<table>
<thead>
<tr>
<th>Drawing</th>
<th>Modification Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OVERHEAD SIGN STRUCTURE SPAN TYPE STRUCTURE DETAILS</strong></td>
<td></td>
</tr>
<tr>
<td>F1 Sheet 1</td>
<td>Update barrier shape to constant slope.</td>
</tr>
<tr>
<td>Sheet 3</td>
<td>Revised anchor bolt length for taller barrier. Update X values &quot;Design Table for Drilled Shafts in Cohesive Soils&quot; and added Qu &gt; 1.25 Ton/Sq. Ft. to the drilled shaft design table.</td>
</tr>
<tr>
<td>Sheet 4</td>
<td>Update barrier shape, details and quantities for constant slope. Update X values &quot;Design Table for Drilled Shafts in Cohesive Soils&quot; and added Qu &gt; 1.25 Ton/Sq. Ft. to the drilled shaft design table. Revised callout and quantities for grade beam to be class SI concrete.</td>
</tr>
<tr>
<td>Sheet 5</td>
<td>Revised shape of 11(E) bar in Bar List table and updated barrier shape, details and quantities for constant slope. Update X values &quot;Design Table for Drilled Shafts in Cohesive Soils&quot; and added Qu &gt; 1.25 Ton/Sq. Ft. to the drilled shaft design table. Revised callout and quantities for grade beam to be class SI concrete.</td>
</tr>
<tr>
<td><strong>OVERHEAD SIGN STRUCTURE BUTTERFLY TYPE STRUCTURE DETAILS</strong></td>
<td></td>
</tr>
<tr>
<td>F4 Sheet 7</td>
<td>Update barrier shape to constant slope.</td>
</tr>
<tr>
<td><strong>OVERHEAD SIGN STRUCTURE CANTILEVER TYPE STRUCTURE DETAILS</strong></td>
<td></td>
</tr>
<tr>
<td>F8 Sheet 1</td>
<td>Revised Note 2 reference to designer.</td>
</tr>
<tr>
<td><strong>BREAKAWAY SIGN SUPPORT DETAILS</strong></td>
<td></td>
</tr>
<tr>
<td>F9 Sheet 1</td>
<td>Clarified the design stress for soil pressure and separated into a new category ‘Foundation’</td>
</tr>
<tr>
<td><strong>MILEPOST MARKER</strong></td>
<td></td>
</tr>
<tr>
<td>F11 Sheet 2</td>
<td>Removed ‘WALL’ from Barrier Wall Mount Detail title.</td>
</tr>
<tr>
<td><strong>MOUNTING DETAILS FOR RETROFITTING NEW EXIT SIGN PANELS</strong></td>
<td></td>
</tr>
<tr>
<td>F12 Sheet 1</td>
<td>This sheet has been removed from Standard to the 720 OHS Base Sheets.</td>
</tr>
<tr>
<td><strong>OVERHEAD SIGN STRUCTURE MONOTUBE TYPE (STEEL) MAINLINE STRUCTURE DETAILS</strong></td>
<td></td>
</tr>
<tr>
<td>F13 Sheet 1</td>
<td>Update barrier shape to constant slope. Revised dimension note for minimum clearance.</td>
</tr>
<tr>
<td>Sheet 2</td>
<td>Update barrier shape to constant slope. Revised dimension note for minimum clearance.</td>
</tr>
<tr>
<td>Sheet 3</td>
<td>Update barrier shape to constant slope.</td>
</tr>
<tr>
<td>Sheet 6</td>
<td>Update barrier shape and reinforcing details for constant slope.</td>
</tr>
<tr>
<td>Sheet 7</td>
<td>Update barrier shape and reinforcing details for constant slope.</td>
</tr>
<tr>
<td>Sheet 8</td>
<td>Update barrier shape and reinforcing details for constant slope.</td>
</tr>
<tr>
<td><strong>OVERHEAD SIGN STRUCTURE MONOTUBE TYPE (STEEL) STRUCTURE DETAILS FOR AET RAMP</strong></td>
<td></td>
</tr>
<tr>
<td>F14 Sheet 5</td>
<td>Revised Note 2 for protective coat to include the perimeter of the column.</td>
</tr>
<tr>
<td>Sheet 6</td>
<td>Update barrier shape to constant slope.</td>
</tr>
<tr>
<td><strong>OVERHEAD SIGN STRUCTURE MONOTUBE TYPE (STEEL) STRUCTURE DETAILS FOR CASH-IPO RAMP</strong></td>
<td></td>
</tr>
<tr>
<td>F15 Sheet 1</td>
<td>Update barrier shape to constant slope. Updated Elevation and table to indicate “I-Pass or Pay Online Sign”.</td>
</tr>
<tr>
<td>Sheet 2</td>
<td>Update barrier shape to constant slope. Revised elevation to show square bar continuous. Updated dimension note for minimum clearance.</td>
</tr>
<tr>
<td>Sheet 3</td>
<td>Update barrier shape to constant slope. Updated dimension note for minimum clearance.</td>
</tr>
<tr>
<td>Sheet 5</td>
<td>Section H-H dimensions are updated.</td>
</tr>
<tr>
<td>Sheet 6</td>
<td>Update barrier shape and reinforcing details for constant slope.</td>
</tr>
<tr>
<td>Sheet 7</td>
<td>Update barrier shape and reinforcing details for constant slope.</td>
</tr>
<tr>
<td><strong>OVERHEAD SIGN STRUCTURE MONOTUBE TYPE (STEEL) STRUCTURE DETAILS FOR CASH-IPO RAMP</strong></td>
<td></td>
</tr>
<tr>
<td>F16 Sheet 1</td>
<td>Update barrier shape to constant slope.</td>
</tr>
<tr>
<td>Sheet 2</td>
<td>Update barrier shape to constant slope. Updated dimension note for minimum clearance.</td>
</tr>
<tr>
<td>Sheet 5</td>
<td>Update barrier shape and reinforcing details for constant slope.</td>
</tr>
<tr>
<td>Sheet 6</td>
<td>Update barrier shape and reinforcing details for constant slope.</td>
</tr>
<tr>
<td><strong>OVERHEAD SIGN STRUCTURE SPAN STYPE (STEEL) STRUCTURE DETAILS</strong></td>
<td></td>
</tr>
<tr>
<td>F17 Sheet 8</td>
<td>Update barrier shape to constant slope and revised transition length from 10'-0&quot; to 21'-3&quot;.</td>
</tr>
<tr>
<td>Sheet 9</td>
<td>Update barrier shape to constant slope and revised transition length from 10'-0&quot; to 21'-3&quot;.</td>
</tr>
</tbody>
</table>
TABLE C: TRUSS AND POST DETAILS FOR 18'-0'' (MAX.) SIGN HEIGHT

<table>
<thead>
<tr>
<th>DESIGN SPAN</th>
<th>TRUSS TYPE</th>
<th>TRUSS SIZE</th>
<th>ACTUAL SPAN LENGTH</th>
<th>MAXIMUM SPAN LENGTH</th>
<th>STEEL SUPPORT POST DETAILS</th>
<th>HORIZONTAL 1</th>
<th>VERTICAL 2</th>
<th>HORIZONTAL 3</th>
<th>POST JOINT DETAIL</th>
<th>TRUSS INTERIOR JOINT DETAIL</th>
<th>POST END JOINT DETAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>20'</td>
<td>28</td>
<td>2'-0''</td>
<td>20'-0''</td>
<td>20'-0''</td>
<td>19'' x 19'' x 19''</td>
<td>1/4''</td>
<td>1/4''</td>
<td>1/4''</td>
<td>1/4''</td>
<td>1/4''</td>
<td>1/4''</td>
</tr>
<tr>
<td>25</td>
<td>30</td>
<td>3'-0''</td>
<td>25'-0''</td>
<td>25'-0''</td>
<td>22'' x 22'' x 22''</td>
<td>1/4''</td>
<td>1/4''</td>
<td>1/4''</td>
<td>1/4''</td>
<td>1/4''</td>
<td>1/4''</td>
</tr>
<tr>
<td>30</td>
<td>32</td>
<td>4'-0''</td>
<td>30'-0''</td>
<td>30'-0''</td>
<td>24'' x 24'' x 24''</td>
<td>1/4''</td>
<td>1/4''</td>
<td>1/4''</td>
<td>1/4''</td>
<td>1/4''</td>
<td>1/4''</td>
</tr>
<tr>
<td>35</td>
<td>34</td>
<td>5'-0''</td>
<td>35'-0''</td>
<td>35'-0''</td>
<td>26'' x 26'' x 26''</td>
<td>1/4''</td>
<td>1/4''</td>
<td>1/4''</td>
<td>1/4''</td>
<td>1/4''</td>
<td>1/4''</td>
</tr>
</tbody>
</table>

NOTES:
1. TRUSS MEMBERS SHALL BE SPACE A MINIMUM OF 1 TIMES THE WALL THICKNESS OF THE LARGEST CONNECTING MEMBER TO ENSURE PROPER WELD SPACING.
2. FOR SECTIONS B-B, C-C, D-D, E-E AND F-F SEE SHEET 3 OF THIS SERIES.
3. FOR SIGN SUPPORT DETAILS, SEE ILLINOIS TOLLWAY STANDARD DRAWING F8, FOR DMS (SEE NOTE 1).
4. THE DIAGONAL MEMBER SHALL HAVE ADDED OR REVERSED DIRECTION AT ALTERNATE PANELS.
5. FOR SECTIONS A-A, C-C AND D-D SEE SHEET 2 OF THIS SERIES.
6. FOR SECTIONS B-B AND F-F SEE SHEET 3 OF THIS SERIES.
NOTES:
1. Omit top if required to fully seat plate. Repair damaged galvanizing before assembly.
2. After tightening lower connection bolts, fill gap with non-hardening silicon caulking.
3. Connection bolts in collar and bolts at lower chord connection shall be high strength suitable for exterior exposure and acceptable to the engineer.
4. After galvanizing, collar outside diameter of post plus 1/16". Maximum gap between post and collar at any location shall be 1/4" before tightening bolts.
5. Optional full penetration weld in collar. Two locations maximum (180° apart) X-ray.
6. Open pipe toward sign panel side. Holes in post = O.D. pipe + 1".
7. Sheet indicated stud holes in truss type 10-D.

TABLE D: BOLT SCHEDULE

<table>
<thead>
<tr>
<th>BOLT SIZE</th>
<th>BOLT TYPE</th>
<th>SHEET LENGTH</th>
<th>WIND OR OUTSIDE POST</th>
<th>STRUCTURE PLATE</th>
<th>COLLAR PLATE</th>
<th>CONNECTION BOLT</th>
<th>BAR BENDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot;</td>
<td>1/4&quot;</td>
<td>10&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>3/4&quot;</td>
<td>15&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>1&quot;</td>
<td>20&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

NOTE 1: GALVANIZED COVER PLATE
NOTE 2: CONTOURED WASHERS
NOTE 3: SEE TABLE D FOR BOLT SIZE
NOTE 4: SEE NOTE 2
NOTE 5: SEE STANDARD F4-10
NOTE 6: SEE DETAIL 5
NOTE 7: SEE DETAIL 4
NOTE 8: SEE DETAIL 3
NOTE 9: SEE DETAIL 2
NOTE 10: SEE DETAIL 1
NOTE 11: SEE DETAIL 0
NOTE 12: SEE DETAIL -1
OVERHEAD SIGN STRUCTURE
CANTILEVER TYPE
STRUCTURE DETAILS

NOTE:
- For size and number of PVC coated steel conduits, see electrical construction drawings.
- Typical sign structure foundation is shown on this sheet; see sheet 1 of this series for foundation located in roadway median.
- Contribute concrete size, location and quantity with electrical plans; conduit shall be placed to 300" reinforcement shall 360° lap reinforcement bars.

TABLE G - DESIGN TABLE FOR DRILLED SHAFTS IN COHESIVE SOILS

<table>
<thead>
<tr>
<th>Bar Size</th>
<th>Length</th>
<th>Weight</th>
<th>Class B</th>
<th>Class D</th>
</tr>
</thead>
<tbody>
<tr>
<td>#5 v(E)</td>
<td>9'</td>
<td>21</td>
<td>7,700</td>
<td>10,800</td>
</tr>
<tr>
<td>#4 u(E)</td>
<td>9'</td>
<td>16</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>#5 s(E)</td>
<td>9'</td>
<td>13.4</td>
<td>7,700</td>
<td>10,800</td>
</tr>
<tr>
<td>#8 h(E)</td>
<td>9'</td>
<td>13.4</td>
<td>7,700</td>
<td>10,800</td>
</tr>
</tbody>
</table>

REINFORCEMENT IN GRADE BEAM
- For Grade Beam Only.
- See Note 10 for Grade Beam Only.
- See Note 10 for Grade Beam Only.
OVERHEAD SIGN STRUCTURE
CANTILEVER TYPE
STRUCTURE DETAILS

NOTE:

DAMPER: ONE DAMPER PER TRUSS, IN 31 LBS. STOCKBRIDGE-TYPE
29" MINIMUM BETWEEN ENDS OF WEIGHTS.
OVERHEAD SIGN STRUCTURE
CANTILEVER TYPE
STRUCTURE DETAILS

SECTION A-A
DMS TYPE 2W - WALK-IN SUPPORT DETAIL

NOTES:
1. DMS TYPE 2W - WALK-IN SHALL BE ATTACHED TO TRUSS AS CLOSE TO PANEL JOINTS AS POSSIBLE.
2. VERIFY SIGN SUPPORT MEMBER LENGTH PRIOR TO FABRICATION.
3. DMS TYPE 2W - WALK-IN MANUFACTURER SHALL DESIGN, PROVIDE AND INSTALL HORIZONTAL MOUNTING MEMBERS. VERTICAL SPACING OF HORIZONTAL MEMBERS SHALL BE DESIGNED BY DMS TYPE 2W - WALK-IN MANUFACTURER. VERIFY VERTICAL SPACING WITH HOLES FOR STAINLESS STEEL U-BOLT.

STAINLESS STEEL U-BOLT DETAIL

TABLE I: SIGN SUPPORT TABLE

<table>
<thead>
<tr>
<th>SIGN WIDTH</th>
<th>NUMBER OF SIGN SUPPORTS REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>GREATER THAN 8'-0&quot;</td>
<td>5</td>
</tr>
<tr>
<td>LESS THAN 8'-0&quot; &amp; EQUAL TO 14'-0&quot;</td>
<td>6</td>
</tr>
<tr>
<td>GREATER THAN 14'-0&quot; &amp; EQUAL TO 20'-0&quot;</td>
<td>7</td>
</tr>
<tr>
<td>GREATER THAN 20'-0&quot; &amp; EQUAL TO 26'-0&quot;</td>
<td>8</td>
</tr>
<tr>
<td>GREATER THAN 26'-0&quot; &amp; EQUAL TO 32'-0&quot;</td>
<td>9</td>
</tr>
</tbody>
</table>

TABLE J: DMS TYPE 2W - WALK-IN TABLE

<table>
<thead>
<tr>
<th>MAXIMUM TRUSS LENGTH</th>
<th>MAXIMUM HEIGHT</th>
<th>MAXIMUM DEPTH</th>
</tr>
</thead>
</table>
NOTES:

1. DRILLING HOLES IN GRATING MAY BE DONE IN SHOP OR FIELD, BASED ON CONTRACTOR'S PREFERENCE AND SUBJECT TO ACCURATE ALIGNMENT.

2. IF MINIMAL JOINT PRESENT, WELD ANGLES TO POSTS AND 2" EXTENSION BARS, SEE SHEET 11 OF THIS SERIES.

3. 3/8" x 1/2" x 4" WELDS TO MANHOLE POSTS TO PROTECT LOCATIONS THAT CONTACT GRATING.

4. W6X9 WALK-IN MANUFACTURED SMALL DESIGN AND SUPPLY HARDWARE FOR CONNECTION TO MANHOLE POSTS, SHALL BE STAINLESS STEEL OR HOT DIP GALVANIZED HIGH STRENGTH PER IDOT SPECIFICATIONS.
NOTES:
1. INSTALL STANDARD FORCE-FIT END CAPS ON 1/2" END PLATED WITH 3/8" CRIP, AND FLOOR BOLTED W/ M8 BOLT, EACH END.
2. HORIZONTAL HANDRAIL MEMBER SHALL BE CONTINUOUS THRU 1/2" PIPE.
3. 1/2" X 7/8" X 10 X 12 преднебный STEEL GRATING FOR UTL-UPPER HANDRAIL MANUFACTURED VERTICALS.
4. PROVIDE 3/8" HOLE IN 1/2" PIPE FOR 3/8" DOWEL, FIELD INSTALL.
5. 3/8" DOWEL IN HORIZONTAL PIPE, INSERT UNLOCKED AND TWO STAINLESS STEEL WASHERS FOR BOLT, USE 3/8" EXCELS IN 7/8" HOLE ON TOP END AT END ONLY.
6. PROVIDE 3/8" HOLE FOR 3/8" EYE-BOLT IN 1/2" PIPE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
7. PROVIDE 3/8" HOLE IN 1/2" PIPE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
8. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
10. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
11. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
12. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
13. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
15. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
16. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
17. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
18. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
19. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
20. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
22. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
23. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
24. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
25. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
27. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
28. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
29. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
30. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
31. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
32. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
33. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
34. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
35. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
36. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
37. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
38. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
39. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
40. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
41. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
42. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
43. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
44. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
45. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
46. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
47. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
48. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
49. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
50. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
51. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
52. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
53. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
54. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
55. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
56. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
57. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
58. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
59. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
60. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
61. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
62. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
63. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
64. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
65. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
66. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
67. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
68. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
69. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
70. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
71. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
72. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
73. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
74. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
75. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
76. PROVIDE 3/8" HOLE FOR DETAIL OF NO. 2 HANDRAIL (APPROX.) SEE NOTE 3.
SIGN AND LUMINAIRE SUPPORT DETAIL

NOTES:
1. Sign panel shall be attached to truss as close to panel joints as possible.
2. Luminaires support members to be installed only when sign structure is to be illuminated.

PLAN

SIGN SUPPORT MEMBERS

TRUSS DEPTH

<table>
<thead>
<tr>
<th>Depth</th>
<th>4'-0&quot;</th>
<th>3'-0&quot;</th>
<th>2'-0&quot;</th>
<th>1'-0&quot;</th>
<th>0'-0&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>5'-0&quot;</td>
<td>1.738</td>
<td>1.738</td>
<td>1.738</td>
<td>1.738</td>
<td>1.738</td>
</tr>
<tr>
<td>4'-0&quot;</td>
<td>1.738</td>
<td>1.738</td>
<td>1.738</td>
<td>1.738</td>
<td>1.738</td>
</tr>
<tr>
<td>3'-0&quot;</td>
<td>1.738</td>
<td>1.738</td>
<td>1.738</td>
<td>1.738</td>
<td>1.738</td>
</tr>
<tr>
<td>2'-0&quot;</td>
<td>1.738</td>
<td>1.738</td>
<td>1.738</td>
<td>1.738</td>
<td>1.738</td>
</tr>
</tbody>
</table>

Note: Sign panel width beyond the outside vertical member shall be limited to 1/3 of the maximum spacing.

STAINLESS STEEL U-BOLT DETAIL

DETAIL A

SECTION Z-Z

SECTION C-C

OVERHEAD SIGN STRUCTURE
SIGN AND LUMINAIRE SUPPORTS

STANDARD FB-07
**Foundation Table**

<table>
<thead>
<tr>
<th>POST</th>
<th>REINFORCEMENT</th>
<th>슬부</th>
<th>HOLE SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M20x9</td>
<td>6'-0&quot;</td>
<td>7/8</td>
<td>8</td>
</tr>
<tr>
<td>M20x13</td>
<td>6'-0&quot;</td>
<td>7/8</td>
<td>8</td>
</tr>
<tr>
<td>M20x17</td>
<td>6'-0&quot;</td>
<td>7/8</td>
<td>8</td>
</tr>
<tr>
<td>M20x22</td>
<td>6'-0&quot;</td>
<td>7/8</td>
<td>8</td>
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</tbody>
</table>

**Base Connection Data Table**

<table>
<thead>
<tr>
<th>POST</th>
<th>BOLT SIZE AND TORQUE</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>T1</th>
<th>T2</th>
<th>A</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>M20x9</td>
<td>6&quot; x 3/4&quot; L/2</td>
<td>6&quot;</td>
<td>2/6&quot;</td>
<td>1/6&quot;</td>
<td>1/6&quot;</td>
<td>1/6&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M20x13</td>
<td>6&quot; x 3/4&quot; L/2</td>
<td>6&quot;</td>
<td>2/6&quot;</td>
<td>1/6&quot;</td>
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</tbody>
</table>

**Fuse Plate Bolt Size Table**

<table>
<thead>
<tr>
<th>POST</th>
<th>FUSE PLATE DATA TABLE</th>
<th>SIGN DEPTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>M20x9</td>
<td>4&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>M20x13</td>
<td>6&quot;</td>
<td>6&quot;</td>
</tr>
</tbody>
</table>

**Equivalent Torque Values**

- 450" = 312 LBS.
- 750" = 554 LBS.
- 1000" = 710 LBS.

**Procedure for Assembly of Base Connection**

1. **Assemble Post to Stub With All Bolts and One of the Three Flat Washers on Each Bolt Before Plates As Shown.**
2. **Shears May Be Used Between Plates to Level Post.**
3. **Tighten Bolts in Base Plate in a Systematic Order to the Required Torque.**
4. **Loosen Each Bolt and Retighten to the Required Torque in Same Order as Initial Tightening.**
5. **Screw or Center Punch Holes at Juncture of Bolt and Nut to Prevent Nut From Ousting.**

**Fuse Plate Bolt Tightening**

All friction fuse bolts shall be tightened in the shop as approved by the engineer according to one of the following methods:

1. **Turn-of-Nut Tightening:**
2. **Tightening by Use of a Direct Tension Indicator.**

The above methods of installation and tightening shall conform to the latest issue of the specification for structural joints using ASTM A-325 or A-490 bolts. For slip-critical connections as issued by the Research Council on Riveted and Bolted Structural Joints of the Engineering Foundation, tightening shall be to such a degree as to obtain the following minimum residual tension in each bolt.

<table>
<thead>
<tr>
<th>BOLT SIZE</th>
<th>MIN. RESIDUAL TENSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot;</td>
<td>10,000 LBS</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>5000 LBS</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>28,400 LBS</td>
</tr>
</tbody>
</table>
**CONDITION 1 - SIGN INSTALLATION**

(* *) For slope of 1/6 (V:H) or flatter

- Pavement
- Roadway

- 4'-0" Aggregate Shoulder
- 6'-0" Minimum
- 7'-0" Minimum
- Paved Shoulder
- Edge of Travelled Way

**CONDITION 2 - SIGN INSTALLATION**

(* *) For slope of 1/6 (V:H) or flatter

- Pavement
- Roadway

- 4'-0" Aggregate Shoulder
- 6'-0" Minimum
- 7'-0" Minimum
- Paved Shoulder
- Edge of Travelled Way

**CONDITION 3 - SIGN INSTALLATION**

- Pavement
- Paved Shoulder
- Edge of Travelled Way

**NOTES:**

1. See sign installation schedule in contract plans for dimensions.
2. The dimensions of all posts for ground mounted signs are based on design cross sections. The contractor shall verify required post lengths in the field, prior to submitting shop drawings and post fabrication to maintain the clearances shown.
3. Sign foundation elevations to be based on finished slopes.
4. Any additional sign to be added later must be supported by the existing sign panel and not the sign post. Minimum clearances shall be maintained.
5. Signs that are placed well outside the clear zone may be installed with a minimum height of 5 feet, measured vertically from the bottom of the sign to the horizontal elevation of the near edge of traveled roadway.
6. Minimum height of lowest post shall be 7'-0" measured between stub projection and hinge joint.
7. For two posts spaced less than 7 feet apart, each post shall have a mass less than 18 lbs.
8. When the total combined weight of the two posts located within 7 feet of each other exceeds 600 lbs., the sign shall be placed well outside the clear zone or be shielded from vehicular impact.

**STANDARD F9-05**

**BREAKAWAY SIGN SUPPORT DETAILS**

**UNSHIELDED SLOPE**

**1-1-2010**

**APPROVED**

**DATE**

**CHIEF ENGINEER**
NOTES:
1. SEE SIGN INSTALLATION SCHEDULE IN CONTRACT PLANS FOR DIMENSIONS.
2. THE DIMENSIONS OF ALL POSTS FOR GROUND MOUNTED SIGNS ARE BASED ON DESIGN CROSS SECTIONS. THE CONTRACTOR SHALL VERIFY REQUIRED POST LENGTHS IN THE FIELD, PRIOR TO SUBMITTING SHOP DRAWINGS AND POST FABRICATION TO MAINTAIN THE CLEARANCES SHOWN.
3. THE DIMENSIONS OF ALL POSTS FOR GROUND MOUNTED SIGNS ARE BASED ON DESIGN CROSS SECTIONS. THE CONTRACTOR SHALL VERIFY REQUIRED POST LENGTHS IN THE FIELD, PRIOR TO SUBMITTING SHOP DRAWINGS AND POST FABRICATION TO MAINTAIN THE CLEARANCES SHOWN.
4. ANY ADDITIONAL SIGN TO BE ADDED LATER MUST BE SUPPORTED BY THE EXISTING SIGN PANEL AND NOT THE SIGN POST. MINIMUM CLEARANCES SHALL BE MAINTAINED.
5. SIGNS THAT ARE PLACED WELL OUTSIDE THE CLEAR ZONE MAY BE INSTALLED WITH A MINIMUM HEIGHT OF 5 FEET, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE HORIZONTAL ELEVATION OF THE NEAR EDGE OF TRAVELED ROADWAY.
6. MINIMUM HEIGHT OF LOWEST POST SHALL BE 7'-0" MEASURED BETWEEN STUB PROJECTION AND HINGE JOINT.
7. FOR TWO POSTS SPACED LESS THAN 7 FEET APART, EACH POST SHALL HAVE A MASS LESS THAN 18 LB/FT.
8. WHEN THE TOTAL COMBINED WEIGHT OF THE TWO POSTS LOCATED WITHIN 7 FEET OF EACH OTHER Exceeds 600 lbs., THE SIGN SHALL BE PLACED WELL OUTSIDE THE CLEAR ZONE OR BE SHIELDED FROM VEHICULAR IMPACT.
GROUND MOUNT SIGN POSITIONING

NOT TO SCALE

MEDIAN BARRIER SIGN POSITIONING

SECTION WITH GUTTER

SECTION WITHOUT GUTTER

TANGENT SECTION

CURVE SECTION

TOP OF MEDIAN BARRIER

SIGN PANEL

MEDIAN BARRIER

PAVED SHOULDER

EDGE OF SHOULDER

GUTTER OF TYPE SPECIFIED

EDGE OF SHOULDER

PAVED SHOULDER

MEDIAN BARRIER

DIRECTED OF TRAFFIC

DATE

REVISIONS

STANDARD F11-05

ILLINOIS DEPARTMENT OF TRANSPORTATION

STREET SIGN DETAIL

SHEET 1 OF 2

MILEPOST MARKER

EMERGENCY MAINTENANCE

STANDARD F11-05

APPROVED...DATE...2009

5'-0"
BARRIER MOUNT DETAIL

1. Center the $\frac{3}{4}''$ dia. bolt in the middle of the sign.
2. Follow the same attachment for back to back milepost marker sign.
3. The distance from the ground to the bottom of the milepost marker sign shall have a minimum of 4'-0'' regardless of barrier type.
4. THE TOP SECTION SHALL BE TELESCOPED INTO THE BASE SECTION 12 INCHES AND HAVE A MINIMUM OF 4'-0'' REGARDLESS OF BARRIER TYPE.
5. Use the same attachment for back to back milepost marker sign.
6. Distance from the ground to the bottom of the milepost marker sign shall have a minimum of 4'-0'' regardless of barrier type.
7. The top section shall be telescoped into the base section 12 inches and fastened together.
8. All anchor bolts for median barrier mount detail shall be $\frac{3}{8}''$ dia. red head "TRUBOLT" or approved equal.
9. All dimensions are in inches unless shown otherwise.
10. The distance between successive fasteners shall not exceed 2'-0''.
11. Center the $\frac{3}{4}''$ dia. bolt in the middle of the sign.
12. Use the same attachment for back to back milepost marker sign.
13. Distance from the ground to the bottom of the milepost marker sign shall have a minimum of 4'-0'' regardless of barrier type.
14. The top section shall be telescoped into the base section 12 inches and fastened together.
15. All anchor bolts for median barrier mount detail shall be $\frac{3}{8}''$ dia. red head "TRUBOLT" or approved equal.
16. All dimensions are in inches unless shown otherwise.
17. The distance between successive fasteners shall not exceed 2'-0''.
18. Center the $\frac{3}{4}''$ dia. bolt in the middle of the sign.
19. Use the same attachment for back to back milepost marker sign.
20. Distance from the ground to the bottom of the milepost marker sign shall have a minimum of 4'-0'' regardless of barrier type.

TELESCOPING STEEL POSTS

GROUND MOUNT DETAIL

ONE POST INSTALLATION

MILEPOST MARKER

STANDARD F11-05
NOTES:
1. SEE PLANS FOR SIGN SIZE AND LOCATION.
2. MAXIMUM PLAZA SIGN LENGTH IS 36 FT.
   MAXIMUM PLAZA SIGN AREA IS 108 SQ. FT.
   SEE PLANS FOR SIGN SIZE AND LOCATION.

REVISED FOUNDATION NOTE.
REVISED SIGN STRUCTURE DETAILS.
ADDED MEDIAN AND NOTES.
ADDED GROUNDING DETAILS.
UPDATED constant SLOPE BARRIER, REINFORCING DETAILS AND QUANTITIES.
3-31-2014
7-01-2014
3-31-2016
3-01-2018
3-01-2019

OVERHEAD SIGN STRUCTURE
MONOTUBE TYPE (STEEL)
MAINLINE STRUCTURE DETAILS
STANDARD F13-04
ENTRANCE MONOTUBE PLAN

ENTRANCE MONOTUBE ELEVATION

NOTES:
1. FOUNDATIONS FOR PLAZA FRAMES ARE SHOWN ON SHEETS 6 AND 7 OF THIS SERIES.
2. FOR SECTIONS A-A, H-H, K-K, BASE PLATE SKIRT AND HAND HOLE DETAILS, SEE SHEET 5 OF THIS SERIES.
3. PROVIDE CAMBER AT MIDSPAN OF STRUCTURE.
4. PROVIDE ELEVATION FIELD SPlice, TYP.
5. DISCONTINUE 1/2" SQUARE BAR TO ALLOW 1/2" } U-BOLT INSTALLATION.
6. PROVIDE HAND HOLE FOR SECTION P-P SEE SHEET 4 OF THIS SERIES.
7. FOUNDATIONS FOR PLAZA FRAMES ARE SHOWN ON SHEETS 6 AND 7 OF THIS SERIES.
8. FOR SECTIONS A-A, H-H, K-K, BASE PLATE SKIRT AND HAND HOLE DETAILS, SEE SHEET 5 OF THIS SERIES.
9. PROVIDE ELEVATION FIELD SPlice, TYP.

ENTRANCE MONOTUBE ELEVATION

MONOTUBE FRAME TABLE

<table>
<thead>
<tr>
<th>TYPE</th>
<th>SPAN &quot;S&quot;</th>
<th>FRAME COLUMN</th>
<th>FRAME BEAM</th>
<th>CAMBER</th>
<th>&quot;A&quot;</th>
<th>&quot;B&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>17'-0&quot;</td>
<td>HSS 16x0.500</td>
<td>HSS 16x0.500</td>
<td>2&quot;H</td>
<td>1&quot;-2&quot;</td>
<td>2&quot;-4&quot;</td>
</tr>
<tr>
<td>II</td>
<td>17'-0&quot;</td>
<td>HSS 16x0.500</td>
<td>HSS 16x0.500</td>
<td>2&quot;H</td>
<td>1&quot;-2&quot;</td>
<td>2&quot;-4&quot;</td>
</tr>
<tr>
<td>III</td>
<td>17'-0&quot;</td>
<td>HSS 18x0.500</td>
<td>HSS 18x0.500</td>
<td>2&quot;H</td>
<td>1&quot;-2&quot;</td>
<td>2&quot;-4&quot;</td>
</tr>
</tbody>
</table>
GENERAL NOTES:
1. SEE THE CHIEF ENGINEERING OFFICER STRUCTURE DESIGN MANUAL FOR MINIMUM VERTICAL CLEARANCE.
2. AFTER ADJUSTMENTS TO FRAME BEAM AND ENSURE ACCURATE VERTICAL CLEARANCE, THEMATE ALL TOP AND LEDGING NUTS AGAINST THE BASE PLATE WITH A MINIMUM TIGHTEN OF 200 LBS/T. THEN PLACE STAINLESS STEEL NUTS AROUND THE DIAMETER OF THE BASE PLATE. SECURE TO BASE PLATE WITH STAINLESS STEEL NUTS.
3. REINFORCEMENT BARS DESIGNATED () SHALL BE EPOXY COATED.

DESIGN LOADING:
1. MAX LOAD COMBINATION: BASIC WIND SPEED = 90 MPH
   C = 0.6
   I = 1.00 (50 YR. RECURRENCE INTERVAL)
   G = 1.14
2. EQUIPMENT LOADS:
   ANTENNA: 20 LB.
   CAMERA ASSEMBLY: 8 LB.

WIND LOAD CRITERIA
DESIGN STRESSES FOR REINFORCED CONCRETE:
fy = YIELD STRENGTH OF REINFORCEMENT BARS (GRADE 60)
fc' = COMPRESSIVE STRENGTH OF CONCRETE AT 14 DAYS (CLASS DS)
fcc' = COMPRESSIVE STRENGTH OF CONCRETE AT 14 DAYS (CLASS SI)

FOUNDATION:
DESIGN STRESSES FOR REINFORCED CONCRETE:
fd = COMpressive STRENGTH OF CONCRETE AT 28 DAYS (CLASS DS)
fccd' = COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS (CLASS SI)
fy = YIELD STRENGTH OF REINFORCEMENT BARS (GRADE 60)

DESIGN SPECIFICATIONS:
1. ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, LATEST EDITION.
2. ASSURED STANDARD SPECIFICATION FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 6TH EDITION.
3. ASSURED STANDARD SPECIFICATION FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 6TH EDITION.
4. ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012

CONSTRUCTION SPECIFICATIONS:
1. ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
2. ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
SEC A A

SECTION A-A

MEDIAN FOUNDATION FOR PLAZA FRAMES

SEC D D

SECTION D-D

NOTES:
1. Anchor bolt assembly detail, anchor plate detail, and bar bending details and quantities are shown on Sheet 6 of this series.
2. See Sheet 6 of this series for additional notes.
3. See Sheet 6 of this series for additional notes.

LEGEND:
1. Constant joint bonded
2. 1-3/4" anchor bolts
3. See Sheet 6 of this series for anchor circle of 1-1/2" anchor bolts

APPROVED DATE

SHEET 7 OF 8

OVERHEAD SIGN STRUCTURE MONOTUBE TYPE (STEEL)
MAINLINE STRUCTURE DETAILS

STANDARD F13-04
### Estimation Quantity for One Single Face Barrier

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete Structure</td>
<td>cu. yd.</td>
<td>32.4</td>
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<tr>
<td>Reinforcement Bars, Right</td>
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<tr>
<td>Concrete Type</td>
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<td></td>
</tr>
<tr>
<td>Protective Coat</td>
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</table>

### Bar List - One Barrier

<table>
<thead>
<tr>
<th>Bar</th>
<th>No.</th>
<th>Size</th>
<th>Length</th>
<th>Shape</th>
</tr>
</thead>
<tbody>
<tr>
<td>u4(E)</td>
<td>28</td>
<td>1'0&quot;</td>
<td>6'-6&quot;</td>
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<tr>
<td>d3(E)</td>
<td>28</td>
<td>1'0&quot;</td>
<td>6'-6&quot;</td>
<td></td>
</tr>
<tr>
<td>d4(E)</td>
<td>28</td>
<td>1'0&quot;</td>
<td>6'-6&quot;</td>
<td></td>
</tr>
<tr>
<td>d5(E)</td>
<td>28</td>
<td>1'0&quot;</td>
<td>6'-6&quot;</td>
<td></td>
</tr>
<tr>
<td>u4(E)</td>
<td>28</td>
<td>1'0&quot;</td>
<td>6'-6&quot;</td>
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<tr>
<td>d3(E)</td>
<td>28</td>
<td>1'0&quot;</td>
<td>6'-6&quot;</td>
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<tr>
<td>d4(E)</td>
<td>28</td>
<td>1'0&quot;</td>
<td>6'-6&quot;</td>
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<tr>
<td>d5(E)</td>
<td>28</td>
<td>1'0&quot;</td>
<td>6'-6&quot;</td>
<td></td>
</tr>
</tbody>
</table>

### Notes:

1. Protective coat shall be applied to the panels and the face of the barrier, the face of the corner, and to the entrance side face as the beginning of the plaza pavement for the full length of the barrier.
2. For location of electrical junction boxes, see the electrical detail sheets.
3. For single face barrier foundation details for plaza frames, see Sheet 6 of this series.
4. Quantities for single face barrier are determined using 1'0" radius, however than 1'0" radius quantities accordingly.
NOTES:
1. There are twice as many horizontal diagonals as there are vertical diagonals.
2. Splicing flanges shall be attached to each truss unit with the truss shop
   fabricated with chord shown on sheet 1 of this series. Truss caps shall be
   in accordance with the chords shown in Figure 3.2 of AWS D1.1. Flanges shall
   be shop bolted into place. Orientation of splices shall be in accordance with
   the shop drawing. Flanges shall be shop flanged and painted to a uniform
   color. Flanges shall be shop flanged and painted to a uniform color.
3. Nominal wall thickness shown. Thicker wall is permitted upon Engineer’s approval.

TRUSS UNIT TABLE

<table>
<thead>
<tr>
<th>TRUSS SIZE</th>
<th>MAXIMUM SPACING (P)</th>
<th>STEEL SUPPORT POST CAP DIAMETER</th>
<th>TOP &amp; BOTTOM CHORD</th>
<th>W, MAX.</th>
<th>VERTICAL CHORD THICKNESS</th>
<th>HORIZONTAL CHORD THICKNESS</th>
<th>DIA.</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>4'-0&quot;</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>5'-0&quot;</td>
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<td></td>
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<td></td>
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<tr>
<td>6'-0&quot;</td>
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<td></td>
</tr>
</tbody>
</table>

ISOMETRIC VIEW - TYPICAL TRUSS UNIT

NOTES:
1. There are twice as many horizontal diagonals as there are vertical diagonals.
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<td>4'-0&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5'-0&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6'-0&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A

SEE DETAIL A

HANDHOLE COVER

BASE PLATE

BOTTOM OF

FULLY TIGHTENED.

AFTER ANCHOR BOLT NUTS ARE " STAINLESS STEEL BANDING

WITH 2" LAP. SECURE WITH DIAMETER OF AWG NO. 16

OPENING WITH MINIMUM WIRE GR. WIRE CLOTH, " MAX.

3" STAINLESS STEEL STD. SHEET 3 OF THIS SERIES.

SEE DETAIL D ON COLUMN

TOP OF

2" (| '") GAP

SEE SHEET 3 OF THIS SERIES

STEEL POST

MAX. 5 '-0"

JOINT FILLER, TYP.

1" PREFORMED

FRONT ELEVATION

6"

4'-0"

SEE SHEET 5 OF THIS SERIES FOR FOUNDATION DETAILS.

SIDE ELEVATION

4'-0"

ANCHOR BOLT

TOP OF

1 0 "

TYP.

4"

3"

3"

8"

DIP GALVANIZED CARBON STEEL

10 GA. STAINLESS STEEL OR HOT FOR GEOMETRY

SEE DETAIL A

AFTER GALVANIZING.

CHASE THREAD FOR " - 20 SCREWS.

DRILL & TAP BAR FRAME \"

…" \"

"…" \"

T-

"*

DETAILS.

STAINLESS STEEL MACHINE SCREWS. (SEE COVER " - 20 ROUND HEAD HOT DIP GALVANIZED OR

2" RADIUS. PROVIDE 4-Š" } HOLES IN FOR

PROVIDE 8" X 4"

COVER. OUTSIDE CORNERS =

TO ANSI ROUGHNESS OF 500 in OR LESS.

DIRECTION VERTICAL). ALL CUT FACES TO BE GROUND

FRAME AS SHOWN, MAY CUT FROM 2" PLATE (ROLLING OR BOTTOM ONLY. IN LIEU OF FABRICATED HANDHOLE

BENT BARS MAY BE BUTT WELDED TOP AND BOTTOM

* *

* *

* *

NOTE:

SEE NOTE 2

1. CONCRETE COLUMN SEE SHEET 4 OF THIS SERIES

2. CRASHWALL SEE SHEET 5 OF THIS SERIES

3. 1'-8" G ALVANIZED

CONTRACTOR'S OPTION. MAY BE GALVANIZED AT

GALVANIZED. ENTIRE BOLT 1'-8" IS MINIMUM TO BE

**

M291, GRADE A, C OR DH HEAVY HEX NUTS AND HARDENED WASHERS

PER AASHTO M232. NO WELDING SHALL BE PERMITTED ON BOLTS.

PROVIDE A NUT AT BOTTOM, A HEXAGON LOCKNUT AND WASHER ABOVE

BASE PLATE AND A LEVELING NUT AND WASHER BELOW BASE PLATE.

NUTS SHALL EACH BE TIGHTENED WITH 200 LB.-FT. MINIMUM TORQUE

AGAINST BASE PLATE. BEFORE OR AFTER THREADING, BUT BEFORE

GALVANIZING, EACH ANCHOR BOLT SHALL BE ULTRASONICALLY TESTED (UT)

BY A LEVEL II OR III INSPECTOR, QUALIFIED IN ACCORD WITH ANSI

**

GALVANIZE THE UPPER 1'-8" (MINIMUM (    ) AND ASSOCIATED AASHTO

SHEET 4 OF 8

CONSTRUCTION DETAILS

OVERHEAD SIGN STRUCTURE

BUTTERFLY TYPE

STRUCTURE DETAILS

STANDARD F14-04

APPROVED DATE
THE FOUNDATIONS SHOWN ARE BASED ON THE PRESENCE OF WESTERN COMMON COMPRESSIVE SOIL CONDITIONS (CLAYY OR SANDY CLAY), WITH AN AVERAGE UNCONFINED COMPRESSIVE STRENGTH (QU) > 1.25 TON/SQ. FT. WHEN OTHER CONDITIONS ARE INDICATED, THE FOUNDATIONS SHOWN ARE BASED ON THE JEAL AND THE FOUNDATION DIMENSIONS SHOWN SHALL BE THE RESULT OF SITE SPECIFIC DESIGNS. IF CONDITIONS ENCOUNTERED AT THE JOBSITE ARE DIFFERENT THAN THOSE INDICATED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO DETERMINE IF THE FOUNDATION DIMENSIONS NEED TO BE MODIFIED.

NOTES:
1. COLUMN CONCRETE VOLUME AND BAR s1(E) LENGTH ARE COMPUTED BASED ON 15'-0" COLUMN HEIGHT. IF COLUMN HEIGHT IS NOT EQUAL 15', QUANTITIES SHALL BE CALCULATED BASED ON ACTUAL COLUMN HEIGHT.
2. PROTECTIVE COAT SHALL BE APPLIED TO BASE PLATE, BOTTOM OF COLUMN, AND REVEAL OF THE COLUMN.

Bill of Material—Each Foundation

<table>
<thead>
<tr>
<th>CLASS SI CONCRETE CY</th>
<th>POUNDS</th>
<th>BAR NUMBER</th>
<th>SIZE</th>
<th>LENGTH</th>
<th>SHAPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,790</td>
<td>1</td>
<td>1</td>
<td>#4</td>
<td>8'-7&quot;</td>
<td>V(E)</td>
</tr>
<tr>
<td>11.7</td>
<td>12</td>
<td>12</td>
<td>#5</td>
<td>12'-2&quot;</td>
<td>U(E)</td>
</tr>
<tr>
<td>11.7</td>
<td>18</td>
<td>18</td>
<td>#5</td>
<td>14'-5&quot;</td>
<td>U1(E)</td>
</tr>
<tr>
<td>14.0</td>
<td>20</td>
<td>20</td>
<td>#9</td>
<td>15'-8&quot;</td>
<td>V(E)</td>
</tr>
<tr>
<td>16.0</td>
<td>31</td>
<td>31</td>
<td>#9</td>
<td>38'-3&quot;</td>
<td>U1(E)</td>
</tr>
</tbody>
</table>

Bar List—Each Foundation

<table>
<thead>
<tr>
<th>COLUMN, CRASHWALL AND DRILLED SHAFT</th>
</tr>
</thead>
<tbody>
<tr>
<td>REINFORCEMENT</td>
</tr>
<tr>
<td>#4 s1(E) SPIRAL</td>
</tr>
<tr>
<td>BTM. OF COLUMN</td>
</tr>
<tr>
<td>MIN. TOP AND 3 EXTRA TURNS</td>
</tr>
<tr>
<td>AT 6&quot; PITCH REINFORCEMENT</td>
</tr>
</tbody>
</table>

CONCRETE COLUMN

CONCRETE DRILLED SHAFT

CONCRETE CRASHWALL

OVERHEAD SIGN STRUCTURE BUTTERFLY TYPE STRUCTURE DETAILS

CLASS SI CONCRETE
NOTES:
1. SIDE ELEVATION AND PLAN VIEW ARE SHOWN FOR FOUNDATION LOCATED IN PAVED ROADWAY MEDIAN.
2. SEE SHEET 5 OF THIS SERIES FOR REINFORCEMENT DETAILS.
3. COORDINATE CONDUIT SIZE, LOCATION AND QUANTITY WITH ELECTRICAL PLANS. CONDUITS SHALL BE PLACED TO MISS REINFORCEMENT BARS. DO NOT CUT REINFORCEMENT BARS.
4. FOUNDATION LOCATED IN UNPAVED ROADWAY MEDIAN.
DEVICE DAMPING HOLE "...
HOLE IN MOUNTING TUBE AND STAINLESS STEEL WASHERS, TYP.
WITH HOT DIP GALVANIZED LOCKNUTS STAINLESS STEEL U-BOLT 2'', TYP.

DEVICE DAMPING PLAN DETAIL

DIAGONAL HORIZONTAL INTERIOR TUBE CROSS TUBE

DIAGONAL

ELEVATION

STEEL BUTTERFLY SIGN STRUCTURE

NOTE:

DAMPER:

ONE DAMPER PER TRUSS, (31 LBS. STOCKBRIDGE-TYPE)
2FT. VERTICAL BETWEEN ENDS OF WEIGHTS).

ONE DAMPER PER TRUSS. (31 LBS. STOCKBRIDGE-TYPE)
2FT. VERTICAL BETWEEN ENDS OF WEIGHTS.)

TOP CHORD TO CROSS TUBE

U-BOLT DETAIL (TYPICAL)

DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL (TYPICAL)

PLAN DETAIL

SECTION A-A
NOTES:
1. SPACE SIGN BRACKETS ARE FOR DESIGN AND NOT TO EXACT LINES SHOWN.
2. f & h MAXIMUM: f = (3'-0") MINIMUM (END OF SIGN TO CENTER OF NEAREST BRACKET) & h = (4'-0") MAXIMUM (TO COLUMN AND DMS TYPE 2 PLUS CONNECTION TO W6X9).
3. MAXIMUM DMS TYPE 2 WEIGHT = 5000 LBS.
4. f = 12'' MAXIMUM, 4'' MINIMUM (END OF SIGN TO CENTER OF NEAREST BRACKET). h = 6'-0'' MAXIMUM (TO ~ OF SIGN SUPPORT BRACKETS, W6X9).
5. DMS TYPE 2 MANUFACTURER SHALL DESIGN AND SUPPLY HARDWARE FOR CONNECTION TO W6X9. BOLTS SHALL BE STAINLESS STEEL OR HOT DIP GALVANIZED HIGH STRENGTH.
6. MAXIMUM DMS TYPE 2 DEPTH INCLUDES DEPTH OF W6X9 PLUS CONNECTION TO BRACKET.

SECTION A-A
PLACE ALL SIGN BRACKETS AS CLOSE TO PANEL POINTS AS PRACTICAL.
ROAD PLAN DETERMINES OFFSET VERSUS BUTTERFLY MAY BE LOCATED IN SHOULDER AREA.

SECTION B-B

BRACKET TABLE

<table>
<thead>
<tr>
<th>BRAND</th>
<th>SIGN FROM</th>
<th>MAXIMUM num of BRACKETS</th>
<th>MINIMUM num of BRACKETS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>8'-0''</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>B</td>
<td>8'-0''</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>12'-0''</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>
SIGN TABLE

<table>
<thead>
<tr>
<th>SIGN</th>
<th>MAXIMUM AREA</th>
<th>MAXIMUM LENGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLAZA SIGN</td>
<td>24 S.F.</td>
<td>8'-0&quot;</td>
</tr>
<tr>
<td>I-PASS OR PAY ONLINE SIGN</td>
<td>60 S.F.</td>
<td>20'-0&quot;</td>
</tr>
</tbody>
</table>

NOTE:
1. See contract plans for sign size and location.
2. Provide entrance and exit monotube frame stations in contract plans.
NOTES:
1. FOUNDATIONS FOR MONOTUBE FRAMES ARE SHOWN ON SHEET 6 OF THIS SERIES.
3. SEE SHEET 4 OF THIS SERIES FOR SECTION P-P.
4. PROVIDE CAMBER AT MIDSPAN OF STRUCTURE.
5. LOCATE OPTIONAL BOLTED FIELD SPLICE NEAR MIDSPAN.
6. WORK THIS SHEET WITH OVERHEAD SIGN STRUCTURE ENTRANCE MONOTUBE TYPE ILLUSTRATED RAMP SUMMARY AND TOTAL BILL OF MATERIAL SHEET.

AET RAMP ENTRANCE MONOTUBE PLAN

AET RAMP ENTRANCE MONOTUBE ELEVATION

ENTRANCE MONOTUBE FRAME TABLE
AET RAMP EXIT MONOTUBE PLAN

AET RAMP EXIT MONOTUBE ELEVATION

EXIT MONOTUBE FRAME TABLE

<table>
<thead>
<tr>
<th>SPAN &quot;S&quot;</th>
<th>FRAME COLUMN</th>
<th>FRAME BEAM</th>
<th>CAMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 MAX.</td>
<td>HSS 12.75x0.500</td>
<td>HSS 12.75x0.500</td>
<td>1/2&quot;</td>
</tr>
</tbody>
</table>

NOTES:
1. SEE SHEET 2 OF THIS SERIES FOR SECTION S-S, BASE PLATE, AND ADDITIONAL NOTES.
2. SEE SHEET 4 OF THIS SERIES FOR SECTION O-O.
3. SEE SHEET 5 OF THIS SERIES FOR SECTIONS A-A AND G-G, AND BASE PLATE SKIRT.
4. WORK THIS SHEET WITH OVERHEAD SIGN STRUCTURE EXIT MONOTUBE TYPE (STEEL) AET RAMP SUMMARY AND TOTAL BILL OF MATERIAL SHEET.

OVERHEAD SIGN STRUCTURE MONOTUBE TYPE (STEEL) STRUCTURE DETAILS FOR AET RAMP

STANDARD F15-03
GENERAL NOTES:
1. After adjustments to level frame beam and ensure adequate vertical clearance, tighten all top and leveling nuts against the base plate with a minimum torque of 200 ft-lb. They must be stainless steel washers and nuts for vertical clearance.
2. Reinforcement bars designated "E" shall be epoxy coated.

DESIGN LOADING:
- Equipment Loads:
  - Antenna: 60,000 P.S.I.
  - Camera Assembly: 4,000 P.S.I.
  - Camera: 3,500 P.S.I.

WIND LOAD CRITERIA:
- Design Stresses for Reinforced Concrete:
  - Foundation:
  - Construction Specifications:
  - Structural Steel:

SECTION P-P:
- Note:
  - Foundation:
  - Camera manufacturer.
  - Top of pavement at E antenna.

SECTION O-O:
- Note:
  - Foundation:

ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN SPECIFICATIONS:
5. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6TH EDITION DATED FEBRUARY 2012.
6. ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012.
**BAR LIST - FOR ONE BARRIER**

<table>
<thead>
<tr>
<th>BAR</th>
<th>NO.</th>
<th>SIZE</th>
<th>LENGTH</th>
<th>TYP.</th>
</tr>
</thead>
<tbody>
<tr>
<td>d4(E)</td>
<td>124</td>
<td>#4</td>
<td>48&quot;</td>
<td>10'-0&quot;</td>
</tr>
<tr>
<td>d5(E)</td>
<td>124</td>
<td>#5</td>
<td>48&quot;</td>
<td>10'-0&quot;</td>
</tr>
<tr>
<td>u4(E)</td>
<td>20</td>
<td>#4</td>
<td>10'-0&quot;</td>
<td>19'-11&quot;</td>
</tr>
<tr>
<td>d3(E)</td>
<td>10</td>
<td>#4</td>
<td>10'-0&quot;</td>
<td>5'-0&quot;</td>
</tr>
<tr>
<td>d4(E)</td>
<td>124</td>
<td>#4</td>
<td>48&quot;</td>
<td>10'-0&quot;</td>
</tr>
<tr>
<td>d3(E)</td>
<td>124</td>
<td>#4</td>
<td>48&quot;</td>
<td>10'-0&quot;</td>
</tr>
<tr>
<td>u4(E)</td>
<td>247</td>
<td>#4</td>
<td>48&quot;</td>
<td>9'-3&quot;</td>
</tr>
</tbody>
</table>
| h3(E)| 22  | #4   | 10'-0" | 27'-11"

**SECTION A-A**

**SECTION B-B**

**SECTION C-C**

**ESTIMATED QUANTITY**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>UNITS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONCRETE STRUCTURES</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>REMOVED EXCESS, EPOXY COATED</td>
<td></td>
<td>5,870</td>
</tr>
<tr>
<td>PROTECTIVE COAT</td>
<td>75</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

1. PROTECTIVE COAT SHALL BE APPLIED TO THE TRAFFIC FACE OF THE BARRIER AND TO THE ENTRANCE FACE FACE OF THE BARIER.
2. ELECTRICAL JUNCTION BOXES SHALL BE EXTERIOR MOUNTED ON THE BACK FACE OF BARRIER.
3. FOR SINGLE FACE BARRIER FOUNDATION DETAILS FOR MONOTUBE FRAMES, SEE SHEET 6 OF THIS SERIES.
4. QUANTITIES FOR SINGLE FACE BARRIER ARE DETERMINED FROM THE FRAME SUMMARY AND TOTAL BILL OF MATERIALS.
5. SEE OVERHEAD SIGN STRUCTURE ENTRANCE MONOTUBE TYPE FOR COMPLETE BILL OF MATERIALS.

**Illinois Tollway**

OVERHEAD SIGN STRUCTURE MONOTUBE TYPE (STEEL) STRUCTURE DETAILS FOR AET RAMP

STANDARD F15-03
PLAZA FRAMES, TYP.

FOUNDATION FOR
SINGLE FACE BARRIER
MONOTUBE FRAME SPAN "S" AND BASIS OF PAYMENT

NOTE:
1. SEE CONTRACT PLANS FOR SIGN SIZE AND LOCATION.
2. PROVIDE MONOTUBE FRAME STATION IN CONTRACT PLANS.
3. CASH ONLY SIGN OR I-PASS ONLY SIGN. SEE CONTRACT PLANS FOR SIGN PLACEMENT.

SIGN TABLE

<table>
<thead>
<tr>
<th>SIGN</th>
<th>MAXIMUM AREA</th>
<th>MAXIMUM LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLAZA SIGN</td>
<td>24 SJ.</td>
<td>8'-0&quot;</td>
</tr>
<tr>
<td>I-PASS ONLY SIGN</td>
<td>20 SJ.</td>
<td>4'-0&quot;</td>
</tr>
<tr>
<td>CASH ONLY SIGN</td>
<td>20 SJ.</td>
<td>4'-0&quot;</td>
</tr>
</tbody>
</table>

CASH-IPO RAMP TOLL PLAZA PLAN

CASH-IPO RAMP TOLL PLAZA ELEVATION
CASH-IPO RAMP MONOTUBE PLAN

CASH-IPO RAMP MONOTUBE ELEVATION

MONOTUBE FRAME TABLE

NOTES:
1. WORK THIS SHEET WITH OVERHEAD SIGN STRUCTURE MONOTUBE TYPE (STEEL) CASH-IPO RAMP, SUMMARY AND TOTAL BILL OF MATERIAL SHEET.
2. FOUNDATION FOR MONOTUBE FRAME IS SHOWN ON SHEET 5 OF THIS SERIES.
4. SEE SHEET 3 OF THIS SERIES FOR SECTION P-P AND BASE PLATE SKIRT.
5. PROVIDE CAMBER AT MIDSPAN OF STRUCTURE.
6. LOCATE OPTIONAL SPLITTED FIELD SPLICE NEAR MIDSPAN.
7. CASH-IPO RAMP, SUMMARY AND TOTAL BILL OF MATERIAL SHEET.

DATE 10-14-2014

CASH-IPO RAMP MONOTUBE ELEVATION
STRUCTURAL STEEL:
1. Materials for the monument frame and rectangular base will conform to the requirements of ASTM A690 grade B, base plate and cap plate, and ASTM A240 in accordance with ASTM A312. The stainless steel height and length will conform to the requirements of ASTM A240. Unless noted otherwise.
2. Pipes shall conform to the requirements of ASTM A53 grade B.
3. Anchors shall be made of stainless steel. The minimum tensile strength of ASTM A240 grade 304 shall be 20,000 psi. They shall be galvanized in accordance with ASTM A653. See Sheet 4 of this series for galvanized length.
4. Holes shall be made in accordance with stainless steel. Provide stainless steel washers and gaskets. The minimum tensile strength of stainless steel shall be 20,000 psi.
5. bolts (excluding anchor bolts and U-bolts) shall be high strength steel bolts.
6. Notes for the monument frame, pipes, structural steel shapes and plates shall be made in accordance with a minimum tensile strength of 75,000 psi. They shall be galvanized in accordance with ASTM A123 after fabrication.

DESIGN SPECIFICATIONS:

CONSTRUCTION SPECIFICATIONS:
1. Illinois Tollway Supplemental Specifications to the Illinois Department of Transportation Structural Specifications for Road and Bridge Construction, latest edition.
2. Illinois Department of Transportation Structural Specifications for Road and Bridge Construction, latest edition.

OVERHEAD SIGN STRUCTURE DETAILS:
MONOTUBE TYPE (STEEL) STRUCTURE DETAILS FOR CASH-IPO RAMP

DATE: 3/1/2012

STANDARD F16-02
SINGLE FACE BARRIER FOUNDATION FOR PLAZA FRAMES

NOTE:
1. Conduit shall be placed to miss reinforcement. Cutting of reinforcement shall not be allowed.
2. Coordinate conduit size, location and quantity with electrical plans. Provide conduit couplers as required.
3. Cost included in foundation for overhead sign structure, ramp monotube type.
4. Protective coat shall be applied to the traffic and top faces of barrier and top of gutter.

FOUNTIONS
The foundation details shown are based on the presence of mostly cohesive soil conditions at the site. Table with an average unconfined compressive strength of 1,200 psi. Monotube type shall be determined by probabilistic soil investigations at the site. Any other conditions are indicated. The boring data shall be included in plans and the foundation dimensions shown shall be the result of site specific design. In conditions encountered in the field are different than those indicated, the contractor shall notify the engineer to determine if the foundation dimensions need to be modified.

LEGEND
- F: FACE
- B: BACK
- C: CONCRETE

REINFORCEMENT BAR SCHEDULE

<table>
<thead>
<tr>
<th>ITEM</th>
<th>UNIT</th>
<th>CLASS DS CONCRETE</th>
<th>CLASS SI CONCRETE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0.1%</td>
<td>0.1%</td>
</tr>
<tr>
<td>#5</td>
<td>SQ. YD.</td>
<td>3.8</td>
<td>4.4</td>
</tr>
<tr>
<td>#6</td>
<td>CU. YD.</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>#9</td>
<td>CU. YD.</td>
<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td>#4</td>
<td>POUND</td>
<td>2,040</td>
<td>2,040</td>
</tr>
</tbody>
</table>

NOTE:
Quantities for single face barrier foundation are determined using "C" = 1'-0", if dimension "C" is greater than 1'-0", adjust quantities accordingly.

BARS d1(E), u1(E), u2(E)

BAR d2(E)
TABLE OF CONTENTS

1. Structural Details
2. Reinforcement Bars, Epoxy Coated
3. Concrete Structures
4. Protective Coat

NOTES:
1. **NOTES:**
   - CUT IN FIELD AS REQUIRED TO FIT TAPER
   - BASED ON DIMENSION "C" = 1'-0"
   - PAY LIMIT FOR PAVEMENT FOR OVERHEAD SIGN STRUCTURE

2. ELECTRICAL JUNCTION BOXES SHALL BE EXTERIOR MOUNTED ON THE BACK FACE OF BARRIER, GUTTER AND TO THE ENTRANCE SIDE FACE (AT THE BEGINNING OF THE RAMP PLAZA PAVEMENT) FOR THE FULL HEIGHT OF THE BARRIER.

3. FOR SINGLE FACE BARRIER FOUNDATION DETAILS FOR MONOTUBE FRAMES, SEE SHEET 5 OF THIS SERIES.

4. QUANTITIES FOR SINGLE FACE BARRIER FOUNDATION DETAILS FOR MONOTUBE FRAMES, AS DEPLOYED USING "C" = 1'-0". IF DIMENSION "C" IS GREATER THAN 1'-0", ADJUST QUANTITIES ACCORDINGLY.

5. BASED ON DIMENSION "C" = 1'-0", REINFORCEMENT BARS, EPOXY COATED, AND CONCRETE STRUCTURES.

**PAY LIMIT FOR SINGLE FACE BARRIER**

**PAY LIMIT FOR FOUNDATION FOR OVERHEAD SIGN STRUCTURE**

**BAR LIST - ONE BARRIER**

<table>
<thead>
<tr>
<th>BAR</th>
<th>NO.</th>
<th>SIZE</th>
<th>LENGTH</th>
<th>SHAPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2</td>
<td>4</td>
<td>2'-0&quot;</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>3</td>
<td>6</td>
<td>5'-0&quot;</td>
<td></td>
</tr>
</tbody>
</table>

**SECTION A-A**

**SECTION B-B**

**ESTIMATED QUANTITY**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>UNIT</th>
<th>COST</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONCRETE STRUCTURES</td>
<td>CB. YD.</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>REINFORCEMENT BARS, EPOXY COATED</td>
<td>POUND</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>PROTECTIVE COAT</td>
<td>SQ. YD.</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL**

**SHEET 6 OF 6**

**OVERHEAD SIGN STRUCTURE MONOTUBE TYPE STEEL**

**STRUCTURE DETAILS**

**FOR CASH-IPO RAMP**

**DATE**

**APPROVED**

**STANDARD FIG-02**
SPLICING FLANGES

NO. OF CHORDS WITH MAXIMUM GAP OF \( \frac{1}{4} '' \).

NOTE:

1. SPLICING FLANGES SHALL BE ATTACHED TO EXISTING WELD UNIT WITH THE FABRICATING DIAGONALS AND FRONT-FACE DIAGONALS SHALL BE IN PROPER ALIGNMENT AND FLANGE SURFACES SHALL BE DRILLED AND FULL CONTACT BETWEEN BOLTS. SUPPLEMENTAL EXTERNAL WELDS OR TACKS SHALL BE MADE TO SECURE FLANGES UNTIL REMAINING WELDS ARE MADE AFTER ATTACHMENT. ADJACENT FLANGES SHALL BE MATCH MARKED TO INSURE PROPER FIELD ASSEMBLY.

2. FABRICATE TRUSSES WITH CHORDS CURVED SMOOTHLY TO PROVIDE CAMBER.

3. DO NOT CAMBER BY SHIMMING AT TRUSS FIELD SPLEICES OR CUTTING AND REWELDING CHORD.

NOTE:

* BACK FACE DIAGONAL

** FRONT-FACE DIAGONAL

\[ \text{CAMBER REQUIRED TO FIT O.D. OF CHORD WITH \( \frac{1}{4} '' \) GAP.} \]

\[ \text{HEAD AND NUT. FLAT WASHERS UNDER BOLT CIRCLERS.} \]

\[ \text{HIGH STRENGTH BOLTS WITH LOCKNUTS AND HIGH STRENGTH BOLTS.} \]

\[ \text{PART ELEVATION VIEWS} \]

\[ \text{TRUSS MEMBER SCHEDULE} \]

\[ \text{NOTE:} \]

CHIEF ENGINEERING OFFICER

SHEETS 2 OF 12

STANDARD F17-04

OVERHEAD SIGN STRUCTURE SPAN TYPE (STEEL STRUCTURE DETAILS
STRUCTURE DETAILS
SPAN TYPE (STEEL)
OVERHEAD SIGN STRUCTURE

DATE
APPROVED

5-20-2014

DAMPER NOTE:
ONE DAMPER PER TRUSS, 31" L. STOCKBRIDGE-TYPE - 26" MINIMUM BETWEEN ENDS OF WEIGHTS.

ONE DAMPER PER TRUSS. (31 LBS. STOCKBRIDGE-TYPE - 26" MINIMUM BETWEEN ENDS OF WEIGHTS).

STANDARD F17-04

CHIEF ENGINEERING OFFICER
**TYPICAL FRONT ELEVATION**

With nominal units for clarity.

**BRACKET AND GRATING SPACINGS**

Nominal and may vary slightly based on actual dimensions plus manufacturers' mounting details.

**SECTION F-F**

Manual and walkway small spans a minimum of these brackets between spacers and/or gap joints.

Place all sign and walkway brackets as close to panel points as practical. Grating and walkway spacers placed as needed.

**NOTES:**

- Space walkway brackets and sign brackets for efficiency and within limits shown.
- **f:** 12" maximum. 4" spacing from end of sign to g of nearest bracket.
- **g:** 4" minimum. 4" spacing end of walkway grating to g of nearest support bracket.
- **h:** 6" maximum. 4" minimum (end of sign to h of nearest bracket). Minimum thickness of sign type plus connection to walk.

For section G-G and grating splice details, see Sheet 11 of this series. For panel splice details, see Sheet 1 of this series.

Dynamic message sign.

Truss grating to facilitate inspection shall run full length centered to center of support frames. 2" on overhead trusses.

1. If walkway is required, left end of the sign is 4' 6" on left.
2. If walkway is not required, left end of the sign is 4' 6" on left support frame to left end of span.

**BRACKET TABLE**

<table>
<thead>
<tr>
<th>Wind: G</th>
<th>Number</th>
<th>Notes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>W6X9</td>
<td>2</td>
<td>Unused.</td>
</tr>
<tr>
<td>W6X9</td>
<td>4</td>
<td>Unused.</td>
</tr>
<tr>
<td>W6X9</td>
<td>6</td>
<td>Unused.</td>
</tr>
</tbody>
</table>

**OVERHEAD SIGN STRUCTURE**

Span type: steel structure details.

**ILLINOIS TOLLWAY**

Standard F17-04