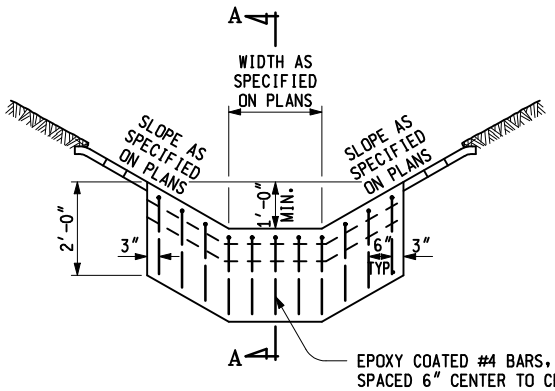
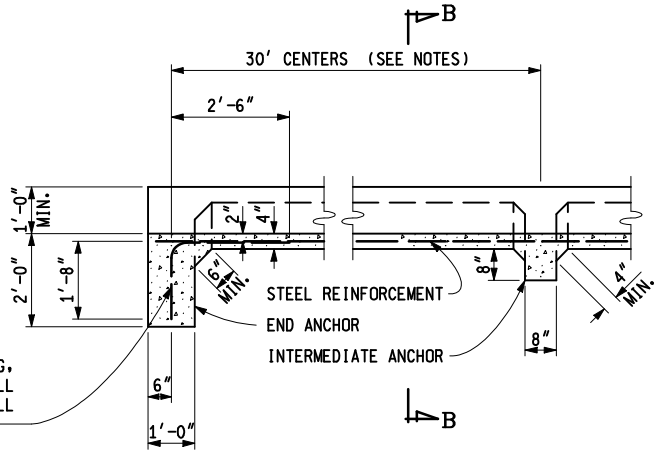
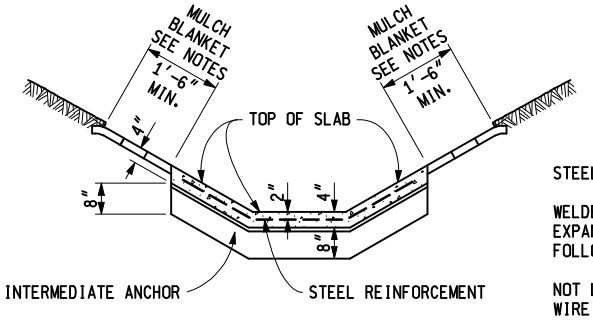


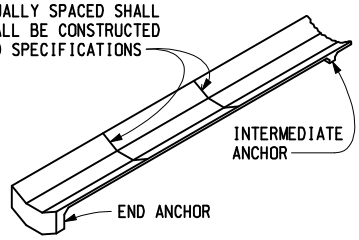


SECTION A - A



SECTION B - B

TWO PLANE OF WEAKNESS JOINTS EQUALLY SPACED SHALL BE PLACED BETWEEN ANCHORS AND SHALL BE CONSTRUCTED ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS

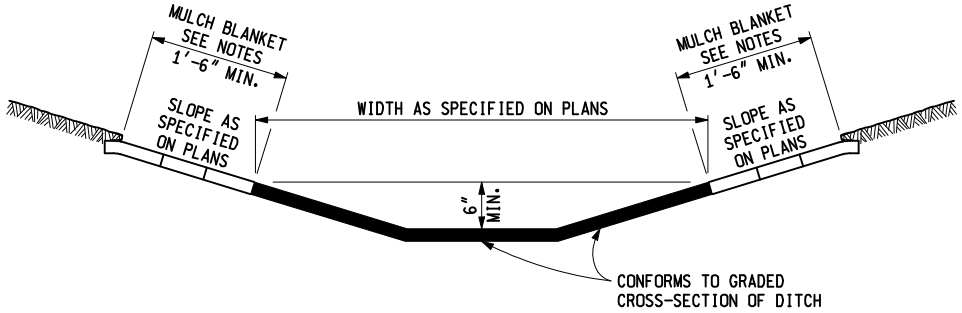


STEEL REINFORCEMENT

WELDED STEEL WIRE FABRIC OR AN EQUIVALENT EXPANDED METAL MESH CONFORMING TO THE FOLLOWING MINIMUM REQUIREMENTS:

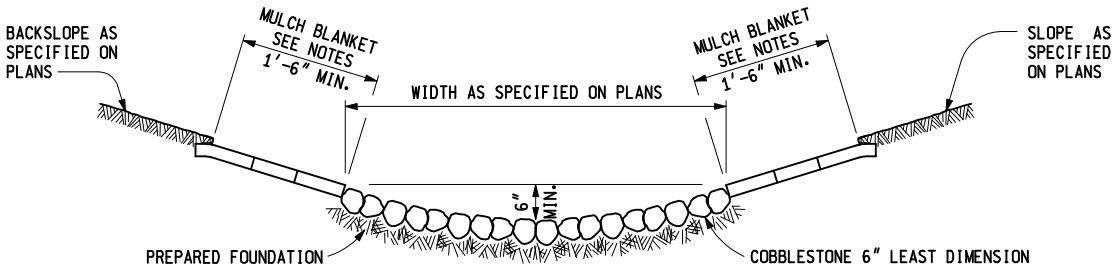
NOT LESS THAN 3.69 LBS PER SYD UNIFORM WIRE FABRIC COMPOSED OF W6 (NOMINAL DIA. 0.276") 6" ON CENTER LONGITUDINALLY AND TRANSVERSELY.

CONCRETE PAVED DITCH



THE RATE OF APPLICATION FOR THE HMA MATERIAL SHALL BE ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS

HMA PAVED DITCH



PLAIN COBBLE DITCH

GROUTED COBBLE DITCH

GROUTED COBBLE DITCHES SHALL BE THE SAME AS THE PLAIN COBBLE DITCHES, EXCEPT THE COBBLESTONES SHALL BE LAID IN A LAYER OF CEMENT MORTAR ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS.

MDOT Michigan Department of Transportation

PREPARED BY DESIGN DIVISION

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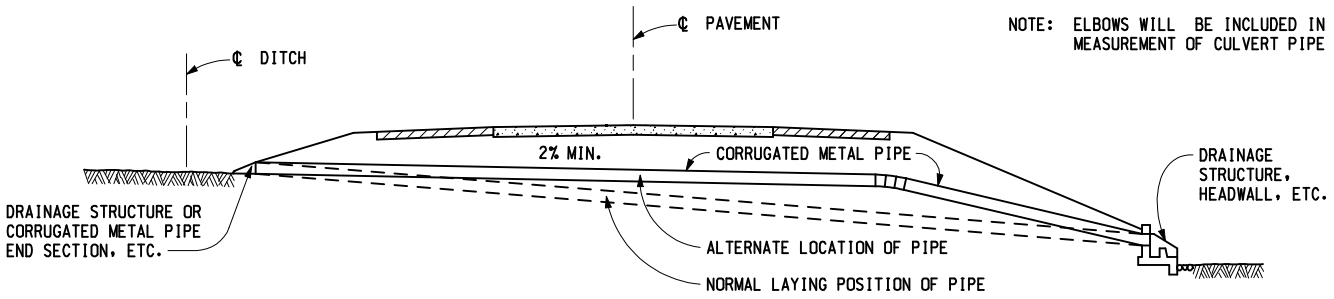
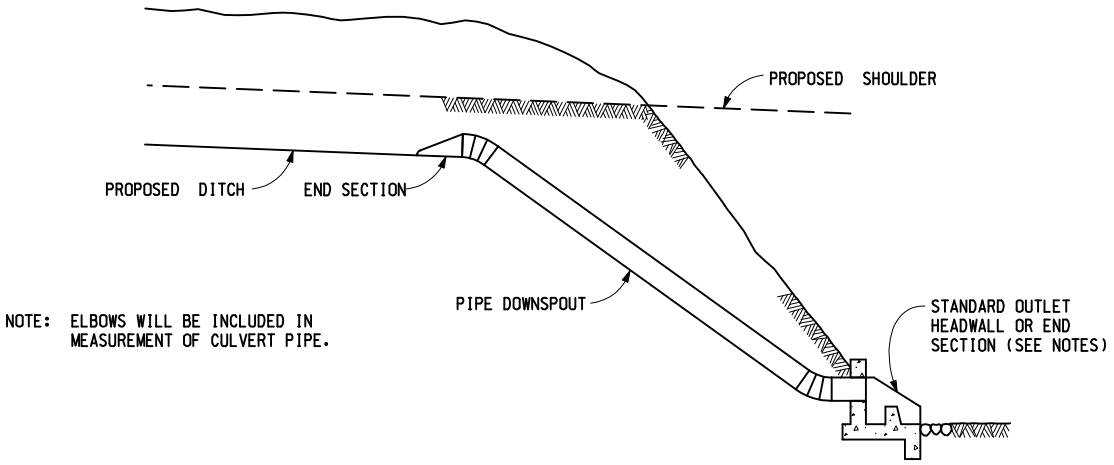
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

PAVED AND COBBLE DITCHES, & DRAINAGE TREATMENT DETAILS

9-10-2010	4-6-2010	R-46-D	SHEET 1 OF 2
F.H.W.A. APPROVAL	PLAN DATE		



DETAIL SHOWING ALTERNATE METHOD OF INSTALLING CULVERT IN HIGH FILL AREAS



DETAIL SHOWING DOWNSPOUT CONSTRUCTION USING METAL END SECTION ON UPPER END

NOTES:

CONCRETE PAVED DITCHES SHALL BE CONSTRUCTED WITH END ANCHORS ON BOTH INLET AND OUTLET ENDS AND WITH INTERMEDIATE ANCHORS WHEN THE GRADE EXCEEDS 15%. ALL EDGES AND JOINTS OF CONCRETE PAVED DITCHES SHALL BE ROUNDED TO A RADIUS OF 1/4".

CORRUGATED METAL PIPE END SECTIONS MAY BE USED ON THE LOWER ENDS OF STEEP CULVERTS OR DOWNSPOUTS WITH LIMITED AMOUNTS OF RUNOFF OR WHERE THEY WOULD BE EXPOSED TO TRAFFIC IN THE CLEAR ZONE. CORRUGATED METAL PIPE END SECTIONS IN THESE LOCATIONS MAY REQUIRE ADDITIONAL EROSION CONTROL SUCH AS MORE RIPRAP. TOE PLATES SHOULD BE CALLED FOR WHEN END SECTIONS ARE USED ON STEEP CULVERTS OR DOWNSPOUTS.

THE CONCRETE PAVED, GROUTED COBBLE, AND PLAIN COBBLE DITCHES SHALL BE UNDERLAID WITH GEOTEXTILE. THE EDGES OF GEOTEXTILE SHALL EXTEND UP THE SIDES OF THE DITCH BOTTOM TO THE BOTTOM OF THE MULCH BLANKET AND SHALL RUN THE FULL LENGTH OF THE DITCH. WHEN OVERLAPPING OCCURS, OVERLAP MATERIAL A MINIMUM OF 2'-0".

USE HIGH VELOCITY MULCH BLANKETS ON FILL SLOPES 1:2 OR STEEPER. USE STANDARD MULCH BLANKETS ON FILL SLOPES FLATTER THAN 1:2.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

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9-10-2010 F.H.W.A. APPROVAL	4-6-2010 PLAN DATE	R-46-D	SHEET 2 OF 2