

① DITCH SCHEDULE

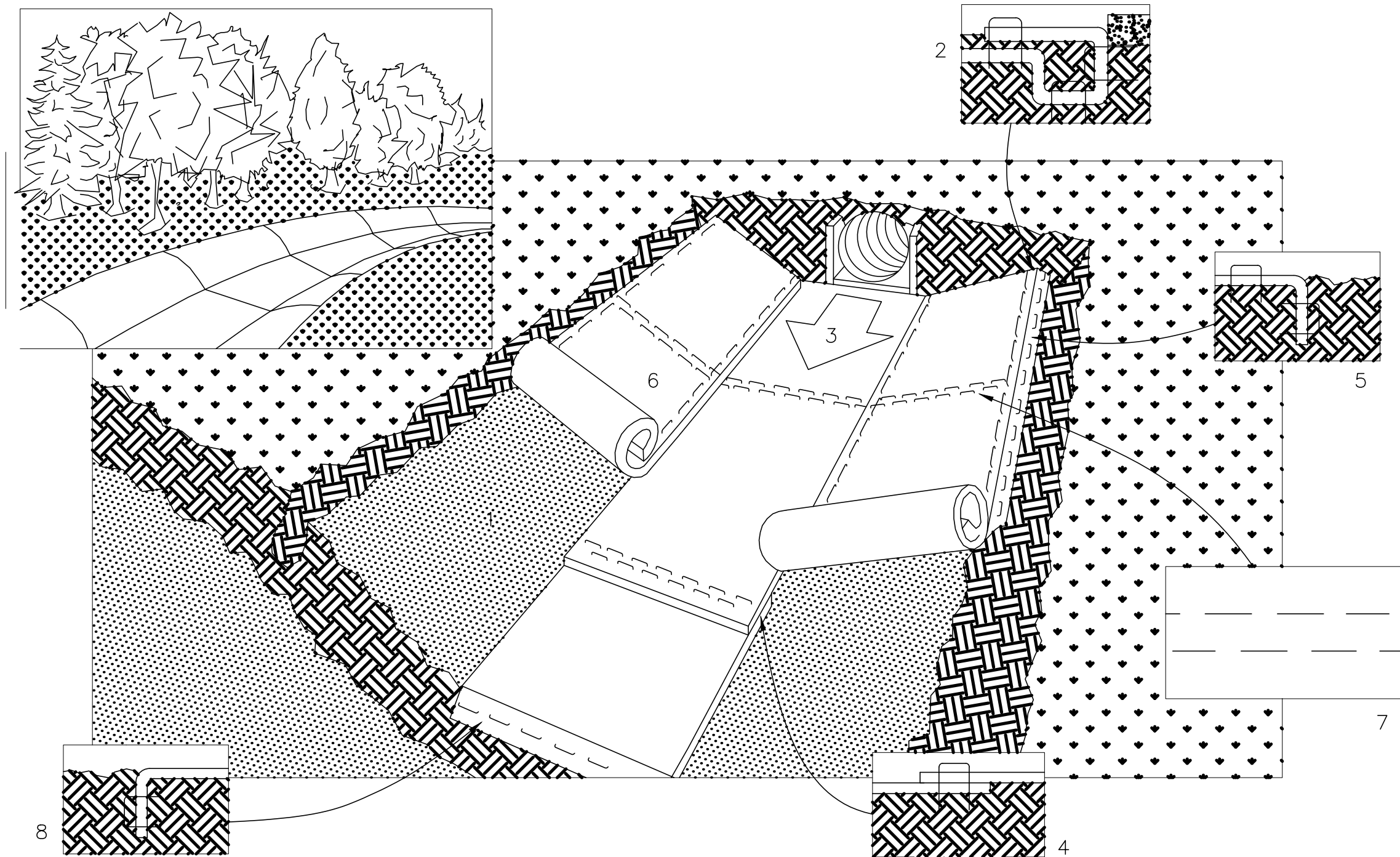
DITCH NO.	STATION	2D DITCH LENGTH (FT)	MINIMUM DEPTH D (FT)	MINIMUM BOTTOM WIDTH BW (FT)	MINIMUM TOP WIDTH TW (FT)	SIDE SLOPES H/V	DITCH SLOPE	DITCH LINING
CD-1	0+00 to 14+08	1408	2.0 ¹	5.0	17.0	2	2%	NAG P550/R-4 RIPRAP
CD-2	0+00 to 37+73	3773	2.0 ¹	5.0	17.0	2	2%	NAG P550/R-4 RIPRAP
CD-3	0+00 to 7+50	750	3.0	3.0	15.0	2	2%-10%	R-4 RIPRAP/FABRIFORM
	7+50 to 10+80	330	3.0	3.0	15.0	2	10%	None - Excavated in Rock
CD-4	0+00 to 8+00	800	3.0	5.0	17.0	2	2%-10%	R-4 RIPRAP/FABRIFORM
	8+00 to 15+00	700	3.0	5.0	17.0	2	2%-4%	None - Excavated in Rock
CD-5	0+00 to 4+25	425	3.0	5.0	17.0	2	2%-5%	None - Excavated in Rock
	4+25 to 16+00	1175	3.0	5.0	17.0	2	2%-10%	R-4 RIPRAP/FABRIFORM
CD-6	0+00 to 12+55	1255	3.0	3.5	15.5	2	2%-10%	R-5 RIPRAP/FABRIFORM
	12+55 to 14+70	215	3.0	3.5	15.5	2	6%-11%	None - Excavated in Rock
CD-7	0+00 to 3+43	343	1.0	2.0	6.0	2/1	2%	None - Excavated in Rock
CD-8	0+00 to 2+52	252	1.0	2.0	6.0	2/1	2%	None - Excavated in Rock
CD-9	0+00 to 5+79	579	2.0	1.0	9.0	2	2%	None - Excavated in Rock
CD-10	0+00 to 7+02	702	2.0	1.0	9.0	2	2%	None - Excavated in Rock
DD-1, DD-2, DD-3, AND DD-4	--	--	2.0	2.0	10.0	2	2%-4%	NAG P300
NT POND 2 CONNECTION	0+00 to 4+15	415	4.0	5.0	21.0	2	0%	None - Excavated in Rock

NOTES:
1. ADJACENT ROAD BERM SHALL BE MAINTAINED TO PROVIDE 12" OF FREEBOARD FOR A TOTAL DEPTH OF 3'.

TURF REINFORCEMENT MAT INSTALLATION DETAILS

NOTE: HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.
REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE RECOMMENDATIONS FOR CHANNELS.

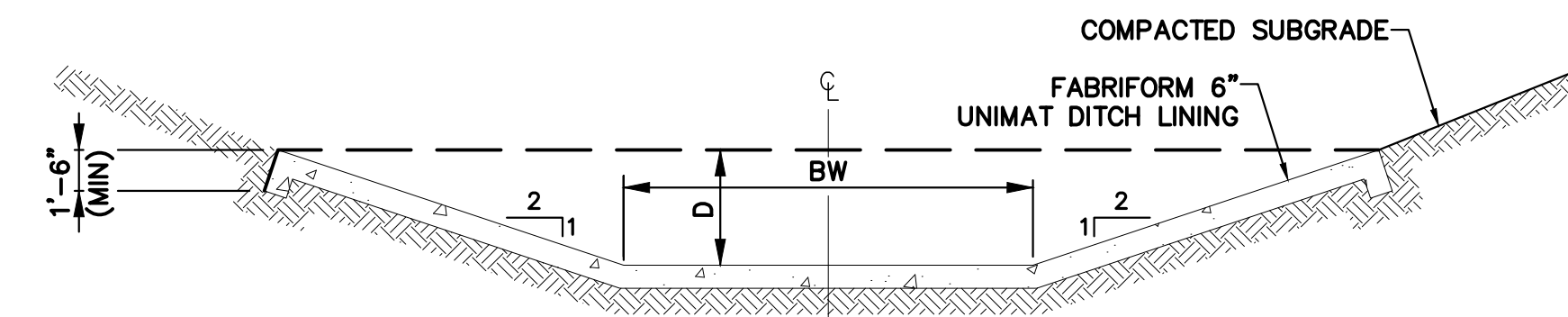
CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES



- NOTES:
- FINE GRADE AND PREPARE SOIL SUBGRADE BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF TOPSOIL, LIME, FERTILIZER, AND SEED.
 - BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER SECURING THE MAT WITH PINS OR STAPLES.
 - ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW ON BOTTOM OF CHANNEL.
 - PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH A 6" OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES OR PINS 4" APART TO SECURE BLANKETS.
 - FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER SECURING THE MAT WITH PINS OR STAPLES.
 - BLANKETS ON SIDE SLOPES MUST BE OVERLAPPED 4" OVER THE CENTER BLANKET AND SECURING THE MAT WITH PINS OR STAPLES.
 - IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A ROW OF STAPLES OR PINS 4" APART OVER ENTIRE WIDTH OF THE CHANNEL. PLACE A SECOND ROW 4" BELOW THE FIRST ROW IN A STAGGERED PATTERN.
 - THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER SECURING THE MAT WITH PINS OR STAPLES.
 - STAPLES OR PINS SHALL BE EMBEDDED IN GROUND AT LEAST 6" AND BE RESISTANT TO CORROSION.

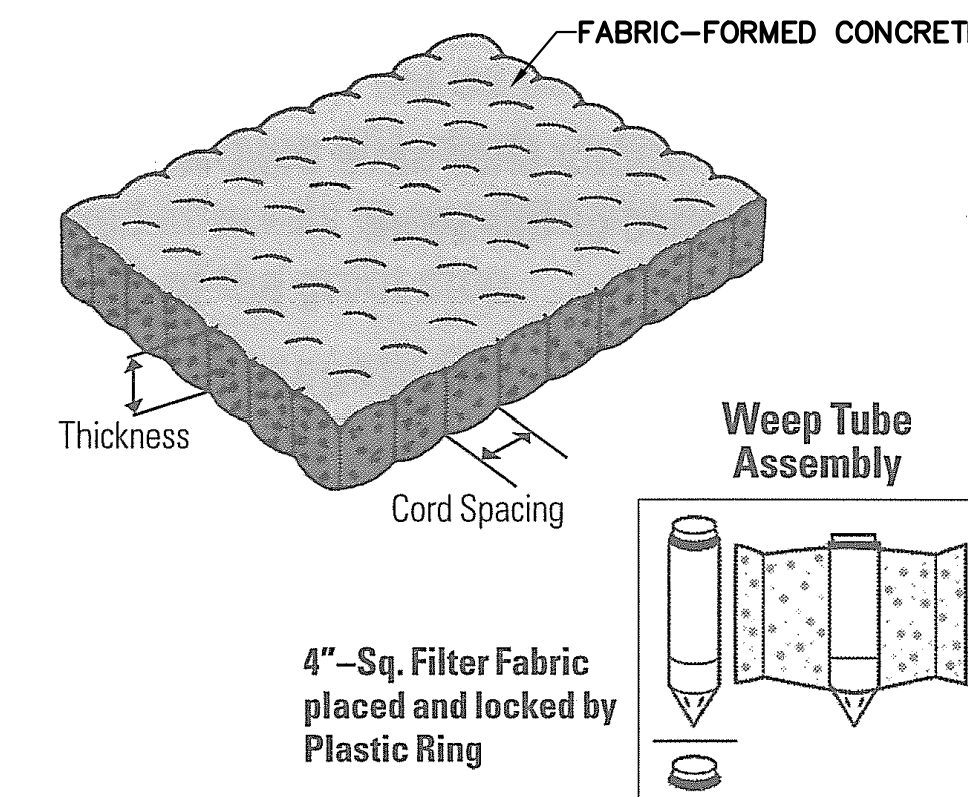
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TYPICAL FABRIC-FORMED CONCRETE LINING

NTS

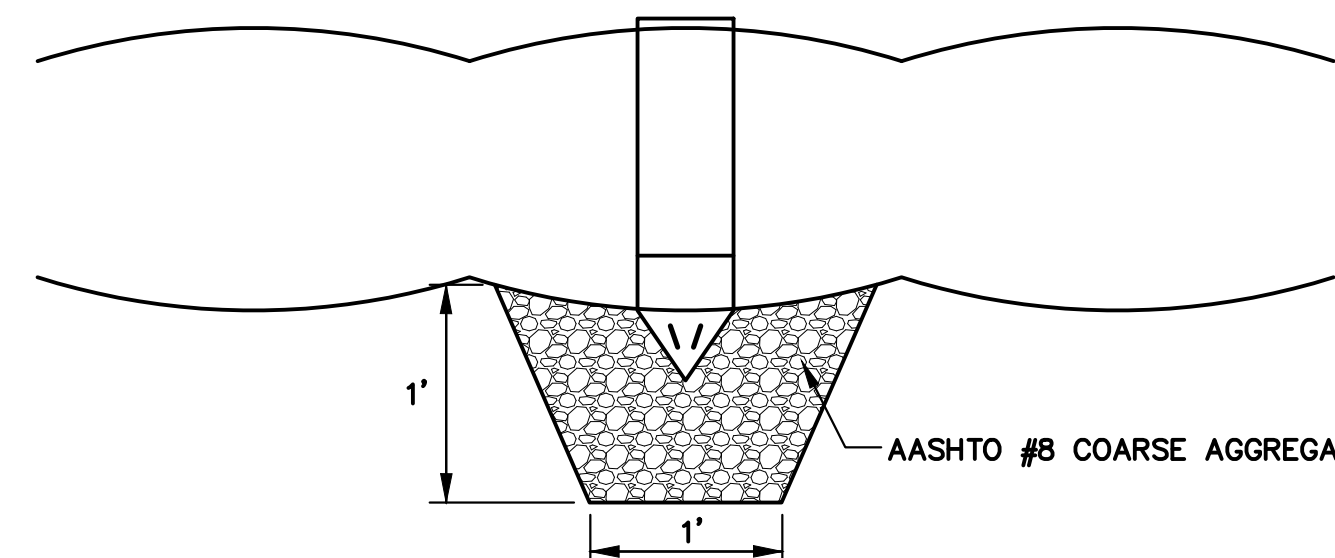


6" WEEP TUBE (TYP)

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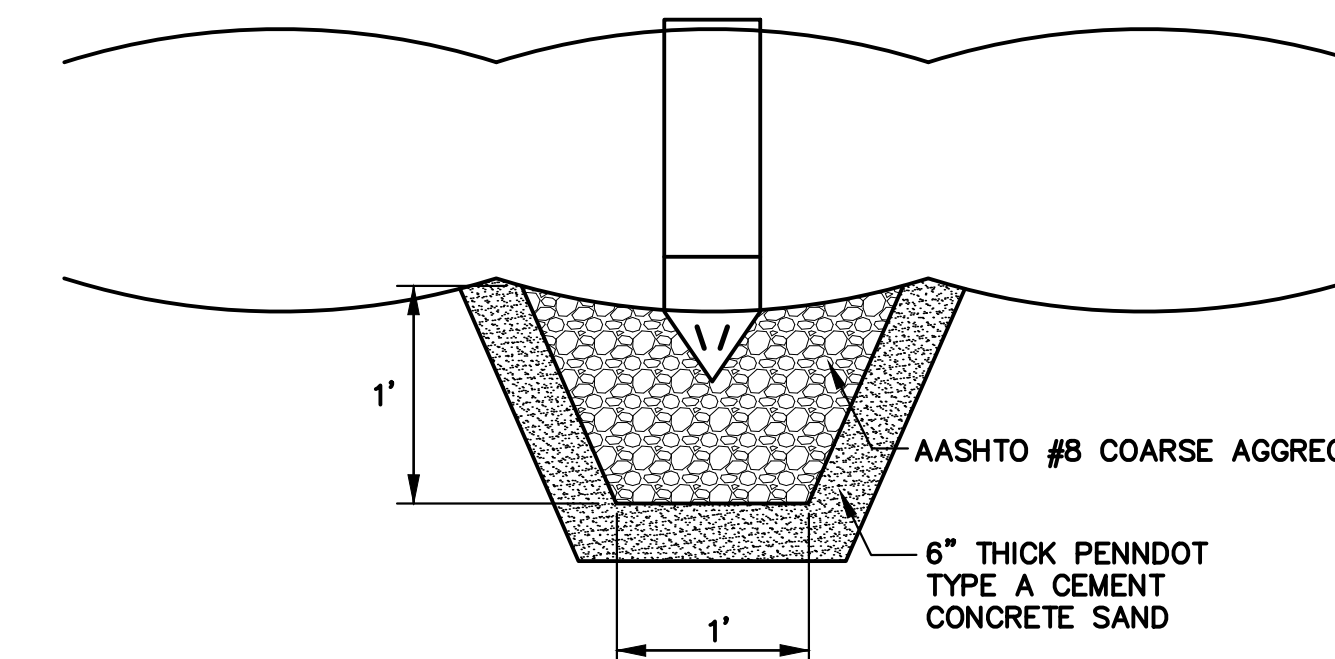
NOTES:

- THE WEEP TUBE ASSEMBLIES SHALL BE HELD IN PLACE DURING G INJECTION BY MEANS OF A SNAP ON COLLAR ATTACHED TO THE END OF THE WEEP TUBE ASSEMBLY.
- WEEP TUBES ARE REQUIRED AS NECESSARY OR AS DIRECTED BY ENGINEER IN FABRIC-FORMED CONCRETE LININGS TO CONTROL WA FROM SEEPAGE ZONES.
- WEEP TUBES SHALL BE INSTALLED IN LOCATIONS OF ACTIVE SEEP HORIZONS IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE ENGINEER/OWNER.



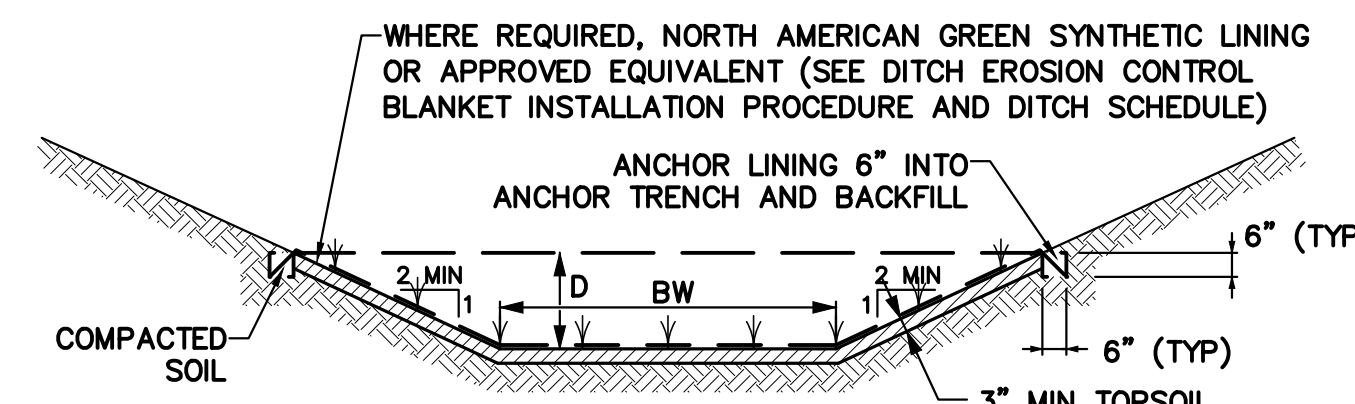
WEEP TUBE COLLECTION ZONE INSTALLED ON ROCK

NTS



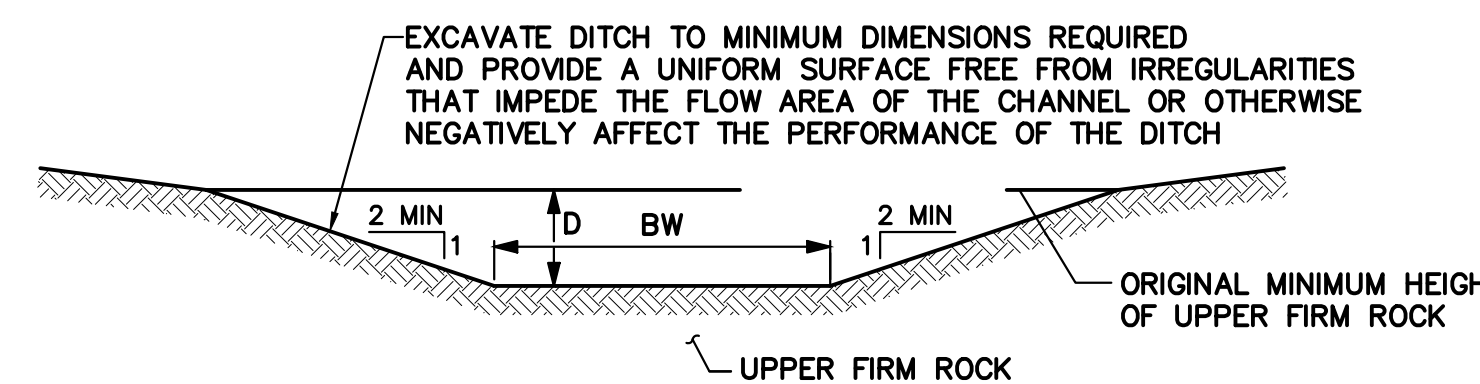
WEEP TUBE COLLECTION ZONE INSTALLED ON SOIL

NTS



② TYPICAL GRASS LINED DITCH

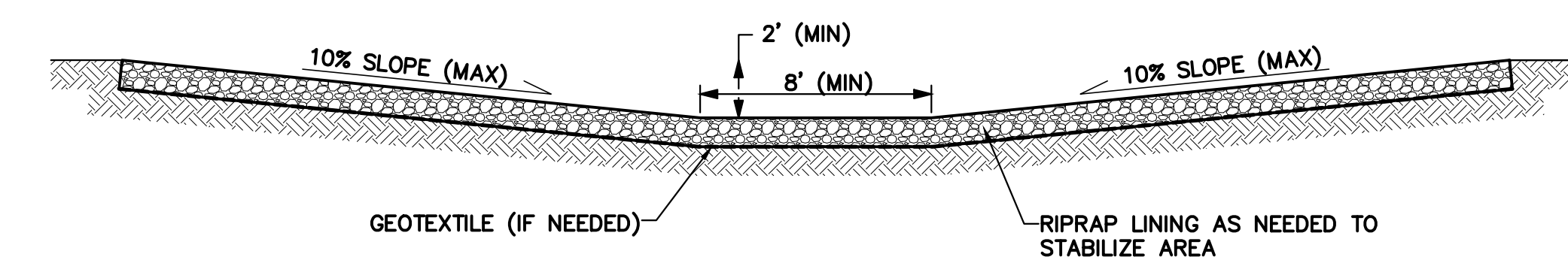
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③ EXCAVATED ROCK DITCH

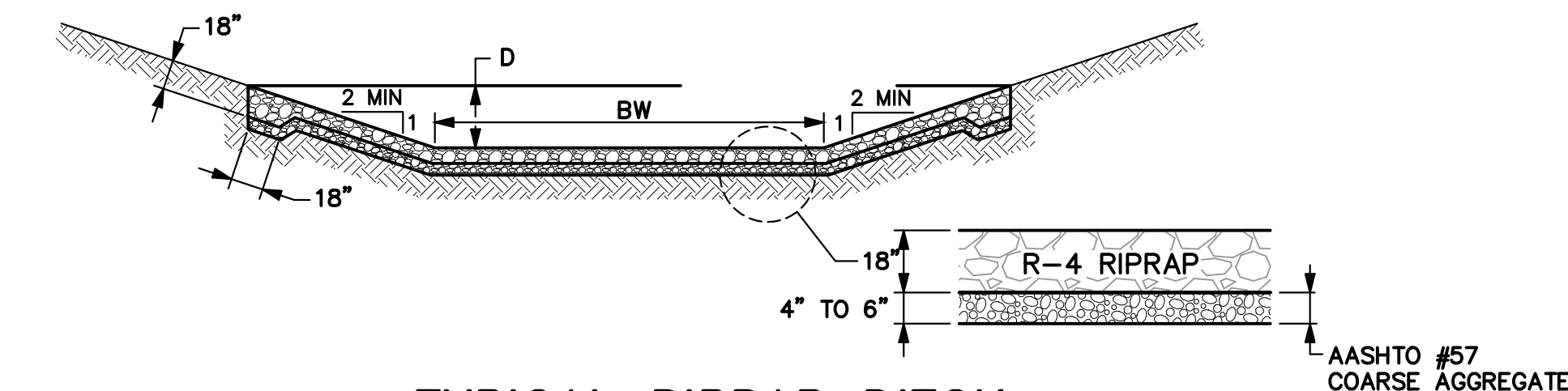
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NOTE:
THE LOCATION AND IDENTIFICATION OF EXCAVATED ROCK DITCHES SHALL BE AT THE DISCRETION OF THE ENGINEER/OWNER.



④ TYPICAL TEXAS CROSSING DETAIL

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TYPICAL RIPRAP DITCH

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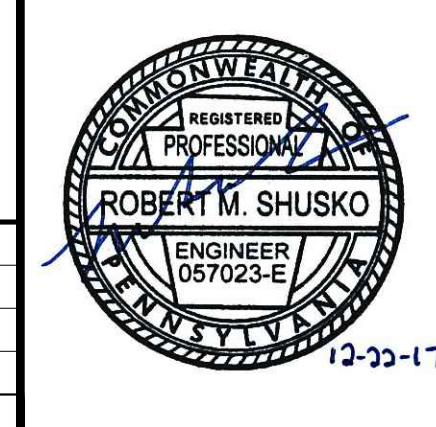
GENERAL NOTES:

- DITCHES WHERE THE FLOW SECTION IS ENTIRELY FOUNDED IN UPPER FIRM ROCK DO NOT REQUIRE A CONSTRUCTED CHANNEL LINING.
- NAG P550 REFERS TO REINFORCED, VEGETATED DITCH LININGS BY NORTH AMERICAN GREEN, INC.
- WHERE TWO SIDE SLOPES ARE PRESENTED, REFER TO PLAN DRAWINGS FOR ACTUAL LEFT AND RIGHT SIDE SLOPES CONFIGURATION.

NOTES / REVISIONS

ISSUED FOR	DATE	REV.	REVISION DESCRIPTION	MADE BY	CHKD BY	DATE
		1				
		2				
		3				
		4				

SEAL:



D'APPOLONIA

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PITTSBURGH, PENNSYLVANIA 15225-4559
(412) 856-8440 FAX (412) 856-8535



PROJECT NUMBER: 152596A

FILE NAME: Ditch Details-RO.dwg

DRAWN BY: AJM

CHECKED BY: RMS/MDW

DATE: 1/28/2016

DATE: 12/22/2017

SPECIALTY GRANULES LLC
CHARMIAN - NORTHERN TRACT QUARRY

EXHIBIT 12
DITCH - DETAILS

SCALE: AS SHOWN

DRAWING NO. 24

REV 0