

717.01

**Section 717. DOWNSPOUTS AND DRAINS**

**717.01. Description.** This work consists of providing and installing deck drains and downspouts, adjusting existing deck drains, extending existing downspouts, and protecting deck drain systems during construction.

**717.02. Materials.** Provide materials in accordance with the following:

Drain Castings .....	<u>908</u>
Miscellaneous Metals .....	<u>908</u>
Downspouts .....	<u>909</u>
Drain Extensions .....	<u>909</u>

**717.03. Construction.**

A. **New Construction.** Install new drain castings and downspouts at the locations and elevations shown on the plans.

B. **Adjusting Existing Deck Drains.** Adjust existing drain castings and downspouts to the new elevations shown on the plans.

C. **Downspout Replacement.** Fabricate replacement downspouts from material meeting subsection 909.08.A with an inside diameter sized to fit the outside of the existing drain casting. Provide a downspout length that extends from the drain casting to 6 inches below the beams. Remove existing downspout. Attach the replacement downspout to the existing drain casting with four equally spaced, galvanized, ½-inch diameter steel cap screws, drilled and tapped into the casting. If the depth of the adjacent beams exceeds 42 inches, install a support bracket.

D. **Deck Drain Extension.** Fabricate and install deck drain extensions meeting the requirements of subsection 909.07.C. Center extensions beneath the existing drain opening and fasten directly to the deck.

E. **Protecting Deck Drainage Systems.** Protect existing deck drains and downspouts during construction. Prevent debris from clogging the deck drains and downspouts. Obtain the Engineer's approval for the protection method.

Before beginning work on existing bridges, conduct an inspection with the Engineer to determine the condition of deck drains and downspouts. At the completion of the project, clean the deck drains and downspouts to provide free flowing deck drains and downspouts clear of debris at no additional cost to the Department.

**717.04. Measurement and Payment.**

<b>Pay Item</b>	<b>Pay Unit</b>
Drain Casting, Type ____	Each
Drain Casting Assembly	Each
Deck Drain, Adj.	Each
Downspout Replacement	Each
Deck Drain, Extension	Each

A. **Drain Casting, Type \_\_\_\_.** The unit price for **Drain Casting, Type \_\_\_\_** includes the cost of providing and installing the drain casting.

B. **Drain Casting Assembly.** The unit price for **Drain Casting Assembly** includes the cost of providing and installing the drain casting and downspout and, if necessary, the lower bracket.

C. **Deck Drain, Adjust.** The unit price for **Deck Drain, Adj** includes the cost of adjusting the drain casting and downspout.

D. **Downspout Replacement.** The unit price for **Downspout Replacement** includes the costs of the following:

1. Taking field measurements to determine downspout size;
2. Providing hardware to fasten the downspout to the drain casting; and
3. If the depth of the adjacent beams is greater than 42 inches, providing and installing the lower bracket.

E. **Protecting and Cleaning Deck Drainage Systems.** The cost of protecting and cleaning deck drainage systems is included in the unit prices of other relevant pay items.