SECTION I - BARRIER

SHEET NO. NAME

B-L (2001) – BARRIER LEGEND
B-1 – GUARDRAIL APPLICATIONS
(2004) - 1 PLANS - (TYPE 1, TYPE 2, AND TYPE 3)
(2004) - 2 ELEVATIONS AND SPLICE DETAIL
(2002) - 3 SECTION VIEWS
(2007) - 4 GRADING FOR GUARDRAIL END TREATMENT, TYPE 1
(2007) - 5 GRADING FOR GUARDRAIL END TREATMENT, TYPE 2
(2007) - 6 GRADING FOR GUARDRAIL END TREATMENT, TYPE 3
B-2 (2004) – GUARDRAIL OVER CULVERTS, TYPE 1
B-3 (2004) – GUARDRAIL OVER CULVERTS, TYPE 2
B-4 (2007) – CURVED GUARDRAIL SECTION
B-5 (2002) – END ANCHORAGE
B-6 – BURIED END SECTION
(2002) - 1 BURIED END SECTION
(2002) - 2 BURRIED END SECTION
(2002) - 3 POST, CONCRETE BLOCK, & RUBRAIL ANCHOR DETAILS
B-7 – GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 1
(2005) - 1 PLAN, ELEVATION, AND SECTIONS
(2001) - 2 WOOD BLOCKOUT, RUB RAIL WOOD BLOCKS, BEARING PLATE, RUB RAIL TO BARRIER CONNECTION DETAILS
(2001) - 3 BENT PLATE RUB RAIL DETAILS
B-8 – GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 2
(2005) - 1 PLAN, ELEVATION, AND SECTIONS
(2001) - 2 NOTES, BENT RAIL DETAILS, BLOCK SCHEDULE
B-9 (2002) – GUARDRAIL TO BARRIER CONNECTION, EXIT TYPE
B-10 (2004) – BRIDGE RAIL RETROFIT, TYPE 1
B-11 – BRIDGE RAIL RETROFIT, TYPE 2
(2004) - 1 PLAN, SECTION A-A, BASE PLATE DETAIL
(2001) - 2 BASE PLATE DETAIL AND STEEL GUARDRAIL POST
B-12 (2001) – BRIDGE RAIL RETROFIT, TYPE 3
B-13 – HARDWARE
(2004) - 1 W-BEAM DETAILS
(2004) - 2 W-BEAM STEEL POST AND OFFSET BLOCK
(2004) - 3 W-BEAM TERMINAL CONNECTOR
(2004) - 4 THRIE BEAM DETAILS
(2004) - 5 THRIE BEAM STEEL POST AND OFFSET BLOCK
(2004) - 6 W-THRIE BEAM TRANSITION SECTION
(2008) - 7 WOOD BLOCK, SOIL PLATE, SHORT WOOD BREAKAWAY POST, STEEL TUBE, LONG WOOD BREAKAWAY POST
(2004) - 8 SWAGED CABLE AND RELATED HARDWARE ASSEMBLY
(2004) - 9 REFLECTORIZED WASHER AND BEARING PLATE DETAIL
(2004) - 10 GUARDRAIL BOLT & RECESSED NUT
(2004) - 11 5/8" (16) HEX BOLT, HEX NUT, & STEEL WASHER, HIGH-STRENGTH STRUCTURAL HEX BOLT & HEX NUT
(2004) - 12 15/16" (24) HEX NUT & STEEL WASHER, 5/8" (16) CARRIAGE BOLT, HEX NUT, & STEEL WASHER
(2005) - 13 GUARDRAIL MOUNTED RAIL •DETAIL ON HOLD•
B-14 – CONCRETE SAFETY BARRIER (F SHAPE)
(2001) - 1 TYPICAL CAST IN PLACE OR SLIP FORM CONSTRUCTION
(2001) - 2 TYPICAL PRE-CAST CONSTRUCTION
(2001) - 3 SLOTTED PLATE CONNECTION DETAILS

SECTION I - BARRIER (CONT'D)

SHEET NO.	NAME
B-15	— PORTABLE CONCRETE SAFETY BARRIER (F SHAPE)
(2001) - 1	PLAN, ELEVATION, AND SECTION VIEW •DETAIL DELETED - SEE SPECIFICATIONS•
(2001) - 2	CURVE SECTION •DETAIL DELETED - SEE SPECIFICATIONS•
(2001) - 3	TAPERED END SECTION •DETAIL DELETED - SEE SPECIFICATIONS•
(2001) - 4	TYPICAL REINFORCEMENT DETAILS •DETAIL DELETED - SEE SPECIFICATIONS•
(2001) - 4	JOINT CONNECTION DETAILS •DETAIL DELETED - SEE SPECIFICATIONS•

SECTION II - CURB & GUTTER

SHEET NO.	NAME
C-1 (2008)	— P.C.C. CURB, P.C.C. CURB & GUTTER, AND HOT-MIX CURB
C-2	— CURB RAMPS
(2008) - 1	TYPE 1
(2008) - 2	TYPES 2, 3, & 4
(2008) - 3	SECTIONS FOR TYPES 2, 3, & 4
(2006) - 4	TYPE 5
C-3 (2008)	— ENTRANCES
C-4	— CURB OPENINGS
(2001) - 1	TYPES A, B, & C
(2001) - 2	TYPES D & E
(2001) - 3	TYPES F & G

SECTION III - DRAINAGE

SHEET NO.	NAME
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 & ASSEMBLY DETAIL
(2007) - 2	PERSONNEL SAFETY GRATE FOR PIPE INLET DETAIL
D-4 (2007)	— INLET BOX DETAILS
D-5	— DRAINAGE INLET DETAILS
(2008) - 1	DRAINAGE INLET ASSEMBLY
(2007) - 2	DRAINAGE INLET FRAME AND GRATES
(2008) - 3	DRAINAGE INLET TOP UNITS
(2008) - 4	DRAINAGE INLET COVER SLAB DETAILS
(2008) - 5	DOUBLE INLET COVER SLAB DETAILS
(2008) - 6	34" (865) x 24" (610) DRAINAGE INLET AND COVER SLAB DETAILS
(2008) - 7	34" (865) x 18" (455) DRAINAGE INLET DETAILS
(2008) - 8	SUBDIVISION INLET DETAILS
(2002) - 9	LAWN INLET DETAIL

SECTION III - DRAINAGE (CONT'D)

SHEET NO. NAME

D-6 — MANHOLE DETAILS
(2007) - 1 BOX MANHOLE ASSEMBLY
(2001) - 2 ROUND MANHOLE ASSEMBLY
(2001) - 3 MANHOLE FRAME AND COVER
(2007) - 4 BOX MANHOLE COVER SLAB
D-7 — JUNCTION BOX DETAILS
(2007) - 1 JUNCTION BOX ASSEMBLY
(2007) - 2 JUNCTION BOX COVER SLAB
D-8 (2001) — PIPE BEDDING
D-9 (2008) — PERFORATED PIPE UNDERDRAIN
D-10 (2007) — PIPE PLUGGING DETAIL

SECTION IV - EROSION

SHEET NO. NAME

E-1 (2001) — INCREMENTAL STABILIZATION
E-2 (2006) — SILT FENCE
E-3 (2005) — DRAINAGE INLET SEDIMENT CONTROL
E-4 (2001) — CURB INLET SEDIMENT CONTROL
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 SLOPE DRAIN
E-15 (2005) — STILLING WELL
E-16 (2005) — SUMP PIT, TYPE 1& 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 STAKED 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

SHEET NO. NAME

L-1 — PLANTING DETAILS

(2006) - 1 ROADSIDE SHRUB PLANTING DETAIL

(2006) - 2 TREE PLANTING DETAILS

(2006) - 3 PERENNIAL/GROUND COVER PLANTING DETAIL

SECTION VI - MISCELLANEOUS

SHEET NO. NAME

M-1 (2001) — RIGHT-OF-WAY FENCE

M-2 (2008) — CONCRETE MONUMENT

M-3 (2008) — BOLLARD & SHARED-USE PATH DETAILS

M-4 (2007) — BIKE RACK

M-5 (2004) — WOOD RAIL FENCE

M-6 (2004) — PATTERNED HOT-MIX OR CONCRETE & BRICK PAVER

M-7 (2006) — CHAIN LINK FENCE DETAILS

M-8 (2007) — P.C.C. PARKING BUMPER

SECTION VII - PAVEMENT

SHEET NO. NAME

P-1 — P.C.C. PAVEMENT

(2001) - 1 SLAB PLAN (WITH DOWEL AND TIE LOCATIONS)

(2004) - 2 JOINT AND SEALANT DETAILS

(2001) - 3 W BOLT, HOOK BOLT, DOWEL & TIE BAR

(2001) - 4 DOWEL SUPPORT BASKET

(2001) - 5 DOWEL & TIE BAR PLACEMENT TOLERANCES

P-2 — P.C.C. PAVEMENT PATCHING

(2008) - 1 FULL DEPTH PATCH, PLAN VIEW

(2008) - 2 FULL DEPTH PATCH, SECTION VIEWS

(2004) - 3 FULL DEPTH PATCH, SEALANT DETAILS, GROUT RETENTION DISK, AND DOWEL BAR

(2001) - 4 FULL DEPTH PATCH, DOWEL BAR PLACEMENT TOLERANCES

(2001) - 5 PARTIAL DEPTH PATCH, PLAN AND SECTION VIEWS

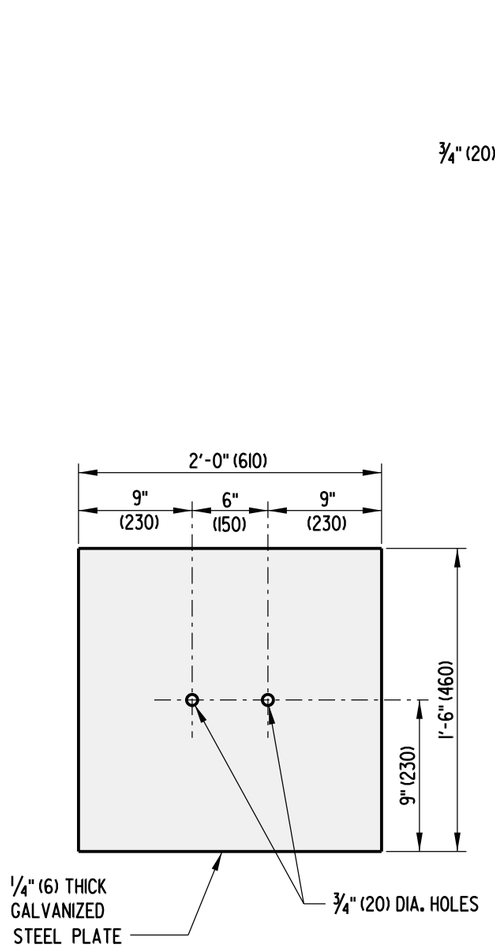
SECTION VIII - TRAFFIC

SHEET NO. NAME

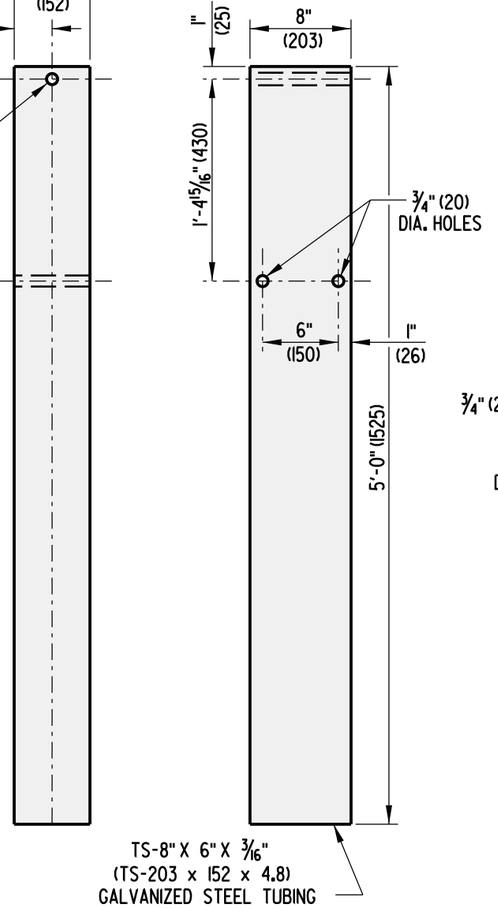
T-1 (2005) — CONDUIT JUNCTION WELL, TYPES 1,2, AND 3
T-2 (2005) — CONDUIT JUNCTION WELL, TYPE 4
T-3 (2005) — CONDUIT JUNCTION WELL, TYPE 5
T-4 (2005) — CABINET BASES (TYPES "M" AND "P")
T-5 — POLE BASES
(2005) - 1 ROUND BASE, SQUARE BASE
(2005) - 2 TYPICAL SECTION (BASES 1, 2, 2A, 2B, 3, 3A, 3B, AND 7), TYPICAL SECTION (BASE 4), TYPICAL INSTALLATION (BASES 1, 2, 2A, 2B, 3, 3A, 3B, 4, AND 7)
(2008) - 3 TYPICAL SECTION (BASES 5 AND 6), ANCHOR BOLT DATA CHART AND DETAILS
T-6 (2005) — 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 DEAD END MESSENGER WIRE ATTACHMENT
T-13 — CONDUIT JUNCTION WELLS
(2005) - 1 TYPE 4
(2006) - 2 TYPE 7
(2006) - 3 TYPES 8 & 10
T-14 — EMERGENCY PREEMPTION RECEIVER
(2006) - 1 UPRIGHT MOUNT
(2005) - 2 INVERTED MOUNT

SCALE : N.T.S.

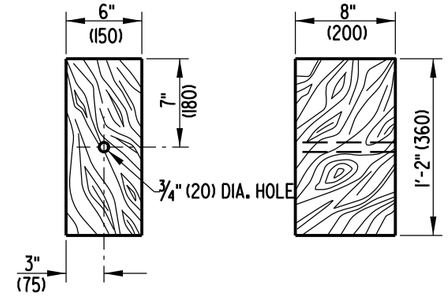
NOTES : 1). ALL HOLES SHALL BE DRILLED PRIOR TO GALVANIZING.
2). ALL WOOD SIZES ARE NOMINAL DIMENSIONS.
3). POSTS SHOULD BE PLACED SO THAT BREAKAWAY HOLES ARE NO LOWER THAN GROUND LEVEL AND NO HIGHER THAN 4" (100) ABOVE GROUND LEVEL.



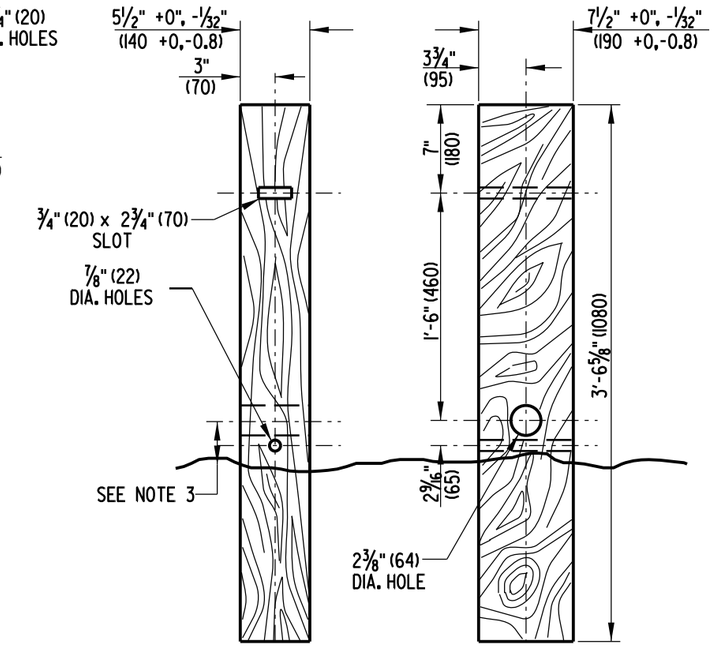
SOIL PLATE



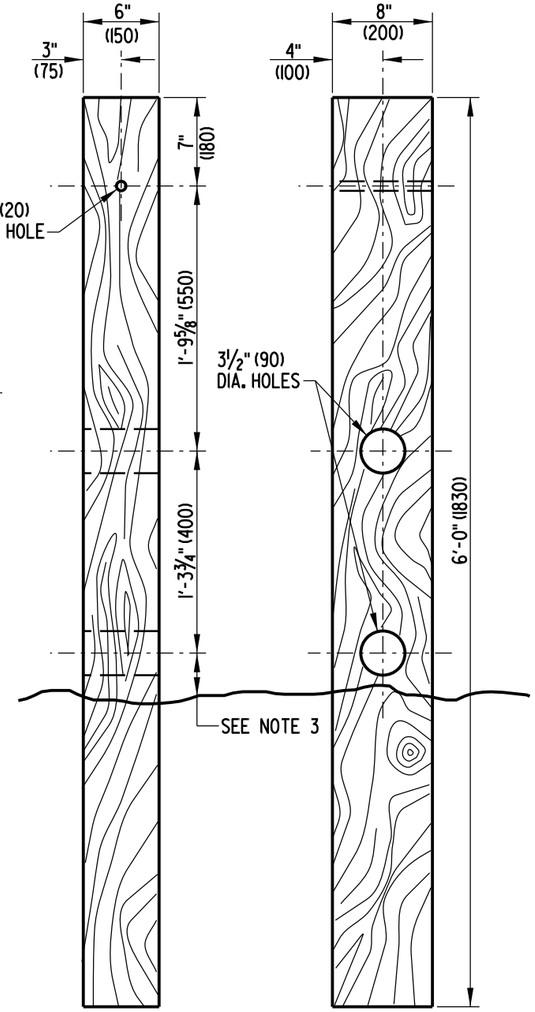
STEEL TUBE



WOOD BLOCK



SHORT WOOD BREAKAWAY POST

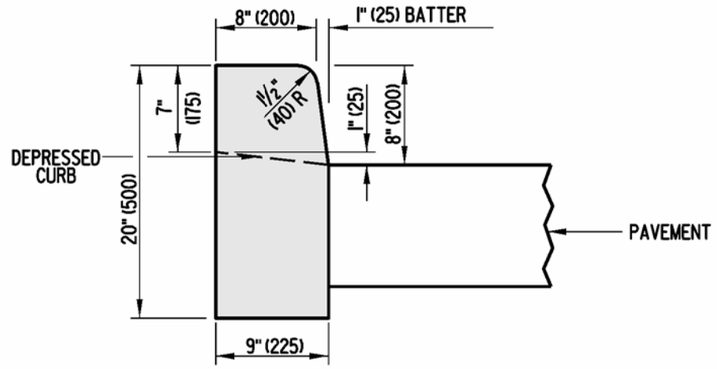


LONG WOOD BREAKAWAY POST

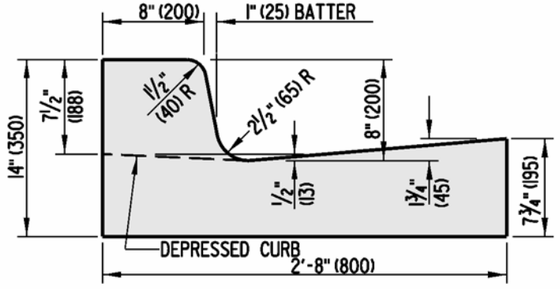
DELAWARE DEPARTMENT OF TRANSPORTATION	HARDWARE		APPROVED CHIEF ENGINEER	DATE 11/18/08
	STANDARD NO. B-13 (2008)	SHT. 7 OF 13	RECOMMENDED DESIGN ENGINEER	DATE 11/17/08

07/14/2008

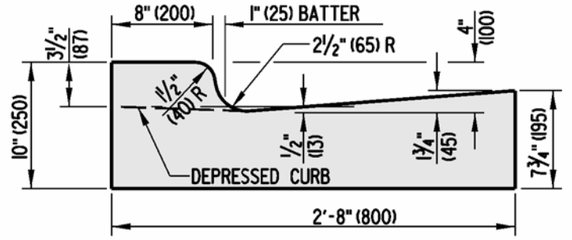
SCALE : N.T.S.



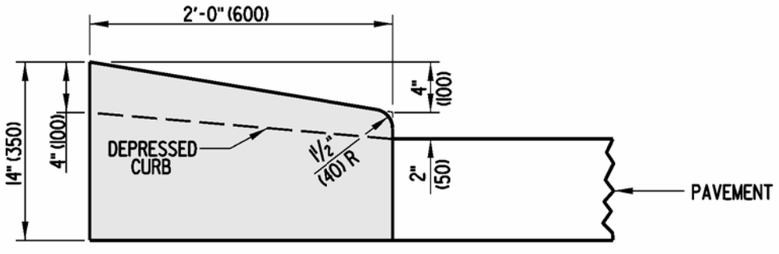
P.C.C. CURB
TYPE 1



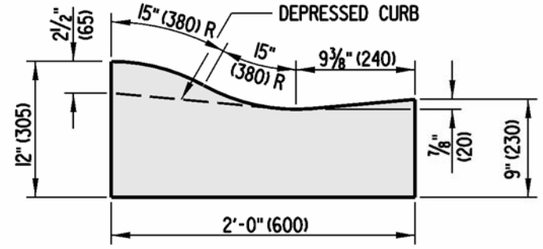
INTEGRAL P.C.C. CURB AND GUTTER
TYPE 1



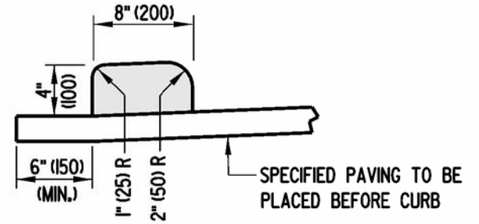
INTEGRAL P.C.C. CURB AND GUTTER
TYPE 4



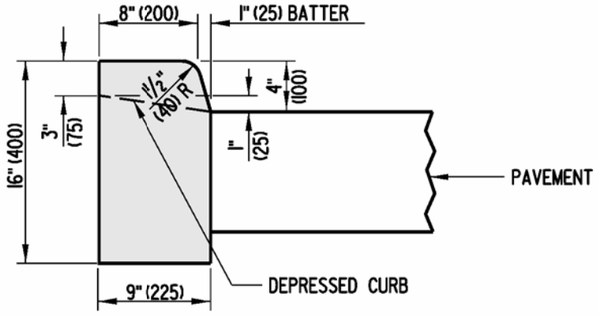
P.C.C. CURB
TYPE 2



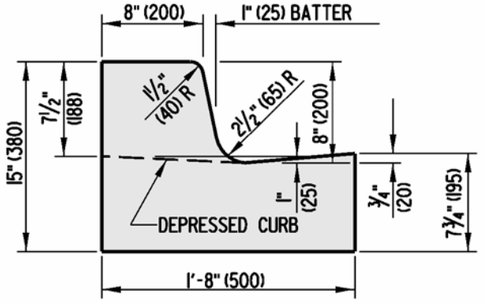
INTEGRAL P.C.C. CURB AND GUTTER
TYPE 2



HOT-MIX, HOT LAID BITUMINOUS CONCRETE CURB



P.C.C. CURB
TYPE 3



INTEGRAL P.C.C. CURB AND GUTTER
TYPE 3

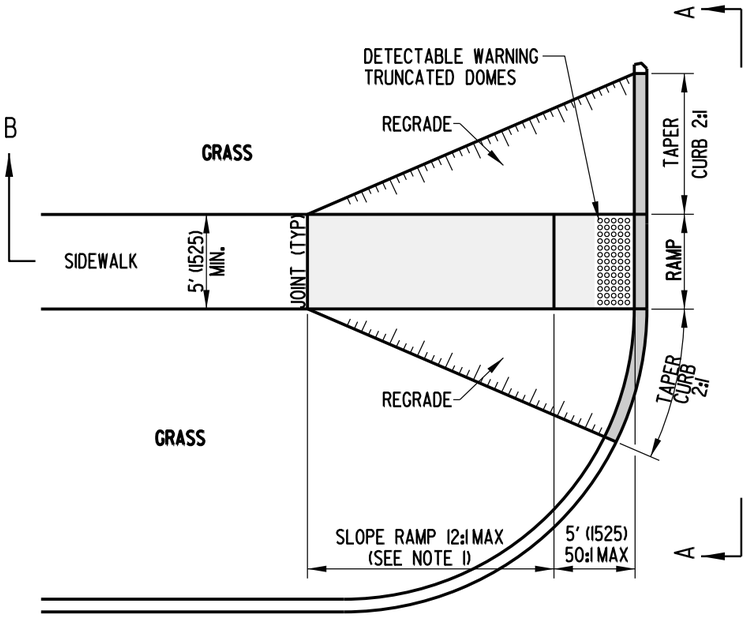
NOTES:

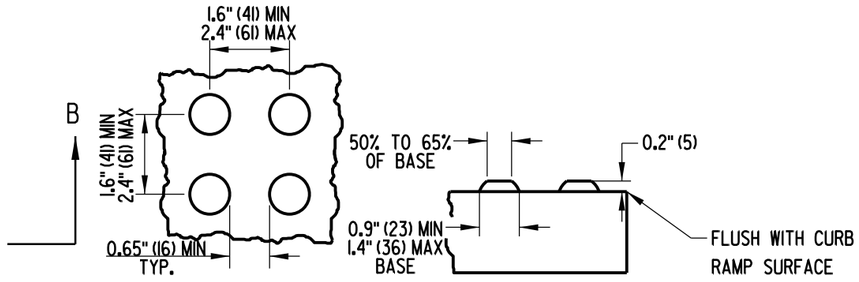
1. WHEN P.C.C. CURB OR INTEGRAL P.C.C. CURB AND GUTTER IS PLACED ADJACENT TO PORTLAND CEMENT CONCRETE PAVEMENT, CONSTRUCT THE JOINT AS PER THE LONGITUDINAL JOINT SEALANT DETAIL ON DETAIL P-2, SHEET 3 OF 5. USE APPROVED JOINT FILLER TO SEAL. WORK TO BE PAID UNDER RESPECTIVE CURB AND GUTTER ITEM.
2. DEPRESS 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 NOSE OF ISLANDS, TAPERING BACK TO FULL HEIGHT AT A SLOPE OF 12:1.

DELAWARE DEPARTMENT OF TRANSPORTATION	P.C.C. CURB, P.C.C. CURB & GUTTER, AND HOT-MIX CURB		APPROVED CHIEF ENGINEER 11/18/08 DATE
	STANDARD NO. C-1 (2008)	SHT. 1 OF 1	RECOMMENDED DESIGN ENGINEER 11/17/08 DATE

07/02/2008

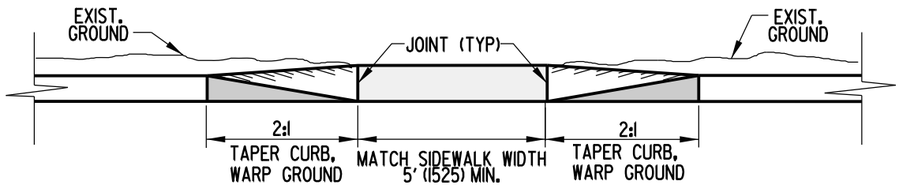
SCALE : N.T.S.



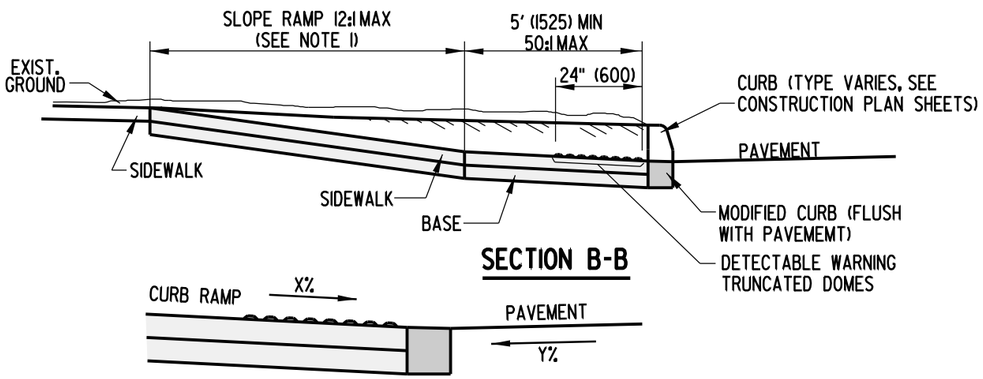


DETECTABLE WARNING TRUNCATED DOME DETAILS

NOTES:
A). THE AREA OF DETECTABLE WARNING TRUNCATED DOMES SHALL BE 24" (600) LONG AND THE FULL WIDTH OF THE RAMP OR DEPRESSED CURB.
B). SEE SPECIFICATION FOR ADDITIONAL INFORMATION.



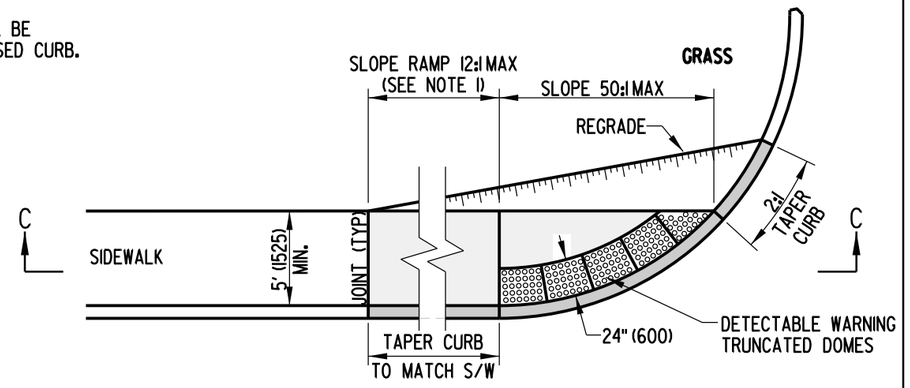
ELEVATION A-A

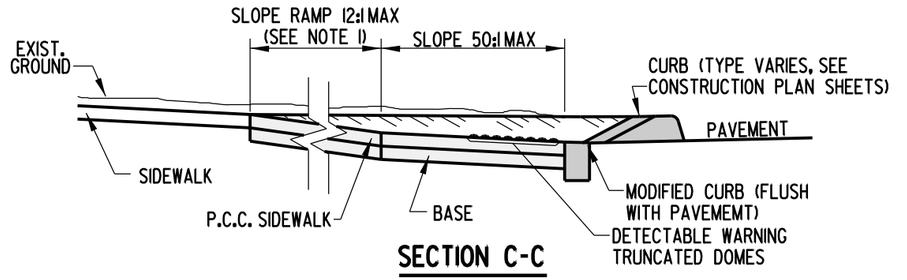


SECTION B-B

MAXIMUM DIFFERENCE IN GRADE

FOR EXAMPLE, IF THE CURB RAMP AND DEPRESSED CURB SLOPE (X) IS 8.1% AND THE PAVEMENT SLOPE (Y) IS 4.0%, THEN TO DETERMINE THE DIFFERENCE IN GRADE, ADD X + Y TO GET 12.1%. WHICH IS GREATER THAN THE 11% PREFERRED BUT LESS THAN THE 13% MAXIMUM.





SECTION C-C

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 ALLOWED TO EXCEED 12:1.
2). RAMP AND SIDEWALK CROSS SLOPE SHALL BE 50:1 (2%) MAXIMUM.
3). IF GRADING WILL BE STEEPER THAN 6:1, THEN A TYPE I CURB OR RETAINING WALL SHOULD BE USED TO ELIMINATE THE NEED FOR THE STEEP SLOPE.
4). THE MAXIMUM DIFFERENCE IN GRADE BETWEEN THE CURB RAMP OR MODIFIED CURB AND THE PAVEMENT SHALL BE 13%, HOWEVER 11% IS PREFERRED.

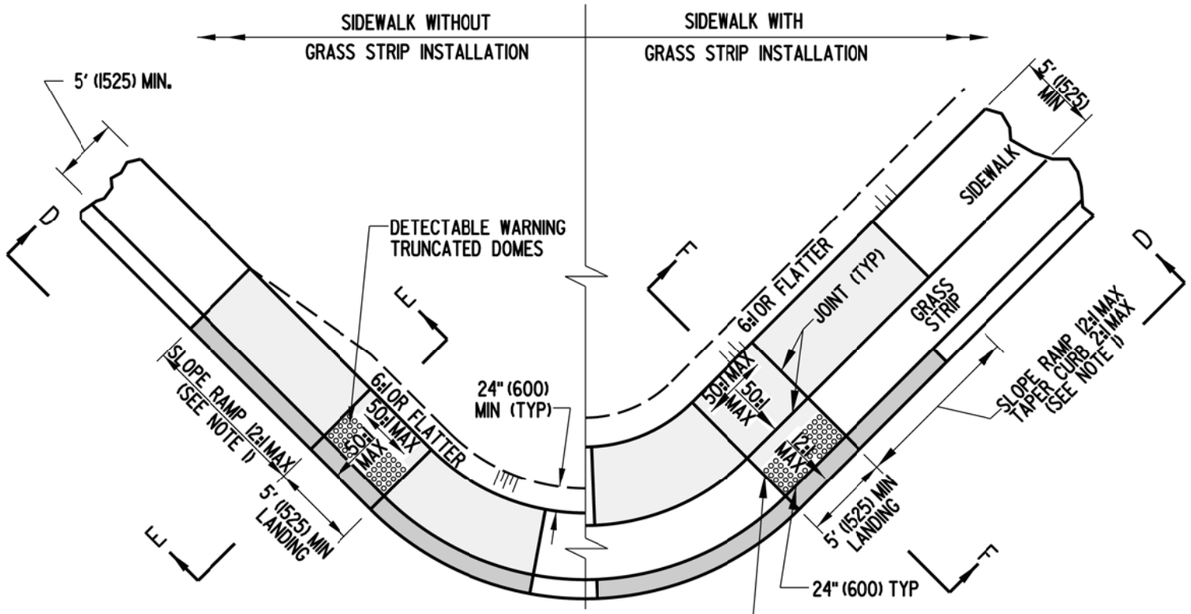
CURB RAMP, TYPE 1

PERPENDICULAR CURB RAMP

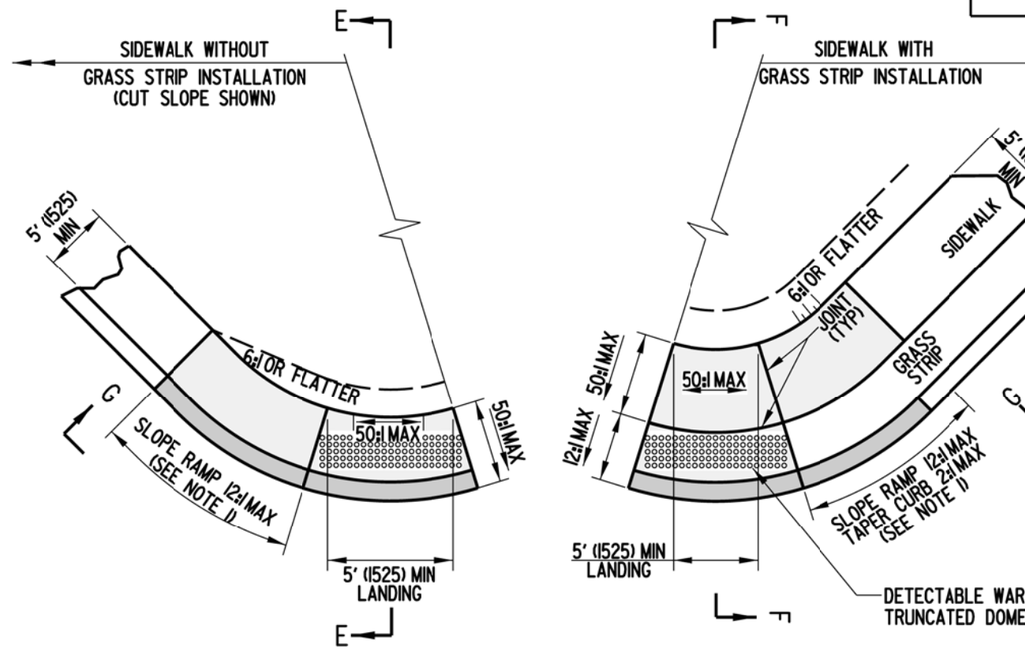
DELAWARE DEPARTMENT OF TRANSPORTATION	CURB RAMP, TYPE 1 AND SECTIONS		APPROVED CHIEF ENGINEER 11/18/08 DATE
	STANDARD NO. C-2 (2008)	SHT. 1 OF 4	RECOMMENDED DESIGN ENGINEER 11/17/08 DATE

10/16/2008

SCALE : N.T.S.

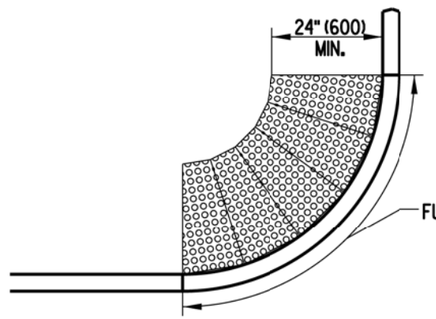


CURB RAMP, TYPE 2



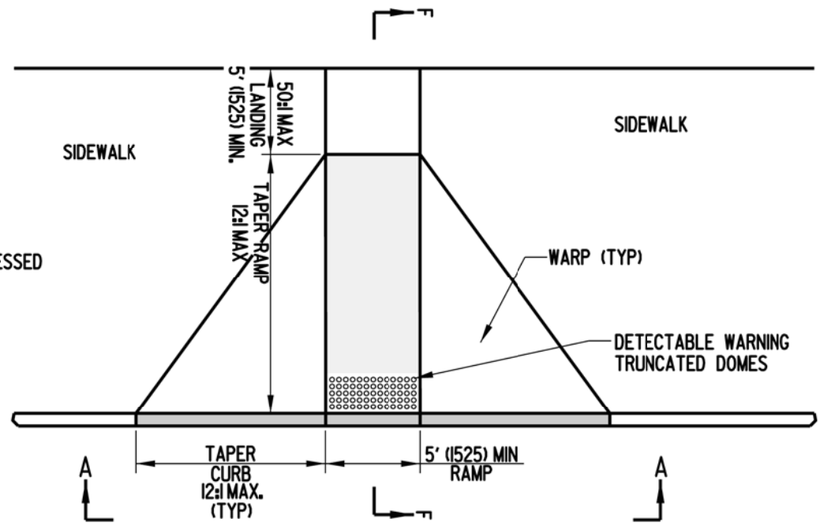
CURB RAMP, TYPE 3

DIAGONAL CURB RAMP



SAMPLE LAYOUT OF DETECTABLE WARNING TRUNCATED DOMES ALONG A CURB RADIUS

DETECTABLE WARNININGS SHALL BE PLACED
THE FULL WIDTH OF THE DEPRESSED CURB.



CURB RAMP, TYPE 4

PERPENDICULAR CURB RAMP

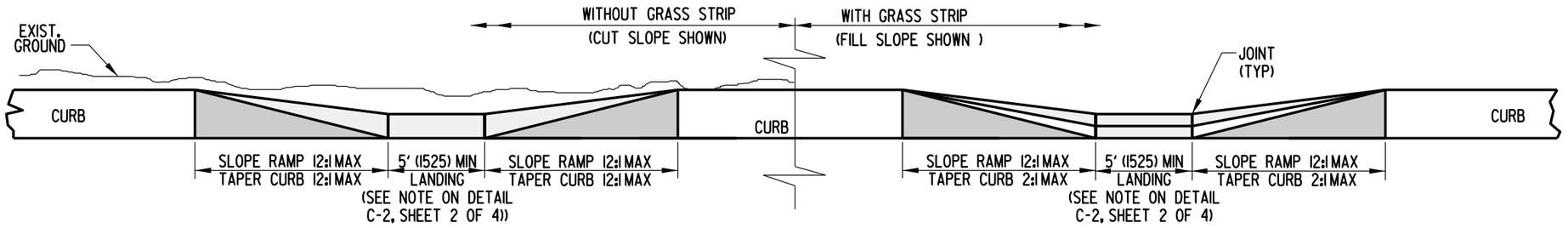
NOTES:

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). TRANSITION TO EXISTING SIDEWALK WIDTH OVER THE LENGTH OF THE RAMP.
3). RAMP AND SIDEWALK CROSS SLOPE SHALL BE 50:1 (2%) MAXIMUM.
4). IF GRADING WILL BE STEEPER THAN 6:1 ADJACENT TO THE CURB RAMP OR SIDEWALK, THEN A TYPE I CURB OR RETAINING WALL SHOULD BE USED TO ELIMINATE THE NEED FOR THE STEEP SLOPE.
5). FOR THE CURB RAMP, TYPE 3, IF THE WIDTH OF THE FULLY DEPRESSED CURB AT THE STREET IS MORE THAN 5' (1525), THE THE DETECTABLE WARNING TRUNCATED DOMES SHALL FOLLOW THE RADIUS OF THE CURB CONTINUOUSLY WITHOUT GAPS FOR THE ENTIRE LENGTH OF DEPRESSED CURB.
6). THE MAXIMUM DIFFERENCE IN GRADE BETWEEN THE SIDEWALK OR CURB AND THE PAVEMENT SHALL BE 13%, HOWEVER 11% IS PREFERRED. SEE STANDARD NO. C-2, SHEET 1 OF 4.
7). IF THE WIDTH OF THE FULLY DEPRESSED CURVED CURB AT THE STREET IS 5' (1525) OR LESS, THEN A RECTANGULAR PIECE OF DETECTABLE WARNING TRUNCATED DOMES MAY BE USED.

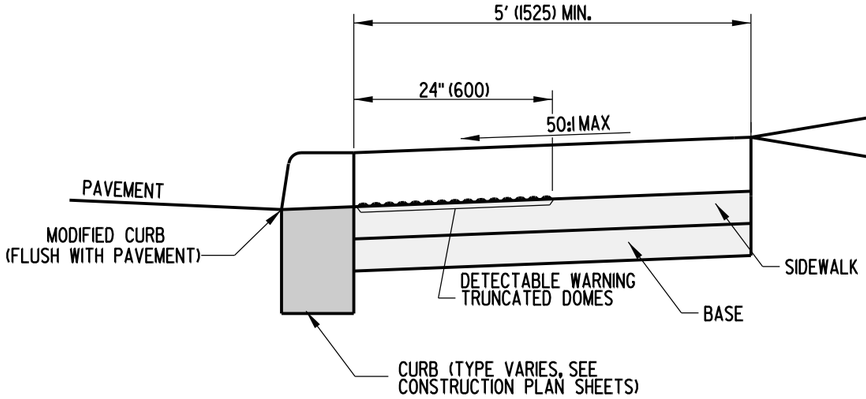
DELAWARE DEPARTMENT OF TRANSPORTATION	CURB RAMPS, TYPES 2, 3, & 4	APPROVED _____ CHIEF ENGINEER 11/18/08 DATE
	STANDARD NO. C-2 (2008) SHT. 2 OF 4	RECOMMENDED _____ DESIGN ENGINEER 11/17/08 DATE

11/16/2008

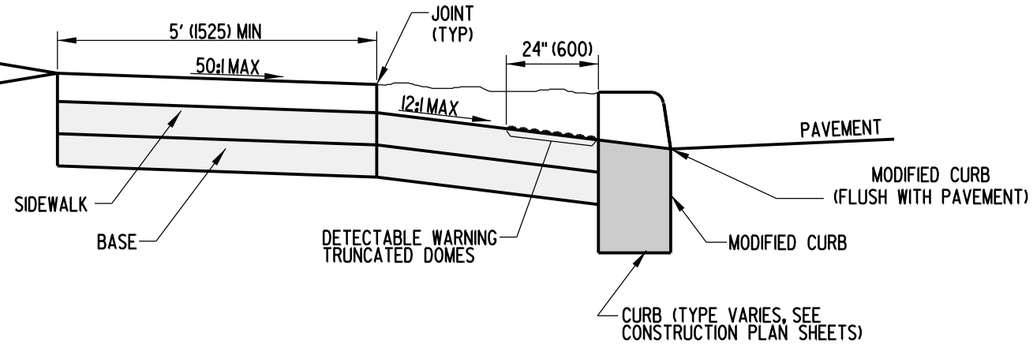
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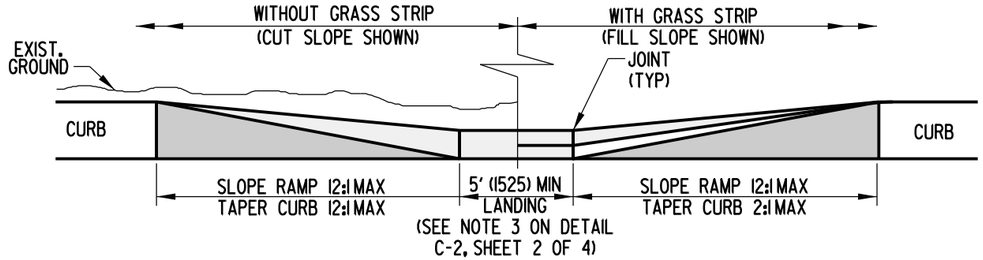
ELEVATION D-D



SECTION E-E



SECTION F-F

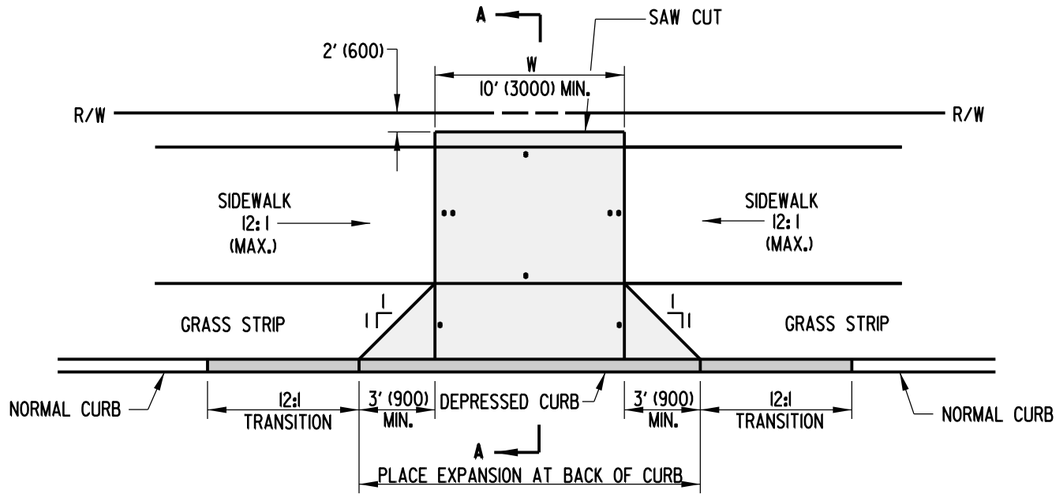


ELEVATION G-G

DELAWARE DEPARTMENT OF TRANSPORTATION	CURB RAMP SECTIONS FOR TYPES 2 & 3		APPROVED CHIEF ENGINEER — DATE 11/18/08
	STANDARD NO. C-2 (2008)	SHT. 3 OF 4	RECOMMENDED DESIGN ENGINEER — DATE 11/17/08

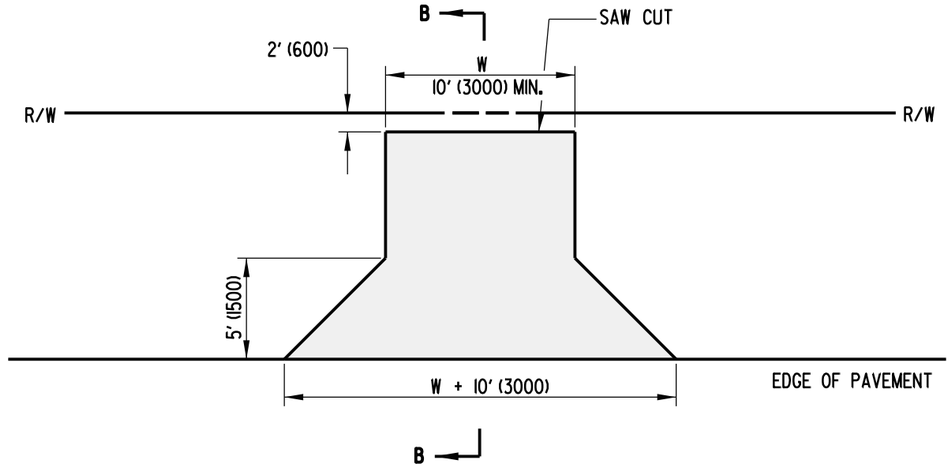
08/10/2004

SCALE : N.T.S.

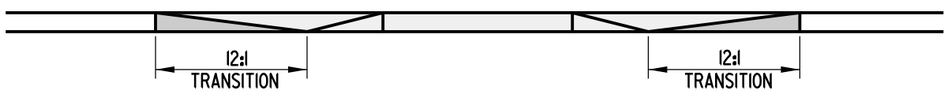


PLAN

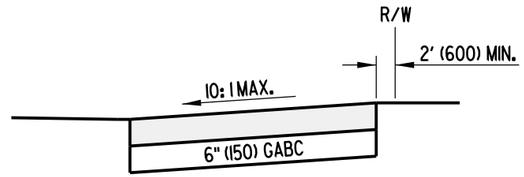
• - JOINT
•• - EXPANSION MATERIAL



PLAN

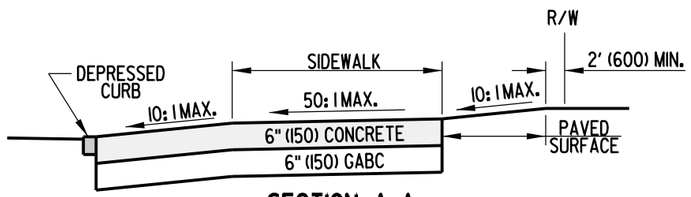


ELEVATION



SECTION B-B

ENTRANCE WITHOUT SIDEWALK



SECTION A-A

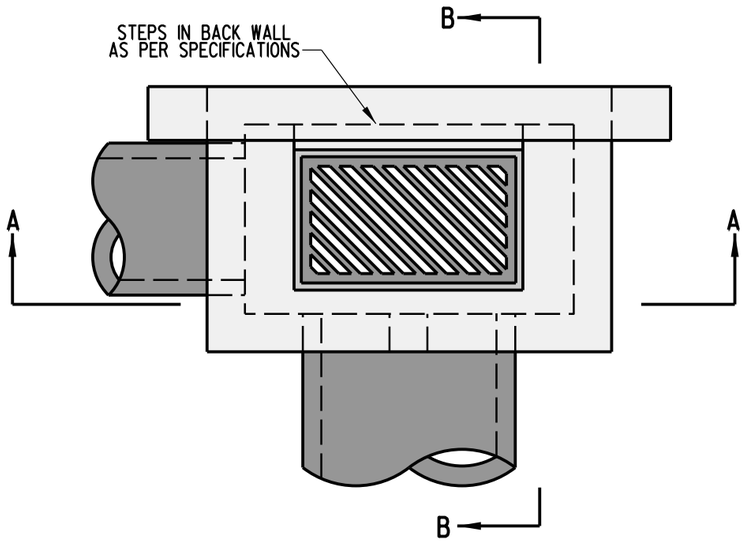
ENTRANCE WITH SIDEWALK

NOTE: IF WIDTH OF DRIVEWAY IS 16' (4870) OR GREATER, THE 1:1 FLARE CAN BE OMITTED.

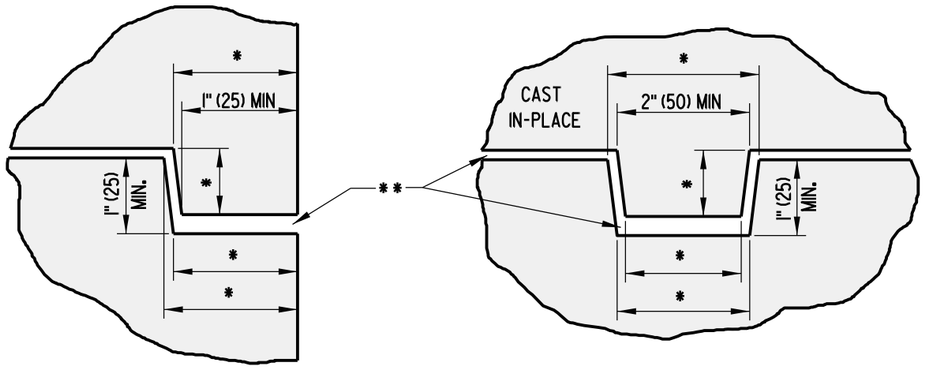
DELAWARE DEPARTMENT OF TRANSPORTATION	ENTRANCES		APPROVED _____ CHIEF ENGINEER DATE 11/18/08
	STANDARD NO. C-3 (2008)	SHT. 1 OF 1	RECOMMENDED _____ DESIGN ENGINEER DATE 11/17/08

09/10/2008

SCALE : N.T.S.

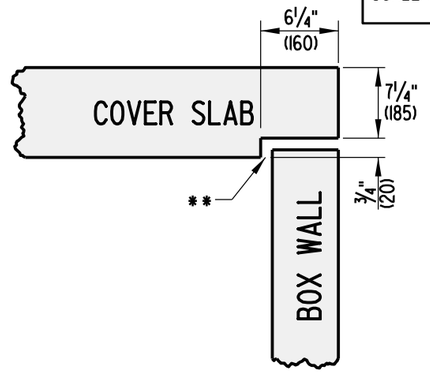


PLAN



TYPE 1 JOINT DETAIL

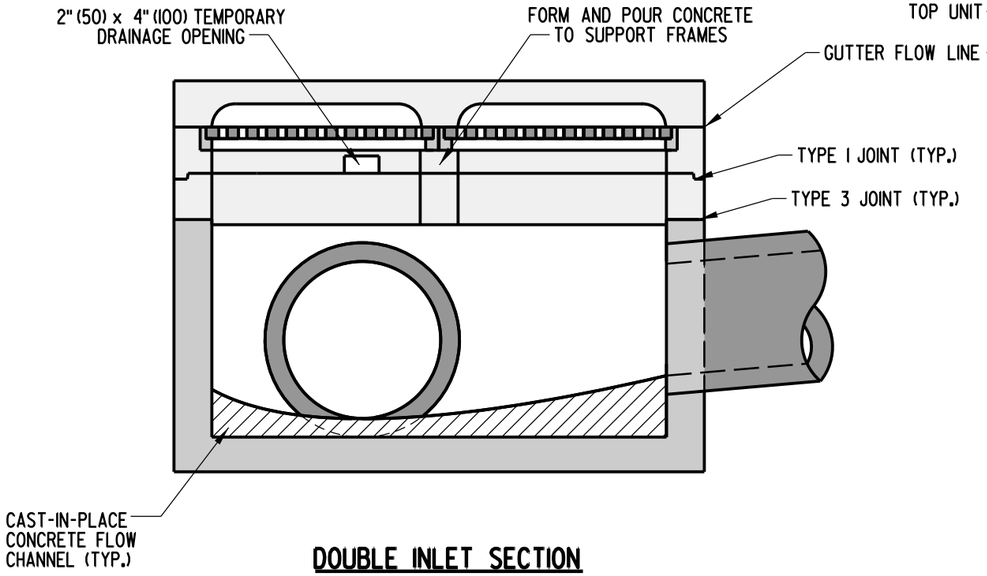
TYPE 2 JOINT DETAIL



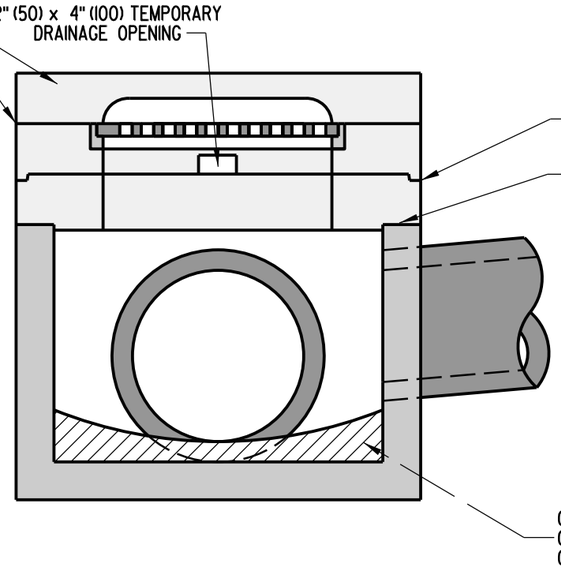
TYPE 3 JOINT DETAIL

* DIMENSIONS WILL VARY

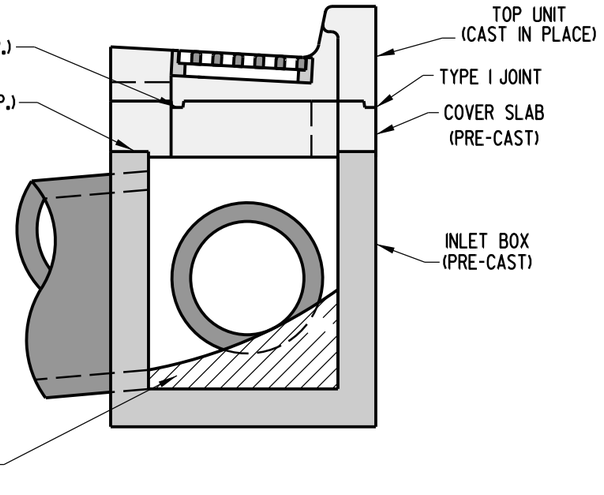
** JOINT SEALANT AS PER SPECIFICATIONS
ONLY BETWEEN 2 PRECAST UNITS



DOUBLE INLET SECTION



SECTION A-A

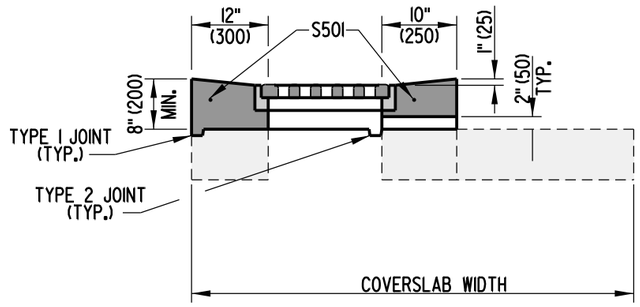


SECTION B-B

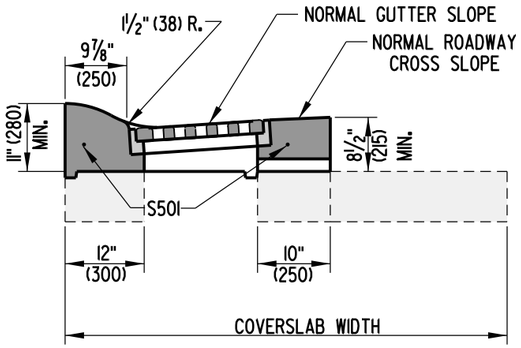
DELAWARE DEPARTMENT OF TRANSPORTATION	DRAINAGE INLET ASSEMBLY		APPROVED CHIEF ENGINEER — DATE 11/18/08
	STANDARD NO. D-5 (2008)	SHT. 1 OF 9	RECOMMENDED DESIGN ENGINEER — DATE 11/17/08

10/16/2008

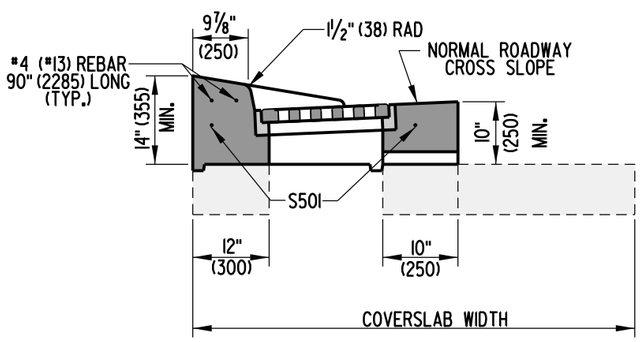
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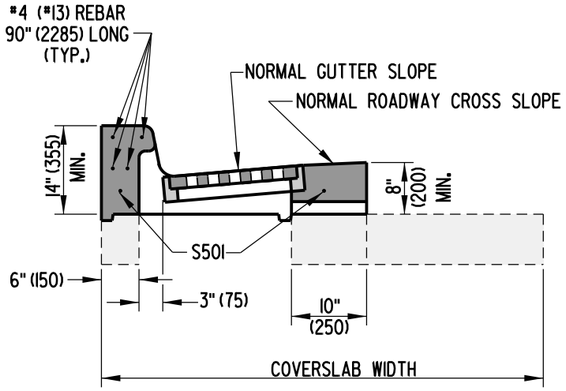
TYPE A



TYPE D

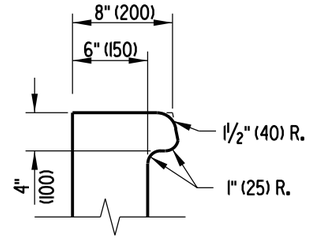


TYPE E

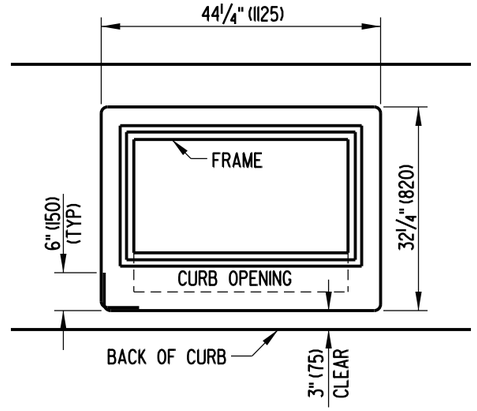


TYPE B

INLET TOP UNIT APPLICATIONS	
TOP UNIT	**CURB**
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	INTEGRAL PCC CURB & GUTTER, TYPE 2
TYPE E	PCC CURB TYPE 2

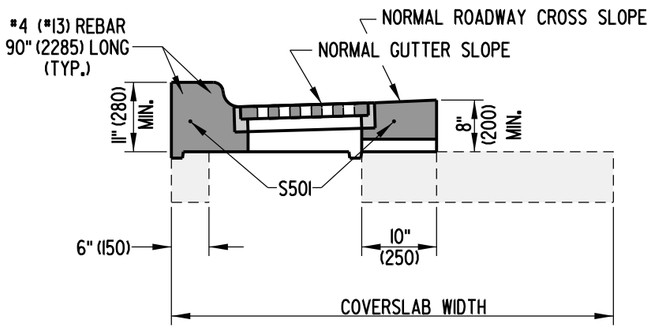


CURB OPENING DETAIL

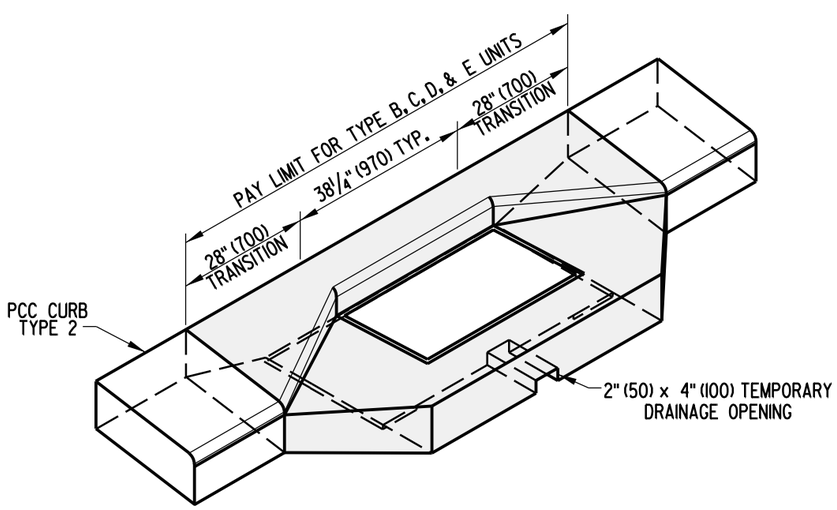


S501 BENDING DIAGRAM

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.



TYPE C



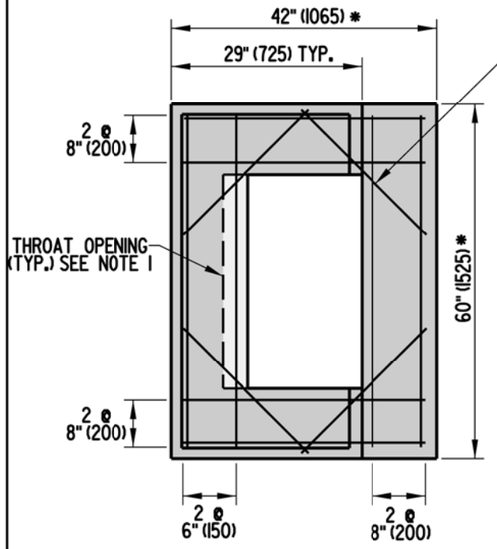
ISOMETRIC VIEW

TYPE E UNIT SHOWN

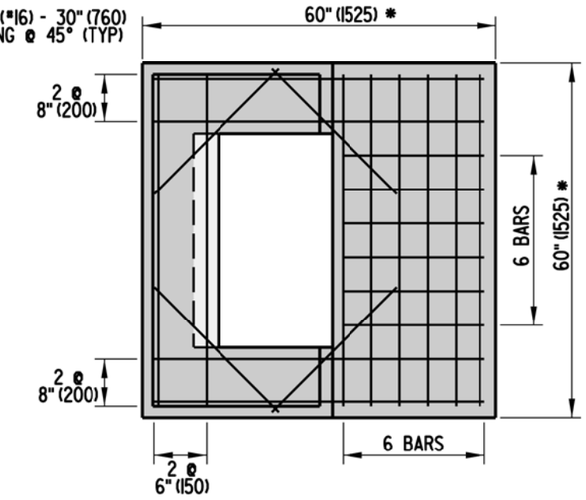
DELAWARE DEPARTMENT OF TRANSPORTATION	DRAINAGE INLET TOP UNITS		APPROVED CHIEF ENGINEER	DATE 11/18/08
	STANDARD NO. D-5 (2008)	SHT. 3 OF 9	RECOMMENDED DESIGN ENGINEER	DATE 11/17/08

10/16/2008

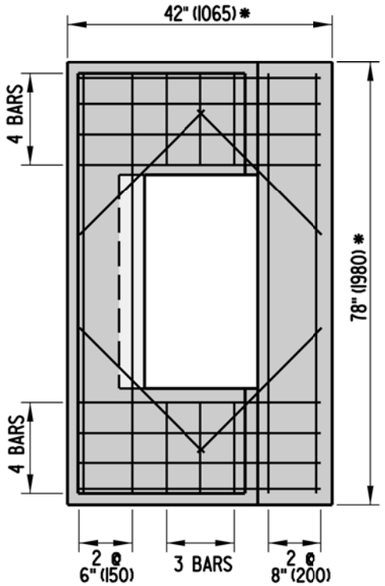
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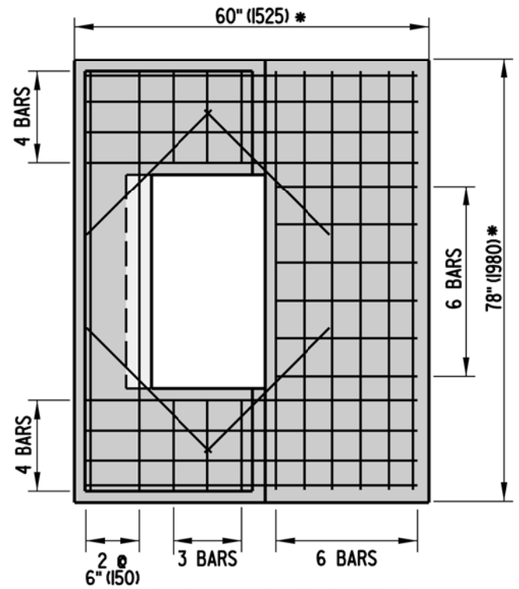
48" (1220) x 30" (760) INLET



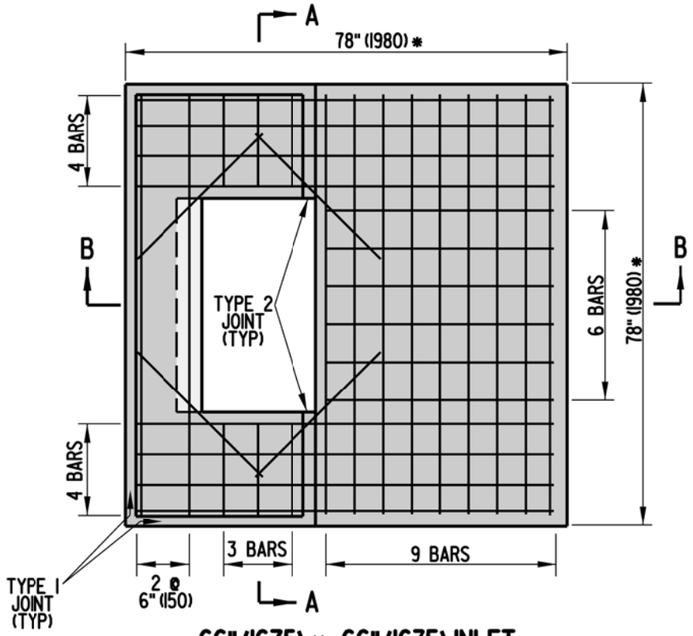
48" (1220) x 48" (1220) INLET



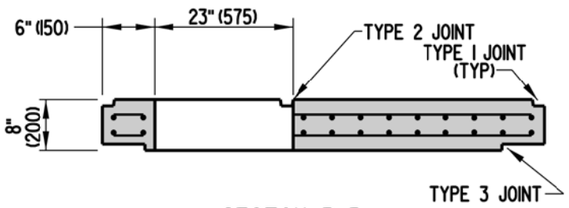
66" (1675) x 30" (760) INLET



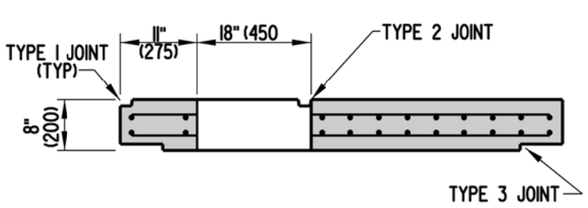
66" (1675) x 48" (1220) INLET



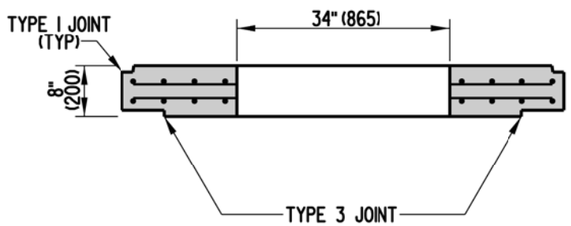
66" (1675) x 66" (1675) INLET



SECTON B-B
FOR TYPE B TOP UNITS



SECTON B-B
FOR TYPES A, C, D, & E TOP UNITS



SECTION A-A

NOTES :

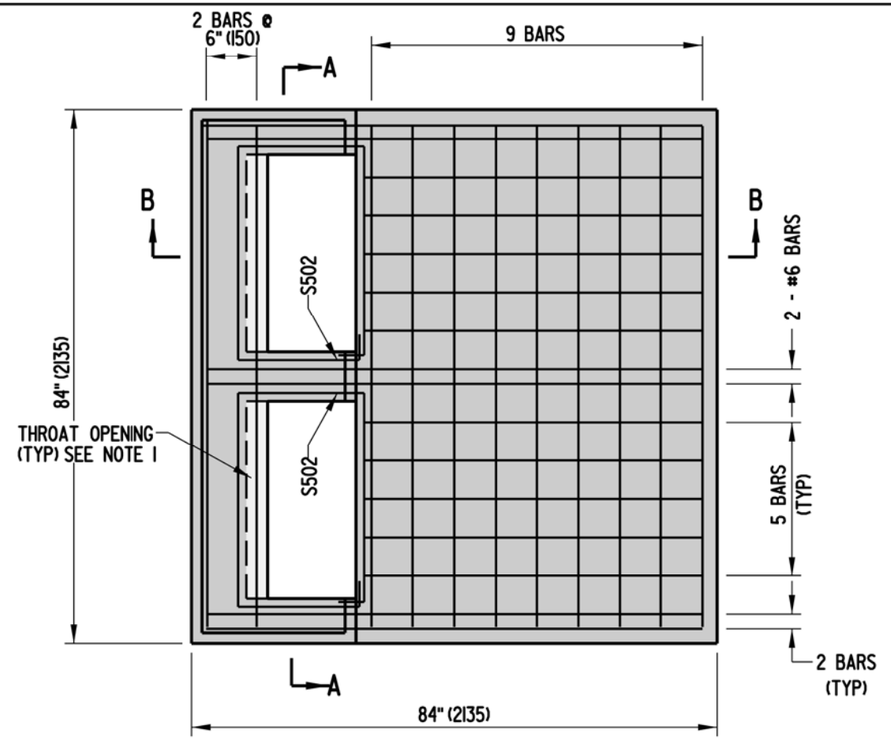
1). 5" (125) THROAT IS FOR TYPE B TOP UNIT ONLY.
2). RELOCATE ENCROACHING REINFORCING BARS WHEN USING TYPE B UNIT.
3). COVER SLABS SHALL BE PRE-CAST AND MUST BE SIZED TO FIT INLET BOX DIMENSIONS.
4). ALL BARS ARE TO BE #5 (#16) SPACED @ 6" (150)± UNLESS NOTED OTHERWISE. TOP REINFORCEMENT SHALL BE 0.11 IN^2 (70 mm^2) HORIZONTAL REINFORCEMENT PER FOOT IN BOTH DIRECTIONS.
5). MINIMUM BAR COVER = $1\frac{1}{2}$" (38)

* - DIMENSIONS TO MATCH OUTSIDE TO OUTSIDE DIMENSIONS OF BOX.

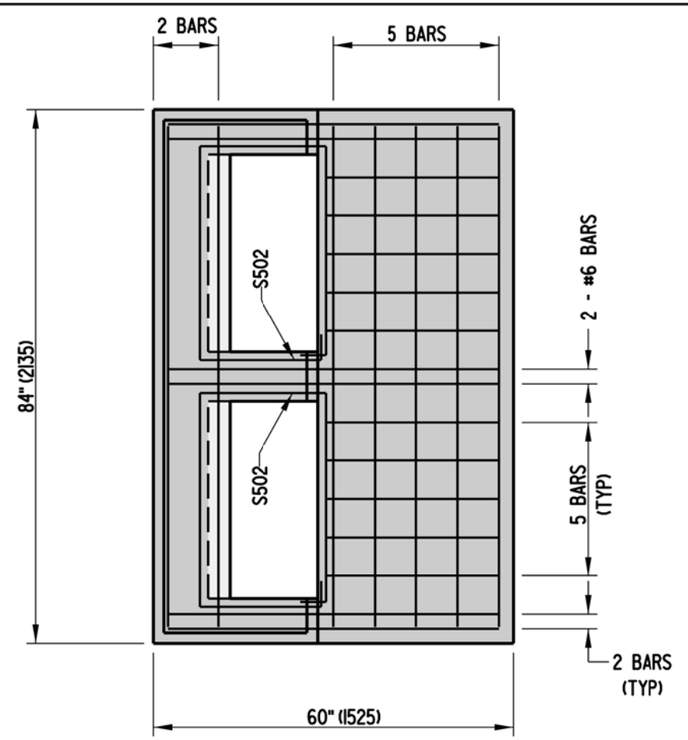
DELAWARE DEPARTMENT OF TRANSPORTATION	DRAINAGE INLET COVER SLAB DETAILS	APPROVED CHIEF ENGINEER 11/18/08 DATE
	STANDARD NO. D-5 (2008) SHT. 4 OF 9	RECOMMENDED Dennis M. O'Shea DESIGN ENGINEER 11/17/08 DATE

10/16/2008

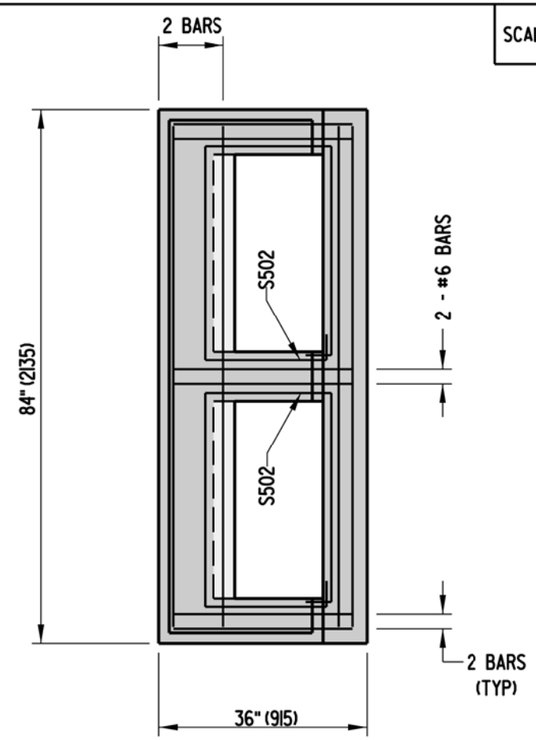
SCALE : N.T.S.



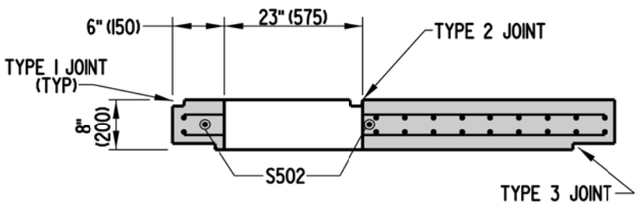
72" (1830) x 72" (1830) INLET



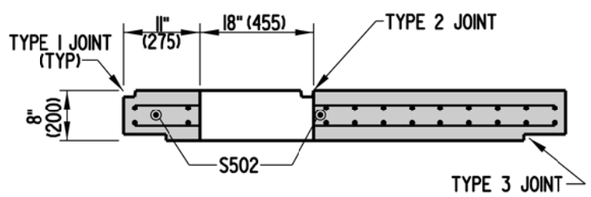
72" (1830) x 48" (1220) INLET



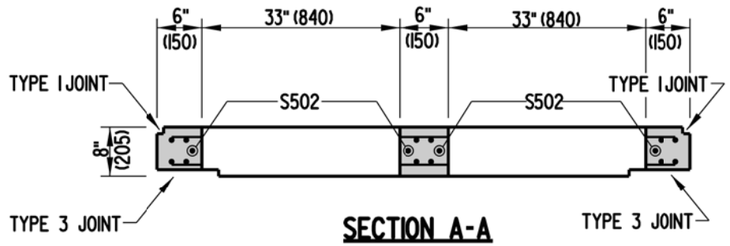
72" (1830) x 24" (610) INLET



SECTON B-B
FOR TYPE B TOP UNITS

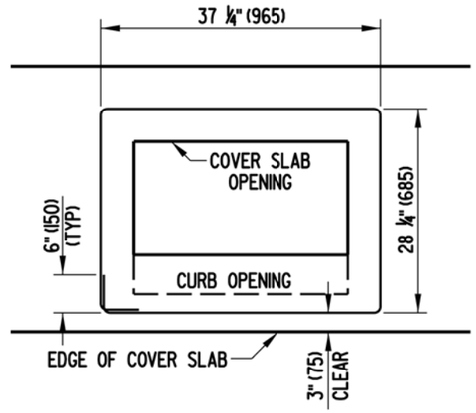


SECTON B-B
FOR TYPES A, C, D, & E TOP UNITS



SECTION A-A

NOTES :
1). 5" (125) THROAT IS FOR TYPE B TOP UNITS ONLY.
2). RELOCATE ENCROACHING REINFORCING BARS WHEN USING TYPE B TOP UNITS
3). COVER SLABS ARE TO BE PRECAST AND MUST BE SIZED TO FIT INLET BOX DIMENSIONS.
4). ALL BARS ARE TO BE #5 (#16) SPACED @ 6" (150)± UNLESS NOTED OTHERWISE. TOP REINFORCEMENTS SHALL BE 0.11 IN^2 (70 mm^2) MIN. HORIZONAL REINFORCEMENT PER FOOT IN BOTH DIRECTIONS.
5). MINIMUM BAR COVER = 1½" (38).



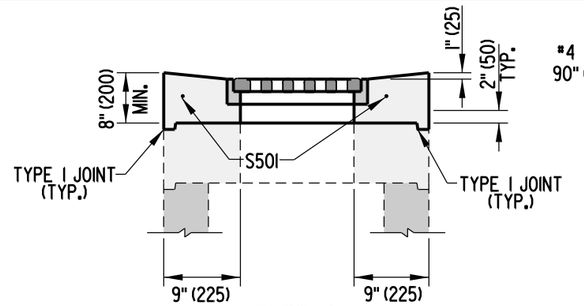
S502 BENDING DIAGRAM

S502 IS NOT REQUIRED TO BE ONE CONTINUOUS BAR. IF MORE THAN ONE BAR IS USED, THERE MUST BE A 12" (300) OVERLAP BETWEEN BARS.

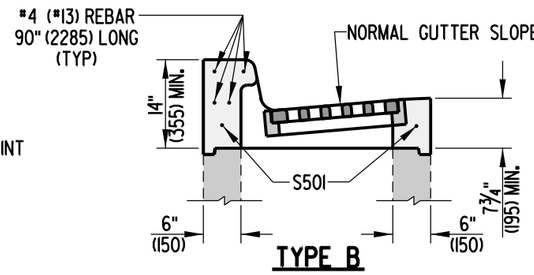
DELAWARE DEPARTMENT OF TRANSPORTATION	DOUBLE INLET COVER SLAB DETAILS	APPROVED CHIEF ENGINEER 11/18/08 DATE
	STANDARD NO. D-5 (2008) SHT. 5 OF 9	RECOMMENDED DESIGN ENGINEER 11/17/08 DATE

09/10/2008

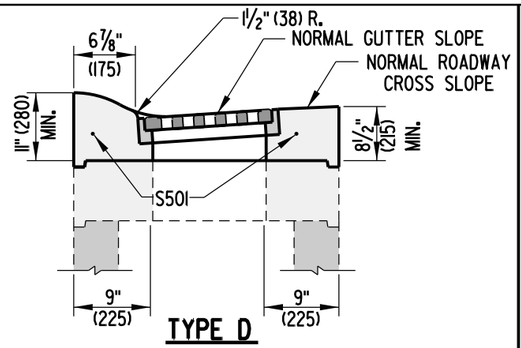
SCALE : N.T.S.



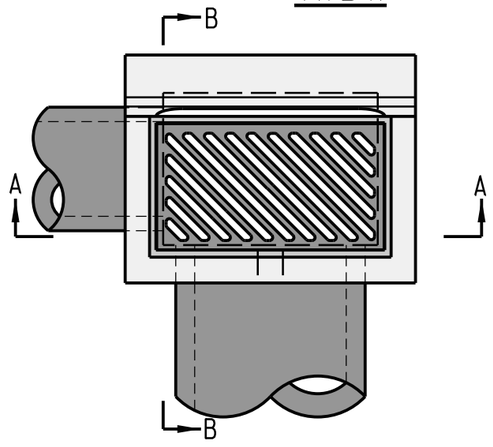
TYPE A



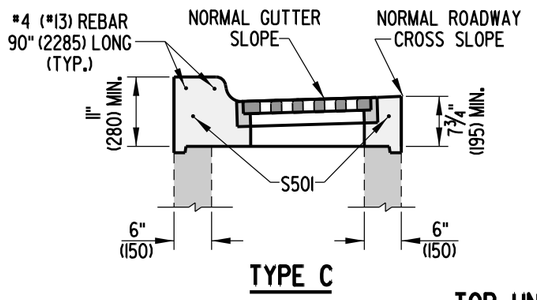
TYPE B



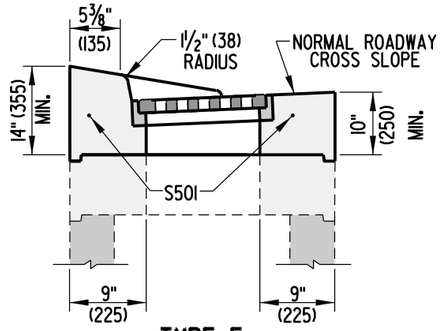
TYPE D



TOP VIEW

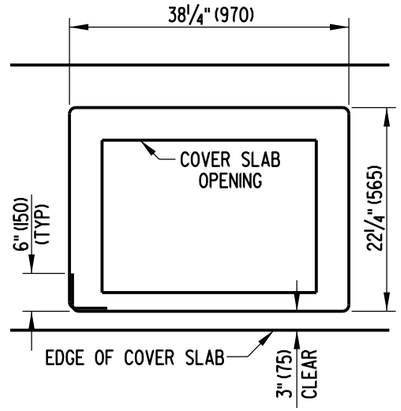


TYPE C



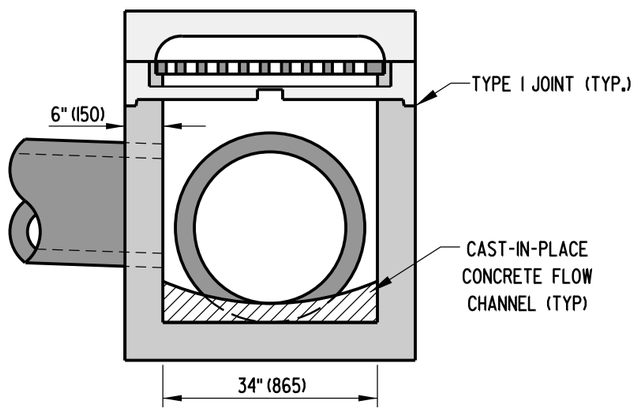
TYPE E

TOP UNIT DETAILS

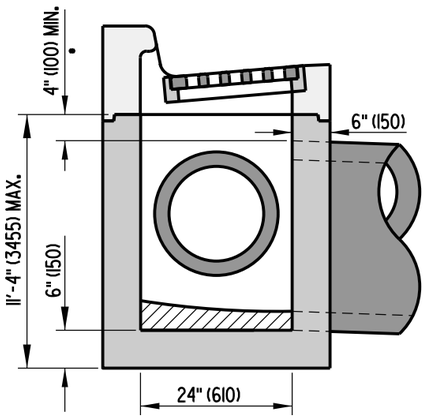


S503 BENDING DIAGRAM

S503 IS NOT REQUIRED TO BE ONE CONTINUOUS BAR. IF MORE THAN ONE BAR IS USED, THERE MUST BE A 12" (300) OVERLAP BETWEEN BARS.



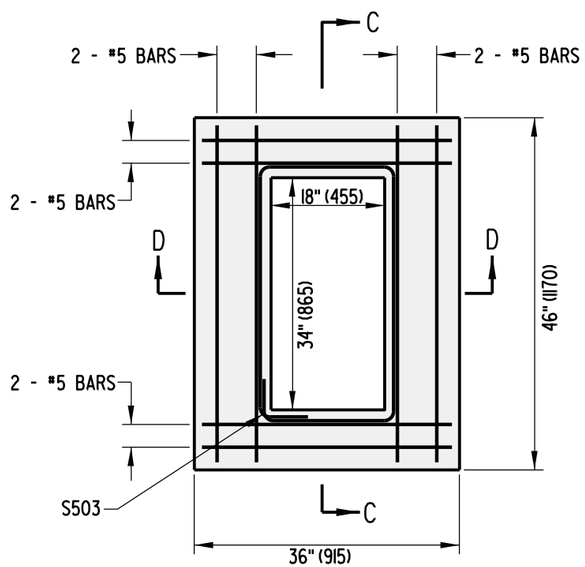
SECTION A-A



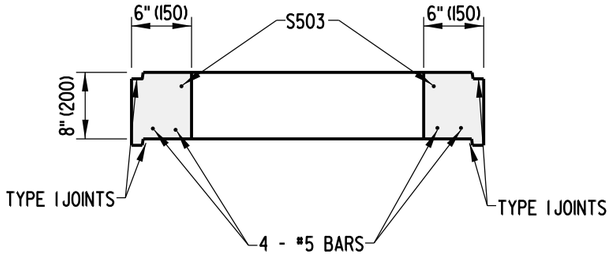
SECTION B-B

DRAINAGE INLET DETAILS

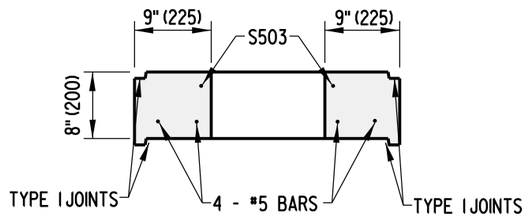
NOTE: REFER TO PREVIOUS SHEETS FOR REINFORCING REQUIREMENTS
• - SEE OPTIONAL PIPE OPENING DETAIL ON STANDARD NO. D-4, SHEET 1 OF 1



PLAN



SECTION C-C



SECTION D-D

COVER SLAB DETAILS

DELAWARE
DEPARTMENT OF TRANSPORTATION

34" (865) x 24" (610) DRAINAGE INLET AND COVER SLAB DETAILS

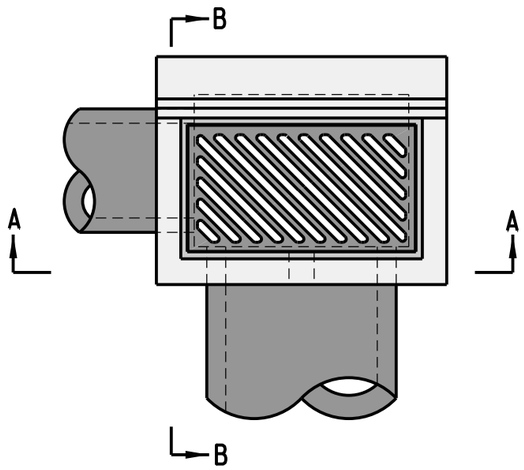
STANDARD NO. D-5 (2008) | SHT. 6 OF 9

APPROVED _____ CHIEF ENGINEER DATE 11/18/08

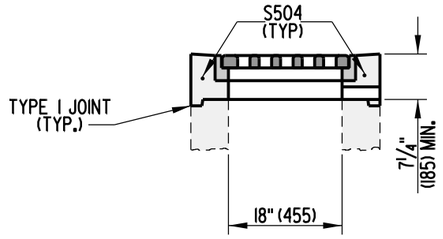
RECOMMENDED _____ DESIGN ENGINEER DATE 11/17/08

10/16/2008

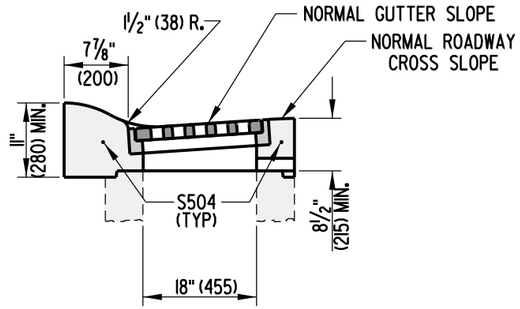
SCALE : N.T.S.



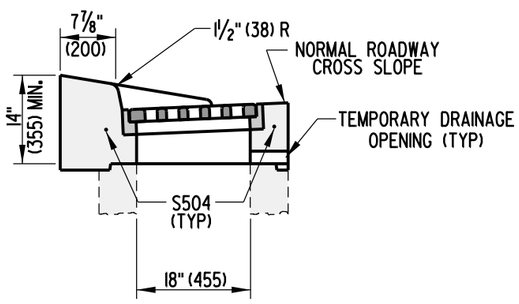
TOP VIEW



TYPE A

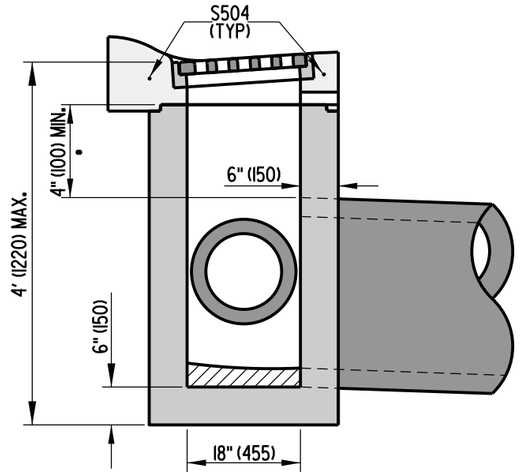


TYPE D



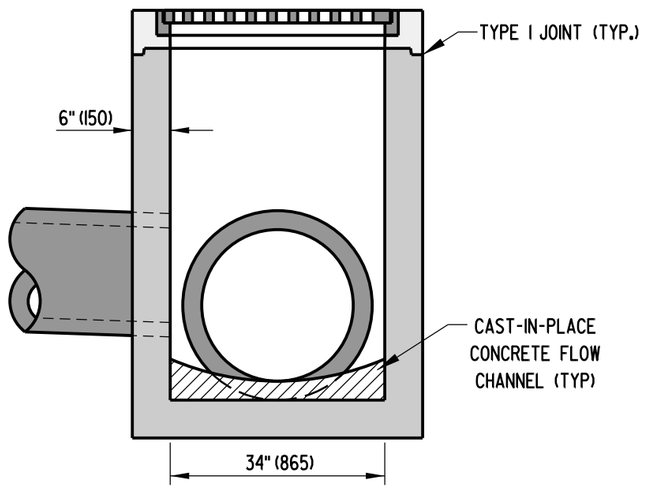
TYPE E

TOP UNIT DETAILS

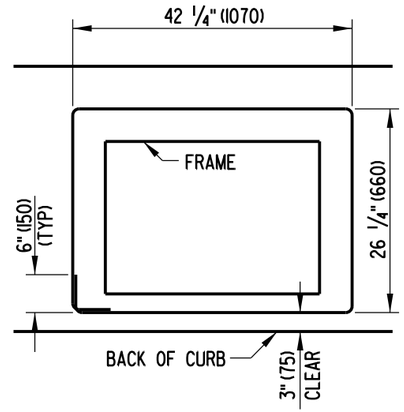


SECTION B-B

• - SEE OPTIONAL PIPE OPENING DETAIL ON STANDARD D-4, SHEET 1 OF 1.



SECTION A-A



S504 BENDING DIAGRAM

S504 IS NOT REQUIRED TO BE ONE CONTINUOUS BAR. IF MORE THAN ONE BAR IS USED, THERE MUST BE A 12" (300) OVERLAP BETWEEN BARS.

NOTES:
1.) REFER TO PREVIOUS SHEETS FOR REINFORCEMENT REQUIREMENTS
2.) THE HEIGHT OF THIS INLET IS LIMITED TO 4' (1220) MAXIMUM, THEREFORE STEPS WILL NOT BE REQUIRED AND SHOULD NOT BE INSTALLED ON THIS INLET.

DELAWARE
DEPARTMENT OF TRANSPORTATION

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

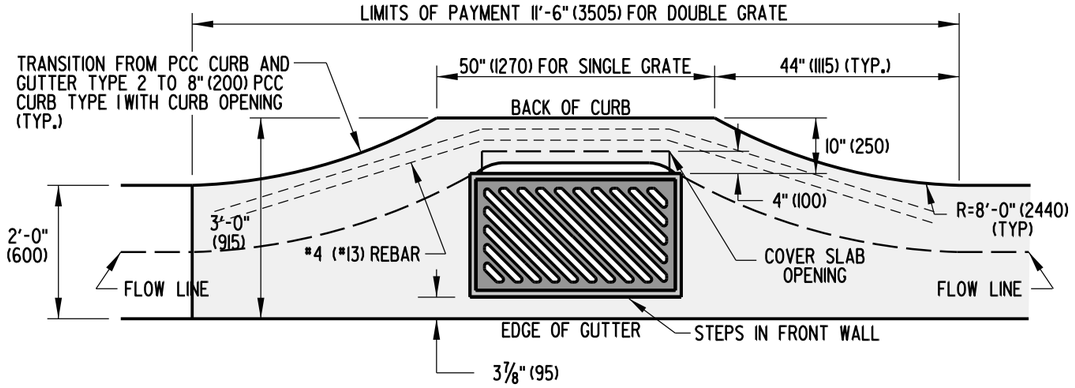
STANDARD NO. D-5 (2008) | SHT. 7 OF 9

APPROVED _____ CHIEF ENGINEER 11/18/08 DATE

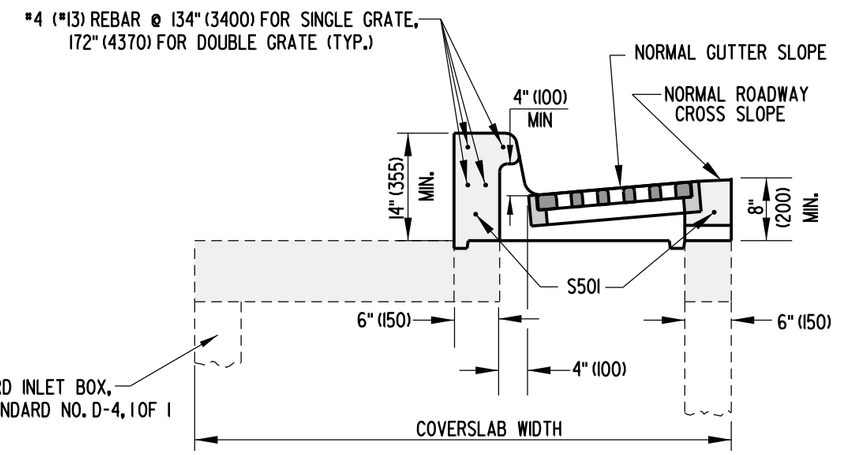
RECOMMENDED _____ DESIGN ENGINEER 11/17/08 DATE

11/16/2008

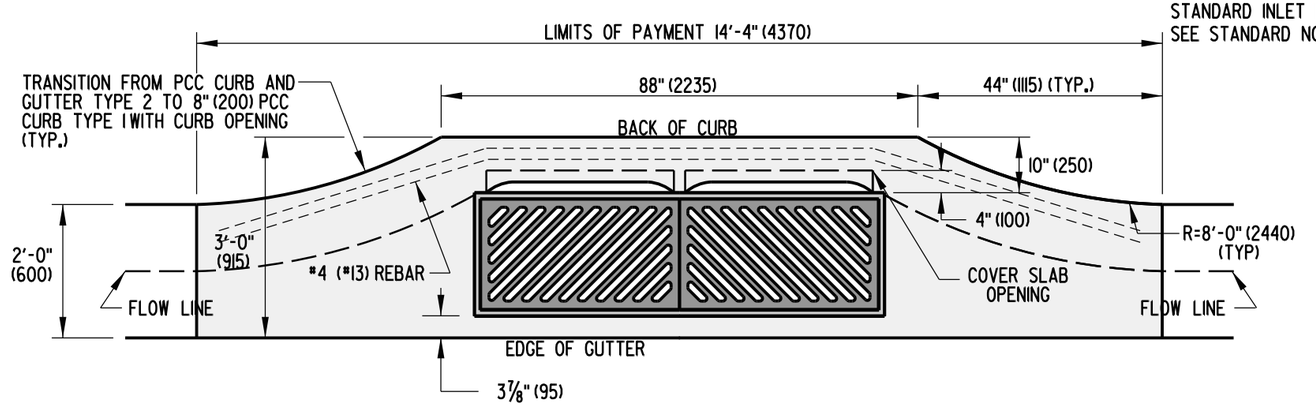
SCALE : N.T.S.



SINGLE GRATE SETUP



SUBDIVISION TOP & CONFIGURATION



DOUBLE GRATE SETUP

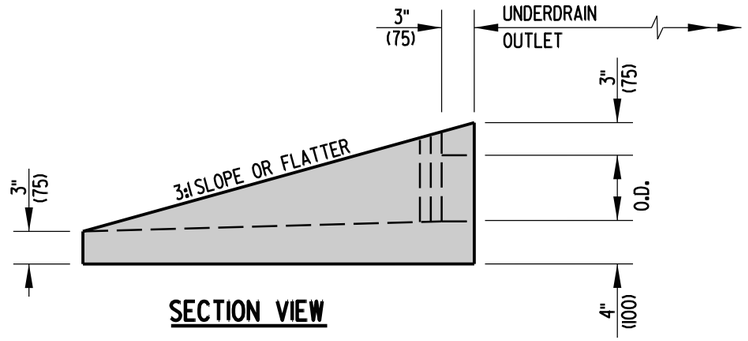
NOTES:

1). MINIMUM BOX SIZE TO BE 34" (850) X 24" (600).
2). PIPE OPENINGS IN THE FRONT WALL SHALL NOT INTERFERE WITH THE STEPS. THE PIPE SHALL BE SHIFTED HORIZONTALLY TO AVOID THE STEPS. IT MAY BE NECESSARY TO USE A LARGER BOX TO AVOID CONFLICT BETWEEN STEPS AND PIPE OPENING.
3). SEE DETAIL D-5, SHEET 3 OF 9 FOR S501 BAR DIAGRAM.

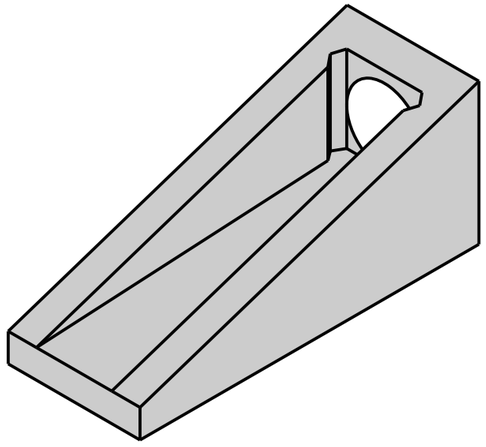
DELAWARE DEPARTMENT OF TRANSPORTATION	SUBDIVISION INLET DETAILS		APPROVED _____ CHIEF ENGINEER DATE 11/18/08
	STANDARD NO. D-5 (2008)	SHT. 8 OF 9	RECOMMENDED _____ DESIGN ENGINEER DATE 11/17/08

10/21/2008

SCALE : N.T.S.

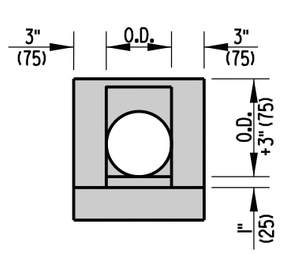


SECTION VIEW

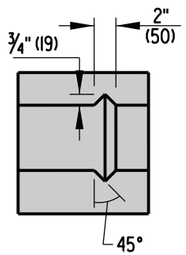


ISOMETRIC VIEW

UNDERDRAIN OUTLET

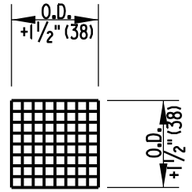


FRONT VIEW



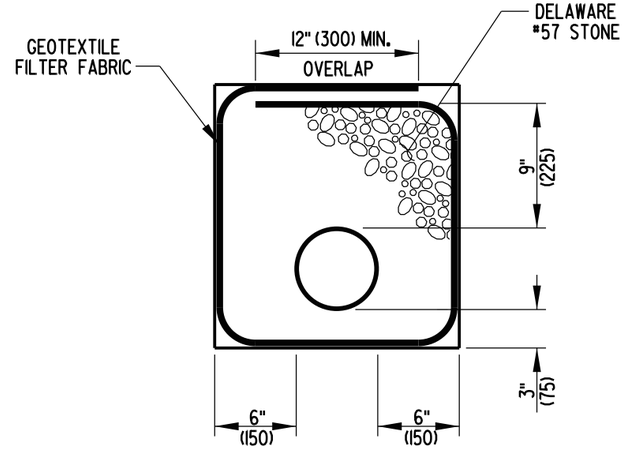
TOP VIEW

SLOTTED HEADWALL DETAIL

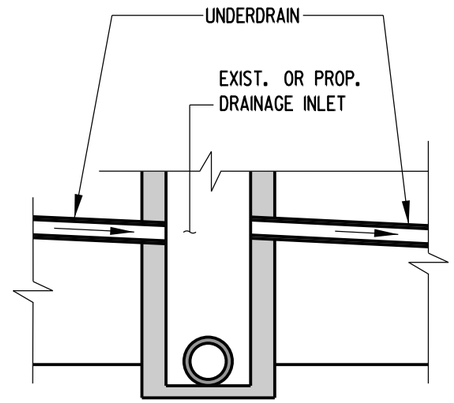


FRONT VIEW

RODENT SCREEN



SECTION



ELEVATION

PERFORATED PIPE UNDERDRAIN

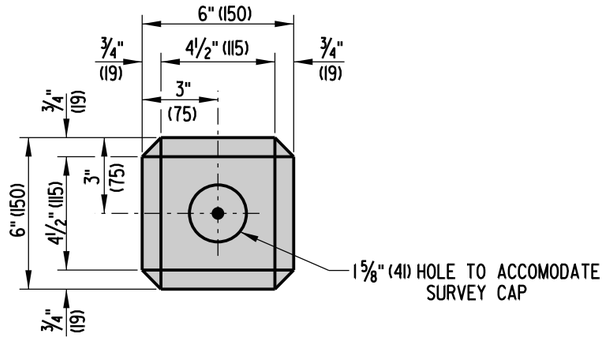
NOTES:

1). THE PERFORATED PIPE UNDERDRAIN SHALL BE LOCATED AS SHOWN ON THE TYPICAL SECTIONS OF THE CONSTRUCTION PLANS.
2). GEOTEXTILE FILTER FABRIC SHALL BE PLACED ENTIRELY OVER THE TOP OF UNDERDRAIN TRENCH AND LAPPED AS SHOWN.
3). SLOPE OF UNDERDRAINS SHALL MATCH ROADWAY GRADE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
4). OUTLET PIPE CONFIGURATIONS SHALL USE 45 DEGREE ELBOWS OR SHALL USE STRAIGHT PIPE WITH A MINIMUM RADIUS OF 3' (900) TO DIRECT UNDERDRAIN PIPE INTO SIDE OF DRAINAGE INLET OR TO POSITIVE GRADE. PIPE SHALL ALSO BE NON-PERFORATED AND HAVE A SMOOTH INTERIOR.
5). RODENT SCREEN SHALL SNUGLY FIT THE PROVIDED SLOT WITH THE SCREEN LIP FITTING TIGHT TO THE BOTTOM FLOW LINE.
6). A 4' (1200) FLEXIBLE DELINEATOR SHALL BE FURNISHED AND INSTALLED AT THE DIRECTION OF THE ENGINEER TO MARK THE LOCATION OF THE CONCRETE HEADWALL.
7). WHEN TWO LINES OF PIPE UNDERDRAIN DRAIN TO A LOW POINT, EACH PIPE MUST HAVE ITS OWN OUTLET.
8). PERFORATED PIPE UNDERDRAIN SHALL NOT BE PLACED UNDER GUARDRAIL IN ORDER TO AVOID PUNCTURING.

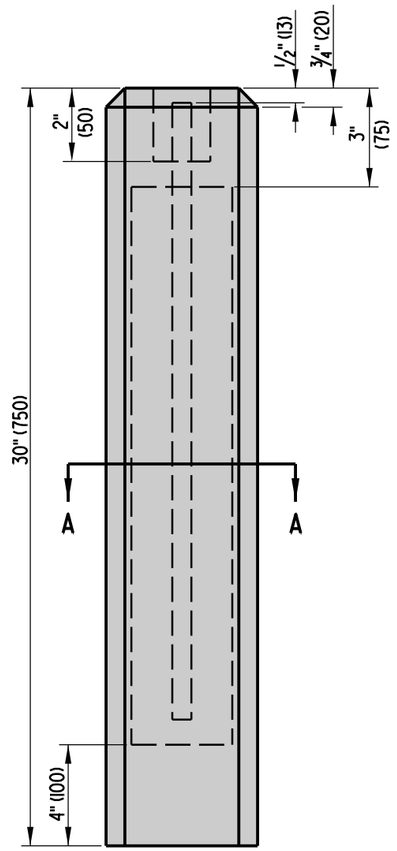
DELAWARE DEPARTMENT OF TRANSPORTATION	PERFORATED PIPE UNDERDRAIN DETAIL		APPROVED CHIEF ENGINEER — DATE 11/18/08
	STANDARD NO. D-9 (2008)	SHT. 1 OF 1	RECOMMENDED DESIGN ENGINEER — DATE 11/17/08

10/23/2008

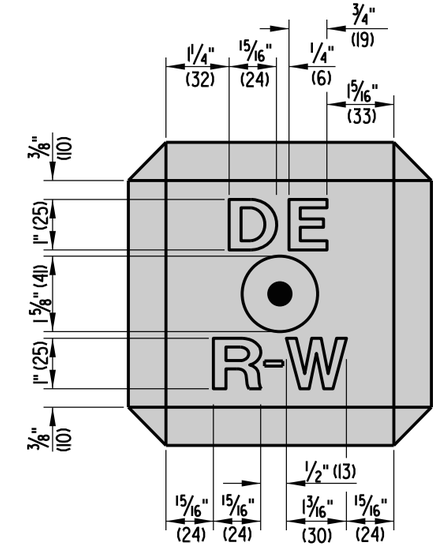
SCALE : N.T.S.



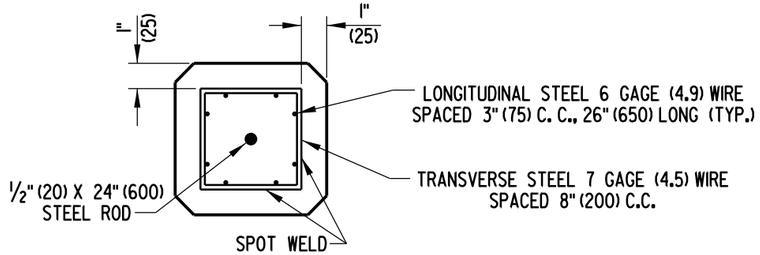
TOP



ELEVATION



TOP DETAIL



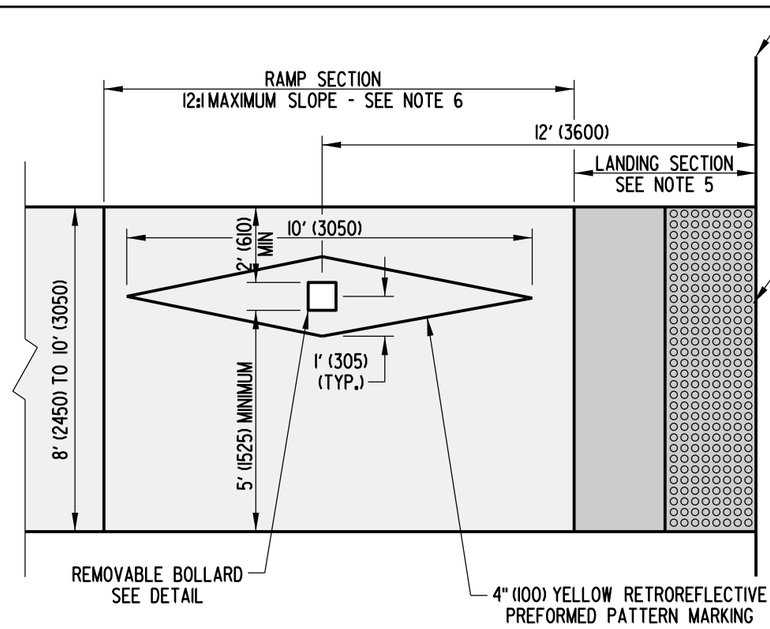
SECTION A-A

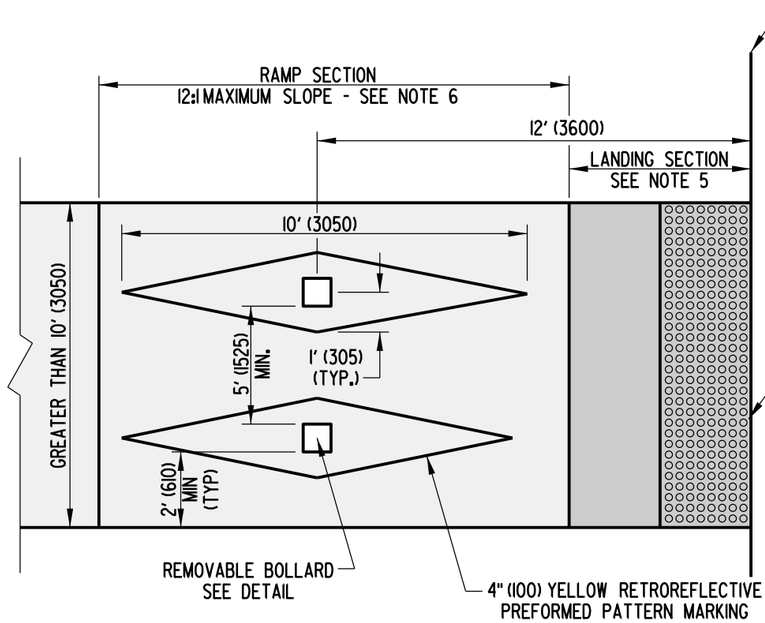
NOTES : 1. LONGITUDINAL STEEL SHALL BE HELD IN PLACE BY CRADLES.
2. LETTERS TO BE COUNTERSUNK IN TOP OF MARKER ¼" (6).

DELAWARE DEPARTMENT OF TRANSPORTATION	CONCRETE MONUMENT		APPROVED CHIEF ENGINEER	11/18/08 DATE
	STANDARD NO. M-2 (2008)	SHT. 1 OF 1	RECOMMENDED DESIGN ENGINEER	11/17/08 DATE

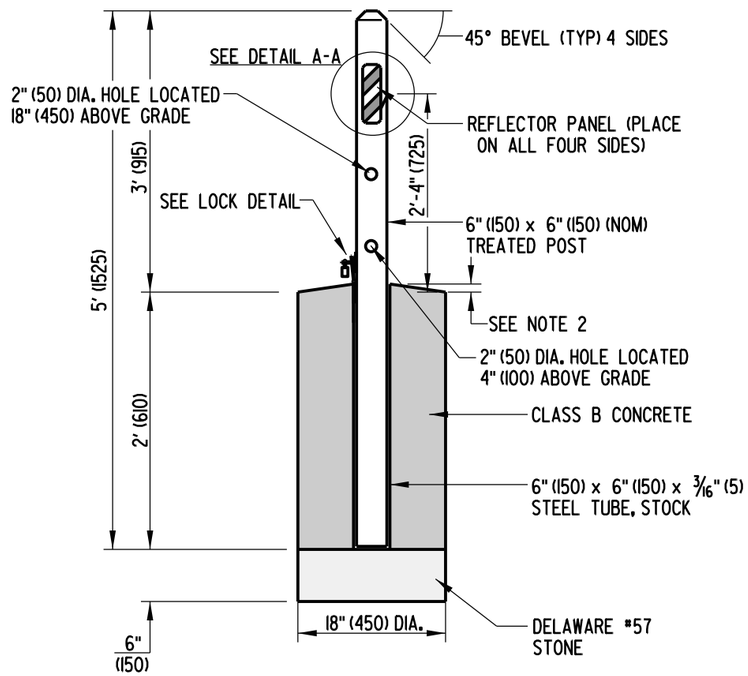
07/28/2008

SCALE : N.T.S.

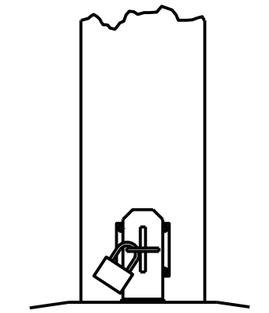




SHARED USE PATH INTERSECTION

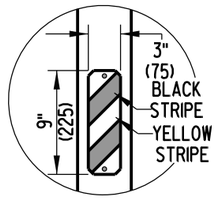


REMOVABLE BOLLARD



LOCK & HASP DETAIL FRONT VIEW

LOWER PORTION OF HASP SHALL BE WELDED TO STEEL TUBE.



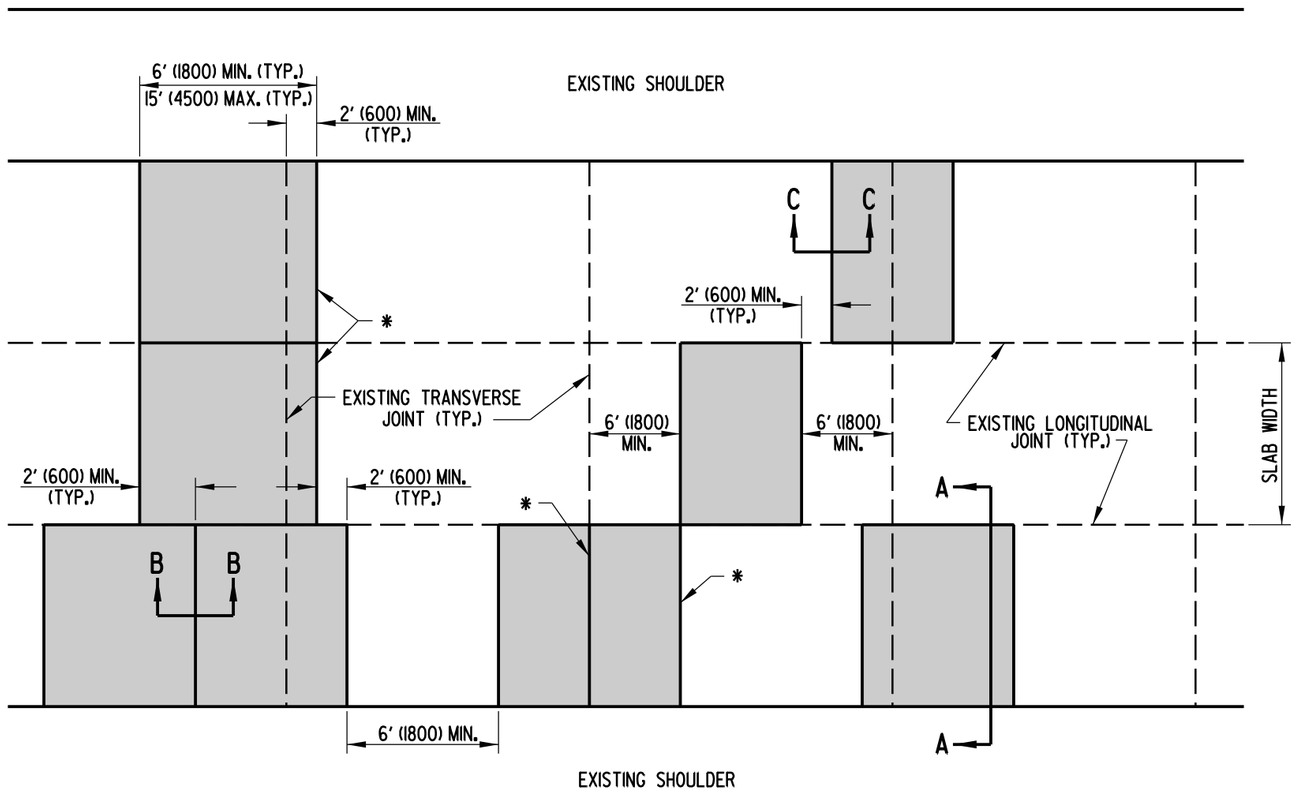
DETAIL A-A

NOTES:

1). IF THE SHARED USE PATH ENDS AT A ROADWAY OR RAILROAD CROSSING, THEN DETECTABLE WARNING TRUNCATED DOMES 24" (600) LONG AND THE FULL WIDTH OF THE PATH SHALL BE INSTALLED. SEE DETAIL C-2.
2). STEEL TUBE TO EXTEND 1/2" (13) ABOVE GROUND WITH CONCRETE TO SLOPE AWAY FROM TUBE TO KEEP WATER AND SEDIMENT FROM DRAINING INTO TUBE.
3). BOLLARDS ARE NOT REQUIRED FOR A SHARED-USE PATH LESS THAN 8' (2450) WIDE.
4). SHAVE THE POST AS NECESSARY SO THAT IT WILL FIT IN THE STEEL TUBE.
5). THE LANDING SECTION SHALL BE A MINIMUM OF 5' (1525) IN LENGTH AND SHALL HAVE A MAXIMUM CROSS SLOPE AND RUNNING SLOPE OF 2%. THE ENTIRE LANDING SECTION MUST ALSO BE CONCRETE.
6). THE RAMP SECTION SHALL HAVE A MAXIMUM CROSS SLOPE OF 2%. IT SHALL ALSO HAVE A MAXIMUM RUNNING SLOPE OF 12:1. HOWEVER, IF A 12:1 RUNNING SLOPE DOES NOT ALLOW THE RAMP MEET EXISTING GRADE WITHIN 15' (4200), THE RUNNING SLOPE MAY EXCEED 12:1.

DELAWARE DEPARTMENT OF TRANSPORTATION	BOLLARD & SHARED-USE PATH DETAILS		APPROVED CHIEF ENGINEER	11/18/08 DATE
	STANDARD NO. M-3 (2008)	SHT. 1 OF 1	RECOMMENDED DESIGN ENGINEER	11/17/08 DATE

11/14/2008



PLAN

* - PROPOSED LOCATIONS FOR TRANSVERSE JOINTS SHALL EXACTLY MATCH THE ALIGNMENT OF THE FINAL (EXISTING OR RELOCATED) TRANSVERSE JOINTS IN ALL IMMEDIATELY ADJACENT LANES.

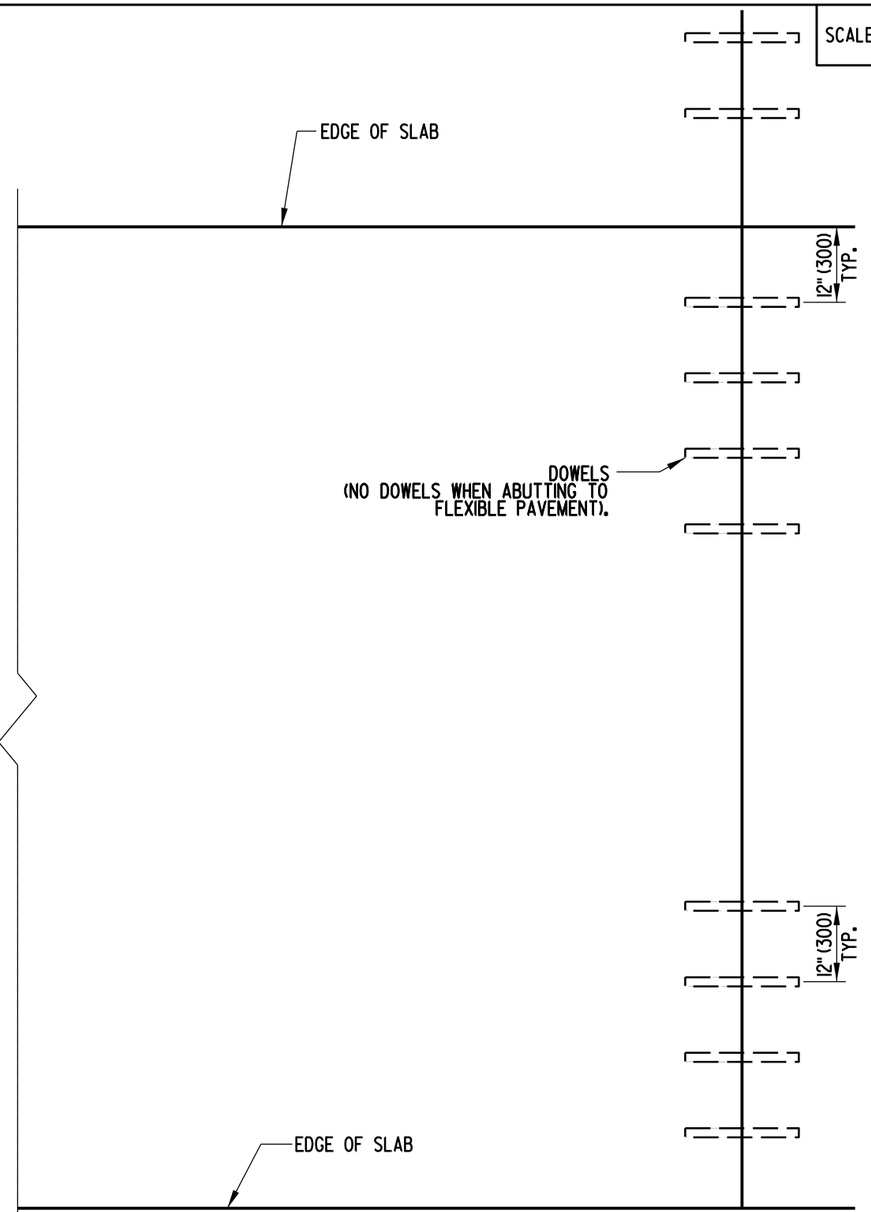
NOTES:

1). WHEN REPAIRING EXISTING TRANSVERSE JOINTS, THE PATCH SHALL EXTEND A MINIMUM OF 24" (600) THROUGH THE EXISTING JOINT, WHICH WILL RELOCATE THE JOINT.

2). PROPOSED LOCATIONS FOR TRANSVERSE JOINTS, WHEN NOT ALIGNED WITH THE FINAL EXPECTED TRANSVERSE JOINT LOCATIONS IN THE IMMEDIATELY ADJACENT LANES, SHALL BE OFFSET A MINIMUM OF 2' (600) FROM THE AFFORMENTIONED JOINTS.

3). THE LONGITUDINAL JOINT ALIGNMENT SHALL BE STRAIGHT AND CONTINUOUS THROUGH THE REPAIRED AREA.

SCALE : N.T.S.



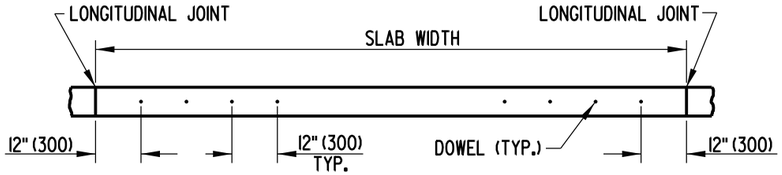
SLAB PLAN (WITH DOWEL AND TIE LOCATIONS)

FULL DEPTH PATCH

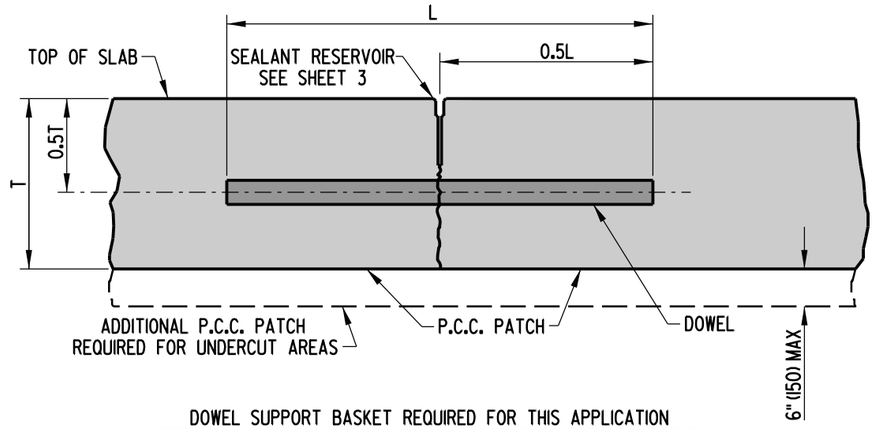
DELAWARE DEPARTMENT OF TRANSPORTATION	P.C.C. PAVEMENT PATCHING			APPROVED CHIEF ENGINEER	DATE 11/18/08
	STANDARD NO. P-2 (2008)	SHT. 1	OF 5	RECOMMENDED DESIGN ENGINEER	DATE 11/17/08

11/14/2008

SCALE : N.T.S.



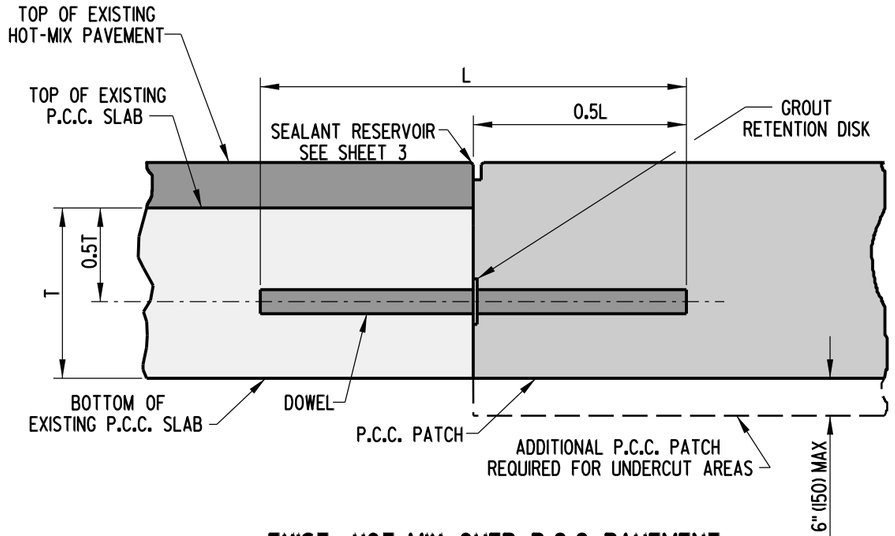
SECTION A-A



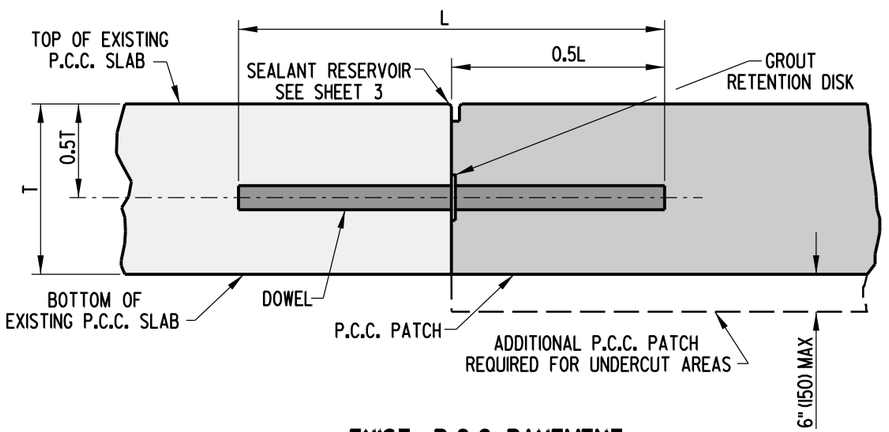
DOWEL SUPPORT BASKET REQUIRED FOR THIS APPLICATION
(REFER TO STANDARD CONSTRUCTION DETAIL FOR P.C.C. PAVEMENT.)

SECTION B-B

TRANSVERSE SAW-CUT USED FOR
JOINTS LOCATED WITHIN THE PATCH



EXIST. HOT-MIX OVER P.C.C. PAVEMENT



EXIST. P.C.C. PAVEMENT

SECTION C-C

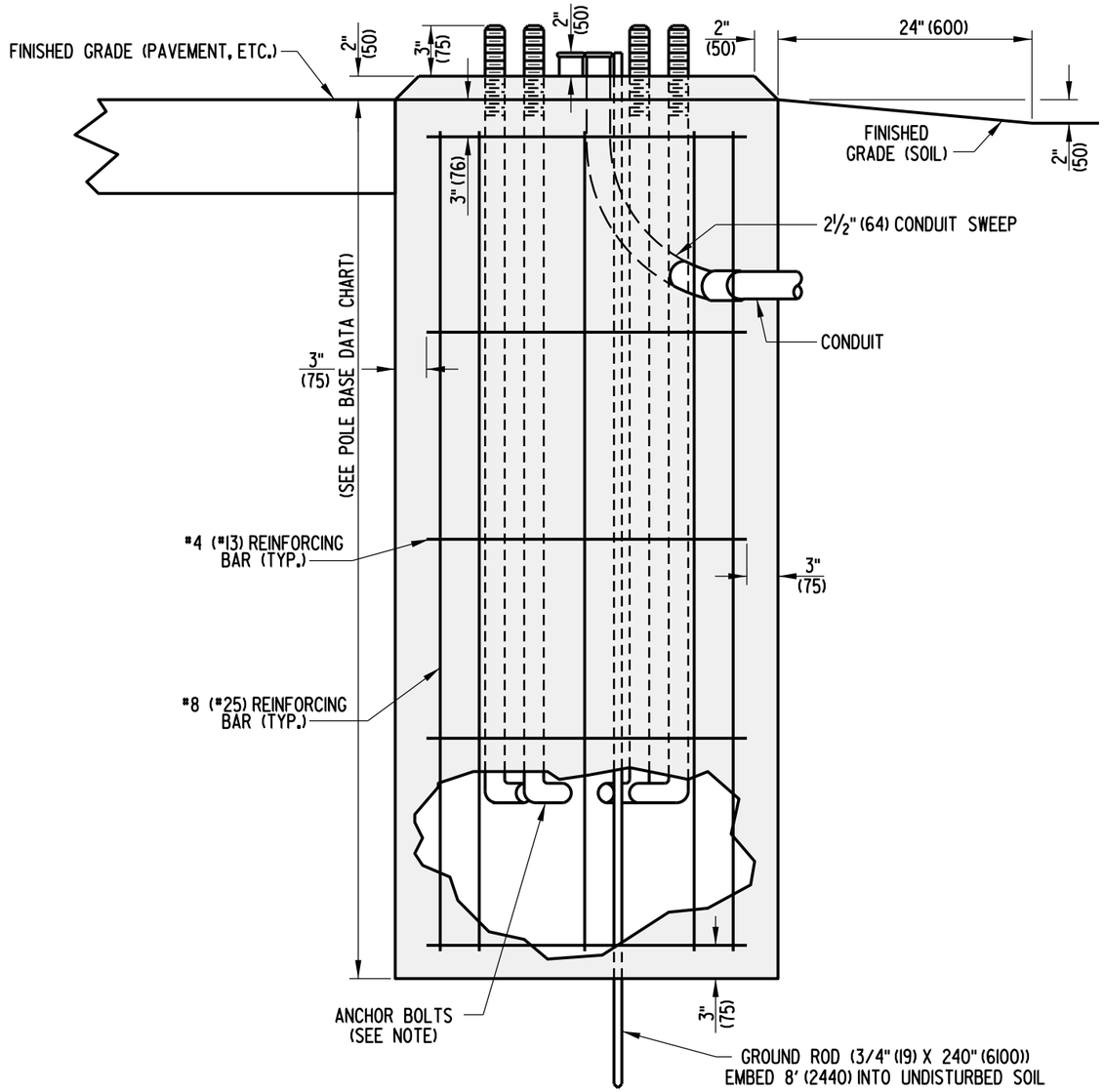
TRANSVERSE CONSTRUCTION JOINT USED ON
JOINTS BETWEEN EXISTING PAVEMENT AND PATCH

FULL DEPTH PATCH

DELAWARE DEPARTMENT OF TRANSPORTATION	P.C.C. PAVEMENT PATCHING		APPROVED CHIEF ENGINEER — DATE 11/18/08
	STANDARD NO. P-2 (2008)	SHT. 2 OF 5	RECOMMENDED DESIGN ENGINEER — DATE 11/17/08

11/14/2008

SCALE : N.T.S.



TYPICAL SECTION (BASES 5 AND 6)

NOTE:
SEE SPECIFICATIONS AND DETAILS FROM CURRENT PURCHASING CONTRACT FOR ANCHOR BOLT DIMENSIONS.

POLE BASE DATA CHART

POLE BASE TYPE *	DIAMETER	DEPTH *	#4 (#13) HORIZONTAL REINFORCING BARS	#8 (#25) VERTICAL REINFORCING BARS
1	36" (915)	7' (2150)	5	8
2	36" (915)	10' (3050)	6	8
2A	48" (1220)	8' (2450)	5	8
2B	60" (1525)	7' (2150)	5	8
3	48" (1220)	10' (3050)	6	8
3A	60" (1525)	9' (2750)	6	8
3B	72" (1830)	7' (2150)	5	8
4	24" (610)	2'-4" (725)	NONE	NONE
5	36" (915)	4' (1225)	NONE	NONE
6	24" (610)	6' (1850)	4	8
7	48" (1220)	13'-4" (4000)	7	8

* - ADDITIONAL DEPTH FOR POLE BASE EXTENSION, IF REQUIRED, TO BE DETERMINED BY TRAFFIC ENGINEERING AND MANAGEMENT (TEAM) FIELD REPRESENTATIVE.

DELAWARE
DEPARTMENT OF TRANSPORTATION

POLE BASES

STANDARD NO. T-5 (2008) | SHT. 3 OF 3

APPROVED _____ CHIEF ENGINEER DATE 11/18/08

RECOMMENDED _____ DESIGN ENGINEER DATE 11/17/08

07/30/2008