MICHIGAN

DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

FOR

**REINFORCED CONCRETE ELLIPTICAL CULVERT END SECTION**

HUR:BWS 1 of 2APPR:DMG:NAP:02-08-22

**a. Description.** This work consists of constructing and placing precast concrete elliptical culvert end sections including concrete footings as shown on the plans.

**b. Materials.** Furnish materials in accordance with the applicable standard specifications. Furnish pipe materials in accordance with *AASHTO M207M/M207* and sections 909 and 1005 of the Standard Specifications for Construction.

Ensure the tongue and groove configuration of the end section is the same as standard reinforced concrete elliptical pipe in accordance with *ASTM C76*.

Select pipe joint assemblies for use with culverts from the Qualified Products List (909.03).

Furnish Grade 3500 concrete for end section footings in accordance with section 1004 of the Standard Specifications for Construction.

**c. Construction.** Conduct the work in accordance with the standard specifications, as shown on the plans and as specified herein. The materials supplier must submit shop drawings to the Engineer for review and approval in accordance with subsection 104.02 of the Standard Specifications for Construction. Shop drawings must include construction details of the joints, connections, and concrete footings prior to starting fabrication.

Excavate in accordance with subsection 206.03.A. and 401.03.A of the Standard Specifications for Construction. Construct concrete footing in accordance with Standard Plan R-86 Series and as directed by the Engineer. Place culvert bedding within the limits shown on the plans with granular material Class IIIA or as directed by the Engineer. Lay culvert end sections with grooved end on outlet end section and tongue end on the inlet end section. Fill joints completely with mortar and strike flush. Wrap pipe joints completely with geotextile blanket. Install geotextile blanket with a width of at least 36 inches and center it on the joint. Overlap the ends of the geotextile blanket at least 12 inches.

Take up, and relay culvert end sections showing signs of settlement or poor horizontal or vertical alignment, as determined by the Engineer. Correct or replace settled, misaligned, or damaged culvert end sections at no additional cost to the contract.

Backfill culvert end sections with granular material Class III and compact to at least 95 percent of the maximum unit weight as directed by the Engineer.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

**Pay Item Pay Unit**

Culv End Sect, Conc, Ellip Pipe, (rise) inch by (span) inch Each

**Culv End Sect, Conc, Ellip Pipe, (rise) inch by (span) inch** includes the following:

1. Excavating the material down to grade of the culvert bedding bottom elevation;

2. Furnishing and placing culvert bedding within the limits shown on the plans;

3. Dewatering and maintaining the stream flow during construction stages;

4. Furnishing and placing the culvert end section, mortar, and geotextile blanket;

5. Furnishing temporary cover and restraining the pipe to maintain line and grade;

6. Furnishing, placing, and compacting the backfill;

7. Disposing of excess material in accordance with subsection 205.03.P of the Standard Specifications for Construction.

Any erosion control measures or restoration items required will be paid for separately. Culvert end section footings, rock excavation, or trench undercut and backfill will be paid for separately in accordance with sections 205, 206 and 401 of the Standard Specifications for Construction.