

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.

573.3.05 Construction

Schedule the work so that underdrain installations coincide with other operations on the Project to prevent conflict, damage, or infiltration of materials.

A. Excavation

To intercept water-bearing strata, excavate according to the details and elevation shown on the Plans, or to an increased depth if the Engineer directs.

When the material in the bottom of the trench is unstable, remove unstable material, add approved granular material, and compact to provide a stable foundation for the pipe.

B. Laying Pipe

Lay pipe according to Plan details with the perforations on the underside of the pipe, unless otherwise directed by the Engineer.

1. Lay bell and spigot and tongue and groove pipe with the bell or grooved end upstream and the bells embedded in the foundation material.
2. Firmly connect the joints.
3. Connect pipe and butt joints securely, using the appropriate size and type of band or coupling.
4. Install the following miscellaneous items as indicated on the Plans or otherwise specified:
 - Pipe screens
 - Caps
 - Plugs
 - Ells
 - Wyes
 - Tees
 - Markers

C. Backfilling

After laying the pipe, place drainage aggregate in 6 in (150 mm) layers. Compact each layer thoroughly until reaching the total Plan depth. Do not disturb pipe alignment.

D. Marking

Mark each outlet end of the drainage system according to Plan details.

E. Protecting from Contamination

Protect the filter material from contamination by foreign matter.

1. Particular attention must be given to the top surface of the filter blanket when it will be covered by an aggregate drainage course. Soil infiltration from placing soil courses over the filter material is incidental to the Work and is not considered contamination.
2. If aggregates become contaminated, remove the contaminated portion and replace it with clean filter material before placing succeeding layers of filter blanket or placing aggregate drainage course.

573.3.06 Quality Acceptance

General Provisions 101 through 150.

573.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

573.4 Measurement

The quantity of underdrain pipe with or without drainage aggregate, complete in place and accepted, is measured in linear feet (meters) along each line or lateral, from center to center of junctions and fittings.

573.4.01 Limits

When the trench is required to be undercut, the depth measurement for determining the underdrain pipe payment will be from the bottom of the required undercut to the final elevation established for the top of the trench.

573.5 Payment

Each size of underdrain pipe will be paid for at the Contract Price per linear foot (meter) as follows:

A. Underdrain Pipe Only

Payment for pipe under this Item will include:

- Ground preparation
- Excavation
- Backfilling
- Disposal of surplus material
- All appurtenances required to complete the Item including screens, tees, wyes, ells, and markers

B. Underdrain Pipe Including Drainage Aggregate

Payment for pipe under this Item will include specified drainage aggregate and all items listed under Subsection 573.5.A above.

Underdrain pipe including drainage aggregate to depths greater than 6 ft (1.8 m) below the final elevation established for the top of the trench will have an adjusted Unit Price. This price will be computed by increasing the Contract Unit Price by a percentage based on the extra depth as follows:

From over 6 ft (1.8 m) to and including 8 ft (2.4 m)	At contract price plus 20 percent
Over 8 ft (2.4 m) deep	By supplemental agreement or force account

C. Contaminated Aggregate

Removal and replacement of contaminated aggregate will not be paid for separately, but will be included in the Bid Price for underdrain pipe.

Payment will be made under:

Item No. 573	Underdrain pipe only ___ in (mm)	Per linear foot (meter)
Item No. 573	Underdrain pipe including drainage aggregate ___ in (mm)	Per linear foot (meter)

573.5.01 Adjustments

General Provisions 101 through 150.

Section 574—Edgedrains

574.1 General Description

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

574.1.01 Definitions

General Provisions 101 through 150.

574.1.02 Related References

A. Standard Specifications

Section 400—Hot Mix Asphaltic Concrete Construction

Section 800—Coarse Aggregate

Section 839—Corrugated Polyethylene Underdrain Pipe

Section 840—Corrugated Aluminum Alloy Pipe

Section 843—Concrete Pipe

Section 881—Fabrics