ABUTMENT BACKFILL DIAGRAM FOR WINGS PARALLEL TO ROADWAY

- 3'-0" (min.) retained backfill (see Standard 14.04)
- 1.5' (min.) of mechanically stabilized earth (MSE)
- 1.0' ABUTMENT BEDDING MATERIALS

FOR MORE INFORMATION

STAINLESS STEEL SHEET METAL SCREWS

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING, ORIENTED AS SHOWN IN FIG. 1.

** THE ROCKET SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE MSE WALL STRUCTURAL BACKFILL.

NOTE: UNDERDRAIN WRAPPED MESH, SCREWS ETC. MAY BE REQUIRED TO CORRECTLY ATTACH A PVC GRATE OR OTHER TYPE OF PIPE DRAINAGE SHIELD AT END OF PIPE RESTRICTION DEPENDEN ON DESIGNER

TYPICAL SECTION
THRU ABUTMENT
WITH ABUTMENT ANCHORAGE

ABUTMENT BACKFILL DIAGRAM
FOR WINGS PARALLEL TO ABUTMENT

- 1'-6" of aggregate dense 1"
- 6" nominal
- 3'-0" backslope
- STAINLESS STEEL SHEET METAL SCREWS

ORDER LIMITS OF ABUTMENT STRUCTURE TYPE A WIDTH, PIPE UNDERDRAIN AND GEOTEXTILE ARE REQUIRED BE THE EXISTING GROUNDLINE.

NOTE: THE UPPER LIMIT OF EXCAVATION FOR STRUCTURES SHOWN "--" SHALL BE THE EXISTING GROUNDLINE.

REVIEW "GEOTEXTILE TYPE DF SCHEDULE A" LIMITS. SEE STANDARD 14.04 FOR WINGS PARALLEL TO ABUTMENT.

DESIGNER NOTES

- THE DESIGN ENGINEER SHOULD PROVIDE ALL NECESSARY bindActionCreators PAY LIMITS FOR THE ENTIRE ABUTMENT BODY LENGTH.

LIMITS AND NOTES 1

See Standard 9.03 for Wing Fill Sections at Wing Tips.
See Standard 9.02 for retaining wall and box culvert details.
See Standard 9.01 for more information.
PART TRANSVERSE SECTION AT ABUTMENT
TYPE A1 DIAPHRAGM WITH A RAISED SIDEWALK
SIDEWALK SHOWN ARE THE FE HATCH
DECK REINFORCEMENT NOT SHOWN FOR CLARITY.

SECTION A-A
** 3' x 3' SLOPE 1.5% EDGE OF BRIDGE DECK

SECTION B-B
** 3' x 3' SLOPE 1.5% AT EDGE OF BRIDGE DECK

SECTION THRU SIDEWALK

1. Order structures and slab structures
   with a raised sidewalk should have a
   deflection joint in the sidewalk and
   parapets over the deck for decks
closer than 100 ft. to the sidewalk
   with the sidewalk.
   2. Order structures and slab structures
      without sidewalks should have no
      deflection joints at the parapet.

DEFLECTION JOINT DETAIL

FILL WITH NON-STAINING GRAY
NON-STAINING JOINT SEALER

When parapets are founded continuously
from deck to end, max. shall be 4'-6" max.
slab shall be constructed of seal.
Center plate to be placed on deck
and embed 5" in concrete.

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL

ANCHORED MEDIAN CURB DETAIL
DO NOT USE THE 36" PRESTRESSED GIRDER SHOWN ON THIS SHEET. IT WILL BE MOVED TO CH 40 IN THE FUTURE.
STANDARD STRAND PATTERNS FOR UNDRAPED STRANDS (0.6" DIA.)

<table>
<thead>
<tr>
<th>NO. STRANDS</th>
<th>m_b (Inches)</th>
<th>P_i x 10^6 (KIPs)</th>
<th>f_i (Init.) (KIP/sq.in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>-12.03</td>
<td>518</td>
<td>202.50</td>
</tr>
<tr>
<td>10</td>
<td>-14.60</td>
<td>783</td>
<td>202.50</td>
</tr>
<tr>
<td>12</td>
<td>-13.74</td>
<td>605</td>
<td>202.50</td>
</tr>
<tr>
<td>16</td>
<td>-12.25</td>
<td>496</td>
<td>202.50</td>
</tr>
<tr>
<td>20</td>
<td>-12.04</td>
<td>418</td>
<td>202.50</td>
</tr>
<tr>
<td>24</td>
<td>-12.04</td>
<td>344</td>
<td>202.50</td>
</tr>
<tr>
<td>28</td>
<td>-12.04</td>
<td>274</td>
<td>202.50</td>
</tr>
</tbody>
</table>

STANDARD STRAND PATTERNS FOR DRAPED STRANDS (0.5" DIA.)

<table>
<thead>
<tr>
<th>NO. STRANDS</th>
<th>m_b (Inches)</th>
<th>P_i x 10^6 (KIPs)</th>
<th>f_i (Init.) (KIP/sq.in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>-11.33</td>
<td>562</td>
<td>207.50</td>
</tr>
<tr>
<td>10</td>
<td>-14.03</td>
<td>702</td>
<td>207.50</td>
</tr>
<tr>
<td>12</td>
<td>-12.03</td>
<td>527</td>
<td>207.50</td>
</tr>
<tr>
<td>16</td>
<td>-12.03</td>
<td>427</td>
<td>207.50</td>
</tr>
<tr>
<td>20</td>
<td>-12.03</td>
<td>372</td>
<td>207.50</td>
</tr>
<tr>
<td>24</td>
<td>-12.03</td>
<td>327</td>
<td>207.50</td>
</tr>
<tr>
<td>28</td>
<td>-12.03</td>
<td>292</td>
<td>207.50</td>
</tr>
</tbody>
</table>

DESIGNER NOTES
ON THE STRAND PATTERN SHEET, PLACE A BOX AROUND EACH STRAND PATTERN THAT APPLIES TO THE DESIGNED STRUCTURE AND LABEL THE SPAN IT IS USED IN.

PRE-TENSION
\[\begin{align*}
\psi_1 &= 1,200,000 \text{ PSI} \\
\psi_2 &= 0.75 \times 1,200,000 = 900,000 \text{ PSI} \\
\psi_3 &= 0.15 \times 900,000 = 135,000 \text{ PSI} \\
\end{align*}\]

DO NOT USE THE 36" PRESTRESSED GIRDER SHOWN ON THIS SHEET.
IT WILL BE MOVED TO CH 40 IN THE FUTURE.
**ANCHOR BOLT NOTES**

For span lengths up to 20', use a Type I masonry plate "D" with all anchor bolts.

For span lengths from 20' to 60', use a Type II masonry plate "D" with all anchor bolts.

For span lengths greater than 60', use a Type III masonry plate "D" with all anchor bolts.

Check that anchor bolts provide adequate bearing capacity.

**BEARING NOTES**

All bearings are symmetrical about X or Y of center of X and Y of bearing.

In cases of using a plate, consideration may impact position of masonry plate "D" on the span plate thickness.

All masonry plates shall be a Type I masonry plate for all edges. All edges shall be smooth and free from warp and all edges shall be straight and perpendicular.

All anchor bolts shall be machine or machine plate cuts. All anchor bolts shall be made of steel or material of equivalent yield strength and elongation.

For anchor bolts, nuts and washers shall be galvanized in accordance with ASTM A155, Class C.

ANCHOR BOLT NOTES

For span lengths up to 20', use a Type I masonry plate "D" with all anchor bolts.

For span lengths from 20' to 60', use a Type II masonry plate "D" with all anchor bolts.

For span lengths greater than 60', use a Type III masonry plate "D" with all anchor bolts.

Check that anchor bolts provide adequate bearing capacity.

**DESIGNER NOTES**

Modify the details to reflect the use of beveled rocker plate "C" on spans greater than 20'.

Also, consider the use of standard wrought iron anchors.

For bearing replacements, designer shall consult the existing girder bottom flange width to allow for field welding.

**BEARING STRESS IS NOT EXCEEDED.**

Type II masonry plate "D" providing allowable concrete cap width, or reduce width of plate ± 20 degrees from 20 degrees.

Type III masonry plate "D" providing allowable concrete cap width, or reduce width of plate ± 20 degrees from 20 degrees.

**MASONRY PLATE "D"**

Length of plate "D" is provided for spans up to 20'.

Length of plate "D" is provided for spans greater than 20'.

**CLEARANCE DIAGRAM**

At skewed pier

At skewed abutments

At expansion brg.

At fixed brg.

**BEVELED ROCKERS WITH GRADES GREATER THAN 3%**

Refer to the details below for the use of beveled rocker plate "C" on spans greater than 20'.

Adjust grade if beveled rocker plate "C" is used.

For bearing replacements, designer shall consult the existing girder bottom flange width to allow for field welding of the edges of the bottom flange to the top of plate "C".

**CALCULATE THE REACTION AT THE BEARINGS DUE TO TOTAL LOADS.**

Use the masonry plate "D" on spans greater than 20'.

The values in the tables are the bearing capacities for total load + 20% of total load.

Select a bearing that has a capacity greater than or equal to the calculated reaction for total load.
ANCHOR BOLTS
(2) - 1" DIA. X 1'-10" LONG

EXPANSION BEARING ASSEMBLY

EXPANSION BEARING

STEEL BEARINGS FOR PRESTRESSED CONCRETE GIRDERS

Bearing Notes

All bearings are symmetrical about E of order and E of bearing. All materials in bearings, but excluding stainless steel plate, Teflon surface, pinwheels, anchor bolts, nuts and washers shall conform to ASTM A307 Grade 50.

Steel pinwheels shall conform to ASTM A325 or ASTM A325 Grade 50.

All structural steel bearing plates shall be flat rolled steel plates with all surfaces smooth and free from warp and all edges smooth, straight, and parallel.

All plate cuts shall be machine or machine plane cuts.

All pinwheels shall be machine pressed by an automatic process.

Anchor bolts shall be threaded to provide the standard wrench washer and one hex nut. Use all bearing bolts, masonry plate or washers + 2", above top of concrete.

Chamfer anchor bolts prior to threading.

Masonry plate, rocker plate, anchor bolts and nuts shall be galvanized in accordance with ASTM A307 Grade 50. Steel plate of shall be shot peened, do not paint Teflon surface.

All materials in steel bearings for prestressed concrete girders, including bearing plates, shall be paid for at the unit price bid for bearing assemblies.

Pintles shall be 1" diameter, 1" longer than anchor bolt.

Teflon surface shall be coated with a minimum of 1/4" thickness of Teflon plate, and Teflon shall be adhesively bonded onto the masonry plate, and any other foreign material shall be smooth and free from warp and all edges smooth, straight, and parallel.

All structural steel bearing plates shall be flat rolled steel plates with all surfaces smooth and free from warp and all edges smooth, straight, and parallel.

Material of equivalent yield strength and elongation.

Anchor bolts, nuts and washers shall conform to ASTM F1554 Grade 50, or ASTM A325 Grade 50.

Stainless steel plate shall conform to ASTM A240, Type 304.

Steel pintles shall conform to ASTM A449 or ASTM A572 Grade 50.

Steel plates shall conform to ASTM A709 Grade 50W.

All materials in bearings, but excluding stainless steel plate, Teflon surface, pinwheels, anchor bolts, nuts and washers shall conform to ASTM A307 Grade 50.

Stainless steel plate shall conform to ASTM A240, Type 304.

Steel pintles shall conform to ASTM A449 or ASTM A572 Grade 50.

All structural steel bearing plates shall be flat rolled steel plates with all surfaces smooth and free from warp and all edges smooth, straight, and parallel.

All plate cuts shall be machine or machine plane cuts.

All pinwheels shall be machine pressed by an automatic process.

Anchor bolts shall be threaded to provide the standard wrench washer and one hex nut. Use all bearing bolts, masonry plate or washers + 2", above top of concrete.

Chamfer anchor bolts prior to threading.

Masonry plate, rocker plate, anchor bolts and nuts shall be galvanized in accordance with ASTM A307 Grade 50. Steel plate of shall be shot peened, do not paint Teflon surface.

All materials in steel bearings for prestressed concrete girders, including bearing plates, shall be paid for at the unit price bid for bearing assemblies.

Pintles shall be 1" diameter, 1" longer than anchor bolt.

Teflon surface shall be coated with a minimum of 1/4" thickness of Teflon plate, and Teflon shall be adhesively bonded onto the masonry plate, and any other foreign material shall be smooth and free from warp and all edges smooth, straight, and parallel.

All structural steel bearing plates shall be flat rolled steel plates with all surfaces smooth and free from warp and all edges smooth, straight, and parallel.

Material of equivalent yield strength and elongation.

Anchor bolts, nuts and washers shall conform to ASTM F1554 Grade 50, or ASTM A325 Grade 50.

Stainless steel plate shall conform to ASTM A240, Type 304.

Steel pintles shall conform to ASTM A449 or ASTM A572 Grade 50.

All structural steel bearing plates shall be flat rolled steel plates with all surfaces smooth and free from warp and all edges smooth, straight, and parallel.

All plate cuts shall be machine or machine plane cuts.

All pinwheels shall be machine pressed by an automatic process.

Anchor bolts shall be threaded to provide the standard wrench washer and one hex nut. Use all bearing bolts, masonry plate or washers + 2", above top of concrete.

Chamfer anchor bolts prior to threading.

Masonry plate, rocker plate, anchor bolts and nuts shall be galvanized in accordance with ASTM A307 Grade 50. Steel plate of shall be shot peened, do not paint Teflon surface.

All materials in steel bearings for prestressed concrete girders, including bearing plates, shall be paid for at the unit price bid for bearing assemblies.

Pintles shall be 1" diameter, 1" longer than anchor bolt.

Teflon surface shall be coated with a minimum of 1/4" thickness of Teflon plate, and Teflon shall be adhesively bonded onto the masonry plate, and any other foreign material shall be smooth and free from warp and all edges smooth, straight, and parallel.

All structural steel bearing plates shall be flat rolled steel plates with all surfaces smooth and free from warp and all edges smooth, straight, and parallel.

Material of equivalent yield strength and elongation.

Anchor bolts, nuts and washers shall conform to ASTM F1554 Grade 50, or ASTM A325 Grade 50.

Stainless steel plate shall conform to ASTM A240, Type 304.

Steel pintles shall conform to ASTM A449 or ASTM A572 Grade 50.
**VERTICAL FACE PARAPET 'A'**

**BILL OF BARS**

<table>
<thead>
<tr>
<th>Bar</th>
<th>Size</th>
<th>Length</th>
<th>No.</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>R501</td>
<td>#5</td>
<td>8'</td>
<td>1</td>
<td>PARAPET END</td>
</tr>
<tr>
<td>R501</td>
<td>#5</td>
<td>8'</td>
<td>2</td>
<td>PARAPET END</td>
</tr>
<tr>
<td>S501</td>
<td>#5</td>
<td>4'-8&quot;</td>
<td>1</td>
<td>PARAPET END</td>
</tr>
<tr>
<td>S501</td>
<td>#5</td>
<td>4'-8&quot;</td>
<td>2</td>
<td>PARAPET END</td>
</tr>
</tbody>
</table>

**NOTE**

When parapets are poured continuously from one end to the other, they shall be separated at the deflection joints by a piece of 1'-0" galvanized steel plate or plating, as shown in Detail of Anchor Assembly. A piece of 1'-0" galvanized steel plate or plating shall be placed between the deflection joints in the parapets. The piece of plate shall be coated with an approved liquid bond breaker and plate separators may be omitted.

**LEGEND**

- **#5 bar**
- **#5 bar**
- **R502/S502**
- **S501**
- **R501**
- **S501**
- **R501**
- **S501**

**DESIGNER NOTE**

A 1" hole may be bored in lieu of a 1/4" bar adjacent to the paving notch on type A anchor assemblies.
END POST DETAILS FOR TUBULAR STEEL RAILING TYPE NY3 & NY4

NOTES
- Structural tubing shall conform to the requirements of ASTM A500 Grade B or C with a certified Fy = 50 ksi. Structural tubing shall conform to the requirements of ASTM A500 Grade B or C.

LEGEND

BOLT NO. 6 AT NO. 5 (AND TOP RAIL FOR NY4). USE 1" DIA. HOLE FOR BOLT NO. 6 AT NO. 5A BOTTOM RAIL. CUT BOTTOM OF POST TO MATCH COVER PLATE 1" X 10" X 1'-2". SEE STANDARDS 30.26 AND 30.27 FOR MORE INFORMATION.

THREE BEAM RAIL ATTACHMENT

BILL OLIVA

APPROVED:  BILL OLIVA

DATE:  1-21

STANDARD 30.28

BUREAU OF STRUCTURES
**Box Culvert Barrel Data**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Reinforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>L x W x H</td>
<td>No. of Bars</td>
</tr>
<tr>
<td>(in)</td>
<td>(in)</td>
</tr>
</tbody>
</table>

**Notes:**
- Joint ties are to be 7-in. max. for joint ties.
- Joint ties are to be 9-in. max.
- Joint ties are to be 9-in. max.
- Joint ties are to be 9-in. max.
- Joint ties are to be 9-in. max.
- Joint ties are to be 9-in. max.

**Special Requirements:**
- Extra strong pipe welds shall be used.
- Ties shall be galvanized.
- Ties shall be tightened as directed.
- Ties shall be used.
- Ties shall be used.
- Ties shall be used.
- Ties shall be used.
- Ties shall be used.

**Materials:**
- Precast concrete.
- Steel reinforcement.

**Design Notes:**
- Provide details for special conditions warranting a separate analysis.
Parapet Repair Detail

Curb Repair Detail

DETAIL

Concrete Surface Repair

Curb Repair

Anchor detail (example)

Design Notes

NOTES

Preparation Details shall be applied to the existing concrete surfaces. Preparation is included in the 3D PDF "Preparation Surface Treatment Repair." Additional Preparation Details shall be applied to the existing concrete surfaces. Preparation Details shall be applied to the existing concrete surfaces, as shown.

Design Notes

NOTES

Preparation Details shall be applied to the existing concrete surfaces. Preparation is included in the 3D PDF "Preparation Surface Treatment Repair." Additional Preparation Details shall be applied to the existing concrete surfaces. Preparation Details shall be applied to the existing concrete surfaces, as shown.

Anchor detail (example)

Design Notes

NOTES

The design engineer shall provide anchor details as needed. Plans shall note anchor Type 1 and Type 2. The design engineer shall provide anchor details as needed. Plans shall note anchor Type 1 and Type 2.

Deck Repair

Deck Repair Details

Design Notes

Details applicable to all overlay methods and deck repairs without overlays.

Deck Repair Details - Plan

Deck Repair Details - Section

Full-depth Deck Repair Detail

Design Notes

Details applicable to all overlay methods and deck repairs without overlays.

Deck Repair Details - Plan

Deck Repair Details - Section

Full-depth Deck Repair Detail

Design Notes

Details applicable to all overlay methods and deck repairs without overlays.

Deck Repair Details - Plan

Deck Repair Details - Section

Full-depth Deck Repair Detail

Design Notes

Details applicable to all overlay methods and deck repairs without overlays.

Deck Repair Details - Plan

Deck Repair Details - Section

Full-depth Deck Repair Detail

Design Notes

Details applicable to all overlay methods and deck repairs without overlays.
GALVANIC ANODE - attach per typical details.

NOTES

SURFACE REPAIR AREAS WITH CATHODIC PROTECTION ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. THE PLAN QUANTITY FOR THE FIELD EMBEDDED GALVANIC ANODES IS BASED ON A MINIMUM SPACING OF 24-INCHES AROUND THE SURFACE REPAIR PERIMETER. THE ACTUAL QUANTITY SHALL BE BASED ON THE FIELD CONDITIONS AND AS RECOMMENDED BY THE GALVANIC ANODE SUPPLIER.

SURFACE REPAIRS SHALL BE FILLED WITH REPAIR MATERIALS COMPATIBLE WITH CATHODIC PROTECTION AS RECOMMENDED BY THE ANODE SUPPLIER.

EXISTING REINFORCING STEEL TO BE COMPLETELY CLEANED OF CORRODED MATERIAL AND CONCRETE TO PROVIDE SUFFICIENT ELECTRICAL CONNECTION AND THAT CATHODIC PROTECTION PREPARATIONS ARE INCLUDED IN THE RED BID ITEM "EMBEDDED GALVANIC ANODES".

ANODES NEAREST TO EDGE OF REPAIR TO BE ANCHORED 6" OF EDGE.

REPAIR MATERIALS AND CONCRETE MASONRY TO MAINTAIN A MINIMUM TOP COVER OF 5/8" AND A MINIMUM BOTTOM COVER OF 3/4".

DESIGNER NOTES

CATHODIC PROTECTION SHALL BE USED ONLY AT THE REQUEST OF THE REGIONAL BRIDGE MAINTENANCE ENGINEER.

POLICE APPLICABLE CONCRETE MASONRY TO MAINTAIN A MINIMUM TOP COVER OF 5/8" AND A MINIMUM BOTTOM COVER OF 3/4".

CATHODIC PROTECTION
CONCRETE MASONRY OVERLAY DECKS

**NOTES**

- Dimensions shown are based on the original structure plans.
- Protective surface treatment shall be applied to the entire top surface of the new concrete overlay.
- Seal overlay construction joints according to Section 601.10 of the Standard Specifications. Cost incidental to bid item "Concrete Masonry Overlay Decks".
- The average overlay thickness is based on the average overlay thickness plus 1/16" to account for variations in the deck surface.
- Preparation decks type 1, preparation decks type 2, and full-depth deck repair areas are based on the plans and as determined by the Engineer. Concrete overlay and full-depth deck repairs shall be filled with "Concrete Masonry Overlay Decks".
- Any excavation required to complete the overlay or joint repairs at the abutments is incidental to the bid item "Concrete Masonry Overlay Decks".
- Overlay limits for previously overlaid decks shall be based on the plan view applicable to all overlay methods and deck repairs without overlays. For cross sections not in super-elevation transitions, the preferred minimum slope is 2%. Provide an average overlay thickness on the plans. The average overlay thickness is the minimum overlay thickness plus 1/16" to account for variations in the deck surface. Changes in cross-slope increase the average overlay thickness. Quantities are based on the average overlay thickness. Do not provide a profile grade line on the plans. Do not include bid item "Sawing pavement deck preparation areas for deck preparation".
- Drains removed or closed is incidental to the bid item "Concrete Masonry Overlay Decks".
- Provide an average overlay thickness on the plans. The average overlay thickness is the minimum overlay thickness plus 1/16" to account for variations in the deck surface. Changes in cross-slope increase the average overlay thickness. Quantities are based on the average overlay thickness. Do not include bid item "Sawing pavement deck preparation areas for deck preparation".
- Provide an average overlay thickness on the plans. The average overlay thickness is the minimum overlay thickness plus 1/16" to account for variations in the deck surface. Changes in cross-slope increase the average overlay thickness. Quantities are based on the average overlay thickness. Do not include bid item "Sawing pavement deck preparation areas for deck preparation".

**DESIGN DATA**

- LIVE LOAD: OPERATING RATING: STANDARD PERMIT VEHICLE (WIS-SPV) = ___ KIPS
- INVENTORY RATING: HS-__
- OPERATING RATING: HS-__

**MATERIAL PROPERTIES**

- Concrete Masonry Overlay Decks f'c = 4,000 P.S.I.

**TOTAL ESTIMATED QUANTITIES**

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>502.2000</td>
<td>SY</td>
<td>Protective Surface Treatment</td>
</tr>
<tr>
<td>502.2001</td>
<td>SY</td>
<td>Preparation Decks Type 1</td>
</tr>
<tr>
<td>502.2002</td>
<td>SY</td>
<td>Preparation Decks Type 2</td>
</tr>
<tr>
<td>504.0000</td>
<td>SY</td>
<td>Cleaning Decks</td>
</tr>
<tr>
<td>505.2000</td>
<td>SY</td>
<td>Full-Depth Deck Repair</td>
</tr>
<tr>
<td>509.2500</td>
<td>CY</td>
<td>Concrete Masonry Overlay Decks</td>
</tr>
</tbody>
</table>

**CONCRETE OVERLAY**

Approved:
Bill Oliva
Date: ___/___/___

**BILL OF MATERIALS**

- Protective Surface Treatment
- Preparation Decks
- Cleaning Decks
- Full-Depth Deck Repair
- Concrete Masonry Overlay Decks
- Possible Additional Bid Items
- Protective Surface Sealer
- Cleaning Decks to Remove Concrete Masonry Overlay
- Adjusting Floor Drains

This is a partial list of possible bid items. Other items may need to be added or removed to fit each individual case.

**SURVEY**

Survey completed Date: ___/___/___

**PLAN**

Top of Deck Shown

**TOTAL ESTIMATED QUANTITIES**

- Protective Surface Treatment
- Preparation Decks
- Cleaning Decks
- Full-Depth Deck Repair
- Concrete Masonry Overlay Decks

**CONCRETE MASONRY OVERLAY DECKS**
**DESIGNER NOTES**

**CONCRETE OVERLAYS**

Concrete overlays are the current preferred method to overlay a bridge.

**TOTAL ESTIMATED QUANTITIES**

<table>
<thead>
<tr>
<th>BID ITEM</th>
<th>UNIT</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OVERLAYS NOT REQUIRING SHEET MEMBRANE WATERPROOFING ARE PREFERRED.**

**Alternatives to concrete deck patches may be used to shorten time required for repairs using concrete. REQUIRE a minimum cure time of 7 days before placing overlay.**

**Removal of 1" of existing deck under bid item "cleaning decks" is not intended for previously repaired areas.**

**NOTES**

- Drawings shall not be scaled.
- Dimensions shown are based on the original structure plans.
- Areas of preparation decks type 1 shall be defined by a saw cut.

---

**TOTAL ESTIMATED QUANTITIES**

<table>
<thead>
<tr>
<th>BID ITEM</th>
<th>UNIT</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Concrete Masonry - Deck Patching**

- **CONCRETE MASONRY - DECK PATCHING (f'c = 4,000 P.S.I.)**

---

**ASPHALTIC OVERLAY**

- **POLYMER MODIFIED ASPHALTIC OVERLAY**

---

**Bureau of Structures**

**Polymer Modified Asphalritic AND ASPHALTIC OVERLAYS**

---

**Bill Oliva**

**Date:** 1-21