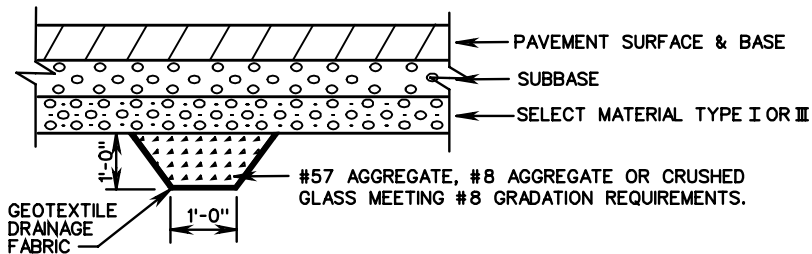
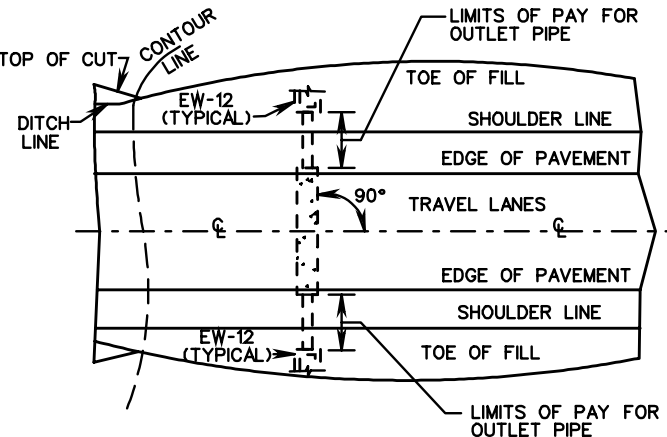
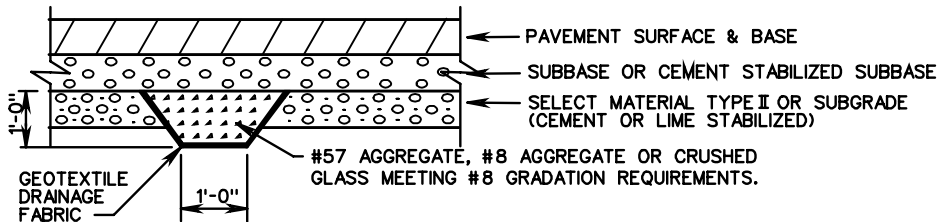


**COMBINATION UNDERDRAIN CD-2 ON FILLS  
CENTER LINE SECTION  
(WITH TYPE 1 SELECT MATERIAL)**

**TRENCH PLACEMENT**



OR



**PLAN VIEW SHOWING PLACEMENT OF  
CD-2 UNDERDRAIN**

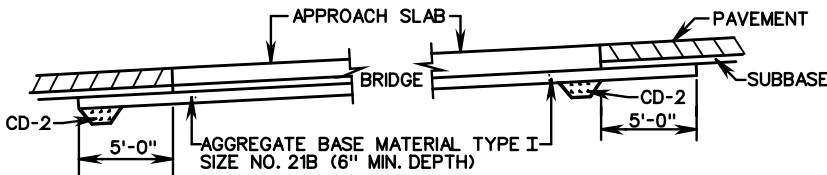
**NON-PERFORATED OUTLET PIPE**

TYPE OF PIPE	CRUSHING STRENGTH			
	× W.T.	4" NOM. DIAMETER	× W.T.	6" NOM. DIAMETER
SMOOTH WALL PVC	.103		0.163	
SMOOTH WALL PE		70 PSI ×××		70 PSI ×××

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

**GENERAL NOTES**

- TRENCH SHALL BE FILLED WITH AGGREGATE AND THOROUGHLY HAND TAMPED TO INSURE COMPACTNESS.
- OUTLET PIPE SHALL BEGIN AT THE EDGE OF THE TRAVEL LANE PAVEMENT AND SHALL BE PLACED ON A GRADE PARALLEL TO THE SHOULDER SLOPE 2% MIN. (.3% DESIRABLE) GRADE.
- ON CURB AND GUTTER SECTIONS, WHERE IT IS IMPOSSIBLE TO OTHERWISE PROVIDE OUTLETS FOR UNDERDRAINS, THEY ARE TO BE LOCATED SO AS TO DRAIN INTO DROP INLETS OR MANHOLES.
- ON SUPERELEVATED SECTIONS, TRENCH IS TO BE UNDER ENTIRE PAVEMENT AREA WITH OUTLET PIPE ON LOW SIDE ONLY.
- INVERT ELEVATION AT OUTLET END OF OUTLET PIPE TO BE A MINIMUM OF 1'-0" ABOVE INVERT ELEVATION OF RECEIVING DRAINAGE DITCH OR STRUCTURE.
- ALL CONNECTIONS (ELBOWS, WYES, ETC.) WITHIN PAY LIMITS FOR OUTLET PIPE ARE TO BE OF THE SAME CRUSHING STRENGTH AS THE OUTLET PIPE.
- OUTLET PIPE TO BE SECURELY CONNECTED TO EW-12 OR OTHER DRAINAGE STRUCTURE.



**PLACEMENT OF CD-2 UNDERDRAIN AT  
BRIDGE APPROACH SLABS**

SPECIFICATION  
REFERENCE

232  
501  
701

**STANDARD COMBINATION UNDERDRAIN  
(AT GRADE SAGS AND BRIDGE APPROACHES)**

VIRGINIA DEPARTMENT OF TRANSPORTATION

**VDOT**

ROAD AND BRIDGE STANDARDS

REVISION DATE

SHEET 1 OF 1

108.05