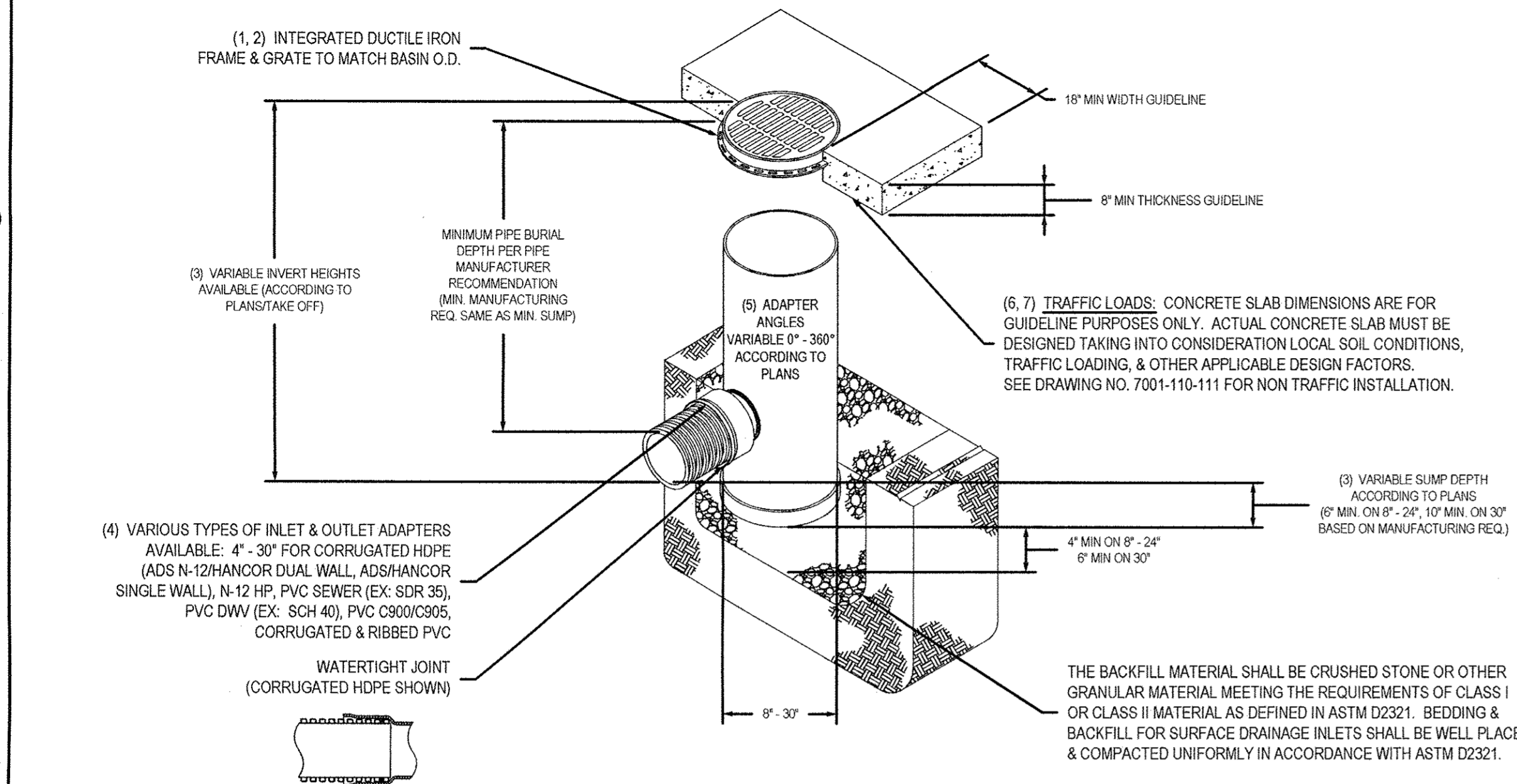


NYLOPLAST DRAIN BASIN WITH STANDARD GRATE



- 8" - 30" STANDARD GRATES SHALL BE DUCTILE IRON PER ASTM A533 GRADE 70-50-05.
- 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A533 GRADE 70-50-05. 8" & 10" STANDARD GRATES FIT DIRECTLY ONTO DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
- DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
- DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL, N-12 HP & PVC SEWER (4" - 24").
- ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
- 12" - 30" STANDARD GRATES SHALL MEET H-20 LOAD RATING.
- 8" & 10" STANDARD GRATES ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY. NO CONCRETE COLLAR NEEDED FOR LIGHT DUTY RATING.

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Nyloplast

TITLE: DRAIN BASIN WITH STANDARD GRATE
QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-011 REV. G

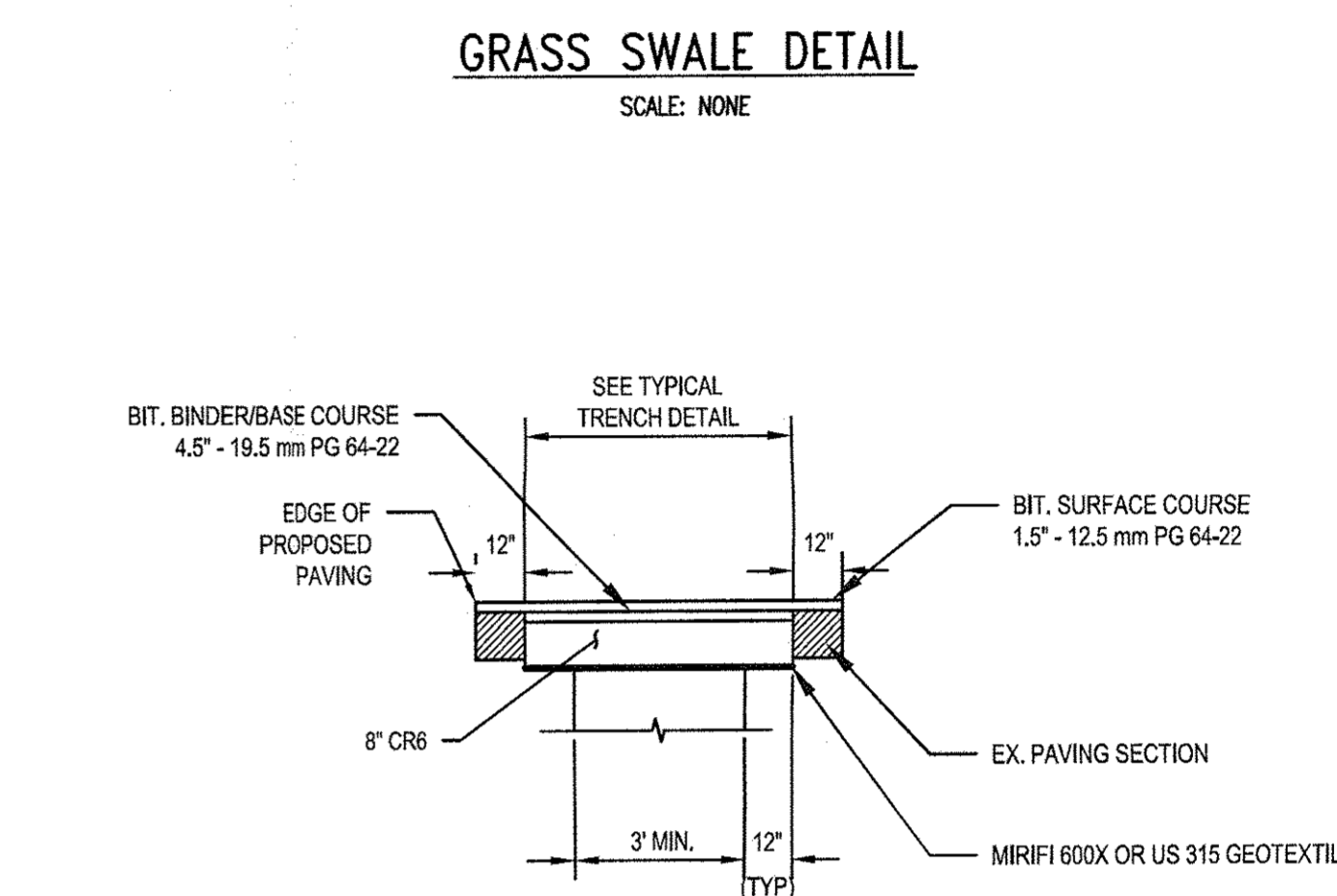
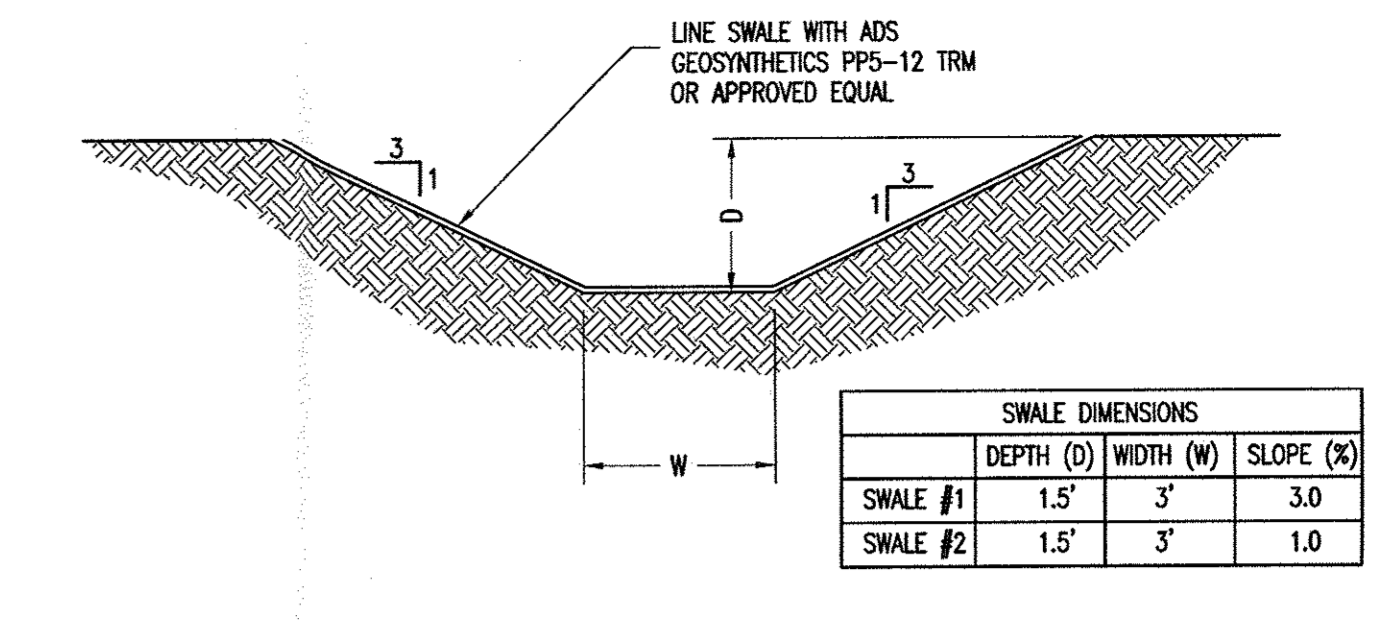
**Section 2721
Engineered Surface Drainage Products**

GENERAL
PVC surface drainage inlets shall include the drain basin type as indicated on the contract drawing and referenced within the contract specifications. The ductile iron grates for each of these fittings are to be considered an integral part of the surface drainage inlet and shall be furnished by the same manufacturer. The surface drainage inlets shall be as manufactured by Nyloplast a division of Advanced Drainage Systems, Inc., or prior approved equal.

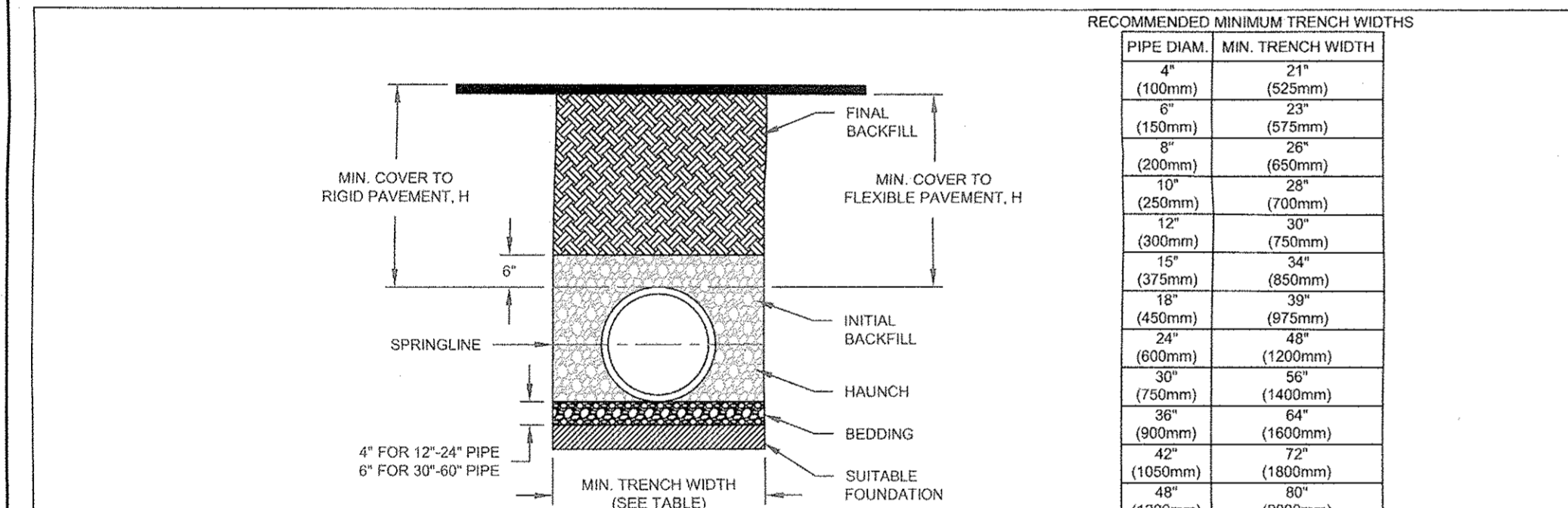
MATERIALS
The drain basins required for this contract shall be manufactured from PVC pipe stock, utilizing a thermoforming process to reform the pipe stock to the specified configuration. The drainage pipe connection stubs shall be manufactured from PVC pipe stock and formed to provide a watertight connection with the specified pipe system. This joint tightness shall conform to ASTM D3212 for joints for drain and sewer plastic pipe using flexible elastomeric seals. The flexible elastomeric seals shall conform to ASTM F477. The pipe bell spigot shall be joined to the main body of the drain basin or catch basin. The raw material used to manufacture the pipe stock that is used to manufacture the main body and pipe stubs of the surface drainage inlets shall conform to ASTM D1784 cell class 12454.

The grates and frames furnished for all surface drainage inlets shall be ductile iron for sizes 8", 10", 12", 15", 18", 24" and 30" and shall be made specifically for each basin so as to provide a round bottom flange that closely matches the diameter of the surface drainage inlet. Grates for drain basins shall be capable of supporting various wheel loads as specified by Nyloplast. 12" and 15" square grates will be hinged to the frame using pins. Ductile iron used in the manufacture of the castings shall conform to ASTM A536 grade 70-50-05. Grates and covers shall be provided painted black.

INSTALLATION
The specified PVC surface drainage inlet shall be installed using conventional flexible pipe backfill materials and procedures. The backfill material shall be crushed stone or other granular material meeting the requirements of class 1 or class 2 material as defined in ASTM D2321. Bedding and backfill for surface drainage inlets shall be well placed and compacted uniformly in accordance with ASTM D2321. The drain basin body will be cut at the time of the final grade. No brick, stone or concrete block will be required to set the grate to the final grade height. For load rated installations, a concrete slab shall be poured under and around the grate and frame. The concrete slab must be designed taking into consideration local soil conditions, traffic loading, and other applicable design factors. For other installation considerations such as migration of fines, ground water, and soft foundations refer to ASTM D2321 guidelines.



- NOTES:
- METHOD OF CUTTING & REPAIRING OPENING IN WEST VIEW SHOES.
 - PAVE INITIALLY TO SURFACE WITH 19.5 mm BASE COURSE.
 - MLL 1.5" ON EACH SIDE OF THE TRENCH (12") THEN OVERLAY WITH 12.5 mm PG 64-22.
 - ASPHALT PATCHING BEYOND LIMITS SHOWN FOR PERIPHERAL DAMAGE CAUSED BY CONTRACTOR SHALL INCLUDE 8" CR6 SUB BASE, 3.0" 19.5 mm BIT, BINDER/BASE COURSE AND 1.5" 12.5 mm BIT, SURFACE COURSE AND IS THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.



RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	25"
10"	28"
12"	30"
15"	34"
18"	39"
24"	49"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"
66"	104"
72"	112"
78"	120"
84"	128"
90"	136"
96"	144"
102"	152"
108"	160"
114"	168"
120"	176"
126"	184"
132"	192"
138"	200"
144"	208"
150"	216"

MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

PIPE DIAM.	SURFACE LIVE LOADING CONDITION	
	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD)*
12" - 48"	12"	48"
300mm - 1200mm	300mm	1200mm
54" - 60"	24"	60"
1350mm - 1500mm	600mm	1500mm

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS

PIPE DIAM.	COOPER E-80**	
	UP TO 24"	24"
600mm	600mm	600mm
30" - 36"	30"	36"
750mm - 900mm	900mm	900mm
42" - 60"	48"	48"
1050mm - 1500mm	1200mm	1500mm

** COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE.
*** E-80 COVER REQUIREMENTS, ARE ONLY APPLICABLE TO ASTM F 2306 PIPE.

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4840 TRUEMAN BLVD
HILLIARD, OHIO 43026

ADS

STANDARD: STD-101

ADS GEOSYNTHETICS PP5-12 TURF REINFORCEMENT MAT

Scope
This specification describes ADS Geosynthetics PP5-12 turf reinforcement mat.

Turf Reinforcement Mat Requirements
ADS Geosynthetics PP5-12 is composed of 100% synthetic components. A matrix of green polypropylene fibers is mechanically (stitch) bound between two UV stabilized, heavy duty synthetic nets. Stitching is secured on two inch centers using UV stabilized, heavy duty polypropylene thread. Excel PP5-12 is a permanent, three-dimensional TRM that provides immediate erosion protection and long term turf reinforcement and is intended for slope or channel applications requiring erosion protection for greater than thirty-six months.

Each roll of ADS Geosynthetics PP5-12 is manufactured under a quality assurance program to ensure a continuous distribution of fibers and consistent thickness. Verified values are provided in Table 1 and product characteristics are provided in Tables 2 and 3. Values provided in Tables 1, 2 and 3 represent expected values at the time of manufacture. Installation instructions and performance data are available from ADS Geosynthetics Technical Support Division. ADS Geosynthetics PP5-12 conforms to the physical property values listed below:

Erosion Control Blanket Properties

Table 1 - Verified Values

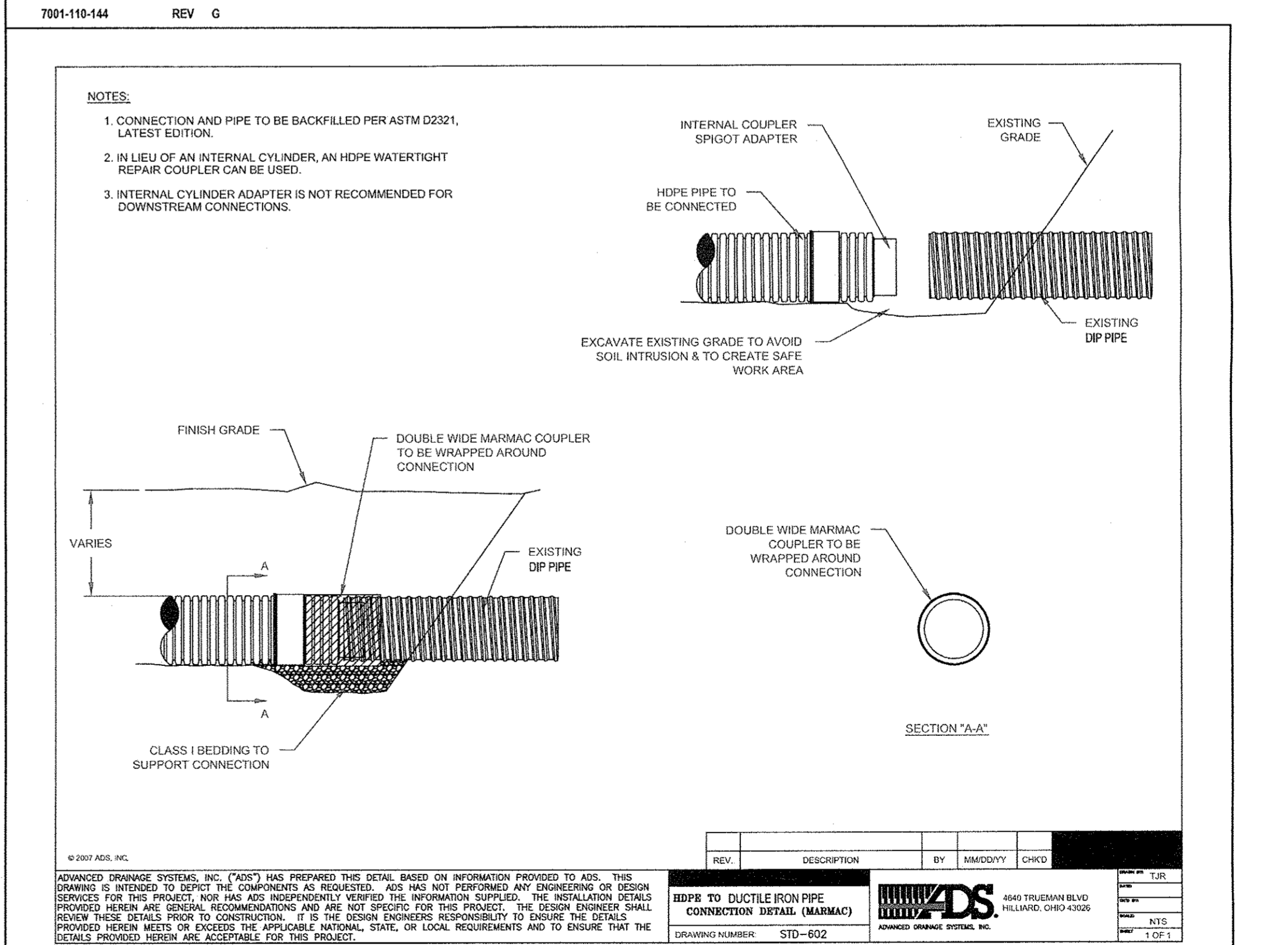
Tested Property	Test Method	Value	Units
Tensile Strength	ASTM D6818	20.8 (MD), 17.7 (TD)	lb/in
Elongation	ASTM D6818	25 (MD), 25 (TD)	%
Mass per Unit Area	ASTM D6475	12.0	oz/yd ²
Thickness	ASTM D6525	9.6	mm
Light Penetration	ASTM D6567	20	% open
Resiliency	ASTM D6524	88	%
UV Stability	ASTM 4355	100	%
Porosity	Computed	96	%

Table 2 - Netting

	Top Net	Bottom Net
Material	Synthetic, UV Stable	Synthetic, UV Stable
Opening	0.75 in x 0.75 in (Nominal)	0.75 in x 0.75 in (Nominal)

Table 3 - Roll Dimensions

Style	Narrow	Wide
Roll Width	7.5 ft	15.0 ft
Roll Length	120 ft	120 ft
Coverage	100 yd ²	200 yd ²
Roll Weight	75 lbs	150 lbs



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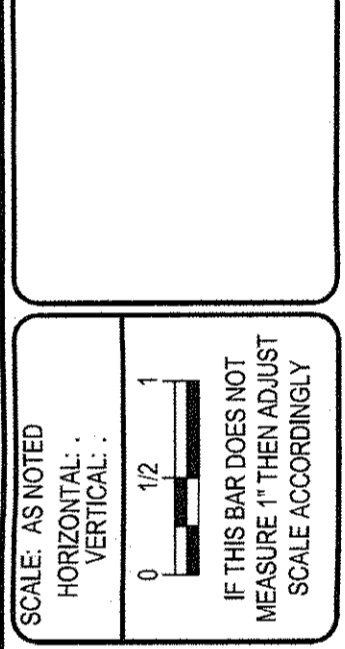
STANDARD: STD-602

AECOM

4051 COLETTEN ROAD, SUITE 300 NEWARK, DE 19713 (800) 761-5800

REVISIONS

NO.	DESCRIPTION	DATE	BY



DETAILS

WEST VIEW SHORES DRAINAGE IMPROVEMENTS
EARLEVILLE, CECIL COUNTY, MARYLAND

DRAWN BY: GMH
DESIGNED BY: GMH
REVIEWED BY: BNB
APPROVED BY:

ISSUE DATE: XXXXXX

REVISION:

PROJECT NO.: 60476980

SHEET NO.:

D-01

SHEET SEQUENCE: 5 OF 5

