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<th>CELL / MODEL NAME</th>
<th>DESCRIPTION</th>
<th>DATE</th>
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<tbody>
<tr>
<td>BSD-1</td>
<td>Mechanical Splicer / Bar Splicer Details</td>
<td>11/22/2016</td>
</tr>
<tr>
<td>DS-11</td>
<td>Drainage Scupper, DS-11</td>
<td>11/22/2016</td>
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<tr>
<td>DS-12</td>
<td>Drainage Scupper, DS-12</td>
<td>11/22/2016</td>
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<tr>
<td>DS-12M10</td>
<td>Drainage Scupper, DS-12M10</td>
<td>11/22/2016</td>
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<tr>
<td>DS-33</td>
<td>Drainage Scupper, DS-33</td>
<td>11/22/2016</td>
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<tr>
<td>E-AS</td>
<td>Top of approach slab elevations</td>
<td>11/22/2016</td>
</tr>
<tr>
<td>E-AS1</td>
<td>Top of approach slab elevations adjusted for grinding</td>
<td>11/22/2016</td>
</tr>
<tr>
<td>EJ-SSJ</td>
<td>Preformed joint strip seal</td>
<td>11/22/2016</td>
</tr>
<tr>
<td>E-S</td>
<td>Top of slab elevations</td>
<td>11/22/2016</td>
</tr>
<tr>
<td>E-S1</td>
<td>Top of slab elevations adjusted for grinding</td>
<td>11/22/2016</td>
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<tr>
<td>SB-1</td>
<td>Cantilever forming brackets (W27 and smaller)</td>
<td>11/22/2016</td>
</tr>
<tr>
<td>SFP 34-42</td>
<td>Concrete parapet slipforming option (34&quot; or 42&quot; parapet)</td>
<td>11/22/2016</td>
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</table>
STANDARD BAR SPICER ASSEMBLY

Threaded splicer bar length = min. lap length + 1\" + thread length

* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

<table>
<thead>
<tr>
<th>Location</th>
<th>Bar size</th>
<th>No. assemblies</th>
<th>Minimum lap length</th>
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</table>

INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
"C" : Finisher epoxy coating.

STANDARD MECHANICAL SPICER

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.
Drill and tap "13/16" DP. (4 locations)

Notes:
- All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 225, Class 350.
- Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 33.
- Stainless steel bolts, anchor studs, washers and nuts may be used in lieu of the cast iron or steel with a short-time rupture strength of 30,000 psi min. may be used in lieu of the cast iron or steel.
- Alternate fiberglass downspout conforming to ASTM D 2996 shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

The Contractor shall take appropriate measures to assure that
- Protection Coating is not applied to the scupper.
- Downspouts shall be galvanized according to AASHTO M 232.
- Structural steel suspends of equal sections and of the same configuration may be substituted for the cast iron downspout frame.
- Plated or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.
- Structural steel weldments shall not be substituted for the cast iron downspout grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M27.
- The Contractor shall take appropriate measures to assure that structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper grate. Structural steel weldments shall not be substituted for the cast iron downspout grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M27.
- The Contractor shall take appropriate measures to assure that structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper grate. Structural steel weldments shall not be substituted for the cast iron downspout grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M27.
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- The Contractor shall take appropriate measures to assure that structur...
Drill and tap 5/16" x 1-1/4" hole for Bolt and Stud Anchor Studs & 8 locations

Notes:
- All cast iron parts shall be gray iron conforming to the requirements of AASHO M 306, Class 306B.
- All anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHO M 232.
- Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.
- As an alternative, bolts, anchor studs, washers and nuts may be stainless steel according to A193 B7M or B16 of the Standard Specifications.
- Structural steel weldments of equal section and of the same configuration may be substituted for the cast iron scupper frame. 
- All or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHO M 232.
- The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.
- Cast of the Grate, Frame, Downspout, Anchor Studs. Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-12.
- Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi may be used in lieu of the cast iron or steel equivalent.
- Notes:
- Drill and tap 5/16" x 1-1/4" hole for 3-1/2" head bolt with lock washers.

Bill of Material:
- Drainage Scupper, DS-12

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DS-12

31-22-2016

F.A. R.T.E. R.COUNT

FILE NAME

PLOT DATE

CHECKED

DRAWN

REVISED

DEPARTMENT OF TRANSPORTATION
STATE OF ILLINOIS
F.AID PROJECT
COUNTY

CONTRACT NO.

TOTAL

SHEETS

SHEET

ILLINOIS

Notes:
All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 232, Class 350. Bolt, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 330.
KX coatings shall conform to the requirements of AASHTO M 330.
Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam. As an alternative, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(a) of the Standard Specifications.
Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M232.
The Contractor shall take appropriate measures to assure that protective coat is applied to the scupper.
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-12M10.
Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

The Contractor shall take appropriate measures to assure that protective coat is applied to the scupper.
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-12M10.
Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(a) of the Standard Specifications.
Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M232.
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The Contractor shall take appropriate measures to assure that protective coat is applied to the scupper.
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-12M10.
Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.
Drill and tap 8 holes for 8" diameter bolt circle

Drainage Scupper, DS-33

ITEM
UNIT
QUANTITY

Drainage Scupper, DS-33

Each

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 207, Class 35B. Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 930.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam. As an alternative, bolts, anchor studs, washers and nuts may be stainless steel according to Article 206.25(b) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or fillet penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M255.

The Contractor shall take appropriate measures to ensure that Protection Coat is not applied to the scupper. Coat of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts Including complete Installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-33.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 53,000 psig min. may be used in lieu of the cast iron or steel equivalent.

Structural steel frames and weldments shall not be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Structural steel frames and downspouts shall be galvanized according to AASHTO M255.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 53,000 psig min. may be used in lieu of the cast iron or steel equivalent.

Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts Including complete Installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-33.

 alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 206.25(b) of the Standard Specifications.

Protective Coat is not applied to the scupper. Coat of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts Including complete Installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-33.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 53,000 psig min. may be used in lieu of the cast iron or steel equivalent.

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 207, Class 35B. Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 930.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam. As an alternative, bolts, anchor studs, washers and nuts may be stainless steel according to Article 206.25(b) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or fillet penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M255.

The Contractor shall take appropriate measures to ensure that Protection Coat is not applied to the scupper. Coat of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts Including complete Installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-33.

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<th>Location</th>
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<td>Location</td>
<td>Station</td>
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<td>Theoretical Grade Elevations</td>
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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 below.

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations, minus slab thickness, equals the fillet heights "t" above top flange of beams.

**FILLET HEIGHTS**

DEAD LOAD DEFLECTION DIAGRAM
Includes weight of concrete only.

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 below.

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations, minus slab thickness, equals the fillet heights "t" above top flange of beams.
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 and grinding as shown below.

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

The slab is to be ground after curing to achieve smoothness, but the slab is not to be ground to elevations below the "Theoretical Grade Elevations" shown below. For grinding the deck, see Special Provisions.

FILLET HEIGHTS

<table>
<thead>
<tr>
<th>Location</th>
<th>Station</th>
<th>Offset</th>
<th>Theoretical Grade Elevations</th>
<th>Theoretical Grade Elevations Adjusted for Dead Load Deflection and Grinding</th>
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO.
When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.

The finishing machine rails shall be placed on the top flanges of the exterior beams.

The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.

For Standard construction, or Stage Construction the hardwood bracing materials shall be placed as shown between webs of beams in each bay.
GENERAL NOTES

All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to render dimension A and (B) + 0.015 cu. yds./ft. for 34" parapet or + 0.0225 cu. yds./ft. for 42" parapet.

Place aluminum sheet in curb portion at and near parapet. Full thickness saw cut of all joint locations in lieu of curb joint filler.

Steel superstructure shown. Other superstructure types similar.

SECTION

(34" parapet shown • 42" parapet similar)

(Showing reinforcement clearances for slip forming and additional reinforcement bars)

GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section of each parapet joint location.)

ALTERNATE BAR d(E)

(For 34" parapet when conduit is present)

ALTERNATE BAR d(E)

(For 42" parapet when conduit is present)