

The inlet end shall be finished with a 45 degree mitered fillet-transition between the in-place culvert and the inside of the liner.

If grout holes are utilized, cylindrical wooden plugs or other approved plugs shall be used to effectively plug holes until the grout has set and then removed and filled with concrete.

2519.4 METHOD OF MEASUREMENT

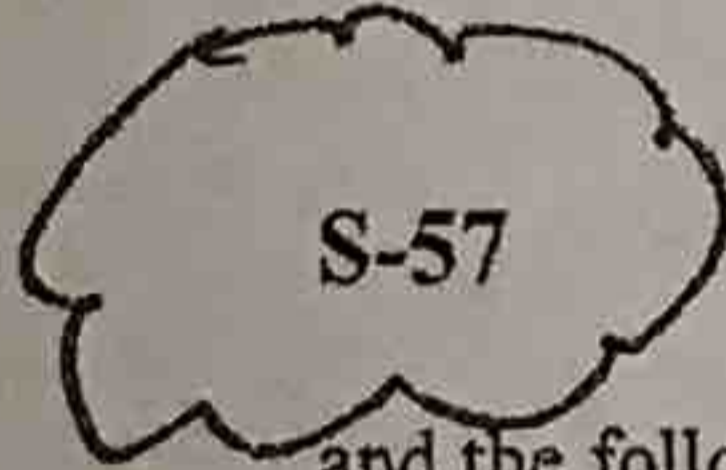
Measurement will be made by the volume of grout injected into the void between the existing pipe culvert and the liner pipe. The quantities so determined will be reduced for payment by all accountable waste.

2519.5 BASIS OF PAYMENT

Payment for Low strength CLSM specified at the Contract price per unit of measure of volume shall be compensation in full for all costs relative thereto, including dewatering, cement for securing the pipe liner to the existing culvert, and inlet bevel construction.

Payment for Low strength CLSM will be made on the basis of the following schedule:

Item No.	Item	Unit
2519.607	CLSM Low Density	cubic meter (cubic yard)
2519.607	CLSM High Density	cubic meter (cubic yard)



S-57

(2563) WORK ZONE SPEED LIMIT

This work shall be performed in accordance with the applicable MnDOT Standard Specifications and the following:

S-57.1 SYSTEM REQUIREMENTS

This Project will utilize changeable Light Emitting Diode (L.E.D.) Speed Limit Panels which will be used to display speed limits as motorists drive through the work zone and is referred to as the "system". The system shall be fully automated and a standalone system, capable of changing the speed limits remotely.

This work includes furnishing, installing, operating, maintaining, relocating and removing the L.E.D. signs according to the requirements defined herein, the Plans, and providing the maintenance of the complete system during the duration of the Project. The Contractor shall assume all responsibility for any damaged equipment due to crashes, vandalism, adverse weather, etc. that may occur during the system's deployment.

Each character (number) shall be 18 inches in height and 12 inches in width. The sign shall be clearly visible and legible from a distance of 1,000 feet under both day and night conditions. When the system is activated, all signs installed on roads open to traffic that are not consistent with traffic operations shall be covered as directed by the Engineer. The cover should be a plate of solid material covering the entire legend or all of that part of the legend that is inappropriate. This cover shall be bolted to the sign and shall use a minimum of 3 mm [1/8 inch] plastic washers between the sign face and the cover. See Figures 8.2A, 8.2B and 8.3C of the Traffic Engineering Manual for details. The L.E.D. speed limit signs shall be able to be changed remotely (Hand held remote). The speeds will be reduced, as determined by the Engineer, in advance of locations where workers are working near the centerline. The speed limits will remain to be reduced in areas where workers are present and return to the regular speed limits when no workers are present.

The system shall operate continuously 24 hours a day, 7 days a week. The system shall collect and store speed limit data and be archived into a database with time and date stamps which will be available for future documentation.

S-57.2 SYSTEM WARRANTY, MAINTENANCE, AND SUPPORT

The system shall be maintained, supported, and warranted against material defects by its supplier through the duration of the deployment.

The Contractor shall be required to respond immediately to any call from the Engineer or his designated representative concerning any request for correcting any deficiency in the system. **If the Contractor is negligent in correcting the deficiency within two hours of notification, the Contractor shall be subject to the hourly charge of \$250.00 per hour for each hour or any portion thereof with which the Engineer determines that the Contractor has not complied.**

S-57.3 Measurement for Work Zone Speed Limits will be made by the Unit Day which shall be compensation in full for furnishing, installing, operating, maintaining, relocating and removing the system. The Contractor will take permanent possession of all L.E.D. signs after completion of the Project.

S-57.4 Payment will be made under Item 2563.613 (Work Zone Speed Limit) at the Contract bid price per unit day, which shall be compensation in full for all work and material necessary.

S-58 (2571) PLANT INSTALLATION

MnDOT 2571 is hereby deleted from the MnDOT Standard Specifications and replaced with the attached Specification "2571 -- PLANT INSTALLATION AND ESTABLISHMENT" Revised 03/30/2009.

S-59 (2572) PROTECTION AND RESTORATION OF VEGETATION

The provisions of MnDOT 2572 are supplemented and/or modified with the following:

S-59.1 The first paragraph after MnDOT 2572.3A(5) under Protecting and Preserving, is revised to read as follows:

The Contractor shall not place temporary structures, store material, or conduct unnecessary construction activities within a distance of 8 m (26 feet) outside the dripline of trees designated to be preserved without approval from the Engineer.

S-59.2 The second paragraph of MnDOT 2572.3A2 Clean Root Cutting, is revised to read as follows:

The Contractor shall immediately and cleanly cut damaged and exposed roots. Trees designated for protection shall have damaged roots cut back to sound healthy tissue and shall have topsoil immediately placed over the exposed roots. The Contractor shall immediately cover root ends that are exposed by excavation activities with 150 mm (6 inches) of topsoil as measured outward from the cut root ends. Exposed cut oak roots shall be immediately (within 5 minutes) treated with a wound dressing material consisting of latex paint or shellac. The Contractor shall limit cutting to a minimum depth necessary for construction and shall use a vibratory plow or other approved root cutter prior to excavation.

S-59.3 The third sentence of MnDOT 2572.3A8 Destroyed or Disfigured Vegetation, is revised to read as follows:

The Engineer will assess damages of trees and landscaping at not less than the appraisal damages as determined by the current edition of the "Guide for Plant Appraisal - Council of Tree and Landscape Appraisers" published by the International Society of Arboriculture.