TRANVERSE SECTION

SCHEDULE OF QUANTITIES FOR BRIDGE

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>ITEM</th>
<th>UNIT</th>
<th>TOTAL QUANTITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>240.500</td>
<td>STRUCTURAL CONCRETE CEMENT</td>
<td>CUB. FT</td>
<td>74 P3</td>
</tr>
<tr>
<td>240.503</td>
<td>TYPE F (IL) HARDENING CONCRETE (CYRUSMO)</td>
<td>CUB. FT</td>
<td>554 P2</td>
</tr>
<tr>
<td>240.641</td>
<td>REINFORCEMENT BARS, IRON COATED</td>
<td>POUND</td>
<td>16500 P1</td>
</tr>
<tr>
<td>240.650</td>
<td>STRUCTURAL EXCAVATION</td>
<td>LUMP SM</td>
<td>1</td>
</tr>
<tr>
<td>240.690</td>
<td>STRUCTURAL CORROSION CONTROL</td>
<td>CUB. FT</td>
<td>33 P3</td>
</tr>
<tr>
<td>240.691</td>
<td>BRIDGE DECK PLATING</td>
<td>CUB. FT</td>
<td>459 P3</td>
</tr>
<tr>
<td>240.730</td>
<td>ELASTOMERIC RUBBER PAD TYPE 1</td>
<td>EACH</td>
<td>16</td>
</tr>
<tr>
<td>240.750</td>
<td>CHOP SEAL WEARING COURSE</td>
<td>CUB. FT</td>
<td>491 P3</td>
</tr>
<tr>
<td>240.750</td>
<td>PRESTRESSED CONCRETE BEAMS</td>
<td>LUMP SM</td>
<td>548 P1</td>
</tr>
<tr>
<td>240.765</td>
<td>WEDGE PANEL</td>
<td>SSP.</td>
<td>1</td>
</tr>
<tr>
<td>240.768</td>
<td>POST-TENSIONING SYSTEM</td>
<td>SSP.</td>
<td>1</td>
</tr>
<tr>
<td>240.768</td>
<td>POST-TENSIONING SYSTEM</td>
<td>SSP.</td>
<td>1</td>
</tr>
<tr>
<td>240.768</td>
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<td>SSP.</td>
<td>1</td>
</tr>
<tr>
<td>240.768</td>
<td>POST-TENSIONING SYSTEM</td>
<td>SSP.</td>
<td>1</td>
</tr>
</tbody>
</table>

NOTES:
1. P3 VERTICAL TOTAL THICKNESS AFTER BRIDGE DECK PLATING AND CHIP SEAL WEARING COURSE IS APPLIED.
2. INCLUDES BRIDGE DECK AND APPROACH PANELS.
3. SEE SHEET 26 FOR DETAILS.

(I) DENOTES PLAN QUANTITY PAY ITEM AS PER MD/DOT SPEC. 1901.
SOUTHEAST WINGWALL PLAN

NOTES:
F.F. denotes front face.
B.F. denotes back face.
1. Permeable construction joint and 2" x 6" keyway.
2. Membrane waterproofing system, 5" construction joint is used included in superstructure quantities.
3. 1" thick cork included in superstructure quantities.

SOUTHWEST WINGWALL PLAN

SOUTHEAST WINGWALL ELEVATION

SECTION B-B

SOUTHWEST WINGWALL ELEVATION
SECTION H-H

SECTION J-J

SECTION G-G

SOUTHEAST WINGWALL ELEVATION

NOTES:
F.F. denotes front face,
B.F. denotes back face,
E.F. denotes each face

CERTIFIED BY

SOUTH ABUTMENT REINFORCEMENT

BRIDGE NO.
69071
FRAMING PLAN

NOTES:

"X" denotes X-end of beam.
F1 denotes elastomeric bearing pad Type 1. See detail 8300.

CERTIFIED BY

NAME: FRANCIS M. ORRICK
LIC. NO. 15048

FRAMING PLAN

SHEET NO. 14 OF 35 SHEETS

BRIDGE NO. 69071
END VIEW

SECTION AT BLOCKOUT

SECTION BETWEEN BLOCKOUT

CONCRETE END DIAPHRAGM

NOTE:

SEE SHEET FOR NOTES (1) AND (2).
PRECAST DECK PANEL NOTES:

FABRICATOR SHALL BE RESPONSIBLE FOR EXECUTING CARE IN LIFTING, HANDLING, STORAGE, AND TRANSPORTATION OF THE PRECAST DECK PANELS TO PREVENT CRACKING OR DAMAGE. PANELS SHALL BE LIFTED BY DEVICES AS DESIGNED BY THE CONTRACTOR AND REVISED BY THE ENGINEER.

USE THE PCI DESIGN HANDBOOK, PRECAST AND Prestressed CONCRETE, FIFTH EDITION WITH ALL INTERPOTIONS AND ERRATA FOR THE DESIGN AND DETAILS OF LIFTING SUPPORTS AND HANDLING CONSIDERATIONS AND CRACKING CRITERIA.

LIFTING HARDWARE LEFT IN PLACE SHALL BE GROUNDED AND SHALL HAVE A 3" WCONCER BUR to THE TOP OF THE SLAB, AND A 2" WCONCER COVER TO THE BOTTOM OF THE SLAB.

POST-TENSI0NING STRANDS SHALL BE UNCOATED, SEVEN-WIRE, LOW-RELAXATION STEEL STRAND OF 0.15 NOM. DIAMETER, AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 416 GRADE 270. ALL METHODS EMPLOYED AND PROCEDURES TO BE FOLLOWED IN POST-TENSI0NING THE STRANDS SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.

POST-TENSI0NING PARAMETERS:

MAXIMUM J ACKING STRESS = 0.85 F U = 216 KSI.
MAXIMUM STRESS AT ANCHOR = 0.70 F U = 199 KSI.
ASSUMED ANCHOR SPACING = 0.375 IN.
FOUR STRANDS PER DUET, JACKING FORCE PER STRAND = 29 KIPS.
ASSUMED FRICTION COEFFICIENT = 0.23.
ASSUMED WIRE COEFFICIENT = 0.0001/FT.
PARTIAL INSIDE ELEVATION CONCRETE RAILING MOD. TYPE F

(DIMENSIONS ARE ALONG GUTTERLINE; ELEVATION SHOWN IS FOR BOTH WEST AND EAST RAILING)

77'-0" OUT TO OUT OF RAILING

30'-6"

3'-0"

T-0"

3 SPS. @ 9'-6" = 20'-6"

--- CONTROL JOINT (TYPE)

--- CONTROL JOINT (TYPE)

PARTIAL INSIDE ELEVATION CONCRETE RAILING MOD. TYPE F

(DIMENSIONS ARE ALONG GUTTERLINE; ELEVATION SHOWN IS FOR BOTH WEST AND EAST RAILING)

77'-0" OUT TO OUT OF RAILING

30'-6"

3'-0"

T-0"

3 SPS. @ 9'-6" = 20'-6"

--- CONTROL JOINT (TYPE)

--- CONTROL JOINT (TYPE)

NOTE:

(1) MATCH DECK PANEL JOINTS.
INSIDE ELEVATION OF BARRIER

BARRIER MEETS TEST LEVEL 4 REQUIREMENTS OF NCHRP REPORT 350

GENERAL NOTES
LENGTH OF "TYPE F TL-6" RAILING CONCRETE 12746"
FOR PAYMENT SHALL BE MEASURED BETWEEN THE OUTSIDE FACES OF THE CONCRETE BARRIER.

CONCRETE BARRIER = 477 LBS./FT. (0.71 LIT OF YIELD FT.2)
FINISH ALL EDGES OF BARRIER AND END POST WITH 2" VEIL, EXCEPT WHERE OTHERWISE NOTED.
SEE CONCRETE RAILING (NO TYPE F SHEET NO. 27 FOR JOINT SPACING)
GUARDRAIL CONNECTION TO BE STRUCTURAL STEEL, W10X30 SPEC, 330O.
GUARDRAIL CONNECTION AND NAME PLATE TO BE CONSIDERED INCIDENTAL TO "TYPE F TL-6" RAILING CONCRETE 12746".

BARRIER QUANTITIES ARE LISTED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.
1) PLACE BAR ON TOP OF BOTTOM REINFORCEMENT MAT.
2) SEE SPECIAL PROVISIONS FOR JOINT SEALING REQUIREMENTS.
SECTION AT JOINT

SECTION A-A
100% BUTT WELDED PILE SPLICE

NOTES:
- CELLOIDIN TYPE ELECTRODES E-6010 OR E-6011 SHALL BE USED FOR JOINT BUTT WELDED SPLICES.
- ELECTRODES WHICH HAVE BECOME WET, SOILED, OR DAMAGED SHALL NOT BE USED.
- WELDING SHALL NOT BE DONE WHEN THE AMBIENT TEMPERATURE IS CLOSER THAN 3°F, OR WHEN THE PIECE IS WET OR EXPOSED TO FROST OR WET AIR, OR WHEN THE WELDING MATERIAL IS BELOW 60°F. THE PIECE OF METAL IN THE AREA TO BE WELDED SHALL BE HEATED TO A MINIMUM TEMPERATURE OF 70°F, AND MAINTAINED AT THIS TEMPERATURE DURING WELDING.

ELEVATION

THE DASHED NUMBERS SHOWN ABOVE ARE FOR ILLUSTRATION DATA TO BE SHOWN ON NAMEPLATE IS AS FOLLOWS:

BRIDGE 69071
YEAR 2001

NUMBERS FOR NAMEPLATE

NOTES:
- NO SHOP DRAWING REQUIRED.
- MATERIAL SHALL COMPLY WITH MINN/DOT SPEC. 3327.
- LETTERS AND NUMBERS SHALL CONFORM TO THOSE SHOWN.
- DRAFT ON LETTERS AND NUMBERS SHALL NOT BE MORE THAN 3° IN 12".
- HORIZONTAL SPACING OF LETTERS AND NUMBERS SHALL PRODUCE A BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.
- TOP SURFACE OF LETTERS, NUMBERS AND FRAMES SHALL BE BLOCKED.
- FURNISH 2 STEEL BOLTS 5/8" DIA. x 3" LONG WITH EACH PLATE.
- ALL DIMENSIONS FOR 3/8" HIGH LETTERS AND NUMBERS SHALL BE 0.001" PROPORTION TO THOSE SHOWN FOR THE 1/8" HIGH LETTERS AND NUMBERS.

SECTION B-B

1234567890

NAMEPLATE PLACEMENT
ROUND CONCRETE PIER COLUMNS

1/4" MATERIAL
SOLE PLATE
(PRESTRESSED CONCRETE BEAMS)
IF FOR BEARINGS WITH PINTLE

SECTION A-A

SECTION B-B

SECTION C-C

SECTION X-X

TABLE

<table>
<thead>
<tr>
<th>TYPE</th>
<th>LOCATION</th>
<th>BEAM SIZE</th>
<th>BEARING PAD SIZE</th>
<th>SHAPE FACTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>L &amp; R (M.)</td>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>(INCHES)</td>
<td>12</td>
<td>24</td>
<td>36</td>
</tr>
</tbody>
</table>

NOTES:
1. ELASTOMERIC MATERIALS AND PAD CONSTRUCTION SHALL COMPLY WITH MVDST SPEC. 650.
2. PAYMENT FOR ELASTOMERIC BEARING PAD. TYPE E, INCLUDED IN ITEM "ELASTOMERIC BEARING PAD" PER EACH.
3. "D" INDICATES THE THICKNESS OF THE BEARING PAD.

NOTES:
MATERIAL TO BE STRUCTURAL STEEL PER MVDST SPEC. 3304.
WELDED STUDS TO BE WELDABLE CARBON Steel PER MVDST SPEC. 3246.
SOLVENT PLATE FOR BEARING ASSEMBLY TO BE CALCIUM PER MVDST SPEC. 3304 AFTER FABRICATION.
PINTLE HOLES SHALL BE FREE OF ZINC BUILD UP FROM CALCIUMING.
PINTLE PLATE ARE INCIDENTAL TO PRESTRESSED CONCRETE BEAMS.
1. FOR 1/2" DIAM PINTLES.
2. THESE DIMENSIONS MAY BE MODIFIED TO CLEAR PRESTRESSED STRANDS. HOWEVER, CHANCES MUST BE APPROVED BY THE ENGINEER.
3. THE REQUIREMENTS FOR WELDING STUDS SHALL COMPLY WITH ASME/ANSI D15.
**SUMMARY OF QUANTITIES FOR DRAINAGE SYSTEM**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4&quot; galvanized pipe</td>
<td>100 lin. ft.</td>
<td></td>
</tr>
<tr>
<td>4&quot; galvanized non-perforated pipe</td>
<td>25 lin. ft.</td>
<td></td>
</tr>
<tr>
<td>45° elbow</td>
<td>2 each</td>
<td></td>
</tr>
<tr>
<td>4&quot; galvanized end cap</td>
<td>2 each</td>
<td></td>
</tr>
<tr>
<td>4&quot; galvanized coupling</td>
<td>2 each</td>
<td></td>
</tr>
<tr>
<td>Pipe sleeve</td>
<td>2 each</td>
<td></td>
</tr>
<tr>
<td>Precast concrete headwall</td>
<td>2 each</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

1. All pipe shall comply with Mn/DOT Spec. 3214.
2. Galvanized pipe with geotextile as per Mn/DOT Spec. 3213, Type 1, attach to pipe as per Mn/DOT Spec. 3209.
3. 50 ft. per ft. non-motor slope.
4. Materials shall comply with Mn/DOT Spec. 3249.38.
5. All materials shall be furnished in accordance with the provisions of the Contract.

---

**SECTION B-B**

**SECTION A-A**

**INSTALLATION DETAILS FOR NO. 16E BAR (DRILLED IN ALTERNATE)**

**NOTES:**

- Contractor will provide V-groove at reflection joints at time, as cast and shall extend V-groove around entire perimeter of rail.
- For additional dimensions, details, reinforcement, and notes see railing sheet.
- Form rail for a minimum of 2" on each side of expansion devices, light standards, and other obstructions.
- Pay quantities will not be adjusted as a result of selecting this alternate.
- Use a similar method for taller railings or modified versions of this railing.