

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

SEC/SUR * TWP * RGE *

DATE PREPARED 3/7/2024	
ROUTE	STATE MO
DISTRICT	SHEET NO. 000
COUNTY	
JOB NO.	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

Estimated Quantities			
Item			Total
Total Surface Hydro Demolition	216-10.01	sq. yard	X
Removal of Concrete Wearing Surface	216-15.02	sq. foot	X
Removal of Existing Deck Repair	216-15.03	sq. foot	X
* Supplementary Wearing Surface Material	505-00.04	cu. yard	X
* Latex Modified Concrete Wearing Surface	505-20.00	sq. yard	X
Substructure Repair (Formed)	704-01.01	sq. foot	X
Substructure Repair (Unformed)	704-01.02	sq. foot	X
Superstructure Repair (Unformed)	704-01.03	sq. foot	X
Half-Sole Repair	704-01.04	sq. foot	X
Full Depth Repair	704-01.06	sq. foot	X
Slab Edge Repair (Bridges)	704-01.07	linear foot	X
Cleaning and Epoxy Coating	704-01.13	sq. foot	X

Replace as required

B3.8 * Supplementary wearing surface material for monolithic deck repair will be paid for at the fixed unit price in accordance with Sec 109.

Note B3.9 if required.

General Notes:

- A1.1 Design Specifications:
2002 AASHTO LFD (17th Ed.) Standard Specifications
Bridge Deck Rating =
- A1.2 Design Loading: ←Year
HS20-44 Modified (←) and Military 24,000 lb Tandem Axle (←) ←Year
- A1.3 Design Unit Stresses:
Class B-2 Concrete (Half-Sole and Full Depth Repair) f'c = 4,000 psi
Miscellaneous:
- I1.0.1 Roadway surfacing adjacent to bridge ends shall match new bridge wearing surface (roadway item).
- I1.0.2 All concrete repairs shall be in accordance with Sec 704, unless otherwise noted.
- I1.0.3 (If required) ←
- I1.1 Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.
- I1.2 1 Contractor shall verify all dimensions in field before finalizing the shop drawings.
- I1.10 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.
- Traffic Handling:
- A3.8 Structure to be closed during construction. Traffic to be maintained on during construction. See roadway plans for traffic control and Sheet No. for staged construction details.

REPAIRS TO BRIDGE: ROUTE * OVER *

ROUTE * FROM * TO *
ABOUT * MILES * OF *
BEGINNING STATION ± (Match Existing)

DESCRIPTION									

DATE									
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

STANDARD DRAWING GUIDANCE
(do not show on plans)

This is an index of Standard Drawing details. Draw typical section as required and scale to 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.

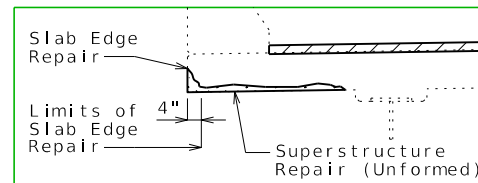
Wearing surface thickness can vary according to grade elevation requirements and minimum barrier curb height requirements. Maximum thickness should be limited to 3" (Ref. Organizational Results Research Report ORO6.004, May 2006). Limit excludes reinforced concrete slab wearing surfaces.

Will need to adjust wearing surface thickness when detailing a thin wearing surface (1" or less), but it is a preferred detailing practice to show a discernable thickness on the plans. No thickness is shown for crack filler application.

A Show difference as $\text{plus/minus } X \pm$ (see Bridge Memo or SPM).

e.g. $\text{Match existing grade plus } 2\frac{1}{4} \pm$

- B Identify new wearing surface (see Bridge Memo or SPM) and specify minimum thickness in deck details.
- C Identify existing wearing surface and thickness, see Bridge Memo or existing plans.
- D See Bridge Memo or SPM, typically 1/2". Use 1" if more than 30% of existing deck needs repair. Verify there will be a minimum of 1/2" of concrete above the top bars after scarification.
- E See Bridge Memo or SPM, typically 1/2".
- F See existing plans.
- G Use appropriate reference (C Structure, C Roadway, C Median, etc.)
- H 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.

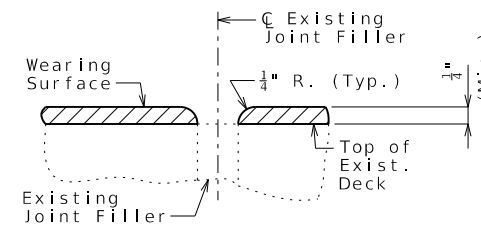


1 Scarification prior to adding first wearing surface or removing a portion of the deck when removing an existing wearing surface is not required for seal coat, asphalt, UBAWS, epoxy polymer or MMA polymer slurry wearing surfaces.

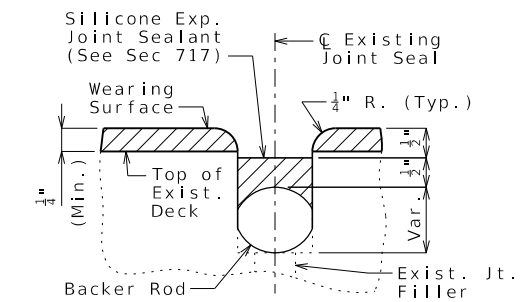
2 Note is required only when shop drawings will be required (For example, expansion device replacement, diaphragm replacement, etc.)

FILLED JOINT DETAILS FOR ALL APPLICATIONS

FOR EPOXY POLYMER OR MMA POLYMER SLURRY WEARING SURFACE

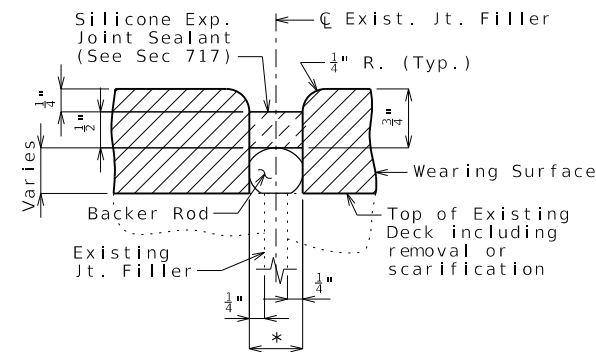


SECTION THRU JOINT
(EPOXY POLYMER OR MMA POLYMER SLURRY)



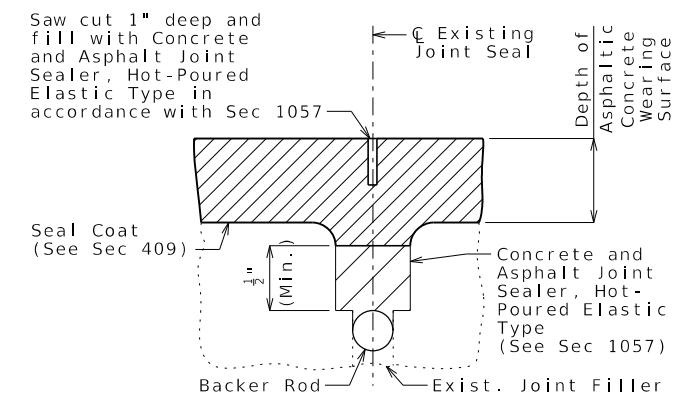
SECTION THRU JOINT
(EPOXY POLYMER OR MMA POLYMER SLURRY)

FOR ALL OTHER WEARING SURFACES

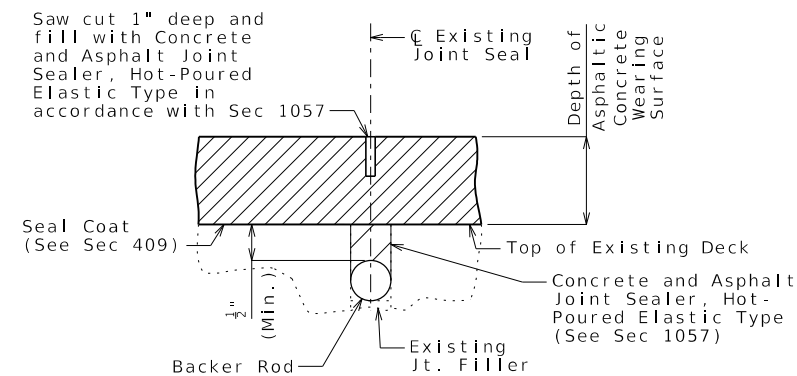


* Width of joint seal to be not less than the depth and not more than twice the depth of the joint seal.

SECTION THRU JOINT
(POLYESTER POLYMER, LATEX, LOW SLUMP OR SILICA FUME CONCRETE)



SECTION THRU JOINT
(ASPHALTIC CONCRETE WEARING SURFACE)



SECTION THRU JOINT
(ASPHALTIC CONCRETE WEARING SURFACE)

Hydro Demolition Case 1: Monolithic Deck Repair After Hydro Demolition

STANDARD DRAWING GUIDANCE (do not show on plans):

May be used with the following concrete wearing surfaces:

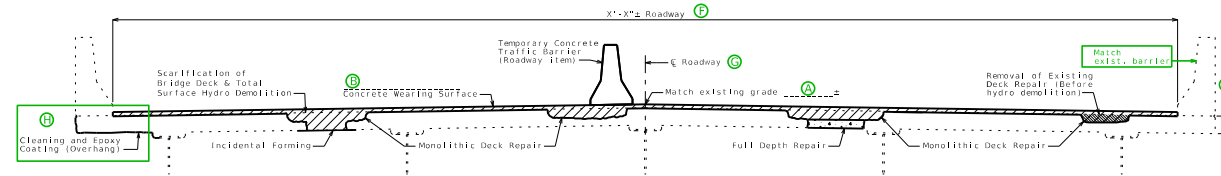
- 1 3/4" to 3" Latex Modified
- 2 1/4" to 3" Silica Fume
- 1 3/4" to 3" Latex Modified Very Early Strength
- 1 3/4" to 3" CSA Cement Very Early Strength
- 3" to 4" Steel Fiber Reinforced

If optional concrete wearing surface is specified and either low slump or polyester polymer is an option:

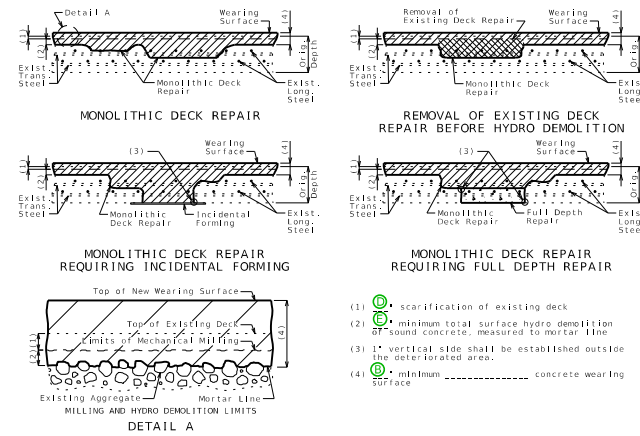
Use appropriate details below on first sheet and add a sheet title using the allowed options for the below details.

e.g. "LATEX MODIFIED CONCRETE DETAILS"

(Adding First Wearing Surface)

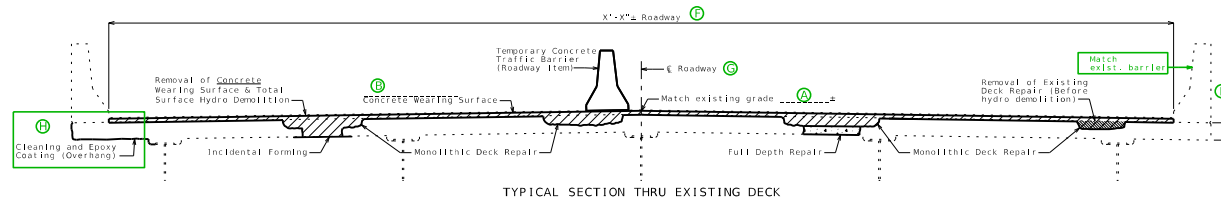


TYPICAL SECTION THRU EXISTING DECK

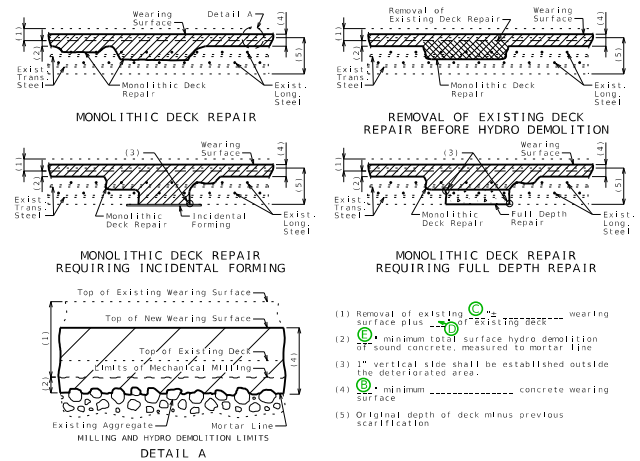


- (1) scarification of existing deck
- (2) minimum total surface hydro demolition of sound concrete, measured to mortar line
- (3) 1" vertical side shall be established outside the deteriorated area.
- (4) minimum concrete wearing surface

(Replacing Existing Wearing Surface)



TYPICAL SECTION THRU EXISTING DECK



- (1) Removal of existing wearing surface plus existing deck
- (2) minimum total surface hydro demolition of sound concrete, measured to mortar line
- (3) 1" vertical side shall be established outside the deteriorated area.
- (4) minimum concrete wearing surface
- (5) Original depth of deck minus previous scarification

Hydro Demolition Case 2: Conventional Deck Repair After Hydro Demolition

STANDARD DRAWING GUIDANCE (do not show on plans):

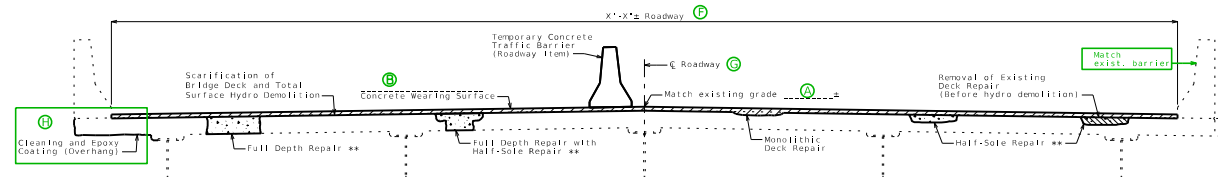
- Ⓞ May be used with the following concrete wearing surfaces:
 - 2 3/4" to 3" Low Slump
 - 3/4" to 3" Polyester Polymer

If optional concrete wearing surface is specified and either low slump or polyester polymer is an option:

Use appropriate details below on second sheet and add a sheet title using the allowed options for the below details.

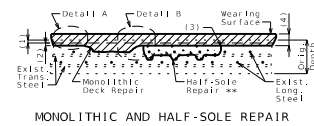
e.g. "LOW SLUMP CONCRETE DETAILS"

(Adding First Wearing Surface)

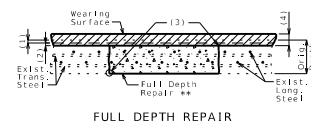


TYPICAL SECTION THRU EXISTING DECK

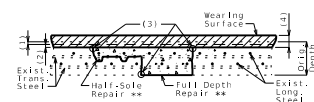
** After hydro demolition



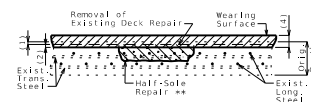
MONOLITHIC AND HALF-SOLE REPAIR



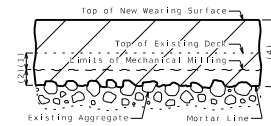
FULL DEPTH REPAIR



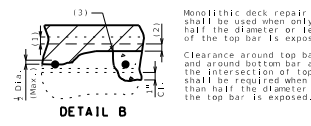
FULL DEPTH REPAIR WITH HALF-SOLE REPAIR



REMOVAL OF EXISTING DECK REPAIR BEFORE HYDRO DEMOLITION



DETAIL A

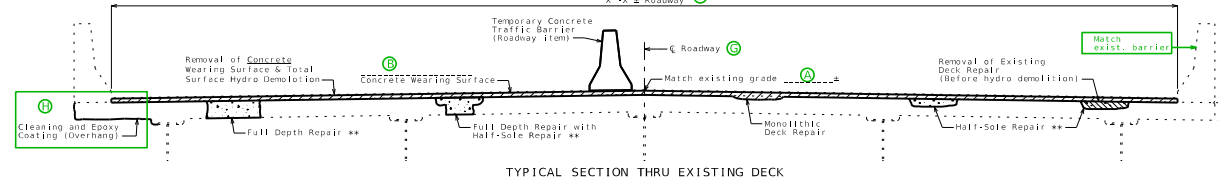


DETAIL B

Monolithic deck repair shall be used when only half the diameter or less of the top bar is exposed. Clearance around top bar and around bottom bar at the intersection of top bar shall be required when more than half the diameter of the top bar is exposed.

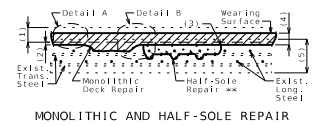
- (1) Ⓞ scarification of existing deck.
- (2) Ⓞ minimum total surface hydro demolition of sound concrete, measured to mortar line.
- (3) 1" vertical side shall be established outside the deteriorated area.
- (4) Ⓞ minimum concrete wearing surface.

(Replacing Existing Wearing Surface)

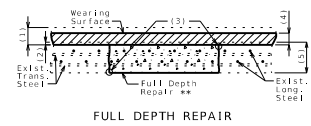


TYPICAL SECTION THRU EXISTING DECK

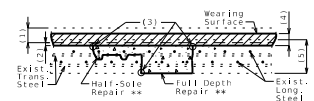
** After hydro demolition



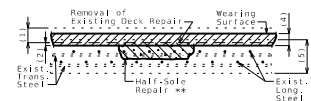
MONOLITHIC AND HALF-SOLE REPAIR



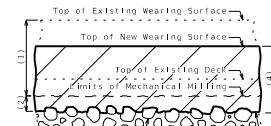
FULL DEPTH REPAIR



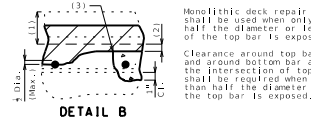
FULL DEPTH REPAIR WITH HALF-SOLE REPAIR



REMOVAL OF EXISTING DECK REPAIR BEFORE HYDRO DEMOLITION



DETAIL A



DETAIL B

Monolithic deck repair shall be used when only half the diameter or less of the top bar is exposed. Clearance around top bar and around bottom bar at the intersection of top bar shall be required when more than half the diameter of the top bar is exposed.

- (1) Removal of existing wearing surface plus scarification
- (2) Ⓞ minimum total surface hydro demolition of sound concrete, measured to mortar line
- (3) 1" vertical side shall be established outside the deteriorated area.
- (4) Ⓞ minimum concrete wearing surface
- (5) Original depth of deck minus previous scarification

Conventional Deck Repair Only

STANDARD DRAWING GUIDANCE (do not show on plans):

May be used with all wearing surfaces.

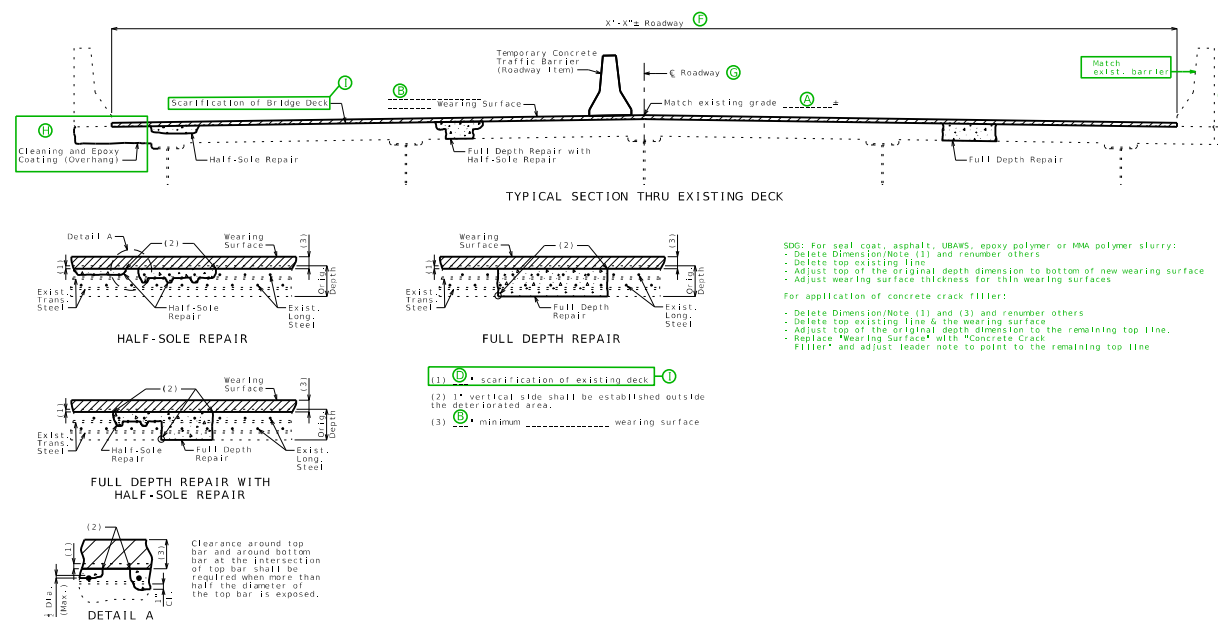
- ② 1/4" to 3" Low Slump Concrete
- 1 3/4" to 3" Latex Modified Concrete
- 2 1/4" to 3" Silica Fume Concrete
- 1 3/4" to 3" Latex Modified Very Early Strength Concrete
- 1 3/4" to 3" CSA Cement Very Early Strength Concrete
- 3" to 4" Steel Fiber Reinforced Concrete
- 1/4" Epoxy Polymer
- 3/4" to 3" Polyester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

Scarification not required with the following wearing surfaces:

- Seal Coat
- Asphalt
- UBAWS
- Epoxy Polymer
- MMA Polymer Slurry

Or when applying concrete crack filler.

(Adding First Wearing Surface or Applying Concrete Crack Filler)



(Replacing Existing Wearing Surface)

