### Estimated Bridge Quantities - Design 421

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item Code</th>
<th>Item</th>
<th>Unit</th>
<th>Total</th>
<th>As Built Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2040-0050707</td>
<td>DECK REPAIR, CLASS A</td>
<td>SF</td>
<td>50</td>
<td>a</td>
</tr>
<tr>
<td>2</td>
<td>2040-0050975</td>
<td>DECK REPAIR, CLASS B</td>
<td>SF</td>
<td>0</td>
<td>a</td>
</tr>
<tr>
<td>3</td>
<td>2040-0051008</td>
<td>CONCRETE REMOVE</td>
<td>SF</td>
<td>60</td>
<td>a</td>
</tr>
<tr>
<td>4</td>
<td>2040-0050508</td>
<td>REMOVAL OF EXISTING P2, OVERLAY</td>
<td>SF</td>
<td>110</td>
<td>a</td>
</tr>
<tr>
<td>5</td>
<td>2040-0050200</td>
<td>MICRO-BEAM</td>
<td>SF</td>
<td>0</td>
<td>a</td>
</tr>
<tr>
<td>6</td>
<td>2050-0050105</td>
<td>REBARS, PROTECTIVE LINING FOR DECK, A+</td>
<td>SF</td>
<td>0</td>
<td>a</td>
</tr>
</tbody>
</table>

**Alternate As Option 1**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item Code</th>
<th>Item</th>
<th>Unit</th>
<th>Total</th>
<th>As Built Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>2040-0050836</td>
<td>DECK OVERLAY CLASS B</td>
<td>SF</td>
<td>50</td>
<td>a</td>
</tr>
<tr>
<td>15</td>
<td>2040-0050637</td>
<td>DECK OVERLAY CLASS B</td>
<td>SF</td>
<td>50</td>
<td>a</td>
</tr>
</tbody>
</table>

### General Notes:

This design is for repairs to the existing 2014 x 810 pretensioned prestressed concrete bridge over SR 350. The existing existing concrete elements of original design plans are available to the contractor as part of the seals supplied with the contract documents. Sections shown on these plans are based on original design plans. Nos. 9, 10, 11, 12, 13, and 14. This project consists of:

1. Replace existing overlay, specify deck, complete class A and B repairs, complete class C repairs after approval by Engineer, and install the bridge with pcc.
2. Stern barge and/or another barge.
3. Perform micro-beam grouting.
4. Perform concrete deck lining.

Also shown on these plans is the intent that new construction shall be verified by the field engineer during construction.

### Estimate Reference Information:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Includes Class B repair after approval by Engineer, approximate locations shown on the situation plan on design sheet 7.</td>
</tr>
<tr>
<td>3</td>
<td>Includes concrete pour, see design sheets 2, 4, and 5 for locations, details and notes.</td>
</tr>
<tr>
<td>7A/7B</td>
<td>Includes cleaning existing concrete lining, reinforcing and placing concrete. Includes reinforcing and placing expansion joint including concrete placement. Includes cleaning existing and slope removal for access for installation the steel on plan on design sheet 2.</td>
</tr>
</tbody>
</table>

### Specifications:

DEPARTMENT OF TRANSPORTATION STANDARDS for the construction of highway bridges Series 902000 applicable general supplemental specifications, development specifications, supplemental specifications and special provisions shall apply to construction work on this project.

### Design Stresses:

Design stresses for the following materials are in accordance with the ACI standard specifications for highway bridges series 900000. Reinforcing steel, in accordance with Section 6-404-113a.

### Design History at This Site

(Indicated this Design)

### Traffic Control Plan

2014 x 810 will be open to thru traffic. Refer to site traffic control plan shown as part of this project.
FOR INFORMATION ONLY  
NOT FOR CONSTRUCTION
FOR INFORMATION ONLY
NOT FOR CONSTRUCTION
FOR INFORMATION ONLY

NOT FOR CONSTRUCTION

REPAIR NOTES:

THE SHALLOW AND MEDIUM AREAS OF THIS REPAIR AS NOTED AND SHOWN IN
THESE PLANS SHALL BE REPAIRED AS FOLLOWS:

ALL THE COSTS OF EQUIPMENT AND MATERIALS REQUIRED TO REPAIR THE
SMALLEST AND MEDIUM AREAS OF THIS REPAIR SHALL BE INCLUDED IN THE
 челсто WH FOB CONCRETE REPAIR

THE PRICE FOB FOR CONCRETE REPAIR SHALL INCLUDE THE COST OF ALL
CONCRETE ANCHORS AND MELTED WIRE FABRIC REQUIRED BY THE PLANS.

THE ENGINEER SHALL DETERMINE AND OUTLINE, BY VIDEAL AND ANCHOR
REPAIR THE ACTUAL AREAS OF THE CONCRETE REPAIRS. THE CONTRACTOR
SHALL BE PAID FOR THE ACTUAL COST OF REPAIRS MADE ON A SQUARE
FOOT BASIS, BASED ON THE AREA PER SQUARE FOOT.

ALL EXISTING REINFORCING BARS THAT ARE EXPOSED TO CONCRETE
REPAIR SHALl BE REALED AND CAREFULLY IMMERSED INTO THE NEW CONCRETE EXCEPT
DURATORY EXISTING REPAIRING WHICH WILL BE REPLACED
AS CONCRETE BY THE ENGINEER.

THE CONCRETE ANCHORS REQUIRED SHALL HAVE A MINIMAL PULL OUT OF
NEW CONCRETE, BASED ON AC300 CONCRETE, AN ANCHOR MEETING THE
REQUIREMENTS OF THE AC300 MATERIALS, 1/4" MIN., AND THE PULL OUT LOAD
ARMS ARE REQUIRED THE ANCHORS SHALL BE GROUNDED AND EARTHED AS
PER ASTM A-441. THE AREA REQUIRED SHALl BE SPECIFIED AS GIRDER AND THE
ANCHORS SHALL BE MELTED WITH A NORMAL AREA OF 0.5 INCH TO 0.75 SQUARE INCHES
PERO FORM 4" X 4", 1/4" X 1/4" WIRE.

WHERE REPAIRMENT HAS BEEN REQUIRED AND CLEARANCE AROUND
THE PERIPHERY OF THE EXISTING BARS IS PROVIDED NO SUPPLEMENTAL
REINFORCING IS REQUIRED. EXCEPT WHERE EXISTING REINFORCEMENT DENSITY
AND PATTERN ARE SUCH THAT ANY INCREASED SPACING BETWEEN BARS ARE
OVER 12 SQUARE FEET OR LESS, FOR THIS CONDITION 24 CONCRETE ANCHORS
AND MELTED WIRE FABRIC SHALL BE INSTALLED AT THE RATE OF ONE
CONCRETE ANCHOR WITHIN EACH 12 SQUARE FEET OF AREA WITHIN EACH
OPEN SPACE.

REPAIRING THE STRUCTURAL CONCRETE SHALL BE IN ACCORDANCE WITH
SECTION 2406 OF THE STANDARD SPECIFICATIONS.

ESTIMATED CONCRETE REPAIR QUANTITIES

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>UNITS</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONCRETE REPAIR</td>
<td>SQ. FT</td>
<td>60</td>
</tr>
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</table>

DESIGN FOR REPAIRS TO 47 SHEET 04/11
2014 x 810-0 PRESTRESSED PRE-CAST BEAM BRIDGE
60-6 x 425-125 SPANS
272-125 INTERIOR SPANS

CONCRETE REPAIRS

SCOTT COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 001
TECHNOLOGY SERVICES - COUNTY NO. 001

SCOTT COUNTY PROJECT NUMBER 3000-0030-000-100
SHEET NUMBER 5
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SECTION A-A
TYPICAL CURB REPAIR DETAIL

NORTH CURB ELEVATION ALONG M.B. 1-280

LEGEND
- Indicates Shallow Repair
- Indicates Regular Repair

CONCRETE PLACEMENT QUANTITIES

<table>
<thead>
<tr>
<th>Type</th>
<th>Units</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shallow Repair</td>
<td>50 SF</td>
<td>0</td>
</tr>
<tr>
<td>Regular Repair</td>
<td>50 SF</td>
<td>60</td>
</tr>
<tr>
<td>Total 50 SF</td>
<td></td>
<td>60</td>
</tr>
</tbody>
</table>
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SUBDRAIN NOTES:
THIS PLAN SHEET SHOWS DETAILS FOR PLACING ALL SUBDRAINS AND SUBDRAIN OUTLETS REQUIRED FOR THIS STRUCTURE.
THE SUBDRAINS SHALL BE 4" IN DIAMETER AND SHALL BE IN ACCORDANCE WITH ATTACHMENT B, OF THE STANDARD SPECIFICATIONS. THE SUBDRAIN OUTLET SHALL CONSIST OF A 6'-0" LENGTH OF PIPE WITH A REMOVABLE RODENT GUARD AS DETAINED ON
THIS SHEET.
THE COST OF FURNISHING AND PLACING SUBDRAIN (INCLUDING EXCAVATION, ALLERREST, AND SUBDRAIN OUTLET) IS TO BE INCLUDED IN THE PRICE AND
FOR "THERE EER RVILS", NO EXTRA PAYMENT WIH BE MADE.
THE DIMENSIONS SHOWN FOR THE PROPOSED SUBDRAINS ARE BASED ON THE PROPOSED GRADE AND AT ERECTED POINTS. THE DIMENSIONS SHOWN ARE FOR ESTIMATING ONLY,
REQUIRED LENGTH AND SPECI...
ABUTMENT BACKFILL PROCESS:
The back of the excavation subgrade behind the abutment is to be graded with a
4:1 slope away from the abutment footing and a 2:1 slope in the direction of
the subgrade outlet. This excavation subgrade is to be done prior to placing
installation of the geotextile and backfill material.

After the subgrade has been shaped, the geotextile fabric shall be installed in
accordance with the details shown. The fabric is intended to be installed in
the base of the excavation and extended vertically up the abutment
backfill, abutment wing walls, and excavation face to a height that will be
approximately 1 to 2 feet higher than the height of the porous backfill
placement as shown in the backfill details on this sheet. The strips of the
fabric placed shall overlap approximately 1 foot and be pinned in place.
The fabric shall be attached to the abutment in using T-nails in the fabric and
secured to the concrete with shallow concrete nails. The fabric placed
against the excavation face shall be pinned.

When the fabric is in place, the subgrade shall be installed directly on the
fabric at the toe of the rear excavation slope. A plot will need to be cut in
the fabric at the point where the subgrade exits the fabric near the end of
the abutment wing wall.

Porous backfill is then placed and leveled. No compaction is required.

Subgrade, porous backfill, excavation, and geotextile fabric furnished at the bridge
alignment will not be measured separately for payment.

The cost of water required for flooding, subgrades, porous backfill, floorable
backfill, and geotextile fabric furnished at the bridge alignments shall be
included in the contract unit price bid for "bridge deck overlay."

NOTE:
Subgrade shall slope downward from E-1:200 when outleting on
the outside of each abutment.

The geotextile fabric shall be in accordance with Article
Annex B-6 of the Standard Specifications. If the engineering
fabric is placed the lift shall be a minimum of the lift in
length, while foundation with 30° slope lap piece on top and
staples for continuity.