SECTION I - BARRIER

B-1 (2010)  - BARRIER LEGEND

B-2  - GUARDRAIL APPLICATIONS (TYPES 1-31, 2-31, AND 3-31)

B-3  - GRADING FOR GUARDRAIL END TREATMENTS (TYPES 1, 2, AND 3)

B-4 (2010)  - GUARDRAIL OVER CULVERTS (TYPES 1-31, 2-31, AND 3-31)

B-5  - ENDOANCHORAGE, TYPE 31

B-6  - GUARDRAIL TO BARRIER CONNECTION (TYPES 1-31, 2-31, AND EXIT TYPE 31)

B-7 (2010)  - BRIDGE RAIL RETROFIT (TYPES 1, 2, 3, AND 4)

B-8  - W-BEAM, TYPE 1-27 TO TYPE 1-31 TRANSITION SECTION

B-9  - RESERVED

B-10  - RESERVED

B-11  - RESERVED

B-12  - RESERVED

B-13  - HARDWARE

B-14  - CONCRETE SAFETY BARRIER (F SHAPE)

B-15  - GUARDRAIL APPLICATIONS (TYPES 1-27, 2-27, AND 3-27)
SECTION I - BARRIER (CONT'D)

B-16 - GUARDRAIL OVER CULVERTS (TYPES 1-27, 2-27, AND 3-27)
  [2010] - 3 GUARDRAIL OVER CULVERTS, TYPE 3-27.
B-17 (2010) - GUARDRAIL END TREATMENT (TYPE 4-27).
B-18 (2010) - CURVED GUARDRAIL SECTION
B-20 - BURIED END SECTION
  [2010] - 1 BURIED END SECTION - SINGLE RAIL.
  [2010] - 2 BURIED END SECTION - DOUBLE RAIL.
  [2010] - 3 POST, CONCRETE BLOCK, AND RUBRAIL DETAILS.

B-21 - GUARDRAIL TO BARRIER CONNECTION (TYPES 1-27, 2-27, AND EXIT TYPE 27).
  [2010] - 1 GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 1-27.
  [2010] - 3 GUARDRAIL TO BARRIER CONNECTION, EXIT TYPE 27.

SECTION II - CURB & GUTTER

C-1 - P.C.C. CURB AND INTEGRAL P.C.C. CURB & GUTTER
  [2011] - 1 P.C.C. CURB, TYPICAL CURB SECTION, AND TYPICAL TAPER SECTION AT NOSE OF MEDIANS.
  [2011] - 2 INTEGRAL P.C.C. CURB & GUTTER.
C-2 - CURB RAMPS
C-3 (2010) - ENTRANCES
C-4 (2010) - CURB OPENING DETAILS
C-5 (2011) - CURB OPENING WITH SIDEWALK DETAIL.

SECTION III - DRAINAGE

D-1 - 6:1 SAFETY END STRUCTURE
  [2001] - 1 DETAIL VIEWS.
  [2001] - 2 SCHEDULES.
D-2 - 10:1 SAFETY END STRUCTURE
  [2001] - 1 DETAIL VIEWS.
  [2001] - 2 SCHEDULES.
D-3 - SAFETY GRATES
  [2005] - 1 SAFETY END STRUCTURE GRATE AND ASSEMBLY DETAIL.
  [2007] - 2 PERSONNEL SAFETY GRATE FOR PIPE INLET DETAIL.
D-R (2011) - DRAINAGE INLET REFERENCE SHEET
D-4 (2009) - INLET BOX DETAILS
D-5 - DRAINAGE INLET DETAILS
  [2010] - 1 DRAINAGE INLET ASSEMBLY.
  [2010] - 2 DRAINAGE INLET FRAME AND GRATER.
  [2011] - 3 DRAINAGE INLET TOP UNITS.
  [2010] - 4 DRAINAGE INLET COVER SLAB DETAILS.
  [2010] - 5 DOUBLE INLET COVER SLAB DETAILS.
  [2011] - 6 34" x 14" DRAINAGE INLET AND COVER SLAB DETAILS.
  [2010] - 7 34" x 18" DRAINAGE INLET DETAILS.
  [2010] - 9 DOGHOUSE INLET BOX.
SECTION III - DRAINAGE (CONT'D)

D-6 - MAHOLE DETAILS
  [2009] - 1 BOX MAHOLE ASSEMBLY
  [2001] - 2 ROUND MAHOLE ASSEMBLY
  [2007] - 4 BOX MAHOLE COVER SLAB

D-7 - JUNCTION BOX DETAILS
  [2009] - 1 JUNCTION BOX ASSEMBLY
  [2007] - 2 JUNCTION BOX COVER SLAB

D-8 (2010) - PIPE BEDDING
D-9 (2008) - PERFORATED PIPE UNDERDRAIN
D-10 (2011) - PIPE PLUGGING DETAIL

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E-1 (2001) - INCREMENTAL STABILIZATION

E-2 (2006) - SILT FENCE
E-3 (2005) - DRAINAGE INLET SEDIMENT CONTROL
E-4 - RESERVED
E-5 (2006) - STONE CHECK DAM
E-6 (2005) - SEDIMENT TRAP
E-7 (2005) - SEDIMENT TRAP, USING DRAINAGE INLET AS OUTLET
E-8 - RISER PIPE ASSEMBLY FOR SEDIMENT TRAP
  [2006] - 1 ELEVATION
  [2006] - 2 TRASH HOOD DETAILS
E-9 (2005) - EROSION CONTROL BLANKET APPLICATIONS
E-10 (2005) - RIPRAP DITCH
E-11 (2005) - TEMPORARY SWALE
E-12 (2005) - PERIMETER DIKE/SWALE
E-13 (2005) - EARTH DIKE
E-14 (2005) - TEMPORARY SEDGE DIAMON
E-15 (2005) - STILLING WELL
E-16 (2005) - SUMP PIT, TYPES 1 AND 2
E-17 (2005) - DEWATERING BASIN
E-18 (2005) - GEOTEXTILE-LINED CHANNEL DIVERSION
E-19 (2005) - SANDBAG DIVERSION
E-20 (2005) - SANDBAG DIKE
E-21 (2005) - STABILIZED CONSTRUCTION ENTRANCE
E-22 (2006) - SKIMMER DEWATERING DEVICE
E-23 - TURBIDITY CURTAIN
  [2005] - 1 FLOATING TURBIDITY CURTAIN
  [2005] - 2 STABILIZED TURBIDITY CURTAIN
E-24 (2005) - PORTABLE SEDIMENT TANK
E-25 (2005) - TURF REINFORCEMENT MAT APPLICATIONS
E-26 (2006) - RIPRAP ENERGY DISSIPATOR DETAIL
### SECTION V - LANDSCAPING

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<th>SHEET NO.</th>
<th>NAME</th>
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<tbody>
<tr>
<td>L-1</td>
<td>PLANTING DETAILS</td>
</tr>
<tr>
<td></td>
<td>(2006) - 1 ROADSIDE SHRUB PLANTING DETAIL</td>
</tr>
<tr>
<td></td>
<td>(2006) - 2 TREE PLANTING DETAIL</td>
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<tr>
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<td>(2006) - 3 PERENNIAL/GROUND COVER PLANTING DETAIL</td>
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### SECTION VI - MISCELLANEOUS

<table>
<thead>
<tr>
<th>SHEET NO.</th>
<th>NAME</th>
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<tr>
<td>M-1 (2001)</td>
<td>RIGHT-OF-WAY FENCE</td>
</tr>
<tr>
<td>M-2 (2011)</td>
<td>RIGHT-OF-WAY MONUMENTATION</td>
</tr>
<tr>
<td>M-3 (2009)</td>
<td>BOLLARD AND SHARED-USE PATH DETAILS</td>
</tr>
<tr>
<td>M-4 (2011)</td>
<td>BIKE RACK LAYOUT DETAILS</td>
</tr>
<tr>
<td>M-5 (2004)</td>
<td>WOOD RAIL FENCE</td>
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<tr>
<td>M-6 (2011)</td>
<td>PATTERNED HOT-MIX OR CONCRETE &amp; BRICK PAVER DETAILS</td>
</tr>
<tr>
<td>M-7 (2006)</td>
<td>CHAIN LINK FENCE DETAILS</td>
</tr>
<tr>
<td>M-8 (2007)</td>
<td>P.C.C. PARKING BUMPER</td>
</tr>
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### SECTION VII - PAVEMENT

<table>
<thead>
<tr>
<th>SHEET NO.</th>
<th>NAME</th>
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<tbody>
<tr>
<td>P-1</td>
<td>P.C.C. PAVEMENT</td>
</tr>
<tr>
<td></td>
<td>(2001) - 1 SLAB PLAN (WITH DOWEL AND TIE LOCATIONS)</td>
</tr>
<tr>
<td></td>
<td>(2004) - 2 JOINT AND SEALANT DETAILS</td>
</tr>
<tr>
<td></td>
<td>(2001) - 3 W BOLT, HOOK BOLT, DOWEL AND TIE BAR DETAILS</td>
</tr>
<tr>
<td></td>
<td>(2001) - 4 DOWEL SUPPORT BASKET</td>
</tr>
<tr>
<td></td>
<td>(2001) - 5 DOWEL AND TIE BAR PLACEMENT TOLERANCES</td>
</tr>
<tr>
<td>P-2</td>
<td>P.C.C. PAVEMENT PATCHING</td>
</tr>
<tr>
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<td>(2008) - 1 FULL DEPTH PATCH, PLAN VIEW</td>
</tr>
<tr>
<td></td>
<td>(2008) - 2 FULL DEPTH PATCH, SECTION VIEWS</td>
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<tr>
<td></td>
<td>(2004) - 3 FULL DEPTH PATCH, SEALANT DETAILS, GROUT RETENTION DISK, AND DOWEL BAR</td>
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<tr>
<td></td>
<td>(2001) - 4 FULL DEPTH PATCH, DOWEL AND TIE BAR PLACEMENT TOLERANCES</td>
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<tr>
<td></td>
<td>(2001) - 5 PARTIAL DEPTH PATCH, PLAN AND SECTION VIEWS</td>
</tr>
<tr>
<td>P-3</td>
<td>BUTT JOINTS</td>
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SECTION VIII - TRAFFIC

T-1 - CONDUIT JUNCTION WELLS,
(2011) - 1 TYPES I, L, 2 & 3,
(2011) - 2 TYPE 4,
(2011) - 3 TYPE 5.

T-2 (2011) - JUNCTION WELL, GROUNDING & BONDING FOR STEEL FRAMES & LIDS.
(2011) - 1 TYPE 14,
(2011) - 2 TYPE 15.

T-3 - CONDUIT JUNCTION WELLS,
(2011) - 1 TYPE 15.
(2011) - 3 TYPE 15.

T-4 - CABINET BASES,
(2011) - 1 TYPES M & K,
(2011) - 2 TYPES P & R.

T-5 - POLE BASES,
(2011) - 1 ROUND BASE, SQUARE BASE,
(2011) - 2 TYPICAL SECTION AND INSTALLATION (BASES 1, 2, 4, 3, 3A, 3B, AND 7),
(2011) - 3 TYPICAL SECTION (BASES 5 AND 6), TYPE 7 GROUND ROD DETAIL, AND POLE BASE DATA CHART.
(2011) - 4 TYPICAL SECTION (BASE 4) AND ANCHOR DETAIL.

T-6 (2011) - SPECIAL POLE BASE.
T-7 (2005) - SIGN FOUNDATION.
T-8 (2005) - LOOP DETECTOR TO CONDUIT JUNCTION WELL CONNECTION.

T-9 (2005) - TYPE #1 LOOP DETECTOR.
T-10 (2005) - TYPE #2 LOOP DETECTOR.

T-11 - MESSENGER WIRE ATTACHMENT,
(2005) - 1 INTERMEDIATE MESSENGER WIRE ATTACHMENT ON WOOD POLES,
(2005) - 2 ANGULAR INTERMEDIATE MESSENGER WIRE ATTACHMENT.

T-12 - MESSENGER WIRE ATTACHMENT,
(2005) - 1 SPAN WIRE ATTACHMENT BETWEEN POLES,
(2005) - 2 LOAD END MESSENGER WIRE ATTACHMENT.

T-13 - CONDUIT JUNCTION WELLS,
(2005) - 1 TYPE 6,
(2006) - 2 TYPE 7,

T-14 - EMERGENCY PREEMPTION RECEIVER,
(2006) - 1 UPRIGHT MOUNT,
(2005) - 2 INVERTED MOUNT.

T-15 (2009) - BREAKAWAY SIGN POST AND PIN ASSEMBLY DETAILS.
T-16 (2010) - WOOD BARRICADE DETAILS.
NOTE:

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 DETAIL P-2, SHEET 3 OF 5. USE APPROVED JOINT FILLER TO SEAL. WORK TO BE PAID UNDER RESPECTIVE CURB AND GUTTER ITEM.

2. DEPRESS CURB AT ENTRANCES AND CURB RAMPS AS DETAILED ON THIS SHEET.

3. DEPRESS CURB Flush WITH PAVEMENT AT CURB RAMPS. MAXIMUM SLOPE OF CURB AT CURB RAMPS IS 20:1 IN THE DIRECTION OF PEDESTRIAN TRAVEL. SEE DETAIL C-2, SHEET 1 OF 6.

4. DEPRESS CURB FLUSH WITH PAVEMENT OR ADJACENT AREA AT LEADING EDGE OF TRIANGULAR ISLANDS, TAPERING BACK TO FULL HEIGHT AT A SLOPE OF 4:1.
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 DETAIL P-2, SHEET 3 OF 5. USE APPROVED JOINT FILLER TO SEAL. WORK TO BE PAID UNDER RESPECTIVE CURB AND GUTTER ITEM.
2. DEPRESS CURB AT ENTRANCES AND CURB RAMPS AS DETAILED ON THIS SHEET.
3. DEPRESS CURB FLUSH WITH PAVEMENT AT CURB RAMPS. MAXIMUM SLOPE OF CURB AT CURB RAMPS IS 20:1 IN THE DIRECTION OF PEDESTRIAN TRAVEL. SEE DETAIL C-2, SHEET 1 OF 4.
4. DEPRESS CURB FLUSH WITH PAVEMENT OR ADJACENT AREA AT LEADING EDGE OF TRIANGULAR ISLANDS, TAPERING BACK TO FULL HEIGHT AT A SLOPE OF 4:1. SEE DETAIL C-1, SHEET 1 OF 2 FOR TYPICAL SECTION OF TAPER AT NOSE OF MEDIAN ISLANDS.
5. 4" OF GABC, TYPE B SHALL BE PLACED UNDER P.C.C. CURB AND GUTTER. SEE DETAIL C-1, SHEET 1 OF 2 FOR TYPICAL SECTION.

DELAFORSE P.C.C. CURB AND GUTTER

INTEGRAL P.C.C. CURB AND GUTTER

INTEGRAL P.C.C. CURB AND GUTTER

INTEGRAL P.C.C. CURB AND GUTTER

INTEGRAL P.C.C. CURB AND GUTTER

INTEGRAL P.C.C. CURB AND GUTTER

INTEGRAL P.C.C. CURB AND GUTTER

INTEGRAL P.C.C. CURB AND GUTTER

INTEGRAL P.C.C. CURB AND GUTTER

DEPARTMENT OF TRANSPORTATION

INTEGRAL P.C.C. CURB & GUTTER

APPROVED SIGNATURE ON FILE 02/27/2012

STANDARD NO. C-1 (2011) SHT. 2 OF 2 RECOMMENDED SIGNATURE ON FILE 02/26/2012

2/14/2012
NOTE:
<table>
<thead>
<tr>
<th>Inlet Box Size</th>
<th>Cover Slab Size (L x W)</th>
<th>Drainage Inlet Type</th>
<th>Inlet Top Unit Rebar Length</th>
<th>Inlet Top Unit Limit of Payment</th>
<th>Inlet Top Unit Bar Bending Diagram</th>
<th>Frame &amp; Grate (Found on Detail D-5, Sheet 2)</th>
<th>Maximum Pipe Size (See Note 1)</th>
<th>Maximum Height (To Top of Box)</th>
</tr>
</thead>
<tbody>
<tr>
<td>17&quot; x 13&quot;</td>
<td>NO COVER SLAB</td>
<td>TYPE 5 (FRAME &amp; GRATE COMBO)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>TYPE 5 (FRAME &amp; GRATE COMBO)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>24&quot; x 24&quot;</td>
<td>NO COVER SLAB</td>
<td>TYPE 6 (FRAME &amp; GRATE COMBO)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>TYPE 6 (FRAME &amp; GRATE COMBO)</td>
<td>15&quot;</td>
<td>4' - 0&quot;</td>
</tr>
<tr>
<td>34&quot; x 18&quot;</td>
<td>NO COVER SLAB</td>
<td>TYPES A, B, C, D, &amp; E (DETAIL D-5, SHEET 3)</td>
<td>79&quot;</td>
<td>82&quot;</td>
<td>SS04</td>
<td>TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME</td>
<td>24&quot;</td>
<td>11'-4&quot;</td>
</tr>
<tr>
<td>34&quot; x 24&quot;</td>
<td>48&quot; x 36&quot;</td>
<td>TYPES A, B, C, D, &amp; E (DETAIL D-5, SHEET 6)</td>
<td>79&quot;</td>
<td>82&quot;</td>
<td>SS03</td>
<td>TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME</td>
<td>24&quot;</td>
<td>11'-4&quot;</td>
</tr>
<tr>
<td>48&quot; x 30&quot;</td>
<td>60&quot; x 42&quot;</td>
<td>TYPES A, B, C, D, &amp; E (DETAIL D-5, SHEET 3)</td>
<td>93&quot;</td>
<td>96&quot;</td>
<td>SS01</td>
<td>TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME</td>
<td>36&quot;</td>
<td>11'-4&quot;</td>
</tr>
<tr>
<td>48&quot; x 48&quot;</td>
<td>60&quot; x 60&quot;</td>
<td>TYPES A, B, C, D, &amp; E (DETAIL D-5, SHEET 3)</td>
<td>93&quot;</td>
<td>96&quot;</td>
<td>SS03</td>
<td>TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME</td>
<td>36&quot;</td>
<td>11'-4&quot;</td>
</tr>
<tr>
<td>66&quot; x 30&quot;</td>
<td>78&quot; x 42&quot;</td>
<td>TYPES A, B, C, D, &amp; E (DETAIL D-5, SHEET 3)</td>
<td>111&quot;</td>
<td>114&quot;</td>
<td>SS01</td>
<td>TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME</td>
<td>48&quot;</td>
<td>11'-4&quot;</td>
</tr>
<tr>
<td>66&quot; x 48&quot;</td>
<td>78&quot; x 60&quot;</td>
<td>TYPES A, B, C, D, &amp; E (DETAIL D-5, SHEET 3)</td>
<td>111&quot;</td>
<td>114&quot;</td>
<td>SS03</td>
<td>TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME</td>
<td>48&quot;</td>
<td>11'-4&quot;</td>
</tr>
<tr>
<td>72&quot; x 48&quot;</td>
<td>84&quot; x 60&quot;</td>
<td>TYPES A, B, C, D, &amp; E (DETAIL D-5, SHEET 3)</td>
<td>113&quot;</td>
<td>120&quot;</td>
<td>SS02</td>
<td>TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME</td>
<td>54&quot;</td>
<td>11'-4&quot;</td>
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<td>72&quot; x 72&quot;</td>
<td>84&quot; x 84&quot;</td>
<td>TYPES A, B, C, D, &amp; E (DETAIL D-5, SHEET 3)</td>
<td>113&quot;</td>
<td>120&quot;</td>
<td>SS02</td>
<td>TYPES 1 THRU 4 GRATE STANDARD DRAINAGE INLET FRAME</td>
<td>54&quot;</td>
<td>11'-4&quot;</td>
</tr>
</tbody>
</table>

**Notes:**
1. Maximum pipe sizes are calculated using reinforced concrete pipe perpendicular to the box wall. For other pipe sizes, types and skew angles other than perpendicular, see chart on DelDOT Design Resource Center.
2. Steps are required on all boxes whose depth is greater than 4'-0" (1219).
3. For a 34" x 24" drainage inlet box, no cover slab is needed for a Type B top unit.
4. See Detail D-4 or appropriate detail sheet for additional notes.

---

**Scale:** 1/2" = 1'-0" (NTS)
**INLET TOP UNIT APPLICATIONS**

<table>
<thead>
<tr>
<th>TOP UNIT</th>
<th>CURB</th>
</tr>
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<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 1-8 &amp; 3-4, PCC CURB TYPE 1-8</td>
</tr>
<tr>
<td>TYPE C</td>
<td>INTEGRAL PCC CURB &amp; GUTTER, TYPES 1-6, 3-6, 1-4, and 1-2</td>
</tr>
<tr>
<td>TYPE D</td>
<td>INTEGRAL PCC CURB &amp; GUTTER, TYPE 2</td>
</tr>
<tr>
<td>TYPE E</td>
<td>PCC CURB TYPE 3</td>
</tr>
</tbody>
</table>

**NOTE:** LENGTH OF #4 REBAR SHALL BE THE OUTSIDE OF THE DRAINAGE INLET BOX PLUS 2'-9".

**SS501 BENDING DIAGRAM**

SS501 is not required to be one continuous bar. If more than one bar is used, there must be a 12" overlap between bars.

**DELTA**

DEPARTMENT OF TRANSPORTATION

STANDARD NO. D-5 (2010)  SHT. 3 OF 9

APPROVED  SIGNATURE ON FILE  02/27/2012

DELAWARE DEPARTMENT OF TRANSPORTATION

DATE  SIGNATURE ON FILE  02/26/2012

2/14/2012
MATCH FLOW LINE
MATCH PROPOSED PAVEMENT GRADE

NOTE: SEE DETAIL D-5, SHEET 3 OF 9 FOR INLET TOP UNIT APPLICATIONS.

NOTE: REFER TO PREVIOUS SHEETS FOR REINFORCING REQUIREMENTS

* - SEE OPTIONAL PIPE OPENING DETAIL ON STANDARD NO. D-4, SHEET 1 OF 1
The contractor shall furnish material and plug abandoned drainage pipes with concrete as directed by the engineer.
NOTES:
1. Longitudinal steel shall be held in place by cradles.
2. Letters on concrete monument to be countersunk in top of marker ⅜".
3. Flexible delineators are only to be used on roads with a specified denial of access or classified as minor arterials or higher. On all other road classifications, a wooden stake shall be placed with "ROW" handwritten vertically in 1" tall letters.
4. Place cap on concrete monument so that top of cap is flush with the top of the concrete monument.

DELAWARE
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MONUMENTATION

STANDARD NO. M-2 (2011)  APPROVED

SIGNATURE ON FILE 12/22/2011

PAGE 1 OF 1

12/12/2011
BIKE RACK LAYOUT DETAILS

NOTES:
1. BIKE RACK SHALL BE ANCHORED AS PER MANUFACTURER’S RECOMMENDATIONS AFTER APPROVAL FROM ENGINEER IN THE FIELD.
2. DETAIL SHOWN WITH P.C.C. CURB TYPE 1-8, HOWEVER ACTUAL CURB VARIES AND SHOULD BE PLACED AS SHOWN ON PLANS.
3. SPECIAL CONSIDERATIONS SHOULD BE TAKEN WHEN PLACING BIKE RACKS NEAR CURB RAMPS AND MAY REQUIRE A DETAIL ON THE PLANS.
NOTES:
1. ACTUAL PATTERN TO BE USED SHALL BE SPECIFIED ON THE PLANS. COLOR IS TO BE "BRICK RED" UNLESS OTHERWISE NOTED ON THE PLANS.
2. MATERIALS AND PAVEMENT BOX VARY DEPENDING ON PLANS.
3. FOR CROSSWALK APPLICATIONS, REFER TO THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STRIPING WIDTH.
4. THE PATTERNS ABOVE ARE THE PREFERRED PATTERNS AVAILABLE FOR SIDEWALK OR CROSSWALK APPLICATIONS.

DELAWARE DEPARTMENT OF TRANSPORTATION

PATTERNED HOT-MIX OR CONCRETE & BRICK PAVER DETAILS

STANDARD NO. M-6 (2011) SHT. 1 OF 1 APPROVED

CHIEF ENGINEER DESIGN ENGINEER

SIGNATURE ON FILE SIGNATURE ON FILE

DATE 01/17/2012 01/17/2012

SCALE: NTS

09/06/2011
1. Type 1 conduit junction well shall be precast concrete. At least one hole in precast wells will be of a 5" diameter completely through the wall. Unused holes shall be plugged.

2. Types 2 and 3 conduit junction wells shall be brick and will conform to standard specifications for brick masonry. Joints shall be concave type. Type 2 walls will be a nominal 4" thick. Type 3 wall will be a nominal 8" thick.

3. Junction wells shall not be placed under any type of pavement.

4. All conduit junction wells shall be constructed flush with the surface of the same. Installation in unpaved areas will be constructed above grade and graded to drain away from conduit junction well.

5. All cracks, gaps, or openings in junction wall well shall be sealed with concrete.

Notes:

SECTION A-A

Plan View

Detail "A"
CONDUIT JUNCTION WELL, TYPE 4 T-1 (2011) 3 2 10/27/2011

DIAMOND GRID STANDARD 8

CAST IRON COVERS FRAME CAST IRON

PLAN VIEW

DEL. 57 STONE

DELAWARE DEPARTMENT OF TRANSPORTATION

CONDUIT JUNCTION WELL, TYPE 4

NOTES:
1). TYPE 4 CONDUIT JUNCTION WELL SHALL BE PRECAST CONCRETE. AT LEAST ONE HOLE IN PRECAST WELLS WILL BE OF A 5" DIAMETER COMPLETELY THROUGH THE WALL. UNUSED HOLES SHALL BE PLUGGED.
2). ALL CONDUIT JUNCTION WELLS CONSTRUCTED SHALL BE WITHIN CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM CONDUIT JUNCTION WELL.
3). ALL CRACKS, GAPS, OR OPENINGS IN JUNCTION WELL WALL SHALL BE SEALED WITH CONCRETE.

SECTION A-A

SECTION B-B

FINISHED GRADE (UNPAVED)

FINISHED GRADE (PAVEMENT)

CAST IRON COVER

HANDHOLE COVER

2½" BRADED STRAP WITH ½" EYELETS

No. 6 AWG GROUNDING CONDUCTOR (color)

DETAIL "A"

4½" X 1½" STAINLESS STEEL BOLT WITH STAINLESS SPLIT LOCK WASHER AND NUT, DRILL AND TAP LD AND SUPPORT FRAME. ANTI-CORROSION COMPOUND SHALL BE APPLIED TO EACH ASSEMBLY.

HANDHOLE FRAME

CAST IRON FRAME

1½" DIA. PICK PRY HOLE

2-

STANDARD DIAMOND GRID

CAST IRON COVERS

DET. "A"

PLAN VIEW

BUSHING

GALV. CONDUIT

NONMETALLIC CONDUIT

CONCRETE WALL

DEL. 57 STONE

20" X 42½"

40" X 64"

1" MIN.

3" MAX.

4½" CONCRETE WALL

4½"
NOTES:
1. Type 5 Conduit Junction Well shall be precast concrete. At least one hole in precast wells will be of a 5” diameter completely through the wall. Unused holes shall be plugged.
2. All conduit junction wells constructed shall be within constructed flush with the surface of the same. Installation in unpaved areas will be constructed above grade and graded to drain away from conduit junction well.
3. All cracks, gaps, or openings in junction well wall shall be sealed with concrete.

SECTION A-A

All cracks, gaps, or openings in junction well wall shall be sealed with concrete.
GALV. CONDUIT
CONDUCTOR (color)
No. 6 AWG GROUNDING
RECESSED COVER
SEE DETAIL "A"
BUSHING

STEEL LD

2'-0" BRADED STRAP WITH ½" EYELETS

½" x 1½" STAINLESS STEEL BOLT WITH SPLIT LOCK WASHER AND NYLON INSERT LOCKOUT WELDED TO FRAME AND TO COVER. ANTI-CORROSION COMPOUND SHALL BE APPLIED TO EACH ASSEMBLY.

DETAIL "A"

BONDING AN EXISTING JUNCTION WELL COVER & FRAME

GALV. CONDUIT
CONDUCTOR (color)
No. 6 AWG GROUNDING
CONDUCTOR (color)
No. 6 AWG GROUNDING
CONDUCTOR (color)
No. 6 AWG GROUNDING
BUSHING
FINISHED GRADE (PAVEMENT)
RECESSED COVER

STEEL FRAME

2'-0" BRADED STRAP WITH ½" EYELETS

½" x 1½" STAINLESS STEEL BOLT WITH SPLIT LOCK WASHER AND NYLON INSERT LOCKOUT WELDED TO FRAME AND TO COVER. ANTI-CORROSION COMPOUND SHALL BE APPLIED TO EACH ASSEMBLY.

JUNCTION WELL BONDING GALVANIZED TO GALVANIZED

JUNCTION WELL BONDING NONMETALLIC CONDUIT

U.L. LISTED DIRECT BURIAL SPLICE KIT

NONMETALLIC CONDUIT

STANDARD NO. T-2 (2011)
SHT. 1 OF 1
DELAWARE DEPARTMENT OF TRANSPORTATION
JUNCTION WELL, GROUNDING & BONDING FOR STEEL FRAMES & LIDS
APPROVED
RECOMMENDED

SIGNATURE ON FILE 12/22/2011
SIGNATURE ON FILE 12/21/2011

SCALE : NTS
1/4" = 1'-0"
POLYMER CONCRETE WITH A HEAVY-WEAVE FIBERGLASS REINFORCEMENT

1/8" - 16 UNC HEX BOLT WITH WASHERS TO BE SECURED INTO THE WELL FRAME

2" x 4" PULL SLOT

SKID RESISTANT SURFACE

DEL DOT ELECTRIC

PLAN VIEW

NOTES:
1. TYPE 11 CONDUIT JUNCTION WELL LID SHALL BE PRECAST POLYMER CONCRETE WITH A HEAVY-WEAVE FIBERGLASS FRAME. INSTALLED ON A PRECAST CONCRETE WELL.
2. TYPE 11 CONDUIT JUNCTION WELL BODY SHALL BE PRECAST CONCRETE. AT LEAST ONE HOLE IN PRECAST WELLS WILL BE OF A 5" DIAMETER COMPLETELY THROUGH THE WALL. UNUSED HOLES SHALL BE PLUGGED.
3. TYPE 11 CONDUIT JUNCTION WELLS SHALL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME.
4. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM THE CONDUIT JUNCTION WELL.
5. ALL CRACKS, GAPS, OR OPENING IN JUNCTION WELL WALL SHALL BE SEALED WITH CONCRETE.

DELFAST STONE

1/8" MIN. OR AS DIRECTED BY THE ENGINEER

24" MIN. OR AS DIRECTED BY THE ENGINEER

FINISHED GRADE (PAVEMENT)

FINISHED GRADE (UNPAVED)

22 5/16" x 22 5/16"
NOTES:
1. TYPE 14 CONDUIT JUNCTION WELL LID SHALL BE PRECAST POLYMER CONCRETE WITH A HEAVY-WEAVE FIBERGLASS FRAME. INSTALLED ON A PRECAST CONCRETE WELL.
2. TYPE 14 CONDUIT JUNCTION WELL BODY SHALL BE PRECAST CONCRETE. AT LEAST ONE HOLE IN PRECAST WELLS WILL BE OF A 2" DIAMETER COMPLETELY THROUGH THE WALL. UNUSED HOLES SHALL BE PLUGGED.
3. TYPE 14 CONDUIT JUNCTION WELLS SHALL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME.
4. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM THE CONDUIT JUNCTION WELL.
5. ALL CRACKS, GAPS, OR OPENINGS IN CONDUIT WELL WALL SHALL BE SEALED WITH CONCRETE.
NOTES:
1. TYPE 15 CONDUIT JUNCTION WELL LID SHALL BE PRECAST POLYMER CONCRETE WITH A HEAVY-WEAVE FIBERGLASS FRAME, INSTALLED ON A PRECAST CONCRETE WELL.
2. TYPE 15 CONDUIT JUNCTION WELL BODY SHALL BE PRECAST CONCRETE. AT LEAST ONE HOLE IN PRECAST WELLS WILL BE OF A 5.5 DIAMETER COMPLETELY THROUGH THE WALL. UNUSED HOLES SHALL BE PLUGGED.
3. TYPE 15 CONDUIT JUNCTION WELLS SHALL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM THE CONDUIT JUNCTION WELLS.
4. ALL CRACKS, GAPS, OR OPENINGS IN JUNCTION WELL WALL SHALL BE SEALED WITH CONCRETE.
NOTE: CONCRETE APRON IS REQUIRED ONLY WHEN CABINET BASE IS INSTALLED IN EARTH AREAS OR AS DIRECTED ON PLAN.

DELAWARE DEPARTMENT OF TRANSPORTATION

CABINET BASES, TYPES M & F

APPROVED

STANDARD NO. T-4 (2011) SHT. 1 OF 2 RECOMMENDED

SIGNATURE ON FILE DATE

SIGNATURE ON FILE DATE
GROUND RODS (PAVEMENT, ETC.)

FINISHED GRADE AT THIS END OF CONDUIT.

INSTALL INSULATING BUSHINGS

CONCRETE BASE

RAISED GRADE (SOIL)

FINISHED GRADE

SECTION A-A

GROUND RODS

2" CONDUIT SWEEP

2" CONDUIT

SECTION B-B

CABINET BASE

CONCRETE APRON

"P" & "R" CABINETS

PLAN VIEW

NOTE:

CONCRETE APRON IS REQUIRED ONLY WHEN CABINET BASES IS INSTALLED IN EARTH AREAS OR AS DIRECTED ON PLAN.
EXISTING CONDUIT

BY THE ENGINEER

TO BE AS DIRECTED

BOLT CIRCLE DIAMETER

(MASTARM OR SPAN)

DIRECTION OF LOAD

EXISTING CONDUIT

ROUND BASE

SQUARE BASE

UNDERGROUND CONDUIT ENDS
SHALL BE CAPPED WITH A GALVANIZED
THREADED CONDUIT PLUG UNLESS
CONNECTED TO AN EXISTING CONDUIT

8 EQUALLY SPACED
#8 REINFORCING BARS

EQUALLY SPACED
#4 REINFORCING BARS

GROUND FOR POLE TO
BE ATTACHED TO
GROUND ROD (6" x 240")

3" CONDUIT SWEEPS

EXISTING CONDUIT

UNDERGROUND CONDUIT ENDS
SHALL BE CAPPED WITH A GALVANIZED
THREADED CONDUIT PLUG UNLESS
CONNECTED TO AN EXISTING CONDUIT

8 EQUALLY SPACED
#8 REINFORCING BARS

EQUALLY SPACED
#4 REINFORCING BARS

GROUND FOR POLE TO
BE ATTACHED TO
GROUND ROD (6" x 240")

3" CONDUIT SWEEPS

EXISTING CONDUIT

BOLT CIRCLE DIAMETER
TO BE AS DIRECTED
BY POLE MANUFACTURE
REQUIREMENTS

DIRECTION OF LOAD
(MASTARM OR SPAN)

GROUND ROD (6" X 240")

3" TYP
ANCHOR BOLTS
INSTALLATION IN SOIL
ROUNDED CORNERS FOR
FINISHED GRADE
AREA TO BE GROUTED
HEX NUT
ANCHOR BOLT
COVER
AS DIRECTED BY THE ENGINEER.
PLUMB OR CANT POLE
SQUARE NUT USED TO
CONDUIT
GRADE (SOIL)
FINISHED
(SEE POLE BASE DATA CHART)

TYPICAL SECTION (BASES 1, 2A, 2B, 3A, 3B, AND 7)

NOTES:
1. PLACE 2 EACH 6" LONG x 3/4" DIA. P.V.C., SCHEDULE 40 (TYP) VENTS
   IN THE GROUT AS DIRECTED IN THE FIELD BY ENGINEER.
2. SEE POLE BASE DATA CHART FOR POLE BASE DIMENSIONS.
POLE BASE DATA CHART

<table>
<thead>
<tr>
<th>POLE BASE</th>
<th>DIAMETER</th>
<th>DEPTH</th>
<th>#4 HORIZONTAL REINFORCING BARS</th>
<th>#8 VERTICAL REINFORCING BARS</th>
<th>CONDUITS</th>
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<tr>
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<td>60&quot;</td>
<td>7'-0&quot;</td>
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<td>8</td>
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<tr>
<td>3A</td>
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<td>15'-4&quot;</td>
<td>7</td>
<td>8</td>
<td>1 - 1&quot;</td>
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NOTE:
ANCHOR BOLTS AND BOLT PATTERN FOR TYPE 5 & 6 POLE BASES TO BE PROVIDED BY THE MANUFACTURE.

TYPE 7 GROUND ROD TYPICAL

NOTE:
ANCHOR BOLTS AND BOLT PATTERN FOR TYPE 7 POLE BASES TO BE PROVIDED BY THE MANUFACTURE.
NOTES:
ANCHOR BOLTS AND BOLT PATTERN TO BE PROVIDED BY DELDOT'S SIGNAL CONSTRUCTION INSPECTOR.

ANCHOR DETAIL

BREAKAWAY COUPLING DETAIL

TYPICAL SECTION (BASE 4)
NOTES:
1. UNDERGROUND CONDUIT ENDS SHALL BE CAPPED WITH A GALVANIZED THREADED CONDUIT PLUG UNLESS CONNECTED TO AN EXISTING CONDUIT.
2. PLACE 2 EACH 6" x 9" P.V.C., SCHEDULE 40 (TYP) VENTS IN THE GROUT AS DIRECTED IN THE FIELD BY THE ENGINEER.