NOTES:

1. All holes shall be drilled prior to galvanizing.
2. All wood sizes are nominal dimensions.

1/4" 1201 DIA. HOLE

1/4" (16) THICK GALVANIZED STEEL PLATE

STEEL PLATE

WOOD BLOCK

WOOD PLATE

SOIL PLATE

STEEL TUBE

SHORT WOOD BREAKAWAY POST

LONG WOOD BREAKAWAY POST

TS-8" X 6" X 3/4"
(TS-203 x 152 x 4.8) GALVANIZED STEEL TUBING

HARDWARE

B-13 (2004)

STANDARD NO.

SHT. 7 OF 13

DELWARE DEPARTMENT OF TRANSPORTATION

APPROVED

LAYOUT DATE 1/10/05

RECOMMENDED

CHIEF ENGINEER

DESIGN ENGINEER
ANCHOR PLATE TO W-BEAM CONNECTION DETAIL

SWAGED CABLE ASSEMBLY AND RELATED HARDWARE ASSEMBLY

NOTES: 1). TO ENSURE THAT THE TIMBER BEARING PLATE REMAINS IN POSITION, WELD END PLATE TO ANCHOR PLATE THREE SIDES.
2). TIGHTEN ASSEMBLY UNTIL CABLE IS TIGHT.
3). ALL HOLES SHALL BE DRILLED PRIOR TO GALVANIZING.

TOTAL LENGTH: 6'-6" (2000)

END PLATE

POST SLEEVE

TIMBER BEARING PLATE

ANCHOR PLATE

STEEL POST SLEEVE
RECOMMENDED
APPROVED

DATE

DELAWARE
DEPARTMENT OF TRANSPORTATION

SCALE : N.T.S.

CHIEF ENGINEER
DESIGN ENGINEER

SHT.                                         OF

STANDARD NO.

GUARDRAIL BOLT

FULL THREAD LENGTH
(24 +1.5, -0.5)

(8) THREAD LENGTH

(25) DIAMETER

RECESS BOTH SIDES

STEEL WASHER (FOR 5/8" (16) GUARDRAIL BOLT)

NOTE: DIMENSION FOR WASHER THICKNESS IS APPROXIMATE BASED ON METAL THICKNESS.

L T (MIN.)

1/4" (25)
FULL THREAD LENGTH

5/16" (8)
FULL THREAD LENGTH

7/32" (5)
FULL THREAD LENGTH

3/32" (4)
4" (100) THREAD LENGTH

3/32" (4)
4" (100) THREAD LENGTH

45˚

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/8" (12).
2. IF THE BOLT EXTENDS MORE THAN 5/8" (12) BEYOND THE NUT, THE BOLT SHALL BE TRIMMED BACK AS PER THE DEPARTMENT'S SPECIFICATIONS.
NOTE: Dimension for washer thickness is approximate base metal thickness.
STEEL WASHER

NOTES:
1. FOR USE WITH SWAGED CABLE ASSEMBLY.
2. DIMENSION FOR WASHER THICKNESS IS APPROXIMATE BASE METAL THICKNESS.

5/8" (16) CARRIAGE BOLT

5/8" (24) HEX NUT

NOTE:
1. FOR USE WITH SWAGED CABLE ASSEMBLY.
NOTES:
1. RAIL SHALL BE MOUNTED ON GUARDRAIL ADJACENT TO A BIKEWAY OR SIDEWALK.
2. ALL COMPONENTS OF THE RAIL SHALL BE SHOP FABRICATED, ALL CUTTING AND DRILLING SHALL BE DONE IN THE SHOP.
3. ALL EXPOSED THREADED HARDWARE SHALL BE BURLED.
4. GUARDRAIL POSTS UPON WHICH RAIL IS TO BE INSTALLED SHALL BE SHOP DRILLED FOR THE RAIL BRACKETS DURING FABRICATION.
5. ALL RAIL SPICES WILL BE AT RAIL SUPPORT BRACKETS, THE SAME BOLT USED TO ATTACH THE RAIL TO THE BRACKET WILL BE USED TO SECURE THE PIPE TUBE.
6. RAILS SHALL BE INSTALLED ONLY ON STANDARD W BEAM SECTIONS AND AT LEAST ONE POST AWAY FROM THE PAYMENT LIMITS OF THE END TREATMENT.

DELWARE
DEPARTMENT OF TRANSPORTATION

GUARDRAIL MOUNTED RAIL

APPROVED

RECOMMENDED

01/9/2006
TYPICAL CAST-IN-PLACE OR SLIP-FORM CONSTRUCTION

* BAR SHALL BE CUT AT EVERY JOINT IF MADE CONTINUOUS FOR SLIP-FORM CONSTRUCTION

DELaware
department of transportation

concrete safety barrier (P shape)

standard no. B-14 (2001)

SHT. 1 OF 1

recommended

05/2/2001
STEEL CONNECTOR PLATE

SECTION A-A

SLOT DISTRIBUTIONS
CONCRETE SAFETY BARRIER, PRECAST CONSTRUCTION
9" SHAPE BARRIER SECTION

SECTION B-B
DELAWARE DEPARTMENT OF TRANSPORTATION

P.C.C. CURB, P.C.C. CURB & GUTTER, AND HOT-MIX CURB

STANDARD NO. C-1 (2006) SHT. 1 OF 1

APPROVED

RECOMMENDED

NOTES:
1. WHEN P.C.C. CURB OR INTEGRAL P.C.C. CURB AND GUTTER IS PLACED ADJACENT TO PORTLAND CEMENT CONCRETE PAVEMENT, CONSTRUCT THE JOINT AS PER THE LONGITUDINAL JOINT SEALANT DETAIL ON STANDARD P-2, SHEET 3 OF 5. USE APPROVED JOINT FILLER TO SEAL WORK TO BE PAIRED UNDER RESPECTIVE CURB AND GUTTER ITEM.
2. DEPRESS CURB AT ENTRANCE AS DETAILLED ON THIS SHEET.
3. DEPRESSES CURB FLUSH WITH PAVEMENT AT CURB RAMPS. MAXIMUM SLOPE OF CURB AT CURB RAMPS IS 2/12 IN THE DIRECTION OF PEDESTRIAN TRAVEL. SEE STANDARD NO C-21 OF 4.

Approved: [Signature]

12/5/05 11/20/06

01/13/2006
DETECTABLE WARNING TRUNCATED DOME DETAILS

**NOTES:**
1. The area of detectable warning truncated domes shall be 24" (600) long and the full width of the ramp.
2. See specification for additional information.

**SECTION C-C**

- Taper ramp 12:1 max
- See note 1
- Side walk
- P.C.C. sidewalk
- Base
- MODIFIED CURB (FLUSH WITH CURB RAMP SURFACE)
- DETECTABLE WARNING TRUNCATED DOMES

**SECTION B-B**

- Taper ramp 12:1 max
- See note 1
- Side walk
- P.C.C. sidewalk
- Base
- MODIFIED CURB (FLUSH WITH CURB RAMP SURFACE)
- DETECTABLE WARNING TRUNCATED DOMES

**ELEVATION A-A**

- Taper ramp 12:1 max
- See note 1
- Side walk
- P.C.C. sidewalk
- Base
- MODIFIED CURB (FLUSH WITH CURB RAMP SURFACE)
- DETECTABLE WARNING TRUNCATED DOMES

**CURB RAMP, TYPE 1**

- PERPENDICULAR CURB RAMP

**NOTES:**
1. Where a 12:1 maximum slope ramp will not meet the sidewalk grade within a length of 15' (4570) due to steep adjacent roadway, the ramp length may be limited to 15' (4570), and the ramp slope allowed to exceed 12:1.
2. Ramp width shall be 4' (1200) minimum, however, 5' (1525) is preferred.
CURB RAMPS, TYPES 2, 3, & 4

1. Where a 12:1 maximum slope ramp will not meet the sidewalk grade within a length of 15' (4570) due to steep adjacent roadway, the ramp length may be limited to 15' (4570), and the ramp slope allowed to exceed 12:1.

2. Transition to existing sidewalk width over the length of the ramp.

3. Ramp width shall be 4' (1200) minimum, however, 5' (1525) is preferred.

4. WHERE A 12:1 MAXIMUM SLOPE RAMP WILL NOT MEET THE SIDEWALK GRADE WITHIN A LENGTH OF 15' (4570) DUE TO STEEP ADJACENT ROADWAY, THE RAMP LENGTH MAY BE LIMITED TO 15' (4570), AND THE RAMP SLOPE ALLOWED TO EXCEED 12:1.

5. TRANSITION TO EXISTING SIDEWALK WIDTH OVER THE LENGTH OF THE RAMP.

6. RAMP WIDTH SHALL BE 4' (1200) MINIMUM, HOWEVER, 5' (1525) IS PREFERRED.

NOTE: THE DIAGONAL CURB RAMP IS NOT THE PREFERRED TREATMENT.

DIAGONAL CURB RAMP

CURB RAMP, TYPE 4

PERPENDICULAR CURB RAMP

LANDING

60" (1525) MIN.

4' (1200) MIN.

SCALE: NOTS.

NOTES:

1. WHERE A 12:1 MAXIMUM SLOPE RAMP WILL NOT MEET THE SIDEWALK GRADE WITHIN A LENGTH OF 15' (4570) DUE TO STEEP ADJACENT ROADWAY, THE RAMP LENGTH MAY BE LIMITED TO 15' (4570), AND THE RAMP SLOPE ALLOWED TO EXCEED 12:1.

2. TRANSITION TO EXISTING SIDEWALK WIDTH OVER THE LENGTH OF THE RAMP.

3. RAMP WIDTH SHALL BE 4' (1200) MINIMUM, HOWEVER, 5' (1525) IS PREFERRED.

NOTE:  THE DIAGONAL CURB RAMP IS NOT THE PREFERRED TREATMENT.

CURB RAMP, TYPE 3

DIAGONAL CURB RAMP

CURB RAMP, TYPE 2

PARALLEL CURB RAMP

CURB RAMP, TYPE 4

PERPENDICULAR CURB RAMP

LANDING

60" (1525) MIN.

4' (1200) MIN.

SCALE: NOTS.

NOTE:  THE DIAGONAL CURB RAMP IS NOT THE PREFERRED TREATMENT.
DELAWARE
DEPARTMENT OF TRANSPORTATION

CURB RAMP SECTIONS FOR TYPES 2 & 3

NOTE: CURB RAMP WIDTH SHALL BE 4' (1200) MINIMUM, HOWEVER, 5' (1525) IS PREFERRED.

ELEVATION D-D

ELEVATION G-G

SECTION E-E

SECTION F-F
CURB RAMP TYPE 5 & SECTIONS

1. A cut-through level with the street is the preferred treatment for islands, although ramps can be used where the Island width is sufficient to accommodate them. Positive surface drainage must be provided for either treatment; other treatment is acceptable.

2. Where a ramp cannot be used, a cut-through style ramp will not meet the sidewalk grade within a length of 6' (1800) due to steep adjacent roadway. The ramp length may be limited to 6' (1800) and the ramp slope allowed to exceed 20:1.

3. A continuous path must be provided between adjacent curb ramps in islands and medians, with a maximum running slope of 20:1.

4. Ramp width shall be a minimum of 4' (1200); however, 5' (1500) is preferred. When using cut-through style ramp, with curbing on both sides of the ramp, the width shall be a minimum of 5' (1500).
PLAN
ENTRANCE WITH SIDEWALK

ELEVATION

SECTION A-A

PLAN
ENTRANCE WITHOUT SIDEWALK

SECTION B-B
TYPE D
INTEGRAL P.C.C. CURB AND GUTTER, TYPE 1

SECTION D-D

TYPE E
INTEGRAL P.C.C. CURB AND GUTTER, TYPE 2

DELAWARE
DEPARTMENT OF TRANSPORTATION

STANDARD NO. C-4 (2001) SHT. 2 OF 3

APPROVED

03/03/2001
### Dimensions

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>6&quot; (152)</td>
<td>9'4&quot; (2852)</td>
<td>2'6&quot; (787)</td>
<td>8'4&quot; (2540)</td>
</tr>
<tr>
<td>8&quot; (152)</td>
<td>9'6&quot; (2889)</td>
<td>2'6&quot; (787)</td>
<td>8'6&quot; (2585)</td>
</tr>
<tr>
<td>2&quot; (525) OR 24&quot; (609)</td>
<td>4'6&quot; (1334)</td>
<td>1'2&quot; (367)</td>
<td>8'6&quot; (2585)</td>
</tr>
</tbody>
</table>

### Approximate Quantities

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Concrete ft³/m³</th>
<th>Rein Steel Lbs/kg</th>
<th>No. of Grates</th>
<th>Length to Be Cut from 1 Grate</th>
<th>Weight of Full Size Grate Lbs/kg</th>
<th>Weight of Cut Grate Lbs/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>6&quot; (152)</td>
<td>25 (0.709)</td>
<td>25.43 (0.720)</td>
<td>2</td>
<td>2'6&quot; (787)</td>
<td>210.92 (602.881)</td>
<td>210.92 (602.881)</td>
</tr>
<tr>
<td>8&quot; (152)</td>
<td>31.5 (0.895)</td>
<td>32.07 (0.908)</td>
<td>3</td>
<td>2' (609)</td>
<td>210.92 (602.881)</td>
<td>154.47 (436.45)</td>
</tr>
<tr>
<td>2&quot; (525) OR 24&quot; (609)</td>
<td>42.75 (1.244)</td>
<td>39.87 (1.129)</td>
<td>3</td>
<td>--</td>
<td>210.92 (602.881)</td>
<td>--</td>
</tr>
</tbody>
</table>

### Bending Diagram

#### Pipe Size

- 6" (152): 9'2" (2795)
- 8" (152): 8'2" (2480)
- 2" (525) OR 24" (609): 14'-4" (4325)

#### Pipe Size

- 6" (152): 25'-16" (7643) TO 4'11" (1496)
- 8" (152): 29'-7" (8985) TO 4'10" (1422)
- 2" (525) OR 24" (609): 34'-16" (10465) TO 4'10" (1422)

### Schedule of Reinforcing Steel

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>A-Bars</th>
<th>B-Bars</th>
<th>C-Bars</th>
<th>D-Bars</th>
<th>G-Bars</th>
</tr>
</thead>
<tbody>
<tr>
<td>6&quot; (152)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8&quot; (152)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2&quot; (525) OR 24&quot; (609)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### DELAWARE DEPARTMENT OF TRANSPORTATION

61 SAFETY END STRUCTURE

STANDARD NO. D-1 (2001)

SHT. 2 OF 2

APPROVED

RECOMMENDED

04/17/2001
### Dimensions

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>8&quot; (1575)</td>
<td>15&quot;-4&quot; (14670)</td>
<td>2&quot;-4&quot; (1720)</td>
<td>14&quot;-7&quot; (4445)</td>
</tr>
<tr>
<td>8&quot; (1575)</td>
<td>13&quot;-6&quot; (16540)</td>
<td>2&quot;-3&quot; (1850)</td>
<td>8&quot;-7&quot; (575)</td>
</tr>
<tr>
<td>28&quot; (5250) or 24&quot; (6000)</td>
<td>24&quot;-0&quot; (1320)</td>
<td>5&quot;-2&quot; (8850)</td>
<td>22&quot;-7&quot; (6685)</td>
</tr>
</tbody>
</table>

### Approximate Quantities

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Concrete FT^3 (m^3)</th>
<th>Reinforce Steel Lbs (kg)</th>
<th>No. of Grates</th>
<th>Length to Be Cut from 1 Grate (ft)</th>
<th>Weight of Full Size Grate Lbs (kg)</th>
<th>Weight of Cut Grate Lbs (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8&quot; (1575)</td>
<td>41.35 (1.18)</td>
<td>41.78 (1.88)</td>
<td>75.0 (172.8)</td>
<td>4</td>
<td>2&quot;-1&quot; (63.5)</td>
<td>215.92 (98.98)</td>
</tr>
<tr>
<td>8&quot; (1575)</td>
<td>50.61 (1.49)</td>
<td>50.69 (1.44)</td>
<td>63.0 (140.2)</td>
<td>5</td>
<td>2&quot;-1&quot; (63.5)</td>
<td>215.92 (98.98)</td>
</tr>
<tr>
<td>28&quot; (5250) or 24&quot; (6000)</td>
<td>66.43 (1.968)</td>
<td>70.38 (1.99)</td>
<td>130.4 (440.79)</td>
<td>6</td>
<td>2&quot;-1&quot; (63.5)</td>
<td>215.92 (98.98)</td>
</tr>
</tbody>
</table>

### Bending Diagram

**Pipe Size**
- 15" (375)
- 8" (1575)
- 8" (1575)
- 28" (5250) or 24" (6000)

**B-Bars**
- VARIES

**C-Bars**
- 26½" (670) TO 4" (1000)
- VARIES

**D-Bars**
- 3½" (85) TO 4" (1000)

### Schedule of Reinforcing Steel

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>A-Bars</th>
<th>B-Bars</th>
<th>C-Bars</th>
<th>D-Bars</th>
<th>G-Bars</th>
</tr>
</thead>
<tbody>
<tr>
<td>15&quot; (375)</td>
<td>4 (M3)</td>
<td>1 (1830)</td>
<td>4 (M3)</td>
<td>5 (8200)</td>
<td>1 (3700)</td>
</tr>
<tr>
<td>8&quot; (1575)</td>
<td>4 (M3)</td>
<td>1 (1830)</td>
<td>4 (M3)</td>
<td>5 (8200)</td>
<td>1 (3700)</td>
</tr>
<tr>
<td>28&quot; (5250) or 24&quot; (6000)</td>
<td>4 (M3)</td>
<td>1 (1830)</td>
<td>4 (M3)</td>
<td>5 (8200)</td>
<td>1 (3700)</td>
</tr>
</tbody>
</table>

**Schedule Notes:**
- All bars are VARIES
- A-Bars: 4 (M3) 1830
- B-Bars: 4 (M3) 1830
- C-Bars: 4 (M3) 1830
- D-Bars: 4 (M3) 1830
- G-Bars: 4 (M3) 1830

### 106 Safety End Structure

DEPARTMENT OF TRANSPORTATION

STANDARD NO. D-2 (2001)

APPROVED

RECOMMENDED

04/17/2001
### Wall Reinforcement Schedule

<table>
<thead>
<tr>
<th>Interior Wall Dimension</th>
<th>Area of Horizontal Reinforcement PER FOOT (in²)</th>
<th>Area of Vertical Reinforcement PER FOOT (in²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 4' (1220)</td>
<td>0.032 (85)</td>
<td>0.032 (85)</td>
</tr>
<tr>
<td>4' (1220) to 4.5' (1370)</td>
<td>0.063 (165)</td>
<td>0.032 (85)</td>
</tr>
<tr>
<td>4.5' (1370) to 5' (1525)</td>
<td>0.093 (240)</td>
<td>0.032 (85)</td>
</tr>
<tr>
<td>5' (1525) to 5.5' (1650)</td>
<td>0.230 (570)</td>
<td>0.032 (85)</td>
</tr>
<tr>
<td>5.5' (1650) to 6' (1830)</td>
<td>0.284 (700)</td>
<td>0.032 (85)</td>
</tr>
</tbody>
</table>

### Inlet Box Schedule

<table>
<thead>
<tr>
<th>L</th>
<th>W</th>
<th>L MAX</th>
<th>W MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>14' (4270)</td>
<td>18' (4650)</td>
<td>34' (10350)</td>
<td>34' (10350)</td>
</tr>
<tr>
<td>14' (4270)</td>
<td>24' (6000)</td>
<td>34' (10350)</td>
<td>24' (6000)</td>
</tr>
<tr>
<td>48' (14600)</td>
<td>30' (7600)</td>
<td>54' (16500)</td>
<td>36' (10950)</td>
</tr>
<tr>
<td>48' (14600)</td>
<td>48' (12200)</td>
<td>54' (16500)</td>
<td>54' (16500)</td>
</tr>
<tr>
<td>66' (20050)</td>
<td>30' (7600)</td>
<td>72' (22800)</td>
<td>36' (10950)</td>
</tr>
<tr>
<td>66' (20050)</td>
<td>48' (12200)</td>
<td>72' (22800)</td>
<td>54' (16500)</td>
</tr>
<tr>
<td>66' (20050)</td>
<td>66' (19800)</td>
<td>72' (22800)</td>
<td>72' (22800)</td>
</tr>
<tr>
<td>72' (18300)</td>
<td>24' (6000)</td>
<td>72' (22800)</td>
<td>36' (10950)</td>
</tr>
<tr>
<td>72' (18300)</td>
<td>48' (12200)</td>
<td>72' (22800)</td>
<td>54' (16500)</td>
</tr>
<tr>
<td>72' (18300)</td>
<td>72' (22800)</td>
<td>72' (22800)</td>
<td>72' (22800)</td>
</tr>
</tbody>
</table>

### Notes:
1. Inlet boxes shall be pre-cast or cast-in-place.
2. Outside of pipe must fit into the interior of the box.
3. Steps are to be installed in back wall as per specifications.
4. No pipes with an outside diameter larger than 
f" (635) will be permitted to enter the back wall of a drainage inlet or manhole to accommodate steps if required. A larger box may be used in order to fit the steps and a larger pipe in the back wall, if necessary.

---

**DELWARE DEPARTMENT OF TRANSPORTATION**

**INLET BOX DETAILS**

**STANDARD NO.** D-4 (2002) **SHT.** 1 **OF** 1

**APPROVED**

**RECOMMENDED**

01/31/2002
NOTES:
1) STEPS SHALL BE INSTALLED IN BACK WALL AS PER SPECIFICATIONS.
2) NO PIPES WITH AN OUTSIDE DIAMETER LARGER THAN 8" (0.203 M) WILL BE PERMITTED TO ENTER THE BACK WALL OF A DRAINAGE INLET, IF IT IMPHES THE INSTALLATION OF STEPS IN THE BACK WALL.
3) IF NECESSARY, A LARGER BOX MAY BE USED IN ORDER TO FIT THE STEPS AND A LARGER PIPE IN THE BACK WALL.

CAST-IN-PLACE CONCRETE FLOW CHANNEL (TYP.)

2" (0.05) X 4" (0.10) TEMPORARY DRAINAGE OPENING

DRAINAGE INLET ASSEMBLY

SECTION A-A

SECTION B-B

TYPE 1 JOINT (TYP.)

TYPE 2 JOINT (TYP.)

TYPE 3 JOINT (TYP.)

INLET BOX (PRE-CAST)

COVER SLAB (PRE-CAST)

TOP UNIT (CAST IN PLACE)

TYPE 1 JOINT

TYPE 2 JOINT

TYPE 3 JOINT

COVER SLAB

INLET BOX

BOX WALL

DRAINAGE INLET DETAILS

DELWARE
DEPARTMENT OF TRANSPORTATION


SHT. 1 OF 8

APPROVED

RECOMMENDED

05/02/2002
SECTION C-C  DRAINAGE INLET GRATE

SECTION B-B  DRAINAGE INLET FRAME

SECTION D-D  DRAINAGE INLET GRATE

SECTION F-F  DRAINAGE INLET GRATE

SECTION A-A  DRAINAGE INLET GRATE

SECTION E-E  DRAINAGE INLET GRATE

SECTION G-G  DRAINAGE INLET GRATE

DRAINAGE INLET FRAME AND GRATES

NOTE: 1. BOTTOM OF TYPE I GRATE TO BE FLAT AND TRUE.
2. TYPE 2 GRATE SHALL NOT BE INSTALLED WHERE BICYCLE TRAFFIC MAY BE PRESENT.

DELWARE
DEPARTMENT OF TRANSPORTATION

DRAINAGE INLET DETAILS

STANDARD NO.  D-5 (2002)  SHT. 2 OF 8

APPROVED  

RECOMMENDED  

04/01/2002
### Drainage Inlet Details

#### Drainage Inlet Top Unit Applications

<table>
<thead>
<tr>
<th>Top Unit</th>
<th>Curb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type A</td>
<td>Use in drainage swale</td>
</tr>
<tr>
<td>Type B</td>
<td>Integral PCC curb &amp; gutter, Type 1 &amp; 3, PCC curb Type 1</td>
</tr>
<tr>
<td>Type C</td>
<td>Integral PCC curb &amp; gutter, Type 4, PCC curb Type 3</td>
</tr>
<tr>
<td>Type D</td>
<td>PCC curb Type 2</td>
</tr>
<tr>
<td>Type E</td>
<td>PCC curb Type 2</td>
</tr>
</tbody>
</table>

#### INLET TOP UNIT APPLICATIONS

- **Type A**: Use in drainage swale.
- **Type B**: Integral PCC curb & gutter, Type 1 & 3, PCC curb Type 1.
- **Type C**: Integral PCC curb & gutter, Type 4, PCC curb Type 3.
- **Type D**: PCC curb Type 2.
- **Type E**: PCC curb Type 2.

#### Note:

- Top unit is to be cast-in-place to grade as specified on plan sheets or as directed by engineer.

#### S501 Bending Diagram

S501 is not required to be one continuous bar. If more than one bar is used, there must be a 12" (300) overlap between bars.

#### Drainage Inlet Top Units

**NOTE**: Top unit is to be cast-in-place to grade as specified on plan sheets or as directed by engineer.

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**Delaware Department of Transportation**


**Sht. 3 of 8**

**Recommended by**: [Signature]  11/10/05

**Approved by**: [Signature]  11/10/05

**Scale**: 1/2" = 1'-0"
NOTE:
1. 4"x100" throat is for types B and C top units only.
2. Relocate encroaching reinforcing bars when using types B & C top units.
3. Cover slabs shall be pre-cast and must be sized to fit inlet box dimensions.
4. All bars are to be #5 #4@5" o.c. #6@300# unless noted otherwise.
5. Minimum bar cover = 1/2" (38).

* = dimensions to match inside to outside dimensions of box.
NOTE:
1. 4" x 100" THROAT IS FOR TYPES B AND C TOP UNITS ONLY.
2. RELOCATE ENDOCACHING RENACING BARS WHEN USING TYPES B & C TOP UNITS.
3. COVER SLABS ARE TO BE PRE-CAST AND MUST BE SIZED TO FIT INLET BOX DIMENSIONS.
4. ALL BARS ARE TO BE 5" SPACED @ 6" O.C. UNLESS NOTED OTHERWISE.
5. MINIMUM BAR COVER = 6" O.C.

Double Inlet Cover Slab Details

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Delaware Department of Transportation

Approved: September 9, 2002

Scale: 1:40

5502 Bending Diagram
5502 is not required to be one continuous bar. If more than one bar is used, there must be a 6" overlap between bars.
34" (865) x 24" (610) DRAINAGE INLET DETAILS

NOTE: REFER TO PREVIOUS SHEETS FOR REINFORCING REQUIREMENTS

DELTAHORE
DEPARTMENT OF TRANSPORTATION

DRAINAGE INLET DETAILS


APPROVED

RECOMMENDED
34" (865) x 18" (455) DRAINAGE INLET DETAILS

NOTES:
1. REFER TO PREVIOUS SHEETS FOR REINFORCEMENT REQUIREMENTS.
2. THE HEIGHT OF THIS INLET IS LIMITED TO 4' 000 MAX, THEREFORE STEPS WILL NOT BE REQUIRED AND SHOULD NOT BE INSTALLED ON THIS INLET.
NOTE:
1. REINFORCEMENT SHALL BE 4" (100) X 4" (100) #4 X 4 (26 X 26)
2. INLET BOXES ARE TO BE PRE-CAST OR CAST-IN-PLACE.