

561.3.06

2. Use a nose cone on all on all pipe liners. The nose cone shall have enough strength to withstand pulling or pushing of the new pipe liner. Weld or bolt the nose cone to the end of the liner. Use a nose cone that includes a ring for attaching the pulling cable.
3. After pulling or pushing the new pipe through the old one, plug the space between the pipes at both ends with concrete or mortar. Insert a 1 in (25 mm) grout pipe with threaded ends on the outside into the tops of the plugs at both ends of the pipes, and screw on a threaded cap.
4. After the pipe plugs have been in place long enough to develop strength to withstand pressure grouting, remove the grout pipe caps. Connect the grout pump to the downstream grout pipe and pump grout into the void until it flows freely from the upstream grout pipe.
5. After pumping is complete, replace the grout pipe caps.

561.3.06 Quality Acceptance

General Provisions 101 through 150.

561.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

561.4 Measurement

Renovating existing pipe is measured by the linear foot (meter) of the specified diameter of new pipe installed.

561.4.01 Limits

General Provisions 101 through 150.

561.5 Payment

Renovating existing pipe will be paid for at the Contract Unit Price bid per each diameter and metal thickness of new pipe. This payment will be full compensation for completing all work described in this Section, including cleaning and restoring damaged areas.

Payment will be made under:

Item No. 561	Renovating existing pipe ____ in (mm) diameter	Per linear foot (meter)
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561.5.01 Adjustments

General Provisions 101 through 150.

Section 570—Minor Drainage Structures for Detours

570.1 General Description

This work includes selecting, constructing, and maintaining minor structures used on detours for cross drains or side drains. Remove these structures when the detour is no longer needed.

This Item covers only the use of minor structures. When the Plans call for constructing, maintaining, and removing a detour bridge, apply Section 541.

570.1.01 Definitions

General Provisions 101 through 150.

570.1.02 Related References

A. Standard Specifications

Section 541—Detour Bridges

B. Referenced Documents

AASHTO HS-15

570.1.03 Submittals

If using a bridge-type structure instead of one or more pipes, present plans of the proposed structure to the Engineer for approval before beginning construction.

570.2 Materials

All selected materials are subject to the following requirements:

A. Bridge-Type Structure

Ensure that each bridge-type structure roadway width is at least 2 ft (600 mm) greater than the approach pavement width or 24 ft (7.2 m), whichever is greater. Ensure that load capacity is equivalent to AASHTO HS-15. Provide suitable hub guards and handrails.

B. Pipe Culvert

Use pipe culverts long enough to accommodate the detour grade and cross section shown on the Plans.

570.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

570.3 Construction Requirements

570.3.01 Personnel

General Provisions 101 through 150.

570.3.02 Equipment

General Provisions 101 through 150.

570.3.03 Preparation

General Provisions 101 through 150.

570.3.04 Fabrication

General Provisions 101 through 150.

570.3.05 Construction

Have the Engineer approve selected construction methods.

Use structures that have adequate openings and are suitable for the purpose intended. Unless otherwise modified by a special provision, provide for an uninterrupted flow of traffic over the existing highway or the completed detour, as the case may be. Assume all risks involved in the design, construction, maintenance, and removal of each structure, including any damage from any cause.

570.3.06 Quality Acceptance

General Provisions 101 through 150.

570.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

570.4 Measurement

The entire structure at the location specified is measured for payment. Multiple lines of pipe used instead of a bridge-type structure or a single larger diameter pipe is considered one structure.

570.4.01 Limits

General Provisions 101 through 150.

570.5 Payment

This Item will be paid for at the Lump Sum price bid for each structure. This price includes the materials, labor, equipment, and small tools necessary to construct, maintain, and remove the structure and to dispose of the materials. Upon removal, materials become the property of the Contractor.

Sixty percent of the Lump Sum price will be paid when the structure is complete in place. The remaining 40 percent will be paid when the maintenance period is complete, the structure removed, and the materials disposed of.

Payment will be made under:

Item No. 570	Construct, maintain, and remove detour drainage structure no. ____	Per lump sum
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570.5.01 Adjustments

General Provisions 101 through 150.

Section 573—Underdrains**573.1 General Description**

This work includes constructing underdrains with perforated pipe according to the Specifications and the details, lines, and grades shown on the Plans or as directed by the Engineer.

573.1.01 Definitions

General Provisions 101 through 150.

573.1.02 Related References**A. Standard Specifications**

Section 806—Aggregate for Drainage

Section 839—Corrugated Polyethylene Underdrain Pipe

Section 840—Corrugated Aluminum Alloy Pipe

Section 844—Steel Pipe

B. Referenced Documents

General Provisions 101 through 150.

573.1.03 Submittals

General Provisions 101 through 150.

573.2 Materials

Ensure that materials meet the requirements of the Specifications below.

Use any pipe specified below unless the Plans state otherwise. Use only one type of pipe in each continuous, interconnecting line.

Material	Specification
Aggregate for Underdrain	806.2.01
Corrugated Aluminum Alloy Underdrain Pipe	840.2.01
Corrugated Steel Underdrain Pipe	844.2.04
Corrugated Polyethylene Underdrain Pipe	839

573.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

573.3 Construction Requirements**573.3.01 Personnel**

General Provisions 101 through 150.

573.3.02 Equipment

General Provisions 101 through 150.

573.3.03 Preparation

General Provisions 101 through 150.

573.3.04 Fabrication

General Provisions 101 through 150.