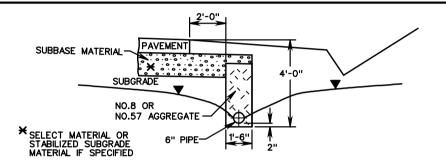


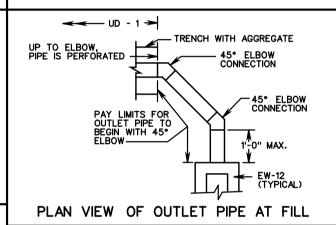
PAVEMENT SUBGRASE MATERIAL OR SUBGRADE **SELECT MATERIAL OR STABILIZED SUBGRADE MATERIAL 1'-6" 6" PIPE

PAVED SHOULDER SECTION





WITHOUT PAVED SHOULDER



LONGITUDINAL PERFORATED PIPE

TYPE OF PIPE	CRUSHING STRENGTH		
	×w.T.	6" NOMINAL DIAMETER	
CORRUGATED ALUMINUM	0.048		
SMOOTH WALL PVC	.153		
CORRUGATED PE		AASHTO M-252	

NON-PERFORATED OUTLET PIPE

TYPE OF PIPE	CRUSHING STRENGTH	
	× w.⊤.	6" NOMINAL DIAMETER
CORRUGATED ALUMINUM	0.048	
SMOOTH WALL PVC	.153	·
SMOOTH WALL PE		70 PSI **

★ WALL THICKNESS (MIN) - INCHES
★★★ TESTED ACCORDING TO ASTM D-2412
AT 5% DEFLECTION.

NOTES:

- WHEN THE LONGITUDINAL PIPE CONNECTS DIRECTLY INTO A DRAINAGE STRUCTURE (DROP INLET, MANHOLE, ECT.), NON-PERFORATED OUTLET PIPES ARE NOT REQUIRED.
- 2. INVERT ELEVATION AT OUTLET END OF OUTLET PIPE TO BE A MINIMUM OF 1'-0" ABOVE INVERT ELEVATION OF RECEIVING DRAINAGE DITCH OR STRUCTURE.
- 3. ALL CONNECTIONS (ELBOWS, WYES, ETC.) WITHIN PAY LIMITS FOR OUTLET PIPE ARE TO BE OF THE SAME CRUSHING STRENGTH AS THE OUTLET PIPE.
- 4. OUTLET PIPE ARE TO BE INSTALLED ON 2% MIN. (3% DESIRABLE) GRADE.
- 5. THE NORMAL DEPTH OF UNDERDRAIN IS TO BE 4'-O" BELOW THE NEAR EDGE OF PAVEMENT AS SHOWN. THE LONGITUDINAL GRADE OF THE UNDERDRAIN SHALL FOLLOW THAT OF THE ROADWAY WITH A MINIMUM GRADE OF 0.2 %
- 6. WHERE THE BOTTOM OF SELECT MATERIAL IS GREATER THAN 4'-0" BELOW THE PAVEMENT, THE BOTTOM OF THE UNDERDRAIN IS TO BE COINCIDENT WITH THE BOTTOM OF SELECT MATERIAL AND THE TRENCH DEPTH AND BACKFILL QUANITITY INCREASED ACCORDINGLY.
- 7. WHEN USED WITH STABILIZED OPEN-GRADED DRAINAGE LAYER, THE BOTTOM OF THE CURB AND GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES OUT TO THE DEPTH OF THE PAVEMENT.
- 8. OUTLET PIPE TO BE SECURELY CONNECTED TO EW-12 OR OTHER DRAINAGE STRUCTURE.
- 9. ▼ DENOTES WATER TABLE.
- 10. OUTLET PIPE CONFIGURATION TO PROVIDE FOR PASSAGE OF INSPECTION CAMERA WITH 21/2" I. D. HEAD.

REFERENCE
240
501
701

STANDARD GROUNDWATER UNDERDRAIN

VIRGINIA DEPARTMENT OF TRANSPORTATION

108.01