



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |          |                   |              |           |                          |
|-----------------------|----------|-------------------|--------------|-----------|--------------------------|
| ROUTE NO.             | SECTION  | COUNTY            | TOTAL SHEETS | SHEET NO. | SHEET NO. 2<br>23 SHEETS |
| S.B.I.<br>P.A.S 1774  | 111B-1   | LOGAN             | 42           | 11        |                          |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT- |              |           |                          |

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts M22  $\phi$ , open holes 24 mm  $\phi$ , unless otherwise noted.

Calculated mass of Structural Steel = 195,870 kg (AASHTO M270 Gr. 345)  
= 19,188 kg (AASHTO M270 Gr. 250)

The inorganic zinc rich primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the acrylic finish coat shall be gray, Munsell No. 5B 7/1 for all interior surfaces. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate green, Munsell No. 7.5G 4/B. \*

Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

Anchor bolts shall be set before bolting diaphragms over supports.

The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 345.

The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the tension flanges, webs and all splice plate material except fill plates.

Reinforcement bars shall conform to the requirements of AASHTO M-31M, M-42M or M-53M Grade 400.

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 3 mm. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 3 mm adjusting shims, of the dimension of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. (For Type I Elastomeric Bearings, shims of the dimensions of the top plate shall be provided and placed as detailed).

The contractor shall drive a 305  $\phi$  metal shell test pile in a permanent location at the North and South Abutment as directed by the Engineer before ordering the remainder of piles.

The contractor shall drive 1 HP 310x94 test pile in a permanent location at Piers #1 and #4 as directed by the Engineer before ordering the remainder of piles.

The contractor shall drive 1 HP 310x79 test pile in a permanent location at Piers #2 and #3 as directed by the Engineer before ordering the remainder of piles.

Bridge Seat Sealer shall be applied to the seat area of the abutments.

When the deck pour is stopped for the day at one or more of the Transverse Bonded Construction Joints in the deck Pouring Sequence as shown, the next pour shall not be made until both of the following requirements are met:

1. At least 72 hours shall have elapsed from the end of the previous pour.
2. The concrete strength shall have attained a minimum modulus of rupture of 4.5 MPa or a minimum compressive strength of 24 MPa.

All dimensions are in millimeters (mm) except as noted.

The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.

\* See Special Provision for "Cleaning and Painting New Metal Structures."

For Bonded Construction Joints, see Special Provisions.

TOTAL BILL OF MATERIAL

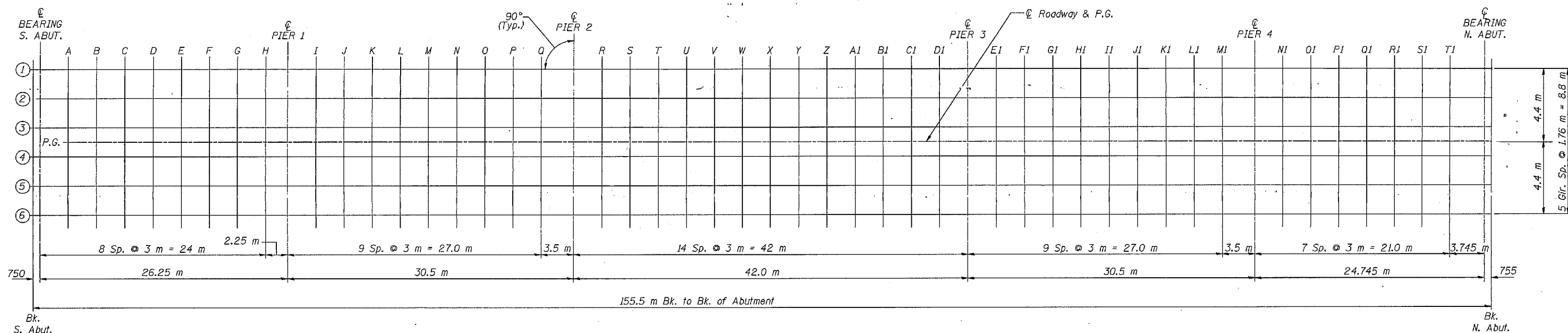
| ITEM                                   | UNIT           | SUPER  | SUB    | TOTAL  |
|--|----------------|--------|--------|--------|
| Removal of Existing Structures         | Each           | -      | -      | 1      |
| Structure Excavation                   | m <sup>3</sup> | 1735   | -      | 1735   |
| Cofferdam Excavation                   | m <sup>3</sup> | -      | 453    | 453    |
| Cofferdams Pier 2                      | Each           | -      | 1      | 1      |
| Floor Drains                           | Each           | 54     | -      | 54     |
| Concrete Superstructure                | m <sup>3</sup> | 422.9  | -      | 422.9  |
| Protective Coat                        | m <sup>2</sup> | 1830   | -      | 1830   |
| Elastomeric Bearing Assembly Type I    | Each           | 6      | -      | 6      |
| Elastomeric Bearing Assembly Type II   | Each           | 6      | -      | 6      |
| Elastomeric Bearing Assembly Type III  | Each           | 6      | -      | 6      |
| Concrete Structures                    | m <sup>3</sup> | -      | 267.6  | 267.6  |
| Furnishing and Erect. Structural Steel | L.S.           | 1      | -      | 1      |
| Stud Shear Connectors                  | Each           | 5136   | -      | 5136   |
| Reinforcement Bars, Epoxy Coated       | kg             | 61,600 | 18,310 | 79,910 |
| Furnishing Steel Piles HP 310x79       | m              | -      | 408    | 408    |
| Driving Steel Piles HP 310x79          | m              | -      | 408    | 408    |
| Test Pile Steel (HP 310x79)            | Each           | -      | 2      | 2      |
| Furnishing Steel Piles HP 310x94       | m              | -      | 217.5  | 217.5  |
| Driving Steel Piles HP 310x94          | m              | -      | 217.5  | 217.5  |
| Test Pile Steel (HP 310x94)            | Each           | -      | 2      | 2      |
| Furnishing Metal Pile Shells (305 mm)  | m              | -      | 258.0  | 258.0  |
| Driving and Filling Shells             | m              | -      | 258.0  | 258.0  |
| Test Piles Metal Shells                | Each           | -      | 2      | 2      |
| Name Plates                            | Each           | 1      | -      | 1      |
| Stone Riprap Class A4                  | m <sup>2</sup> | -      | 782    | 782    |
| Filter Fabric for use with Riprap      | m <sup>2</sup> | -      | 782    | 782    |
| Bridge Seat Sealer                     | m <sup>2</sup> | -      | 18.0   | 18.0   |
| Drainage Scuppers                      | Each           | 4      | -      | 4      |
| Neoprene Expansion Joint 65 mm         | m              | 10.2   | -      | 10.2   |
| Neoprene Expansion Joint 100 mm        | m              | 10.2   | -      | 10.2   |
| Bridge Deck Grooving                   | m <sup>2</sup> | 1483   | -      | 1483   |
| Cofferdams Pier 3                      | Each           | -      | 1      | 1      |

|          |        |
|----------|--------|
| DESIGNED | W.J.V. |
| CHECKED  | J.P.S. |
| DRAWN    | C.D.C. |
| CHECKED  | W.J.V. |

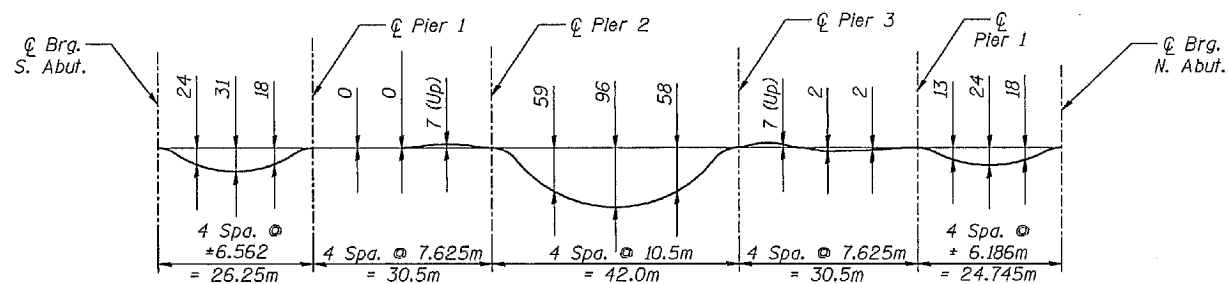
GENERAL NOTES & BILL OF MATERIAL  
OLD IL 121 OVER SUGAR CREEK  
S.B.I. 121 SECTION 111B-1  
LOGAN COUNTY  
STATION 41+714.25  
STRUCTURE NO. 054-0102

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |          |                  |              |           |                          |
|-----------------------|----------|------------------|--------------|-----------|--------------------------|
| ROUTE NO.             | SECTION  | COUNTY           | TOTAL SHEETS | SHEET NO. | SHEET NO. 3<br>23 SHEETS |
| S.B.I. 1774           | 111B-1   | LOGAN            | 42           | 12        |                          |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT |              |           |                          |



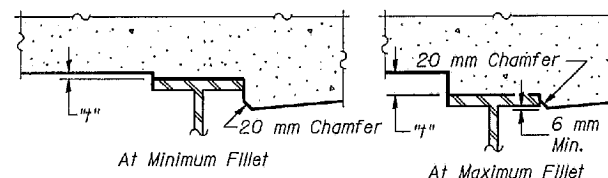
PLAN



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheet 4 of 23.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on Sheet 4 of 23. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheet 4 and 5 of 23, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

Notes: All dimensions are in millimeters (mm) except as noted.

|          |        |
|----------|--------|
| DESIGNED | W.J.V. |
| CHECKED  | J.P.S. |
| DRAWN    | C.D.C. |
| CHECKED  | W.J.V. |

DECK ELEVATIONS  
OLD IL 121 OVER SUGAR CREEK  
S.B.I. 121 SECTION 111B-1  
LOGAN COUNTY  
STATION 41+714.25  
STRUCTURE NO. 054-0102

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |         |        |        |           |
|-----------------------|---------|--------|--------|-----------|
| ROUTE NO.             | SECTION | COUNTY | SHEETS | SHEET NO. |
| 1779                  | 111B-1  | Logan  | 42     | 13        |
| FED. ROAD DIST. NO. 7 |         |        | SHEETS |           |
|                       |         |        | 23     |           |

LONGITUDINAL BONDED  
CONSTRUCTION JOINTS

GIRDERS 1 & 6

GIRDERS 2 & 5

GIRDERS 3 & 4

| Location           | Station   | Offset (+)Girder 1 (-)Girder 6 | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection | Location           | Station   | Offset (+)West (-)East | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection | Location           | Station   | Offset (+)Girder 2 (-)Girder 5 | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection | Location           | Station   | Offset (+)Girder 3 (-)Girder 4 | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|--------------------|-----------|--------------------------------|------------------------------|--|--------------------|-----------|------------------------|------------------------------|--|--------------------|-----------|--------------------------------|------------------------------|--|--------------------|-----------|--------------------------------|------------------------------|--|
| Bk. of S. Abutment | 41+636.5  | +4.4                           | 174.128                      | 174.128  | Bk. of S. Abutment | 41+636.5  | +3.6                   | 174.144                      | 174.144  | Bk. of S. Abutment | 41+636.5  | +2.64                          | 174.158                      | 174.158  | Bk. of S. Abutment | 41+636.5  | +0.88                          | 174.185                      | 174.185  |
| Q Brg. S. Abutment | 41+637.25 | +4.4                           | 174.136                      | 174.136  | Q Brg. S. Abutment | 41+637.25 | +3.6                   | 174.152                      | 174.152  | Q Brg. S. Abutment | 41+637.25 | +2.64                          | 174.166                      | 174.166  | Q Brg. S. Abutment | 41+637.25 | +0.88                          | 174.192                      | 174.192  |
| A                  | 41+640.25 | +4.4                           | 174.165                      | 174.178  | A                  | 41+640.25 | +3.6                   | 174.182                      | 174.194  | A                  | 41+640.25 | +2.64                          | 174.196                      | 174.208  | A                  | 41+640.25 | +0.88                          | 174.222                      | 174.234  |
| B                  | 41+643.25 | +4.4                           | 174.194                      | 174.217  | B                  | 41+643.25 | +3.6                   | 174.211                      | 174.233  | B                  | 41+643.25 | +2.64                          | 174.225                      | 174.247  | B                  | 41+643.25 | +0.88                          | 174.251                      | 174.274  |
| C                  | 41+646.25 | +4.4                           | 174.222                      | 174.251  | C                  | 41+646.25 | +3.6                   | 174.238                      | 174.268  | C                  | 41+646.25 | +2.64                          | 174.252                      | 174.282  | C                  | 41+646.25 | +0.88                          | 174.279                      | 174.308  |
| D                  | 41+649.25 | +4.4                           | 174.249                      | 174.280  | D                  | 41+649.25 | +3.6                   | 174.265                      | 174.296  | D                  | 41+649.25 | +2.64                          | 174.279                      | 174.310  | D                  | 41+649.25 | +0.88                          | 174.305                      | 174.337  |
| E                  | 41+652.25 | +4.4                           | 174.274                      | 174.303  | E                  | 41+652.25 | +3.6                   | 174.290                      | 174.319  | E                  | 41+652.25 | +2.64                          | 174.304                      | 174.333  | E                  | 41+652.25 | +0.88                          | 174.331                      | 174.360  |
| F                  | 41+655.25 | +4.4                           | 174.298                      | 174.321  | F                  | 41+655.25 | +3.6                   | 174.315                      | 174.337  | F                  | 41+655.25 | +2.64                          | 174.329                      | 174.351  | F                  | 41+655.25 | +0.88                          | 174.355                      | 174.378  |
| G                  | 41+658.25 | +4.4                           | 174.321                      | 174.335  | G                  | 41+658.25 | +3.6                   | 174.338                      | 174.352  | G                  | 41+658.25 | +2.64                          | 174.352                      | 174.366  | G                  | 41+658.25 | +0.88                          | 174.378                      | 174.392  |
| H                  | 41+661.25 | +4.4                           | 174.343                      | 174.348  | H                  | 41+661.25 | +3.6                   | 174.359                      | 174.364  | H                  | 41+661.25 | +2.64                          | 174.373                      | 174.378  | H                  | 41+661.25 | +0.88                          | 174.400                      | 174.405  |
| Q Pier 1           | 41+663.5  | +4.4                           | 174.359                      | 174.359  | Q Pier 1           | 41+663.5  | +3.6                   | 174.375                      | 174.375  | Q Pier 1           | 41+663.5  | +2.64                          | 174.389                      | 174.389  | Q Pier 1           | 41+663.5  | +0.88                          | 174.415                      | 174.415  |
| I                  | 41+666.5  | +4.4                           | 174.378                      | 174.377  | I                  | 41+666.5  | +3.6                   | 174.395                      | 174.393  | I                  | 41+666.5  | +2.64                          | 174.409                      | 174.407  | I                  | 41+666.5  | +0.88                          | 174.435                      | 174.433  |
| J                  | 41+669.5  | +4.4                           | 174.397                      | 174.396  | J                  | 41+669.5  | +3.6                   | 174.413                      | 174.412  | J                  | 41+669.5  | +2.64                          | 174.427                      | 174.426  | J                  | 41+669.5  | +0.88                          | 174.454                      | 174.453  |
| K                  | 41+672.5  | +4.4                           | 174.414                      | 174.415  | K                  | 41+672.5  | +3.6                   | 174.431                      | 174.431  | K                  | 41+672.5  | +2.64                          | 174.445                      | 174.445  | K                  | 41+672.5  | +0.88                          | 174.471                      | 174.472  |
| L                  | 41+675.5  | +4.4                           | 174.430                      | 174.431  | L                  | 41+675.5  | +3.6                   | 174.447                      | 174.448  | L                  | 41+675.5  | +2.64                          | 174.461                      | 174.462  | L                  | 41+675.5  | +0.88                          | 174.487                      | 174.488  |
| M                  | 41+678.5  | +4.4                           | 174.445                      | 174.445  | M                  | 41+678.5  | +3.6                   | 174.462                      | 174.462  | M                  | 41+678.5  | +2.64                          | 174.476                      | 174.476  | M                  | 41+678.5  | +0.88                          | 174.502                      | 174.502  |
| N                  | 41+681.5  | +4.4                           | 174.459                      | 174.457  | N                  | 41+681.5  | +3.6                   | 174.476                      | 174.473  | N                  | 41+681.5  | +2.64                          | 174.490                      | 174.487  | N                  | 41+681.5  | +0.88                          | 174.516                      | 174.514  |
| O                  | 41+684.5  | +4.4                           | 174.472                      | 174.467  | O                  | 41+684.5  | +3.6                   | 174.488                      | 174.483  | O                  | 41+684.5  | +2.64                          | 174.502                      | 174.497  | O                  | 41+684.5  | +0.88                          | 174.529                      | 174.523  |
| P                  | 41+687.5  | +4.4                           | 174.483                      | 174.476  | P                  | 41+687.5  | +3.6                   | 174.500                      | 174.492  | P                  | 41+687.5  | +2.64                          | 174.514                      | 174.506  | P                  | 41+687.5  | +0.88                          | 174.540                      | 174.532  |
| Q                  | 41+690.5  | +4.4                           | 174.494                      | 174.486  | Q                  | 41+690.5  | +3.6                   | 174.510                      | 174.502  | Q                  | 41+690.5  | +2.64                          | 174.524                      | 174.516  | Q                  | 41+690.5  | +0.88                          | 174.550                      | 174.543  |
| Q Pier 2           | 41+694.0  | +4.4                           | 174.504                      | 174.504  | Q Pier 2           | 41+694.0  | +3.6                   | 174.520                      | 174.520  | Q Pier 2           | 41+694.0  | +2.64                          | 174.534                      | 174.534  | Q Pier 2           | 41+694.0  | +0.88                          | 174.561                      | 174.561  |
| R                  | 41+697.0  | +4.4                           | 174.512                      | 174.523  | R                  | 41+697.0  | +3.6                   | 174.528                      | 174.540  | R                  | 41+697.0  | +2.64                          | 174.542                      | 174.554  | R                  | 41+697.0  | +0.88                          | 174.568                      | 174.580  |
| S                  | 41+700.0  | +4.4                           | 174.518                      | 174.548  | S                  | 41+700.0  | +3.6                   | 174.535                      | 174.564  | S                  | 41+700.0  | +2.64                          | 174.549                      | 174.578  | S                  | 41+700.0  | +0.88                          | 174.575                      | 174.604  |
| T                  | 41+703.0  | +4.4                           | 174.524                      | 174.573  | T                  | 41+703.0  | +3.6                   | 174.540                      | 174.589  | T                  | 41+703.0  | +2.64                          | 174.554                      | 174.603  | T                  | 41+703.0  | +0.88                          | 174.580                      | 174.630  |
| U                  | 41+706.0  | +4.4                           | 174.528                      | 174.596  | U                  | 41+706.0  | +3.6                   | 174.544                      | 174.612  | U                  | 41+706.0  | +2.64                          | 174.558                      | 174.626  | U                  | 41+706.0  | +0.88                          | 174.584                      | 174.653  |
| V                  | 41+709.0  | +4.4                           | 174.531                      | 174.614  | V                  | 41+709.0  | +3.6                   | 174.547                      | 174.630  | V                  | 41+709.0  | +2.64                          | 174.561                      | 174.644  | V                  | 41+709.0  | +0.88                          | 174.587                      | 174.671  |
| W                  | 41+712.0  | +4.4                           | 174.532                      | 174.625  | W                  | 41+712.0  | +3.6                   | 174.549                      | 174.642  | W                  | 41+712.0  | +2.64                          | 174.563                      | 174.656  | W                  | 41+712.0  | +0.88                          | 174.589                      | 174.682  |
| X                  | 41+715.0  | +4.4                           | 174.533                      | 174.629  | X                  | 41+715.0  | +3.6                   | 174.549                      | 174.645  | X                  | 41+715.0  | +2.64                          | 174.563                      | 174.659  | X                  | 41+715.0  | +0.88                          | 174.590                      | 174.686  |
| Y                  | 41+718.0  | +4.4                           | 174.532                      | 174.625  | Y                  | 41+718.0  | +3.6                   | 174.549                      | 174.641  | Y                  | 41+718.0  | +2.64                          | 174.563                      | 174.655  | Y                  | 41+718.0  | +0.88                          | 174.589                      | 174.682  |
| Z                  | 41+721.0  | +4.4                           | 174.531                      | 174.613  | Z                  | 41+721.0  | +3.6                   | 174.547                      | 174.629  | Z                  | 41+721.0  | +2.64                          | 174.561                      | 174.643  | Z                  | 41+721.0  | +0.88                          | 174.587                      | 174.670  |
| A1                 | 41+724.0  | +4.4                           | 174.528                      | 174.595  | A1                 | 41+724.0  | +3.6                   | 174.544                      | 174.611  | A1                 | 41+724.0  | +2.64                          | 174.558                      | 174.625  | A1                 | 41+724.0  | +0.88                          | 174.584                      | 174.652  |
| B1                 | 41+727.0  | +4.4                           | 174.524                      | 174.572  | B1                 | 41+727.0  | +3.6                   | 174.540                      | 174.588  | B1                 | 41+727.0  | +2.64                          | 174.554                      | 174.602  | B1                 | 41+727.0  | +0.88                          | 174.580                      | 174.629  |
| C1                 | 41+730.0  | +4.4                           | 174.518                      | 174.547  | C1                 | 41+730.0  | +3.6                   | 174.535                      | 174.563  | C1                 | 41+730.0  | +2.64                          | 174.549                      | 174.577  | C1                 | 41+730.0  | +0.88                          | 174.575                      | 174.604  |
| D1                 | 41+733.0  | +4.4                           | 174.512                      | 174.523  | D1                 | 41+733.0  | +3.6                   | 174.528                      | 174.539  | D1                 | 41+733.0  | +2.64                          | 174.542                      | 174.553  | D1                 | 41+733.0  | +0.88                          | 174.568                      | 174.580  |
| Q Pier 3           | 41+736.0  | +4.4                           | 174.504                      | 174.504  | Q Pier 3           | 41+736.0  | +3.6                   | 174.520                      | 174.520  | Q Pier 3           | 41+736.0  | +2.64                          | 174.534                      | 174.534  | Q Pier 3           | 41+736.0  | +0.88                          | 174.561                      | 174.561  |
| E1                 | 41+739.0  | +4.4                           | 174.495                      | 174.488  | E1                 | 41+739.0  | +3.6                   | 174.512                      | 174.504  | E1                 | 41+739.0  | +2.64                          | 174.526                      | 174.518  | E1                 | 41+739.0  | +0.88                          | 174.552                      | 174.544  |
| F1                 | 41+742.0  | +4.4                           | 174.485                      | 174.477  | F1                 | 41+742.0  | +3.6                   | 174.501                      | 174.493  | F1                 | 41+742.0  | +2.64                          | 174.515                      | 174.507  | F1                 | 41+742.0  | +0.88                          | 174.542                      | 174.534  |
| G1                 | 41+745.0  | +4.4                           | 174.474                      | 174.468  | G1                 | 41+745.0  | +3.6                   | 174.490                      | 174.485  | G1                 | 41+745.0  | +2.64                          | 174.504                      | 174.499  | G1                 | 41+745.0  | +0.88                          | 174.525                      | 174.525  |
| H1                 | 41+748.0  | +4.4                           | 174.461                      | 174.460  | H1                 | 41+748.0  | +3.6                   | 174.478                      | 174.476  | H1                 | 41+748.0  | +2.64                          | 174.492                      | 174.490  | H1                 | 41+748.0  | +0.88                          | 174.518                      | 174.517  |
| I1                 | 41+751.0  | +4.4                           | 174.448                      | 174.450  | I1                 | 41+751.0  | +3.6                   | 174.464                      | 174.466  | I1                 | 41+751.0  | +2.64                          | 174.478                      | 174.480  | I1                 | 41+751.0  | +0.88                          | 174.505                      | 174.506  |
| J1                 | 41+754.0  | +4.4                           | 174.433                      | 174.436  | J1                 | 41+754.0  | +3.6                   | 174.449                      | 174.453  | J1                 | 41+754.0  | +2.64                          | 174.463                      | 174.467  | J1                 | 41+754.0  | +0.88                          | 174.490                      | 174.493  |
| K1                 | 41+757.0  | +4.4                           | 174.417                      | 174.420  | K1                 | 41+757.0  | +3.6                   | 174.433                      | 174.436  | K1                 | 41+757.0  | +2.64                          | 174.447                      | 174.450  | K1                 | 41+757.0  | +0.88                          | 174.474                      | 174.477  |
| L1                 | 41+760.0  | +4.4                           | 174.400                      | 174.401  | L1                 | 41+760.0  | +3.6                   | 174.416                      | 174.417  | L1                 | 41+760.0  | +2.64                          | 174.430                      | 174.431  | L1                 | 41+760.0  | +0.88                          | 174.457                      | 174.458  |
| M1                 | 41+763.0  | +4.4                           | 174.381                      | 174.381  | M1                 | 41+763.0  | +3.6                   | 174.398                      | 174.397  | M1                 | 41+763.0  | +2.64                          | 174.412                      | 174.411  | M1                 | 41+763.0  | +0.88                          | 174.438                      | 174.438  |
| Q Pier 4           | 41+766.5  | +4.4                           | 174.359                      | 174.359  | Q Pier 4           | 41+766.5  | +3.6                   | 174.375                      | 174.375  | Q Pier 4           | 41+766.5  | +2.64                          | 174.389                      | 174.389  | Q Pier 4           | 41+766.5  | +0.88                          | 174.415                      | 174.415  |
| N1                 | 41+769.5  | +4.4                           | 174.338                      | 174.342  | N1                 | 41+769.5  | +3.6                   | 174.354                      | 174.359  | N1                 | 41+769.5  | +2.64                          | 174.368                      | 174.373  | N1                 | 41+769.5  | +0.88                          | 174.394                      | 174.399  |
| O1                 | 41+772.5  | +4.4                           | 174.315                      | 174.328  | O1                 | 41+772.5  | +3.6                   | 174.332                      | 174.344  | O1                 | 41+772.5  | +2.64                          | 174.346                      | 174.358  | O1                 | 41+772.5  | +0.88                          | 174.372                      | 174.385  |
| P1                 | 41+775.5  | +4.4                           | 174.292                      | 174.312  | P1                 | 41+775.5  | +3.6                   | 174.309                      | 174.328  | P1                 | 41+775.5  | +2.64                          | 174.323                      | 174.342  | P1                 | 41+775.5  | +0.88                          | 174.349                      | 174.369  |
| Q1                 | 41+778.5  | +4.4                           | 174.268                      | 174.291  | Q1                 | 41+778.5  | +3.6                   | 174.284                      | 174.308  | Q1                 | 41+778.5  | +2.64                          | 174.298                      | 174.322  | Q1                 | 41+778.5  | +0.88                          | 174.325                      | 174.348  |
| R1                 | 41+781.5  | +4.4                           | 174.242                      | 174.266  | R1                 | 41+781.5  | +3.6                   | 174.258                      | 174.282  | R1                 | 41+781.5  | +2.64                          | 174.272                      | 17   |                    |           |                                |                              |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |          |                  |      |       |             |
|-----------------------|----------|------------------|------|-------|-------------|
| ROUTE NO.             | SECTION  | COUNTY           | FEET | SHEET | SHEET NO. 5 |
| S.B.I. 121            | 111B-1   | LOGAN            | 42   | 14    | 23 SHEETS   |
| F.A.S. 1774           |          |                  |      |       |             |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT |      |       |             |

☉ ROADWAY & PROFILE GRADE

| Location           | Station    | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|--------------------|------------|--------|------------------------------|--|
| Bk. of S. Abutment | 41+636.5   | 0.00   | 174.198                      | 174.198  |
| ☉ Brg. S. Abutment | 41+637.25  | 0.00   | 174.206                      | 174.206  |
| A                  | 41+640.25  | 0.00   | 174.235                      | 174.248  |
| B                  | 41+643.25  | 0.00   | 174.264                      | 174.287  |
| C                  | 41+646.25  | 0.00   | 174.292                      | 174.321  |
| D                  | 41+649.25  | 0.00   | 174.319                      | 174.350  |
| E                  | 41+652.25  | 0.00   | 174.344                      | 174.373  |
| F                  | 41+655.25  | 0.00   | 174.368                      | 174.391  |
| G                  | 41+658.25  | 0.00   | 174.391                      | 174.405  |
| H                  | 41+661.25  | 0.00   | 174.413                      | 174.418  |
| ☉ Pier 1           | 41+663.5   | 0.00   | 174.429                      | 174.429  |
| I                  | 41+666.5   | 0.00   | 174.448                      | 174.447  |
| J                  | 41+669.5   | 0.00   | 174.467                      | 174.466  |
| K                  | 41+672.5   | 0.00   | 174.484                      | 174.485  |
| L                  | 41+675.5   | 0.00   | 174.500                      | 174.501  |
| M                  | 41+678.5   | 0.00   | 174.515                      | 174.515  |
| N                  | 41+681.5   | 0.00   | 174.529                      | 174.527  |
| O                  | 41+684.5   | 0.00   | 174.542                      | 174.537  |
| P                  | 41+687.5   | 0.00   | 174.553                      | 174.546  |
| Q                  | 41+690.5   | 0.00   | 174.564                      | 174.556  |
| ☉ Pier 2           | 41+694.0   | 0.00   | 174.574                      | 174.574  |
| R                  | 41+697.0   | 0.00   | 174.582                      | 174.593  |
| S                  | 41+700.0   | 0.00   | 174.588                      | 174.618  |
| T                  | 41+703.0   | 0.00   | 174.594                      | 174.643  |
| U                  | 41+706.0   | 0.00   | 174.598                      | 174.666  |
| V                  | 41+709.0   | 0.00   | 174.601                      | 174.684  |
| W                  | 41+712.0   | 0.00   | 174.602                      | 174.695  |
| X                  | 41+715.0   | 0.00   | 174.603                      | 174.699  |
| Y                  | 41+718.0   | 0.00   | 174.602                      | 174.695  |
| Z                  | 41+721.0   | 0.00   | 174.601                      | 174.683  |
| AI                 | 41+724.0   | 0.00   | 174.598                      | 174.665  |
| BI                 | 41+727.0   | 0.00   | 174.594                      | 174.642  |
| CJ                 | 41+730.0   | 0.00   | 174.588                      | 174.617  |
| DI                 | 41+733.0   | 0.00   | 174.582                      | 174.593  |
| ☉ Pier 3           | 41+736.0   | 0.00   | 174.574                      | 174.574  |
| EI                 | 41+739.0   | 0.00   | 174.565                      | 174.558  |
| FI                 | 41+742.0   | 0.00   | 174.555                      | 174.547  |
| GI                 | 41+745.0   | 0.00   | 174.544                      | 174.538  |
| HI                 | 41+748.0   | 0.00   | 174.531                      | 174.530  |
| II                 | 41+751.0   | 0.00   | 174.518                      | 174.520  |
| JI                 | 41+754.0   | 0.00   | 174.503                      | 174.506  |
| KI                 | 41+757.0   | 0.00   | 174.487                      | 174.490  |
| LI                 | 41+760.0   | 0.00   | 174.470                      | 174.471  |
| MI                 | 41+763.0   | 0.00   | 174.451                      | 174.451  |
| ☉ Pier 4           | 41+766.5   | 0.00   | 174.429                      | 174.429  |
| NI                 | 41+769.5   | 0.00   | 174.408                      | 174.412  |
| OI                 | 41+772.5   | 0.00   | 174.385                      | 174.398  |
| PI                 | 41+775.5   | 0.00   | 174.362                      | 174.382  |
| QI                 | 41+778.5   | 0.00   | 174.338                      | 174.361  |
| RI                 | 41+781.5   | 0.00   | 174.312                      | 174.336  |
| SI                 | 41+784.5   | 0.00   | 174.285                      | 174.304  |
| TI                 | 41+787.5   | 0.00   | 174.257                      | 174.269  |
| ☉ Brg. N. Abutment | 41+791.245 | 0.00   | 174.221                      | 174.221  |
| Bk. of N. Abutment | 41+792.0   | 0.00   | 174.213                      | 174.213  |

Notes: All elevations and offsets are in meters.

|          |        |
|----------|--------|
| DESIGNED | W.J.V. |
| CHECKED  | J.P.S. |
| DRAWN    | C.D.C. |
| CHECKED  | W.J.V. |

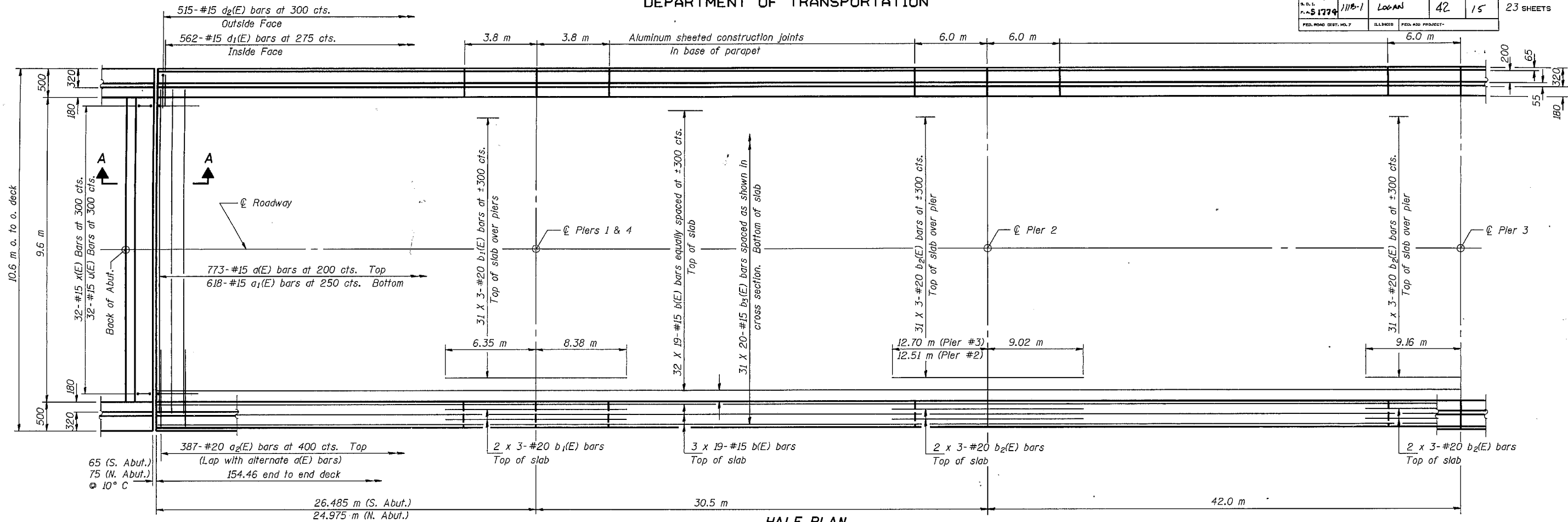
DECK ELEVATIONS  
OLD IL 121 OVER SUGAR CREEK  
S.B.I. 121 SECTION 111B-1  
LOGAN COUNTY  
STATION 41+714.25  
STRUCTURE NO. 054-0102



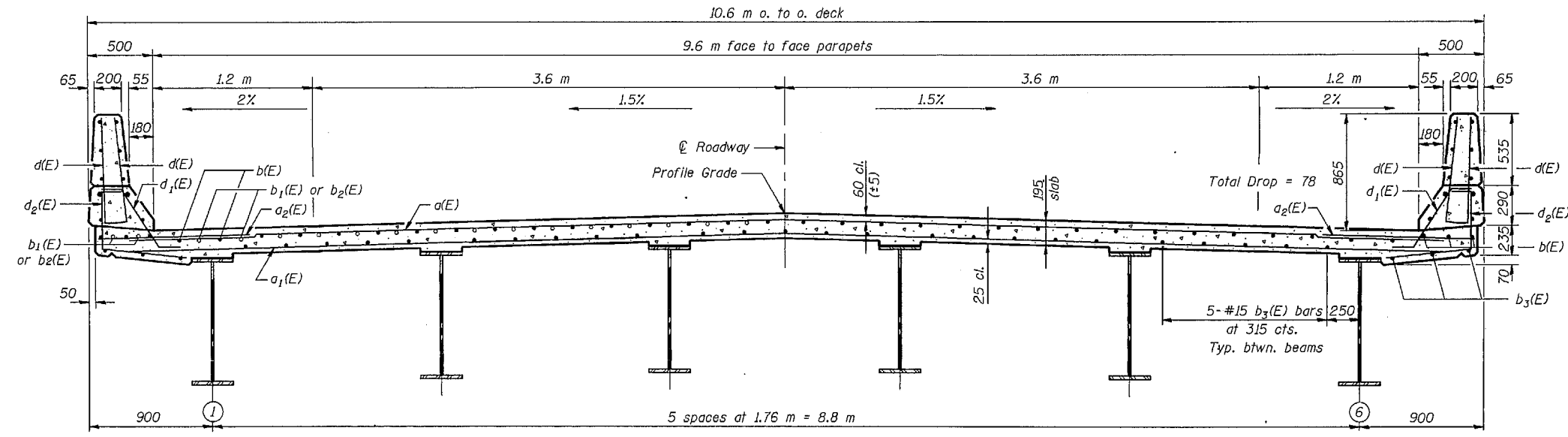
△ C B A 0 A B C

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

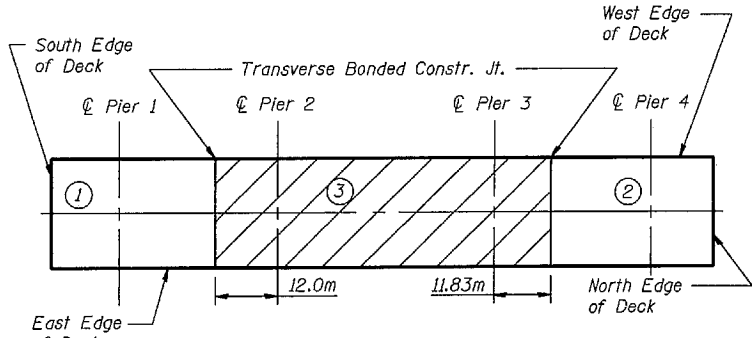
|                       |          |                  |              |           |           |
|-----------------------|----------|------------------|--------------|-----------|-----------|
| ROUTE NO.             | SECTION  | COUNTY           | TOTAL SHEETS | SHEET NO. | SHEET NO. |
| S 1774                | 111B-1   | LOGAN            | 42           | 15        | 23 SHEETS |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT |              |           |           |



HALF PLAN



CROSS SECTION  
(Looking North)



DECK SLAB POURING SEQUENCE

The Concrete Deck Slab Segments shall be Poured in the Numerical order Shown. Segments 1 and 2 may be poured the same day.

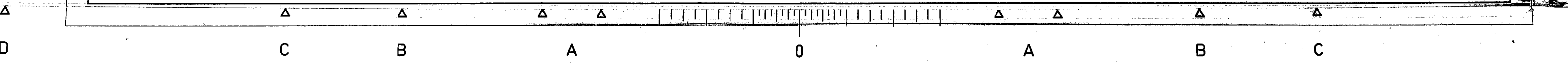
|          |        |
|----------|--------|
| DESIGNED | W.J.V. |
| CHECKED  | J.P.S. |
| DRAWN    | C.D.C. |
| CHECKED  | W.J.V. |

MIN. BAR LAP

|     |     |
|-----|-----|
| #15 | 510 |
| #20 | 640 |

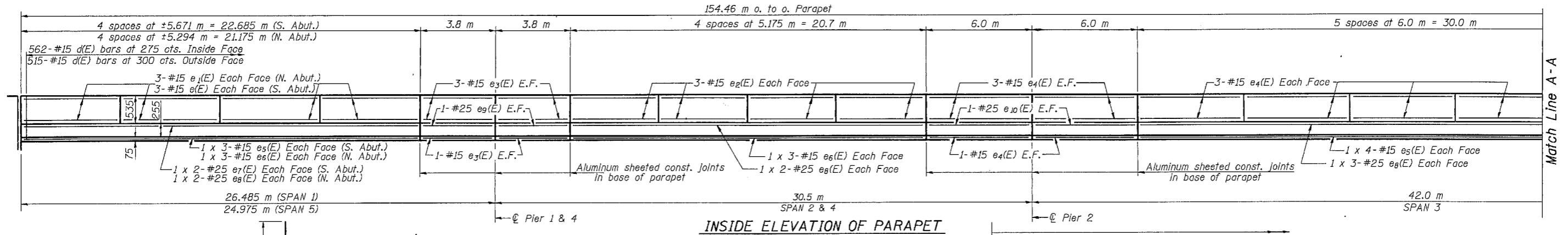
Notes: See Sheet #7 of 23 for section A-A, superstructure details and Bill of Material. Reinforcement bars designated (E) shall be epoxy coated. Bars indicated thus 20 x 3-#15 etc. indicates 20 lines of bars with 3 lengths per line. See Sheet #7 of 23 for parapet reinforcement. All dimensions are in millimeters (mm) except as noted.

SUPERSTRUCTURE  
OLD IL 121 OVER SUGAR CREEK  
S.B.I. 121 SECTION 111B-1  
LOGAN COUNTY  
STATION 41+714.25  
STRUCTURE NO. 054-0102

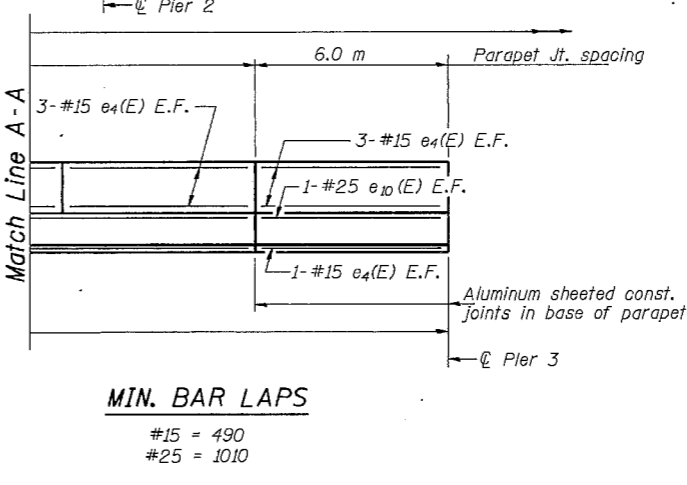
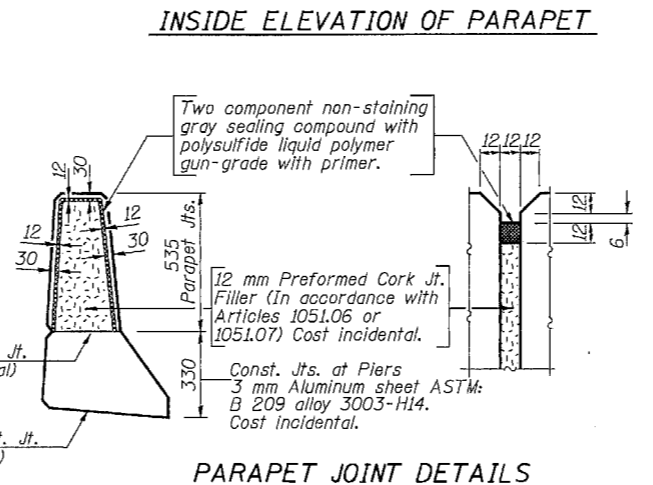
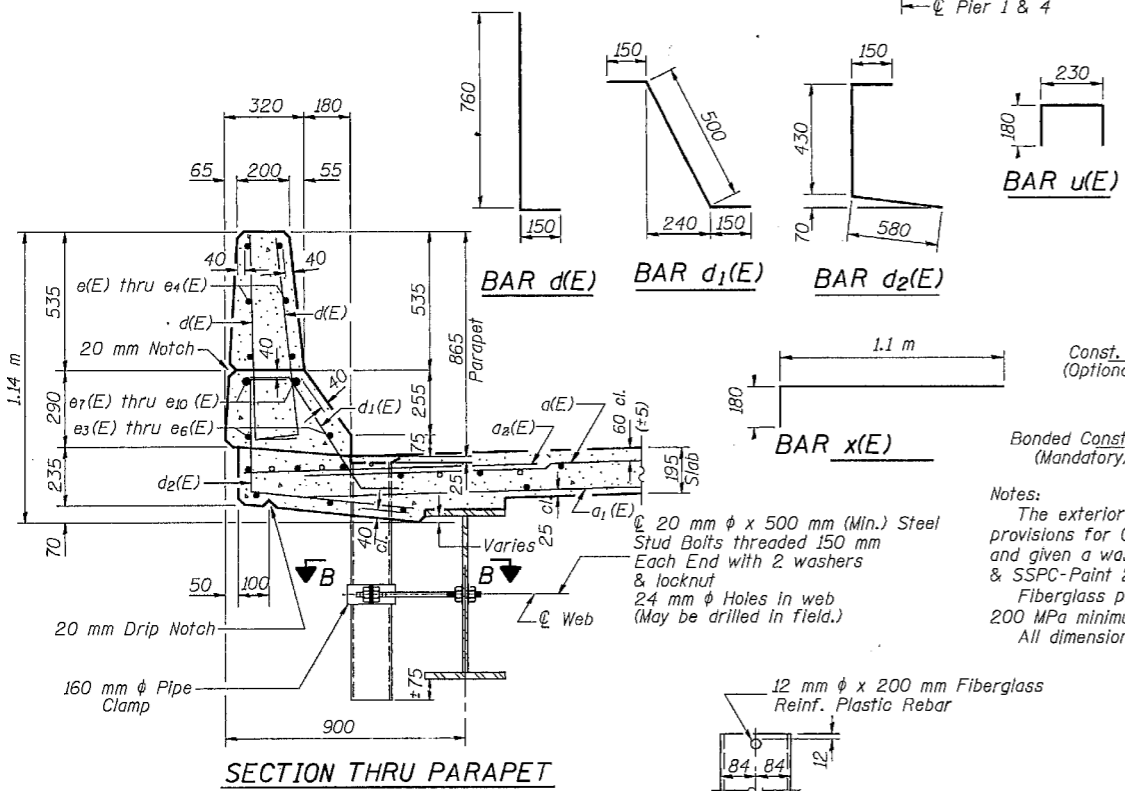


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |          |                  |              |       |             |
|-----------------------|----------|------------------|--------------|-------|-------------|
| ROUTE NO.             | SECTION  | COUNTY           | TOTAL SHEETS | SHEET | SHEET NO. 7 |
| R.S.L. P.A.S. 1774    | 111B-1   | LOGAN            | 42           | 16    | 23 SHEETS   |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT |              |       |             |

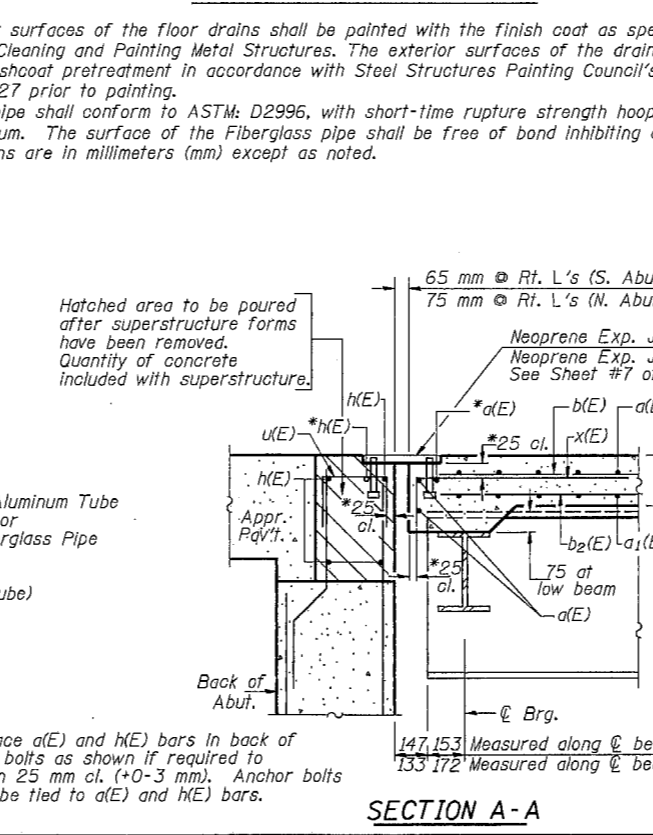
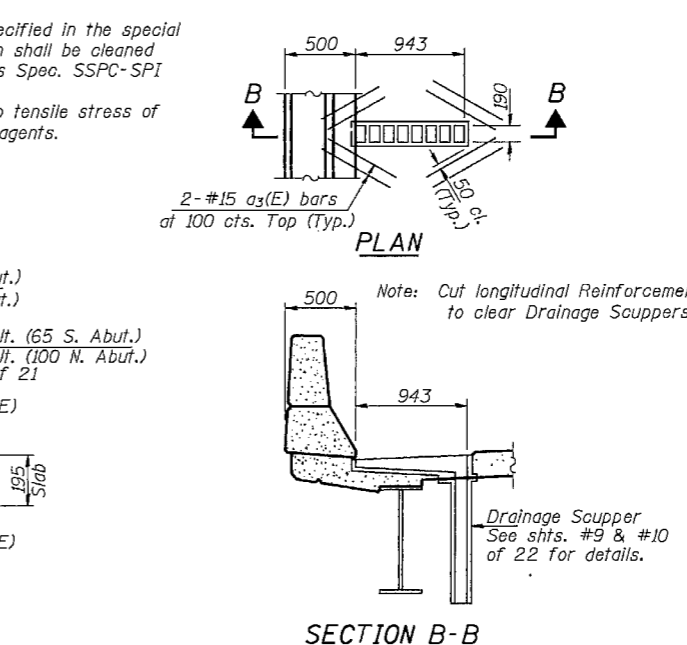


INSIDE ELEVATION OF PARAPET

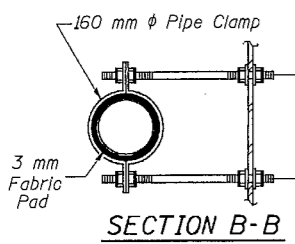


SUPERSTRUCTURE  
BILL OF MATERIAL

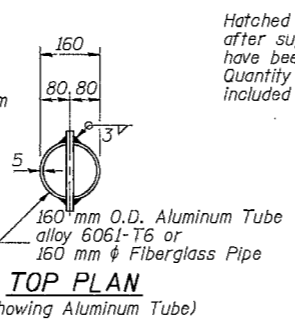
| Bar                              | No.  | Size           | Length (m) | Shape |
|----------------------------------|------|----------------|------------|-------|
| a(E)                             | 773  | #15            | 10.30      | —     |
| a <sub>1</sub> (E)               | 618  | #15            | 10.00      | —     |
| a <sub>2</sub> (E)               | 774  | #20            | 1.20       | —     |
| a <sub>3</sub> (E)               | 32   | #15            | 0.60       | —     |
| b(E)                             | 722  | #15            | 8.61       | —     |
| b <sub>1</sub> (E)               | 210  | #20            | 5.34       | —     |
| b <sub>2</sub> (E)               | 210  | #20            | 7.71       | —     |
| b <sub>3</sub> (E)               | 620  | #15            | 8.21       | —     |
| d(E)                             | 2154 | #15            | 0.91       | —     |
| d <sub>1</sub> (E)               | 1124 | #15            | 0.80       | —     |
| d <sub>2</sub> (E)               | 1030 | #15            | 1.16       | —     |
| e(E)                             | 48   | #15            | 5.60       | —     |
| e <sub>1</sub> (E)               | 48   | #15            | 5.22       | —     |
| e <sub>2</sub> (E)               | 96   | #15            | 5.10       | —     |
| e <sub>3</sub> (E)               | 64   | #15            | 3.72       | —     |
| e <sub>4</sub> (E)               | 124  | #15            | 5.92       | —     |
| e <sub>5</sub> (E)               | 28   | #15            | 7.88       | —     |
| e <sub>6</sub> (E)               | 36   | #15            | 7.38       | —     |
| e <sub>7</sub> (E)               | 8    | #25            | 11.84      | —     |
| e <sub>8</sub> (E)               | 36   | #25            | 11.08      | —     |
| e <sub>9</sub> (E)               | 16   | #25            | 3.72       | —     |
| e <sub>10</sub> (E)              | 16   | #25            | 5.92       | —     |
| u(E)                             | 64   | #15            | 0.59       | —     |
| x(E)                             | 64   | #15            | 1.28       | —     |
| Reinforcement Bars, Epoxy Coated |      | kg             | 61,600     |       |
| Concrete Superstructure          |      | m <sup>3</sup> | 422.9      |       |



\* Dimension as required by Pipe Clamp



|          |        |
|----------|--------|
| DESIGNED | W.J.V. |
| CHECKED  | J.P.S. |
| DRAWN    | C.D.C. |
| CHECKED  | W.J.V. |



Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with superstructure.

\*Place a(E) and h(E) bars in back of anchor bolts as shown if required to maintain 25 mm cl. (+0-3 mm). Anchor bolts should be tied to a(E) and h(E) bars.

Reinforcement bars designated (E) shall be epoxy coated.  
Bars indicated thus 1 x 3-#15 etc. indicates 1 line of bars with 3 lengths per line.

SUPERSTRUCTURE DETAILS  
OLD IL 121 OVER SUGAR CREEK  
S.B.I. 121 SECTION 111B-1  
LOGAN COUNTY  
STATION 41+714.25  
STRUCTURE NO. 054-0102

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

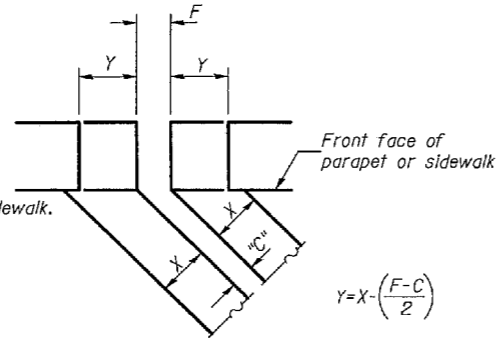
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|-----------------------|----------|-------------------|-----------|-------------|
| ROUTE NO.             | SECTION  | COUNTY            | SHEET NO. | SHEET NO. 8 |
| FAS 1774              | 111B-1   | LOGAN             | 42 17     | 23 SHEETS   |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT- |           |             |

| Joint Size | "C" at 10 °C | "D" at 10 °C |
|------------|--------------|--------------|
| 50         | 50           | 40 Min.      |
| 65         | 65           | 45 Min.      |
| 100        | 75           | 65 Min.      |

**INSTALLATION NOTES**

- Install continuous seal in roadway, parapet, curb, and sidewalk.
- Install anchor blocks as indicated.

NOTE A: Maximum spacing of anchor bolts shall be 300 centers.



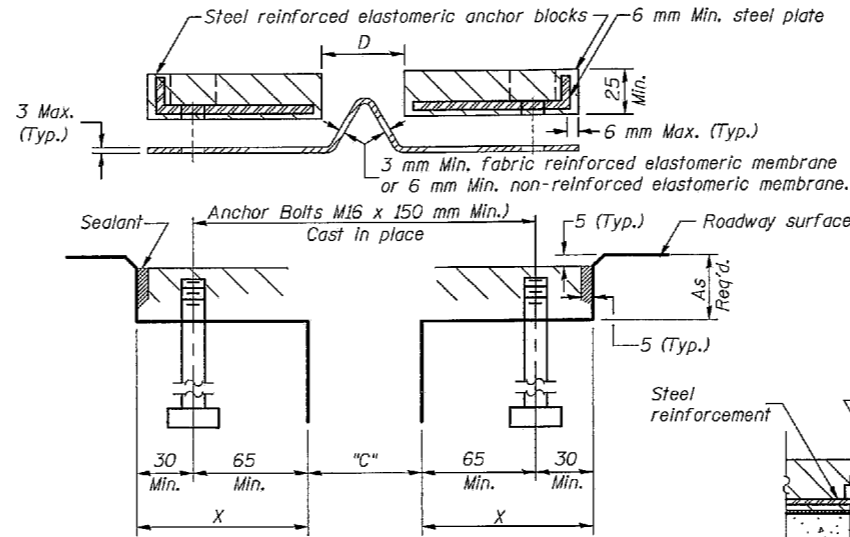
**FORMING BLOCKOUT SKETCH**

$$Y = X \cdot \left( \frac{F-C}{2} \right)$$

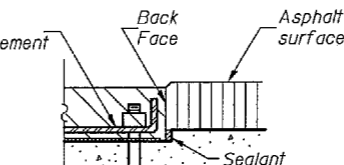
For dimension "F" see sheet #

**SKEW LIMITATIONS**

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews. For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed according to dimension "D", might require modifications to insure a minimum clearance of 40 mm from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±300 cts.



**CROSS SECTION**



**ANCHOR BLOCK WITH ASPHALT SURFACE**

**GENERAL NOTES**

Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane.

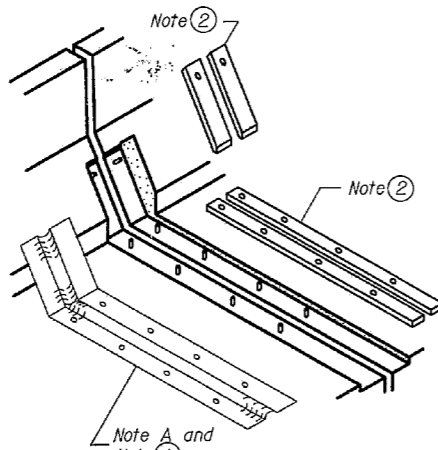
The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

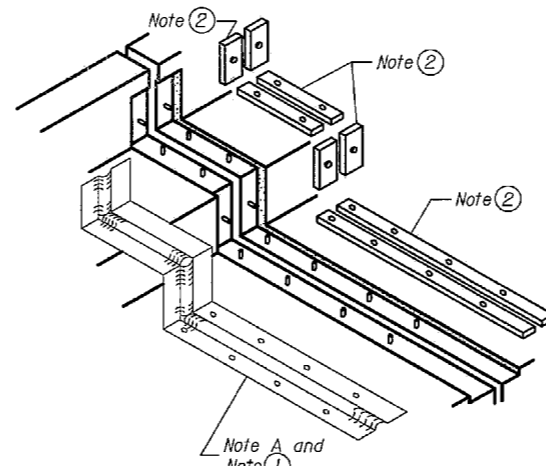
Joint openings shall be adjusted according to Article 503.10(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 10 °C.

The parapet and roadway membrane shall be made continuous by an approved vulcanizing process. Lapping will not be permitted.

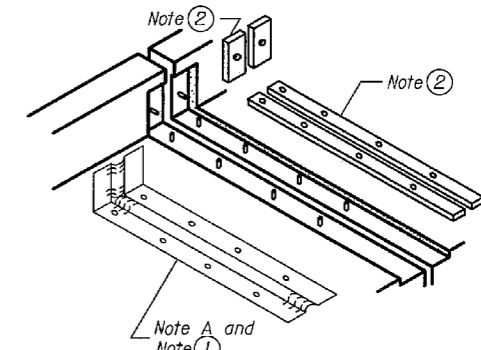
All dimensions are in millimeters (mm) except as noted.



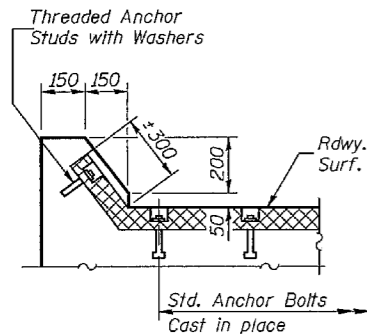
**AT PARAPET**



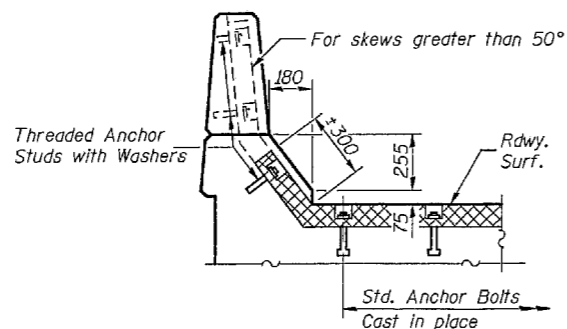
**AT SIDEWALK OR MEDIAN**



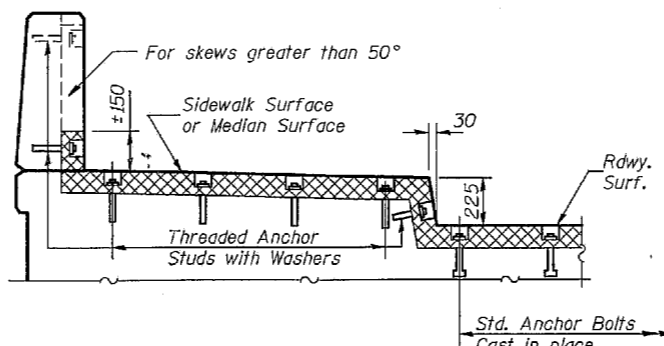
**AT WALL**



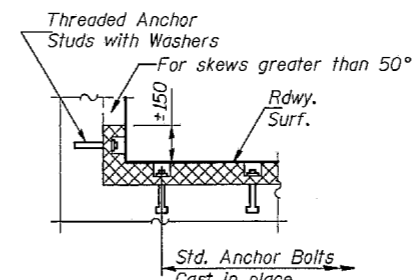
**AT CURB**



**AT PARAPET**



**AT SIDEWALK OR MEDIAN  
TYPICAL END TREATMENTS**



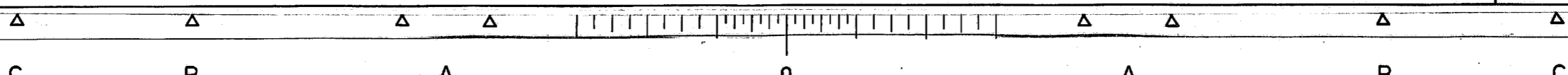
**AT WALL**

|          |        |
|----------|--------|
| DESIGNED | W.J.V. |
| CHECKED  | J.P.S. |
| DRAWN    | C.D.C. |
| CHECKED  | W.J.V. |

EJ-CS (M) 4-30-97

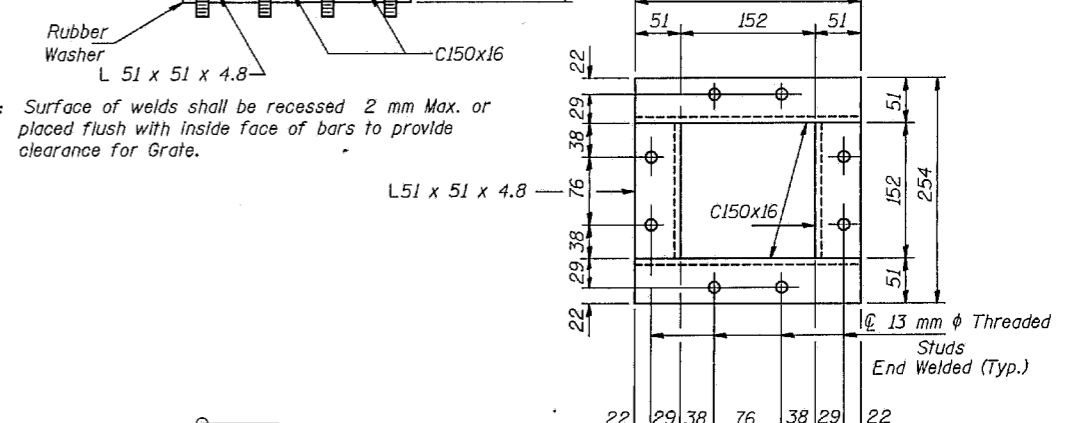
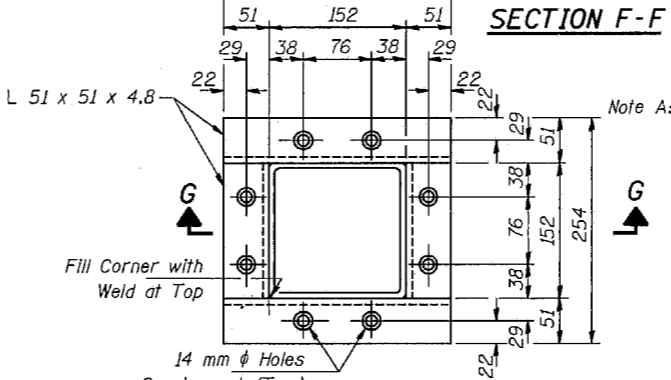
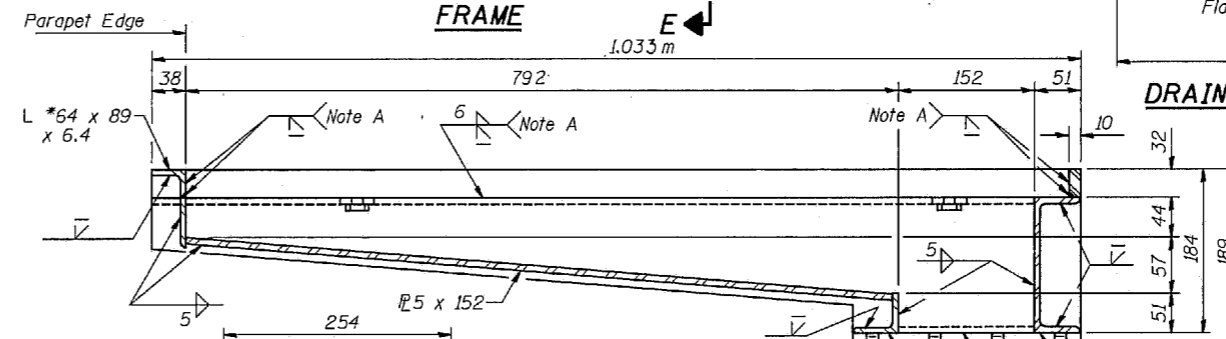
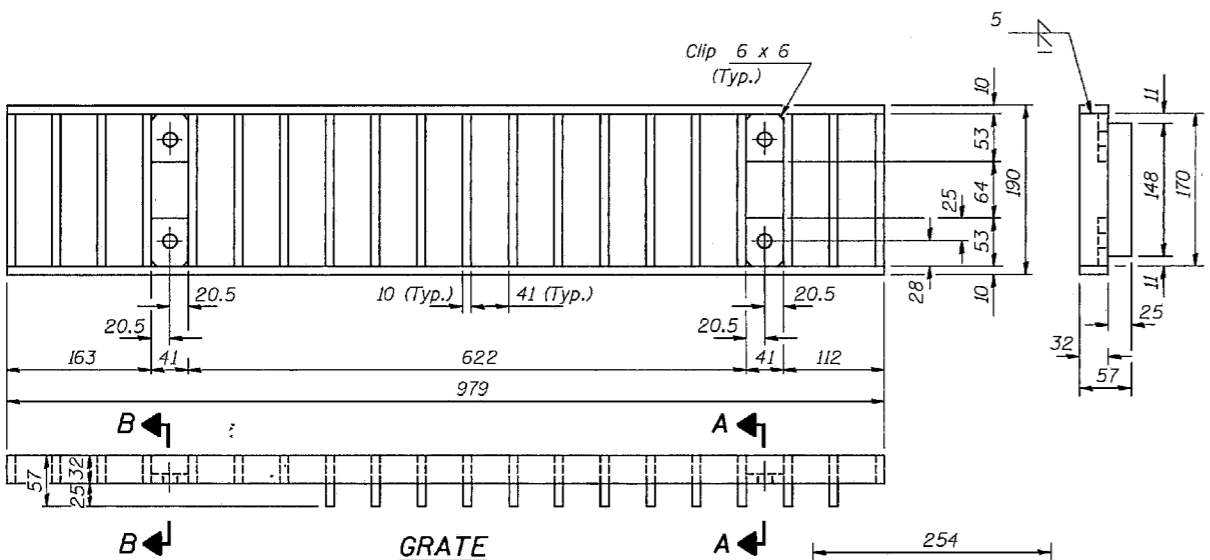
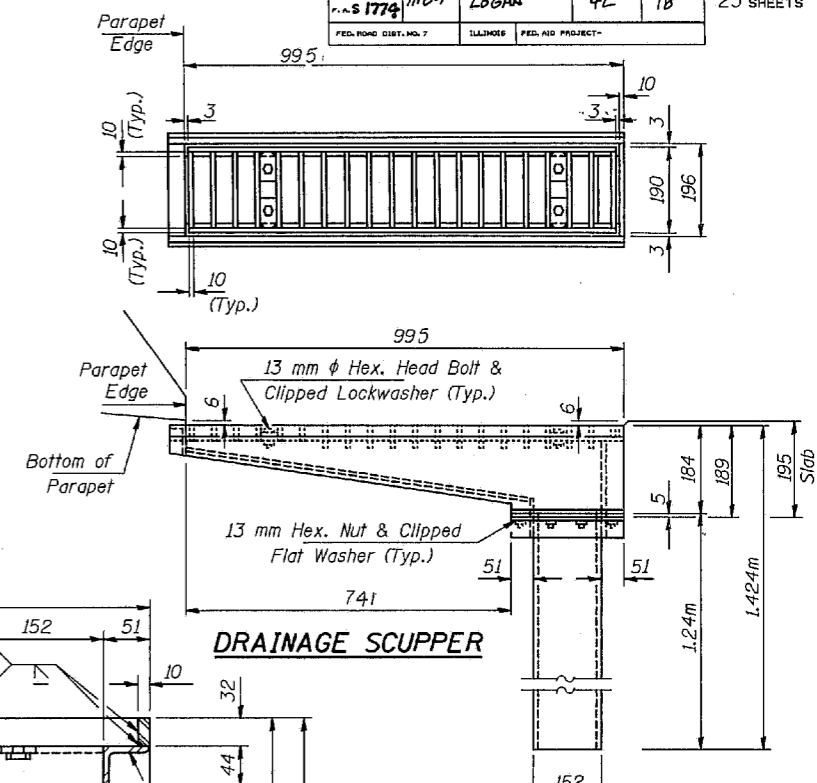
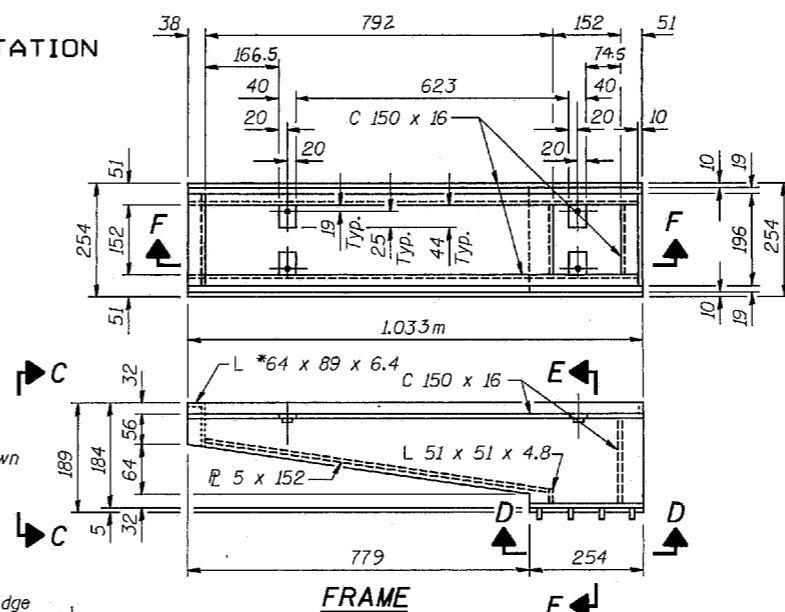
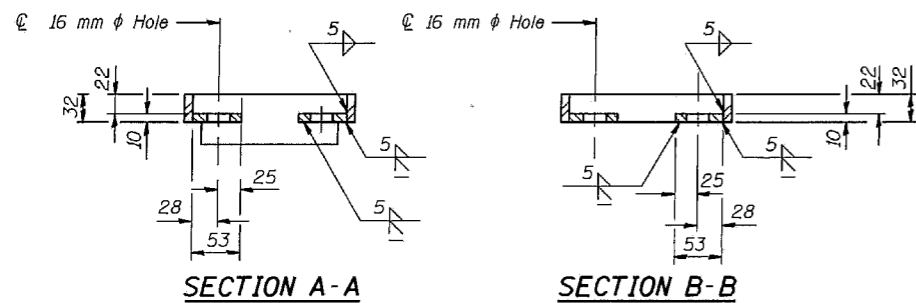
**CONTINUOUS SEAL TYPE  
NEOPRENE EXPANSION JOINTS**  
For 50, 65 and 100 Movement

**OLD IL 121 OVER SUGAR CREEK  
S.B.I 121 SECTION 111B-1  
LOGAN COUNTY  
STATION 41+714.25  
STRUCTURE NO. 054-0102**

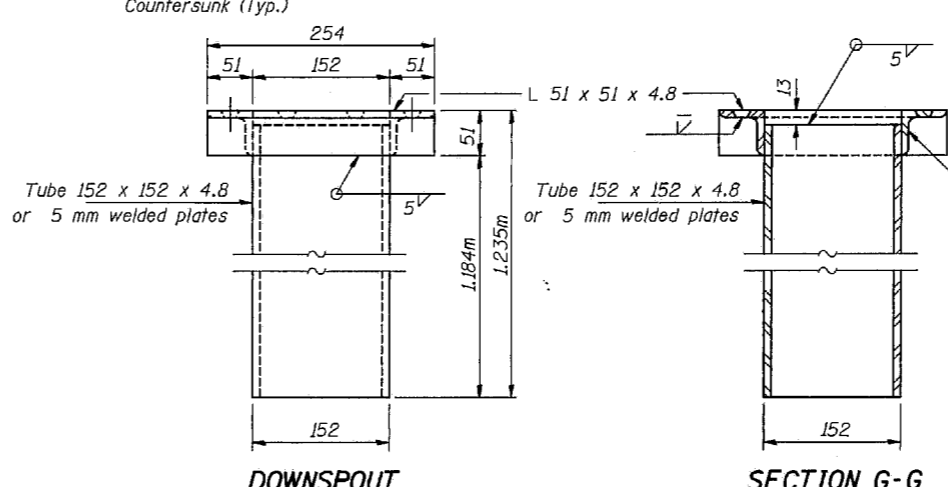
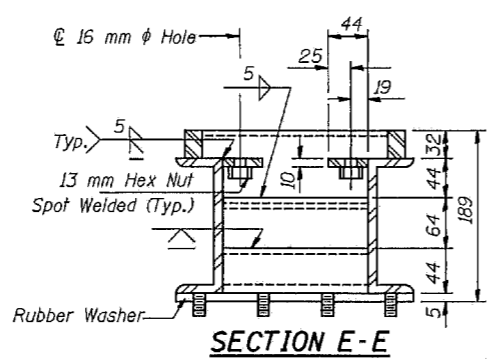
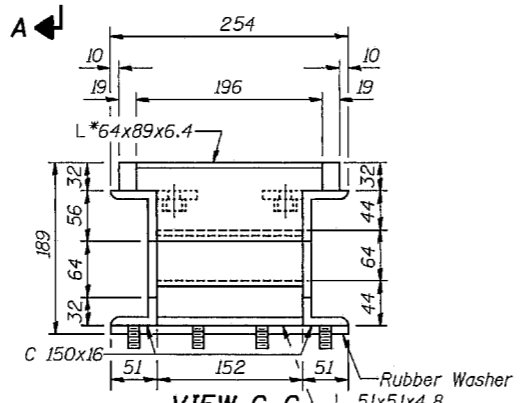


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |         |                  |           |       |             |
|-----------------------|---------|------------------|-----------|-------|-------------|
| ROUTE NO.             | SECTION | COUNTY           | SHEET NO. | SHEET | SHEET NO. 9 |
| S.B.I. 121            | 111B-1  | LOGAN            | 42        | 18    | 23 SHEETS   |
| FED. ROAD DIST. NO. 7 | TOLLING | FED. AID PROJECT |           |       |             |



Notes:  
Hollow structural steel tubing shall conform to the requirements of ASTM designation A500 Grade B, or A501 Structural Steel Tubing.  
All other shapes, plates and bars shall conform to the requirements of AASHTO M270 - Grade 250.  
Bolts, studs, washers and nuts shall conform to the requirements of ASTM A307.  
The Grate, Frame and Downspout shall be galvanized after shop fabrication in accordance with AASHTO M111 & ASTM A385.  
All bolts, washers and nuts shall be galvanized in accordance with AASHTO M232.  
Cost of the Grate, Frame, Downspout, Bolts, Washers and Nuts including complete installation of Scupper will be paid for at the unit bid price each for "DRAINAGE SCUPPERS."  
All dimensions are in millimeters (mm) except as noted.



|          |        |
|----------|--------|
| DESIGNED | W.J.V. |
| CHECKED  | J.P.S. |
| DRAWN    | C.D.C. |
| CHECKED  | W.J.V. |

DS-3(M) 4-30-97

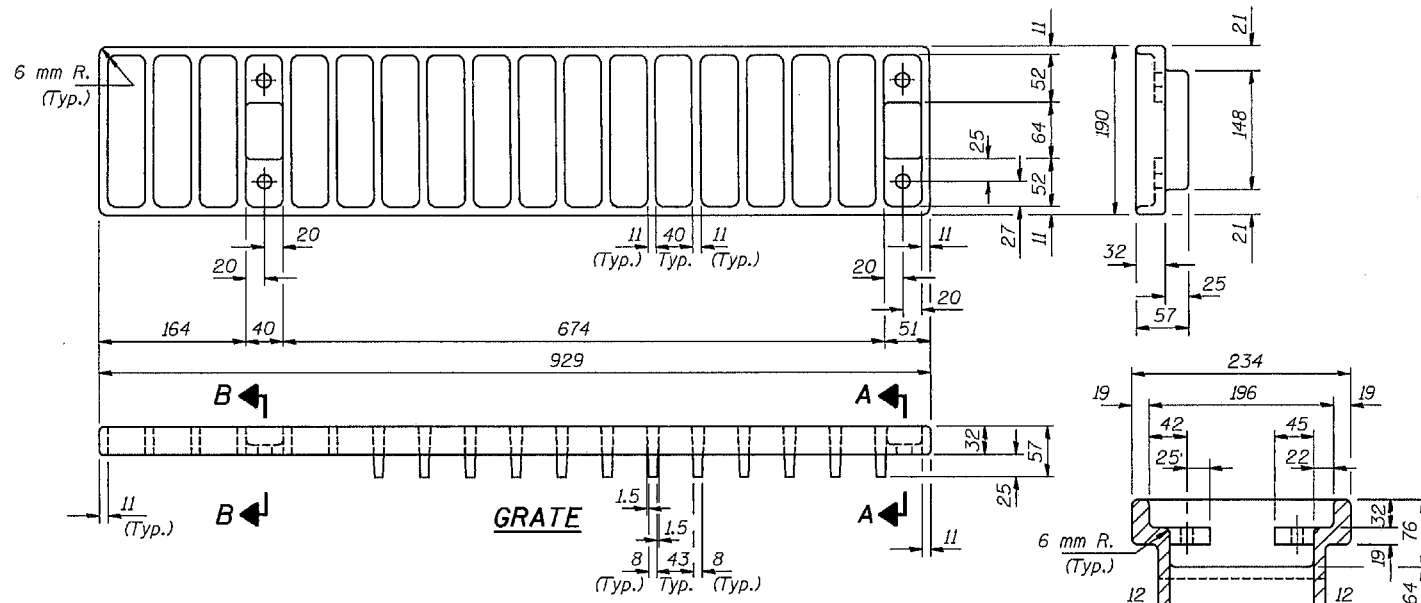
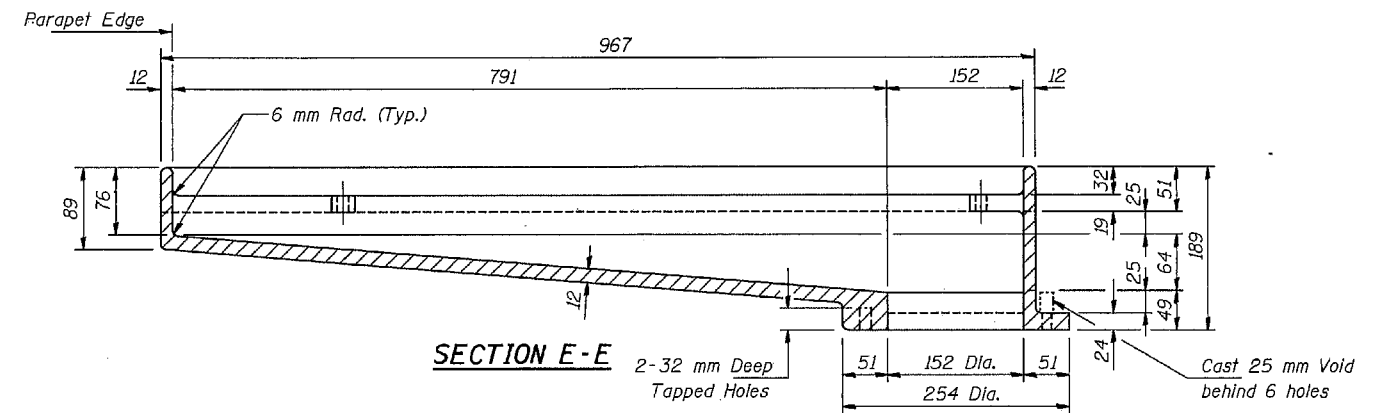
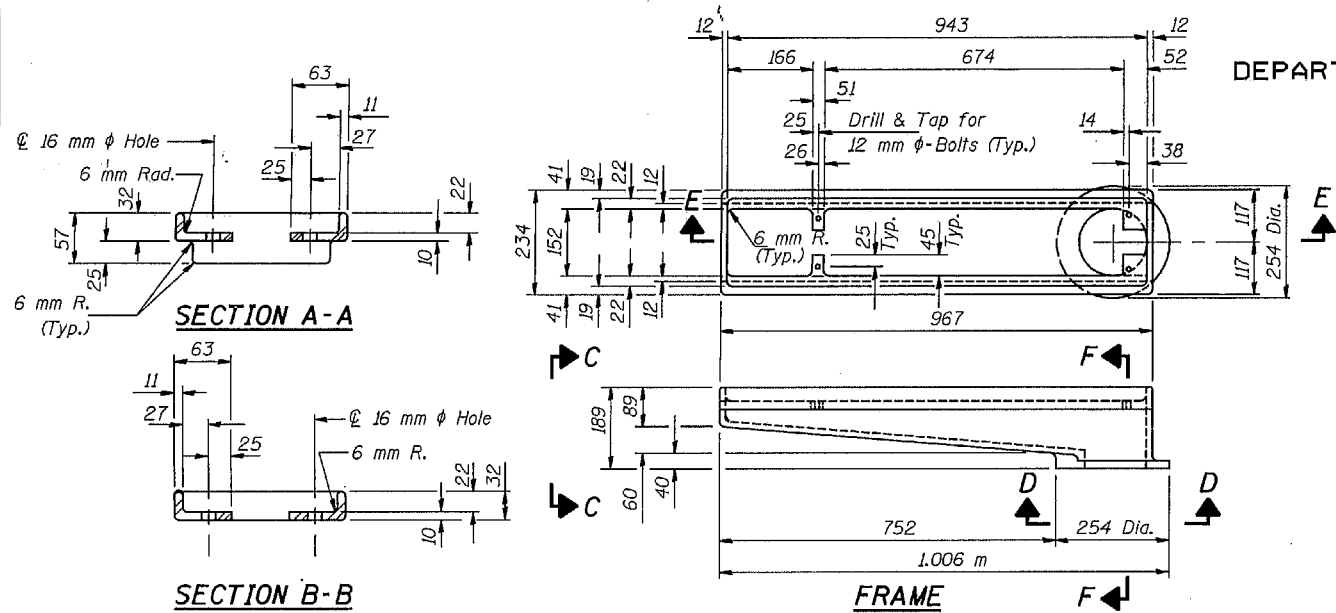
BILL OF MATERIAL

| ITEM              | UNIT | QUANTITY |
|-------------------|------|----------|
| Drainage Scuppers | Each | 4        |

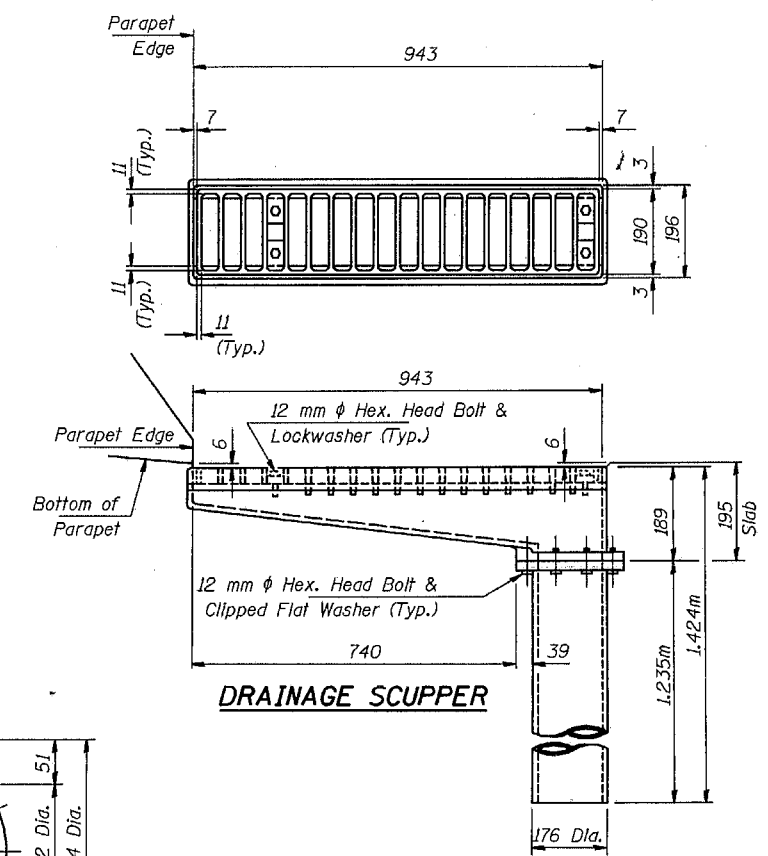
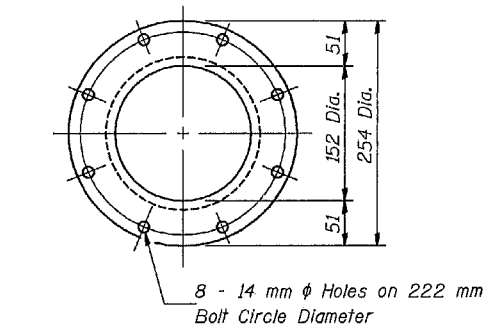
STEEL DRAINAGE SCUPPER  
OLD IL 121 OVER SUGAR CREEK  
S.B.I. 121 SECTION 111B-1  
LOGAN COUNTY  
STATION 41 + 714.25  
STRUCTURE NO. 054-0102

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |          |                  |              |           |                           |
|-----------------------|----------|------------------|--------------|-----------|---------------------------|
| ROUTE NO.             | SECTION  | COUNTY           | TOTAL SHEETS | SHEET NO. | SHEET NO. 10<br>23 SHEETS |
| S.B.I. 121            | 11B-1    | LOGAN            | 42           | 19        |                           |
| F.S. 1774             |          |                  |              |           |                           |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT |              |           |                           |



Notes: All cast iron parts shall be gray iron conforming to the requirements of AASHTO M105, Class 30.  
Bolts and washers shall conform to the requirements of ASTM A307.  
All bolts and washers shall be galvanized in accordance with AASHTO M232.  
As an alternate bolts and washers may be stainless steel conforming to the requirements of ASTM A193M, Type 304.  
Cost of the Grate, Frame, Downspout, bolts and washers including complete installation of Scupper will be paid for at the unit bid price each for "DRAINAGE SCUPPERS."  
The Contractor may use at his option steel drainage scuppers or cast iron drainage scuppers.  
All dimensions are in millimeters (mm) except as noted.



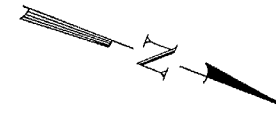
|          |        |
|----------|--------|
| DESIGNED | W.J.V. |
| CHECKED  | J.P.S. |
| DRAWN    | C.D.C. |
| CHECKED  | W.J.V. |

DS-4(M) 7-1-94

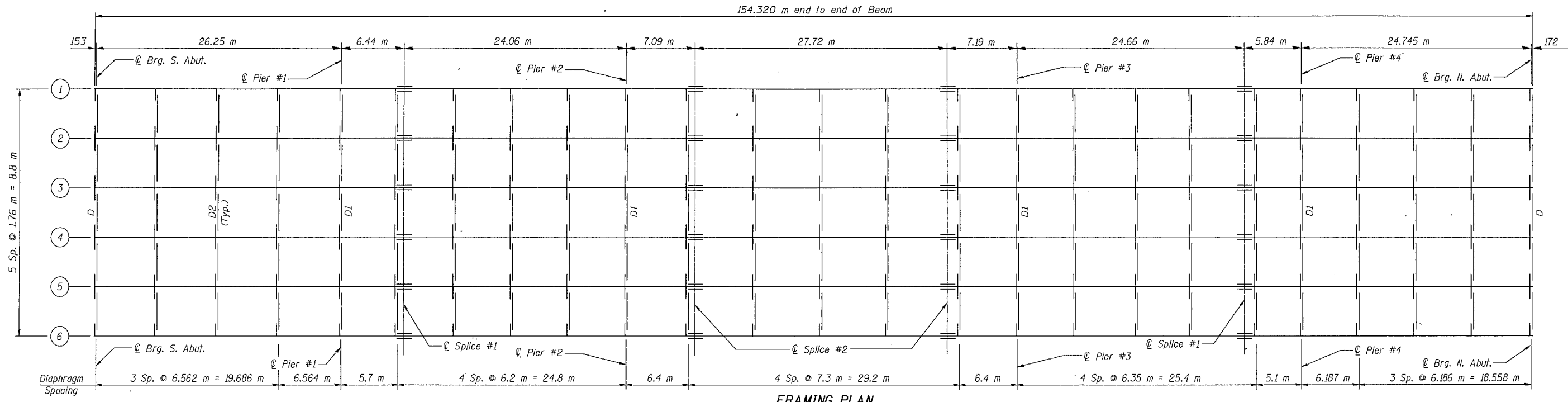
ALTERNATE - CAST IRON  
DRAINAGE SCUPPER  
OLD IL 121 OVER SUGAR CREEK  
S.B.I. 121 SECTION 11B-1  
LOGAN COUNTY  
STATION 41 + 714.25  
STRUCTURE NO. 054-0102



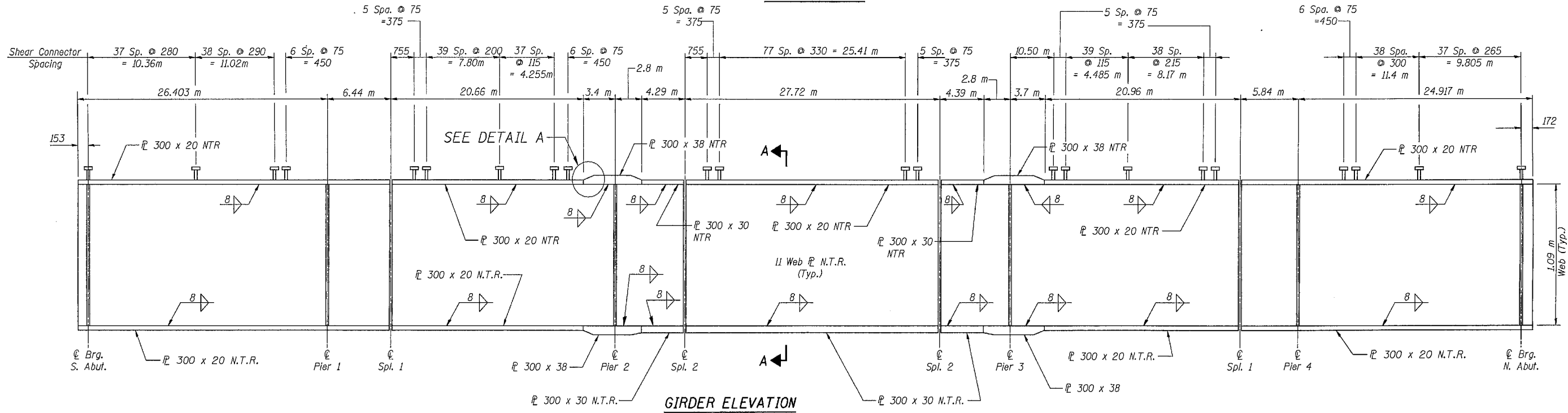
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



|                      |          |                  |        |           |              |
|----------------------|----------|------------------|--------|-----------|--------------|
| ROUTE NO.            | SECTION  | COUNTY           | SHEETS | SHEET NO. | SHEET NO. 11 |
| S.B.I. P.A. 1774     | 111B-1   | LOGAN            | 42     | 20        | 23 SHEETS    |
| FED. ROAD EST. NO. 7 | ILLINOIS | FED. AID PROJECT |        |           |              |

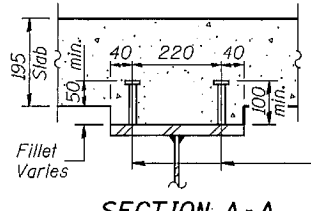


FRAMING PLAN



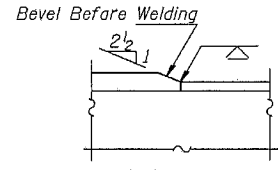
GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.



SECTION A-A

19 mm ϕ Granular or solid flux filled headed studs, automatically end welded to flange. (No. Req'd.=5,136)



DETAIL "A"

Notes: Girders, brg. stiffeners and splice plates shall be M270 Grade 345 Steel. Diaphragms and connection plates shall be M270 Grade 250 Steel. See Sheet 11 of 23 for Splice Details, Diaphragm Details, Bearing Stiffener and Connecting ϕ Details. All dimensions are in millimeters (mm) except as noted.

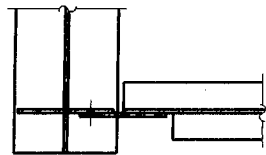
|          |        |
|----------|--------|
| DESIGNED | W.J.V. |
| CHECKED  | J.P.S. |
| DRAWN    | C.D.C. |
| CHECKED  | W.J.V. |

STRUCTURAL STEEL LAYOUT  
OLD IL 121 OVER SUGAR CREEK  
S.B.I. 121 SECTION 111B-1  
LOGAN COUNTY  
STATION 41 + 714.25  
STRUCTURE NO. 054-0102

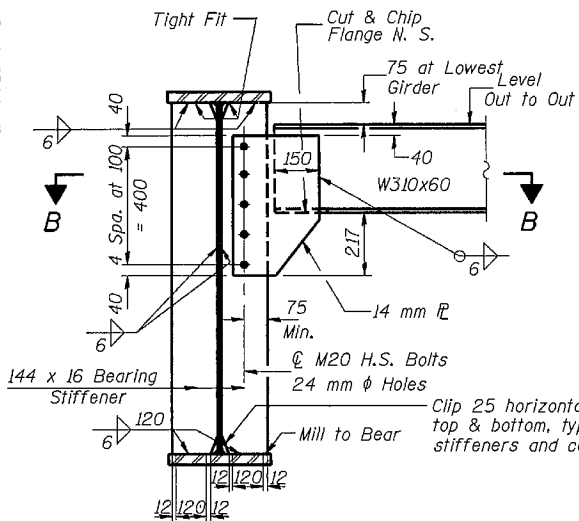


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

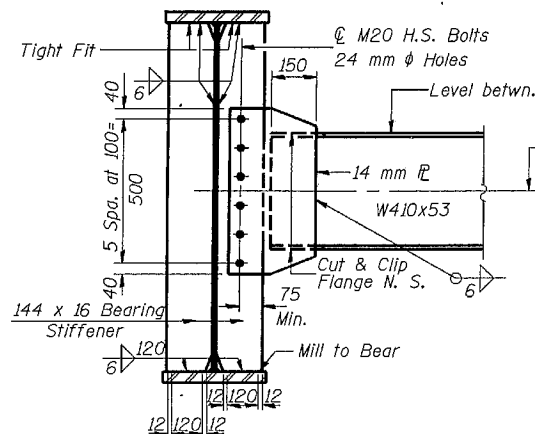
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|-----------------------|----------|------------------|--------|-------|---------------------------|
| ROUTE NO.             | SECTION  | COUNTY           | SHEETS | SHEET | SHEET NO. 12<br>23 SHEETS |
| S.B.I.<br>F.A.S. 1774 | 111B-1   | LOGAN            | 42     | 21    |                           |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT |        |       |                           |



SECTION B-B

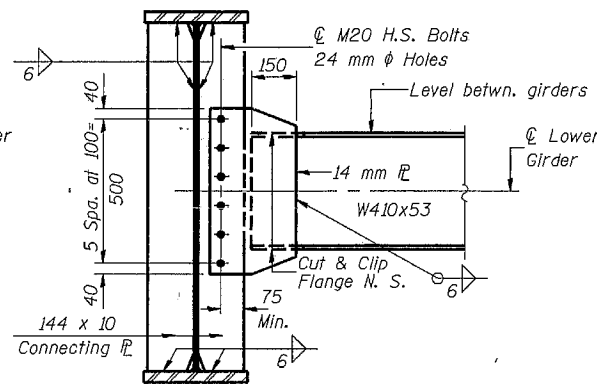


DIAPHRAGM D  
10 Required

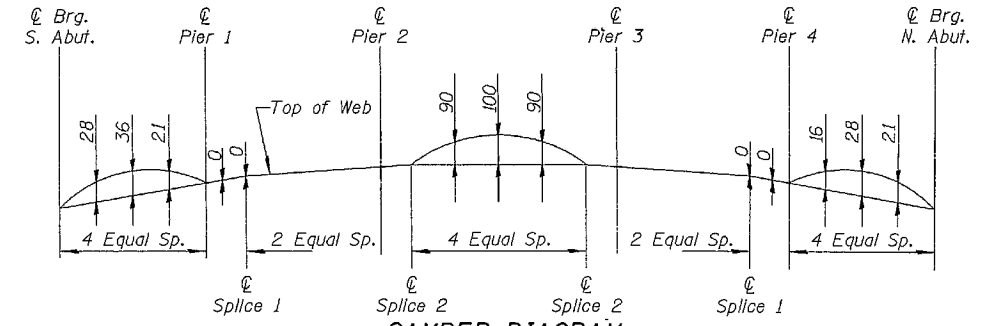


DIAPHRAGM D<sub>1</sub>  
20 Required

Note: Two hardened washers shall be required over all 24 mm  $\phi$  oversized holes.



DIAPHRAGM D<sub>2</sub>  
95 Required

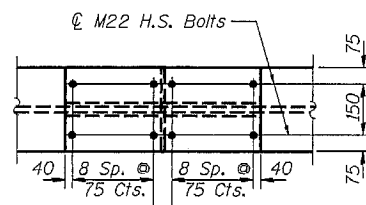
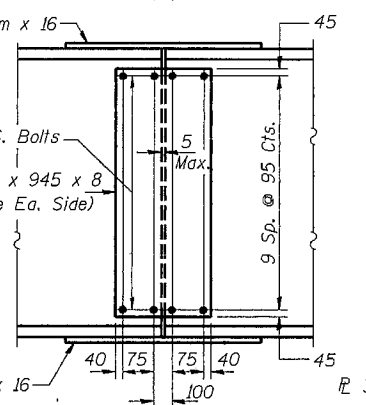
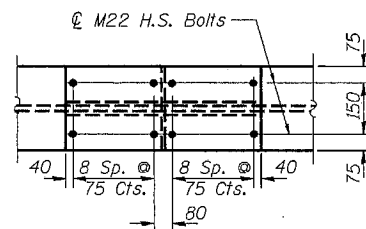


CAMBER DIAGRAM

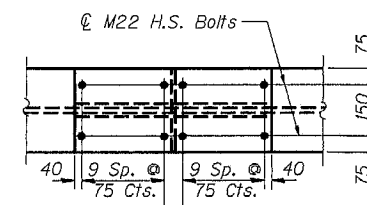
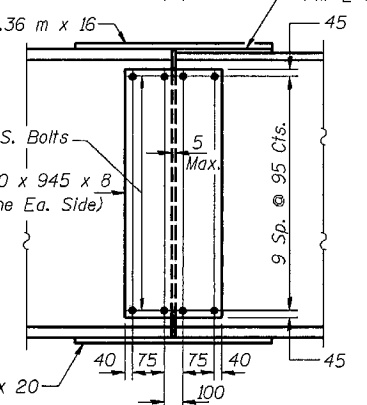
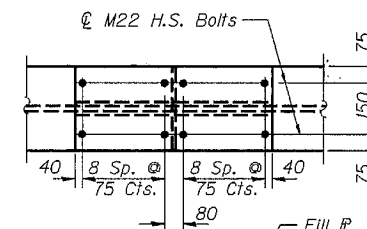
TOP OF WEB ELEVATION \*

| GIRDER | € BRG. S. ABUT. | € PIER 1 | SPLICE 1 | € PIER 2 | SPLICE 2 | SPLICE 2 | € PIER 3 | SPLICE 1 | € PIER 4 | € BRG. N. ABUT. |
|--------|-----------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------------|
| 1 & 6  | 173.901         | 174.098  | 174.146  | 174.251  | 174.282  | 174.282  | 174.251  | 174.144  | 174.100  | 173.916         |
| 2 & 5  | 173.931         | 174.128  | 174.176  | 174.281  | 174.312  | 174.312  | 174.281  | 174.174  | 174.130  | 173.946         |
| 3 & 4  | 173.958         | 174.155  | 174.203  | 174.308  | 174.339  | 174.339  | 174.308  | 174.201  | 174.157  | 173.973         |

\* For Fabrication Only



FIELD SPLICE 1 DETAIL



FIELD SPLICE 2 DETAIL

|                                    | INTERIOR GIRDER MOMENT TABLE |            |                |            |           |
|------------------------------------|------------------------------|------------|----------------|------------|-----------|
|                                    | 0.4 Sp. 1 or 0.6 Sp. 5       | Pier 1 & 4 | 0.5 Span 2 & 4 | Pier 2 & 3 | 0.5 Sp. 3 |
| $I_s$ ( $10^6 \text{ mm}^4$ )      | 4884                         | 4884       | 4884           | 8448       | 5783      |
| $I_c (n)$ ( $10^6 \text{ mm}^4$ )  | 11962                        | —          | 11962          | —          | 14893     |
| $I_c (3n)$ ( $10^6 \text{ mm}^4$ ) | 8852                         | —          | 8852           | —          | 10734     |
| $S_s$ ( $10^3 \text{ mm}^3$ )      | 8646                         | 8646       | 8646           | 14493      | 11349     |
| $S_c (n)$ ( $10^3 \text{ mm}^3$ )  | 12115                        | —          | 12115          | —          | 15673     |
| $S_c (3n)$ ( $10^3 \text{ mm}^3$ ) | 11018                        | —          | 11018          | —          | 14306     |
| $\rho$ (kN/m)                      | 10.80                        | 14.74      | 10.80          | 15.47      | 10.94     |
| $M_e$ (kN·m)                       | 603                          | 946        | 193            | 1894       | 977       |
| $s_e$ (kN/m)                       | 3.94                         | —          | 3.94           | —          | 3.94      |
| $M_s e$ (kN·m)                     | 236                          | —          | 140            | —          | 437       |
| $M_t$ (kN·m)                       | 787                          | 536        | 753            | 844        | 188       |
| $M (Imp)$ (kN·m)                   | 188                          | 125        | 167            | 174        | 213       |
| $5_3[M_t + M(Imp)]$ (kN·m)         | 1626                         | 1101       | 1534           | 1697       | 2224      |
| $M_a$ (kN·m)                       | 3204                         | 2661       | 2427           | 4668       | 4729      |
| $f_s e$ non-comp (MPa)             | 70                           | 109        | 22             | 131        | 86        |
| $f_s e$ (comp) (MPa)               | 21                           | —          | 13             | —          | 31        |
| $f_s 5_3 (t + Imp)$ (MPa)          | 134                          | 127        | 127            | 117        | 142       |
| $f_s$ (Overload) (MPa)             | 225                          | 236        | 162            | 248        | 259       |
| $f_s$ (Total) (MPa)                | 293                          | 307        | 211            | 322        | 337       |
| $R$ (kN)                           | 200                          | —          | 219            | —          | 223       |

\* Non-Compact Section

|                  | INTERIOR GIRDER REACTION TABLE |            |            |          |
|------------------|--------------------------------|------------|------------|----------|
|                  | S. Abut.                       | Pier 1 & 4 | Pier 2 & 3 | N. Abut. |
| $R_e$ (kN)       | 157                            | 423        | 576        | 147      |
| $R_t$ (kN)       | 165                            | 239        | 281        | 164      |
| $Imp.$ (kN)      | 40                             | 56         | 59         | 41       |
| $R$ (Total) (kN) | 362                            | 718        | 916        | 352      |

$I_s$  and  $S_s$  are the moment of inertia and section modulus of the steel section used in computing  $f_s$  (Total & Overload).  
 $I_{c(n)}$  and  $S_{c(n)}$  are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.  
 $I_{c(3n)}$  and  $S_{c(3n)}$  are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)  
 $VR$  is the maximum Live Load + Impact shear range in span.  
 $M_a$  (Applied Moment) =  $1.3[M_e + M_s e + 5_3(M_t + M_{Imp})]$ .  
 $f_s$  (Overload) is the sum of the stresses due to  $M_e + M_s e + 5_3(M_t + M_{Imp})$ .  
 $f_s$  (Total) (Non-compact section) is the sum of the stresses due to  $1.3[M_e + M_s e + 5_3(M_t + M_{Imp})]$ .

Notes: Girders, brg. stiffeners and splice plates shall be M270 Grade 345 Steel.  
 Diaphragms and connection plates shall be M270 Grade 250 Steel.  
 All Dimensions are in millimeters (mm) except as noted.

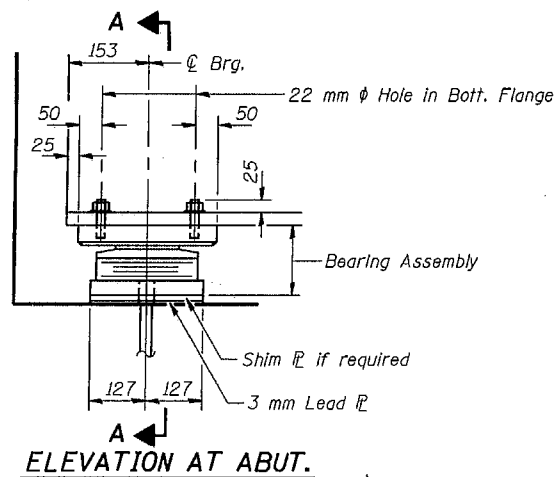
STRUCTURAL STEEL DETAILS  
 OLD IL 121 OVER SUGAR CREEK  
 S.B.I. 121 SECTION 111B-1  
 LOGAN COUNTY  
 STATION 41 + 714.25  
 STRUCTURE NO. 054-0102

|          |        |
|----------|--------|
| DESIGNED | W.J.V. |
| CHECKED  | J.P.S. |
| DRAWN    | C.D.C. |
| CHECKED  | W.J.V. |



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

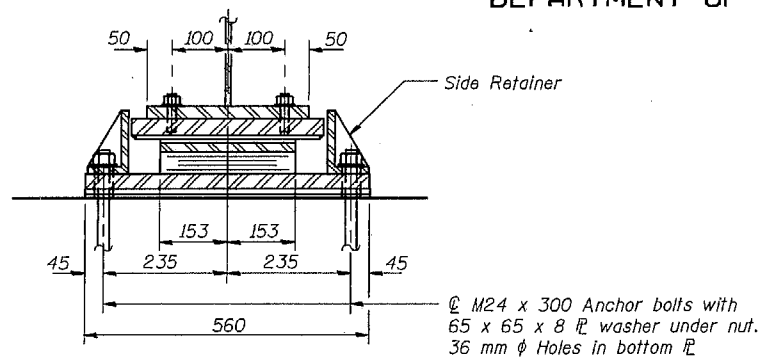
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|--|---------|--------|--------|-------|---------------------------|
| ROUTE NO.  | SECTION | COUNTY | SHEETS | SHEET | SHEET NO. 13<br>23 SHEETS |
| 1774   | 11B-1   | LOGAN  | 42     | 22    |                           |
| FED. ROAD DIST. NO. 3 ILLINOIS FED. AID PROJECT- |         |        |        |       |                           |



ELEVATION AT ABUT.

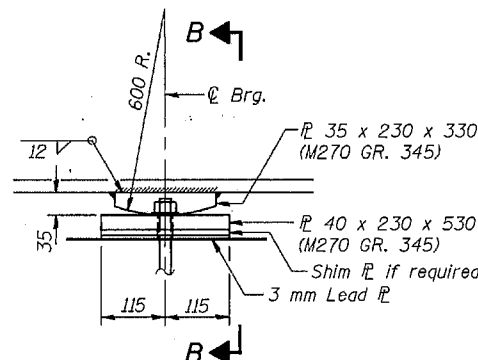
TYPE II TFE ELASTOMERIC EXP. BRG.

(South Abutment)

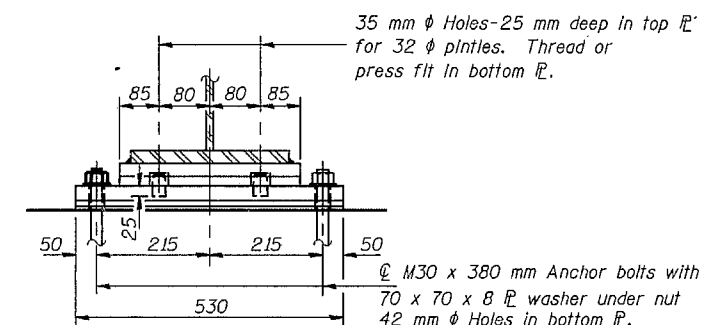


SECTION A-A

Side Retainer  
M24 x 300 Anchor bolts with 65 x 65 x 8 washer under nut. 36 mm holes in bottom flange.



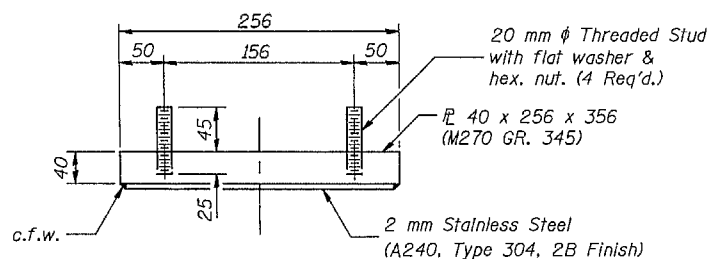
ELEVATION AT PIER



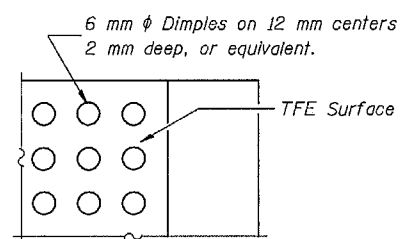
SECTION B-B

FIXED BEARING

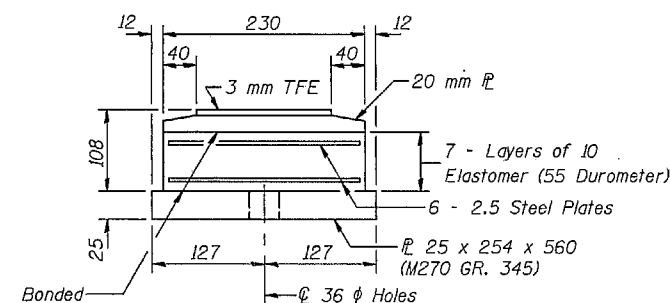
(Pier 1 & 4)  
(6 Required per pier)



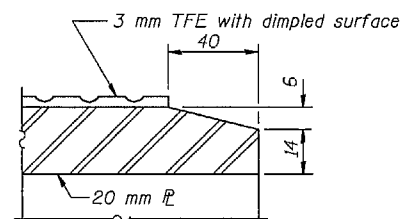
TOP BEARING ASSEMBLY



PLAN-TFE SURFACE



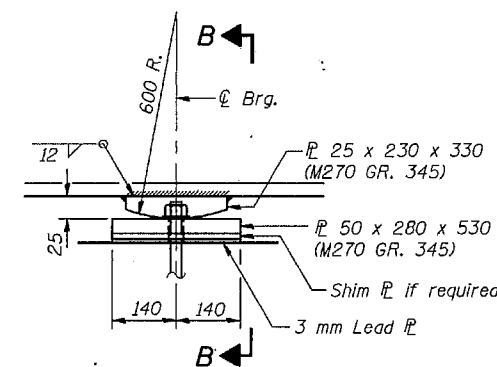
BOTTOM BEARING ASSEMBLY



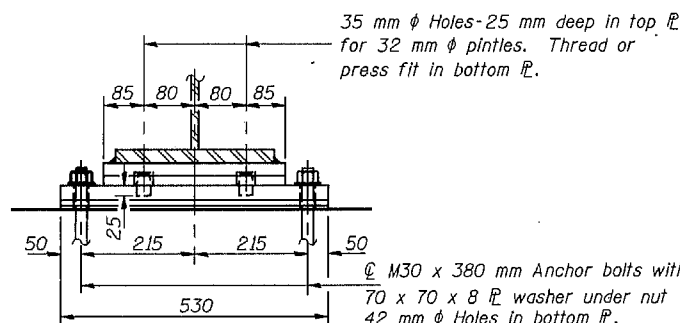
SECTION THRU TFE

Note: The 3 mm TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 3 mm TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



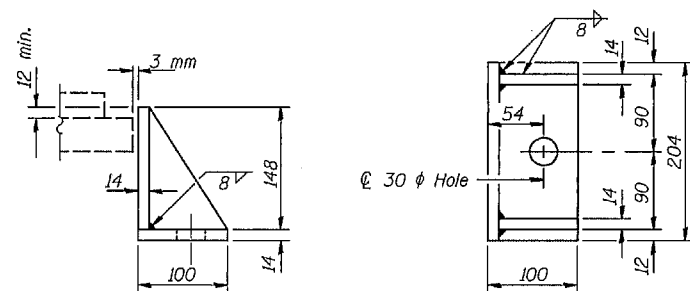
ELEVATION AT PIER



SECTION B-B

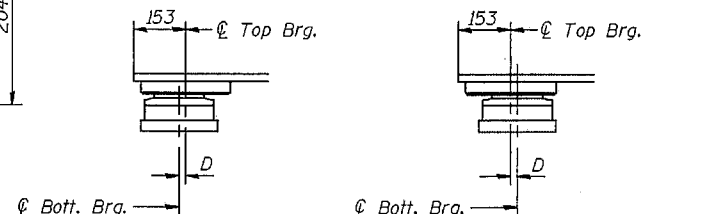
FIXED BEARING

(Pier 2)  
(6 Required)



SIDE RETAINER

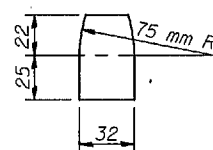
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel



BELOW 10 °C (Move bott. brg. away from fixed brg.) ABOVE 10 °C (Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1 mm per each 10 m of expansion for every 8 °C temp. change from the normal temp. of 10 °C.



PINTLE

BILL OF MATERIAL

| Item                                 | Unit | Total |
|--------------------------------------|------|-------|
| Elastomeric Bearing Assembly Type II | Each | 6     |

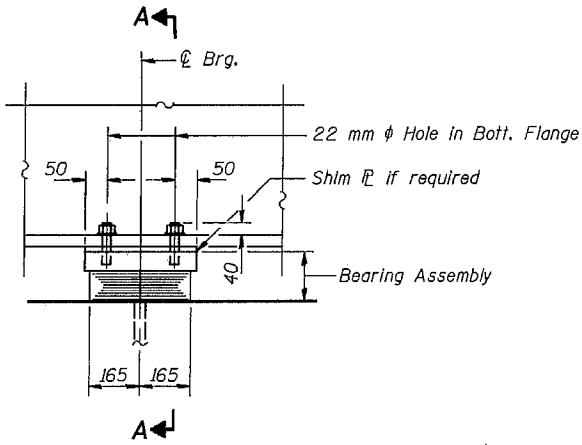
Notes: Anchor bolts at fixed bearings may be built into the masonry. See Sheet #15 of 23 for Anchor Bolt Installation. Fixed Bearing Plates, Side Retainers and anchor bolts shall be included in the Structural Steel weight. All dimensions are in millimeters (mm) except as noted.

BEARING DETAILS  
OLD IL 121 OVER SUGAR CREEK  
S.B.I. 121 SECTION 11B-1  
LOGAN COUNTY  
STATION 41 + 714.25  
STRUCTURE NO. 054-0102

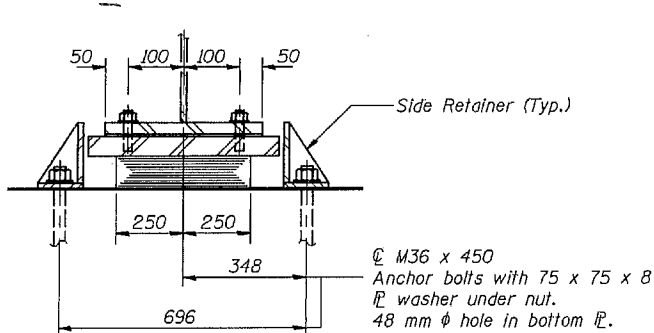
|          |        |
|----------|--------|
| DESIGNED | W.J.V. |
| CHECKED  | J.P.S. |
| DRAWN    | C.D.C. |
| CHECKED  | W.J.V. |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |          |                  |              |           |                           |
|-----------------------|----------|------------------|--------------|-----------|---------------------------|
| ROUTE NO.             | SECTION  | COUNTY           | TOTAL SHEETS | SHEET NO. | SHEET NO. 14<br>23 SHEETS |
| 1774                  | 111B-1   | LOGAN            | 42           | 23        |                           |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT |              |           |                           |
|                       |          |                  |              |           |                           |

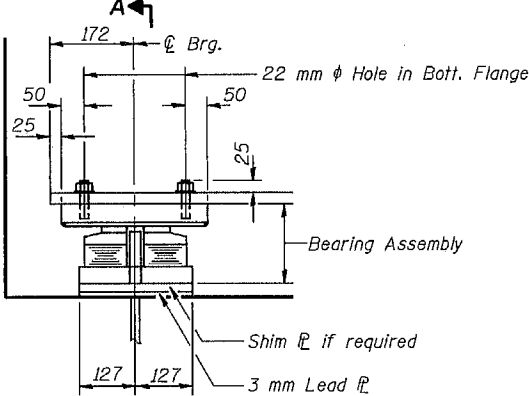


ELEVATION AT PIER

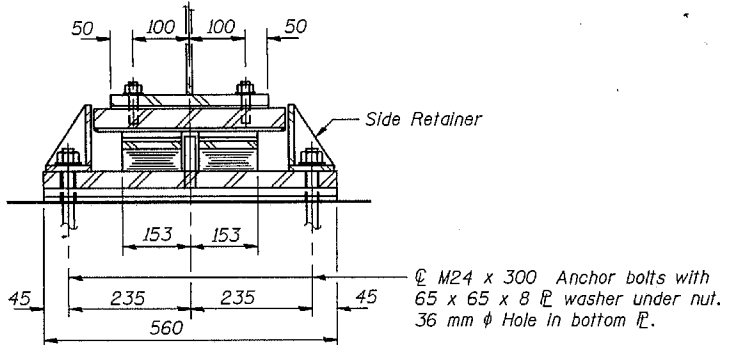


SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.  
(Pier 3)

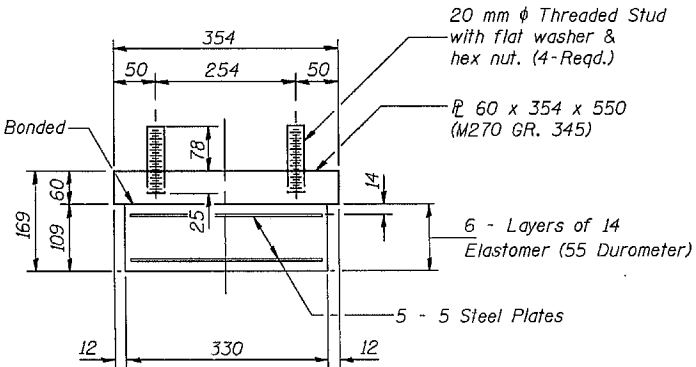


ELEVATION AT ABUT.

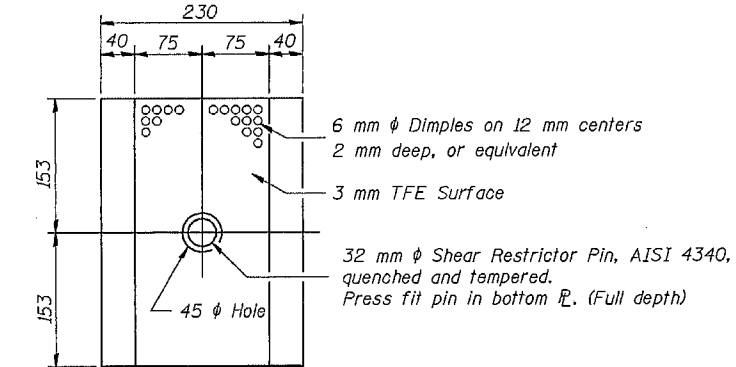


SECTION A-A

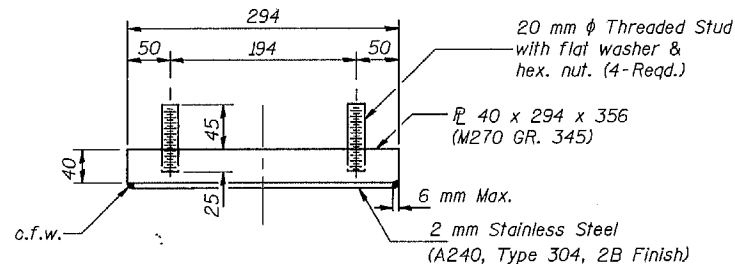
TYPE III ELASTOMERIC EXP. BRG.  
(North Abutment)



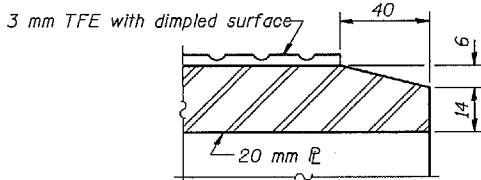
BEARING ASSEMBLY



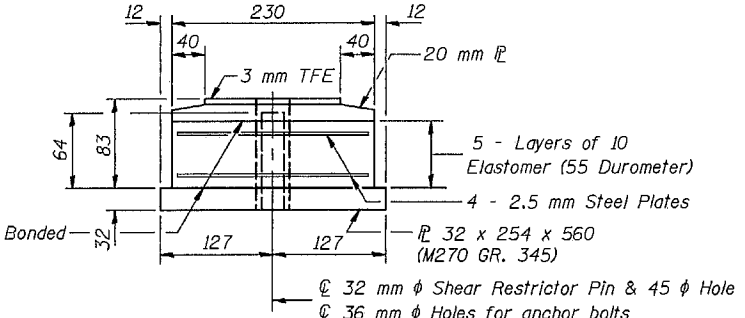
PLAN-TFE ELASTOMERIC BRG.



TOP BEARING ASSEMBLY



SECTION THRU TFE



BOTTOM BEARING ASSEMBLY

Note: Shim plates shall not be placed under Bearing Assembly.

Note: The 3 mm TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 3 mm TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

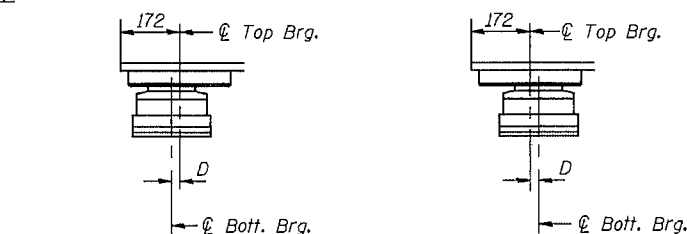
Notes: See Sheet #15 of 23 for Anchor Bolt Installation. Side Retainers and Anchor Bolts shall be included with the Structural Steel weight. All dimensions are in millimeters (mm) except as noted.

BILL OF MATERIAL

| Item                                  | Unit | Total |
|---------------------------------------|------|-------|
| Elastomeric Bearing Assembly Type I   | Each | 6     |
| Elastomeric Bearing Assembly Type III | Each | 6     |

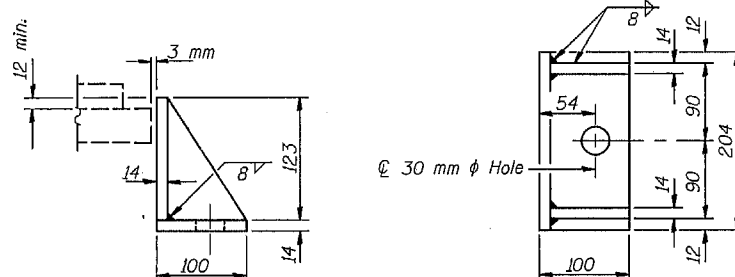
BEARING DETAILS  
OLD IL 121 OVER SUGAR CREEK  
S.B.I. 121 SECTION 111B-1  
LOGAN COUNTY  
STATION 41 + 714.25  
STRUCTURE NO. 054-0102

|          |        |
|----------|--------|
| DESIGNED | W.J.V. |
| CHECKED  | J.P.S. |
| DRAWN    | C.D.C. |
| CHECKED  | W.J.V. |



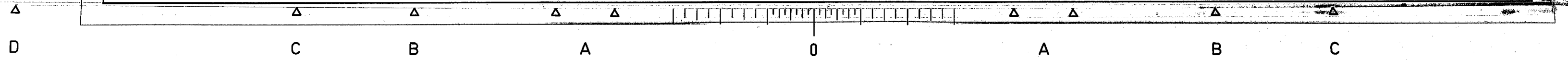
SETTING ANCHOR BOLTS AT EXP. BRG.  
BELOW 10 °C (Move bott. brg. away from fixed brg.)  
ABOVE 10 °C (Move bott. brg. toward fixed brg.)

D = 1 mm per each 10 m of expansion for every 8 °C temp. change from the normal temp. of 10 °C.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight Included with Structural Steel

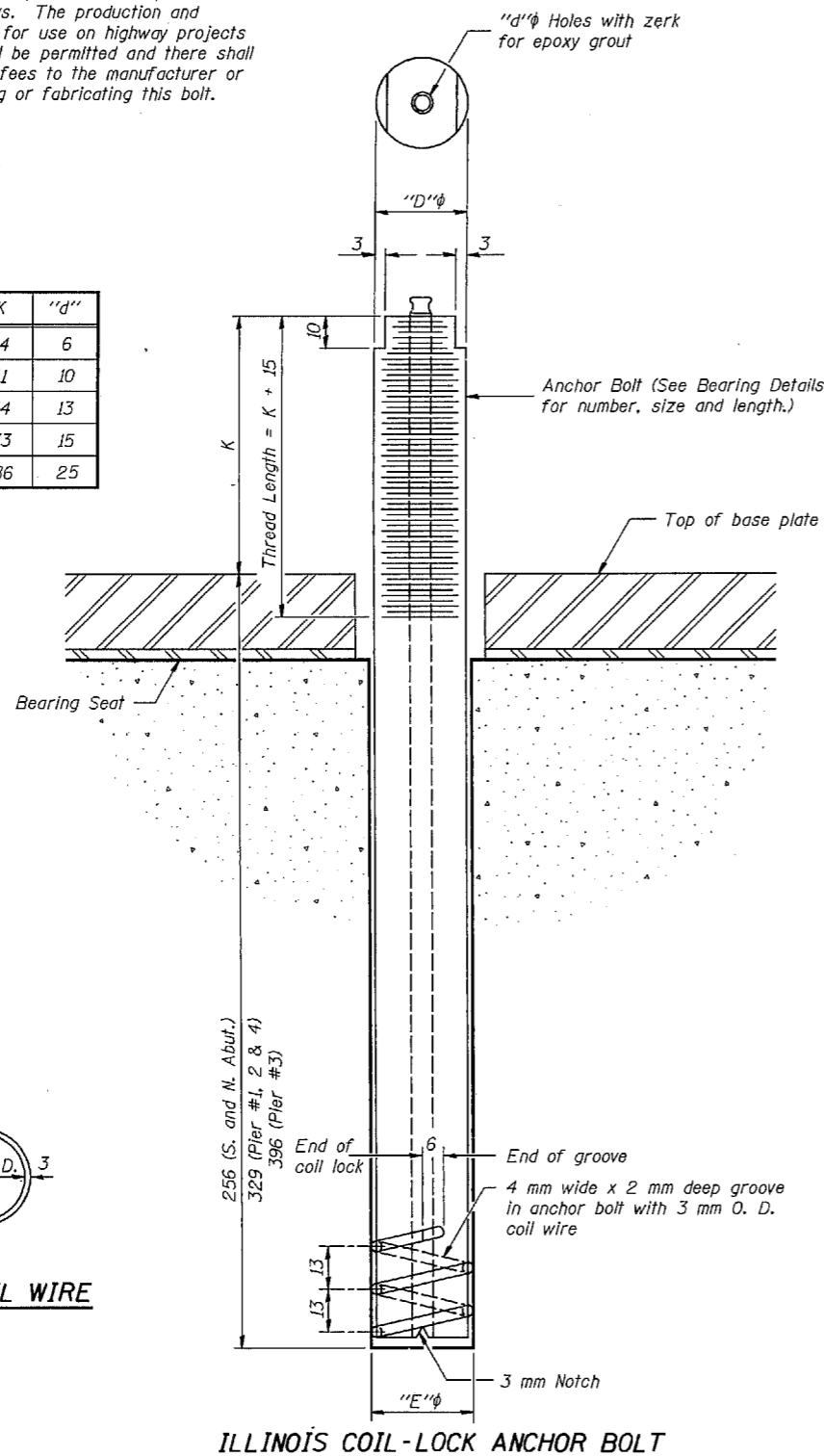


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |          |                  |        |           |              |
|-----------------------|----------|------------------|--------|-----------|--------------|
| ROUTE NO.             | SECTION  | COUNTY           | SHEETS | SHEET NO. | SHEET NO. 15 |
| S.B.I. 121            | 111B-1   | LOGAN            | 42     | 24        | 23 SHEETS    |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT |        |           |              |

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

| D  | E  | H  | K  | "d" |
|----|----|----|----|-----|
| 24 | 27 | 20 | 44 | 6   |
| 30 | 33 | 26 | 51 | 10  |
| 36 | 39 | 32 | 54 | 13  |
| 48 | 51 | 44 | 73 | 15  |
| 64 | 67 | 60 | 86 | 25  |



**MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT.**

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A519, Grade 1026 CW, and supplied with hexagonal nuts and cut washers.  
The coil wire shall be made of any suitable soft steel wire.  
The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.  
The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

**INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT**

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

**ALTERNATE ANCHOR BOLTS**

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes in accordance with the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer conforming to ASTM A307.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

**GENERAL NOTES**

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or in accordance with the manufacturer's recommendation after beams or girders have been erected and adjusted.  
Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.  
The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for "Furnishing and Erecting Structural Steel".  
All dimensions are in millimeters (mm) except as noted.

|          |        |
|----------|--------|
| DESIGNED | W.J.V. |
| CHECKED  | J.P.S. |
| DRAWN    | C.D.C. |
| CHECKED  | W.J.V. |

ANCHOR BOLT DETAILS FOR BEARINGS  
OLD IL 121 OVER SUGAR CREEK  
S.B.I. 121 SECTION 111B-1  
LOGAN COUNTY  
STATION 41 + 714.25  
STRUCTURE NO. 054-0102



C B A 0 A B C



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

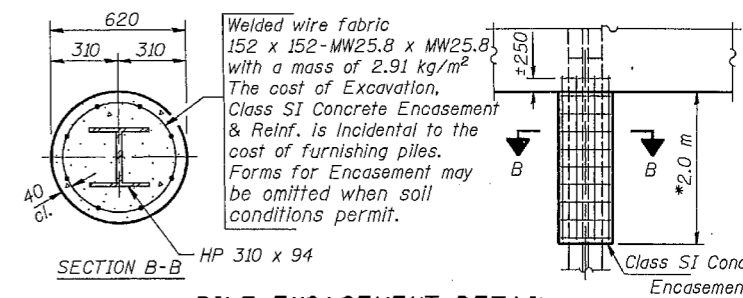
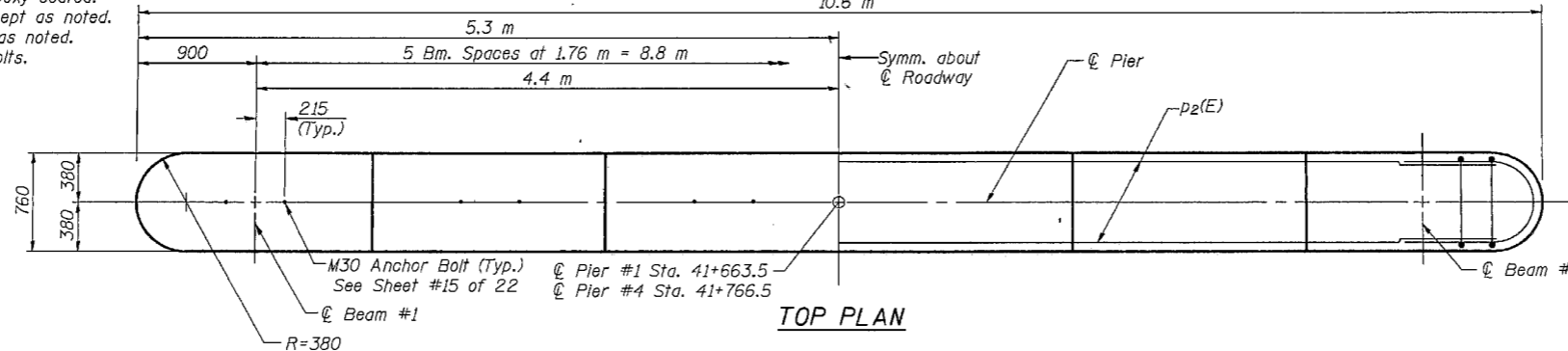
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|-----------------------|---------|----------|------------------|--------------|
| ROUTE NO.             | SECTION | COUNTY   | SHEETS           | SHEET NO. 17 |
| ILL. 1774             | 111B-1  | Logan    | 42               | 26           |
| FED. ROAD DIST. NO. 7 |         | ILLINOIS | FED. AID PROJECT | 23 SHEETS    |

Notes: Four steps monolithically with cap.  
Reinforcement Bars designated (E) shall be epoxy coated.  
All edges shall have standard 20 chamfer except as noted.  
All dimensions are in millimeters (mm) except as noted.  
Space reinforcement in cap to miss anchor bolts.

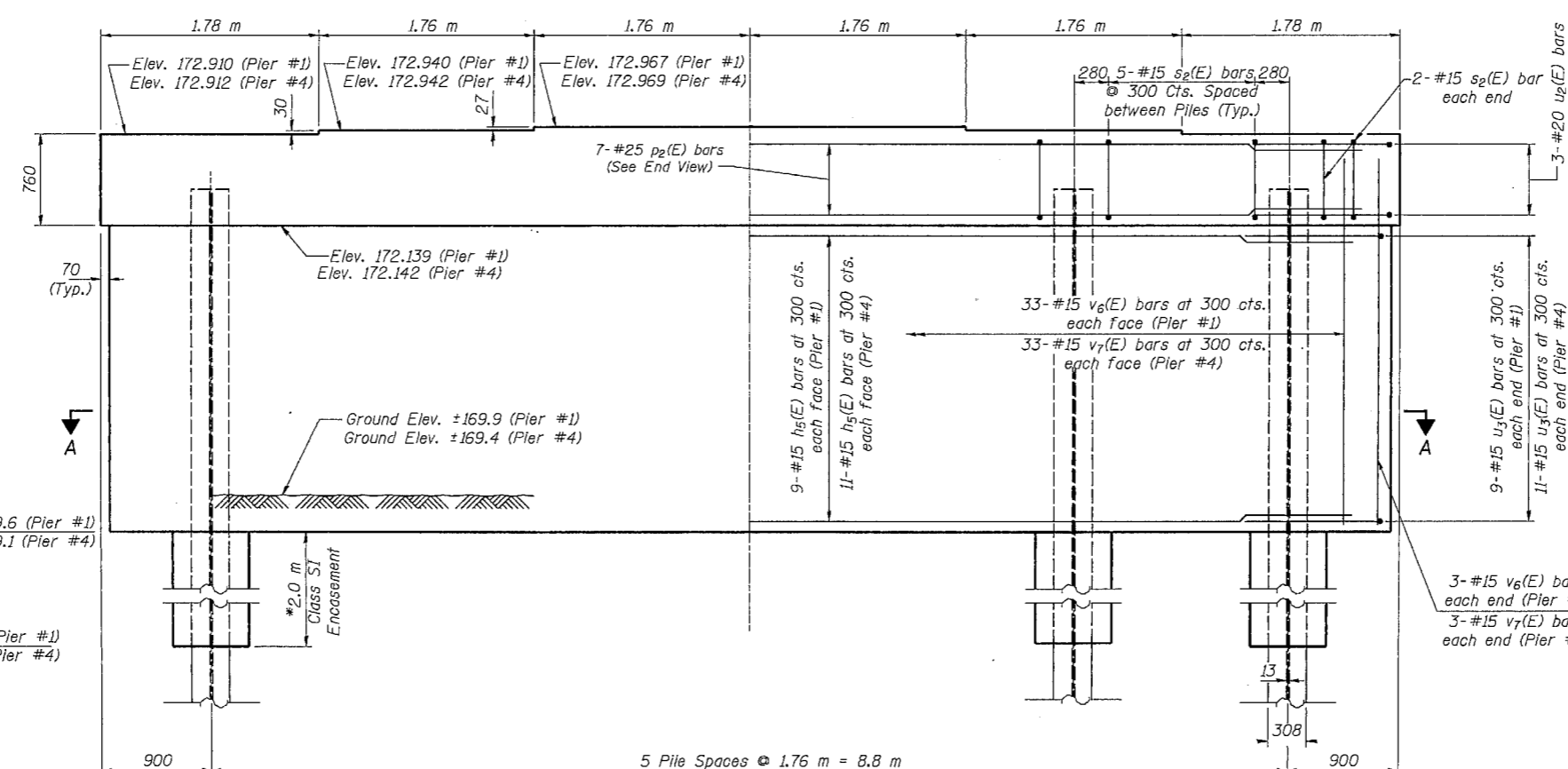
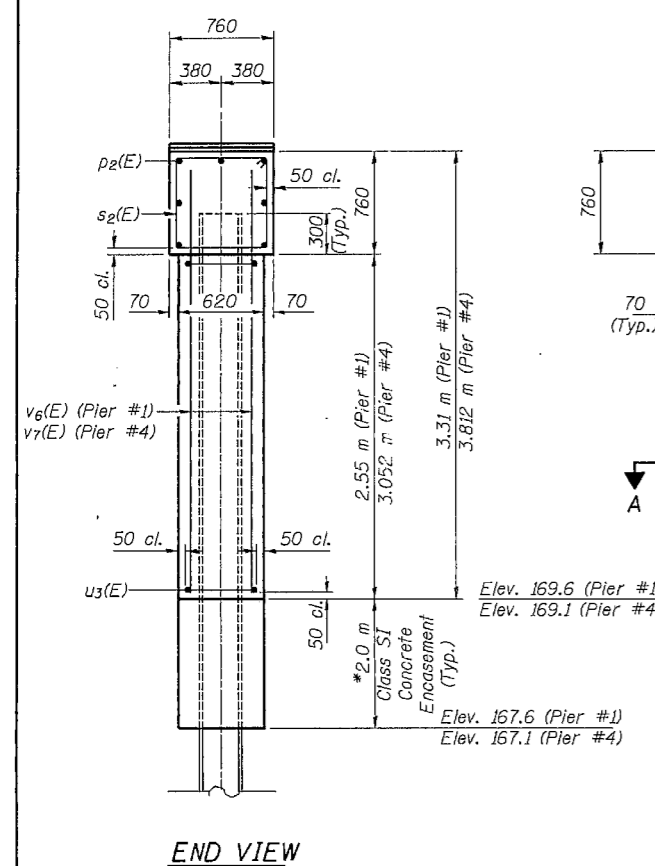
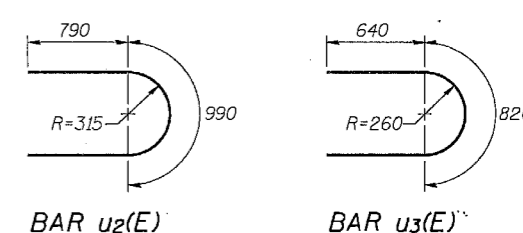
PILE DATA

Type: Steel HP 310 x 94  
Capacity: 670 KN Driven to 1005 KN Bearing  
Est. Length: 23 m (Pier #1)  
No. Required: 5 plus 1 Test Pile  
Est. Length: 20.5 m (Pier #4)  
No. Required: 5 plus 1 Test Pile

Note: Test Pile to be driven to Bearing of 1100 KN.



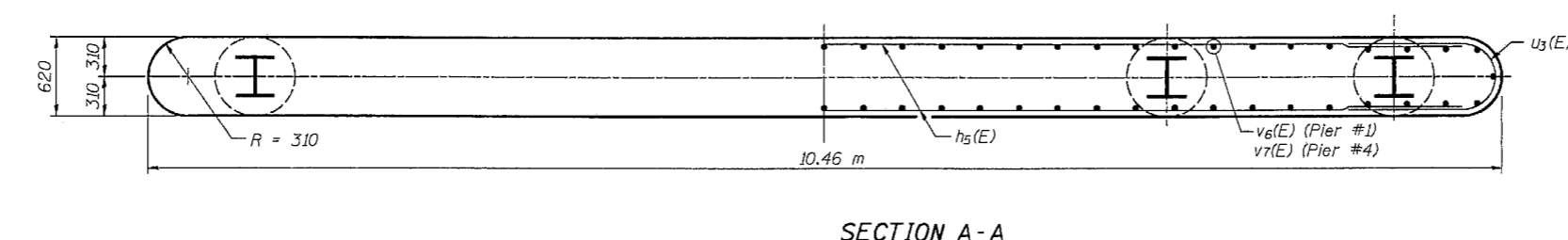
PILE ENCASEMENT DETAIL



TWO PIERS  
BILL OF MATERIAL

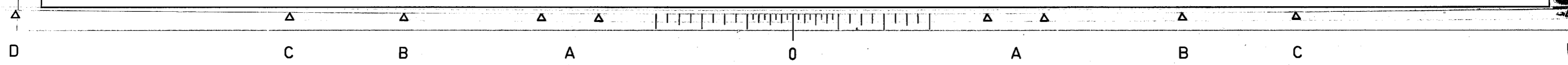
| Bar                                | No. | Size           | Length (m) | Shape |
|------------------------------------|-----|----------------|------------|-------|
| h <sub>5</sub> (E)                 | 40  | #15            | 9.84       | —     |
| p <sub>2</sub> (E)                 | 14  | #25            | 9.84       | —     |
| s <sub>2</sub> (E)                 | 58  | #15            | 2.92       | □     |
| u <sub>2</sub> (E)                 | 12  | #20            | 2.57       | ⌋     |
| u <sub>3</sub> (E)                 | 40  | #15            | 2.10       | ⌋     |
| v <sub>6</sub> (E)                 | 72  | #15            | 3.14       | —     |
| v <sub>7</sub> (E)                 | 72  | #15            | 3.64       | —     |
| Structure Excavation               |     | m <sup>3</sup> | 13         |       |
| Concrete Structures                |     | m <sup>3</sup> | 47.2       |       |
| Reinforcement Bars, Epoxy Coated   |     | kg             | 2400       |       |
| Furnishing Steel Piles HP 310 x 94 |     | m              | 217.5      |       |
| Driving Steel Piles HP 310 x 94    |     | m              | 217.5      |       |
| Test Piles Steel HP 310 x 94       |     | Each           | 2          |       |

\* Forms shall be placed below Elev. 169.6 (Pier #1) and 169.1 (Pier #4) after excavation for pier walls. Reinforcement and Class SI Concrete Encasement shall be placed underwater into forms. The cost of Class SI Concrete Encasement, reinforcement, form excavation, and furnishing and placing forms is incidental to furnishing piles. If a portion of the pier wall is underwater, Class SI Concrete shall be tremied underwater into forms in accordance with Article 503.08 of the Standard Specifications. Concrete shall be tremied to an elevation 300 mm above the water level at the time of construction.



|          |        |
|----------|--------|
| DESIGNED | W.J.V. |
| CHECKED  | J.P.S. |
| DRAWN    | C.D.C. |
| CHECKED  | W.J.V. |

PIERS #1 & #4  
OLD IL 121 OVER SUGAR CREEK  
S.B.I. 121 SECTION 111B-1  
LOGAN COUNTY  
STATION 41 + 714.25  
STRUCTURE NO. 054-0102



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

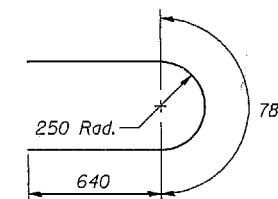
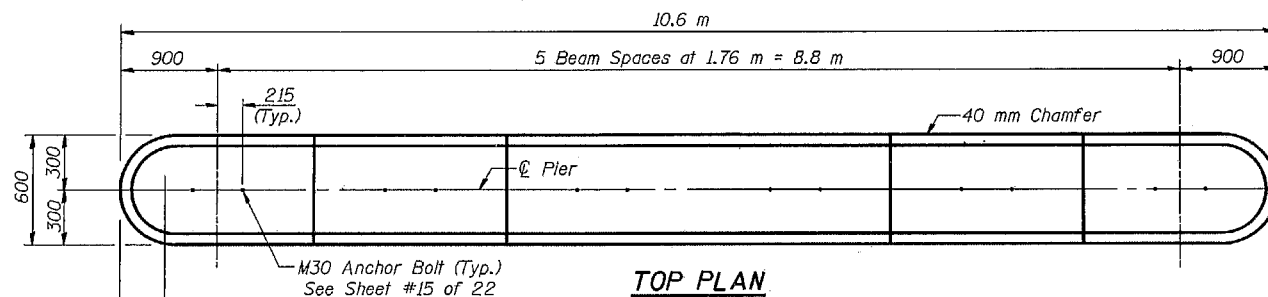
|                       |          |                   |           |       |              |
|-----------------------|----------|-------------------|-----------|-------|--------------|
| ROUTE NO.             | SECTION  | COUNTY            | SHEET NO. | SHEET | SHEET NO. 18 |
| P.A. 11774            | 111B-1   | LOGAN             | 42        | 27    | 23 SHEETS    |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT- |           |       |              |

Notes: Four steps monolithically with cap.  
All edges shall have standard 20 chamfers except as noted.  
All dimensions are in millimeters (mm) except as noted.

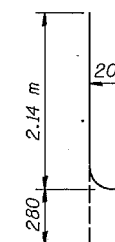
**PILE DATA**

Type: Steel HP 310 x 79  
Capacity: 490 KN Driven to 735 KN Bearing  
Est. Length: 14.0 m  
No. Req'd: 17 plus 1 Test Pile

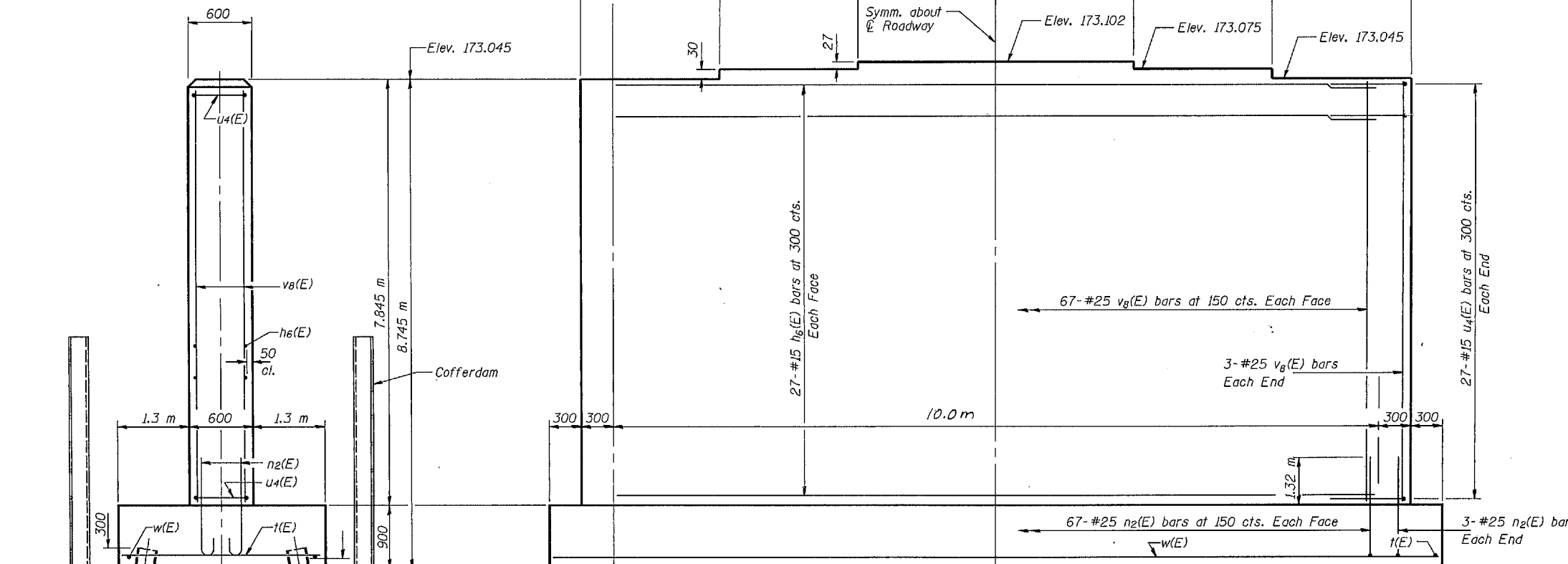
Note: Test Pile to be driven to bearing of 800 KN.



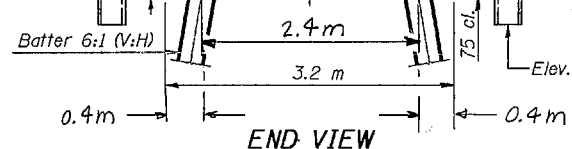
BAR  $u_4(E)$



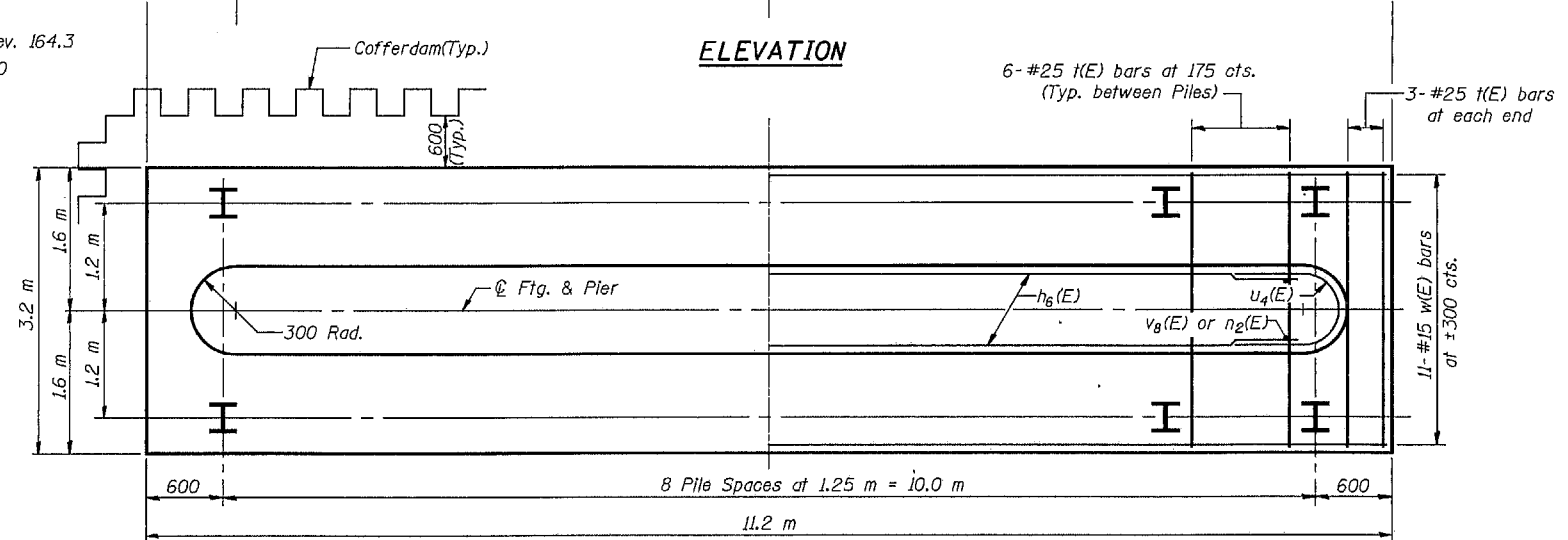
BAR  $n_2(E)$



**ELEVATION**



**END VIEW**



**FOOTING PLAN**

**BILL OF MATERIAL**

| Bar                                | No. | Size | Length (m)     | Shape |
|------------------------------------|-----|------|----------------|-------|
| $h_6(E)$                           | 54  | #15  | 10.00          | —     |
| $n_2(E)$                           | 140 | #25  | 2.42           | U     |
| $t(E)$                             | 54  | #25  | 3.12           | —     |
| $u_4(E)$                           | 54  | #15  | 2.06           | U     |
| $v_8(E)$                           | 140 | #25  | 7.75           | —     |
| $w(E)$                             | 11  | #15  | 11.12          | —     |
| Concrete Structures                |     |      | m <sup>3</sup> | 81.6  |
| Reinforcement Bars, Epoxy Coated   |     |      | kg             | 7460  |
| Furnishing Steel Piles HP 310 x 79 |     |      | m              | 238   |
| Driving Steel Piles HP 310 x 79    |     |      | m              | 238   |
| Test Piles Steel HP 310 x 79       |     |      | Each           | 1     |
| Cofferdam Pier 2                   |     |      | Each           | 1     |
| Cofferdam Excavation               |     |      | m <sup>3</sup> | 246   |

Reinforcement Bars designated (E) shall be epoxy coated.

|          |        |
|----------|--------|
| DESIGNED | W.J.V. |
| CHECKED  | J.P.S. |
| DRAWN    | C.D.C. |
| CHECKED  | W.J.V. |

PIER #2  
OLD IL 121 OVER SUGAR CREEK  
S.B.I. 121 SECTION 111B-1  
LOGAN COUNTY  
STATION 41 + 714.25  
STRUCTURE NO. 054-0102

Note: Reinforcement spacing in footing to be adjusted as needed to avoid conflicts with piles.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

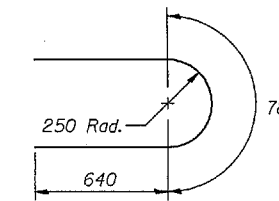
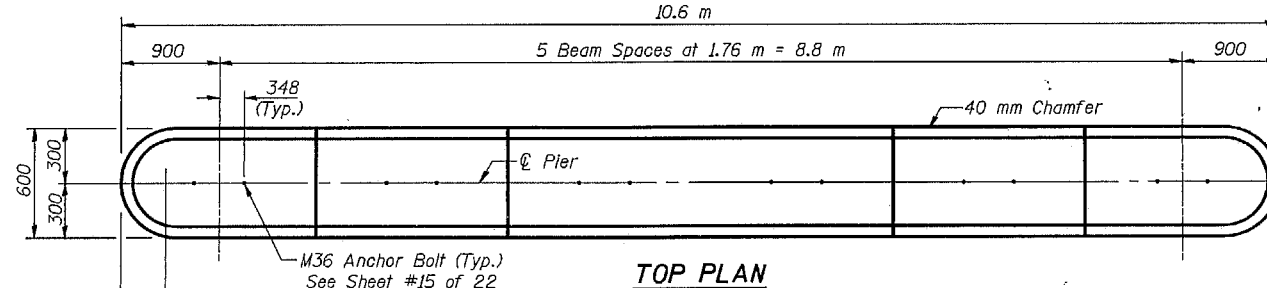
|                       |          |                  |        |           |
|-----------------------|----------|------------------|--------|-----------|
| ROUTE NO.             | SECTION  | COUNTY           | SHEETS | SHEET NO. |
| S.B.I. 1774           | 111B-1   | LOGAN            | 42     | 23        |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT |        | 23 SHEETS |

Notes: Four steps monolithically with cap.  
All edges shall have standard 20 chamfers except as noted.  
All dimensions are in millimeters (mm) except as noted.

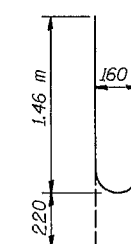
**PILE DATA**

Type: Steel HP 310 x 79  
Capacity: 490 KN Driven to 735 KN Bearing  
Est. Length: 10.0 m  
No. Req'd: 17 plus 1 Test Pile

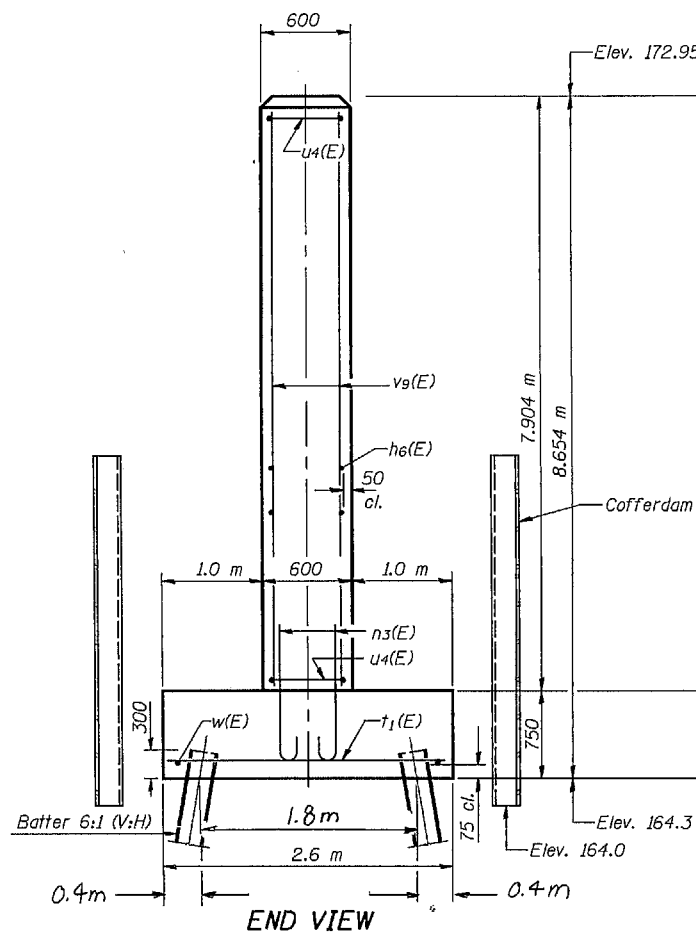
Note: Test Pile to be driven to bearing of 800 KN.



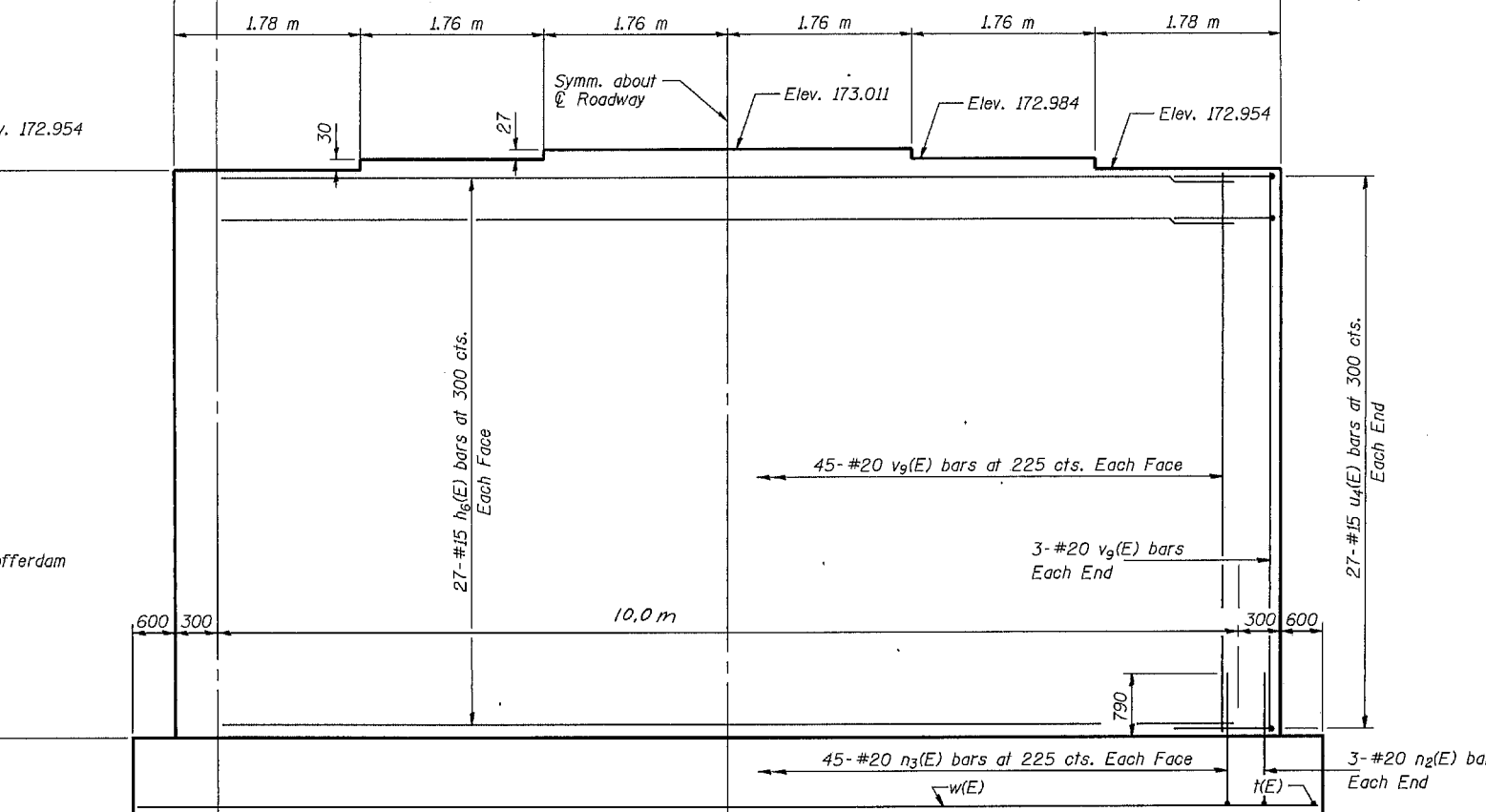
BAR u<sub>4</sub>(E)



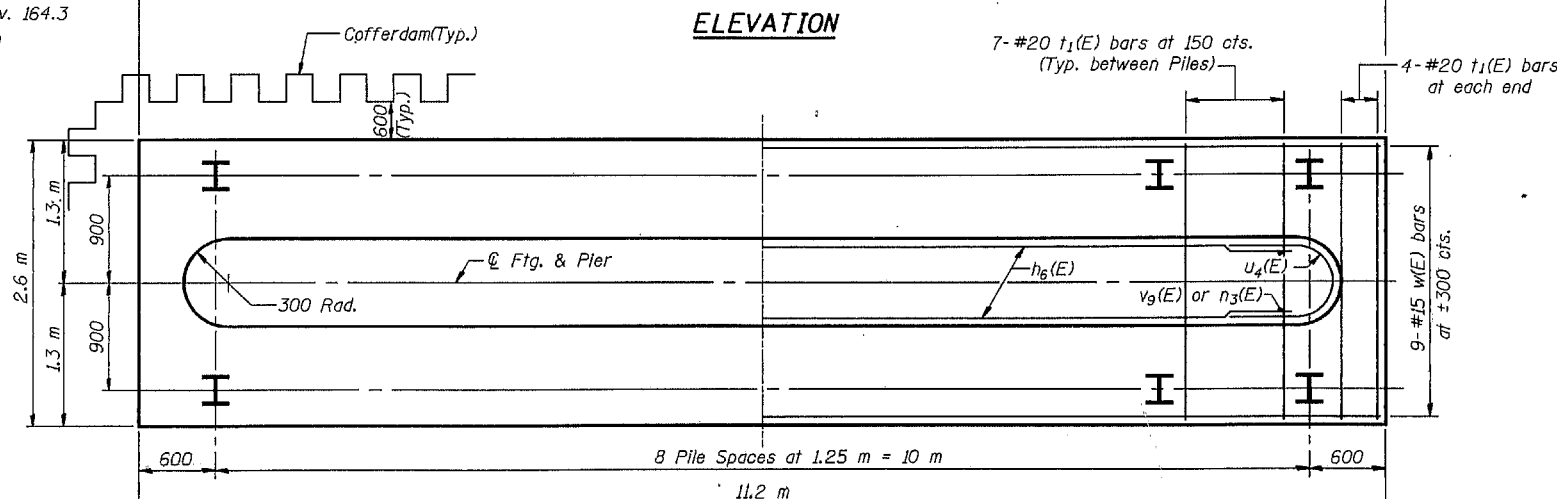
BAR n<sub>3</sub>(E)



END VIEW



ELEVATION



FOOTING PLAN

Note: Reinforcement spacing in footing to be adjusted as needed to avoid conflicts with piles.

**BILL OF MATERIAL**

| Bar                                | No. | Size | Length (m)     | Shape |
|------------------------------------|-----|------|----------------|-------|
| h <sub>6</sub> (E)                 | 54  | #15  | 10.00          | —     |
| n <sub>3</sub> (E)                 | 96  | #20  | 1.68           | ⌋     |
| t <sub>1</sub> (E)                 | 64  | #20  | 2.52           | —     |
| u <sub>4</sub> (E)                 | 54  | #15  | 2.06           | ⌋     |
| v <sub>9</sub> (E)                 | 96  | #20  | 7.82           | —     |
| w(E)                               | 9   | #15  | 11.12          | —     |
| Concrete Structures                |     |      | m <sup>3</sup> | 71.6  |
| Reinforcement Bars, Epoxy Coated   |     |      | kg             | 3720  |
| Furnishing Steel Piles HP 310 x 79 |     |      | m              | 170   |
| Driving Steel Piles HP 310 x 79    |     |      | m              | 170   |
| Test Piles Steel HP 310 x 79       |     |      | Each           | 1     |
| Cofferdam Pier 3                   |     |      | Each           | 1     |
| Cofferdam Excavation               |     |      | m <sup>3</sup> | 207   |

Reinforcement Bars designated (E) shall be epoxy coated.

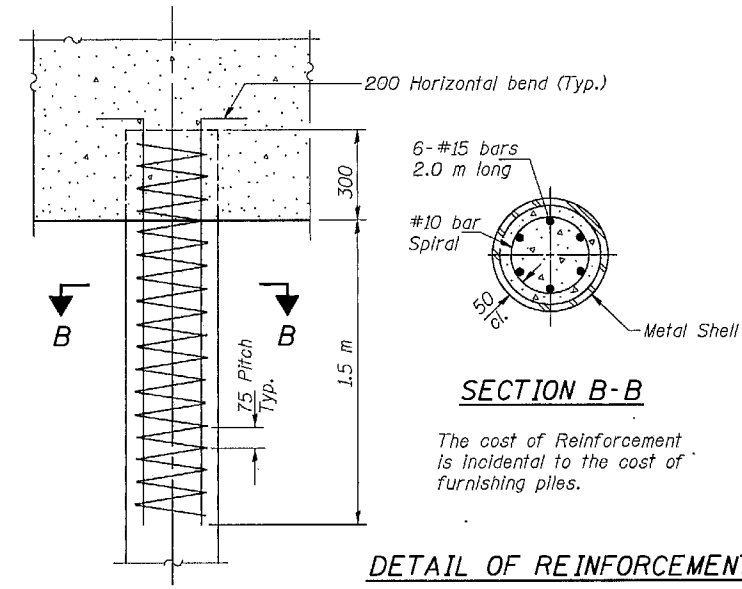
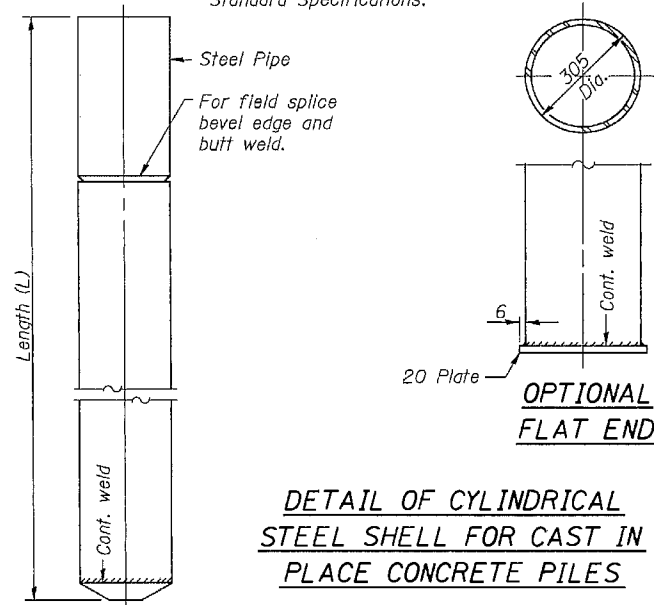
|          |        |
|----------|--------|
| DESIGNED | W.J.V. |
| CHECKED  | J.P.S. |
| DRAWN    | C.D.C. |
| CHECKED  | W.J.V. |

PIER #3  
OLD IL 121 OVER SUGAR CREEK  
S.B.I. 121 SECTION 111B-1  
LOGAN COUNTY  
STATION 41 + 714.25  
STRUCTURE NO. 054-0102

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |         |                           |              |           |                           |
|-----------------------|---------|---------------------------|--------------|-----------|---------------------------|
| ROUTE NO.             | SECTION | COUNTY                    | TOTAL SHEETS | SHEET NO. | SHEET NO. 20<br>23 SHEETS |
| P.A.S. 1174           | 111B-1  | LOGAN                     | 42           | 29        |                           |
| FED. ROAD DIST. NO. 7 |         | ILLINOIS FED. AID PROJECT |              |           |                           |

Notes: Driving and bearing ends of pipe shall be cut square.  
The thickness of the shell shall be 6.35 mm with a tolerance of 5% .  
The shell shall be in accordance with Article 1006.05(a) of the Standard Specifications.



**DETAIL OF REINFORCEMENT FOR METAL SHELLS AT ABUTMENTS**

Notes: All Dimensions are in millimeters (mm) Except as noted.

|          |        |
|----------|--------|
| DESIGNED | W.J.V. |
| CHECKED  | J.P.S. |
| DRAWN    | C.D.C. |
| CHECKED  | W.J.V. |

CONCRETE PILE DETAILS  
OLD IL 121 OVER SUGAR CREEK  
S.B.I. 121 SECTION 111B-1  
LOGAN COUNTY  
STATION 41 + 714.25  
STRUCTURE NO. 054-0102







