U.I.P. AND REHABILITATE EXISTING (X' - X' - X') SPANS (SKEW: x)

**Estimated Quantities**

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Surface Repair Material</td>
<td>274.18 sq. yd.</td>
</tr>
<tr>
<td>Removal of Existing Concrete</td>
<td>214.17 sq. ft.</td>
</tr>
<tr>
<td>Removal of Existing Deck</td>
<td>225.16 sq. ft.</td>
</tr>
<tr>
<td>Supplementary Wearing Material</td>
<td>353.05 sq. yd.</td>
</tr>
<tr>
<td>Substructure Repair</td>
<td>274.15 sq. ft.</td>
</tr>
<tr>
<td>Substructure Repair - Formed</td>
<td>274.15 sq. ft.</td>
</tr>
<tr>
<td>Substructure Repair - Unformed</td>
<td>274.15 sq. ft.</td>
</tr>
<tr>
<td>Full Depth Repair</td>
<td>274.15 sq. ft.</td>
</tr>
<tr>
<td>Cleaning and Epoxy Coating</td>
<td>274.13 sq. ft.</td>
</tr>
</tbody>
</table>

**General Notes:**

- Note 3.3 if required.

- Design Specifications:
  - AASHTO LFD (17th Ed.) Standard Specifications
  - HS20-44 Modified (Year) and Military 24,000 lb Tandem Axle (Year) required

- Design Loading:
  - 2002 AASHTO LFD (17th Ed.) Standard Specifications
  - HS20-44 Modified (Year) and Military 24,000 lb Tandem Axle (Year) required

- Design Unit Stresses:
  - Class C5 Concrete (Half-Sole and Full Depth Repair): f'c = 4,000 psi

- Traffic Handling:
  - Supplementary wearing surface material for monolithic deck repair will be paid for at the fixed unit price in accordance with Sec. 109.

- Miscellaneous:
  - Roadway surfacing adjacent to bridge ends shall match new bridge wearing surface (roadway item).
  - All concrete repairs shall be in accordance with Sec. 704, unless otherwise noted.
  - Outlines of existing work is indicated by light dashed lines. Heavy lines indicate new work.
  - Contractor shall verify all dimensions in field before finalizing the shop drawings.

- In order to maintain grade and a minimum thickness of wearing surface as shown on plans, it may be necessary to use additional quantities of wearing surface at various locations throughout the structure. The cost of furnishing and installing the wearing surface will be considered completely covered in the contract unit price, including all additional labor, materials, or equipment for variations in thickness of wearing surface.

- Structure to be closed during construction. Traffic to be maintained on roadway adjacent to bridge ends shall be provided. Traffic control plans for temporary roadway and bridge closure.

**REPAIRS TO BRIDGE: ROUTE OVER OVER FROM TO OVER + MILES OF OR + MATCH EXISTING**

**Note:** This drawing is not to scale. Follow dimensions.
STANDARD DRAWING GUIDANCE

do not show on plans

This is an index of Standard Drawing details. Draw typical section as required and scale as fit within attached border. Use appropriate deck repair details and modify as required (match orientation of actual reinforcement).

For bridges with epoxy coated steel, see Sec 710 for repairing bars and add notes as necessary. See SPM.

Wearing surface thickness can vary according to grade elevation requirements and minimum barrier curb height requirements. Maximum thickness should be limited to 3" (Ref: Organizational Results Research Report ORG 105, May 2006). Limit excludes reinforced concrete slab wearing surfaces.

Will need to adjust wearing surface thickness when detailing a thin wearing surface (< 4" thick). Use it to preferred detailing practice to show a discernable thickness on the plans. No thickness is shown for crack filler application.

Show difference as "Δ thickness X" (see Bridge Memo or SPM).

Identify new wearing surface (see Bridge Memo or SPM) and specify minimum thickness in deck details.

Identify existing wearing surface and thickness, see Bridge Memo or existing plans.

See Bridge Memo or SPM, typically 1/2". Use it if more than 50% of existing deck needs repair. Verify there will be a minimum of 1/2" of concrete above the top bars after scarification.

See Bridge Memo or SPM, typically 3/8".

See existing plans.

Use appropriate reference (Structure, Roadway, Median, etc.)

Cleaning and epoxy coating is preferred because of the relative short life of slab edge repair and unformed repair especially when over traffic. However in urban regions repairing the overhang may be preferred. Consult with SPM or SLE.

Scarification prior to adding first wearing surface or removing a portion of the deck when removing an existing wearing surface is not required for seal coat, asphalt, SMA, epoxy polymer or MMA polymer slurry wearing surfaces.

Note is required only when shop drawings will be required (for example, expansion device replacement, diaphragm replacement, etc.)

FOR EPOXY POLYMER OR MMA POLYMER SLURRY WEARING SURFACE

FOR ALL OTHER WEARING SURFACES

SECTION THRU JOINT
(EPOXY POLYMER OR MMA POLYMER SLURRY)

SECTION THRU JOINT
(ASPHALTIC CONCRETE WEARING SURFACE)

SECTION THRU JOINT
(ASPHALTIC CONCRETE WEARING SURFACE)
Monolithic Deck Repair
After Hydro Demolition

Hydro Demolition Case 1:

STANDARD DRAWING GUIDANCE (do not show on plans):
3" to 4" Steel Fiber Reinforced
1 3/4" to 3" CSA Cement Very Early Strength
1 3/4" to 3" Latex Modified Very Early Strength
May be used with the following concrete wearing surfaces:
Hydro Demolition Case 1:
Coating (Overhang)
Cleaning and Epoxy
Coating (Overhang)
Cleaning and Epoxy

Surface Wearing
Surface Hydro Demolition
Wearing Surface & Total Removal of
Surface Hydro Demolition
Bridge Deck & Total Scarification of
Top of Existing Deck

REPAIR BEFORE HYDRO DEMOLITION
Top of Existing Wearing Surface

LIMITS OF MECHANICAL MILLING

_INCREMENTAL FORMING

INCREMENTAL FORMING

DETAIL A

MILLING AND HYDRO DEMOLITION LIMITS

MONOLITHIC DECK REPAIR

Top of New Wearing Surface

LIMITS OF MECHANICAL MILLING

Details for mechanical milling and hydro demolition:
3" to 4" reinforced concrete
1 3/4" to 3" CSA cement
1 3/4" to 3" latex modified
3" steel fiber reinforced

Use appropriate details below on first sheet and add a sheet title using the e.g. "MORTAR LINES CONCRETE DETAILS".

Match existing grade _________±
Existing Deck Repair (Before hydro demolition)
Removal of Existing Deck Repair

ADDING FIRST WEARING SURFACE

Replacing Existing Wearing Surface

TYPICAL SECTION THRU EXISTING DECK

ADDING FIRST WEARING SURFACE

REPAIR BEFORE HYDRO DEMOLITION

Hydro Demolition Case 1:

STANDARD DRAWING GUIDANCE (do not show on plans):
3" to 4" Steel Fiber Reinforced
1 3/4" to 3" CSA Cement Very Early Strength
1 3/4" to 3" Latex Modified Very Early Strength
May be used with the following concrete wearing surfaces:
Hydro Demolition Case 1:
Coating (Overhang)
Cleaning and Epoxy
Coating (Overhang)
Cleaning and Epoxy

Surface Wearing
Surface Hydro Demolition
Wearing Surface & Total Removal of
Surface Hydro Demolition
Bridge Deck & Total Scarification of
Top of Existing Deck

REPAIR BEFORE HYDRO DEMOLITION
Top of Existing Wearing Surface

LIMITS OF MECHANICAL MILLING

_INCREMENTAL FORMING

INCREMENTAL FORMING

DETAIL A

MILLING AND HYDRO DEMOLITION LIMITS

MONOLITHIC DECK REPAIR

Top of New Wearing Surface

LIMITS OF MECHANICAL MILLING

Details for mechanical milling and hydro demolition:
3" to 4" reinforced concrete
1 3/4" to 3" CSA cement
1 3/4" to 3" latex modified
3" steel fiber reinforced

Use appropriate details below on first sheet and add a sheet title using the e.g. "MORTAR LINES CONCRETE DETAILS".

Match existing grade _________±
Existing Deck Repair (Before hydro demolition)
Removal of Existing Deck Repair

ADDING FIRST WEARING SURFACE

Replacing Existing Wearing Surface

TYPICAL SECTION THRU EXISTING DECK
Hydro Demolition Case 2: Conventional Deck Repair After Hydro Demolition

(Adding First Wearing Surface)

(Replacing Existing Wearing Surface)
**Conventional Deck Repair Only**

**STANDARD DRAWING GUIDANCE (do not show on plans):**

May be used with all wearing surfaces.

- 1/2" to 3/4" Alternate Ultrathin Bonded Asphalt
- 1" to 3" Alternate Asphaltic Concrete
- 3/8" Chip Seal Grade A1
- 4" to 5" Reinforced Concrete Slab
- 3/8" MMA Polymer Slurry
- 3/4" to 3" Polyester Polymer Concrete
- 1/4" Epoxy Polymer
- 3" to 4" Steel Fiber Reinforced Concrete
- 1 3/4" to 3" CSA Cement Very Early Strength Concrete
- 1 3/4" to 3" Latex Modified Very Early Strength Concrete
- 2 1/4" to 3" Silica Fume Concrete
- 1 3/4" to 3" Latex Modified Concrete
- 2 1/4" to 3" Low Slump Concrete

*Scarification not required with the following wearing surfaces:
- Roadway Item
- Traffic Barrier
- Temporary Concrete

For application of concrete crack filler:

- Adjust wearing surface thickness for thin wearing surfaces
- Delete top existing line
- Delete Dimension/Note (1) and renumber others
- SDG: For seal coat, asphalt, UBAWS, epoxy polymer or MMA polymer slurry:
  - Adjust depth for thin wearing surfaces
  - Adjust top of the original depth dimension
  - Delete top existing line & the wearing surface
  - Replace "Wearing Surface" with "Concrete Crack Filler"
  - Adjust leader note to point to the remaining top line
  - Delete (Roadway item) and (Replacing Existing Wearing Surface)