State of Ohio
Department of Transportation
Supplemental Specification 839
Trench Drain System

April 20, 2007

839.01 Description. This work consists of furnishing and installing a trench drain system. The work includes all necessary excavation, frames, grates, fittings, coupling systems, concrete backfill, and accessories.

Use all suitable material in the work. Alternatively legally use, recycle, or dispose of all excavated material according to 105.16 and 105.17.

839.02 Materials. Furnish materials conforming to:

Structure concrete, Class C ……499,511
Frames and grates ……..……..…….711.12, 711.13, or 711.14
Curing materials ……705.05, 705.07
Galvanized bolts, nuts, and anchors ……...711.09
Epoxy coated reinforcing steel….. ……709.00
Precast and Cast-in-Place Trench Drain……..……939
304 Stainless Steel…….……..ASTM A276

839.03 Grates and frames. Furnish grates that fit into frames without rocking or movement. If a one piece grate and frame is furnished, provide a removable grate at the two ends of the trench drain system. Furnish corrosion resistant locking devices for removable grates provided by the manufacturer. Ensure that a torque wrench or special tool is not required for installation or removal.

Secure the trench drain system to the surrounding concrete backfill per the Manufacturers recommendations.

A pedestrian grate is an ADA compliant grate and has a top surface opening of 0.13 square feet per linear foot (0.04 m^2/m). A standard grate has a top surface opening of 0.25 square feet per linear foot (0.08 m^2/m). Other top surface openings may be furnished with approval from the Office of Structural Engineering, Hydraulics Section.

839.04 Outlet Pipe. Furnish an outlet end attachment to the trench drain system that will allow the trench drain system to accept a 6 inch (150mm) diameter conduit unless otherwise shown in the

plans. Outlet the trench drain as shown in the plans.

839.05 Construction Methods. Excavate a trench that will ensure a minimum concrete thickness of 4 inches (100 mm) along the bottom and 6 inches (150 mm) along each side. Grade and prepare a firm and uniform trench bottom throughout the entire length of the trench drain system.

Install the trench drain system in conformance with the line, grade and grate type as shown in the plans.

Join the precast trench drain sections according to the recommendations of the manufacturer. Furnish sections that are closely jointed and secured to prevent separation of the trench drain during backfilling.

Furnish the manufacturer's frame and grate that is installed and secured according to the recommendations of the manufacturer to prevent movement during backfilling.

Remove all obstructions and debris from the trench excavation prior to backfilling. Place the concrete backfill against the undisturbed material in a manner to prevent voids and segregation of the concrete and prevent floating or shifting of the trench drain system.

Furnish a textured surface on the concrete that is even with the adjacent surface with a broom or burlap drag to produce a durable skid-resistant surface.

839.06 Method of Measurement. The Department will measure trench drain by the number of feet (meters) completed and accepted in place.

839.07 Basis of Payment. The Department will pay for outlet pipes under 603 conduit. The Department will pay for accepted quantities at the contract unit prices as follows:

Item	Unit	Description
839	Foot (Meter)	Trench Drain with Standard Grate
839	Foot (Meter)	Trench Drain with Pedestrian Grate

Designer Note:

Provide supplemental specification 939 when using this specification. This specification replaces the plan note formerly used for Trench Drains. For Design criteria and guidance contact the Office of Structural Engineering, Hydraulics Section.