

**SAFETY REGULATIONS**

ALL EXCAVATION AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MARYLAND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (MOSHA) STANDARDS AS SET FORTH IN THE LATEST VERSION OF THE CODE OF MARYLAND REGULATIONS

**CONSTRUCTION NOTIFICATION**

The Contractor/Owner is to notify the \_\_\_\_\_ County \_\_\_\_\_ SOIL CONSERVATION DISTRICT at least 72 hours prior to construction to facilitate any scheduling, layout, or preliminary mobilization necessary to ensure proper construction inspection to enable appropriate certification of the project.

It is the Landowner's responsibility to obtain all County, State, and Federal permits that may be needed, and to maintain this structure and related regulations.

THERE WILL BE NO CHANGES IN SPECIFICATION, DIMENSIONS, OR MATERIALS UNLESS APPROVED BY THE ENGINEER RESPONSIBLE FOR THIS DRAWING. THE DRAWINGS ARE PREPARED COOPERATIVELY BY THE NATURAL RESOURCE CONSERVATION SERVICE FOR THE NAMED LANDOWNER.

CONSTRUCTION FOUND NOT IN ACCORDANCE WITH THESE DRAWINGS AND SPECIFICATIONS SHALL VIOLATE THE COOPERATIVE AGREEMENT AND ALL DRAWINGS, SPECIFICATIONS, AND QUANTITIES ESTIMATE SHALL IMMEDIATELY BE RETURNED TO THE LOCAL NRCS OFFICE.

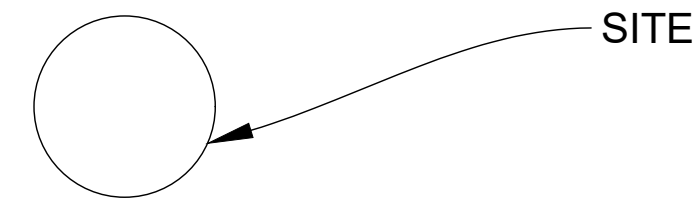


**Know what's below.  
Call before you dig.**

\*The Soil Conservation District makes no representation as to the existence or Non-existence of any utilities at the construction site. Shown on these construction drawings are those utilities which have been identified. It is the responsibility of the landowners or operators and contractors to assure themselves that no hazard exists or damage will occur to utilities\*

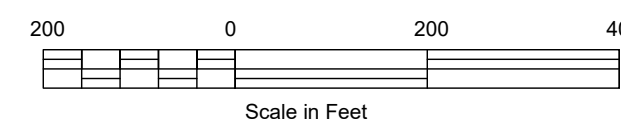
# LANDOWNER - SITE NAME

## 410 GRADE STABILIZATION STRUCTURE



### REVISED 7/1/2021

**LOCATION MAP**



USER TO INSERT SHEET LIST TABLE

**GENERAL NOTES:**

- PLEASE CONTACT THE SOIL CONSERVATION DISTRICT AT PHONE # AT LEAST 3 DAYS PRIOR TO CONSTRUCTION TO ARRANGE A PRE-CONSTRUCTION MEETING
- A CONSERVATION TECHNICIAN SHALL SET CUT/GRADE STAKES AT THE CONTRACTORS REQUEST
- A CONSERVATION TECHNICIAN MUST BE PRESENT AT THE TIME OF PIPE INSTALLATION, IF REQUIRED

**AS-BUILT STATEMENT**

THE CONSERVATION PRACTICE(S) MEETS OR EXCEEDS NRCS STANDARDS AND SPECIFICATIONS

INSPECTED BY \_\_\_\_\_ SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

CONSTRUCTION APPROVAL \_\_\_\_\_ SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

VERIFIED DISTRICT CONSERVATIONIST \_\_\_\_\_ SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

AS BUILT CONTRACT ITEMS:

PRACTICE	Reportable Amount	Contract Amount

USER TO ENTER PRACTICES

**OWNER/CONTRACTOR STATEMENT**

I CERTIFY THAT THIS DESIGN HAS BEEN EXPLAINED TO ME BY A REPRESENTATIVE OF THE COUNTY SOIL CONSERVATION DISTRICT, AND I UNDERSTAND THE CONTENTS, ALL CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND SPECIFICATIONS. I FURTHER UNDERSTAND THAT ALL CONSTRUCTION WILL BE UNDER THE INSPECTION OF THIS OFFICE.

OWNER/OPERATOR SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

CONTRACTOR'S SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

All disturbed areas to be stabilized within 7 days of completion, using the following recommendations.

**Seeding Recommendations**

Tall Fescue	65 lb/ac
Perennial Ryegrass <i>or</i>	5 lb/ac
Redtop (tolerates moist sites)	2 lb/ac
White Clover	5 lb/ac
20-40-40 Fertilizer	500 lb/ac
Ground lime 50% oxides	3 tons /ac
Straw Mulch	2 tons/ac

Dates listed are for plant hardiness Zone 6B, dates will need to be changed for other zones.

**Seeding Dates**  
March 1 thru May 15  
August 1 thru October 1

It is the landowner responsibility to obtain All County, State, and Federal permits that may be needed, and to maintain this structure and those regulations.

**USER TO ENTER SEEDING INFO MATERIALS LIST**

\* For bidding purposes only

Date \_\_\_\_\_

Designed \_\_\_\_\_

Drawn \_\_\_\_\_

Checked \_\_\_\_\_

Approved \_\_\_\_\_

LANDOWNER - SITE NAME

#####

COUNTY Soil Conservation District

TRACT # \_\_\_\_\_

\_\_\_\_\_, Maryland

JOB CLASS # \_\_\_\_\_



File Name

MD\_0044\_GradeStabilizationStructure.dwg

Drawing No.  
MD\_0044

Sheet 1 of 3



PROFILE

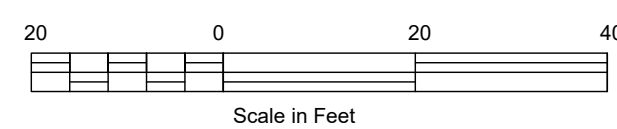
BENCH MARK DESCRIPTIONS

TBM #1 (IP): Elev = ????.??  
Top of 1" X 2" wooden hub, marked by witness lath.


TBM #2: Elev = ????.??  
Top of 1" X 2" wooden hub, marked by witness lath, near NW corner of building.

TBM #3: Elev = ????.??  
Top of bolt in NW corner of concrete.

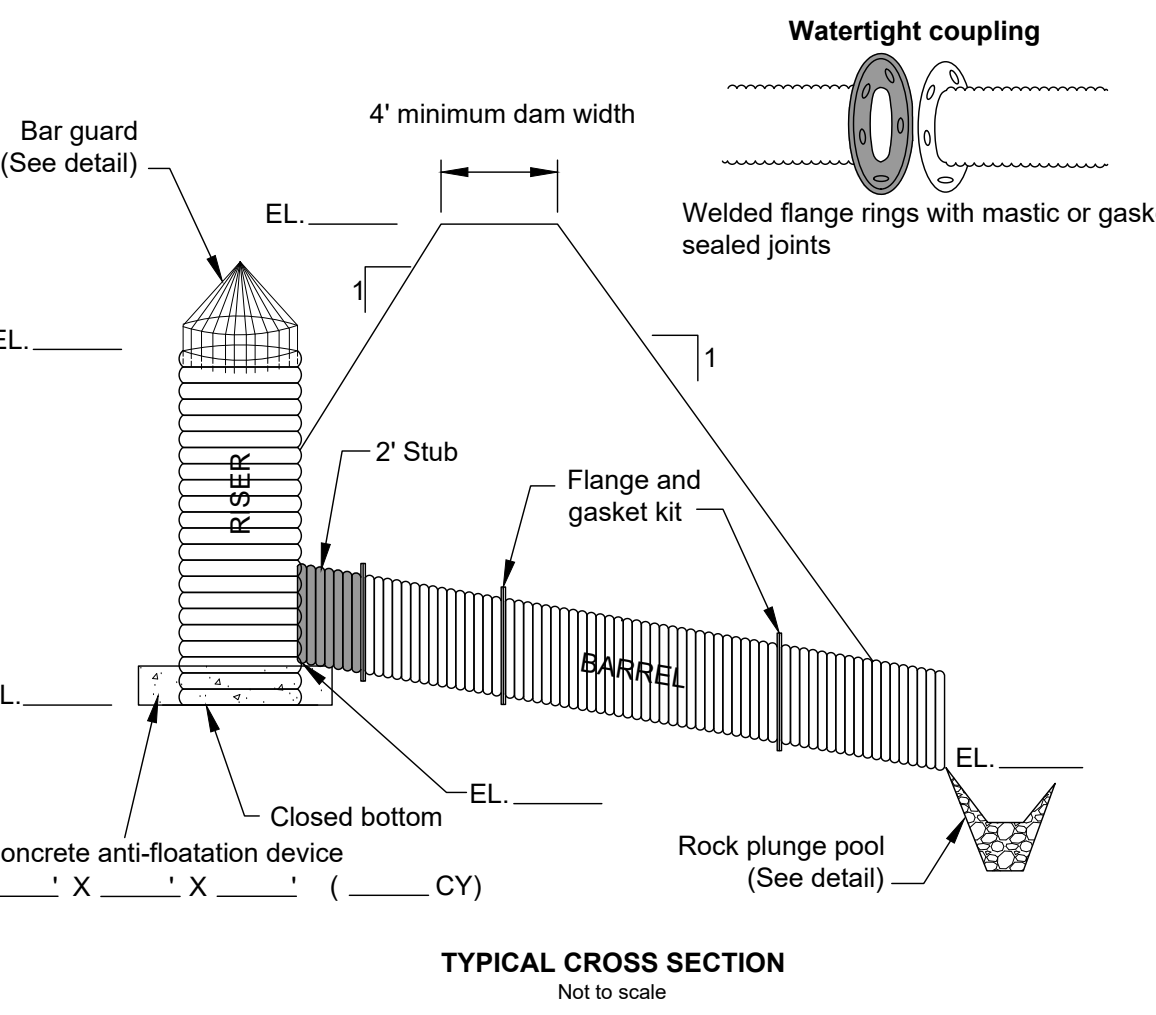
**PLAN VIEW**



CROSS SECTION

 United States Department of Agriculture Natural Resources Conservation Service	LANDOWNER - SITE NAME ##### COUNTY Soil Conservation District JOB CLASS #	TRACT #	Date Designed _____ Drawn _____ Checked _____ Approved _____
	File Name MD_0044_GradeStabilizationStructure.dwg		Drawing No. MD_0044
Sheet 2 of 3			

**Design Specifications:**  
 \_\_\_\_\_' X \_\_\_\_\_" Gage **RISER** Slope \_\_\_\_\_ FT/FT  
 Corrugations 2 2/3" X 1/2" OR 3" X 1" \_\_\_\_\_" Bar guard  
 \_\_\_\_\_' X \_\_\_\_\_" Gage **BARREL** Stub angle \_\_\_\_\_  
 Corrugations 2 2/3" X 1/2" OR 3" X 1" Clearing \_\_\_\_\_ AC  
 Concrete \_\_\_\_\_ CY (Min 3500 PSI) Fill \_\_\_\_\_ CY  
 Flange/Gasket kits \_\_\_\_\_ EA

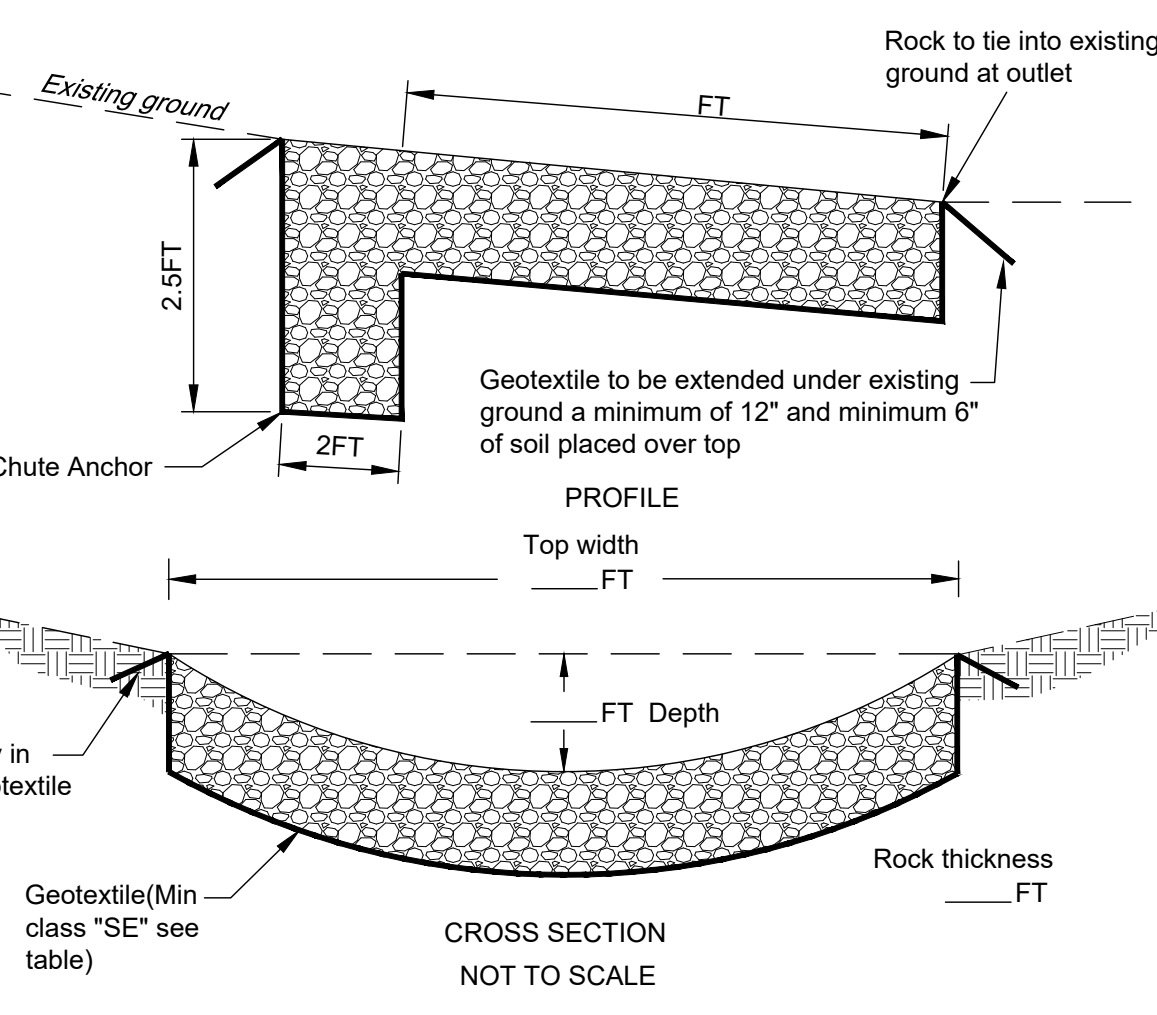


**GENERAL NOTES:**  
 • All aluminum surfaces in contact with concrete shall be coated with **ZINC CHROMATE PRIMER**  
 • A conservation technician must be present at the time of pipe installation to verify soil backfill material  
 • Pipe shall be backfilled in minimum 6-8" lifts using proper compaction equipment

**ALUMINUM PIPE DROP DETAIL**  
NOT TO SCALE

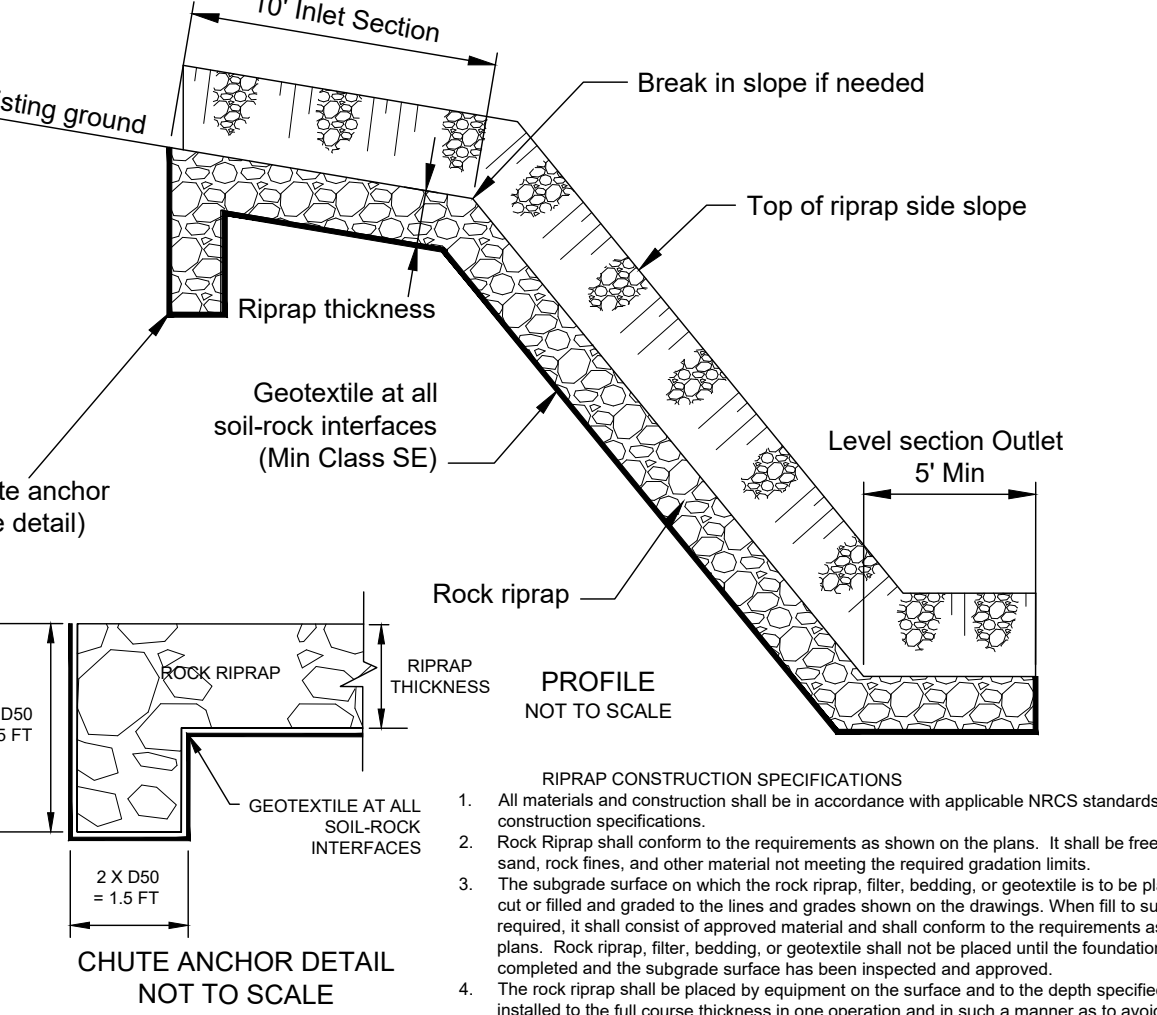
**USER TO CLICK ON BLOCK AND ENTER INFORMATION**

**Design Specifications:**  
 Length \_\_\_\_\_ FT Rock \_\_\_\_\_" to \_\_\_\_\_" d50 = \_\_\_\_\_"  
 Top Width \_\_\_\_\_ FT Riprap Thickness \_\_\_\_\_ FT  
 Depth \_\_\_\_\_ FT Geotextile \_\_\_\_\_ FT<sup>2</sup>  
 Grade \_\_\_\_\_ FT/FT Clearing \_\_\_\_\_ AC  
 Riprap \_\_\_\_\_ TONS



**USER TO CLICK ON BLOCK AND ENTER INFORMATION**

**Design Specifications:**  
 Length \_\_\_\_\_ FT Rock \_\_\_\_\_" to \_\_\_\_\_" d50 = \_\_\_\_\_"  
 Top Width \_\_\_\_\_ FT Riprap Thickness \_\_\_\_\_ FT  
 Depth \_\_\_\_\_ FT Geotextile \_\_\_\_\_ FT<sup>2</sup>  
 Grade \_\_\_\_\_ FT/FT Clearing \_\_\_\_\_ AC  
 Riprap \_\_\_\_\_ TONS

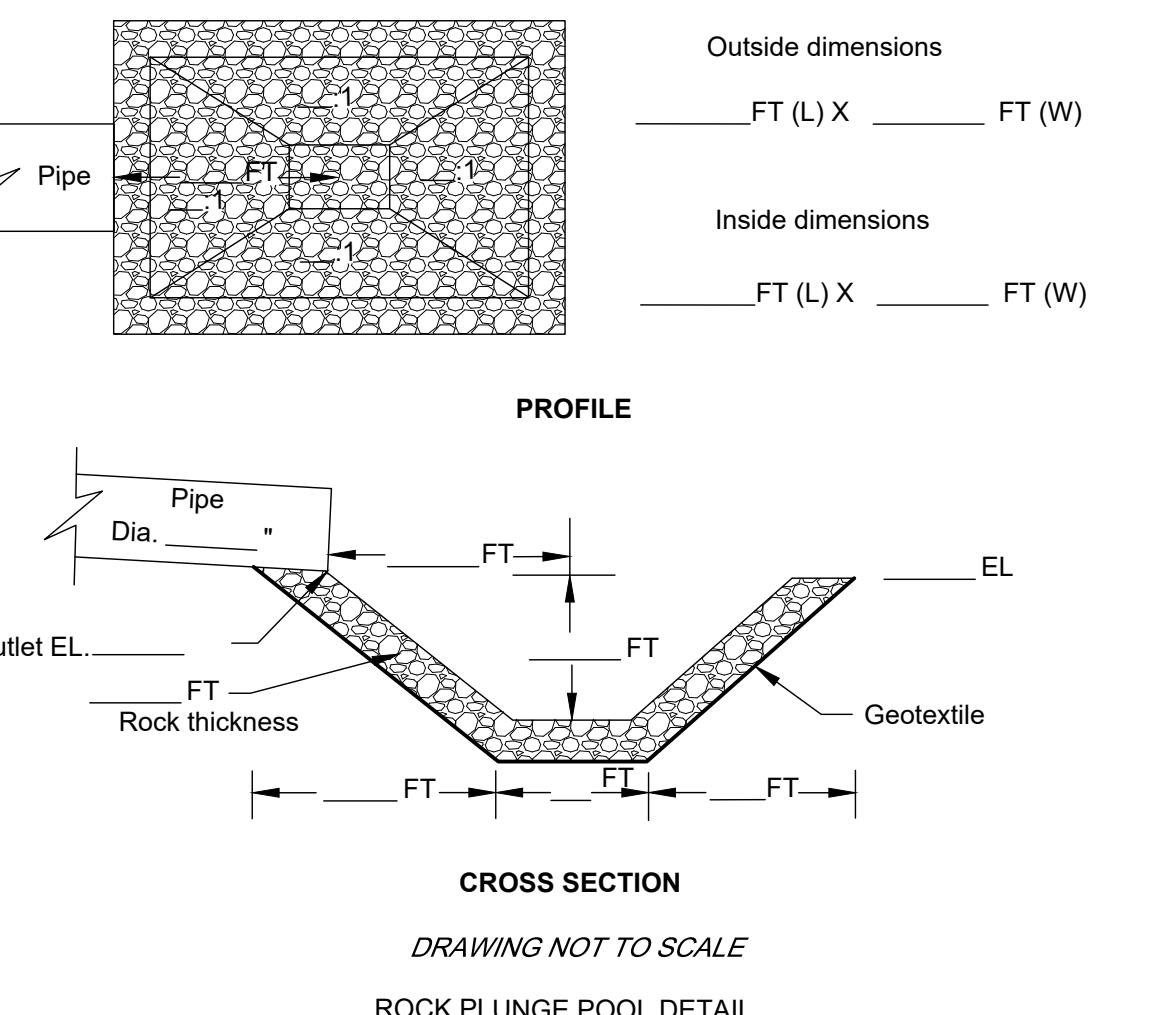


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Note: Geotextile to meet the following Maryland State Highway Administration requirements:

Maryland Application Class	Type of Geotextile	Grab Strength Lb D 4632	Puncture Strength Lb D 4833	Permittivity Sec 1	Apparent Opening Size Max Mm D 4751	Trapezoid Tear Strength Lb D 4533
SE	NONWOVEN	200	80	0.2	0.3	80
	WOVEN	250	90	0.2	0.3	90

**Design Specifications:**  
 Depth of Plunge \_\_\_\_\_ FT Rock \_\_\_\_\_" to \_\_\_\_\_" d50 = \_\_\_\_\_"  
 Distance to CL of plunge \_\_\_\_\_ FT Riprap Thickness \_\_\_\_\_ FT  
 Riprap \_\_\_\_\_ TONS Geotextile \_\_\_\_\_ FT<sup>2</sup>  
 Clearing \_\_\_\_\_ AC



**USER TO CLICK ON BLOCK AND ENTER INFORMATION**

**DETAIL B-4-6-A TEMPORARY SOIL STABILIZATION MATTING CHANNEL APPLICATION**

STANDARD SYMBOL  
TSSMC - \* lb/ft<sup>2</sup> (\* INCLUDE SHEAR STRESS)

**CONSTRUCTION SPECIFICATIONS**

- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
- USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
- SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDBED SURFACE. AVOID STRETCHING THE MATTING.
- KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END.
- OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
- ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

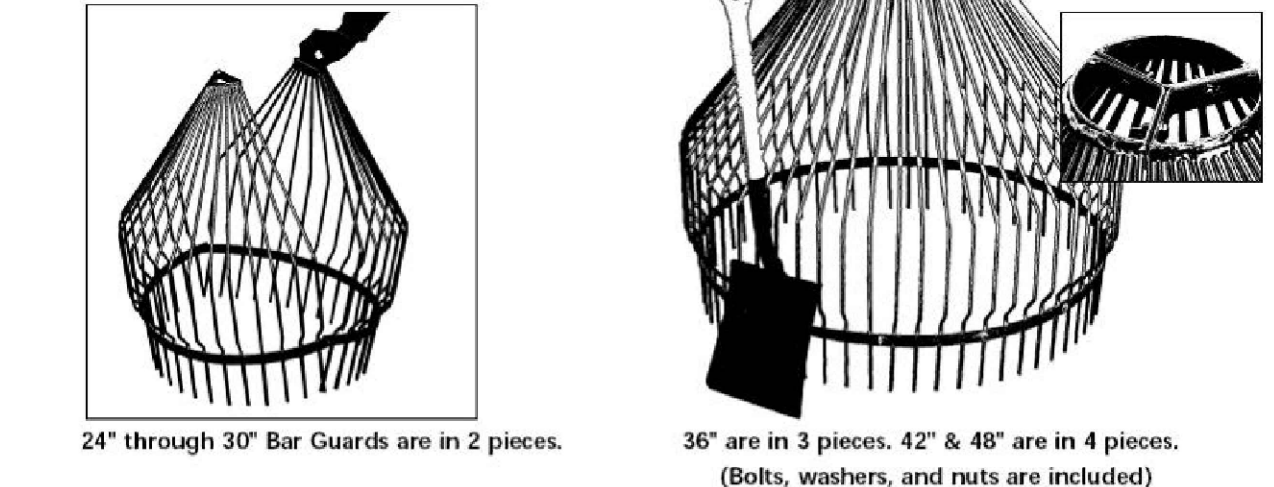
**Bar Guards**

**Eliminate plugged inlets with Bar Guard Intakes.**

- Fights trash to keep intakes flowing freely.
- The Bar Guard Intake is an excellent choice in any situation where a low profile, high capacity intake is required.
- Its unique design helps keep intakes from plugging with crop residue or any other type of trash.
- The Bar Guard may also protect a pond tube from rodent entry.
- Yellow powder coated finish resists corrosion and is brighter for better visibility.

Bar Guard Size	Bar Diameter	Bar Spacing	Over-all O.D.	Over-all Height
4"	1/4"	1 1/2"	5 1/2"	17 1/2"
5"	1/4"	1 1/2"	6 1/2"	17 1/2"
6"	1/4"	1 1/2"	7 1/2"	18"
8"	1/4"	1 1/2"	9 1/2"	19 1/2"
8" H"	1/4"	1 1/2"	9 1/2"	19 1/2"
10"	1/4"	1 1/2"	11 1/2"	20"
10" H"	1/4"	1 1/2"	12 1/2"	20 1/2"
12"	1/4"	1 1/2"	13 1/2"	21 1/2"
12" H"	1/4"	1 1/2"	15 1/2"	22"
15"	1/4"	1 1/2"	16 1/2"	22 1/2"
18"	1/4"	1 1/2"	19 1/2"	23 1/2"
24"	1/4"	2"	25 1/2"	26 1/2"
30"	1/4"	2"	31 1/2"	31"
36"	1/4"	2"	37 1/2"	33 1/2"
42"	1/4"	2 1/2"	43 1/2"	35 1/2"
48"	1/4"	3 1/4"	49 1/2"	36"

\*Special sized Bar Guards to fit Hickenbottom Intakes.



Manufactured by: **Agri Drain CORPORATION**  
 P.O. Box 458 • 1462 340th Street • Adair, Iowa 50002  
 Phone: 1-800-232-4742 • Fax: 1-800-282-3353  
 www.agridrain.com • email: info@agridrain.com

Date \_\_\_\_\_

Designed \_\_\_\_\_  
 Drawn \_\_\_\_\_  
 Checked \_\_\_\_\_  
 Approved \_\_\_\_\_

**LANDOWNER - SITE NAME**  
 #####  
 COUNTY Soil Conservation District  
 JOB CLASS # \_\_\_\_\_, Maryland

TRACT # \_\_\_\_\_

United States Department of Agriculture  
**USDA**  
 Natural Resources Conservation Service

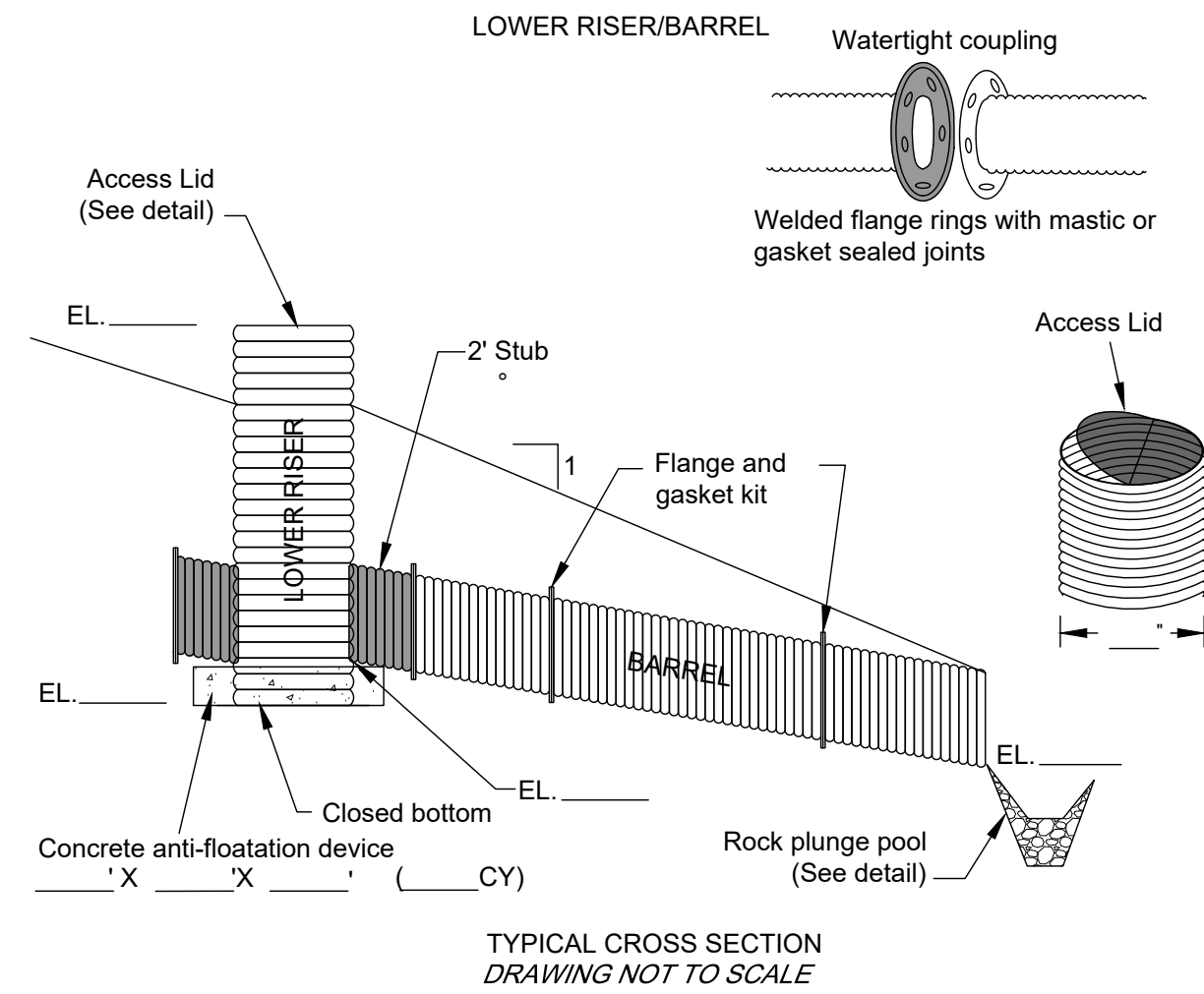
File Name  
 MD\_0044\_GradeStabilizationStructure.dwg

Drawing No.  
 MD\_0044

Sheet 3 of 3

Design Specifications:

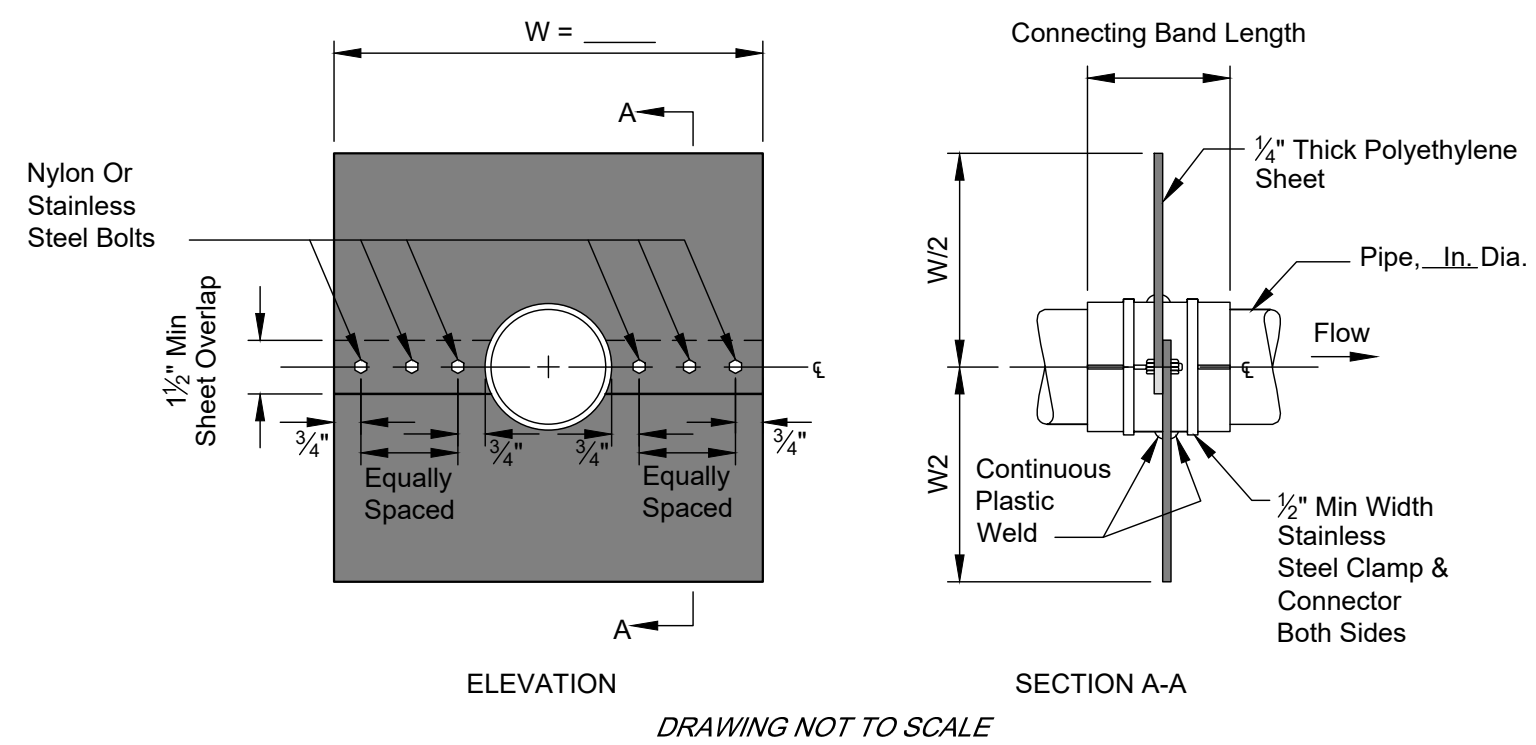
_____ X _____ Gage RISER	Slope _____ FT/FT
Corrugations 2 2/3" X 1/2" OR 3" X 1"	_____ " Access Lid
_____ X _____ Gage BARREL	Stub angle _____ °
Corrugations 2 2/3" X 1/2" OR 3" X 1"	Clearing _____ AC
Concrete _____ CY (Min 3500 PSI)	Fill _____ CY
Flange/Gasket kits _____ EA	



- GENERAL NOTES:
- All aluminum surfaces in contact with concrete shall be coated with ZINC CHROMATE PRIMER
  - A conservation technician must be present at the time of pipe installation to verify soil backfill material
  - Pipe shall be backfilled in minimum 6-8" lifts using proper compaction equipment

ALUMINUM PIPE DROP JUNCTION DETAIL  
NOT TO SCALE

USER TO CLICK ON BLOCK AND ENTER INFORMATION



- NOTES:
- Pipe, connecting band and seam coating can be either silicon caulk (recommended), or mastic (asphalt or tar based).
  - Apply silicon caulk, tar or mastic to bottom half of connecting band and lay pipe on connecting band.
  - Apply silicon caulk or mastic to top half of collar and set in place, bring up bolt holes.
  - Install clamps on split halves of collar and tighten bolts and clamps.
  - Apply silicon caulk, tar or mastic on seams as needed to insure a good seal so that completed installation is watertight.
  - Backfill and hand tamp soil around completed installation.
  - Polyethylene antiseep collars can be used on corrugated and smooth PVC plastic, smooth steel and galvanized pipes.

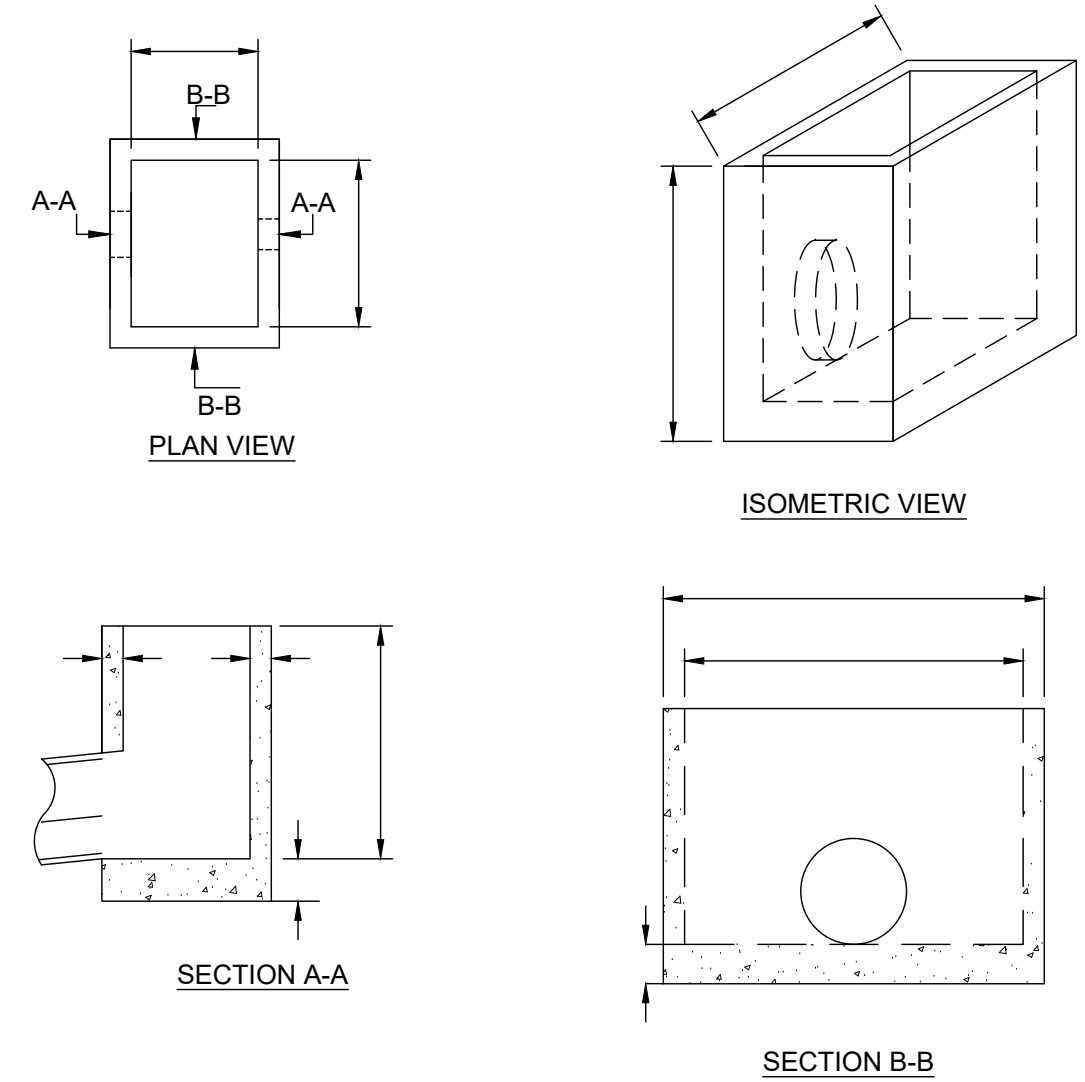
TABLE OF QUANTITIES					
W FEET	Polyethylene Sheet Sq. Ft.	Stainless Steel Clamp & Connector	Connecting Band Min Length	Bolts & Nuts 3/8" x 1"	No. Of Collars
3	9.5	2	6"	6	6
4	16.7	2	6"	6	6
5	25.8	2	8"	6	6
6	37.0	2	8"	6	6
Totals					

POLYETHYLENE SHEET ANTISEEP COLLAR  
NOT TO SCALE

USER TO CLICK ON BLOCK AND ENTER INFORMATION

Design Specifications:

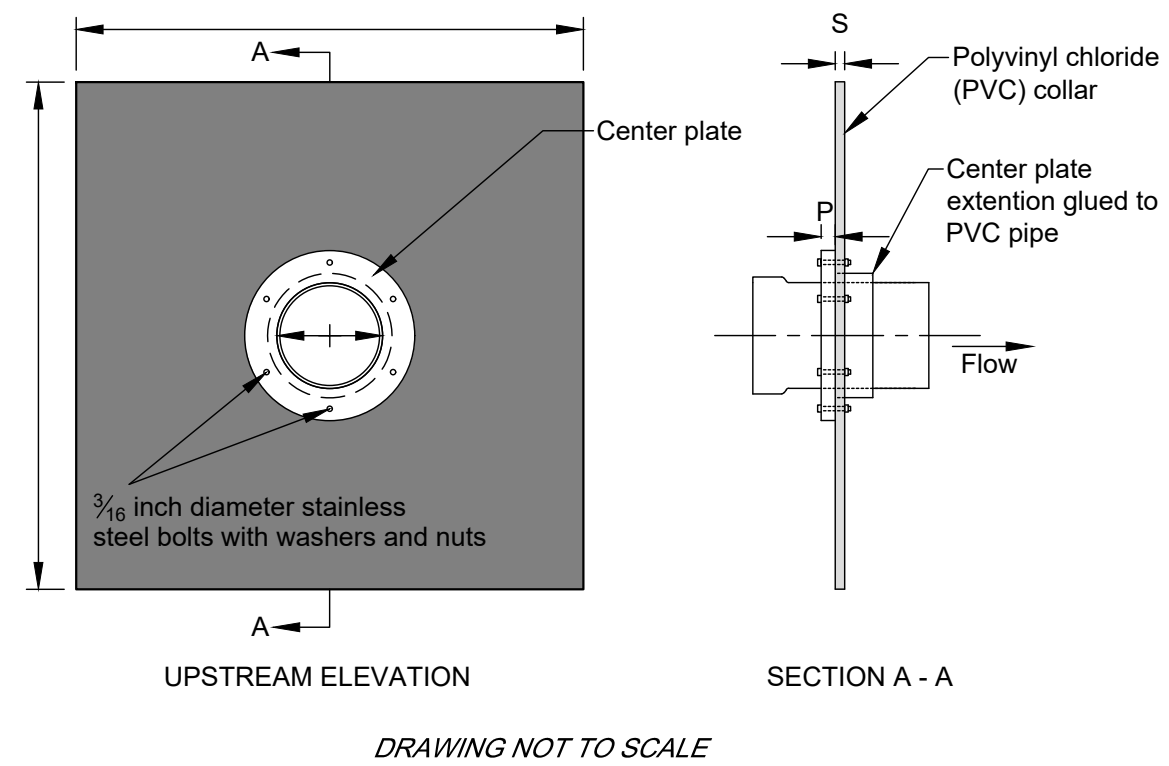
_____ X _____ Concrete Riser (Inside Dimensions)	_____ " Barrel Size
_____ X _____ Concrete Riser (Outside Dimensions)	_____ Barrel Material
_____ Riser Total Height	_____ Barrel Inlet El. (ft)
_____ Riser Inside Height	
_____ Wall Thickness	
_____ Base Thickness	



- NOTES:
- Please see MD\_0913 or MD\_0914 drawings for specifications on barrel and trash rack.
  - Structure to be reinforced with rebar and meet ASTM C913 "Standard Specifications for Precast Concrete Water and Wastewater Structures."

CONCRETE RISER PIPE DROP DETAIL  
NOT TO SCALE

USER TO CLICK ON BLOCK AND ENTER INFORMATION



Pipe Diam. (D) (Inches)	Sheet Height (H) (Inches)	Sheet Width (W) (Inches)	Sheet Thickness (S) (Inches)	Pipe Length (L) (Inches)	Plate Thickness (P) (Inches)
6	48	48	3/8	12	1/2
8	48	48	3/8	15	1/2
10	48	48	1/2	17	1/2
12	48	48	1/2	17	1/2

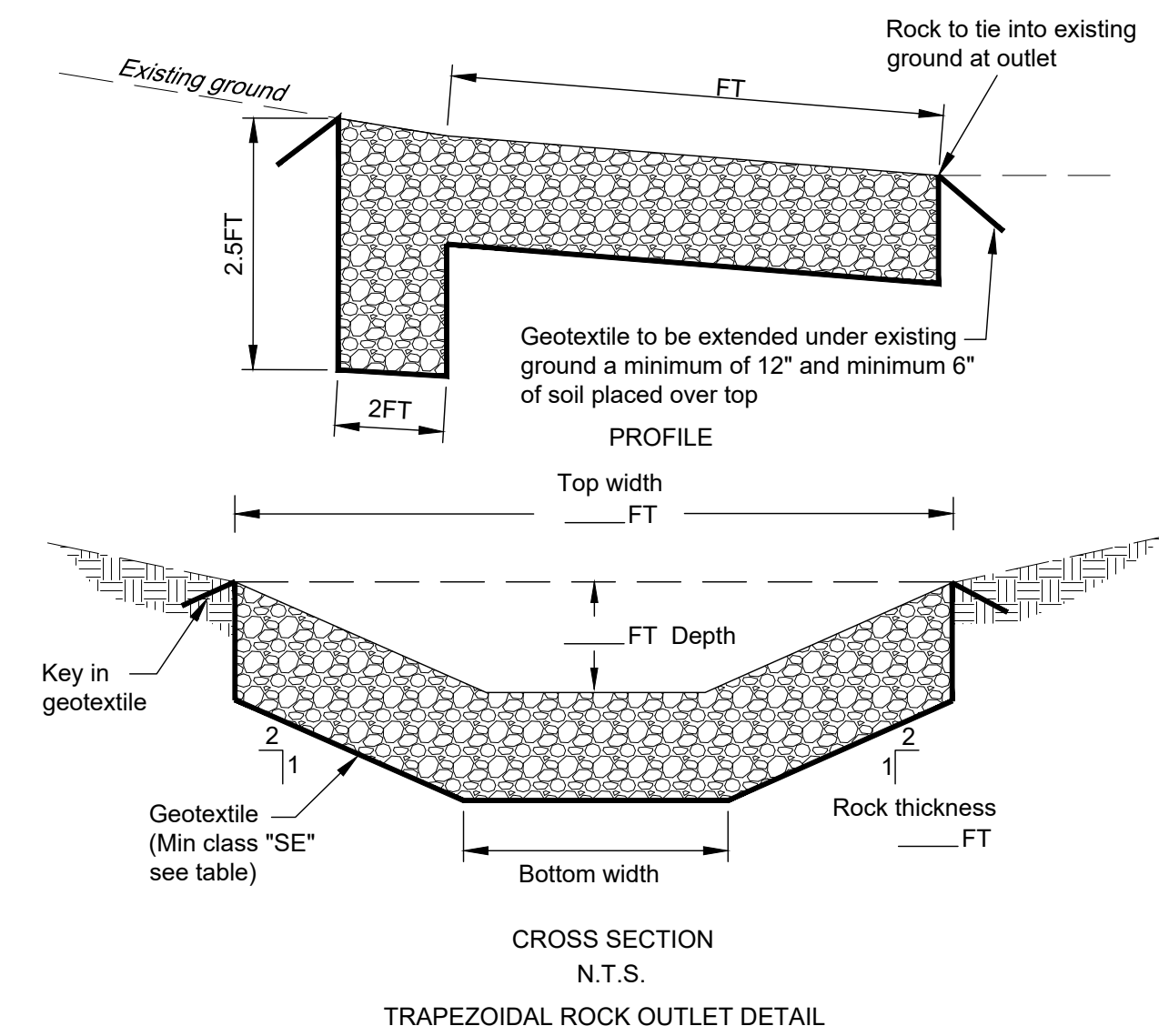
- NOTES:
- The bell end of the pvc pipe in the collar shall point upstream.
  - Make pipe connections as needed to assure a watertight system.
  - Apply silicon caulk on the seams as needed to insure a good seal so that the completed installation is watertight.

PVC ANTISEEP COLLAR  
NOT TO SCALE

USER TO CLICK ON BLOCK AND ENTER INFORMATION

Design Specifications:

Length _____ FT	Riprap _____ TONS
Top Width _____ FT	Rock _____ " to _____ " d50 = _____ "
Bottom Width _____ FT	Riprap Thickness _____ FT
Depth _____ FT	Geotextile _____ FT <sup>2</sup>
Grade _____ FT/FT	Clearing _____ AC



USER TO CLICK ON BLOCK AND ENTER INFORMATION