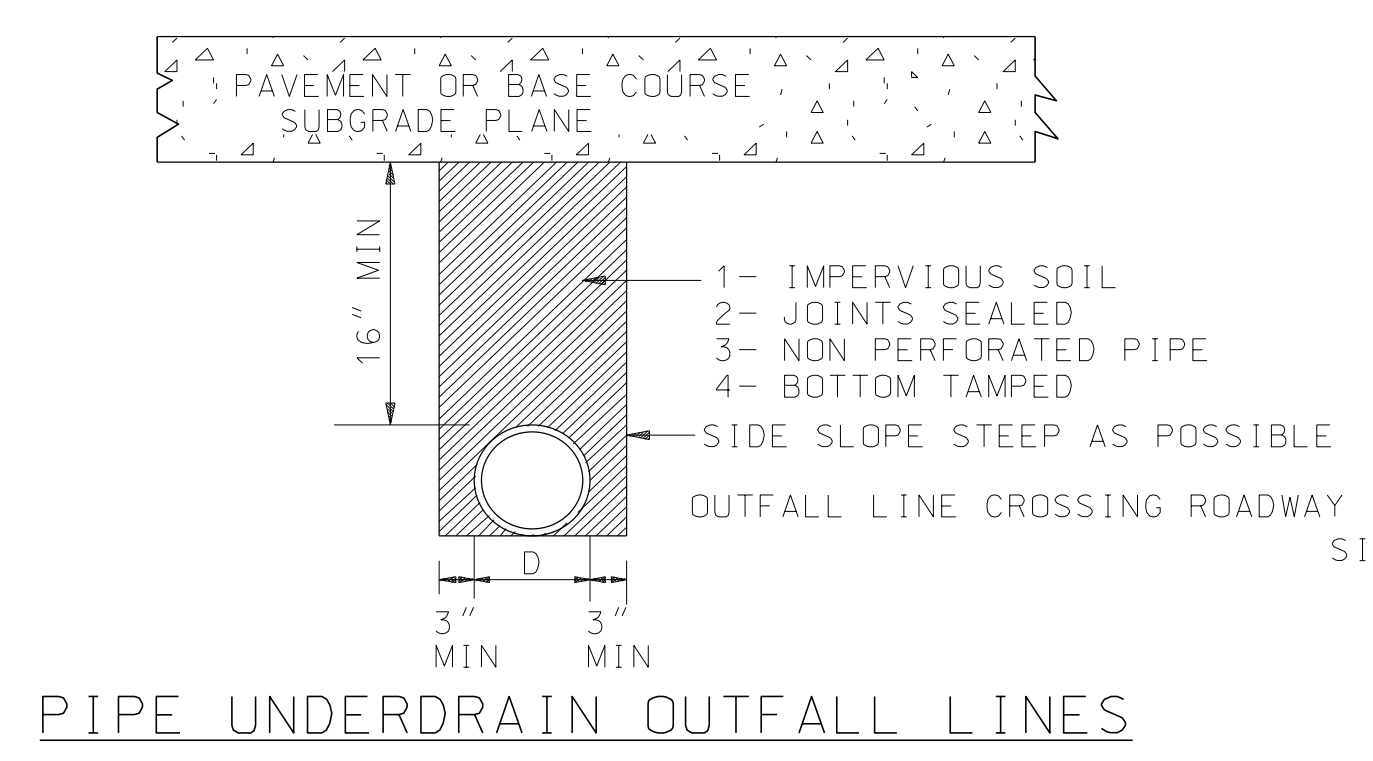
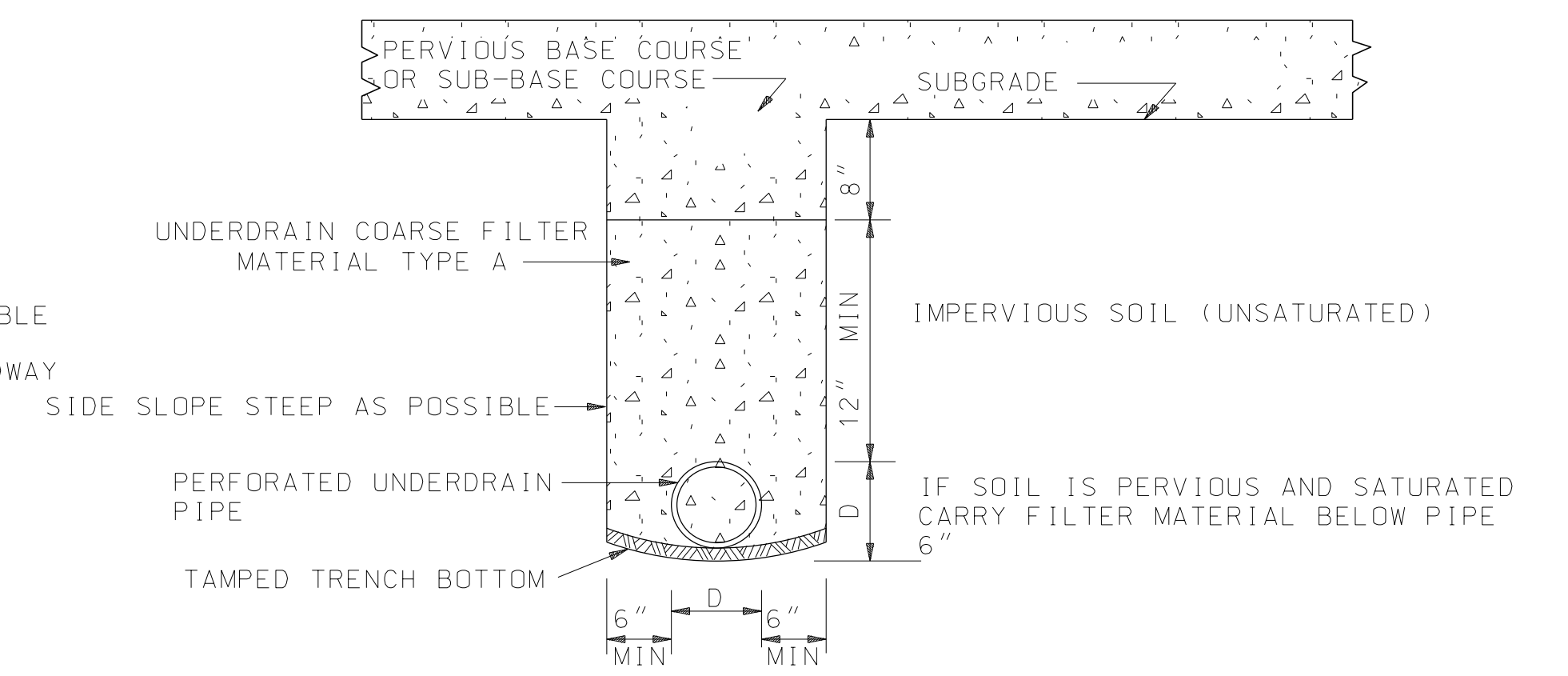


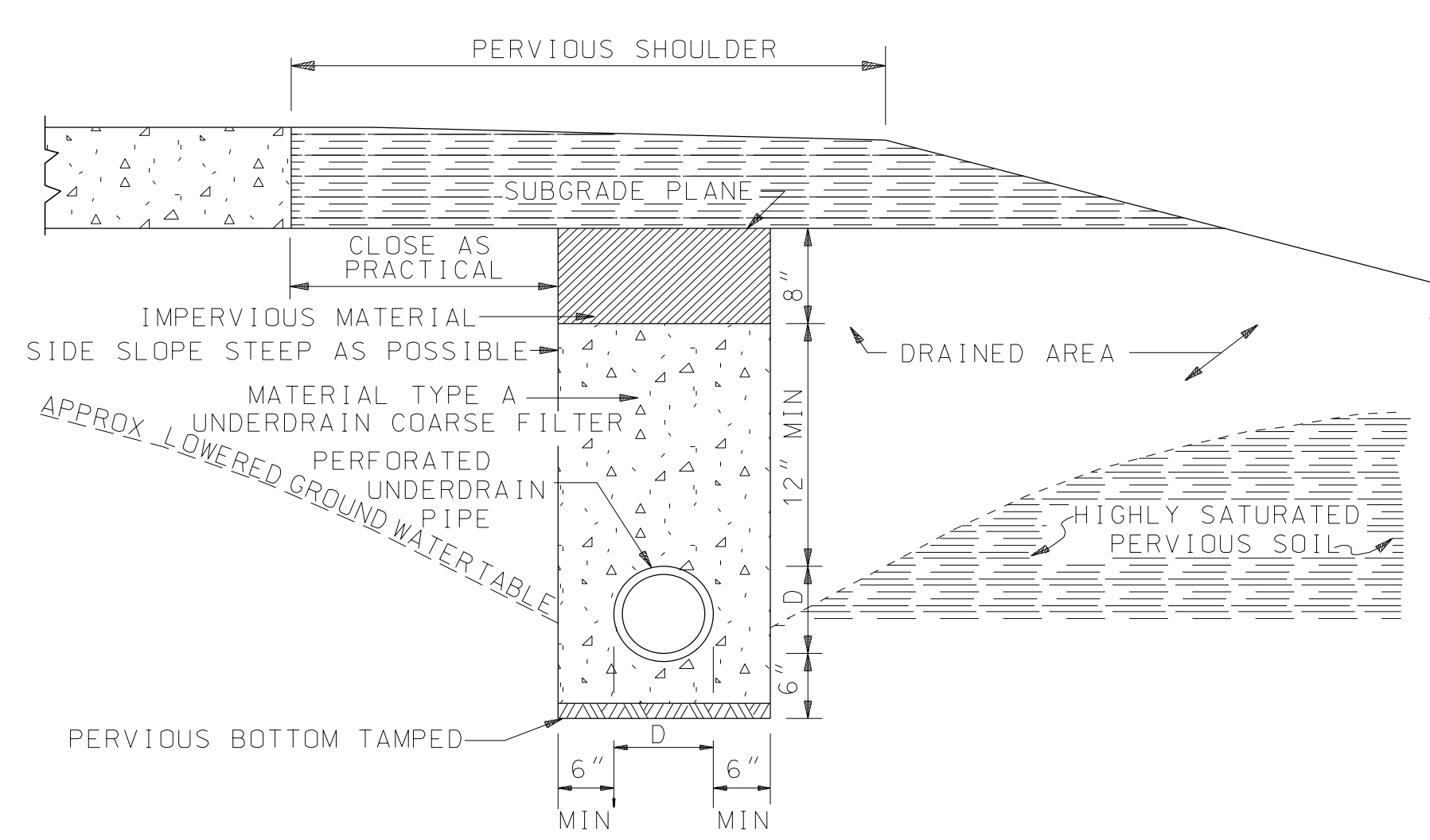
**INTERCEPTING PIPE UNDERDRAIN**



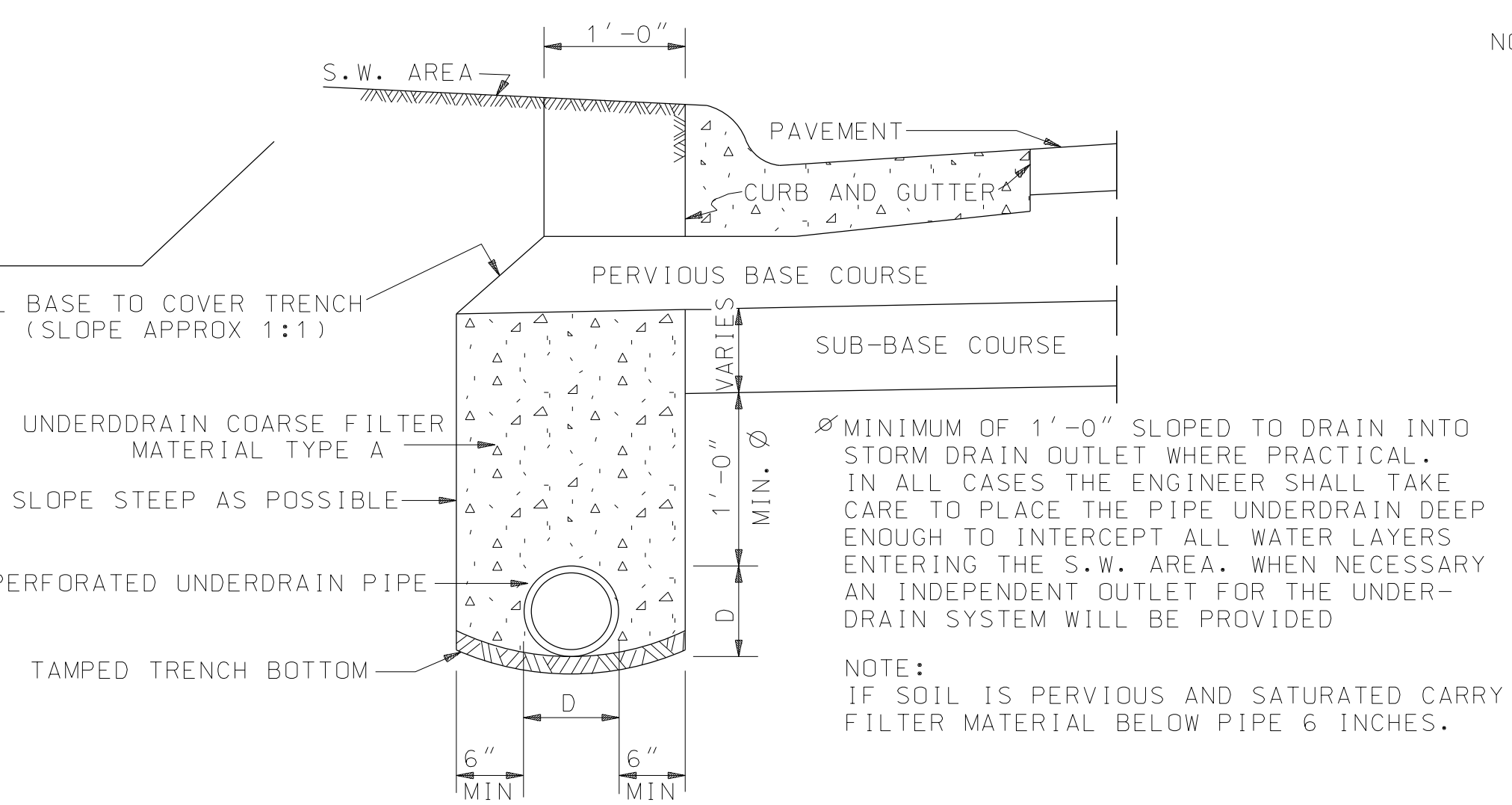
**PIPE UNDERDRAIN OUTFALL LINES**



**SUBGRADE DRAINING OR LATERAL TYPE PIPE UNDERDRAIN**



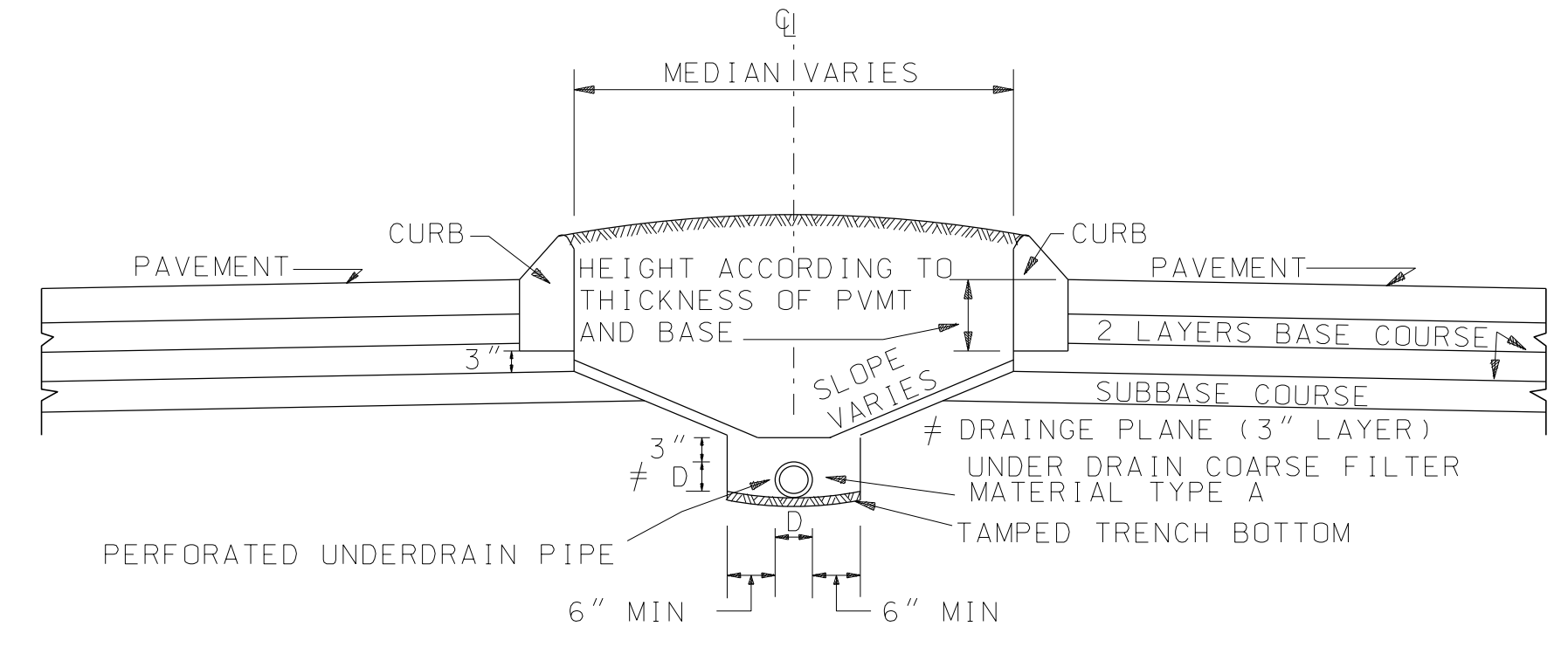
**SUBDRAINING PIPE UNDERDRAIN**



**DETAIL OF PIPE UNDERDRAIN WHERE COMBINATION CURB AND GUTTER IS USED**

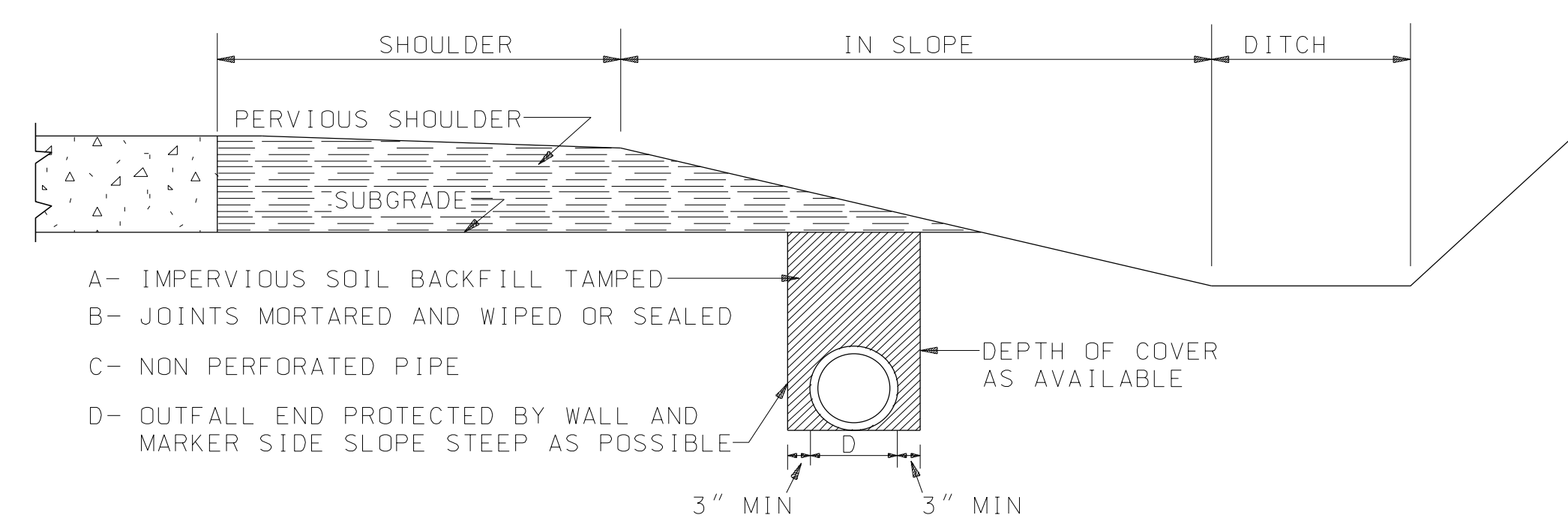
NOTE: ACROSS INTERSECTIONS AND IN CASE WHERE INDEPENDENT OUTFALLS FOR PIPE UNDERDRAIN ARE NECESSARY, THE CONTRACTOR SHALL INSTALL THE PIPE WITH SEALED JOINTS, THEREBY ELIMINATING THE NEED FOR FILTER MATERIAL

# NOTE: IN ALL CASES THE ENGINEER SHALL TAKE CARE TO PLACE THE PIPE UNDERDRAIN DEEP ENOUGH TO INTERCEPT ALL WATER LAYERS ENTERING THE MEDIAN. WHEN NECESSARY AN INDEPENDENT OUTFALL FOR THE UNDERDRAIN SHALL BE PROVIDED.

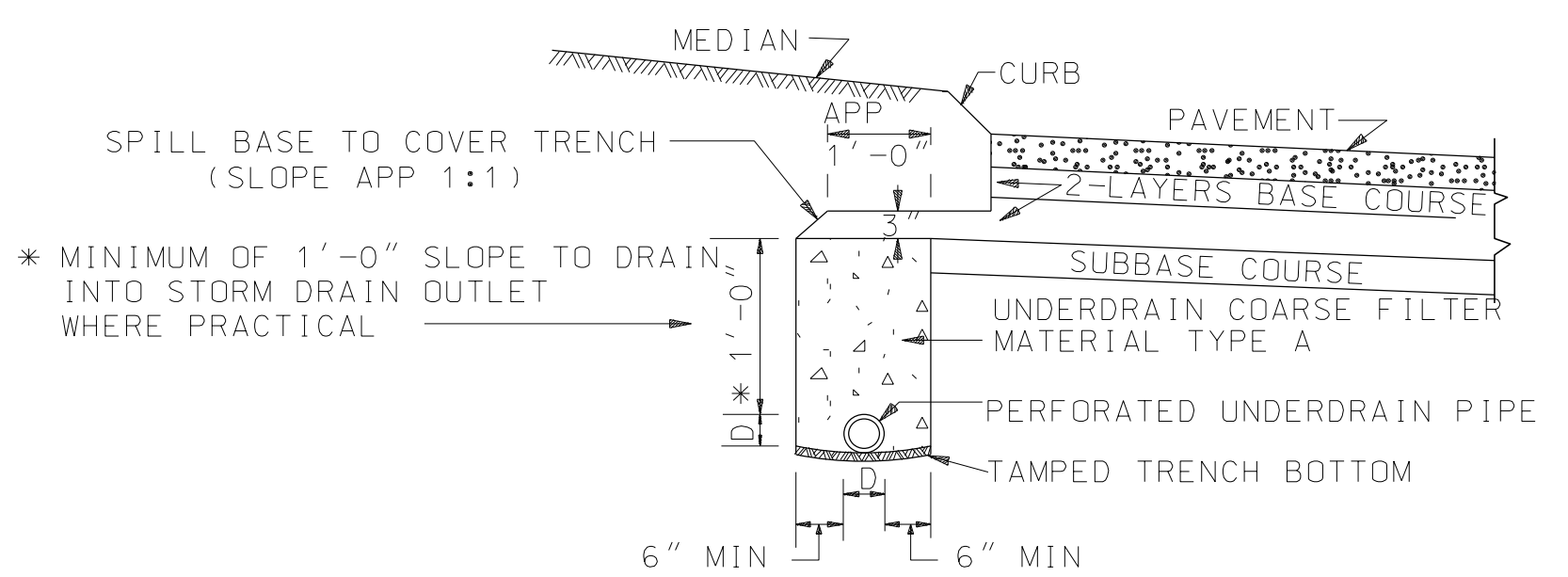


**DETAIL OF PIPE UNDERDRAIN IN CENTER OF RAISED MEDIAN SECTION**

# NOTE: ON PROJECTS WHERE DRAINAGE PLANE IS NOT LISTED AS A PAY ITEM BUT IS REQUIRED IN MEDIAN AS SHOWN ON THIS SKETCH, NO DIRECT PAYMENT WILL BE MADE FOR THIS ITEM, WHICH SHALL BE INCLUDED IN THE BID PRICE OF PIPE UNDERDRAIN PER LIN FT.



**OUTFALL LEADING THROUGH FIRM SOIL TO DISCHARGE INTO CROSS DRAIN STRUCTURE OF SIDE DITCH**




**DETAIL OF PIPE UNDERDRAIN IN RAISED MEDIAN SECTION**

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REVISIONS  
1. Added to CADD on 06-21-99 by J.F.T.

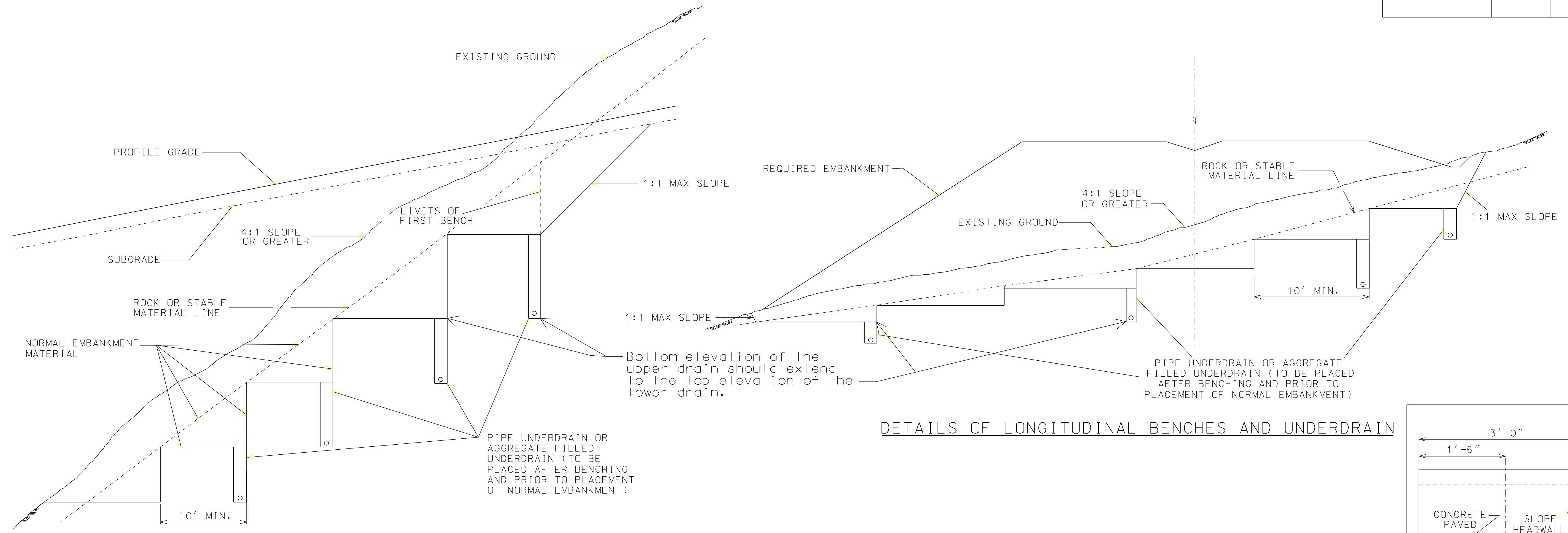

**ALABAMA DEPARTMENT OF TRANSPORTATION**  
 1409 COLISEUM BOULEVARD  
 MONTGOMERY, AL 36130-3050  
 DESIGN BUREAU SPECIAL DRAWING  
 DETAILS OF PIPE UNDERDRAIN (U.D.) INSTALLATION

Bureau Std Engr: D.J.W.  
DRAWN BY: \_\_\_\_\_ DATE DRAWN: 03-01-88

SPECIAL DRAWING NO  
**PU-606**

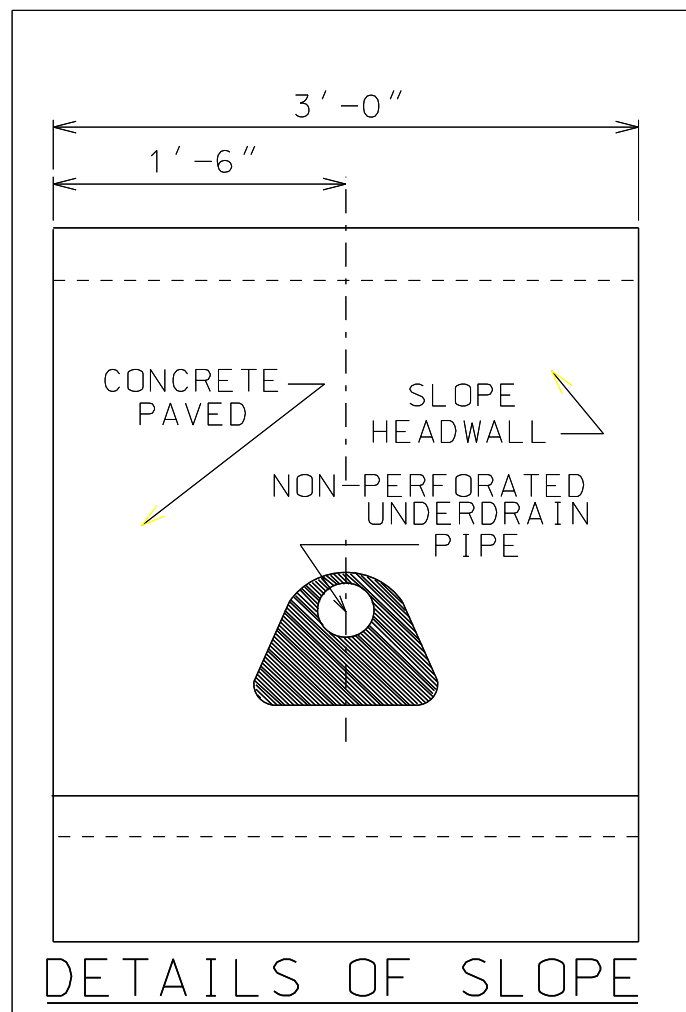
INDEX NO  
**60601**

NOT TO SCALE



DETAILS OF LONGITUDINAL BENCHES AND UNDERDRAIN

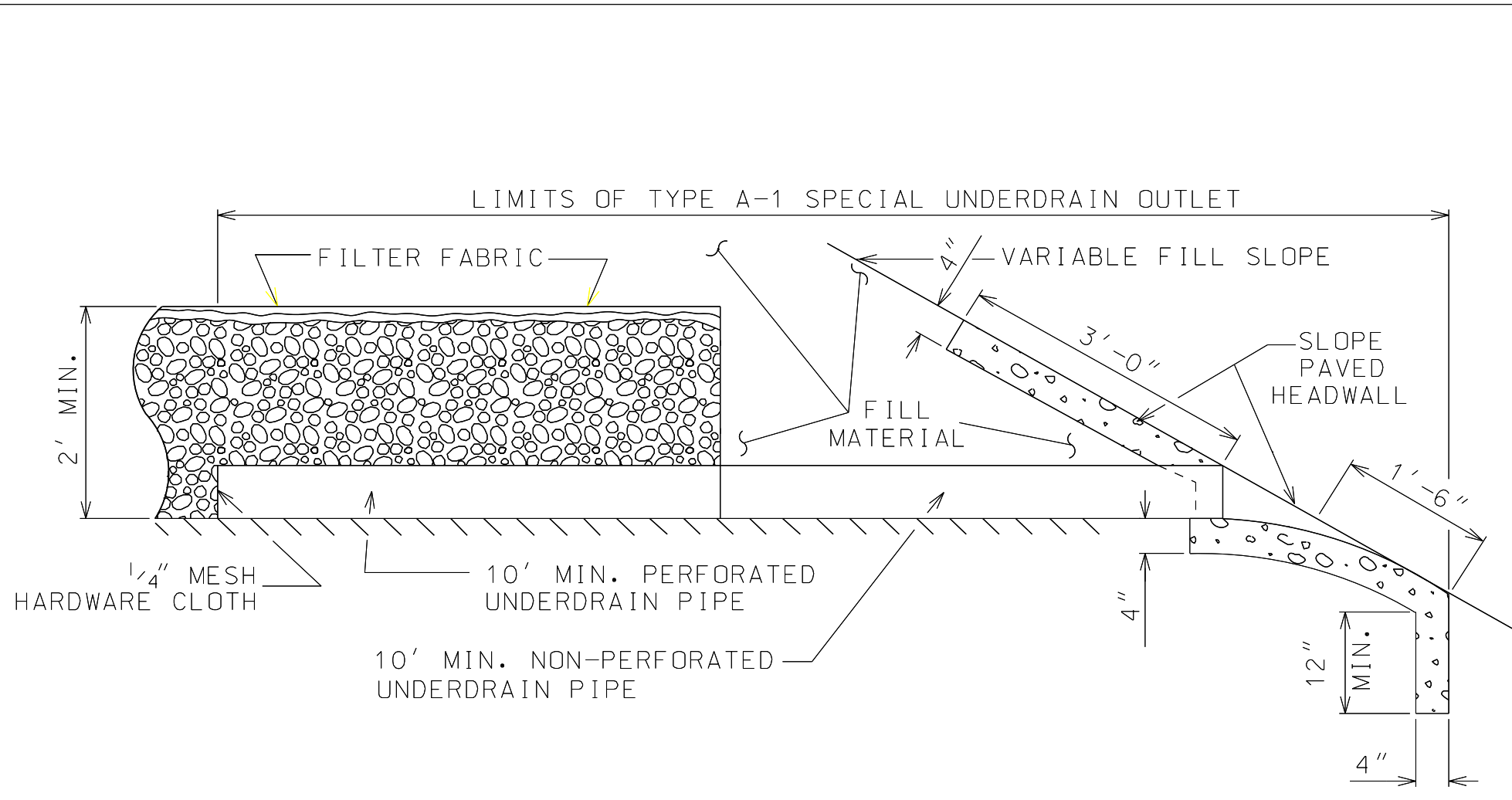
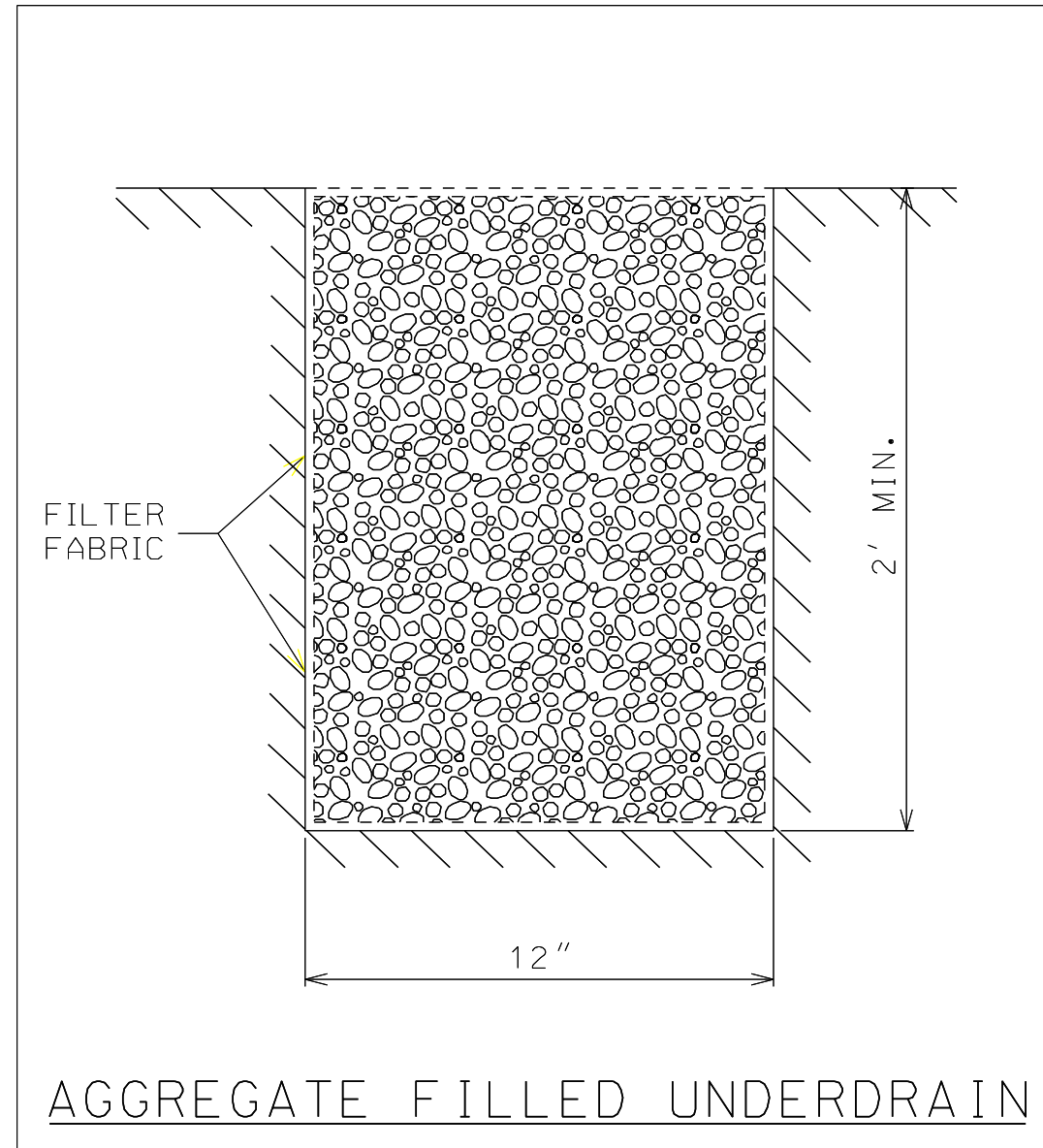
DETAILS OF TRANSVERSE BENCHES AND UNDERDRAIN



DETAILS OF SLOPE PAVED HEADWALL

GENERAL NOTES

1. THE TRANSVERSE AND LONGITUDINAL BENCHES SHALL BE USED AT LOCATIONS AS DIRECTED BY THE ENGINEER. THE EXCAVATION NECESSARY FOR THE BENCHING SHALL BE CLASSIFIED AND PAID FOR UNDER ITEM FOR UNCLASSIFIED EXCAVATION.
2. PIPE UNDERDRAIN OR AGGREGATE FILLED UNDERDRAINS SHALL BE PLACED IN AREAS OF HEAVY SEEPAGE OR IN AREAS OF EXPECTED SEEPAGE AS DIRECTED BY THE ENGINEER.
  - (a) WHEN PIPE UNDERDRAIN IS USED, THE CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH SPECIAL DRAWING FOR DETAILS OF PIPE UNDERDRAIN INSTALLATION, AND PAID FOR AS UNDERDRAIN PIPE.
  - (b) WHEN AGGREGATE FILLED UNDERDRAINS ARE USED, THE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS SHEET AND THE SPECIFICATIONS. PAYMENT SHALL BE MADE UNDER ITEM FOR AGGREGATE FILLED UNDERDRAIN.
3. THE SPECIAL UNDERDRAIN OUTLETS FOR THE AGGREGATE FILLED UNDERDRAIN INSTALLATIONS SHALL BE PAID FOR UNDER ITEM 605-B, SPECIAL UNDERDRAIN OUTLET, TYPE A-1.
4. SEE SPECIAL DRAWING FOR DETAILS OF UNDERCUTTING AT GRADE POINTS.



DETAILS OF SPECIAL UNDERDRAIN OUTLET TYPE A-1

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REVISIONS  
1. Added to CADD on 10-12-00 by J.F.T.  
2. The bottom elevation of the upper drains should extend to the top elevation of the lower drains in both the Details of the Transverse and Longitudinal Benches and Underdrain on 11-08-12 by J.F.T.

Bureau Std Engr: D.J.W.  
DRAWN BY: \_\_\_\_\_ DATE DRAWN: 03-11-91

**ALABAMA DEPARTMENT OF TRANSPORTATION**  
1409 COLISEUM BOULEVARD  
MONTGOMERY, AL 36130-3050

DESIGN BUREAU SPECIAL DRAWING  
**DETAILS OF LONGITUDINAL AND TRANSVERSE BENCHES AND UNDERDRAIN UNDER HEAVY EMBANKMENT**

SPECIAL DRAWING NO  
**BUD-210**

INDEX NO  
**60604**

NOT TO SCALE