

## CATEGORY 400 STRUCTURES

### SECTION 401 — MAINTAINING EXISTING BRIDGE DECK DURING LIFE OF CONTRACT

**401.01 DESCRIPTION.** This work shall consist of patching the existing bridge deck as specified in the Contract Documents or as directed by the Engineer.

#### **401.02 MATERIALS.**

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| Rapid Hardening Cementitious Material<br>for Concrete Pavement Repairs | 902.14 |
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The Contractor shall select the patching material from the prequalified list of rapid hardening cementitious materials maintained by the Office of Materials and Technology.

**401.03 CONSTRUCTION.** The Engineer and Contractor shall periodically review the existing deck and determine if any patching is necessary. All holes over 1 in. deep having an area greater than 2 ft<sup>2</sup> shall be patched. Locations and limits of all patch areas shall be approved by the Engineer.

Before patching begins, the Contractor's Traffic Manager shall confer with the Engineer to decide on a plan for diverting or detouring traffic during patching operations. All items relating to traffic safety and traffic control requirements shall conform to the Contract Documents.

The areas requiring patches shall be clean and free of loose material and conform to the manufacturer's recommendations.

When working on a full depth patch area, the Contractor shall protect waterways and roadways under the structure from falling debris. No removed material shall be disposed of in any waterway.

The patching material shall be placed full depth to the top of the existing bridge deck surfaces.

New reinforcement will only be required when directed by the Engineer.

When a patch has been made and it has not yet reached sufficient strength to support traffic when this section of the structure is opened to traffic, it shall be covered with a steel plate as specified in 522.03.13. All areas around the plate shall be built up with asphalt material.

**401.04 MEASUREMENT AND PAYMENT.** The payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work.

**401.04.01** Patching for Maintaining Existing Bridge Deck will be measured and paid for at the Contract unit price per square foot. The payment will also be full compensation for the removal of material required to prepare the patch area, including chipping and hand cleaning, as well as furnishing and placing reinforcement steel, forming, providing protective structures, and furnishing, placing and removing any steel plates. Patches performed day or night will be paid for at the Contract unit price.

**401.04.02** All work, materials, sequence of operations and cones required to maintain traffic during each occurrence of patching including removal after patching is complete, will be measured and paid for at the Contract unit price per each for the pertinent Maintenance of Traffic for Bridge Patching Operation item. When more than one patch is made under one movement of traffic for patching, the item will be paid for only once, regardless of the number of patches made or the length of time traffic is rerouted. When traffic must be maintained more than once for a particular patching operation, the work will be measured and paid for only once.

**401.04.03 Floodlighting.** Floodlighting will not be paid for unless approved by the Engineer in writing. When floodlighting is approved, it will be paid for as specified in 420.04.06.

## **SECTION 402 — STRUCTURE EXCAVATION (Class 3 and Class 4)**

**402.01 DESCRIPTION.** This work shall consist of excavation and backfill for structures as specified in the Contract Documents or as directed by the Engineer. Classes of structure excavation are:

Class 3 Excavation — Excavation above the water surface elevation specified in the Contract Documents.

Class 4 Excavation — Excavation below the water surface elevation specified in the Contract Documents.

If Class 4 Excavation is not specified in the Contract Documents, all excavation shall be Class 3 Excavation.

#### **402.02 MATERIALS.**

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| Crusher Run Aggregate CR-6 | 901.01            |
| Subfoundation Concrete     | 902.10, Mix No. 1 |

**402.03 CONSTRUCTION.** All excavation contiguous to existing pavements and structures shall be sheeted, shored, braced, and supported in a substantial manner to prevent settlement, movement, or damage to the pavement or structure. Excavated material shall not be placed in any manner that may endanger any structure and shall be kept out of waterways.

**402.03.01 Backfill and Embankment Material.** All suitable material removed from the excavation shall be placed in backfill or stored for future use. Excavated material shall not be wasted without permission of the Engineer. Boulders, logs or other unforeseen unsuitable material encountered shall be removed from excavated material prior to placing as backfill. Unsuitable material shall be disposed of in an approved disposal area.

**402.03.02 Footing Elevations.** The elevation for the bottom of the footing specified in the Contract Documents shall be considered as approximate only, and the Engineer may, during the period of construction, direct changes in dimensions or elevations of footings to secure a satisfactory foundation.

**402.03.03 Footing Foundations.** Footings for structures shall be on suitable foundations, and no concrete shall be placed or foundation piles driven until the foundations are approved by the Engineer.

All rock or other hard foundation material shall be cleaned of loose material and cut to a firm surface, either level or stepped as directed by the Engineer. All seams or crevices shall be cleaned out and grouted. All loose and disintegrated rock and thin strata shall be removed. When concrete will rest on an excavated surface other than rock, special care shall be taken not to disturb the bottom of the excavation. Final removal of the foundation material to grade shall not be made until just prior to concrete placement. When the Contract Documents include an item for Subfoundation Investigation (Section 419), the item shall be used to verify the character of the foundation if directed by the Engineer.

Faces of footings shall be placed plumb against either undisturbed material, rock, sheeting, shoring, or forms. Faces of footings in rock shall bear against a minimum 1 ft depth of rock. If the excavation will not