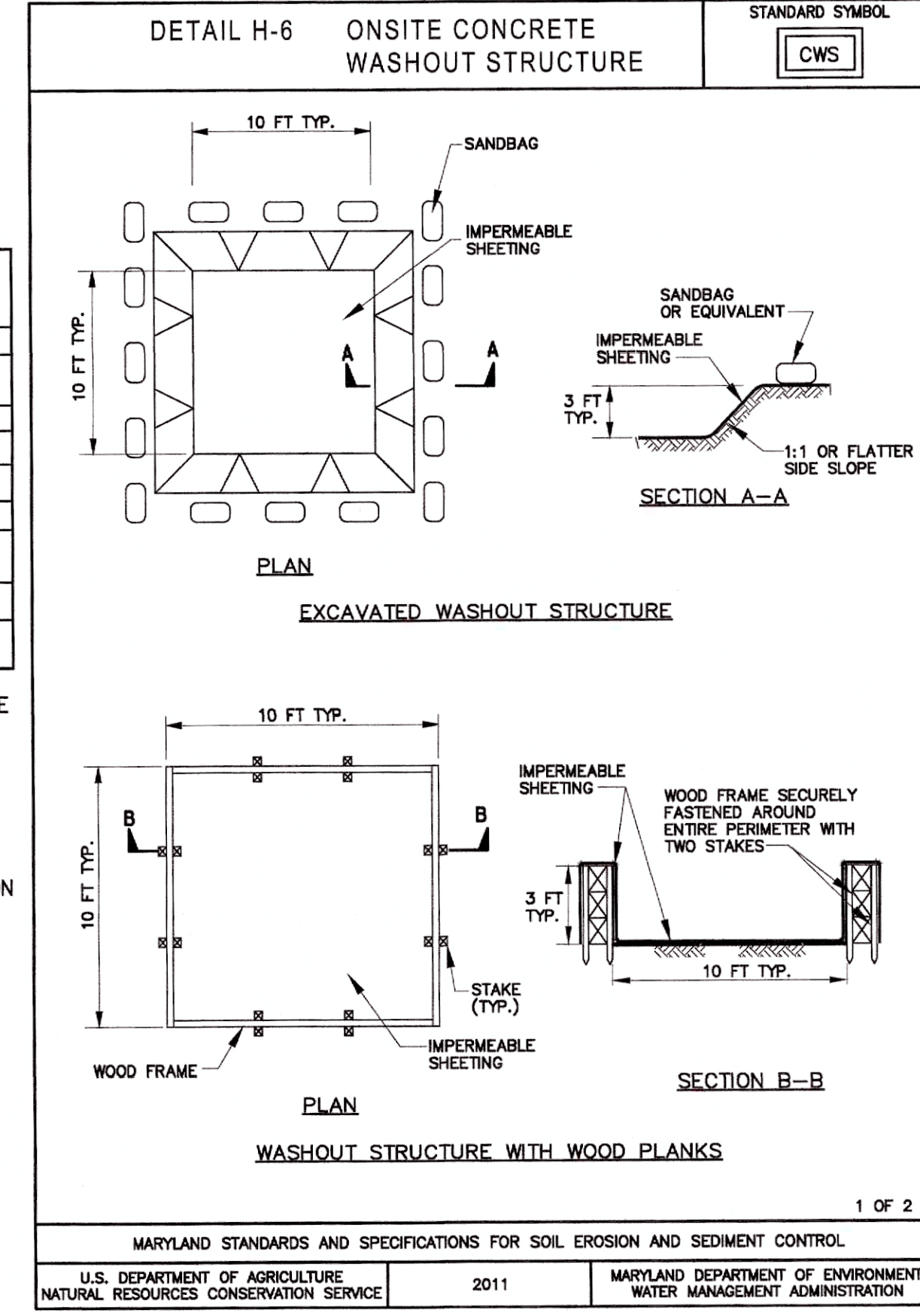
GEOTEXTILES MUST BE EVALUATED BY THE NATIONAL TRANSPORTATION PRODUCT EVALUATION PROGRAM (NTEPP) AND CONFORM TO THE VALUES IN TABLE H.1.

THE GEOTEXTILE MUST BE INERT TO COMMONLY ENCOUNTERED CHEMICALS AND HYDROCARBONS AND MUST BE ROT AND MILDEW RESISTANT. THE GEOTEXTILE MUST BE MANUFACTURED FROM FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS AND COMPOSED OF A MINIMUM OF 95 PERCENT BY WEIGHT OF POLYOLEFINS OR POLYESTERS, AND FORMED INTO A STABLE NETWORK SO THE FILAMENTS OR YARNS RETAIN THEIR DIMENSIONAL STABILITY RELATIVE TO EACH OTHER, INCLUDING SELVAGES.

WHEN MORE THAN ONE SECTION OF GEOTEXTILE IS NECESSARY, OVERLAP THE SECTIONS BY AT LEAST ONE FOOT. THE GEOTEXTILE MUST BE PULLED TAUT OVER THE APPLIED SURFACE. EQUIPMENT MUST NOT RUN OVER EXPOSED FABRIC. WHEN PLACING RIPRAP ON GEOTEXTILE, DO NOT EXCEED A ONE FOOT DROP HEIGHT.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
MODIFIED FOR USE IN BALTIMORE COUNTY

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR CHECKED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. EXPIRATION DATE 09/06/2024

LICENSE NO. 20566

700 EAST PRATT STREET, SUITE 500
BALTIMORE, MARYLAND 21202
800.787.3755

PK&K

NO.	DESCRIPTION	DATE	BY
1	REISSUED FOR BID - ADDENDUM NO. 3	02/06/2024	

TOWN OF EMMITSBURG, MARYLAND
WATER PLANT CLARIFIER
CIP NO. 4-1600-40-160-1
HAMPTON VALLEY ROAD, EMMITSBURG ELECTION DISTRICT NO. 5, FREDERICK COUNTY, MARYLAND

GRADING AND SEDIMENT CONTROL DETAILS

Frederick Soil Conservation District
Erosion and Sediment Control Plan Approval

By: *[Signature]*
District Manager or Designee

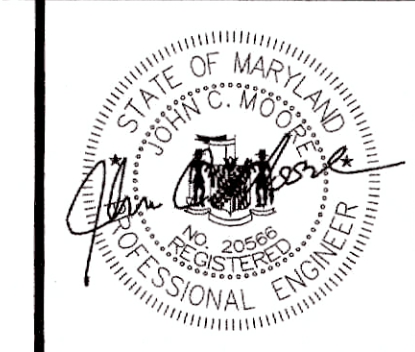
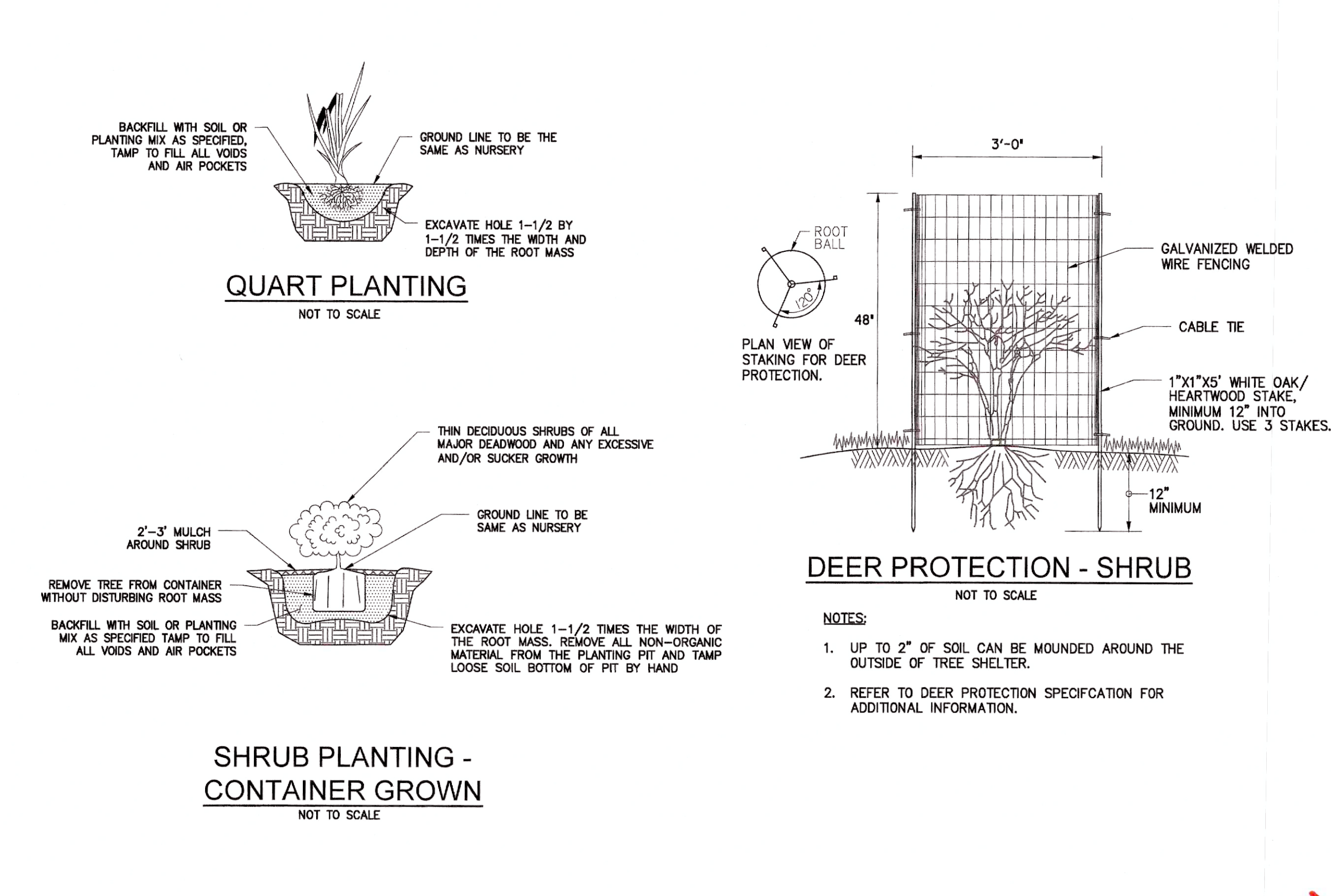
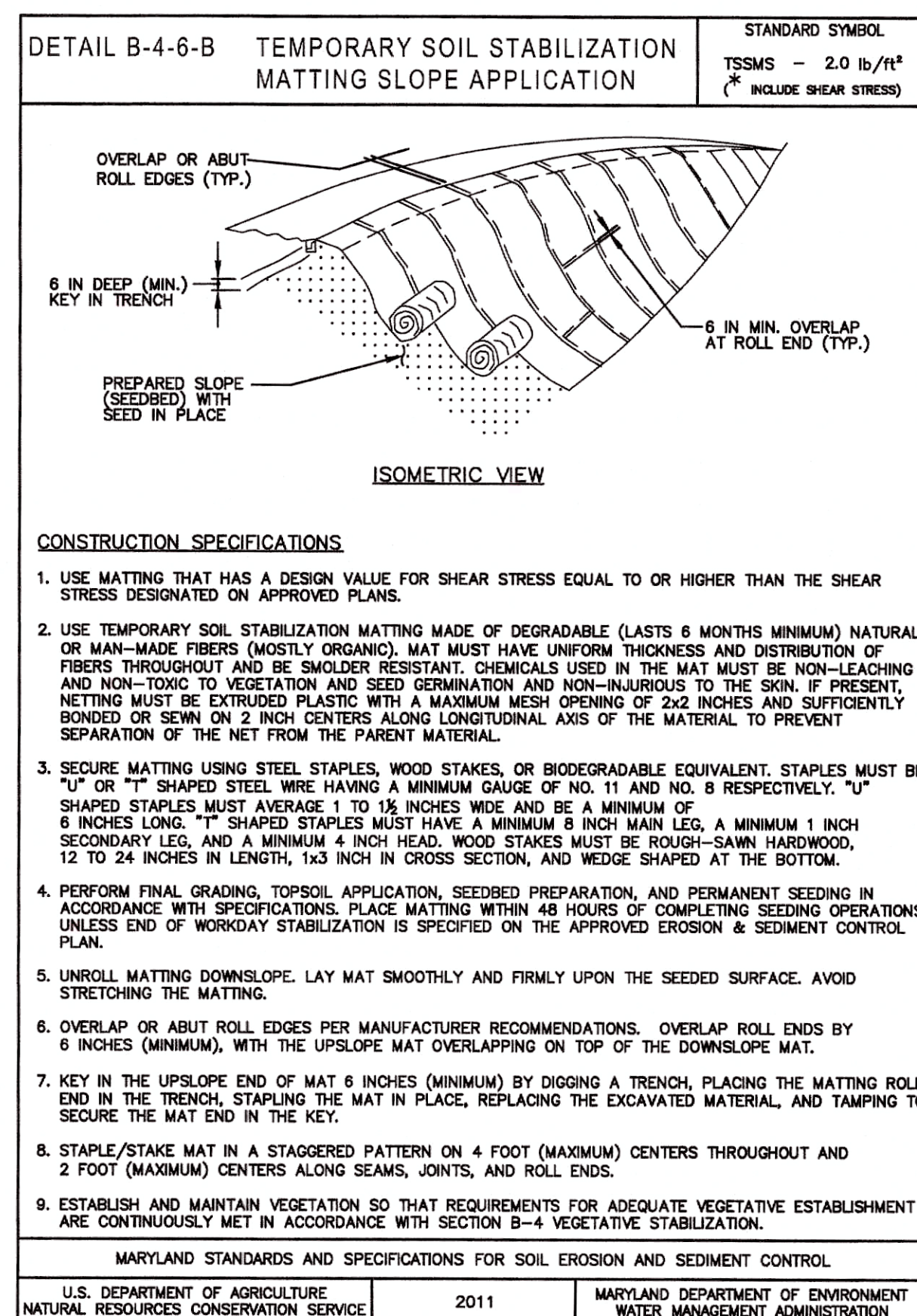
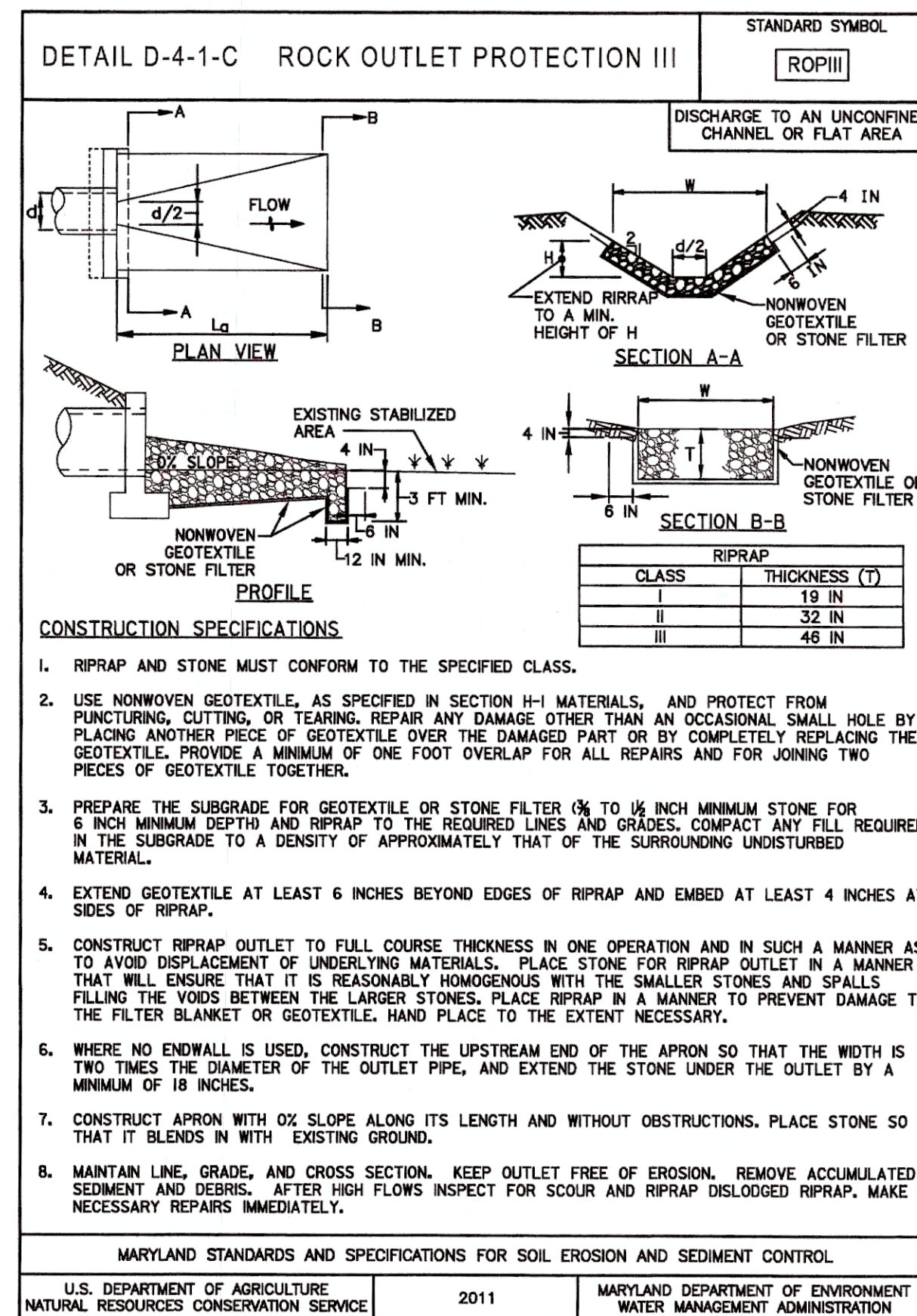
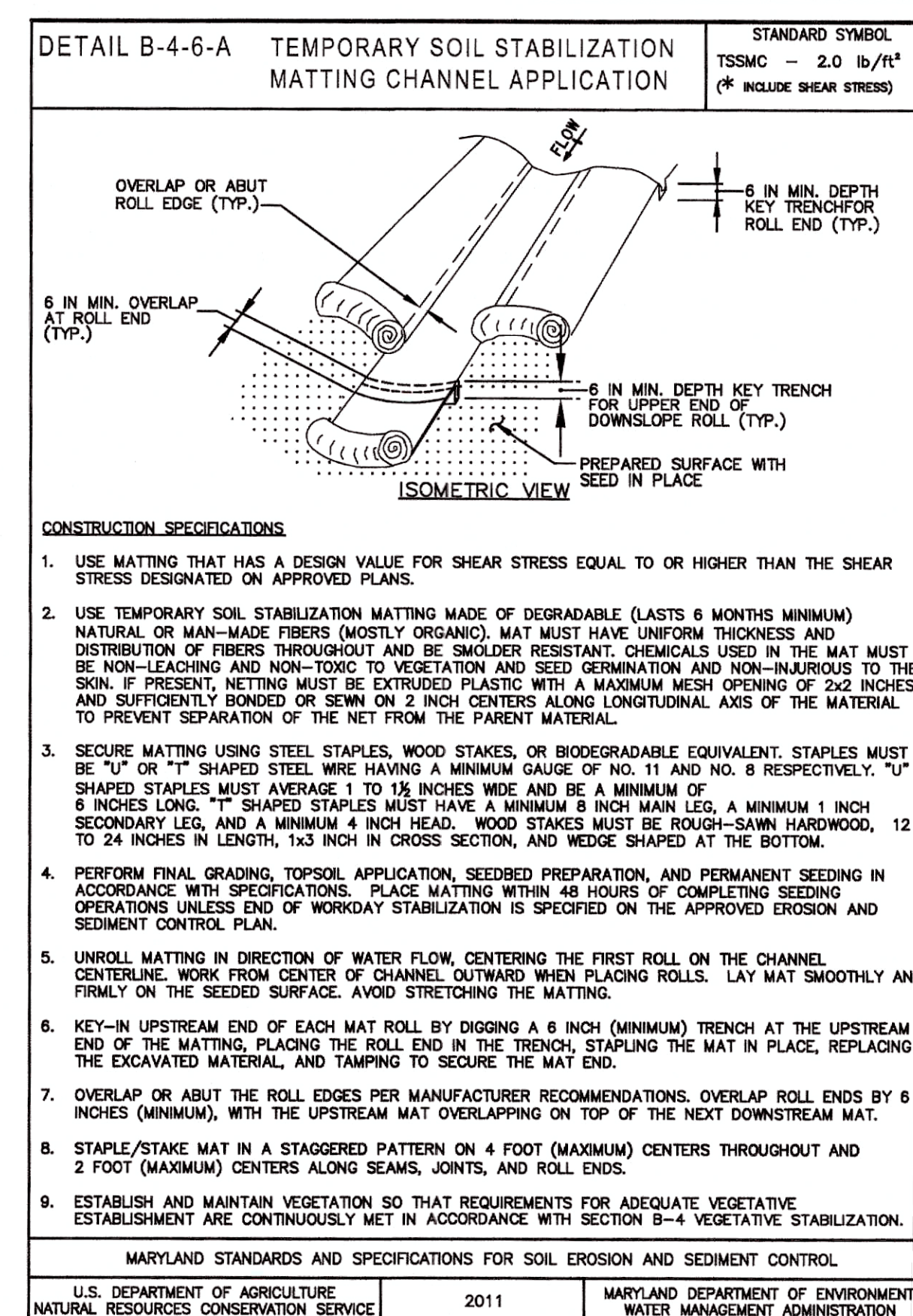
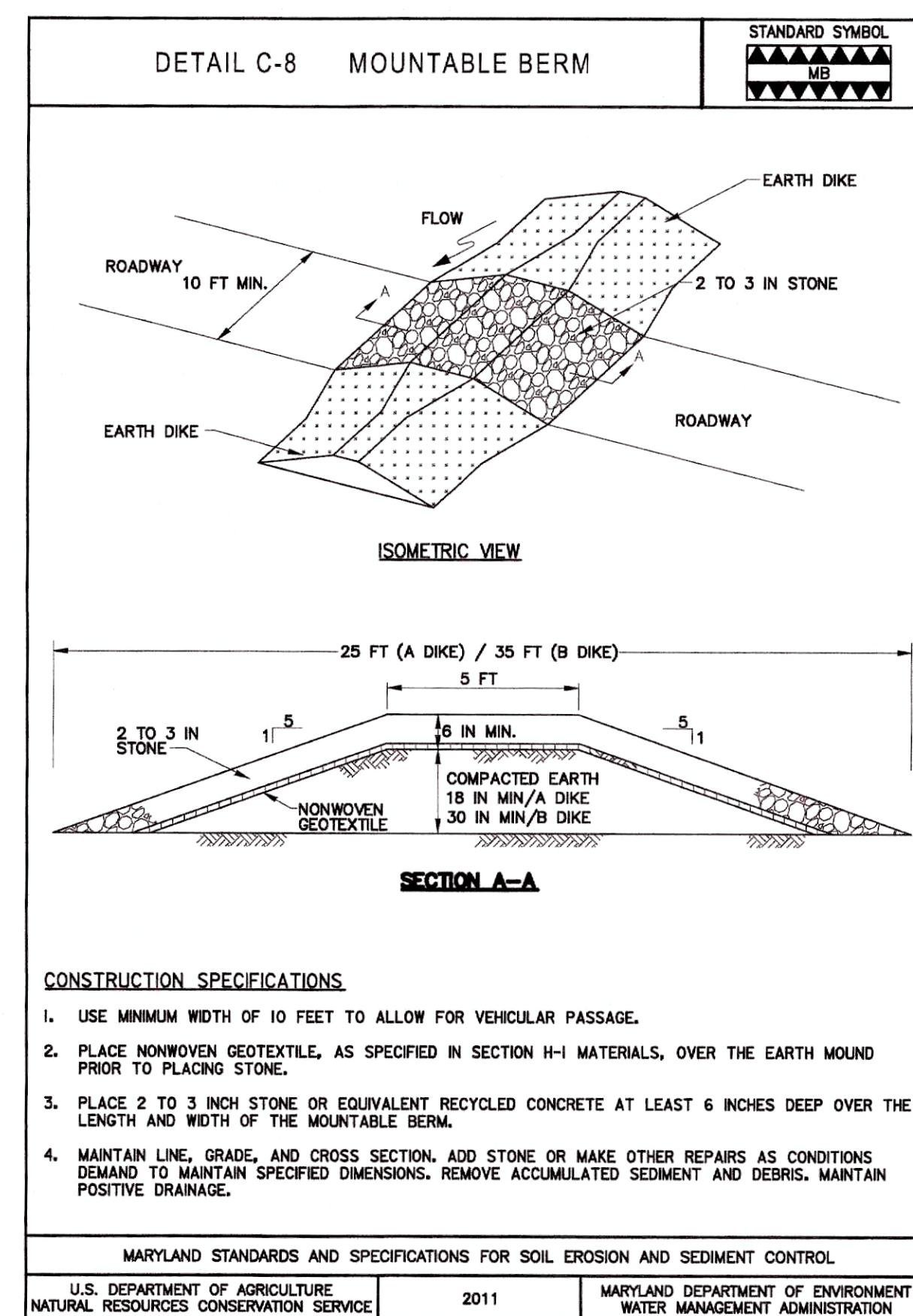
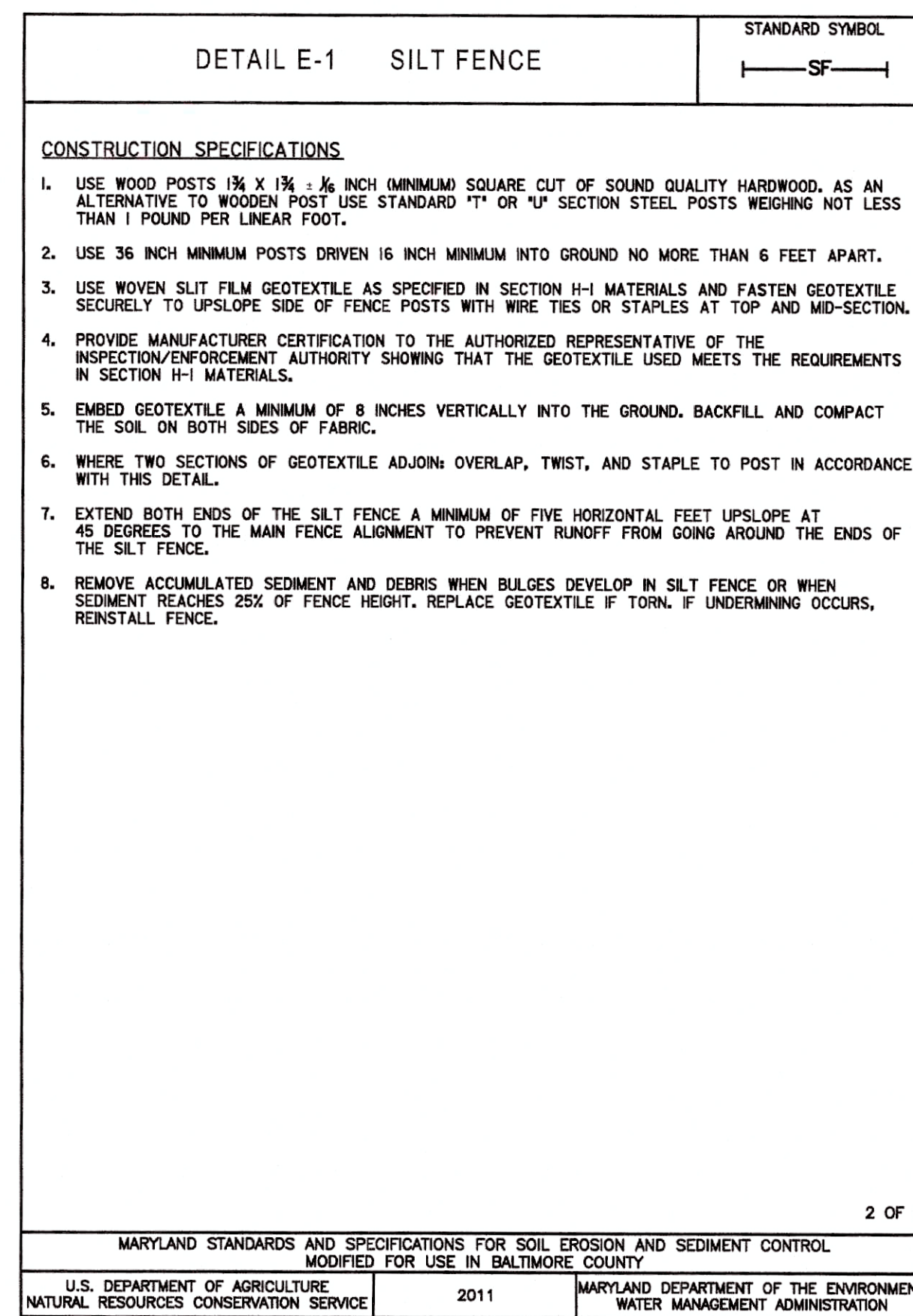
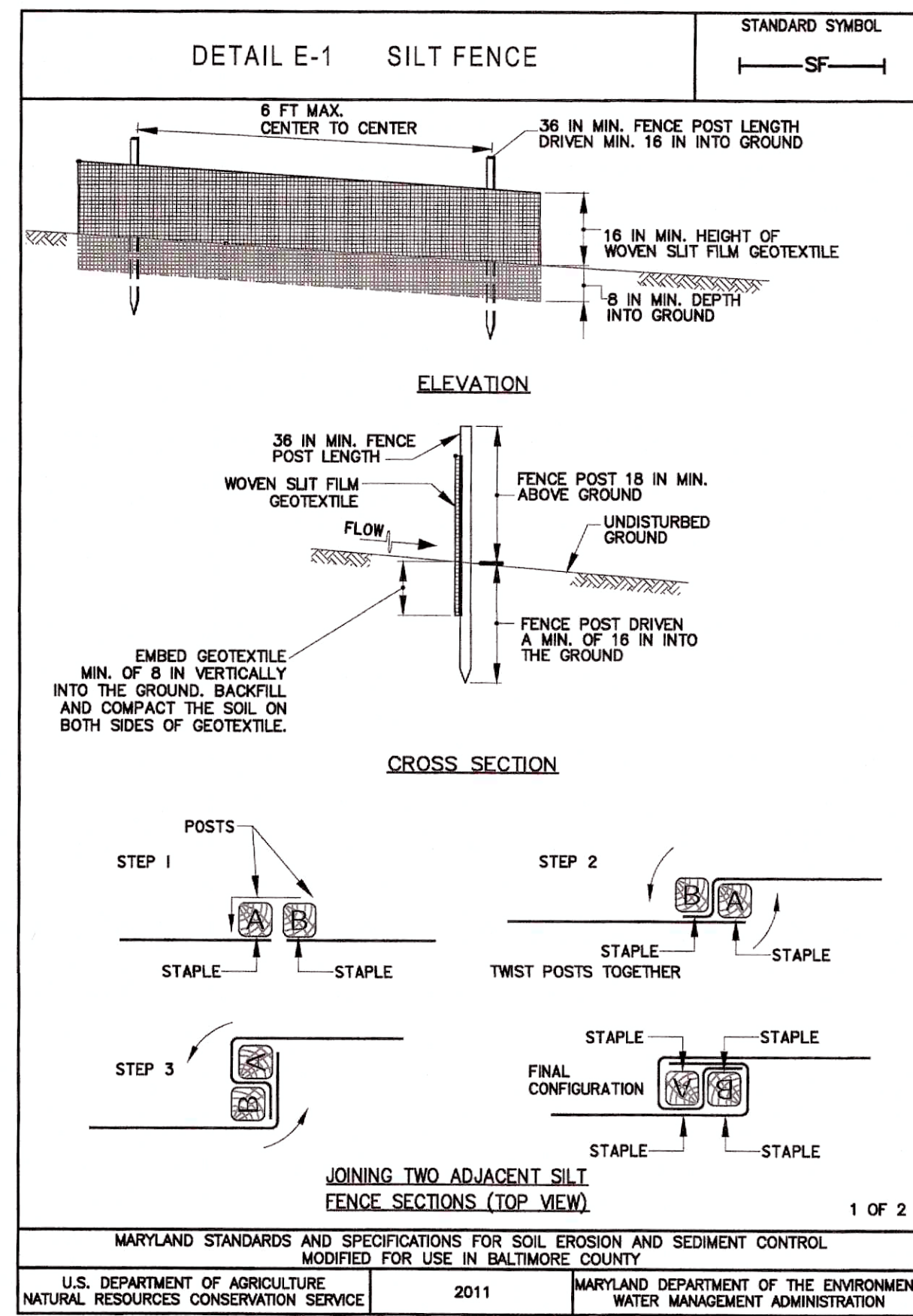
Date: 12/13/2023
Plan is valid for 2 years from date of approval

SCD approval for sediment and erosion control is in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control and is contingent upon issuance of all applicable regulatory permits.

ENGINEER	WJG	CHECKED BY	JCM
DRAWN BY	KMR	DATE	2023
PK&K PROJECT NUMBER	20119		

DRAWING NUMBER
ESC-03

SHEET NO. 12 OF 42



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. EXPIRATION DATE 09/08/2024

700 EAST PRATT STREET, SUITE 500
BALTIMORE, MARYLAND 21202
800.767.3755

NO.	DESCRIPTION	DATE	BY
1	REISSUED FOR BID - ADDENDUM NO. 3	02/06/2024	

TOWN OF EMMITSBURG, MARYLAND
WATER PLANT CLARIFIER
CIP NO. 4-1-1600-40-160-1
HAMPTON VALLEY ROAD, EMMITSBURG, ELECTRIC DISTRICT NO. 5, FREDERICK COUNTY, MARYLAND

GRADING AND SEDIMENT CONTROL DETAILS

Frederick Soil Conservation District
Erosion and Sediment Control Plan Approval

By: District Manager or Designee
Date: 12/13/2023
Plan is valid for 2 years from date of approval

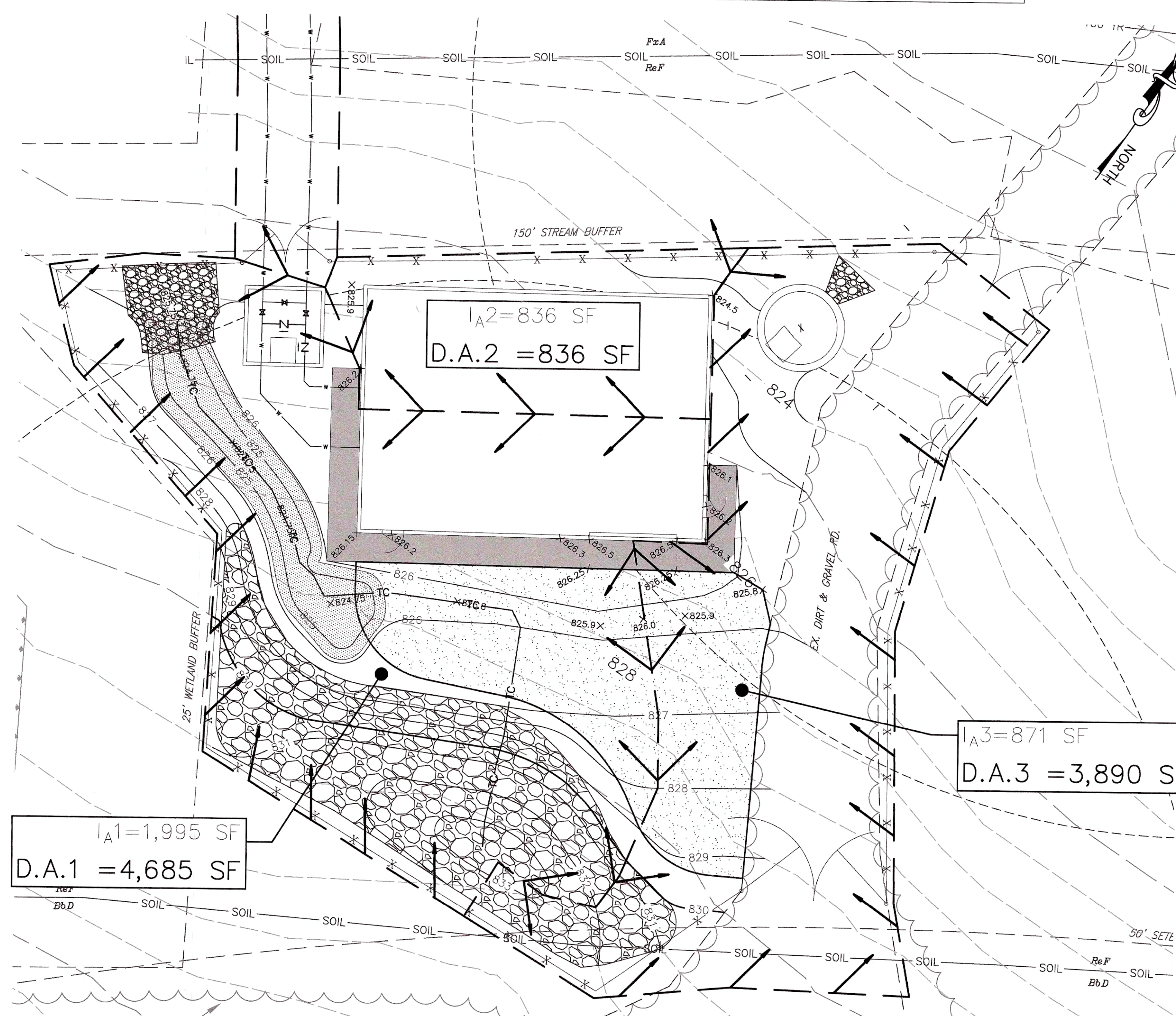
SCD approval for sediment and erosion control is in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control and is contingent upon issuance of all applicable regulatory permits.

ENGINEER	CHECKED BY
WJG	JCM
DRAWN BY	DATE
KMR	2023
PROJECT NUMBER	
20119	

DRAWING NUMBER
ESC-04
SHEET NO. 13 OF 42

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EXISTING SOILS	
SYMBOL	SERIES
BbD	BAGTOWN COBBLY LOAM, 15-25% SLOPES, RUBBLY
FxA	FOXVILLE AND HATBORO SOILS, 0-3% SLOPES
ReF	RAVENROCK-HIGHFIELD-ROCK OUTCROP COMPLEX, 25-65% SLOPES



NOTE:
EX WELLS SHOWN ARE FOR OBSERVATION ONLY AND ARE NOT CONNECTED TO THE TOWN OF EMMITSBURG WATER SYSTEM. EX WELLS ARE NOT FOR WATER SUPPLY PRODUCTION.

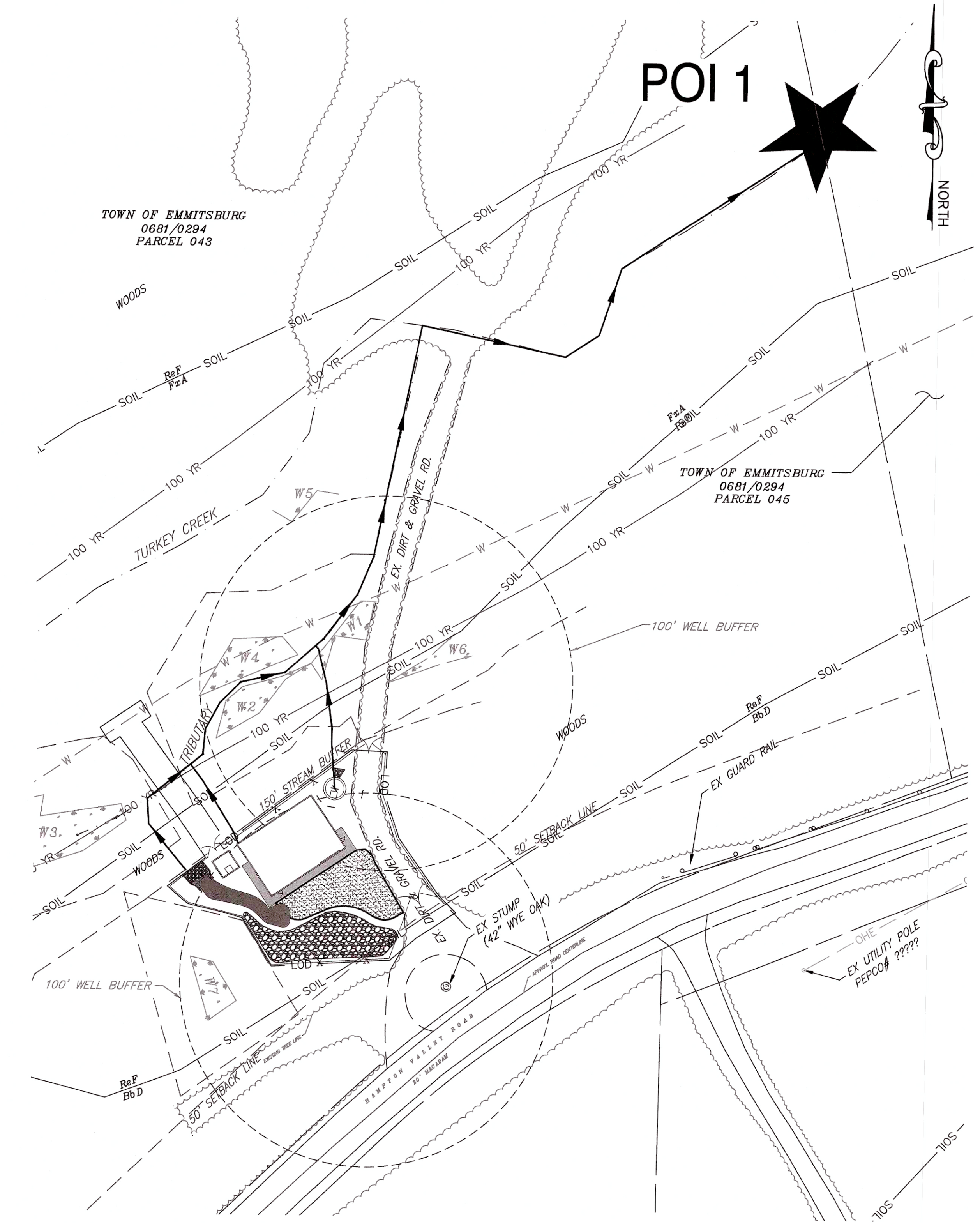
SWM PROPOSED DRAINAGE PLAN
SCALE: 1" = 10'

SITE SWM SUMMARY TABLE		
SITE AREA	AC	0.25
DISTURBANCE AREA	AC	0.25
EXISTING IMPERVIOUS	AC	0.0
PROPOSED IMPERVIOUS	AC	0.085
TOTAL IMPERVIOUS	AC	0.085
SITE Pe	INCHES	1.6
DEVELOPMENT TYPE	NEW DEVELOPMENT	
ESDv REQUIRED	CF	518
ESDv PROVIDED	CF	535
Pe ACHIEVED	INCHES	1.65

ESD Practices (Chapter 5 - Structural & Non-Structural)														
TYPE	NO.	DA (ACRES) (To Structure)	IMPERVIOUS DA (ACRES) (To Structure)	TARGET Pe (INCHES)	ACHIEVED Pe (INCHES)	ESDv REQUIRED	ESDv PROVIDED	WQv (CF)	CPv (CF)	CPv (cfs) (Discharge)	Rev (CF)	TIME OF CONCENTRATION (HR)	Q10 (CFS)	
RAIN GARDEN	1	0.108	0.046	1.6	2.29	518	387	169	N/A	N/A	N/A	0.1	0.69	
ROOF DISCONNECT	2	0.019	0.019		1.0		66	66	N/A	N/A	N/A	N/A	N/A	N/A
NON-ROOF DISCONNECT	3	0.09	0.02		1.0		82	82	N/A	N/A	N/A	N/A	N/A	N/A

GENERAL NOTES:

- STORMWATER MANAGEMENT REQUIREMENTS AT THE SITE HAVE BEEN ADDRESSED THROUGH USE OF THE PROPOSED RAIN GARDEN FACILITY, DISCONNECTED ROOFTOP AND NON-ROOFTOP AREAS.
- 88% OF SOILS ON SITE ARE ReF, 9% OF SOILS ON THE SITE ARE FxA AND THE REMAINING 3% OF SOILS ON SITE ARE BbD. THE SOILS ON THE SITE ARE CLASSIFIED AS BEING 91% HYDROLOGIC SOIL GROUP TYPE C AND 9% HYDROLOGIC SOIL GROUP TYPE D.
- QUANTITY CONTROL FOR THE PROJECT SITE HAS BEEN ACHIEVED THROUGH MINIMIZING THE AMOUNT OF IMPERVIOUS COVER. THE SITE IS CATEGORIZED AS NEW DEVELOPMENT IN ACCORDANCE WITH THE MDE 2009 STORMWATER DESIGN MANUAL.



DRAINAGE MAP PLAN
SCALE: 1" = 40'

Frederick Soil Conservation District
Erosion and Sediment Control Plan Approval
By: [Signature]
District Manager or Designee
Date: 12/13/23
Plan is valid for 2 years from date of approval

SCD approval for sediment and erosion control is in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control and is contingent upon issuance of all applicable regulatory permits.



PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME OR UNDER MY SUPERVISION AS A PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20566 EXPIRATION DATE 09/09/2024

NO.	DESCRIPTION	BY	DATE
1	REISSUED FOR BID - ADDENDUM NO. 3		02/06/2024

TOWN OF EMMITSBURG, MARYLAND
WATER PLANT CLARIFIER
CIP NO. 4-1600-40-160-1
HAMPTON VALLEY ROAD, EMMITSBURG ELECTION DISTRICT NO. 5, FREDERICK COUNTY, MARYLAND

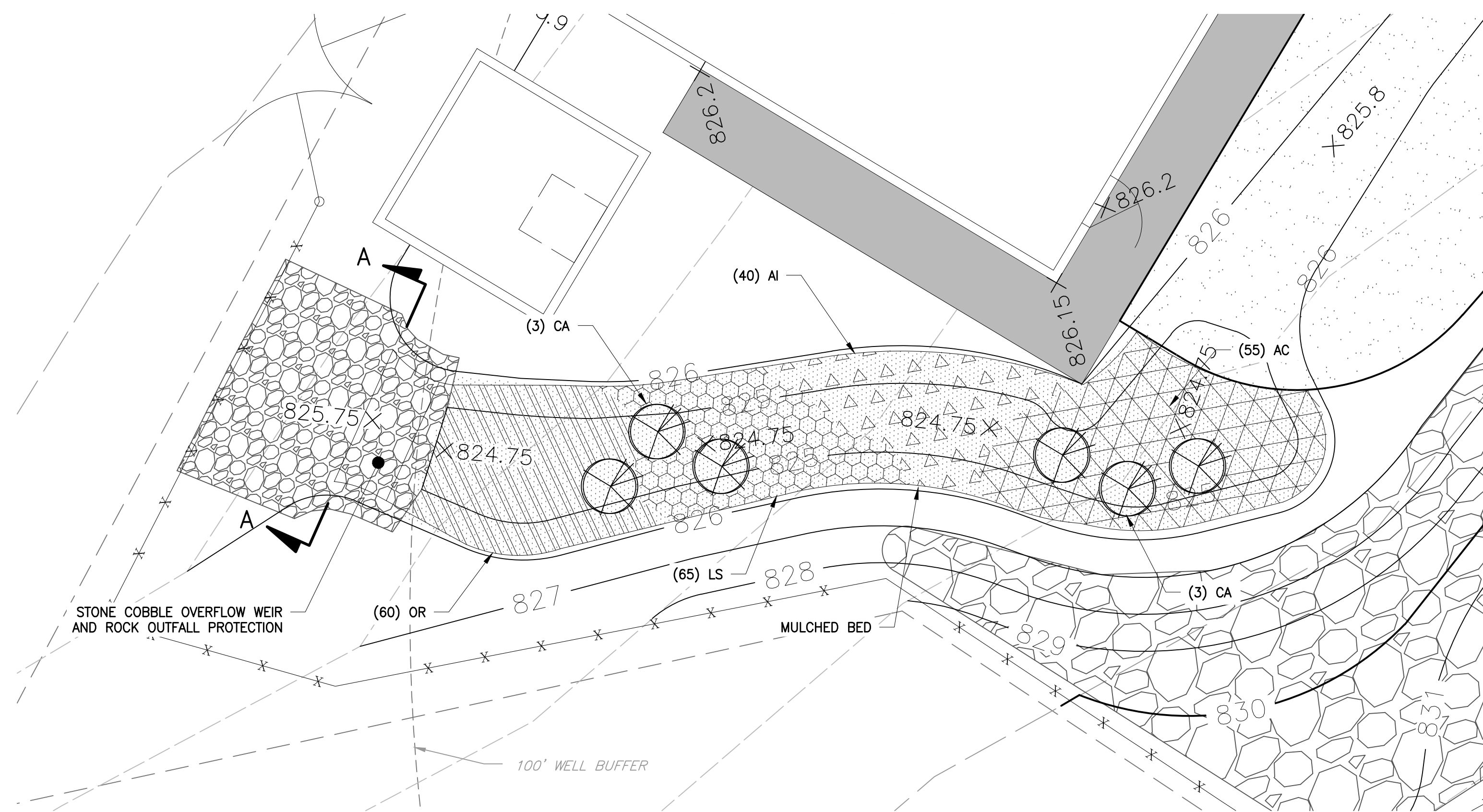
STORM WATER MANAGEMENT PLAN

PROJECT NUMBER: 20119

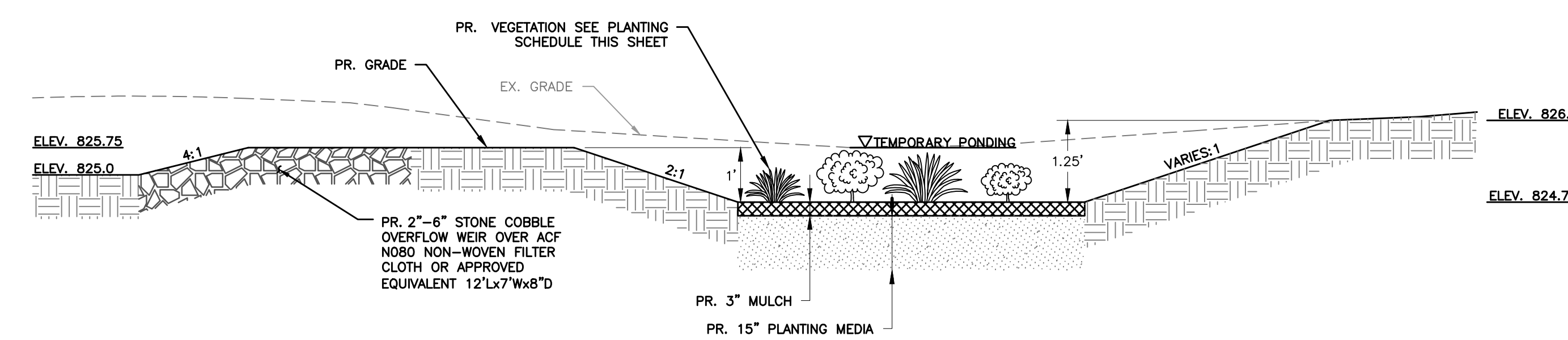
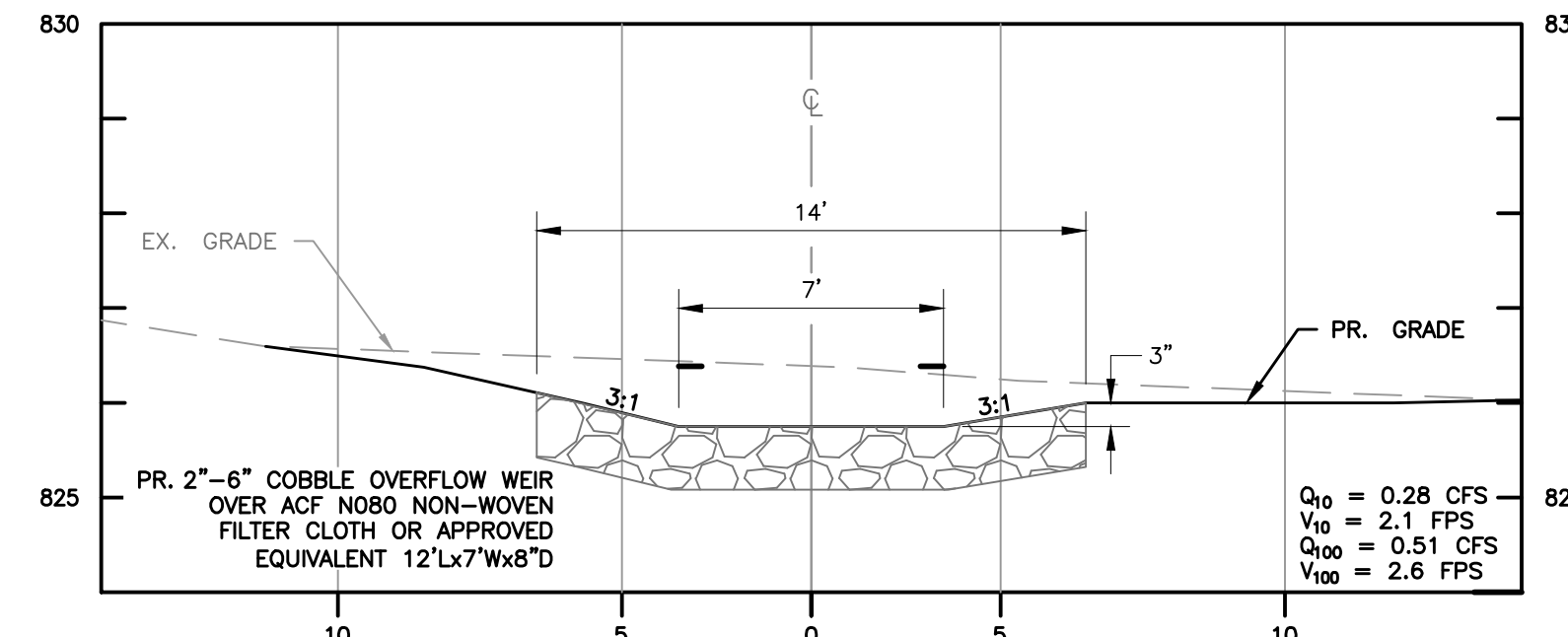
DRAWING NUMBER: **SWM-01**

SHEET NO. 16 OF 42

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PLANTING SCHEDULE						
KEY	QTY.	BOTANICAL NAME	COMMON NAME	WETLAND INDICATOR STATUS	SIZE/CONTAINER	SPACING/REMARKS
SRUBS						
	6	Cornus Amomum	Silky Dogwood	FACW	1 GAL	4'0.C. As Shown on Plans
HERBACEOUS						
	55	Aquilegia canadensis	Wild Columbine	FAC	1 QT	18" O.C. Naturalized Spaing
	65	Lobelia siphilitica	Great Blue Lobelia	FACW	1 QT	18" O.C. Naturalized Spaing
	60	Osmunda regalis	Royal Fern	OBL	1 QT	18" O.C. Naturalized Spaing
GRASSES/WILDFLOWERS						
	40	Asclepias incarnata	Swamp Milkweed	OBL	1 QT	18" O.C. Naturalized Spaing



MATERIAL	SPECIFICATION	NOTES
PLANTING SOIL	LOAMY SAND (60-65%) & COMPOST (35-40%)	USDA SOIL TYPE LOAMY SAND; CLAY CONTENT <5%
MULCH	SHREDDED HARDWOOD	AGED 6 MONTHS, MINIMUM; NO FINE OR WOOD CHIPS
STONE COBBLE OVERFLOW	No. 2 STONE (1.5"-2.5") & GABION STONE (4"-7")	USE LOCAL STONE AS APPROVED, LIMIT FINES <5%

MATERIAL SPECIFICATIONS

Frederick Soil Conservation District
Erosion and Sediment Control Plan Approval

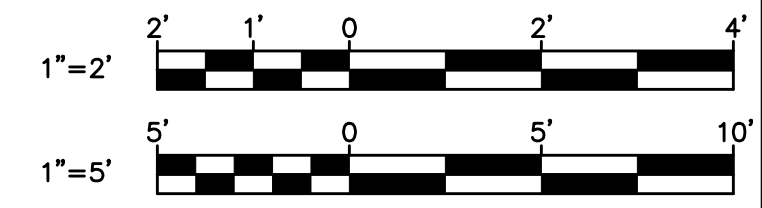
By:

District Manager or Designee

Date: 12/13/2023

Plan is valid for 2 years from date of approval

SCD approval for sediment and erosion control is in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control and is contingent upon issuance of all applicable regulatory permits.



- PLANTING NOTES:
- ALL PLANTS SELECTED ARE SPECIES NATIVE TO THE REGION.
 - ALL HERBACEOUS PLANTS SHALL BE PROPERLY IDENTIFIED BY WEATHER PROOF LABELS SECURELY AFFIXED BEFORE DELIVERY TO PROJECT SITE. LABELS SHALL NOT BE REMOVED UNTIL THE FINAL INSPECTIONS BY A FREDERICK COUNTY REPRESENTATIVE.
 - ANY REQUEST TO SUBSTITUTE PLANTS OF DIFFERENT SPECIES, CULTIVARS, SIZE, GROWTH HABIT OR PLANTING STOCK TYPE SHALL BE SUBMITTED IN WRITING TO THE FREDERICK COUNTY REPRESENTATIVE AS A SUBSTITUTION REQUEST. SUBSTITUTIONS WILL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL FROM A FREDERICK COUNTY REPRESENTATIVE.
 - IF THE PLANTING IS COMPLETED OUTSIDE OF THE DESIGNATED TIME PERIOD, THEN EVALUATION AND POSSIBLE ACCEPTANCE OF THE PLANTING WILL OCCUR NO SOONER THAN ONE YEAR AFTER THE COMPLETION OF ALL PLANTING.
 - PLANTS SHALL BE WATERED 3 TIMES PER WEEK DURING THE GROWING SEASON AND 2 TIMES PER MONTH IN THE DORMANT PERIOD IN THE ABSENCE OF SUFFICIENT RAINFALL.
 - DEAD PLANTS RESULTING FROM WINTER FREEZES SHALL BE REPLACED IN THE SPRING.



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RK&K

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NO.	DESCRIPTION	BY	DATE
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TOWN OF EMMITTSBURG, MARYLAND
WATER PLANT CLARIFIER
CIP NO. 4-1600-40-160-1
HAMPTON VALLEY ROAD, EMMITTSBURG ELECTION DISTRICT No. 5, FREDERICK COUNTY, MARYLAND

SECTION AND DETAIL

STORM WATER PLANTING PLAN,

ENGINEER: WJG
CHECKED BY: JCM
DRAWN BY: WJG
DATE: 2023
RK&K PROJECT NUMBER: 20119

DRAWING NUMBER: SWM-02
SHEET NO. 17 OF 42