H = TOTAL HEIGHT OF ENDWALL

B = BASE

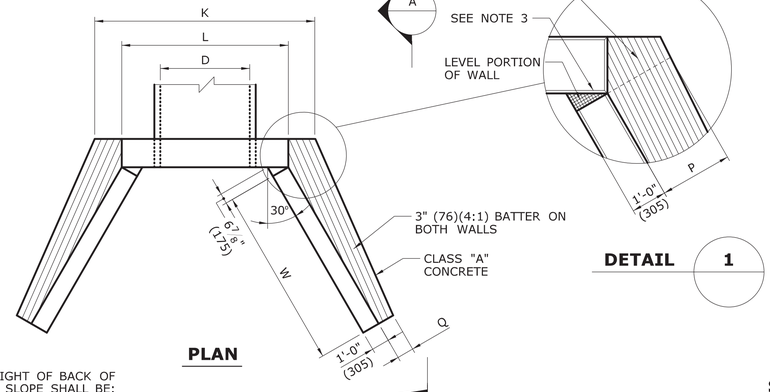
D = INSIDE DIAMETER OF PIPE

S = HEIGHT OF SLOPE ABOVE FLOW LINE AT FACE OF WALL = D+2"(51) MIN.

L = LENGTH OF WALL = 3S+D

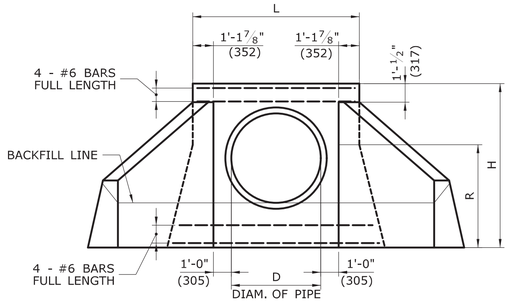
ALL EDGES OF EXPOSED SURFACES SHALL BE CHAMFERED APPROXIMATELY ONE INCH (25mm).

DIMENSIONS AND QUANTITIES FOR ONE WING TYPE ENDWALL											
D	B	C	G	H	K	L	P	Q	R	W	VOL
INS.(mm)	FT.&IN.(mm)	FT.&IN.(mm)	FT.&IN.(mm)	FT.&IN.(mm)	FT.&IN.(mm)	FT.&IN.(mm)	FT.&IN.(mm)	FT.&IN.(mm)	FT.&IN.(mm)	FT.&IN.(mm)	CU.YD.(m^3)
36"(914)	1'-6" (457)	2'-0"(610)	3'-3"(991)	6'-8"(2032)	9'-1½"(2781)	7'-3¾"(2229)	1'-4⅞"(430)	0'-9¾"(248)	3'-4⅞"(1038)	5'-5¾"(1670)	5.87(4.5)
42"(1000)	1'-6" (457)	2'-0"(610)	3'-3"(991)	7'-2"(2184)	9'-10½"(3010)	7'-9¾"(2381)	1'-6⅜"(470)	0'-9¾"(248)	3'-10½"(1181)	6'-7¾"(2026)	6.67(5.1)
48"(1200)	1'-7" (483)	2'-6"(762)	3'-9"(1143)	8'-2"(2489)	10'-10"(3302)	8'-3¾"(2534)	1'-9⅜"(540)	0'-11¼"(286)	4'-9"(1448)	7'-9½"(2375)	9.11(7.0)
60"(1500)	1'-7" (483)	2'-6"(762)	3'-9"(1143)	9'-2"(2794)	12'-4½"(3772)	9'-3¾"(2838)	2'-0⅜(620)	0'-11¼"(286)	5'-9"(1753)	10'-1¼"(3080)	12.43(9.5)
72"(1800)	1'-7" (483)	2'-6"(762)	3'-9"(1143)	10'-2"(3099)	13'-10¾"(4235)	10'-3¾(3143)	2'-3⅜"(690)	0'-11¼"(286)	6'-9"(2057)	12'-5"(3785)	16.30(12.5)

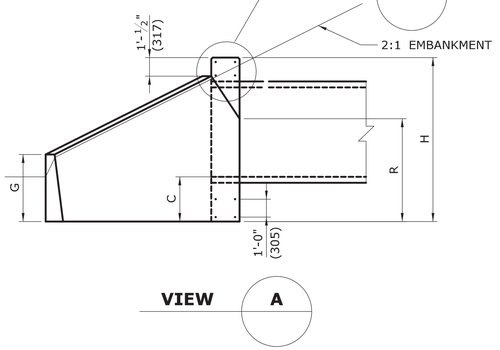


PLAN

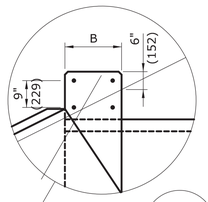
DETAIL 1



FRONT ELEVATION



VIEW A



DETAIL 2

GENERAL NOTES:

1. ALL CONSTRUCTION DIMENSIONS ARE NOMINAL. WHEN ONE ENDWALL IS USED FOR TWO PIPES, THE DIMENSIONS OF THE ENDWALL SHALL CONFORM TO THAT WHICH IS REQUIRED FOR THE LARGER PIPE, EXCEPT THE DIMENSION "L" SHALL BE INCREASED BY THE OUTSIDE DIAMETER OF THE SMALLER PIPE PLUS ONE FOOT.
2. THESE ENDWALLS SHALL ONLY BE USED AT LOCATIONS WHERE THEY ARE OUTSIDE THE DESIGN CLEAR ZONE.
3. COST OF REINFORCING BARS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR CLASS "A" CONCRETE.
4. ALL REINFORCING BARS SHALL HAVE 3" (76) COVER MIN.

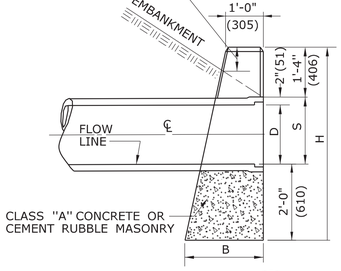
TABLE WITH QUANTITIES		
D	VOLUME OF FOOTING	SLOPE * PAVING
INS(mm)	C.Y.(m^3)	S.Y.(m^2)
15"(375-400)	0.26(0.20)	3.2(2.7)
18"(457)	0.30(0.23)	3.5(2.9)
24"(610)	0.37(0.28)	4.0(3.3)
30"(750-800)	0.37(0.34)	4.6(3.8)
36"(914)	1.55(1.2)	4.7(3.9)
42"(1000-1050)	1.69(1.3)	5.4(4.5)
48"(1200)	1.82(1.4)	6.1(5.1)
60"(1500-1600)	2.08(1.6)	7.6(6.4)
72"(1829)	2.34(1.8)	9.3(7.8)

* APPROXIMATE QUANTITY FOR MINIMUM CONDITION

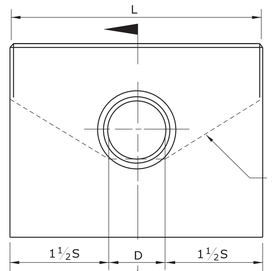
STANDARD WING TYPE ENDWALL

REINFORCEMENT SHALL BE USED FOR 48" (1219) DIA. PIPE AND UP

EXPOSED HEIGHT OF BACK OF WALL ABOVE SLOPE SHALL BE:
7"(178) FOR SLOPES OF 1½:1 & 4:1
9"(229) FOR SLOPES 2:1



SECTION C



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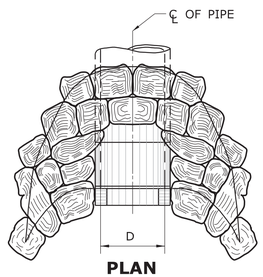
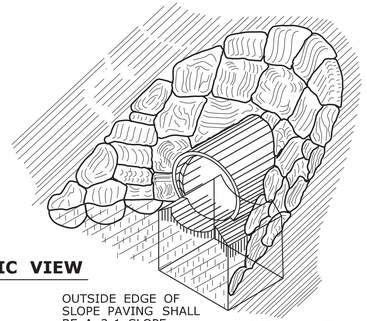


PLAN

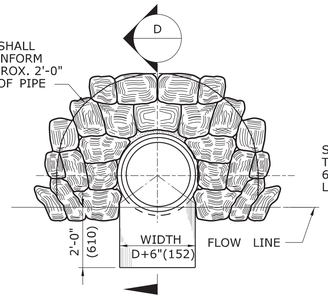


ISOMETRIC VIEW

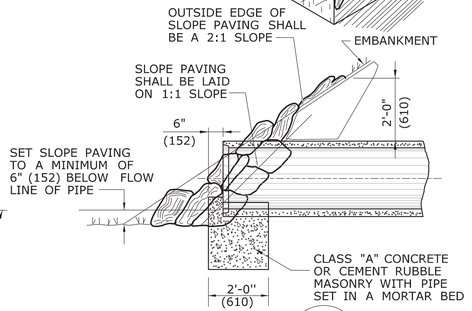
STANDARD ENDWALL

DIMENSIONS AND QUANTITIES FOR ONE ENDWALL BASED ON S = D + 2" (51 mm)						
D	S	H	L	BATTER	B	VOL.
IN.(mm)	FT.& IN.(mm)	FT.& IN.(mm)	FT.& IN.(mm)	FT.& IN.(mm)	FT.& IN.(mm)	CU.YD.(m^3)
12"(305)	1'-2"(356)	4'-6"(1372)	4'-6"(1372)	2½"(5:1)	1'-11¼"(590)	1.10(.8)
15"(381)	1'-5"(432)	4'-9"(1448)	5'-6"(1676)	2½"(5:1)	1'-11⅞"(606)	1.45(1.0)
18"(457)	1'-8"(508)	5'-0"(1524)	6'-6"(1981)	2½"(5:1)	2'-0½"(622)	1.83(1.4)
24"(610)	2'-2"(660)	5'-6"(1676)	8'-6"(2591)	2½"(5:1)	2'-1¾"(654)	2.72(2.1)
30"(762)	2'-8"(813)	6'-0"(1829)	10'-6"(3200)	2½"(5:1)	2'-3"(686)	3.79(2.7)
36"(914)	3'-2"(965)	6'-6"(1981)	12'-6"(3810)	3"(4:1)	2'-7½"(790)	5.45(4.2)
42"(1067)	3'-8"(1118)	7'-0"(2134)	14'-6"(4420)	3"(4:1)	2'-9"(838)	6.40(4.9)*
48"(1219)	4'-2"(1270)	7'-6"(2286)	16'-6"(5029)	3"(4:1)	2'-10½"(876)	8.00(6.1)*

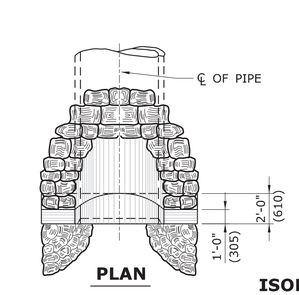
* VOLUME IS BASED ON D MINUS WALL THICKNESS AT ℄ OF PIPE



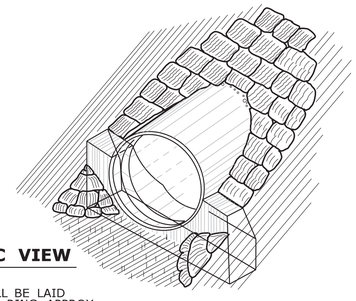
FRONT ELEVATION



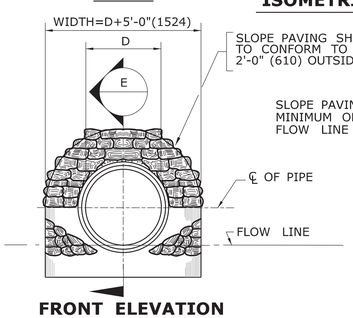
SECTION D



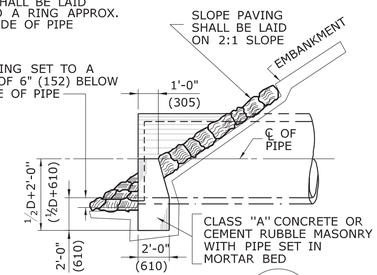
PLAN



ISOMETRIC VIEW



FRONT ELEVATION



SECTION E

FOOTING & SLOPE PAVING FOR PIPES 15"(381) TO 30"(762) DIAMETER

FOOTING & SLOPE PAVING FOR PIPES 36"(914) TO 72"(1829) DIAMETER

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
1	10/27/11	ADD DETAIL 1AND 2 REDRAW STD. WING ENDWALL

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 11/16/2011

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: working_revisions.dgn Model: HW-506_01

SUBMITTED BY: NAME/DATE/TIME:
Leo Fontaine 2012.01.13 13:17:14 -05'00'

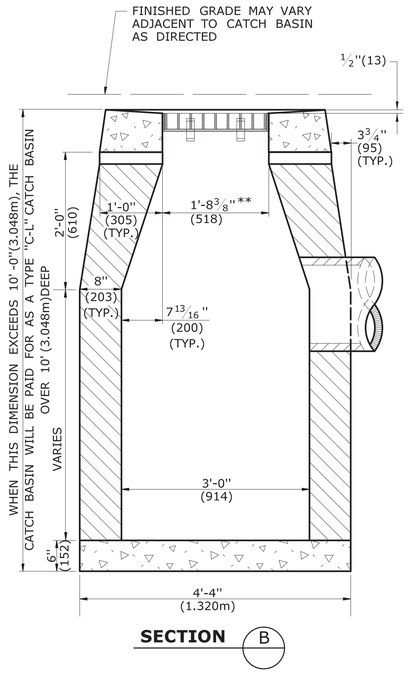
APPROVED BY: NAME/DATE/TIME:
James H. Norman 2012.01.26 15:25:12 -05'00'

CTDOT STANDARD SHEET

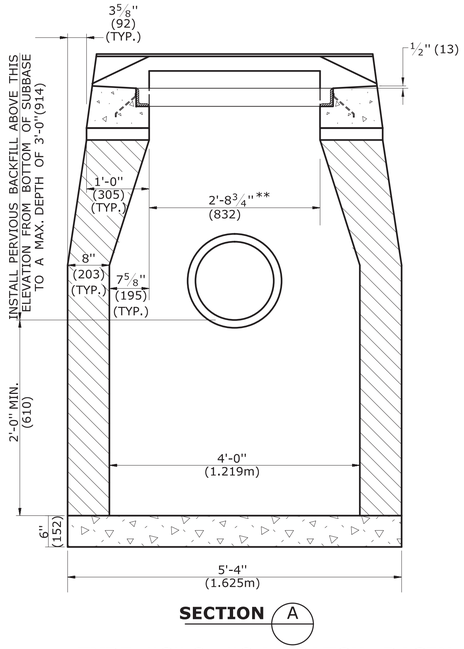
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
ENDWALLS, SLOPE PAVED INLETS AND OUTLETS

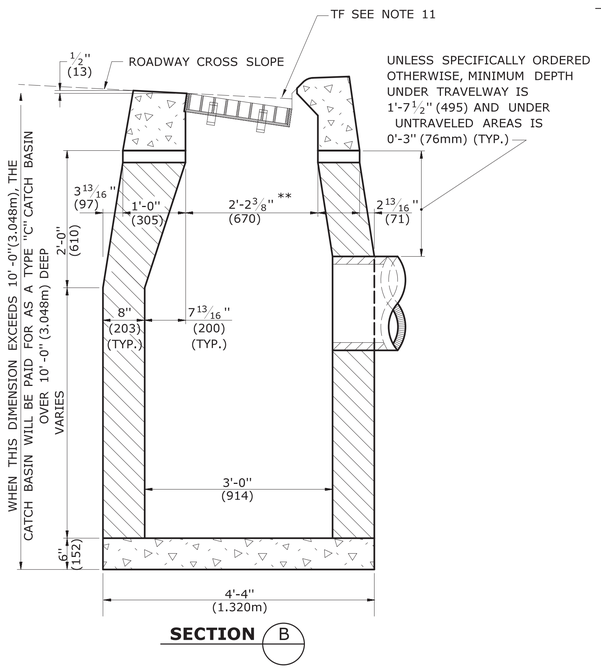
STANDARD SHEET NO.:
HW-506_01



TYPE "C-L" CATCH BASIN



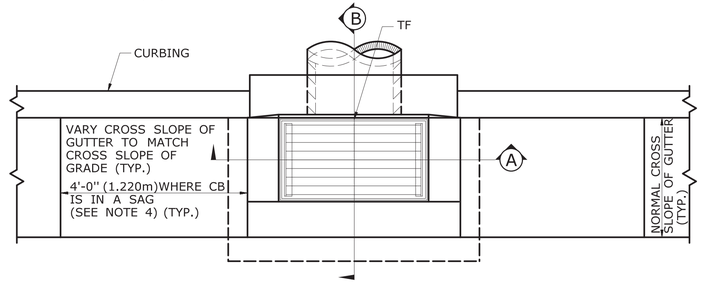
TYPE "C" & "C-L" CATCH BASIN (TYPE "C" TOP SHOWN)



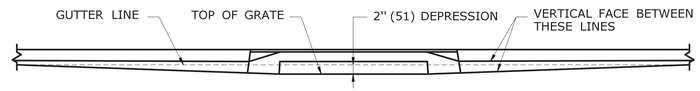
TYPE "C" CATCH BASIN

GENERAL NOTES:

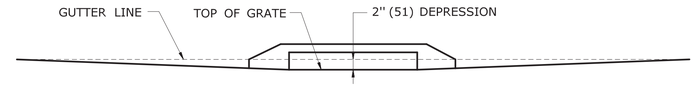
1. FOR DETAILS OF FRAME AND GRATE SEE STANDARD SHEET HW-507_08.
2. USE APPROPRIATE CONCRETE TOP FOR CURBING SHOWN ON PLANS. IF CURBING IS NOT SPECIFIED ON THE PLANS, IT SHALL BE CONSTRUCTED AS DIRECTED BY THE ENGINEER.
3. ALL FACES OF STRUCTURES IN CONTACT WITH CONCRETE PAVEMENT SHALL BE COVERED WITH A LAYER OF TAR PAPER OR APPROVED EQUAL. THE COST FOR THE PAPER SHALL BE INCLUDED IN THE BID PRICE FOR THE TYPE OF CATCH BASIN INSTALLED.
4. USE 6'-0" (1.830m) ON UPGRADE SIDE OF CONTINUOUS GRADE AND 1'-0" (305mm) ON DOWNGRADE SIDE OF CONTINUOUS GRADE OR AS DIRECTED.
5. IF MASONRY UNITS ARE REQUIRED, THE BASIN SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE OVER ALL DIMENSIONS SHOWN HERE AND SECTION 5.07 OF THE STATE OF CONNECTICUT'S STANDARD SPECIFICATIONS. CORBELLING SHALL BE PERMITTED TO A MAXIMUM OF 3" (75mm.) NO PROJECTION SHALL EXTEND INSIDE THE LIMITS NOTED BY **.
6. WALL THICKNESS OF ALL CB'S OVER 10'(3.048m) DEEP SHALL BE INCREASED TO 12" (305mm) THICK. INSIDE DIMENSION SHALL REMAIN THE SAME. 12" (305mm) THICKNESS WILL START AFTER THE FIRST 10'(3.048m).
7. TO CONVEY SUBSURFACE DRAINAGE, OPENINGS SHALL BE FORMED IN THE FOUR WALLS AT OR IMMEDIATELY ABOVE THE BOTTOM OF THE PERVIOUS BACKFILL.
8. MINIMUM CONCRETE COMPRESSIVE STRENGTH OF F'c = 4000 PSI (27,580 kPa) SHALL BE OBTAINED PRIOR TO SHIPPING.
9. LATEST STATE OF CONNECTICUT'S STANDARD SPECIFICATIONS AND SUPPLEMENTALS SHALL GOVERN.
10. SPACER MAY BE CMU OR PRECAST WITH REQUIRED REINFORCING (RECOMMENDED BY THE MANUFACTURER) AS NEEDED TO PROVIDE PROPER GRADE SHOWN ON PLANS.
11. TOP OF FRAME (TF) ELEVATION SHALL BE MEASURED IN THE CENTER OF GRATE @ GUTTER LINE.



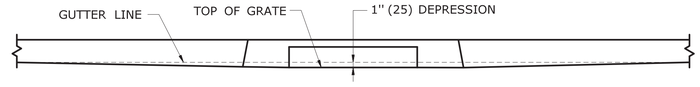
PLAN



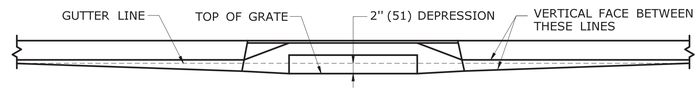
FOR CATCH BASINS IN A LINE OF 4" (102) CONCRETE PARK CURBING OR 4" (102) BITUMINOUS CONCRETE PARK CURBING



FOR CATCH BASINS WHERE NO CURBING OF ANY TYPE EXISTS OR IS PROPOSED



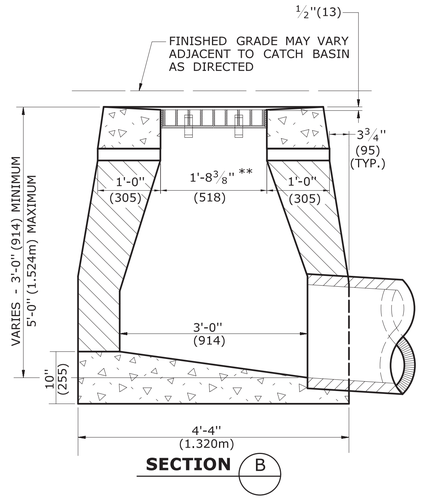
FOR CATCH BASINS IN A LINE OF 6" (152) CONCRETE CURBING OR 6" (152) STONE CURBING



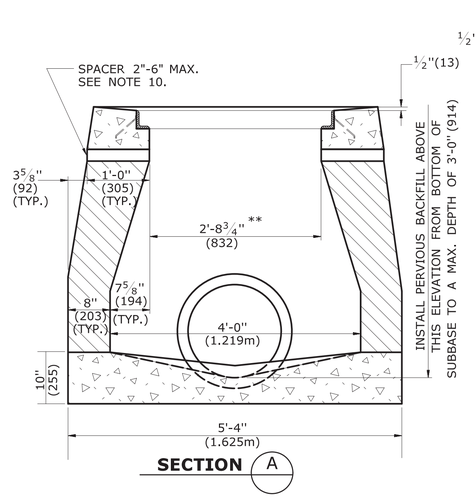
FOR CATCH BASINS IN A LINE OF 6" (152) BITUMINOUS CONCRETE LIP CURBING (MACHINE FORMED)

DETAILS OF DEPRESSED GUTTER STRIP FOR TYPE "C" CATCH BASIN

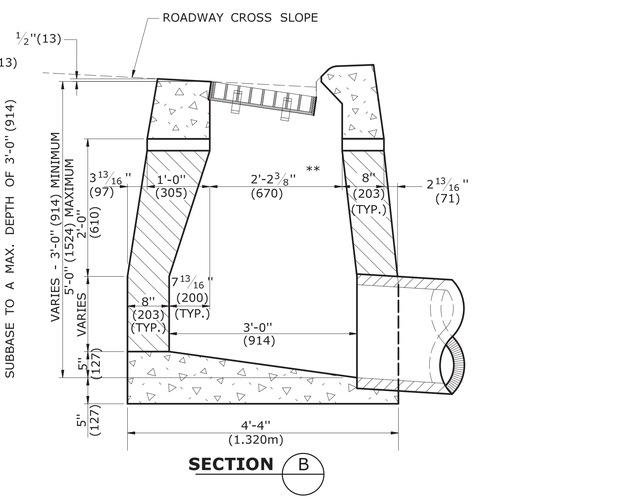
ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.



TYPE "C-L" DROP INLET



TYPE "C" & "C-L" DROP INLET (TYPE "C-L" TOP SHOWN)



TYPE "C" DROP INLET

REV.	DATE	REVISION DESCRIPTION
4	7/13	ADD NOTE 11 -
3	9/30/11	ADD SPACERS AND NOTE 10. -
2	9/15/11	MODIFIED DETAILS TO BE CONSISTANT WITH PRECAST -
1	7/28/11	REMOVE MIN. DROP NOTE -
-	-	- -
-	-	- -

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 6/10/2013

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD2013.dgn Model: 6-HW-507_01

SUBMITTED BY: NAME/DATE/TIME:
Digitally signed by Leo L. Fontaine Date: 2013.07.24 11:02:42-04'00'

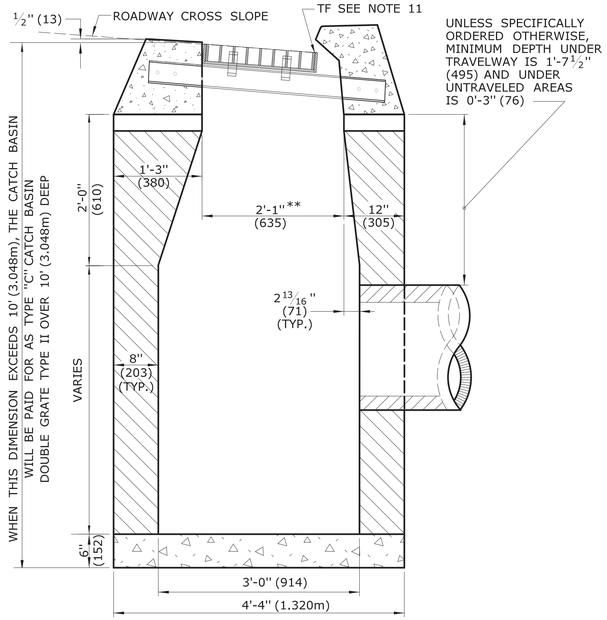
APPROVED BY: NAME/DATE/TIME:
James H. Norman 2013.07.24 14:39:55-04'00'

CTDOT STANDARD SHEET

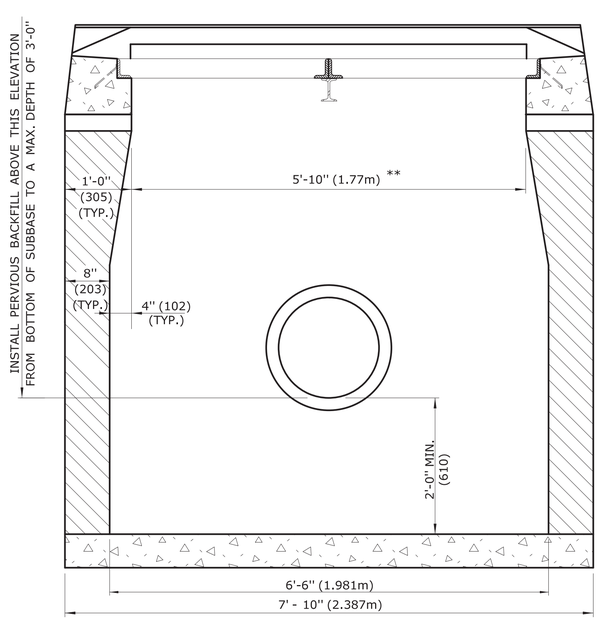
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
TYPE "C", "C-L" & DROP INLET CATCH BASIN

STANDARD SHEET NO.:
HW-507_01

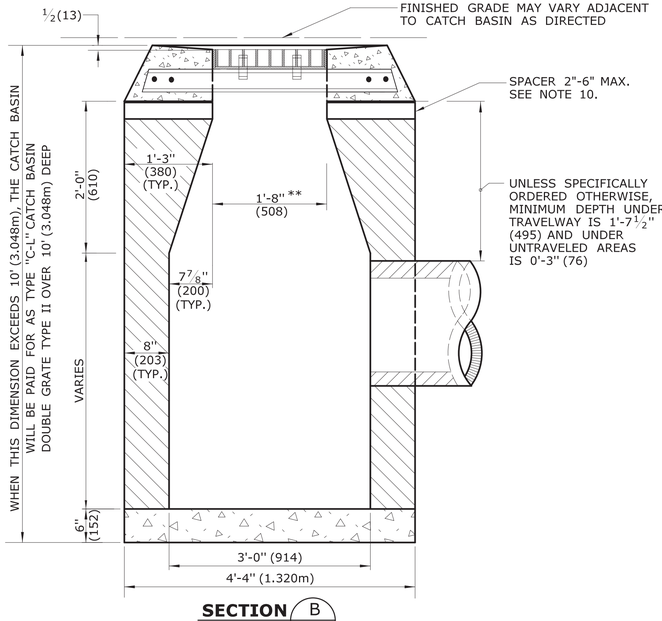


SECTION B

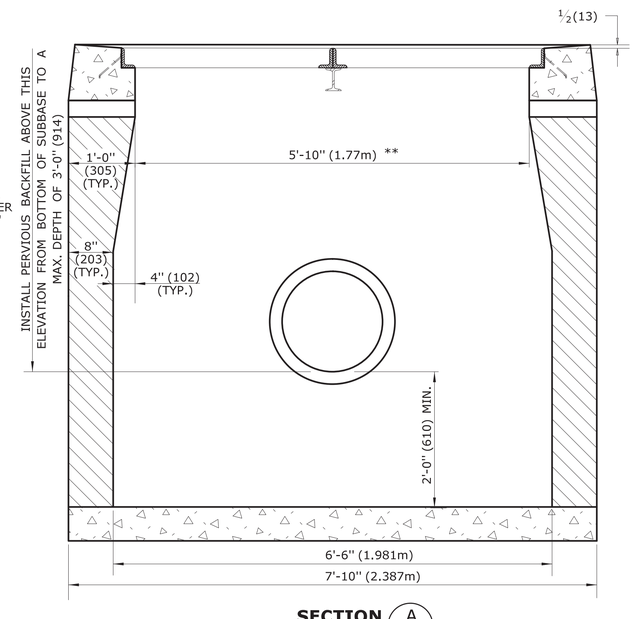


SECTION A

TYPE "C" CATCH BASIN DOUBLE GRATE - TYPE II



SECTION B

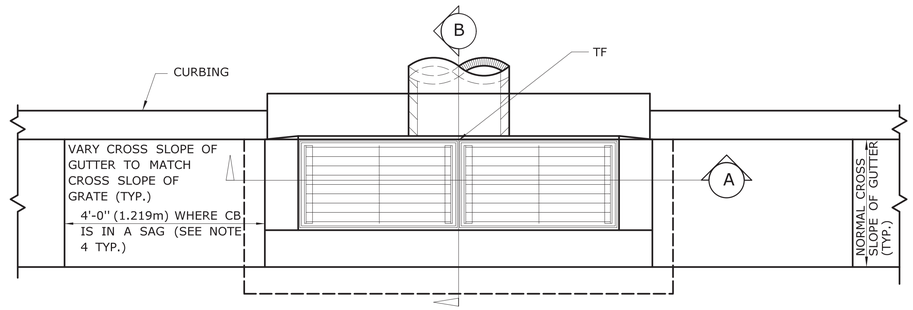


SECTION A

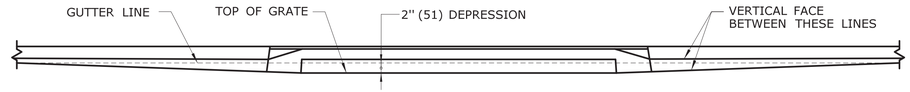
TYPE "C-L" CATCH BASIN DOUBLE GRATE - TYPE II

GENERAL NOTES:

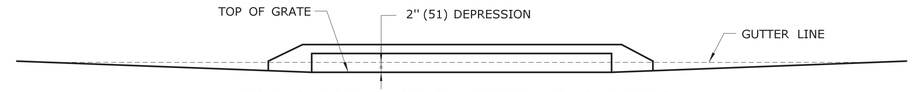
1. FOR DETAILS OF FRAME AND GRATE SEE STANDARD SHEET HW-507_08.
2. USE APPROPRIATE CONCRETE TOP FOR CURBING SHOWN ON PLANS. IF CURBING IS NOT SPECIFIED ON THE PLANS, IT SHALL BE CONSTRUCTED AS DIRECTED BY THE ENGINEER.
3. ALL FACES OF STRUCTURES IN CONTACT WITH CONCRETE PAVEMENT SHALL BE COVERED WITH A LAYER OF TAR PAPER OR APPROVED EQUAL. THE COST FOR THE PAPER SHALL BE INCLUDED IN THE BID PRICE FOR THE TYPE OF CATCH BASIN INSTALLED.
4. USE 6'-0" (1.830m) ON UPGRADE SIDE OF CONTINUOUS GRADE AND 1'-0" (305) ON DOWNGRADE SIDE OF CONTINUOUS GRADE OR AS DIRECTED.
5. IF MASONRY UNITS ARE REQUIRED, THE BASIN SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE OVER ALL DIMENSIONS SHOWN HERE AND SECTION 5.07 OF THE STATE OF CONNECTICUT'S STANDARD SPECIFICATIONS. CORBELLING SHALL BE PERMITTED TO A MAXIMUM OF 3" (75). NO PROJECTION SHALL EXTEND INSIDE THE LIMITS NOTED BY **.
6. WALL THICKNESS OF ALL CB'S OVER 10' (3.048m)DEEP SHALL BE INCREASED TO 12" (305) THICK. INSIDE DIMENSION SHALL REMAIN THE SAME. (12" (305) THICKNESS WILL START AFTER THE FIRST 10' (3.048m)).
7. TO CONVEY SUBSURFACE DRAINAGE, OPENINGS SHALL BE FORMED IN THE FOUR WALLS AT OR IMMEDIATELY ABOVE THE BOTTOM OF THE PERVIOUS BACKFILL.
8. MINIMUM CONCRETE COMPRESSIVE STRENGTH OF F'c = 4000 PSI (27,580 kPa) SHALL BE OBTAINED PRIOR TO SHIPPING.
9. LATEST STATE OF CONNECTICUT'S STANDARD SPECIFICATIONS AND SUPPLEMENTALS SHALL GOVERN.
10. SPACER MAY BE CMU OR PRECAST WITH REQUIRED REINFORCING (RECOMMENDED BY THE MANUFACTURER) AS NEEDED TO PROVIDE PROPER GRADE SHOWN ON PLANS.
11. TOP OF FRAME (TF) ELEVATION SHALL BE MEASURED IN BETWEEN BOTH GRATES @ THE GUTTER.



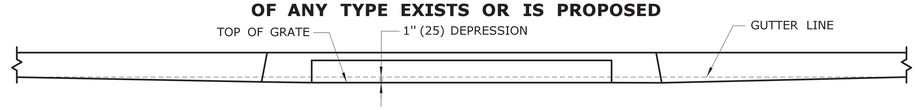
PLAN



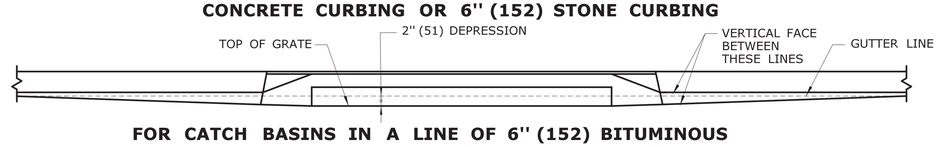
FOR CATCH BASINS IN A LINE OF 4"(102) CONCRETE PARK CURBING OR 4" (102) BITUMINOUS CONCRETE PARK CURBING



FOR CATCH BASINS WHERE NO CURBING OF ANY TYPE EXISTS OR IS PROPOSED



FOR CATCH BASINS IN A LINE OF 6" (152) CONCRETE CURBING OR 6" (152) STONE CURBING



FOR CATCH BASINS IN A LINE OF 6" (152) BITUMINOUS CONCRETE LIP CURBING (MACHINE FORMED)

DETAILS OF DEPRESSED GUTTER STRIP FOR TYPE "C" CATCH BASIN DOUBLE GRATE TYPE II

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
4	7/13	ADD NOTE 11
3	10/3/11	ADD SPACERS AND NOTE 10.
2	9/15/11	MODIFIED DETAILS TO BE CONSISTANT WITH PRECAST
1	7/28/11	REMOVE MIN. DROP NOTE

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 3/21/2013

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: June2013.dgn Model: HW-507_03

SUBMITTED BY: NAME/DATE/TIME:

APPROVED BY: NAME/DATE/TIME:
James H. Norman
2013.07.24 14:42:32-04'00'

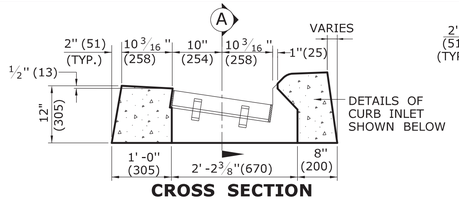
Digitally signed by Leo L. Fontaine
Date: 2013.07.24 11:02:07-04'00'

CTDOT STANDARD SHEET

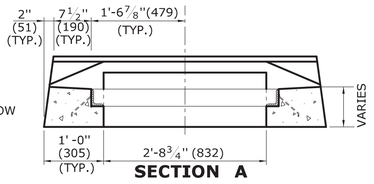
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
TYPE "C" , "C-L" & DOUBLE GRATE TYPE - II

STANDARD SHEET NO.:
HW-507_03

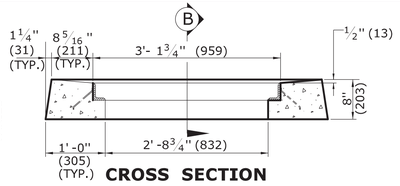


CROSS SECTION

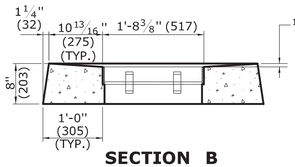


SECTION A

TYPE "C" CATCH BASIN TOP



CROSS SECTION

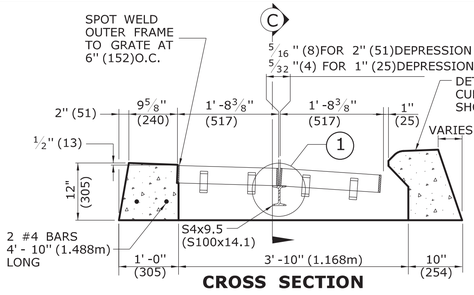


SECTION B

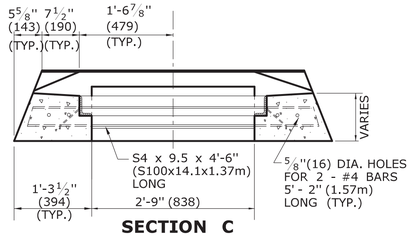
TYPE "C-L" CATCH BASIN TOP

GENERAL NOTES:

1. FOR DETAILS OF FRAME AND GRATE SEE STANDARD SHEET HW-507_08.
2. ALL STEEL, EXCEPT REINFORCING BARS, SHALL BE GALVANIZED IN CONFORMANCE WITH SECTION M06.03 OF CONNECTICUT'S STANDARD SPECIFICATIONS.
3. ALL BARS SHALL HAVE A MINIMUM 2" (51) COVER.

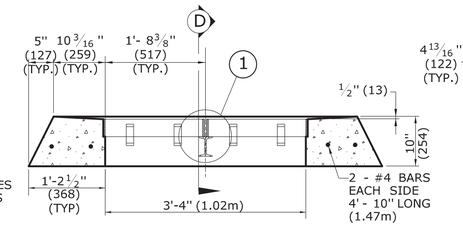


CROSS SECTION

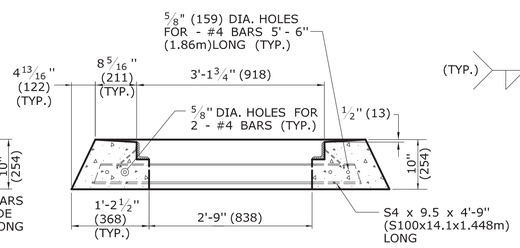


SECTION C

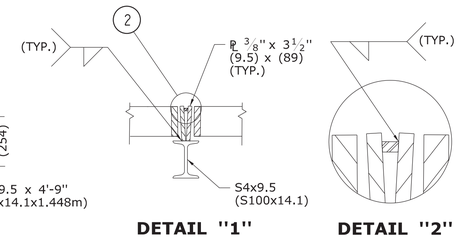
TYPE "C" CATCH BASIN DOUBLE GRATE - TYPE I TOP



CROSS SECTION



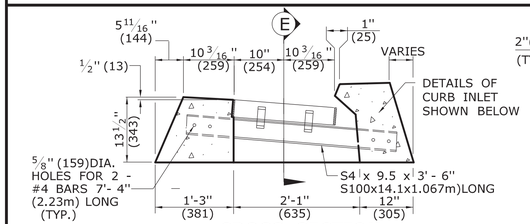
SECTION D



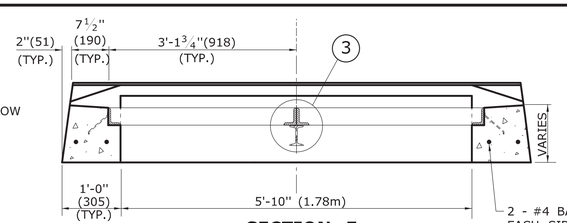
DETAIL "1"

DETAIL "2"

TYPE "C-L" CATCH BASIN DOUBLE GRATE - TYPE I TOP

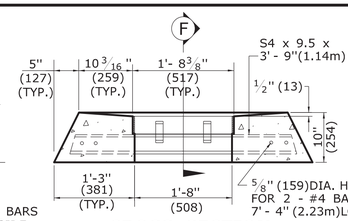


CROSS SECTION

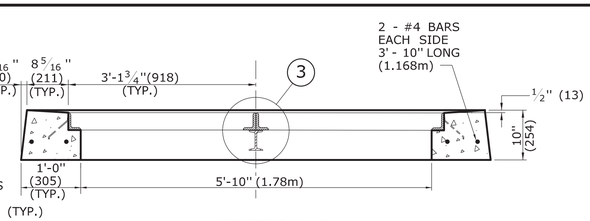


SECTION E

TYPE "C" CATCH BASIN DOUBLE GRATE - TYPE II TOP

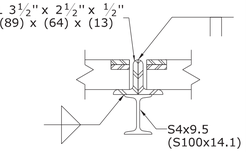


CROSS SECTION

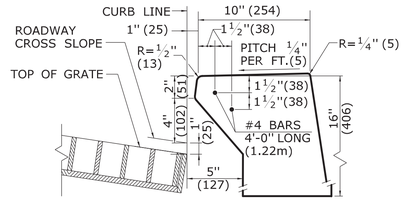


SECTION F

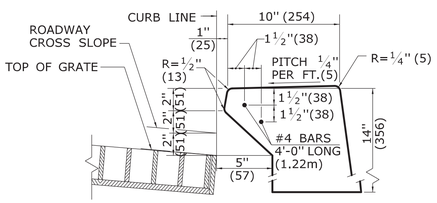
TYPE "C-L" CATCH BASIN DOUBLE GRATE - TYPE II TOP



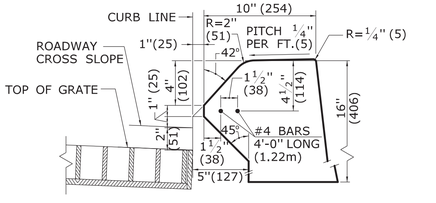
DETAIL "3"



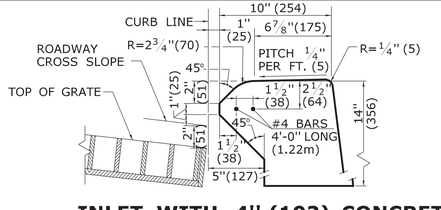
INLET WITH 6" (152) CONCRETE OR STONE CURBING FOR TYPE "C" CB



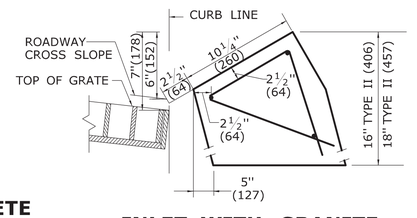
INLET WITH NO CURBING (PLAIN TYPE) FOR TYPE "C" CB



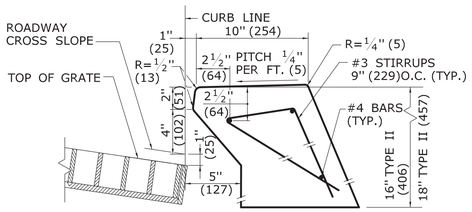
INLET WITH 6" (152) BITUMINOUS CONCRETE LIP CURBING FOR TYPE "C" CB



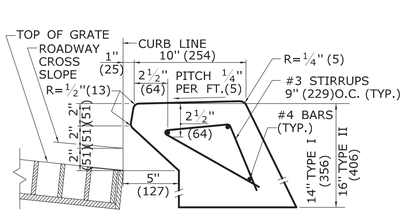
INLET WITH 4" (102) CONCRETE PARK CURBING FOR TYPE "C" CB



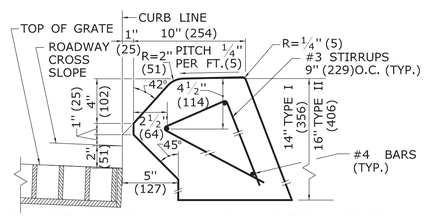
INLET WITH GRANITE SLOPE CURB FOR TYPE "C" CB



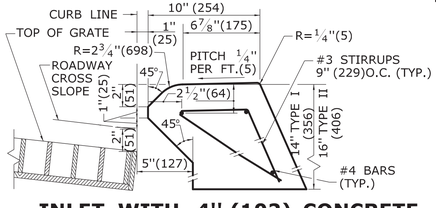
INLET WITH 6" (152) CONCRETE OR STONE CURBING FOR TYPE "C" CB DOUBLE GRATE TYPE I & II



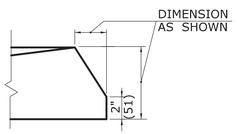
INLET WITH NO CURBING (PLAIN TYPE) FOR TYPE "C" CB DOUBLE GRATE TYPE I & II



INLET WITH 6" (152) BITUMINIOUS CONCRETE LIP CURBING FOR TYPE "C" CB DOUBLE GRATE TYPE I & II



INLET WITH 4" (102) CONCRETE PARK CURBING FOR TYPE "C" CB DOUBLE GRATE TYPE I & II



ALTERNATE CONSTRUCTION OF TYPE II TOP

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
-	-	-
2	7/28/11	REMOVE MIN. DROP NOTE
1	6/01/10	REVISE CALL-OUT

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 11/10/2011

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HWY_STD_Nov2011.dgn Model: 12-HW-507_07

SUBMITTED BY:	NAME/DATE/TIME:
	Leo Fontaine 2011.11.10 10:04:01 -05'00'
APPROVED BY:	NAME/DATE/TIME:
	James H. Norman 2011.11.10 10:19:36 -05'00'

CTDOT STANDARD SHEET

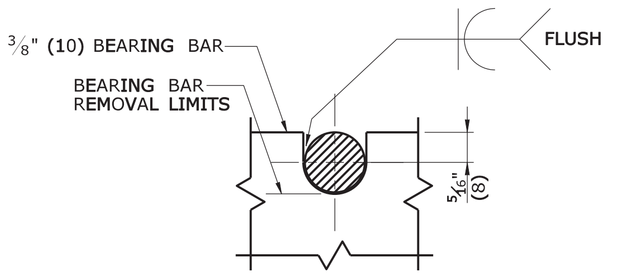
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

TYPE "C" & "C-L" CATCH BASIN TOPS AND CURBS

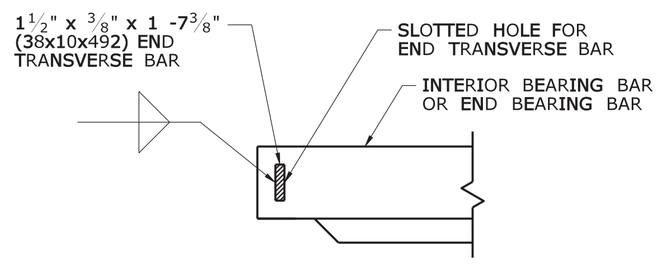
STANDARD SHEET NO.:

HW-507_07

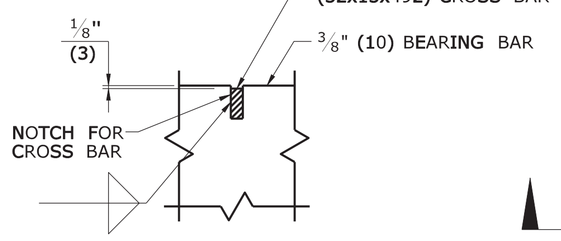


NOTE:
5/8" (16) DIA. ROUND BAR SHALL CONTACT BEARING BAR AT BOTTOM AND BE FLUSH AT TOP.

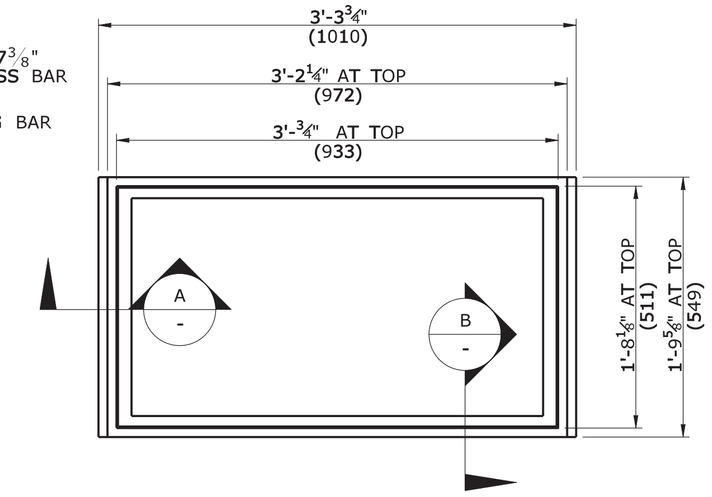
ROUND BAR ATTACHMENT
CATCH BASIN GRATE TYPE A



END TRANSVERSE BAR ATTACHMENT
CATCH BASIN GRATE TYPE A & B



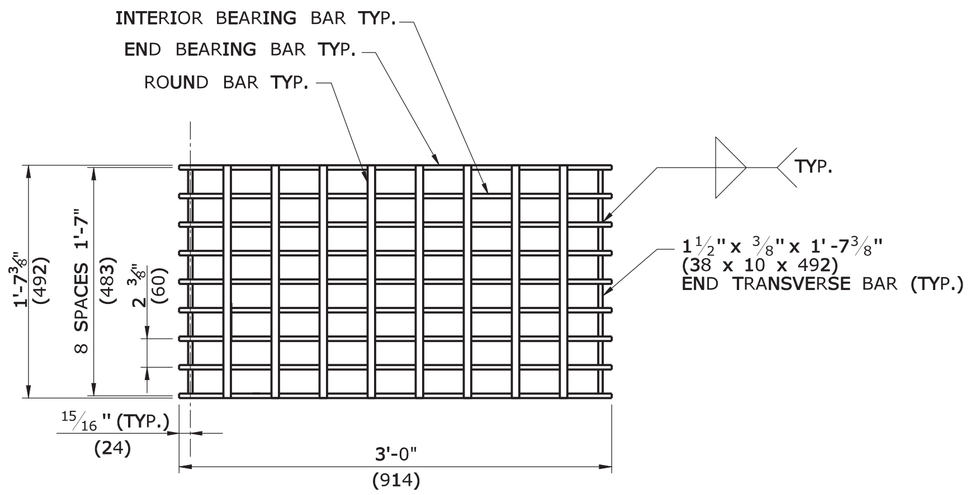
CROSS BAR ATTACHMENT
CATCH BASIN GRATE TYPE B



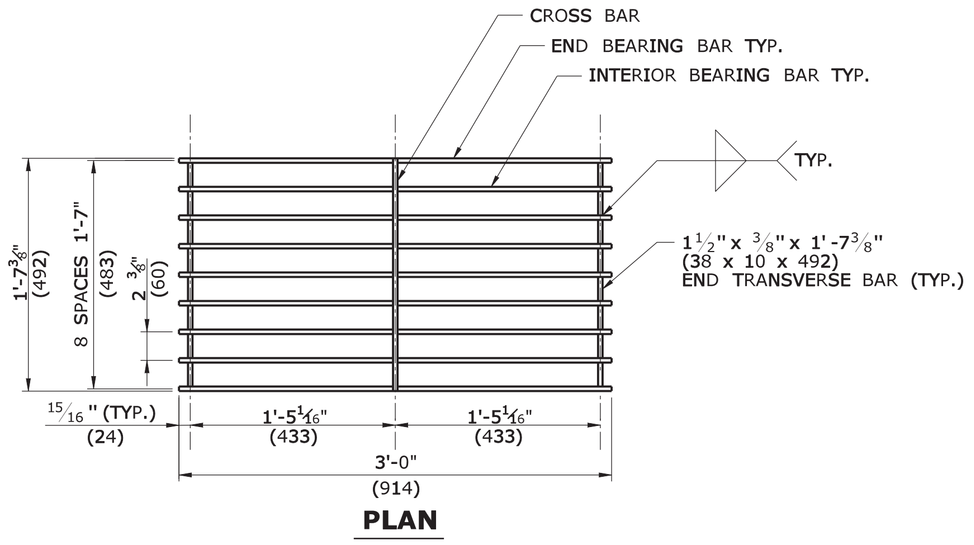
PLAN

GENERAL NOTES:

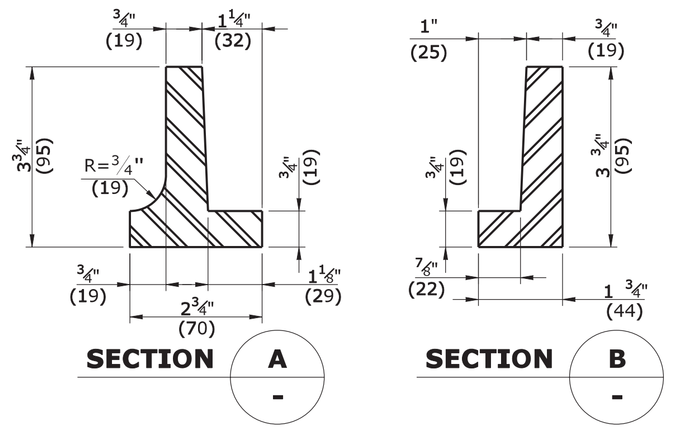
1. STEEL OR CAST IRON SHALL BE USED FOR FRAMES. STEEL SHALL BE USED FOR TYPE "A" & "B" GRATES.
2. TYPE "A" GRATES SHALL BE USED ON ALL ROADWAYS WHERE BICYCLE TRAFFIC IS ALLOWED OR AS DIRECTED BY THE ENGINEER.
3. TYPE "B" GRATES SHALL BE USED ON ALL LIMITED ACCESS HIGHWAYS, RAMPS AND WHERE BICYCLE TRAFFIC IS NOT ALLOWED OR AS DIRECTED BY THE ENGINEER.
4. STEEL FRAMES AND GRATES SHALL BE GALVANIZED IN ACCORDANCE WITH ARTICLE M.06.03.
5. DO NOT GALVANIZE CAST IRON FRAMES.
6. DIMENSIONAL TOLERANCES SHALL BE ±1/16".(1.6)
7. ALL STEEL BARS SHALL BE WELDED AT ALL INTERSECTIONS.
8. ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF AWS STRUCTURAL WELDING CODE, D1.1.



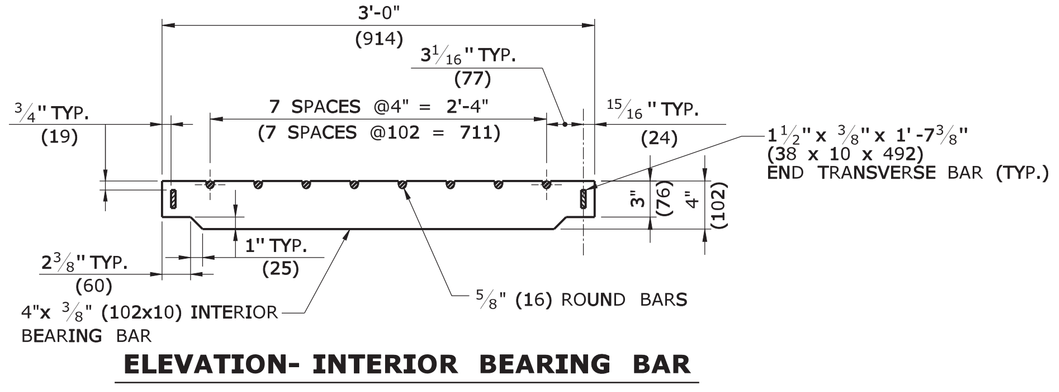
PLAN



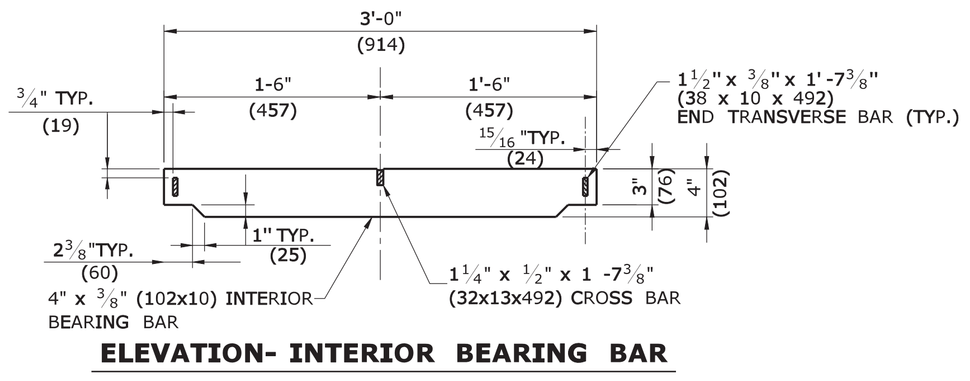
PLAN



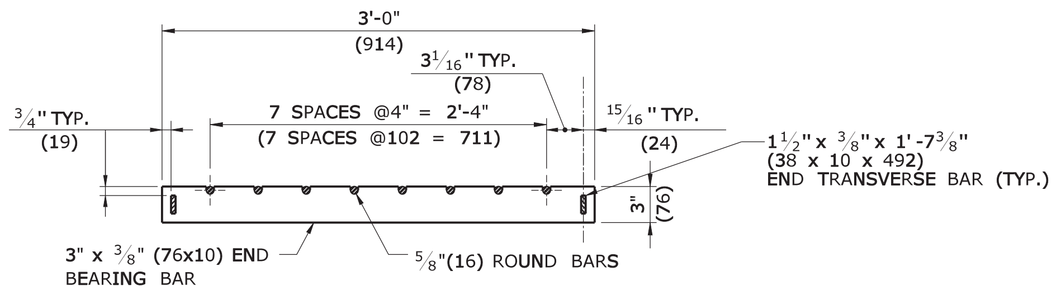
CAST IRON FRAME ALTERNATE



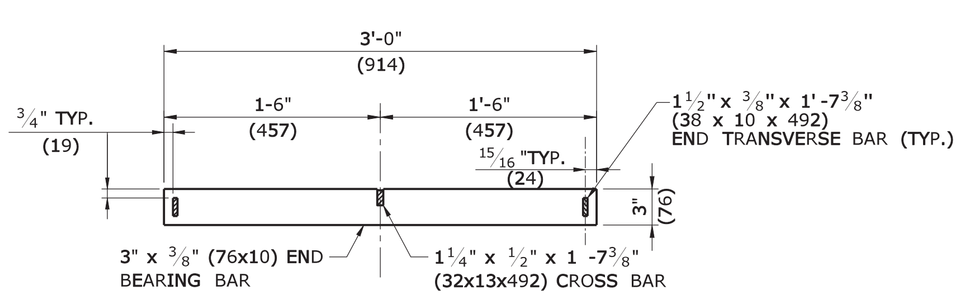
ELEVATION- INTERIOR BEARING BAR



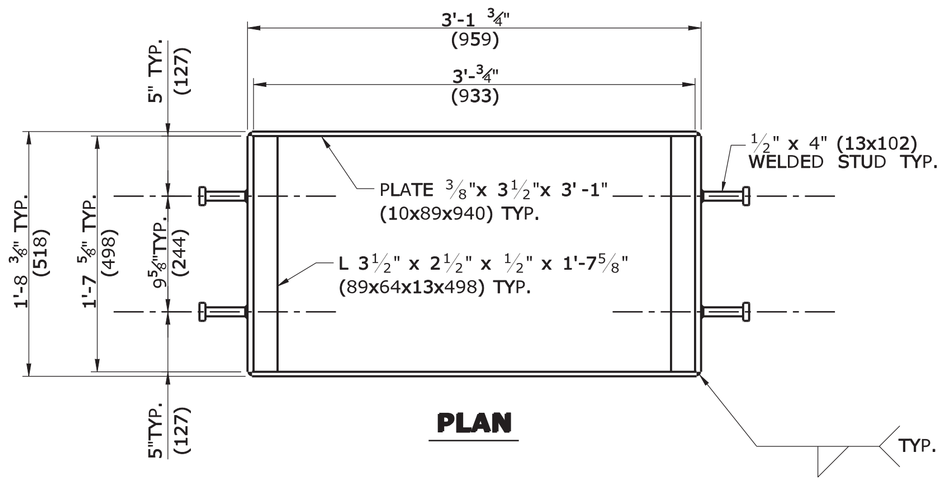
ELEVATION- INTERIOR BEARING BAR



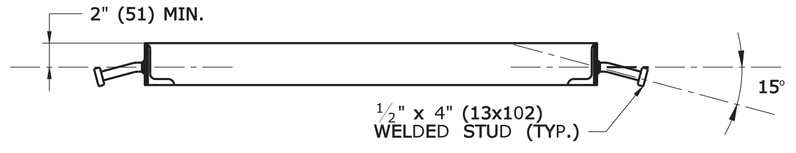
ELEVATION- END BEARING BAR
CATCH BASIN GRATE TYPE A



ELEVATION- END BEARING BAR
CATCH BASIN GRATE TYPE B



PLAN



WELDED STUD ANCHOR DETAILS
STEEL FRAME

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 9/11/2009

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD.dgn Model: HW-507_08

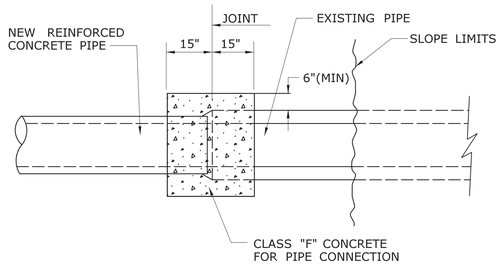
SUBMITTED BY:	NAME/DATE/TIME:
	Timothy M. Wilson 2009.09.16 11:16:32 -04'00'
APPROVED BY:	NAME/DATE/TIME:
	James H. Norman 2009.09.18 14:22:33 -04'00'

CTDOT STANDARD SHEET

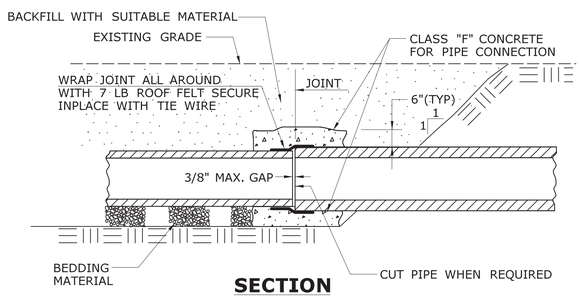
OFFICE OF ENGINEERING

STANDARD SHEET TITLE: CATCH BASIN FRAMES AND GRATES

STANDARD SHEET NO.: HW-507_08



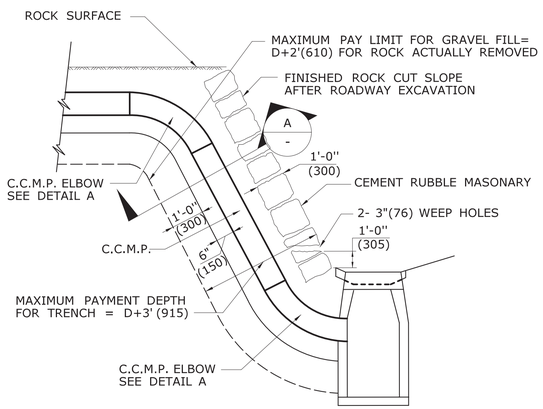
PLAN



SECTION
CONCRETE PIPE CONNECTION

NOTES:

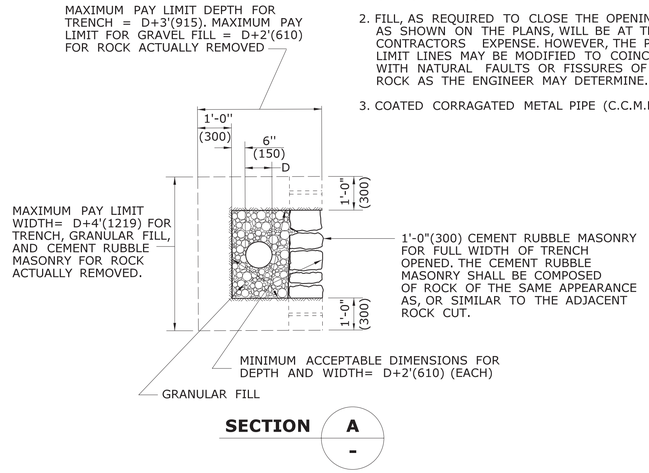
1. "CONCRETE PIPE CONNECTION" IS INTENDED FOR USE WHERE A REINFORCED CONCRETE PIPE REPAIR OR MODIFICATION IS NEEDED SOMEWHERE WITHIN A PIPE RUN WHERE A BELL/SPIGOT JOINT CANNOT BE ACHIEVED.
2. MAINTAIN INTERIOR ALIGNMENT OF PIPE AT JOINTS UNTIL CONCRETE IS PROPERLY CURED.
3. BACKFILL OF PIPE REPAIR WITH SUITABLE MATERIAL MAY NOT TAKE PLACE UNTIL CONCRETE IS PROPERLY CURED.
4. CONTRACTOR SHALL MAINTAIN LINE AND GRADE OF PIPE REPAIR OR MODIFICATION BY METHODS APPROVED BY THE ENGINEER.
5. HOLES OR GAPS AT JOINT LARGER THAN 3/8" SHALL BE FILLED OR WRAPED TO PREVENT CONCRETE FROM ENTERING PIPE.
6. TRENCH EXCAVATION SHALL BE TO THE MAXIMUM EXTENT NEEDED TO PERFORM WORK.



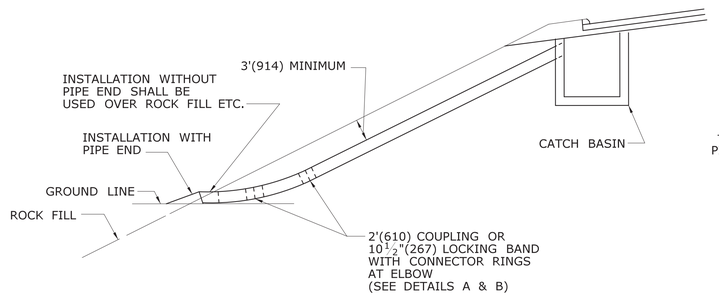
TYPICAL INSTALLATION OF C.C.M.P. IN ROCK SLOPE

GENERAL NOTES:

1. ROCK REMOVED BEYOND THE MAXIMUM PAY LIMIT SHOWN SHALL BE REPLACED WITH CEMENT RUBBLE MASONRY AND GRANULAR FILL.
2. FILL, AS REQUIRED TO CLOSE THE OPENING AS SHOWN ON THE PLANS, WILL BE AT THE CONTRACTORS EXPENSE. HOWEVER, THE PAY LIMIT LINES MAY BE MODIFIED TO COINCIDE WITH NATURAL FAULTS OR FISSURES OF ROCK AS THE ENGINEER MAY DETERMINE.
3. COATED CORRAGATED METAL PIPE (C.C.M.P.)



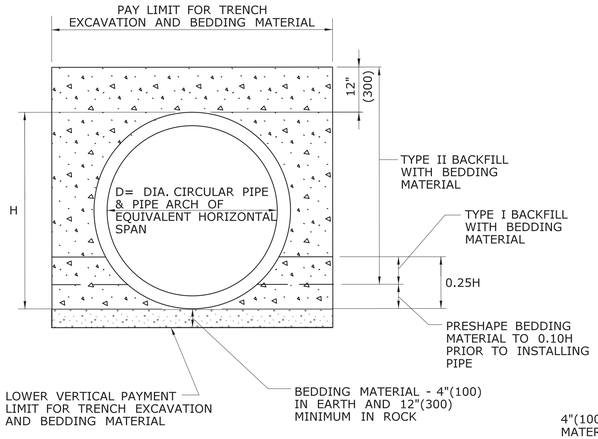
SECTION A -



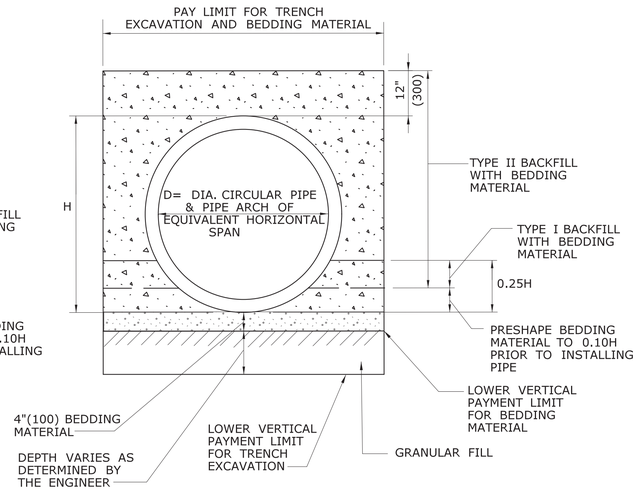
TYPICAL INSTALLATION OF C.C.M.P ELBOW IN FILL SLOPE

TABLE C
CONNECTOR RINGS

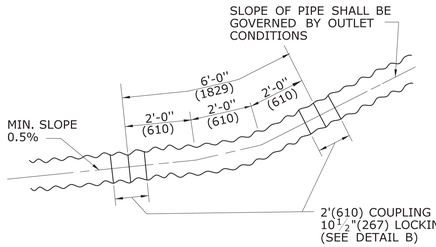
PIPE DIAMETER	LENGTH OF RING
12" (300)	52" (1321)
15" (381)	61" (1549)
18" (457)	71" (1803)
21" (533)	80" (2032)
24" (610)	90" (2286)
30" (762)	108" (2743)
36" (915)	128" (3251)
42" (1066)	147" (3734)
48" (1219)	166" (4216)



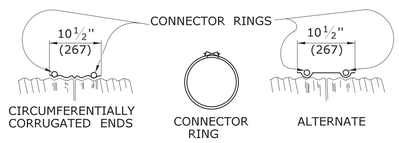
PIPE TRENCH DETAIL
WHERE GRANULAR FILL IS NOT USED



PIPE TRENCH DETAIL
WHERE GRANULAR FILL IS USED AS BEDDING



DETAIL A
C.C.M.P. ELBOW AND COUPLING



RODS: 7/16"(11) DIAMETER ELECTRO-GALVANIZED WITH 6"(152) LENGTH OF ½"(13) ROLLED THREADS EACH END, FURNISHED CURVED, TO FIT PIPE. SEE TABLE C

LUGS: DOUBLE TAKE UP, CAST IRON, ELECTRO-GALVINIZED.

NOTE: THE COUPLER FASTENING DEVICE SHALL NOT INTERFERE WITH INSTALLATION OF CONNECTOR RINGS.

DETAIL B
ELBOW DIMENSIONS

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
3	7/13	ADD CONCRETE PIPE CONNECTION DETAIL
2	6/01/10	REVISE TITLE TO SAY TRENCH DETAIL
1	6/01/10	REMOVE GRAVEL, REPLACE W/ GRANULAR

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 6/13/2013

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD2013.dgn Model: 17-HW-651_01

SUBMITTED BY: NAME/DATE/TIME:

APPROVED BY: NAME/DATE/TIME:

James H. Norman
2013.07.24 14:44:01-04'00'

Digitally signed by Leo L. Fontaine
Date: 2013.07.24 11:01:39-04'00'

CTDOT STANDARD SHEET

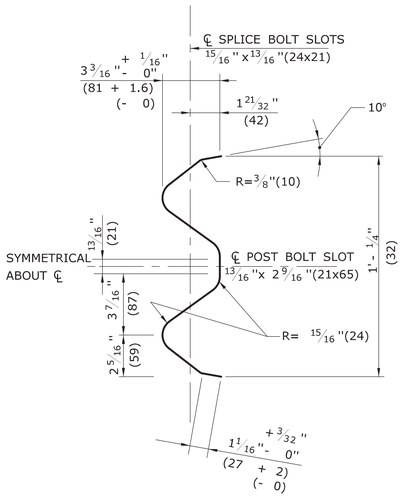
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

C.C.M.PIPE INSTALLATIONS IN FILL & ROCK SLOPES & PIPE TRENCH DETAIL

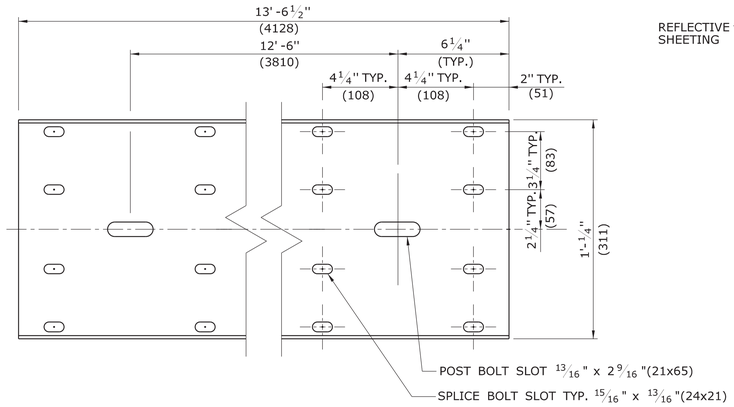
STANDARD SHEET NO.:

HW-651_01

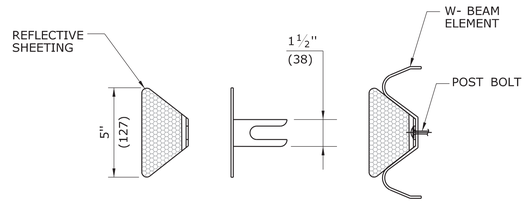


SELECTION THRU RAIL ELEMENT
END VIEW

NOTE: ALL DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES



TYPICAL W-BEAM RAIL ELEMENT
CLASS A, TYPE II



DELINEATOR DETAIL

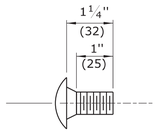
GENERAL NOTES:

1. NEW R-B 350 GUIDERAIL INCLUDING SYSTEMS, ANCHORS AND TRANSITIONS INSTALLED ON EXPRESSWAYS AND RAMPS SHALL USE CLASS B TYPE II (10 GAUGE) W-BEAM RAIL ELEMENTS.
2. W6x9 (W150x14) POSTS MAY BE USED IN PLACE OF W6 x 8.5(W150x13) POSTS.
3. W8x13 (W200x19) POSTS, 7'-6"(2286) LONG, ARE USED WITH TRANSITIONS TO VERTICAL OR SAFETY SHAPE PARAPETS (POSTS 1 AND 2) AND SYSTEM 6.
4. W6x8.5 (W150x13) POSTS, 6'-0"(1829) LONG, ARE USED WITH TRANSITIONS TO VERTICAL OR SAFETY SHAPE PARAPETS (POSTS 3 THOUGH 6), MD-B 350, SYSTEM 5 & 5A, AND STANDARD R-B 350 GUIDERAIL.

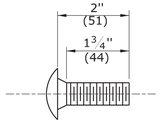
DELINEATOR NOTES:

1. DELINEATORS SHALL BE FORMED OF .080 POLY-CARBONATE OR .080 SHEET ALUMINUM IN ACCORDANCE WITH M.18.13.
2. REFLECTIVE SHEETING SHALL CONFORM TO M.18.09.2.
3. DELINEATORS SHALL BE INSTALLED ON THE POST CLOSEST TO THE DESIGNATED SPACING.
4. REFLECTIVE SHEETING SHALL BE WHITE EXCEPT ON THE LEFT SIDE OF DIVIDED STREETS, HIGHWAYS, RAMPS, AND ONE WAY ROADS IN THE DIRECTION OF TRAVEL WHERE IT SHALL BE YELLOW.
5. INSTALL DELINEATORS ON RAIL THAT IS PARALLEL TO AND NOT GREATER THAN 6'(1829) FROM THE EDGE OF THE ROADWAY. A MINIMUM OF THREE DELINEATORS MUST BE INSTALLED ON ANY RUN OF RAIL.

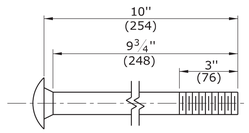
DELINEATOR SPACING:
RADIUS ≥ 300'(91440) - SPACE EVERY 50'(15.24m)
RADIUS < 300'(91440) - SPACE EVERY 25'(7.62m)



W-BEAM SPLICE
BOLT DETAIL

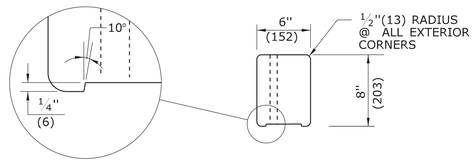


POST BOLT DETAIL
FOR R-B 350
SYSTEM 6 RUBRAIL

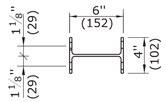


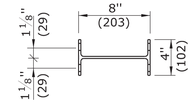
POST BOLT DETAIL FOR R-B 350
AND MD-B 350 GUIDERAIL

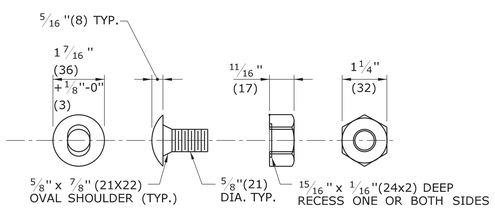
(UNTHREADED PORTION NOT TO EXCEED 6 3/4"(171))



PLAN

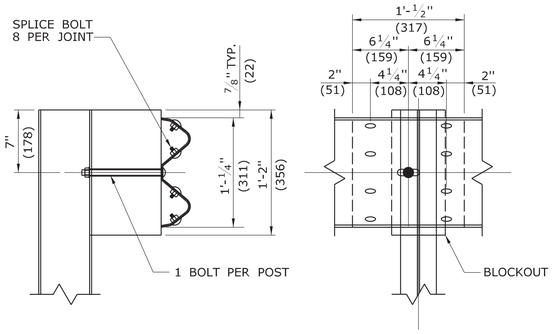






BUTTONHEAD BOLT **HEX NUT**

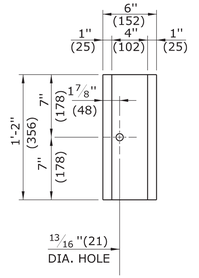
NOTE: AFTER GALVANIZING, THE NUT SHALL BE FREE RUNNING ON THE BOLT. DIAMETER SHOWN IS TYPICAL FOR ALL GUIDERAIL BOLTS. SEE DETAILS ABOVE FOR SPECIFIC LENGTHS.



SECTION **ELEVATION**

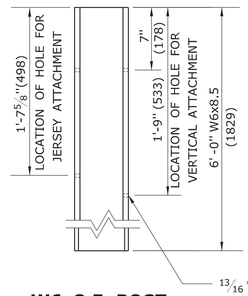
LAP DETAIL

NOTE:
LAP RAIL SECTION IN DIRECTION OF TRAFFIC

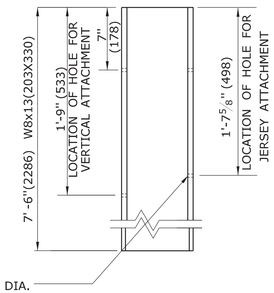


ELEVATION

R-B 350 PLASTIC
BLOCKOUT DETAIL



W6x8.5 POST
(W150x13)
6'-0"(1829) LONG



W8x13 POST
(W200x19)
7'-6"(2286) LONG

BOLT HOLE LAYOUT FOR W8x13(W200x19)
AND W6x8.5 (W150x13)UNIFORM POST

(REFER TO GENERAL NOTES)

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

REV.	DATE	REVISION DESCRIPTION
1	6/11	REMOVE WEATHERING STEEL NOTES
		-
-	-	-
-	-	-
-	-	-
-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 5/10/2011

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD_JUNE2011.dgn Model: 36-HW-910_01

SUBMITTED BY: NAME/DATE/TIME:

Digitally signed by Leo Fontaine
DN: c=US, o=Connecticut, l=Newington, ou=Department of Transportation, email=Leo.Fontaine@ct.gov, cn=State of Connecticut, cn=Leo Fontaine
Date: 2011.05.18 11:54:07 -04'00'

APPROVED BY: NAME/DATE/TIME:

James H. Norman
2011.06.09 15:12:16 -04'00'

CTDOT
STANDARD SHEET

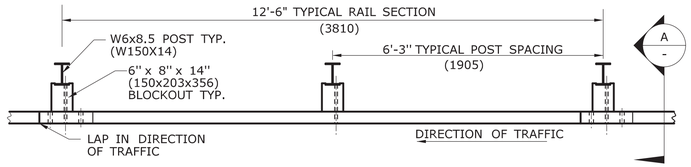
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

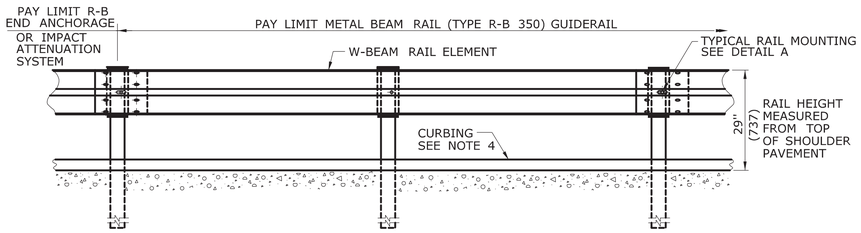
W-BEAM METAL
BEAM RAIL HARDWARE

STANDARD SHEET NO.:

HW-910_01

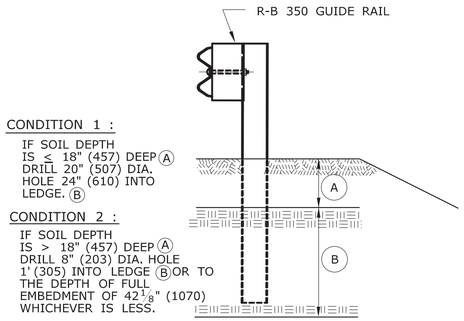


PLAN

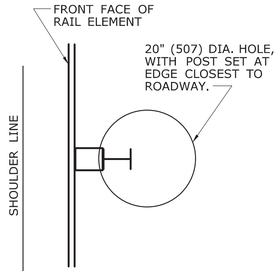


ELEVATION

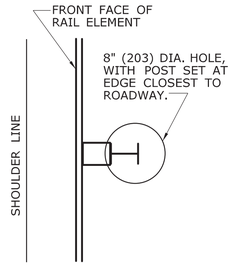
METAL BEAM RAIL (TYPE R-B 350)



ELEVATION
(SEE NOTE 8)



PLAN
CONDITION 1
(SEE NOTE 8)

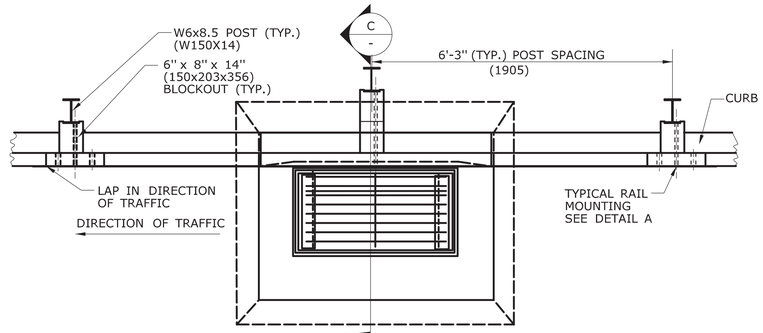


PLAN
CONDITION 2
(SEE NOTE 8)

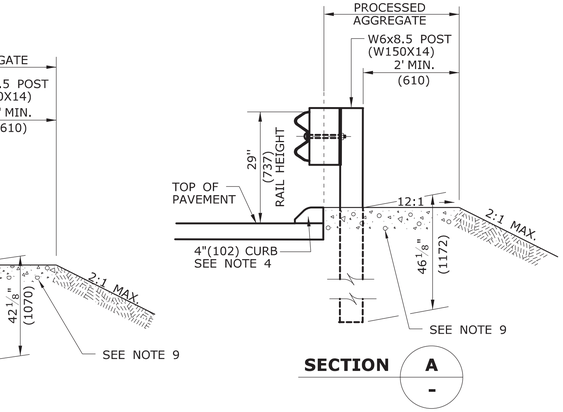
DRILLING IN ROCK FOR GUIDERAIL POSTS

GENERAL NOTES:

1. SEE SHEET HW-910_01 FOR HARDWARE AND DELINEATOR DETAILS.
2. MAXIMUM DESIGN DEFLECTION FOR R-B 350 GUIDERAIL AT THE STANDARD POST SPACING OF 6'-3"(1905) IS 4'-3"(1295). DEFLECTION REQUIREMENT IS MEASURED FROM THE BACK OF POST TO THE FACE OF OBJECT.
3. FOR CURVES WITH RADII OF 150'(45.7m) OR LESS, ALL RAIL ELEMENTS SHALL BE SHOP FABRICATED TO THE PROPER RADIUS AND GALVANIZED AFTER FABRICATION. RADIUS RAIL WHEN REQUIRED AND NOTED ON THE PLANS, IS INCLUDED IN THE PAY ITEM FOR GUIDERAIL.
4. RAIL HEIGHT WITH CURBING SHALL BE MEASURED FROM THE TOP OF PAVEMENT. ON HIGH SPEED ROADWAYS (≥45mph 72.4kph), 4"(102) CURBING MAY BE USED IN CONJUNCTION WITH GUIDERAIL AND THE RAIL ELEMENT SHALL BE PLACED FLUSH WITH THE FACE OF CURB. ON LOW SPEED ROADWAYS (<45mph 72.4kph), 6"(152) CURBING MAY BE USED IN CONJUNCTION WITH GUIDERAIL AND THE RAIL ELEMENT SHALL BE PLACED A MAXIMUM OF 9"(229) BEHIND THE FACE OF CURB.
5. THREE BLOCKOUTS MAY BE USED FOR ONE POST ONLY. TWO BLOCKOUTS MAY BE USED FOR A SERIES OF POSTS. THE COST OF ADDITIONAL BLOCKOUTS AND LONGER BOLTS SHALL BE INCLUDED IN THE BID PRICE PER FOOT OF GUIDERAIL. EXTRA BLOCKOUTS AT TRANSITION TO BRIDGE PARAPETS SHOULD BE AVOIDED.
6. W-BEAM GUIDERAIL MAY BE PLACED 1'(305) OR MORE FROM THE EDGE OF PAVEMENT ONLY ON SLOPES 10:1 OR FLATTER AND WITHOUT CURBING. IF THE RAIL IS INSTALLED WITHIN 2'(610) OF THE EDGE OF PAVEMENT, THE RAIL HEIGHT IS MEASURED FROM THE SHOULDER SLOPE EXTENDED TO THE RAIL. IF THE RAIL IS INSTALLED BEYOND 2'(610) FROM THE EDGE OF PAVEMENT, THE RAIL HEIGHT IS MEASURED FROM THE GROUND DIRECTLY BELOW THE RAIL.
7. ALL R-B 350 GUIDERAIL TYPES INSTALLED ON EXPRESSWAYS AND RAMPS SHALL USE CLASS B, TYPE-II (10 GAUGE) W-BEAM RAIL ELEMENTS.
8. 20" (507) DIA. EXCAVATED HOLE SHALL BE BACKFILLED WITH SUITABLE MATERIAL, OR GRANULAR FILL COMPACTED IN 6" (150) LIFTS BEFORE DRIVING POST OR POSTS MAY BE SET IN EXCAVATED HOLE AND BACKFILLED WITH CONTROLLED LOW STRENGTH MATERIAL (CLSM). 8" (203) DIA. HOLE SHALL BE BACKFILLED WITH SUITABLE MATERIAL.
9. AS DIRECTED BY THE ENGINEER AND WHERE PAVEMENT FOR RAILING IS NOT BEING INSTALLED, A MIN. 6" DEPTH OF PROCESSED AGGREGATE SHALL BE INSTALLED FROM THE PAVEMENT EDGE OR BACK OF CURB TO A MINIMUM OF 2'(610) BEHIND THE GUIDERAIL POST AND COMPACTED IN 6" (150) LIFTS.
10. MINIMUM RAIL HEIGHT FOR NEW CONSTRUCTION SHALL BE 29" (737) ± 1" (25).



PLAN

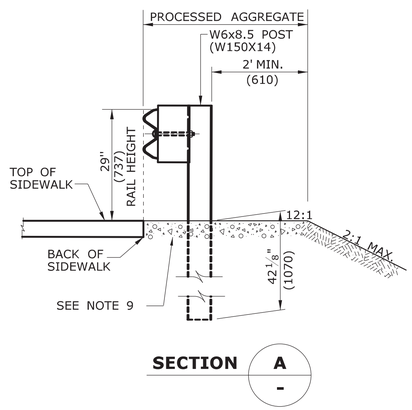


SECTION A -

NO CURB APPLICATION

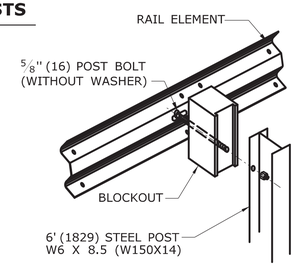
SECTION A -

CURB APPLICATION

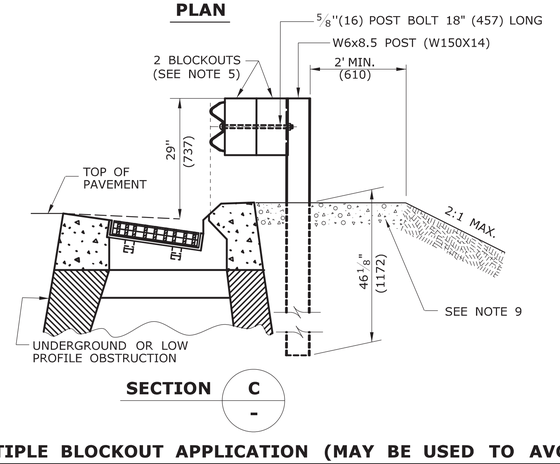


SECTION A -

SIDEWALK APPLICATION



DETAIL A
RAIL MOUNTING



SECTION C -

MULTIPLE BLOCKOUT APPLICATION (MAY BE USED TO AVOID UNDERGROUND OR LOW PROFILE OBSTRUCTION)

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

REV.	DATE	REVISION DESCRIPTION
1	6/11	REVISED NOTE 9 FOR USE OF PROCESSED AGGREGATE -
		AND REMOVED NOTE 6 FOR WEATHERING STEEL -
-	-	- -
-	-	- -
-	-	- -
-	-	- -

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 5/10/2011

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD_JUNE2011.dgn Model: 37- HW-910_02

SUBMITTED BY: NAME/DATE/TIME:

Digitally signed by Leo Fontaine
DN: c=US, st=Connecticut, l=Newington, ou=Department of Transportation, email=Leo.Fontaine@ct.gov, o=State of Connecticut, cn=Leo Fontaine
Date: 2011.05.18 11:54:43 -04'00'

APPROVED BY: NAME/DATE/TIME:

James H. Norman
2011.06.09 15:12:46 -04'00'

CTDOT
STANDARD SHEET

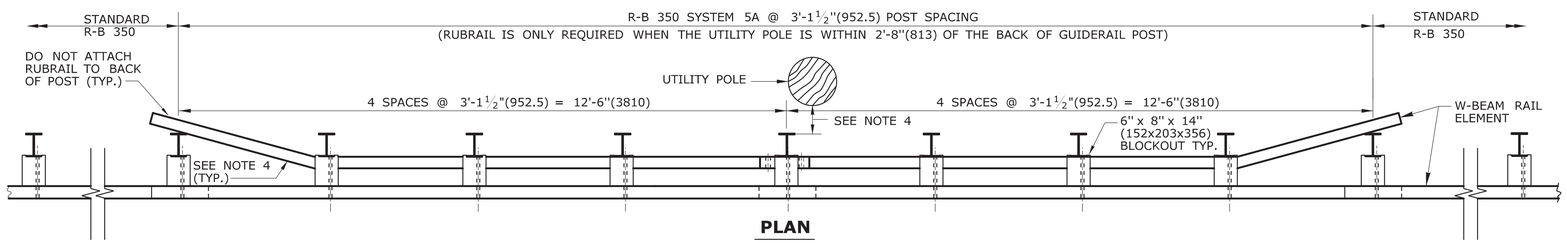
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

METAL BEAM RAIL (TYPE R-B 350) GUIDERAIL

STANDARD SHEET NO.:

HW-910_02

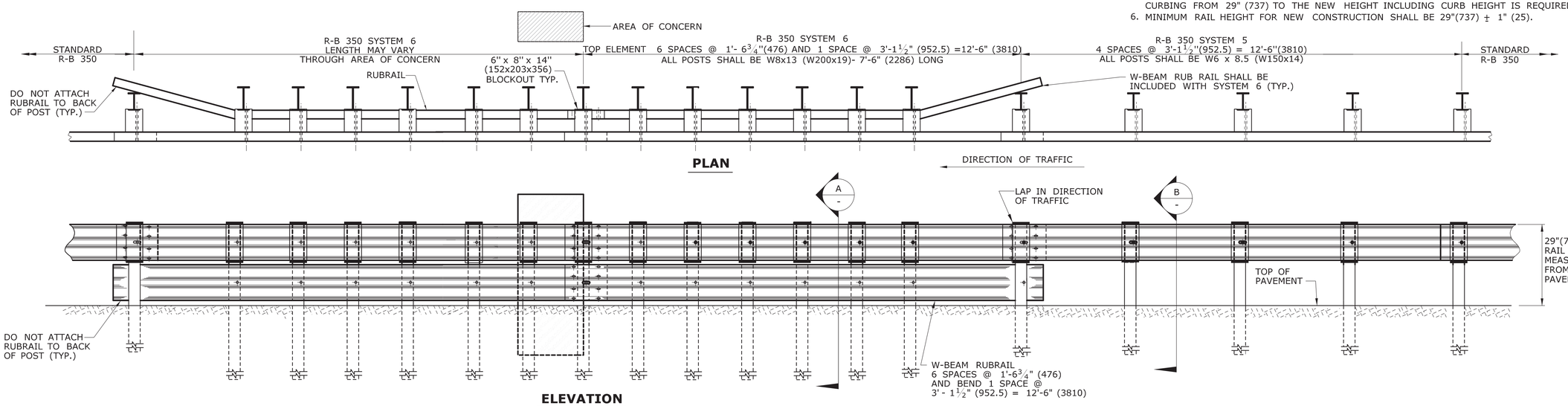


PLAN

TREATMENT OF METAL BEAM RAIL R-B 350 AT UTILITY POLES ON UNDIVIDED BI-DIRECTIONAL ROADWAYS

GENERAL NOTES:

1. SEE SHEET HW-910_01 FOR HARDWARE AND DELINEATOR DETAILS.
2. RAIL HEIGHT WITH CURBING SHALL BE MEASURED FROM THE TOP OF PAVEMENT. ON HIGH SPEED ROADWAYS (≥ 45 mph(72.4kph)), 4"(102) CURBING SHALL BE USED IN-CONJUNCTION WITH GUIDERAIL AND THE RAIL FACE SHALL BE INSTALLED FLUSH WITH THE FACE OF CURBING. ON LOW SPEED ROADWAYS (< 45 mph(72.4kph)), 6"(152) CURBING MAY BE USED IN-CONJUNCTION WITH GUIDERAIL AND THE RAIL FACE SHALL BE INSTALLED A MAX. OF 9"(229) BEHIND THE FACE OF CURBING. W-BEAM GUIDERAIL MAY ONLY BE INSTALLED ON SLOPES FLATTER THAN 10:1.
3. ALL R-B 350 GUIDERAIL TYPES INSTALLED ON LIMITED ACCESS HIGHWAYS AND RAMPS SHALL USE CLASS B TYPE - II (10 GAUGE) W-BEAM RAIL ELEMENTS.
4. WHEN A WARRANT EXISTS FOR RAILING AND THERE IS A UTILITY POLE THAT CAN NOT BE RELOCATED AND IT IS WITHIN THE DEFLECTION DISTANCE FOR STANDARD R-B 350 GUIDE-RAIL, R-B 350 SYSTEM 5 IS REQUIRED. THE LENGTH OF R-B 350 SYSTEM 5 SHALL BE 25'(7620) CENTERED ON THE UTILITY POLE. WHEN THE UTILITY POLE IS WITHIN 2'-8"(813) OF THE BACK OF THE POST, A 25'(7620) W-BEAM RUBRAIL CENTERED ON THE UTILITY POLE SHALL BE ADDED AND PAID FOR UNDER THE CONTRACT UNIT PRICE FOR R-B 350 SYSTEM 5A. THE RUBRAIL FLARED SECTION SHALL BE SHOP BENT AND GALVANIZED AFTER FABRICATION.
5. IF CURBING IS USED IN CONJUNCTION WITH R-B 350 SYSTEM 6 THE RAIL HEIGHT SHALL BE 29" (737) PLUS THE CURB HEIGHT. A 25' (7620) LONG HEIGHT TRANSITION PRIOR TO THE CURBING FROM 29" (737) TO THE NEW HEIGHT INCLUDING CURB HEIGHT IS REQUIRED.
6. MINIMUM RAIL HEIGHT FOR NEW CONSTRUCTION SHALL BE 29"(737) ± 1" (25).



PLAN

ELEVATION

TREATMENT OF METAL BEAM RAIL R-B 350 SYSTEM 6 AT FIXED OBJECTS ON UNDIVIDED BI-DIRECTIONAL ROADWAYS

(FOR ADDITIONAL INFORMATION SEE TABLE 1)

TABLE 1
STRENGTH TRANSITION FOR METAL BEAM RAIL (TYPE R-B 350) AT FIXED OBJECTS, BRIDGE PIERS, NON-BREAKAWAY STRUCTURES, AND ABUTMENTS ON THE ROADSIDE OR MEDIAN.

"D"	"X"	R-B 350 SYSTEM 6	R-B 350 SYSTEM 5	STANDARD R-B 350	"L"
MAXIMUM DESIGN DEFLECTION	AREA OF CONCERN PLUS TWO POSTS FOR:	W8x13(W200x19) POSTS SPACED AT 1'-6¾" (476) WITH RUBRAIL	W6x8.5 (W150x14) POSTS SPACED AT 3'-1½"(952.5)	W6x8.5 (W150x14) POSTS SPACED AT 6'-3"(1905)	MINIMUM LENGTH NEEDED
1'-10"(559)	SYSTEM 6	12'-6"(3810)	12'-6"(3810)	LON	25'(7620)
2'-8"(813)	SYSTEM 5	→	25'(7620)	LON	25'(7620)
4'-3"(1295)	R-B 350	→	→	LON	LON

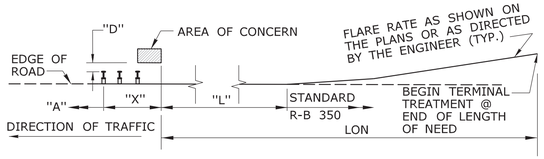
L = MINIMUM LENGTH OF GUIDE RAIL STRENGTH TRANSITION NEEDED IN FEET PRIOR TO THE AREA OF CONCERN. NOTE: WHEN DESIGNING STRENGTH TRANSITIONS ON EXPRESSWAYS AND RAMPS FOR ZONE OF INTRUSION 100'(30.5m) PRIOR TO THE AREA OF CONCERN SHALL BE PROVIDED.

X = MINIMUM LENGTH THROUGH AREA OF CONCERN PLUS TWO POST SPACES FOR A SINGLE DIRECTION ROADWAY. "X" WILL VARY DEPENDING ON LENGTH OF AREA OF CONCERN.

D = MAXIMUM DESIGN DEFLECTION MEASURED FROM THE BACK OF POST TO THE FACE OF AREA OF CONCERN.

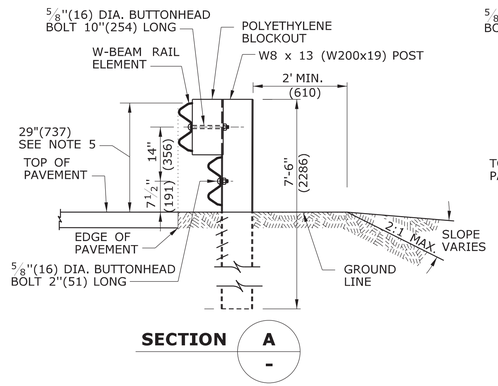
LON = LENGTH OF NEED FOR EACH SITE SHALL BE BASED ON CTDOT HIGHWAY DESIGN MANUAL AND AS SHOWN ON THE PLANS.

A = IF AREA OF CONCERN IS PROTECTED WITH SYSTEM 5 OR 6 ON A SINGLE DIRECTION ROADWAY, CONTINUE WITH STANDARD R-B 350 GUIDERAIL.

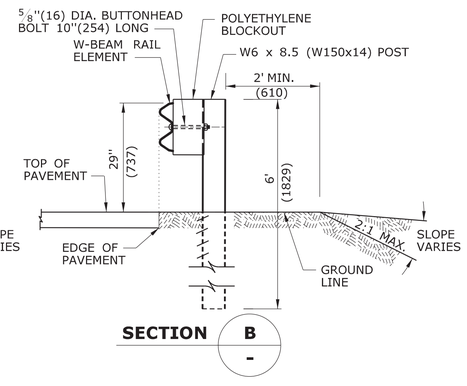


LENGTH OF NEED DIAGRAM (LON)

(SEE TABLE 1 FOR LEGEND)



SECTION A -



SECTION B -

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

REV.	DATE	REVISION DESCRIPTION
1	6/11	REVISED NOTE 4. ERRATA -
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 6/9/2011

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD_JUNE2011.dgn Model: 39- HW-910_04

SUBMITTED BY:	NAME/DATE/TIME:
	Digitally signed by Leo Fontaine DN: c=US, st=Connecticut, l=Newington, ou=Department of Transportation, email=Leo.Fontaine@ct.gov, o=State of Connecticut, cn=Leo Fontaine Date: 2011.06.09 11:25:50 -04'00'
APPROVED BY:	NAME/DATE/TIME:
	James H. Norman 2011.06.09 15:13:36 -04'00'

CTDOT
STANDARD SHEET

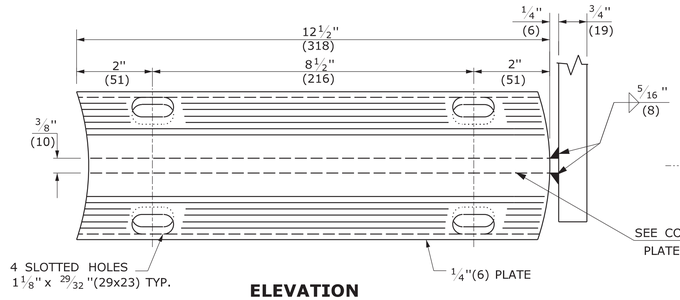
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

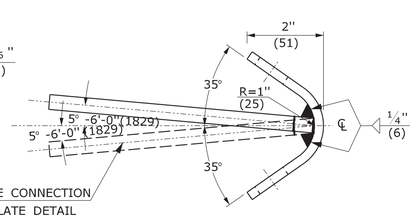
METAL BEAM RAIL TYPE R-B 350 SYSTEMS 5, 5A, & 6

STANDARD SHEET NO.:

HW-910_04



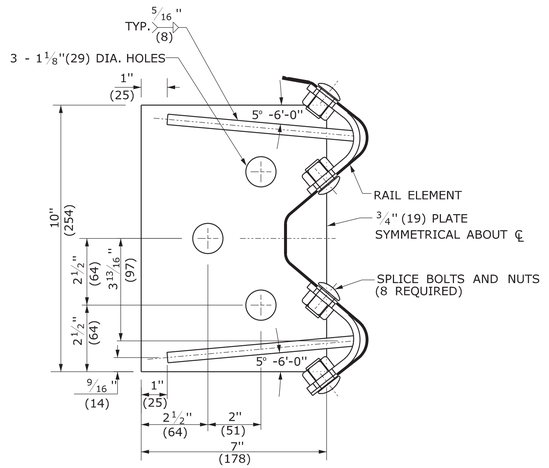
ELEVATION



SIDE

BENT PLATE

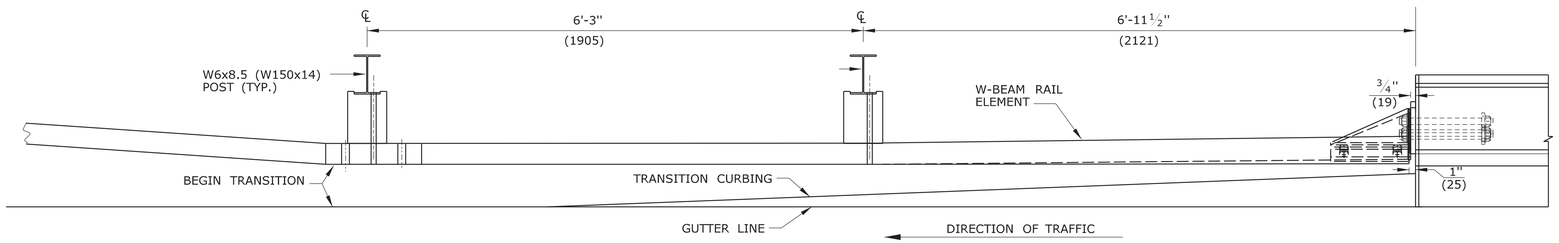
(2 REQUIRED)



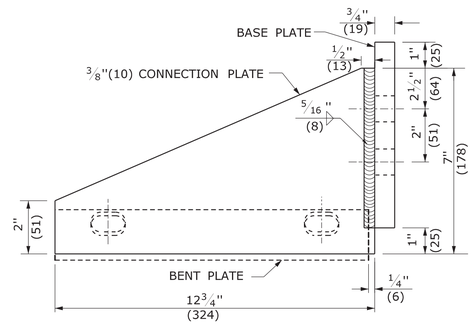
BASE PLATE AND ASSEMBLY

GENERAL NOTES:

1. SEE SHEET HW-910_01 FOR HARDWARE AND DELINEATOR DETAILS.
2. IF PROPOSED R-B 350 GUIDERAIL IS BEING ATTACHED TO A PARAPET USING EXISTING ANCHOR BOLTS FROM R-I GUIDERAIL INSTALLED AT A 33" (838) RAIL HEIGHT, A 4" (102) HEIGHT TRANSITION OVER 25' (7.62m) SHALL BE PROVIDED.
3. FOR EXISTING PARAPETS, USE THREE 1" (25) DIA. x 14" (356) LONG, FULLY THREADED, CHEMICALLY ANCHORED BOLTS AND WASHERS WITH 12" (305) EMBEDMENT DEPTH OR AS RECOMMENDED BY MANUFACTURER OF BONDING MATERIAL TO OBTAIN FULL STRENGTH OF ANCHOR BOLTS. FOR ANCHORAGE IN NEW PARAPETS, SEE STRUCTURE SHEETS.
4. USE CLASS B TYPE II (10 GAUGE) W-BEAM RAIL ELEMENT FOR INSTALLATIONS ON EXPRESSWAYS AND RAMPS.
5. TRAILING END ATTACHMENT MAY ALSO BE INSTALLED AT A VERTICAL FACE PARAPET OR RETAINING WALL ON ONE-WAY ROADWAYS ONLY.
6. MINIMUM RAIL HEIGHT FOR NEW CONSTRUCTION SHALL BE 29" (737) ± 1" (25).



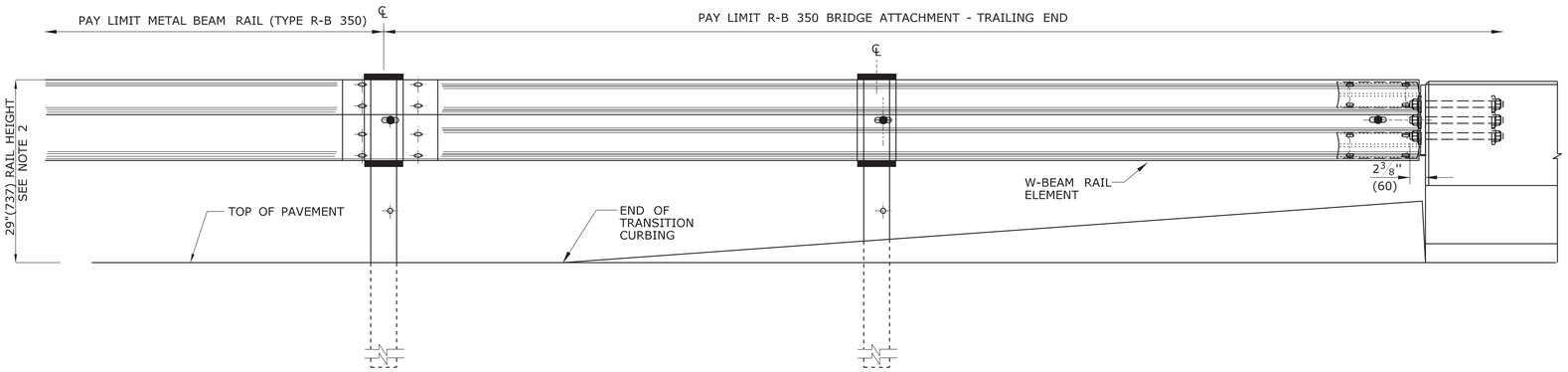
PLAN



PLAN

CONNECTION PLATE DETAIL

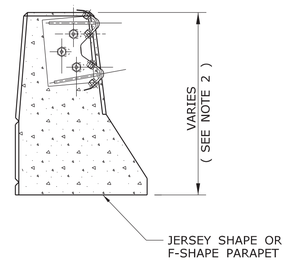
(2 REQUIRED)



ELEVATION

ATTACHMENT AT TRAILING END OF BRIDGE PARAPET

(ONE-WAY ROADWAY ONLY)



BASE PLATE AND ASSEMBLY ATTACHMENT TO TRAILING END OF CONCRETE BARRIER OR BRIDGE PARAPET (SEE NOTE 5)

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

REV.	DATE	REVISION DESCRIPTION
1	6/11	REVISED NOTE 3 FOR USE OF CHEMICAL ANCHORS
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 5/10/2011

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD_JUNE2011.dgn Model: 43 - HW-910_08

SUBMITTED BY: NAME/DATE/TIME:

Digitally signed by Leo Fontaine
DN: c=US, o=Connecticut, l=Newington, ou=Department of Transportation, email=Leo.Fontaine@ct.gov, o=State of Connecticut, cn=Leo Fontaine
Date: 2011.05.19 11:56:30 -04'00'

APPROVED BY: NAME/DATE/TIME:

James H. Norman
2011.06.09 15:15:09 -04'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

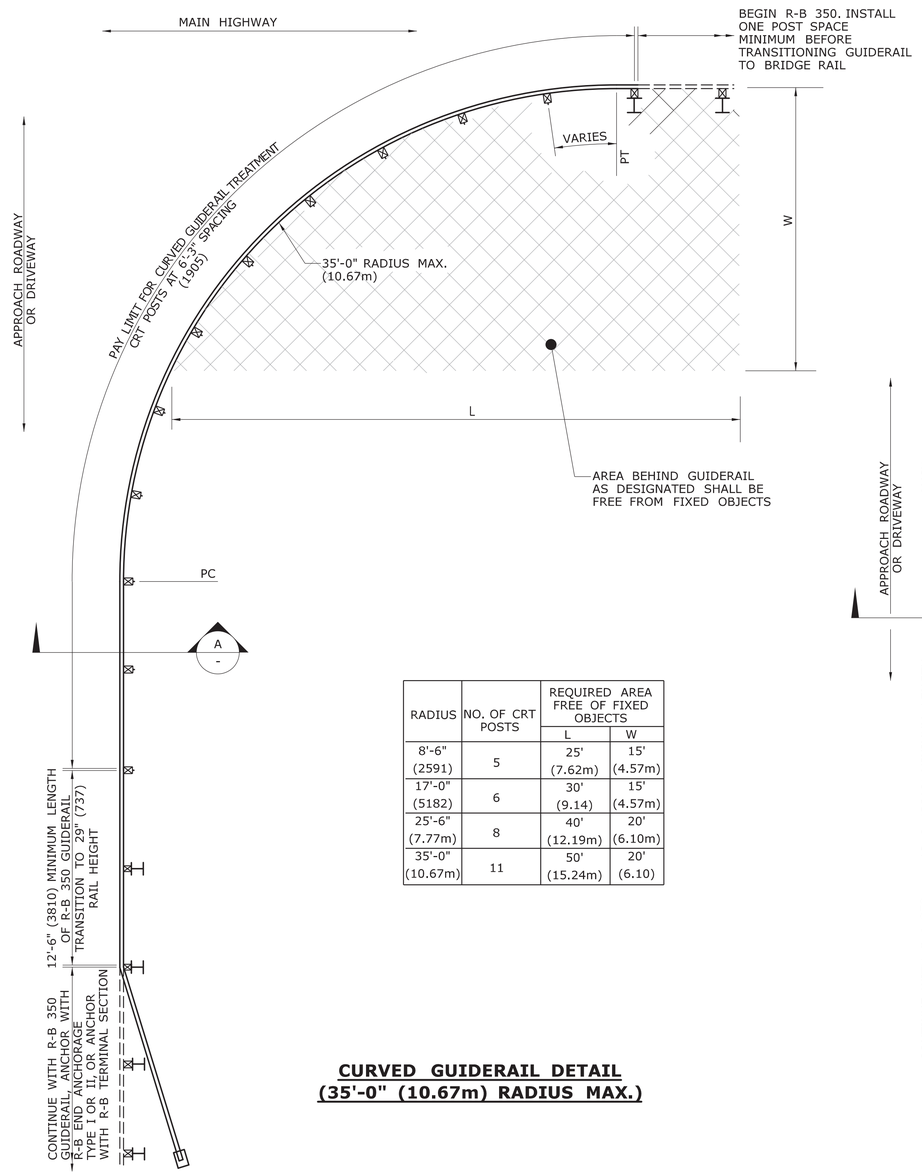
R-B 350 BRIDGE ATTACHMENT TRAILING END

STANDARD SHEET NO.:

HW-910_08

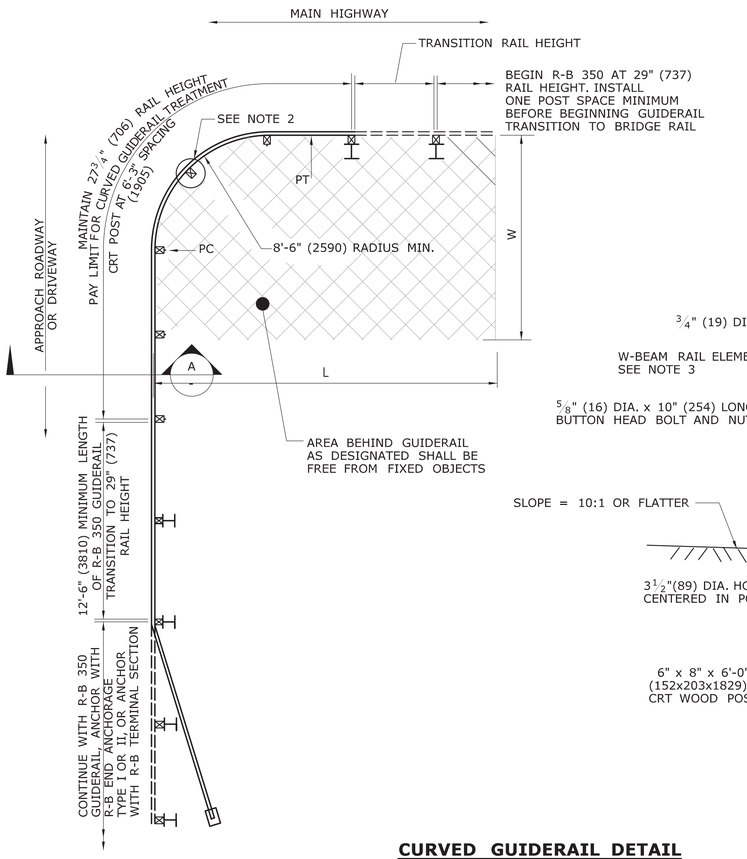
GENERAL NOTES:

1. NO WASHERS ARE USED ON THE $^{5}/_{8}$" (16) DIA. BUTTON HEAD BOLTS CONNECTING THE RAIL TO THE CONTROLLED RELEASING TERMINAL (CRT) POSTS.
2. THE RAIL IS NOT BOLTED TO THE CRT POST AT THE CENTER OF THE NOSE AS SHOWN FOR THE 8'-6" (2590) RADIUS CURVED GUIDERAIL TREATMENT ONLY.
3. THE CURVED GUIDERAIL SECTION SHALL BE SHOP BENT.
4. THE SLOPE FROM THE EDGE OF THE SHOULDER TO THE FACE OF THE RAIL SHALL BE 10:1 OR FLATTER. NO CURBING SHALL BE INSTALLED WITHIN THE PAY LIMIT OF THE CURVED GUIDERAIL TREATMENT.
5. THIS SYSTEM SHALL BE USED ONLY ON ROADS WITH DESIGN SPEEDS ≤ 50 mph (80 kph).
6. MAINTAIN MINIMUM 27$^{3}/_{4}$" (706) RAIL HEIGHT THROUGH RADIUS.

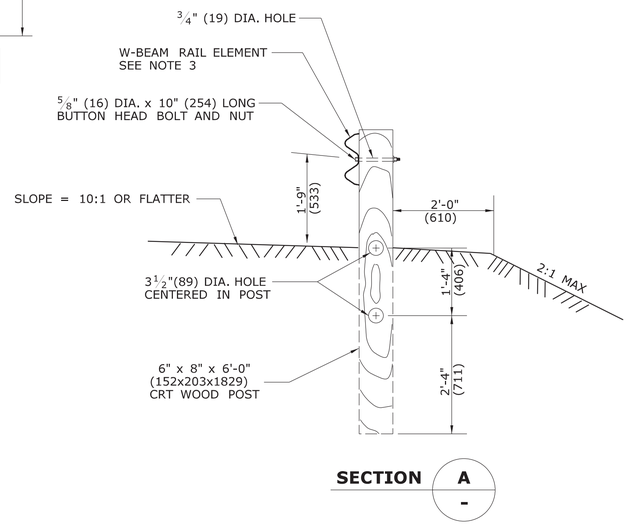


RADIUS	NO. OF CRT POSTS	REQUIRED AREA FREE OF FIXED OBJECTS	
		L	W
8'-6" (2591)	5	25' (7.62m)	15' (4.57m)
17'-0" (5182)	6	30' (9.14)	15' (4.57m)
25'-6" (7.77m)	8	40' (12.19m)	20' (6.10m)
35'-0" (10.67m)	11	50' (15.24m)	20' (6.10)

CURVED GUIDERAIL DETAIL (35'-0" (10.67m) RADIUS MAX.)



CURVED GUIDERAIL DETAIL (8'-6"(2590) RADIUS MIN.)



ALL METRIC DEMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

REV.	DATE	REVISION DESCRIPTION
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Plotted Date: 9/6/2011

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD_JUNE2011.dgn Model: 46 - HW-910_11

SUBMITTED BY: NAME/DATE/TIME:

Digitally signed by Lou L. Fontaine
DN: cn=Lou Fontaine, o=Transportation Principal Engineer Soils and Foundations, ou=Bureau of Engineering and Highway Operations, Department of Transportation, email=Lou.Fontaine@ct.gov, c=State of Connecticut, st=Lou L. Fontaine
Date: 2012.07.25 10:22:00 -04'00'

APPROVED BY: NAME/DATE/TIME:

James H. Norman
2012.07.25 12:47:32 -04'00'

CTDOT STANDARD SHEET

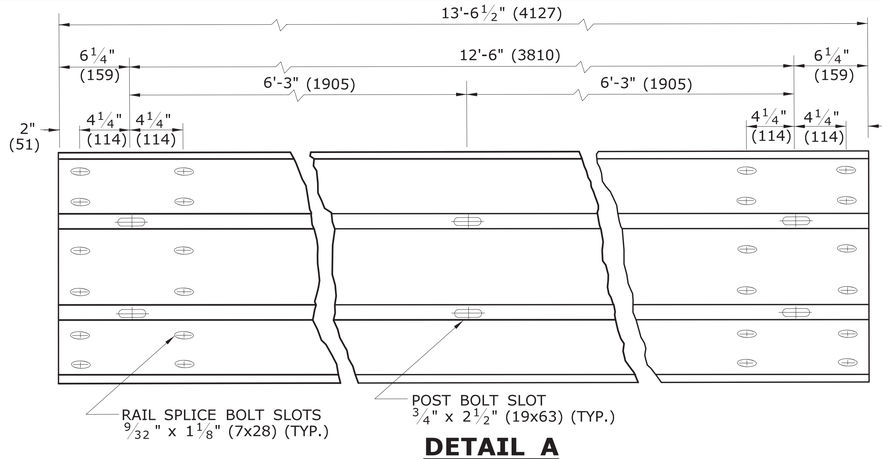
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

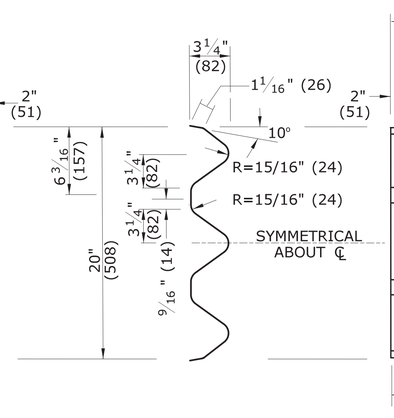
CURVED GUIDERAIL TREATMENT DETAIL

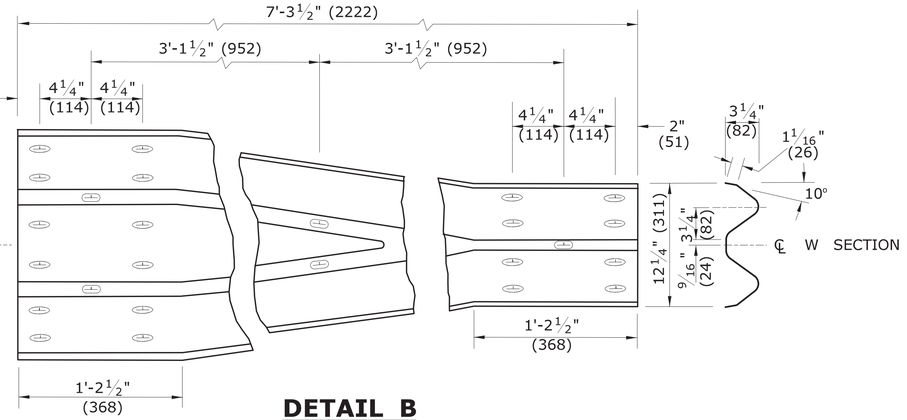
STANDARD SHEET NO.:

HW-910_11

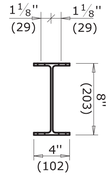


DETAIL A
THRIE-BEAM RAIL ELEMENT
(10 GAUGE)

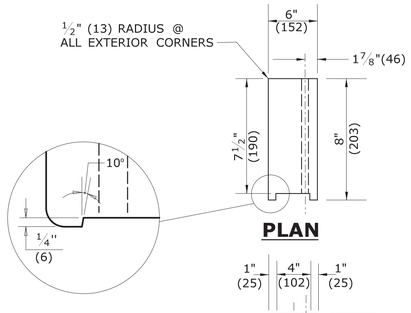




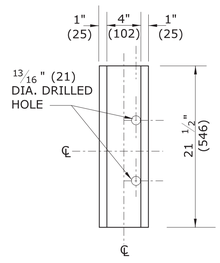
DETAIL B
THRIE-BEAM RAIL ELEMENT
(10 GAUGE)



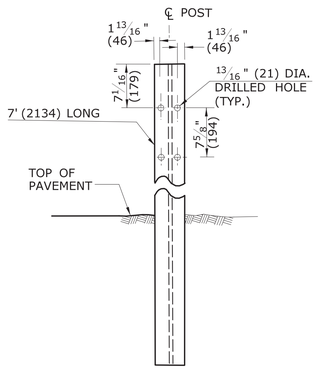
PLAN



PLAN



ELEVATION
DETAIL C
THRIE-BEAM POLYETHYENE BLOCKOUT

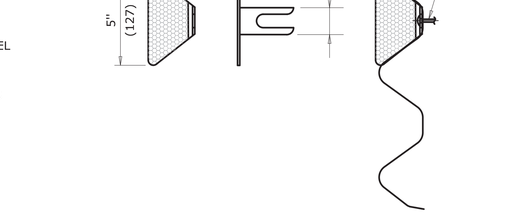


ELEVATION
DETAIL D
THRIE-BEAM POST DETAIL W8x13 (W200x19) BOLT HOLE LOCATION

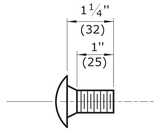
DELINEATOR NOTES:

1. DELINEATORS SHALL BE FORMED OF .080 POLY-CARBONATE OR .080 SHEET ALUMINUM IN ACCORDANCE WITH M.18.13.
2. REFLECTIVE SHEETING SHALL CONFORM TO M.18.09.2.
3. DELINEATORS SHALL BE INSTALLED ON THE POST CLOSEST TO THE DESIGNATED SPACING.
4. REFLECTIVE SHEETING SHALL BE WHITE EXCEPT ON THE LEFT SIDE OF DIVIDED STREETS, HIGHWAYS, RAMPS, AND ONE WAY ROADS IN THE DIRECTION OF TRAVEL WHERE IT SHALL BE YELLOW.
5. INSTALL DELINEATORS ON RAIL THAT IS PARALLEL TO AND NOT GREATER THAN 6'(1829) FROM THE EDGE OF THE ROADWAY. A MINIMUM OF THREE DELINEATORS MUST BE INSTALLED ON ANY RUN OF RAIL.

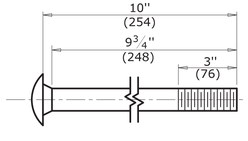
DELINEATOR SPACING:
RADIUS ≥ 300'(91440) - SPACE EVERY 50'(15.24m)
RADIUS < 300'(91440) - SPACE EVERY 25'(7.62m)



DELINEATOR DETAIL

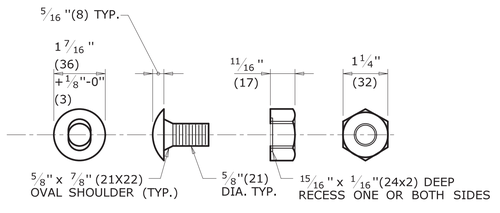


SPLICE BOLT DETAIL



POST BOLT DETAIL

(UNTHREADED PORTION NOT TO EXCEED 6¾"(171))



BUTTONHEAD BOLT

HEX NUT

NOTE: AFTER GALVANIZING, THE NUT SHALL BE FREE RUNNING ON THE BOLT. DIAMETER SHOWN IS TYPICAL FOR ALL GUIDERAIL BOLTS. SEE DETAILS ABOVE FOR SPECIFIC LENGTHS.

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

REV.	DATE	REVISION DESCRIPTION	
1	6/11	CREATED THRIE BEAM HARDWARE SHEET	-
2	7/13	DIMENSION REVISED	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 3/21/2013

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: June2013.dgn Model: HW-910_13a

SUBMITTED BY: NAME/DATE/TIME:
Digitally signed by Leo L. Fontaine
Date: 2013.07.24 10:58:35-04'00'

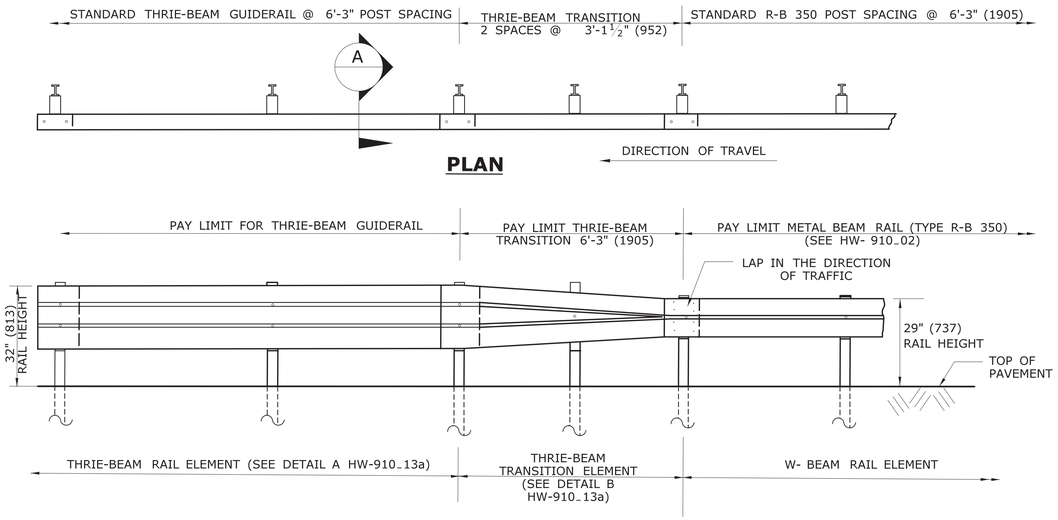
APPROVED BY: NAME/DATE/TIME:
James H. Norman
2013.07.24 14:51:57-04'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
THRIE BEAM METAL BEAM RAIL HARDWARE

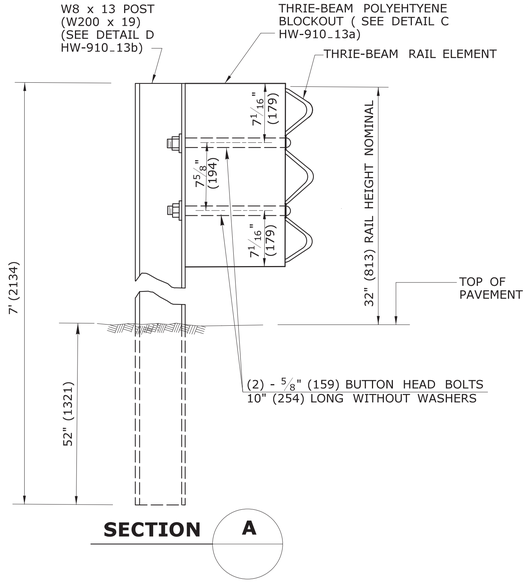
STANDARD SHEET NO.:
HW-910_13a



PLAN

ELEVATION

THRIE-BEAM GUIDERAIL TRANSITION TO W-BEAM GUIDERAIL

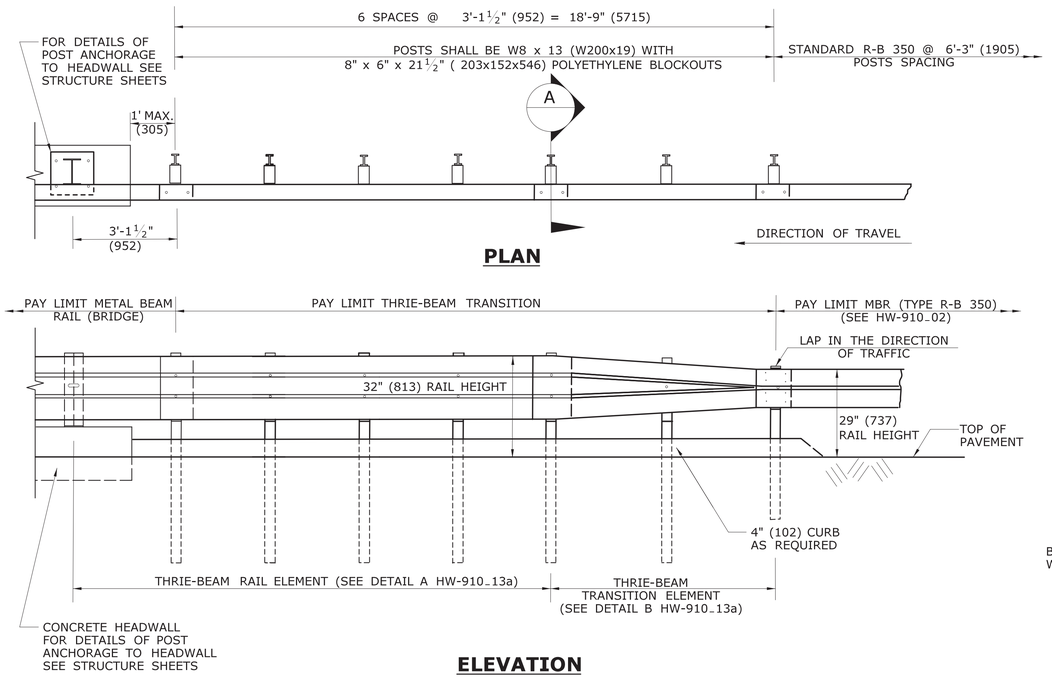


SECTION A

W8x13 (W200x19) THRIE-BEAM POST CONNECTION DETAIL

GENERAL NOTES:

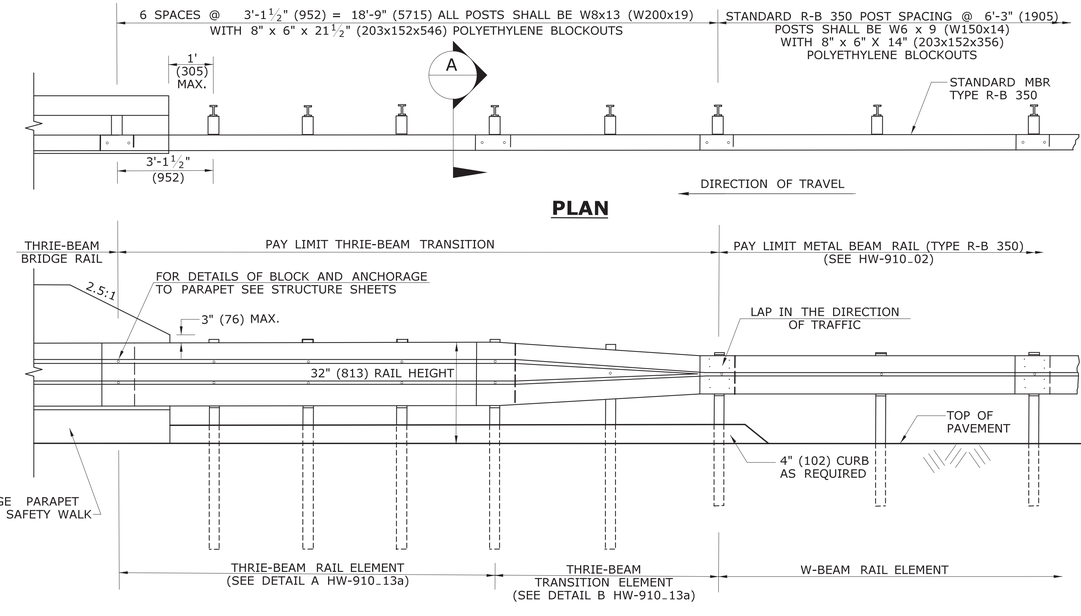
1. THRIE-BEAM RAIL ELEMENTS AND THRIE-BEAM TRANSITION ELEMENTS SHALL BE 10 GAUGE.
2. MATERIAL FOR "M.B.R. TYPE R-B 350" SHALL CONFORM TO THE SPECIFICATIONS FOR "M.B.R. TYPE R-B 350" AND AS NOTED ON THE PLANS.
3. MATERIAL FOR "THRIE-BEAM TRANSITION" SHALL CONFORM TO THE SPECIFICATIONS FOR "THRIE-BEAM TRANSITION" AND AS NOTED ON THE PLANS.
4. MINIMUM RAIL HEIGHT OF R-B 350 GUIDERAIL FOR NEW CONSTRUCTION SHALL BE 29" (237) + 1" (25).
5. SEE HW-910_01 FOR W-BEAM METAL BEAM HARDWARE.



PLAN

ELEVATION

R-B 350 TRANSITION TO THRIE-BEAM PEDESTAL POST MOUNTED TO HEADWALL



ELEVATION

THRIE-BEAM TRANSITION TO BRIDGE PARAPET WITH SAFETY WALK

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

REV.	DATE	REVISION DESCRIPTION	
1	6/11	CREATED TRANSITION SHEET	-
2	7/13	DIMENSION REVISED	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 3/21/2013

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: June2013.dgn Model: HW-910_13b

SUBMITTED BY: NAME/DATE/TIME:
Digitally signed by Leo L. Fontaine Date: 2013.07.24 10:58:21-04'00'

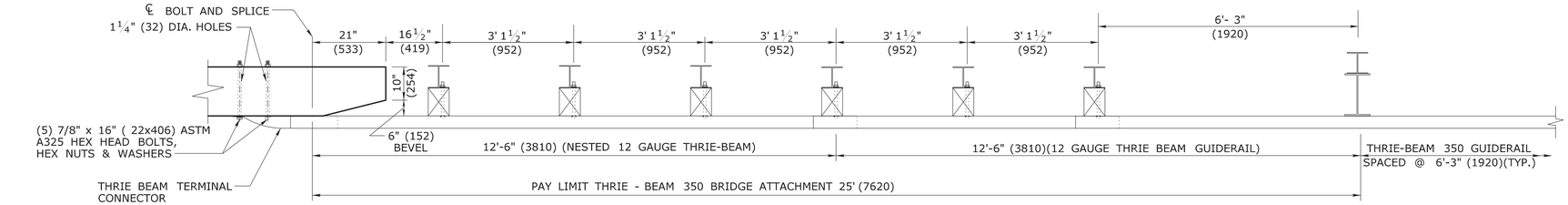
APPROVED BY: NAME/DATE/TIME:
James H. Norman 2013.07.24 14:52:36-04'00'

CTDOT STANDARD SHEET

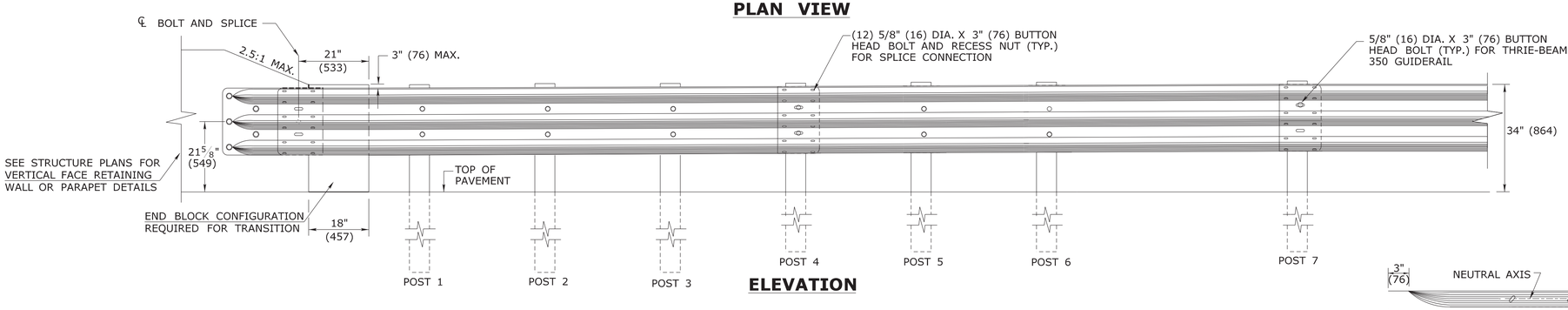
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
THRIE-BEAM TRANSITIONS

STANDARD SHEET NO.:
HW-910_13b



PLAN VIEW



ELEVATION

GENERAL NOTES:

FOR SINGLE DIRECTION ROADWAY:

- INSTALL THRIE - BEAM TERMINAL CONNECTOR BETWEEN NESTED GUIDERAIL ELEMENTS.

FOR DUAL DIRECTION ROADWAY:

FOR APPROACHING TRAFFIC

- INSTALL THRIE-BEAM TERMINAL CONNECTOR BETWEEN NESTED GUIDERAIL ELEMENTS.

FOR TRAILING END:

- INSTALL THRIE-BEAM TERMINAL CONNECTOR OUTSIDE OF THE NESTED GUIDERAIL ELEMENTS.

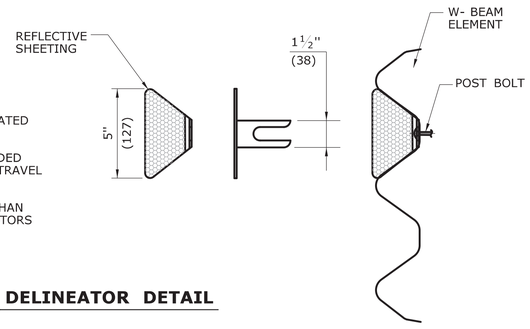
LEGEND

1. W6 x 25 x 8.5' OR W8 x 21 x 8.5' POST (W150x37x259) OR (W200x31x259) POST
2. W6 x 20 x 7' OR W8 x 18 x 7' POST (W150x30x2134) OR (W200x27x2134)
3. 6" x 8" x 18" TREATED TIMBER OFFSET BLOCK (152x203x457) (OR APPROVED EQUAL)
4. W14x 22 STEEL OFFSET BLOCK (W360x33)
5. W6 x 9 x 7' POST (W152x230x2134)

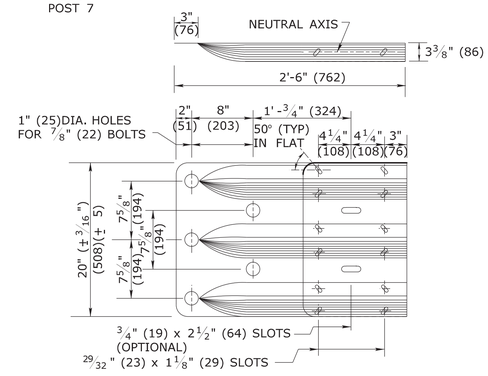
DELINEATOR NOTES:

1. DELINEATORS SHALL BE FORMED OF .080 POLY-CARBONATE OR .080 SHEET ALUMINUM IN ACCORDANCE WITH M.18.13.
2. REFLECTIVE SHEETING SHALL CONFORM TO M.18.09.2.
3. DELINEATORS SHALL BE INSTALLED ON THE POST CLOSEST TO THE DESIGNATED SPACING.
4. REFLECTIVE SHEETING SHALL BE WHITE EXCEPT ON THE LEFT SIDE OF DIVIDED STREETS, HIGHWAYS, RAMPS, AND ONE WAY ROADS IN THE DIRECTION OF TRAVEL WHERE IT SHALL BE YELLOW.
5. INSTALL DELINEATORS ON RAIL THAT IS PARALLEL TO AND NOT GREATER THAN 6'(1829) FROM THE EDGE OF THE ROADWAY. A MINIMUM OF THREE DELINEATORS MUST BE INSTALLED ON ANY RUN OF RAIL.

DELINEATOR SPACING:
RADIUS ≥ 300'(91440) - SPACE EVERY 50'(15.24m)
RADIUS < 300'(91440) - SPACE EVERY 25'(7.62m)

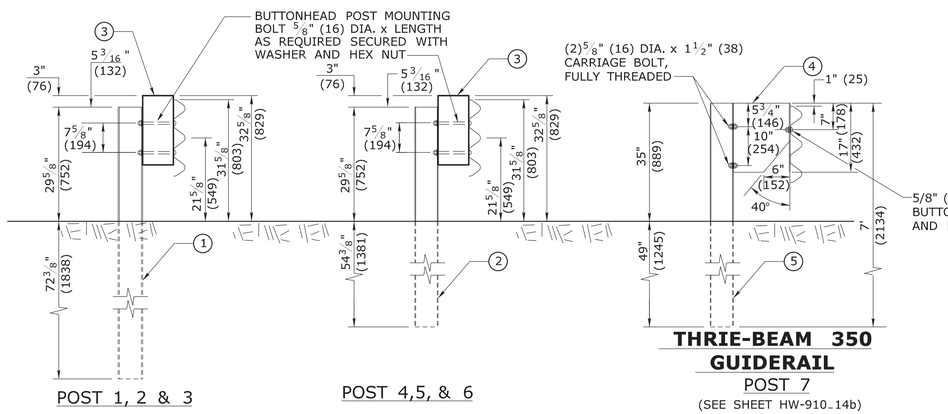


DELINEATOR DETAIL



THRIE-BEAM TERMINAL CONNECTOR

(10 GAUGE)



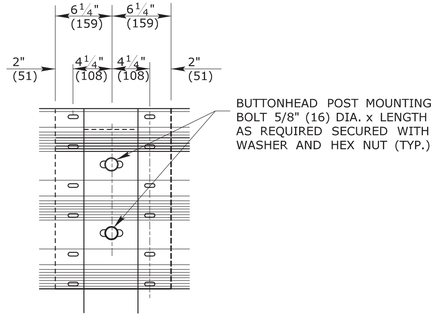
POST 1, 2 & 3

POST 4,5, & 6

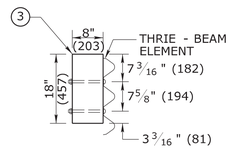
THRIE-BEAM 350 GUIDERAIL

POST 7

(SEE SHEET HW-910_14b)



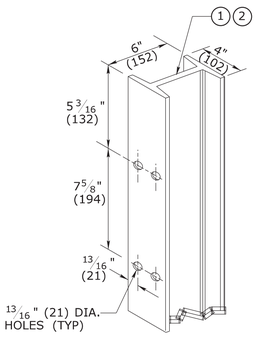
SPLICE DIAGRAM @ POST 4



TREATED TIMBER BLOCK OUT DETAIL

POSTS 1 THRU 6

(OR APPROVED EQUAL)



BOLT HOLE LOCATION FOR STEEL POST

POSTS 1 THRU 6

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

REV.	DATE	REVISION DESCRIPTION
1	6/11	REVISE AND ADD DIMENSIONS TO TERMINAL CONNECTOR
-	-	AND REVISE BLOCKOUT DESIGNATION -
-	-	- -
-	-	- -
-	-	- -
-	-	- -

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Plotted Date: 6/1/2011

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD_JUNE2011.dgn Model: 54 - HW-910_14a

SUBMITTED BY: NAME/DATE/TIME:

Digitally signed by Leo Fontaine
DN: c=US, o=Connecticut, l=Newington, ou=Department of Transportation, email=Leo.Fontaine@ct.gov, cn=State of Connecticut, cn=Leo Fontaine
Date: 2011.06.09 15:36:36 -04'00'

APPROVED BY: NAME/DATE/TIME:

James H. Norman
2011.06.09 15:32:46 -04'00'

CTDOT STANDARD SHEET

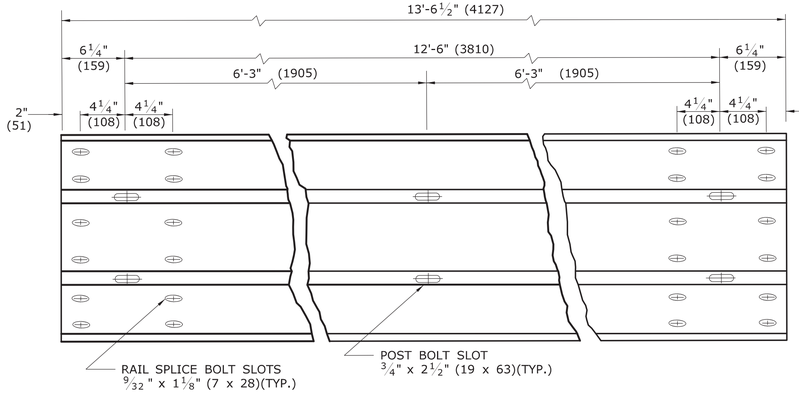
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

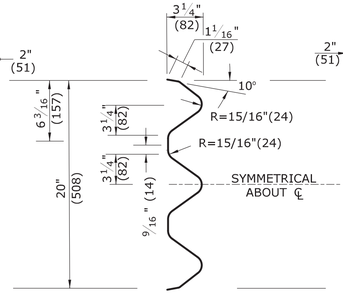
THRIE-BEAM 350 BRIDGE ATTACHMENT

STANDARD SHEET NO.:

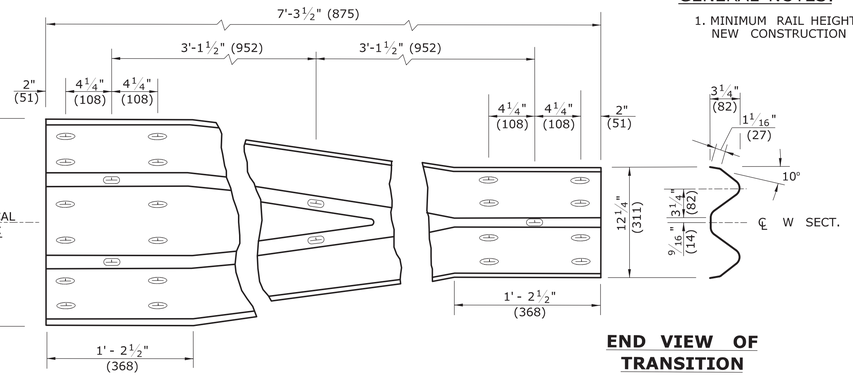
HW-910_14a



TYPICAL THRIE-BEAM RAIL ELEMENT (12 GAUGE)



END VIEW OF TRANSITION

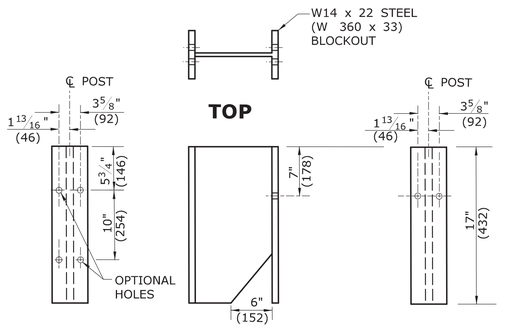


TYPICAL THRIE-BEAM TRANSITION ELEMENT (12 GAUGE)

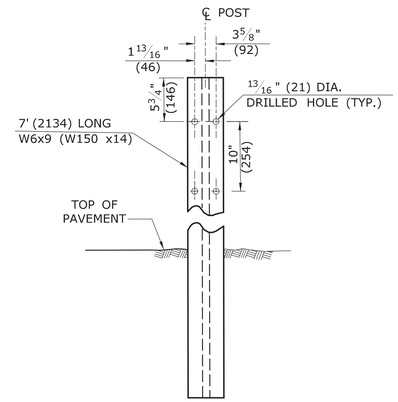
END VIEW OF TRANSITION

GENERAL NOTES:

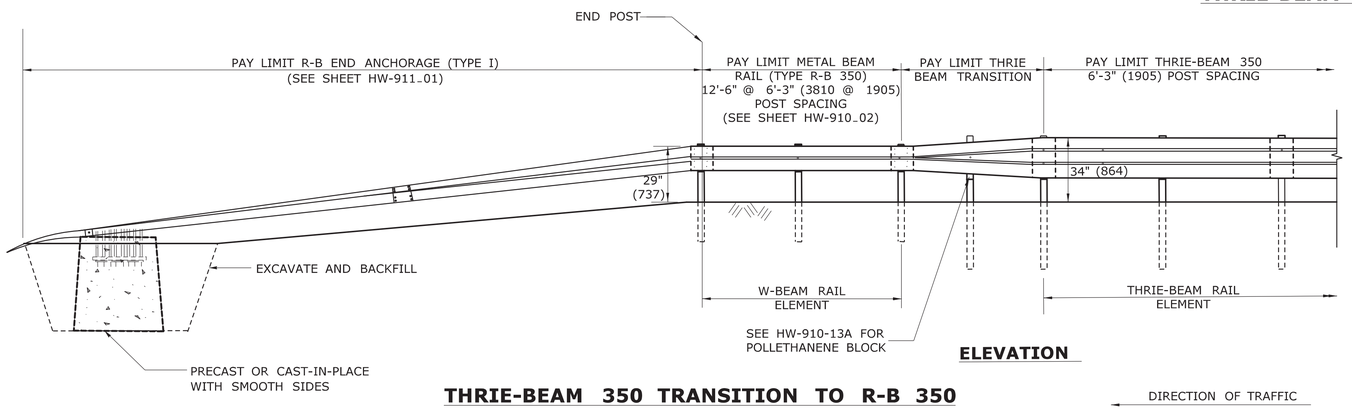
1. MINIMUM RAIL HEIGHT OF R-B 350 GUIDERAIL FOR NEW CONSTRUCTION SHALL BE 29" (237) ± 1" (25).



THRIE-BEAM 350 BLOCKOUT DETAIL



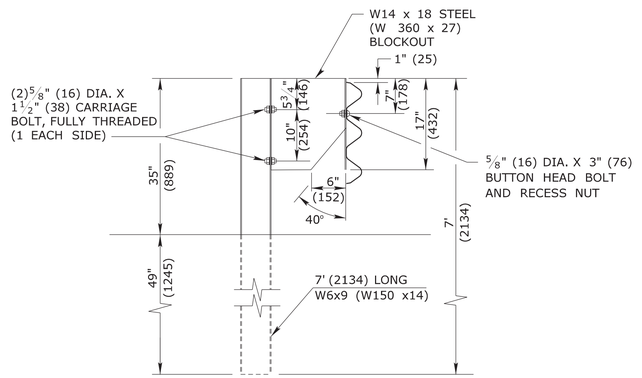
THRIE-BEAM 350 W6x9 (W150x14) FRONT POST ELEVATION



THRIE-BEAM 350 TRANSITION TO R-B 350 AND R-B END ANCHORAGE TYPE I

ELEVATION

DIRECTION OF TRAFFIC



THRIE-BEAM 350 GUIDERAIL

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

REV.	DATE	REVISION DESCRIPTION
1	6/11	REVISE BLOCKOUT DESIGNATION
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

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Plotted Date: 6/1/2011

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD_JUNE2011.dgn Model: 55- HW-910_14b

SUBMITTED BY: NAME/DATE/TIME:
Digitally signed by Leo Fontaine
DN: c=US, o=Connecticut, l=Newington, ou=Department of Transportation, email=Leo.Fontaine@ct.gov, o=State of Connecticut, cn=Leo Fontaine
Date: 2011.06.09 10:37:02 -04'00'

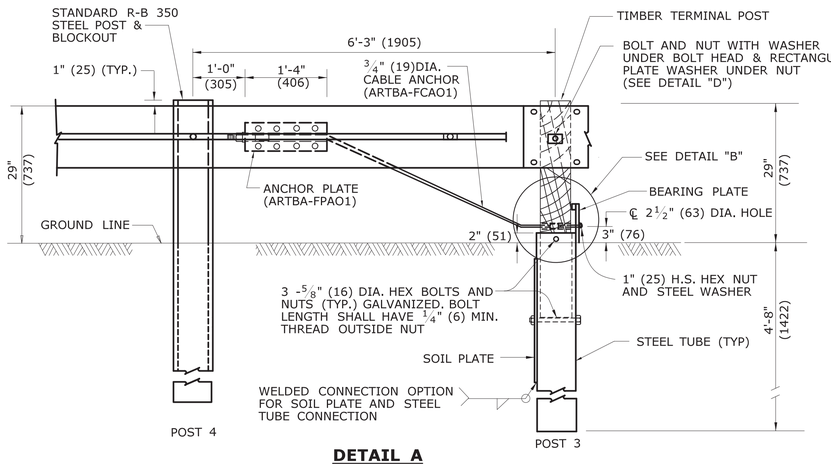
APPROVED BY: NAME/DATE/TIME:
James H. Norman
2011.06.09 15:33:08 -04'00'

CTDOT
STANDARD SHEET

OFFICE OF ENGINEERING

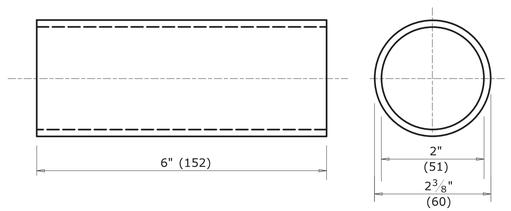
STANDARD SHEET TITLE:
THRIE-BEAM 350 GUIDERAIL TRANSITION TO R-B 350 GUIDERAIL

STANDARD SHEET NO.:
HW-910_14b



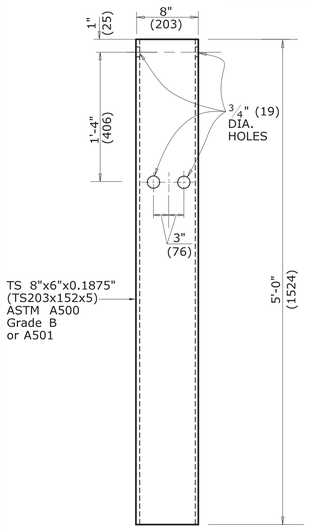
DETAIL A

CABLE ANCHORAGE ASSEMBLY

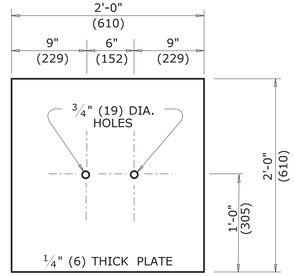


BREAKAWAY TERMINAL POST SLEEVE

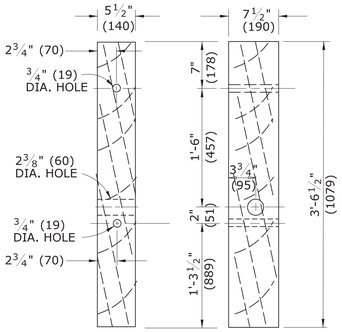
(ARTBA-FMMO2)



STEEL TUBE



SOIL PLATE (2 Req'd)

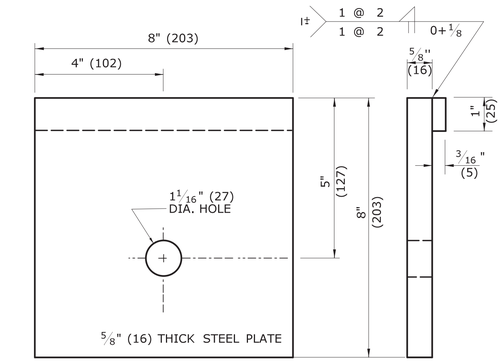


DETAIL C

TIMBER TERMINAL POST

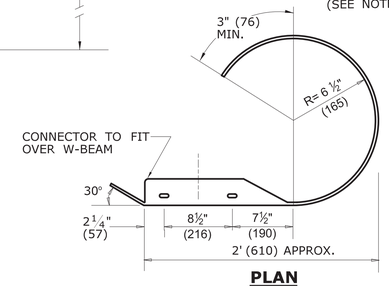
(ARTBA-PDFO1)

(SEE NOTE 2)

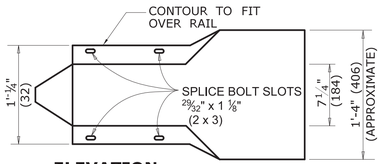


BEARING PLATE

(ARTBA-FPBO1)

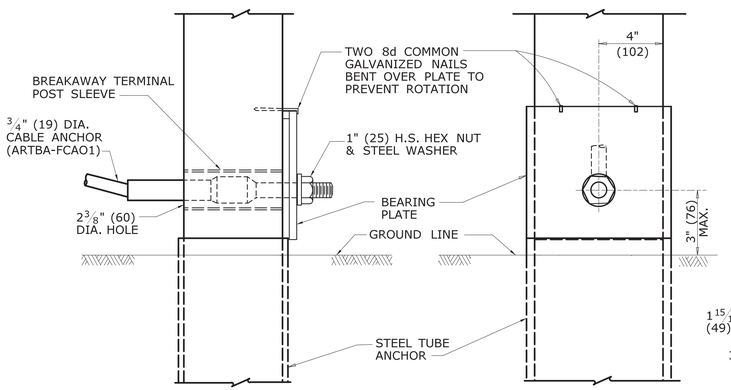


PLAN

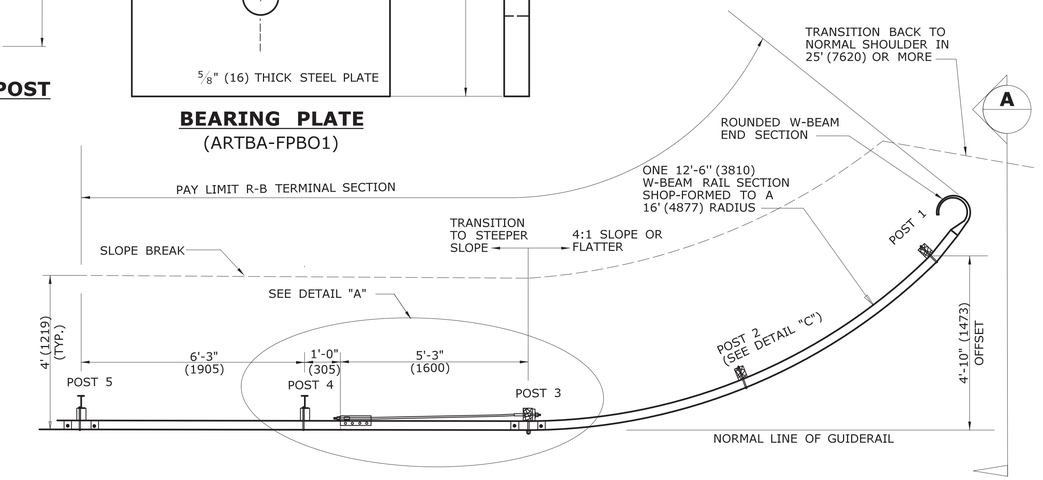


ELEVATION

ROUNDED W-BEAM END SECTION

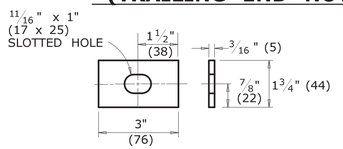


DETAIL B



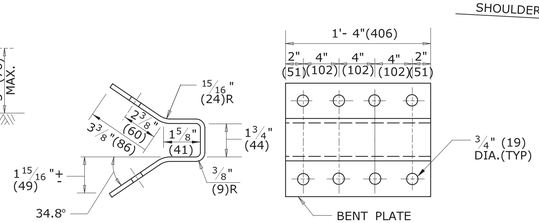
APPROACH END

(TRAILING END NOT SHOWN)



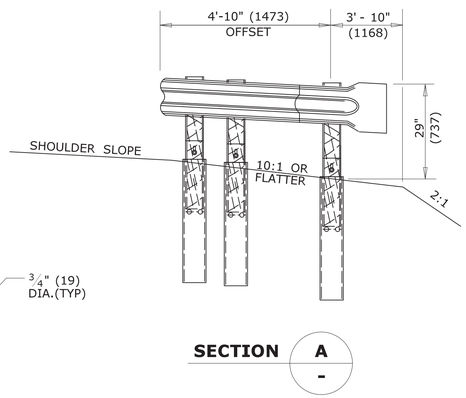
DETAIL D

RECTANGULAR PLATE WASHER



ANCHOR PLATE

(ARTBA-FPAO1)



SECTION A

-

GENERAL NOTES:

1. APPROACH END R-B TERMINAL SECTION SHALL ONLY BE USED ON LOW SPEED (<45 MPH) ROADWAYS.
2. POSTS 1, 2 AND 3 ARE TIMBER TERMINAL POSTS (DETAIL "C") WITH STEEL TUBES. POSTS 4 AND 5 ARE STANDARD R-B 350 STEEL POSTS WITH BLOCKOUTS.
3. REFER TO CTDOT STANDARD SPECIFICATIONS FOR MATERIAL AND GENERAL CONSTRUCTION METHODS.
4. MINIMUM RAIL HEIGHT FOR NEW CONSTRUCTION SHALL BE 29" (737) + 1" (25).

-

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

REV.	DATE	REVISION DESCRIPTION
1	6/11	REVISE NOTE 1 -
2	7/13	SHOW SPLICE ON APPROACH END -
-	-	- -
-	-	- -
-	-	- -
-	-	- -

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Plotted Date: 6/13/2013

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD2013.dgn Model: 65 - HW-910_17

SUBMITTED BY: NAME/DATE/TIME:
Digitally signed by Leo L. Fontaine Date: 2013.07.24 10:58:08-04'00'

APPROVED BY: NAME/DATE/TIME:
James H. Norman 2013.07.24 14:53:17-04'00'

CTDOT STANDARD SHEET

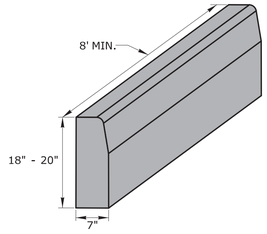
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

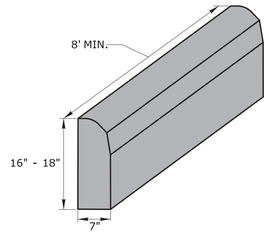
R-B TERMINAL SECTION

STANDARD SHEET NO.:

HW-910_17



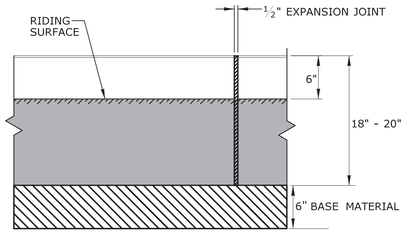
CONCRETE CURBING (6" REVEAL)



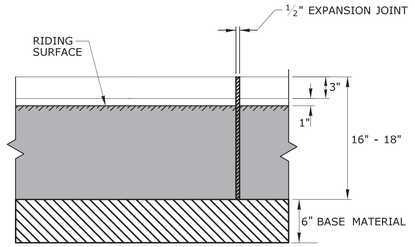
CONCRETE PARK CURBING (4" REVEAL)

GENERAL NOTE:

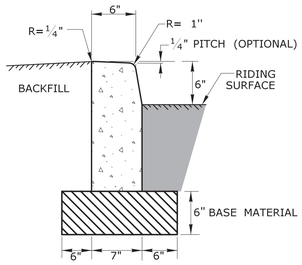
1. PRECAST CONCRETE CURBING MAY BE CAST BY THE MANUFACTURER WITH OPTIONAL LIFTING AND DOWEL BAR HOLES.



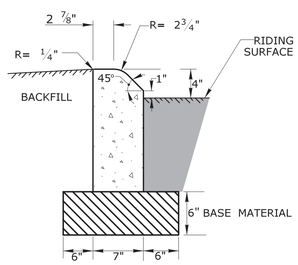
FRONT ELEVATION



FRONT ELEVATION



SECTION



SECTION

REV.	DATE	REVISION DESCRIPTION
1	6/01/10	REVISED TITLE FOR 6" CONC. CURB
2	6/17	REMOVED STONE, BITUMINOUS & GRANITE ITEMS

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 6/6/2017

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: HW-811_01.dgn Model: CT_Civil_2D_Sheet

SUBMITTED BY: NAME/DATE/TIME:
Leo Fontaine, P.E.
2017.06.07 07:33:29-04'00'

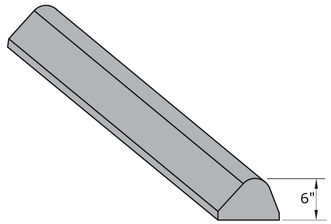
APPROVED BY: NAME/DATE/TIME:
Gregory M. Dorosh, P.E.
2017.06.07 10:41:26-04'00'

CTDOT STANDARD SHEET

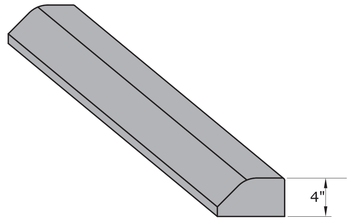
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
CONCRETE CURBING

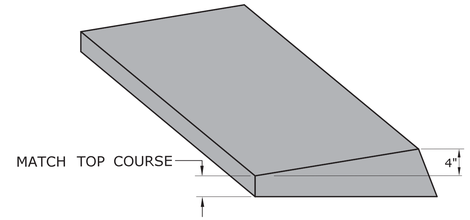
STANDARD SHEET NO.:
HW-811_01



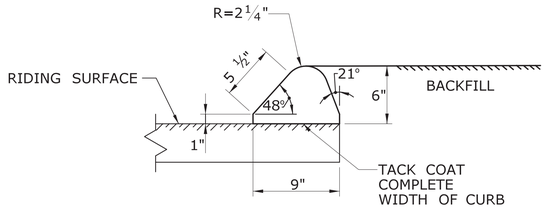
BITUMINOUS CONCRETE LIP CURBING
(6" HIGH)



BITUMINOUS CONCRETE PARK CURBING
(4" HIGH)



BITUMINOUS CONCRETE BERM CURBING
(4" HIGH)



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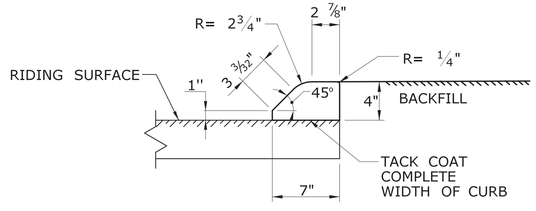

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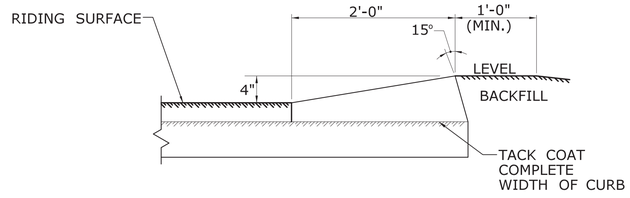


SECTION

REV.	DATE	REVISION DESCRIPTION
1	6/17	NEW SHEET

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 6/6/2017

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: HW-815_01.dgn Model: CT_Civil_2D_Sheet

SUBMITTED BY: NAME/DATE/TIME:
Leo Fontaine, P.E.
2017.06.07 07:33:51-04'00'

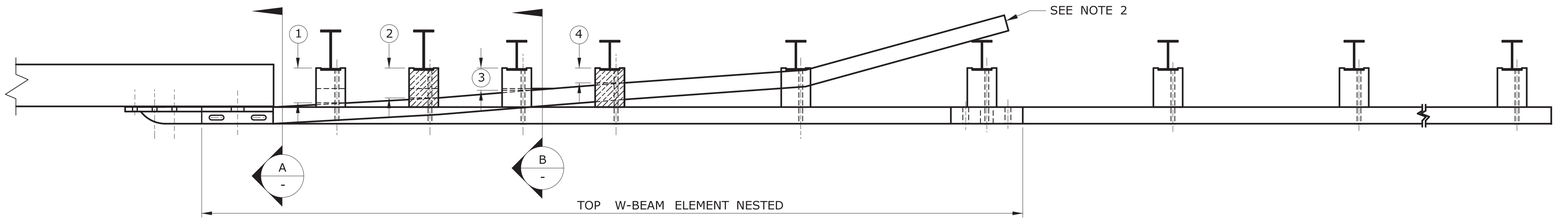
APPROVED BY: NAME/DATE/TIME:
Gregory M. Dorosh, P.E.
2017.06.07 10:44:27-04'00'

CTDOT STANDARD SHEET

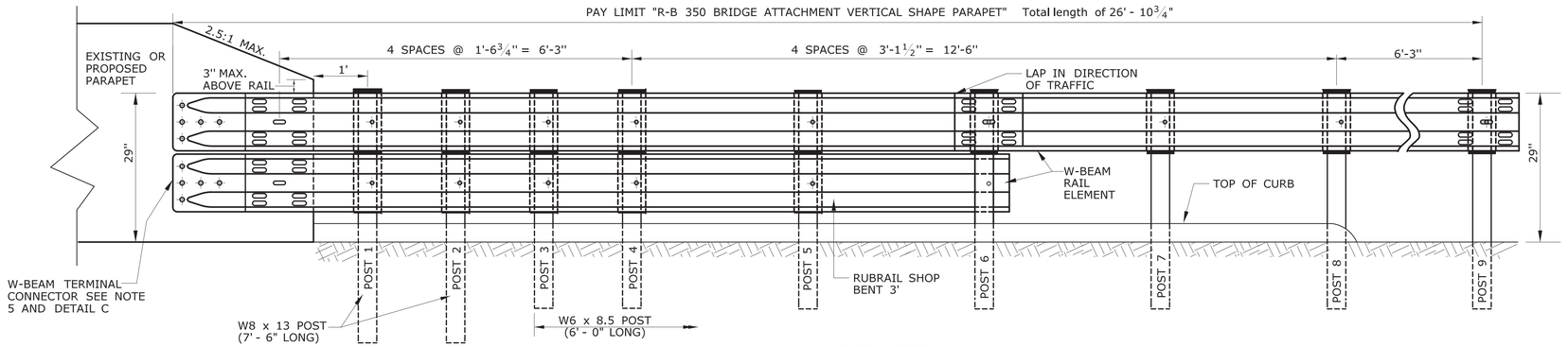
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
BITUMINOUS CONCRETE CURBING

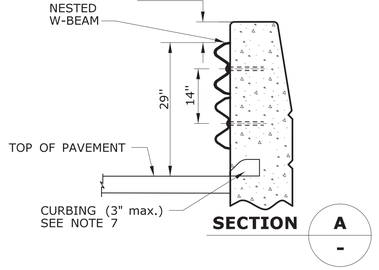
STANDARD SHEET NO.:
HW-815_01



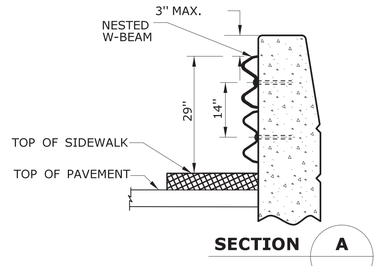
PLAN



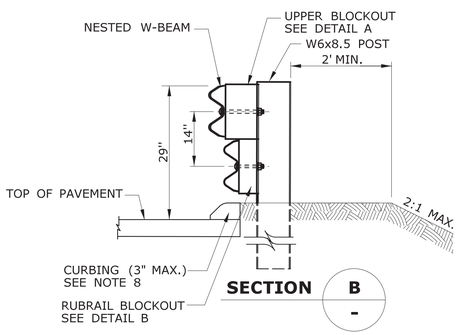
ELEVATION



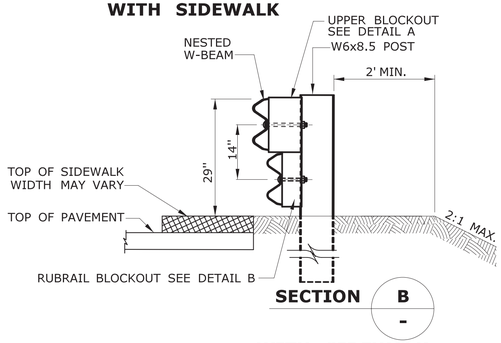
WITH CURBING



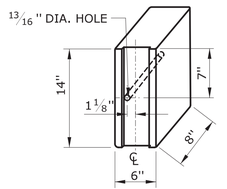
WITH SIDEWALK



WITH CURBING

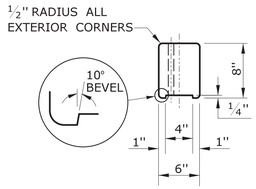


WITH SIDEWALK

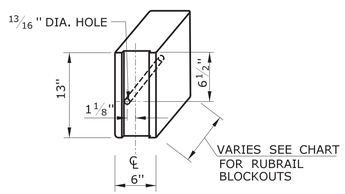


DETAIL A

UPPER BLOCKOUT



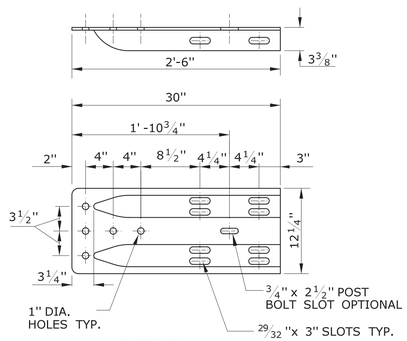
TOP



DETAIL B

RUBRAIL BLOCKOUT

RUBRAIL BLOCKOUTS 13" HIGH x 6" WIDE		
POST	THICKNESS	BOLT LENGTH
1	7"	9"
2	6"	8"
3	4½"	6"
4	3"	5"



DETAIL C

W-BEAM TERMINAL CONNECTOR

CLASS B TYPE II

SEE NOTE 5

GENERAL NOTES:

1. RUBRAIL BLOCKOUTS FOR POSTS 1 THROUGH 4 ARE ATTACHED TO POST AND RAIL WITH A 5/8" BUTTONHEAD BOLTS (SEE CHART FOR BOLT LENGTH). RUBRAIL ONLY IS ATTACHED TO POST 5 WITH A 5/8" x 1 1/4" BUTTONHEAD BOLT.
2. THE RUBRAIL SHALL BE SHOP BENT IN THE LAST 3' TO FACILITATE INSTALLATION. DO NOT ATTACH RUBRAIL TO BACK OF POST 6.
3. ANCHORAGE:
   (A) AT EXISTING PARAPETS EACH W-BEAM TERMINAL CONNECTOR SHALL BE ANCHORED USING FOUR 7/8" x 12" CHEMICALLY ANCHORED BOLTS WITH WASHERS OR AS DETAILED ON STRUCTURE SHEETS. MAXIMUM BOLT PROJECTION BEYOND THE NUT SHALL BE 1/2". THE 12" MINIMUM LENGTH OF CHEMICALLY ANCHORED BOLTS SHALL INCLUDE A MINIMUM EMBEDMENT DEPTH OF 10" INTO SUITABLY REINFORCED CONCRETE OR AS RECOMMENDED BY THE MANUFACTURER OF BONDING MATERIAL.
   (B) FOR NEW PARAPETS OR BARRIERS, THE W-BEAM TERMINAL CONNECTORS SHALL BE ANCHORED AS DETAILED ON THE STRUCTURE SHEETS.
4. ADDITIONAL BLOCKOUTS WITH POSTS 1 THROUGH 6 SHOULD BE AVOIDED.
5. FOR SINGLE DIRECTION ROADWAY:
   INSTALL W-BEAM TERMINAL CONNECTOR BETWEEN NESTED GUIDE RAIL ELEMENTS.
   FOR DUAL DIRECTION ROADWAY FOR APPROACHING TRAFFIC:
   INSTALL W-BEAM TERMINAL CONNECTOR BETWEEN NESTED GUIDE RAIL ELEMENTS.
   FOR TRAILING END:
   INSTALL W-BEAM TERMINAL CONNECTOR OUTSIDE OF THE NESTED GUIDE RAIL ELEMENTS.
6. MINIMUM RAIL HEIGHT FOR NEW CONSTRUCTION SHALL BE 29" +/- 1".
7. USE MODIFIED 4" BITUMINOUS CONCRETE PARK CURBING REDUCED TO A 3 INCH REVEAL BENEATH THE RUBRAIL IF CURBING IS REQUIRED.

REV.	DATE	REVISION DESCRIPTION
1	6/11	REVISED NOTE 9 FOR USE OF CHEMICAL ANCHORS
2	1/19	ADDED POST 9 TO PLAN & ELEVATION VIEW, REMOVED DETAIL D, AND REVISED RAIL HEIGHT REFERENCE AND GENERAL NOTES
-	-	-
-	-	-
-	-	-
-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 1/23/2019

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD_[_1-23-19_].dgn Model: 193 - HW-910_07

SUBMITTED BY: NAME/DATE/TIME:
Leo Fontaine, P.E.
2019.01.24 07:37:12-05'00'

APPROVED BY: NAME/DATE/TIME:
Gregory M. Dorosh, P.E.
2019.01.24 10:41:46-05'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

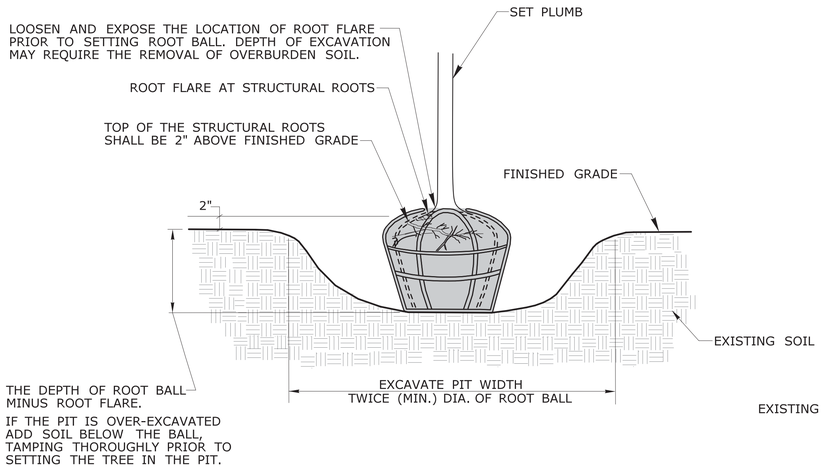
R-B 350 BRIDGE ATTACHMENT VERTICAL SHAPE PARAPET

STANDARD SHEET NO.:

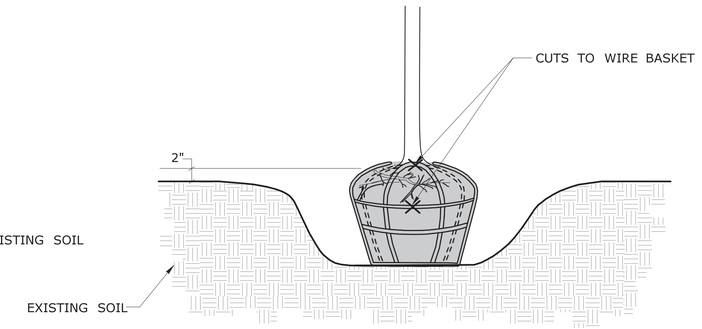
HW-910_07

GENERAL NOTES:

1. ALL EXTERIOR PACKAGING MATERIAL APPLIED TO PLANTS SHALL BE REMOVED AFTER THE PLANT IS LOCATED IN THE PIT EXCAVATION. CUT AND REMOVE TWINE, BURLAP OR WIRE BASKETS FROM THE TOP TWO-THIRDS OF THE ROOT BALL.
2. PLANT MALUS SPECIES (DECIDUOUS APPLE TREES OR SHRUBS) DEEP ENOUGH IN PIT TO COVER THE GRAFT TO PREVENT SPROUTING FROM THE ROOT STOCK.

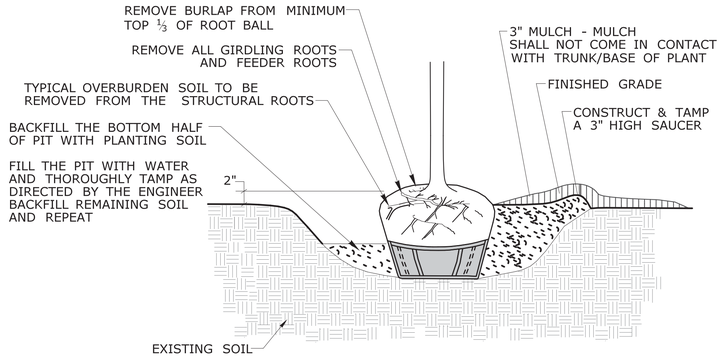


PIT EXCAVATION AND SETTING OF PLANTING

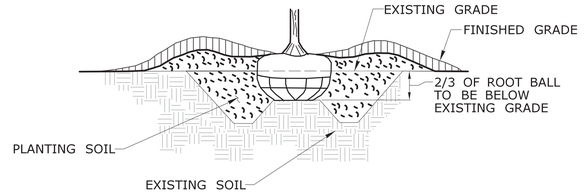


WIRE BASKET REMOVAL

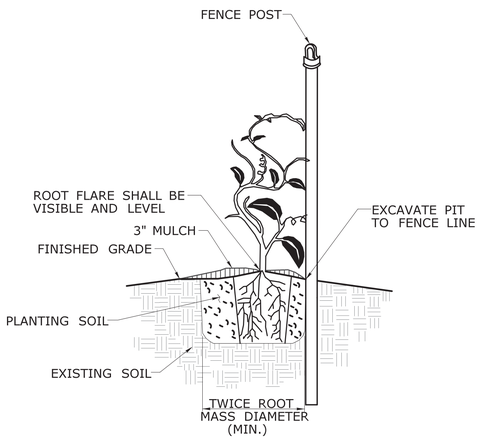
NOTE: IF WIRE BASKETS ARE USED, THE CONTRACTOR SHALL CUT ALL OF THE HORIZONTAL WIRES IN THE TOP ⅔ OF THE ROOT BALL AND BEND DOWN OR REMOVE THE TOP ⅓ OF THE WIRE BASKET



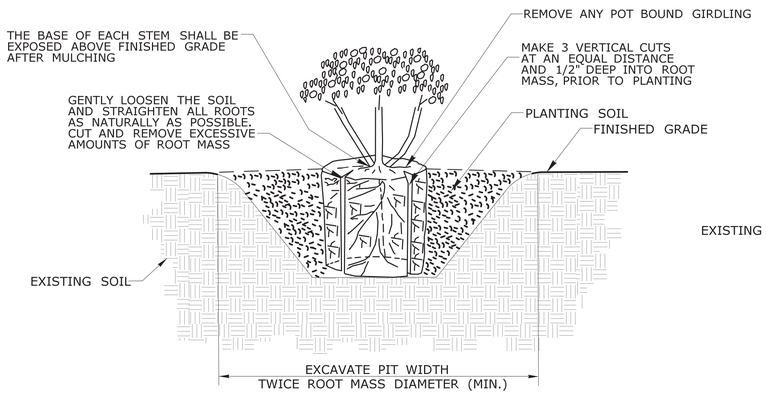
BACKFILL AND MULCH FOR PLANTING



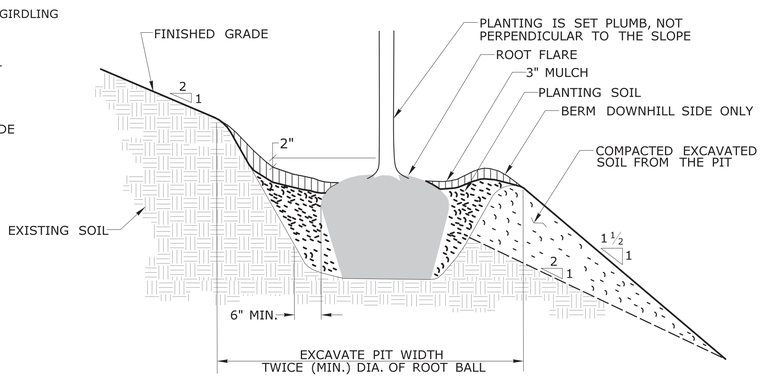
HEAVY CLAY PLANTINGS



VINE PLANTING



CONTAINER GROWN PLANTING



SLOPE PLANTING

REV.	DATE	REVISION DESCRIPTION
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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 5/28/2019

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD [5-28-19].dgn Model: 320 - HW-949_01a

SUBMITTED BY:	NAME/DATE/TIME:
	Leo Fontaine, P.E. 2019.06.06 14:55:35-04'00'
APPROVED BY:	NAME/DATE/TIME:
	Gregory M. Dorosh, P.E. 2019.06.10 14:50:33-04'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

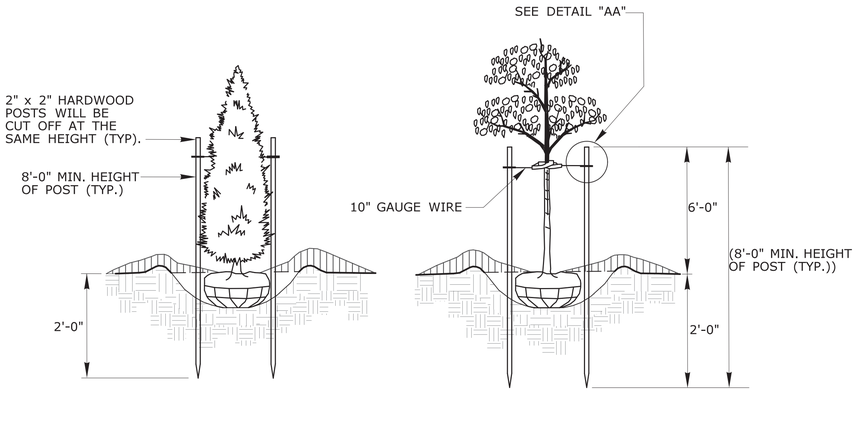
LANDSCAPE PLANTING

STANDARD SHEET NO.:

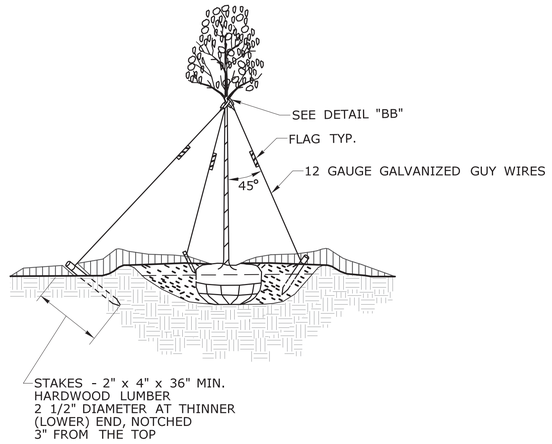
HW-949_01a

GENERAL NOTES:

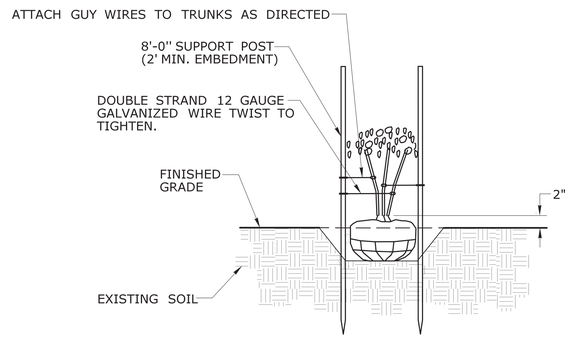
1. THE CONTRACTOR SHALL SUBMIT A STAKING PLAN FOR APPROVAL.
2. THE CONTRACTOR SHALL SUBMIT THE USE OF ANY OTHER MATERIALS FOR APPROVAL.
3. USE 3 POSTS FOR STAKING TREES 3" CALIPER OR GREATER AND EVERGREEN TREES 8' HIGH OR GREATER
4. USE DOUBLE STRAND 12 GAUGE GALVANIZED GUY WIRE FOR DECIDUOUS TREES GREATER THAN OR EQUAL TO 3" CALIPER AND USE DOUBLE STRAND 10 GAUGE GALVANIZED GUY WIRE FOR EVERGREEN TREES GREATER THAN OR EQUAL TO 8" CALIPER



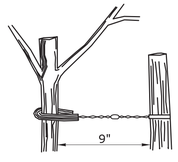
TWO STAKES



THREE GUYS AND STAKES



STAKING FOR MULTI-STEMMED TREES



DETAIL "AA"
POST AND GUY WIRE

ANCHOR TREE TO POST(S) USING GALVANIZED GUY WIRE AND 3/8" MIN. INSIDE DIAMETER RUBBER HOSE

GUY WIRES SHOULD BE PLACED AT LEAST HALF WAY UP THE TRUNK

DETAIL "BB"
GUY WIRES AROUND TRUNK

ANCHOR TREE TO STAKES USING GALVANIZED GUY WIRES AND 3/8" MIN. INSIDE DIAMETER RUBBER HOSE

GUY WIRES SHOULD BE PLACED AT LEAST HALF WAY UP THE TRUNK

REV.	DATE	REVISION DESCRIPTION
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-	-	-
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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 5/28/2019

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD [5-28-19].dgn Model: 324 - HW-949_01b

SUBMITTED BY: NAME/DATE/TIME:
Leo Fontaine, P.E.
2019.06.06 14:56:48-04'00'

APPROVED BY: NAME/DATE/TIME:
Gregory M. Dorosh, P.E.
2019.06.10 14:51:36-04'00'

CTDOT STANDARD SHEET

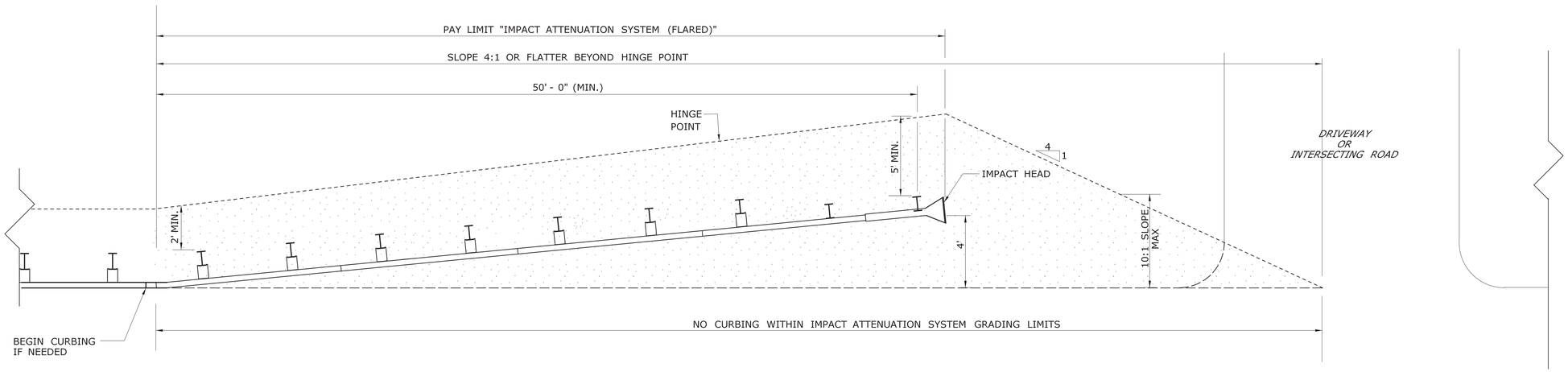
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
TREE STAKING

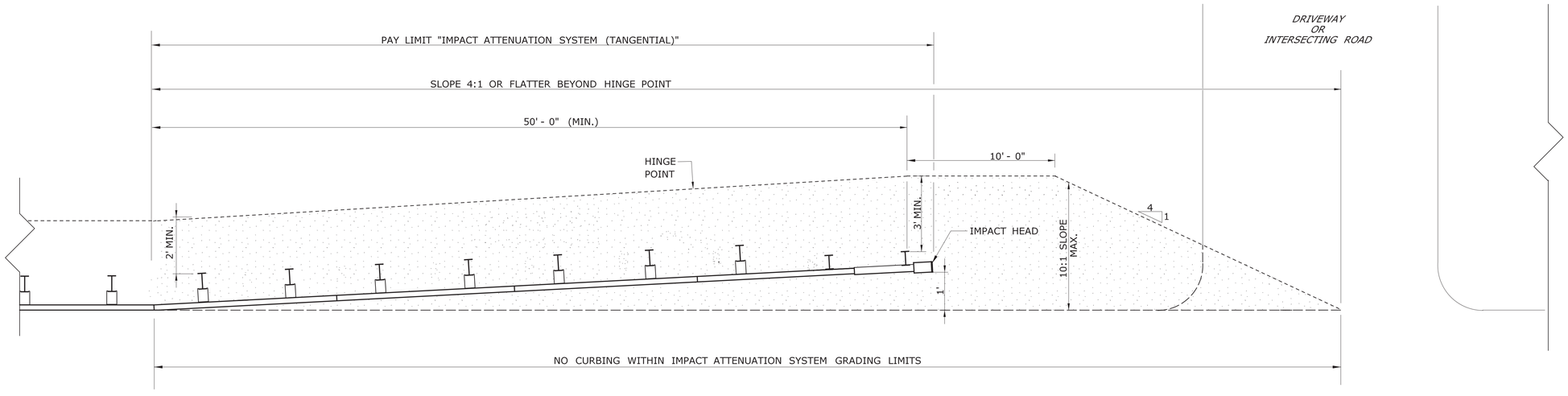
STANDARD SHEET NO.:
HW-949 01b

GENERAL NOTE:

1. SEE TR-1205_01 FOR ATTENUATOR REFLECTOR SIGN #50-5032 TO BE INSTALLED ON THE NOSE OF THE IMPACT HEAD. THE HEIGHT AND WIDTH OF THE SHEET VARIES DEPENDING ON THE SIZE OF THE NOSE OF THE IMPACT HEAD. REFLECTOR SIGN SHALL COVER THE ENTIRE SURFACE AREA OF THE IMPACT HEAD.



GRADING PLAN FOR IMPACT ATTENUATION SYSTEM (FLARED)



GRADING PIAN FOR IMPACT ATTENUATION SYSTEM (TANGENTIAL)

REV.	DATE	REVISION DESCRIPTION
1	1/19	COMBINED GRADING PLANS FOR FLARED AND TANGENTIAL
-	-	IMPACT ATTENUATION SYSTEMS AND REVISED GRADING
-	-	LIMITS FOR FLARED SYSTEM
-	-	-
-	-	-
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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 1/23/2019

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD_[_1-23-19_].dgn Model: 328 - HW-1800_01

SUBMITTED BY: NAME/DATE/TIME:
Leo Fontaine, P.E.
2019.01.24 07:38:14-05'00'

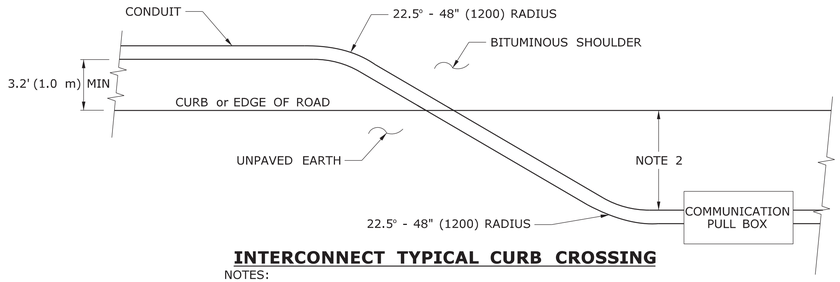
APPROVED BY: NAME/DATE/TIME:
Gregory M. Dorosh, P.E.
2019.01.24 10:44:19-05'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
GRADING PLAN FOR IMPACT ATTENUATION SYSTEMS (FLARED AND TANGENTIAL)

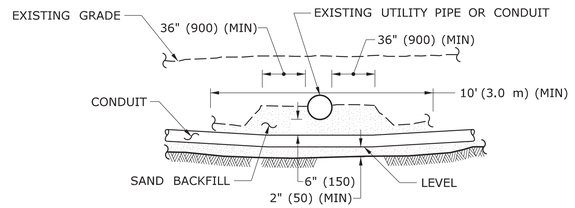
STANDARD SHEET NO.:
HW-1800_01



INTERCONNECT TYPICAL CURB CROSSING

NOTES:

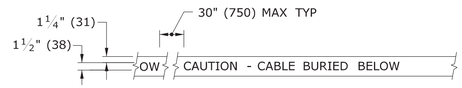
1. RESTORE AREAS DISTURBED BY TRENCH TO ORIGINAL CONDITION.
2. INSTALL PULL BOX A MINIMUM OF 10' (3.0 m) FROM CURB UNLESS OTHERWISE SHOWN ON PLANS OR DIRECTED BY ENGINEER.



CROSSING UNDER EXISTING UTILITY

NOTES:

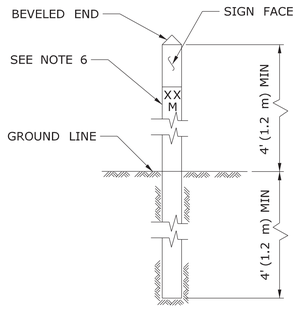
1. WHEN ENCOUNTERED AT APPROXIMATELY THE SAME DEPTH, CROSS BENEATH.
2. PROTECT & SUPPORT EXPOSED EXISTING UTILITY.



DETECTABLE WARNING TAPE

NOTE:
STANDARD SPECIFICATIONS, ARTICLE: 1.05.15

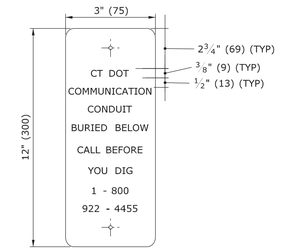
1. TAPE COLORS:
   COMMUNICATION - ORANGE BACKGROUND / BLACK LEGEND
   POWER - RED BACKGROUND / BLACK LEGEND



INTERCONNECT CONDUIT IDENTIFICATION POST

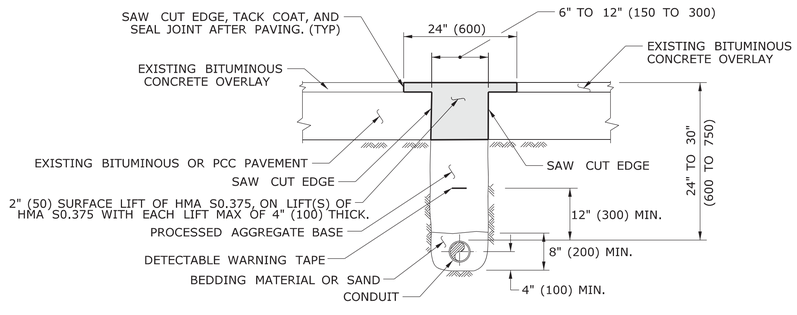
NOTES:

1. 4" x 4" (100 x 100) NOMINAL, PRESSURE TREATED WOOD POST.
2. ATTACH SIGN TO POST WITH ¼" x 1¼" (6 x 31) STAINLESS STEEL LAG SCREW WITH NYLON WASHER ON FACE OF SIGN.
3. SIGN COLORS: BACKGROUND - ORANGE (RETROREFLECTIVE) LEGEND - BLACK (OPAQUE).
4. INSTALL POST APPROX 24" (600) FROM RMC IN VICINITY OF EACH PULL BOX.
5. INSTALL POSTS BETWEEN PULL BOXES, APPROX 10' (3.0 m) OFF CURB. SPACE POSTS 1500'± (460 m±) APART.
6. PERMANENTLY ATTACH STAINLESS STEEL NUMBERS INDICATING DISTANCE TO TRENCH IN FEET (METERS) CONTAINING COMMUNICATION CABLE. ATTACH NUMBERS TO SIDE OF POST FACING CONDUIT. INCLUDE "M" SUFFIX IF METERS.



SIGN FACE DETAIL

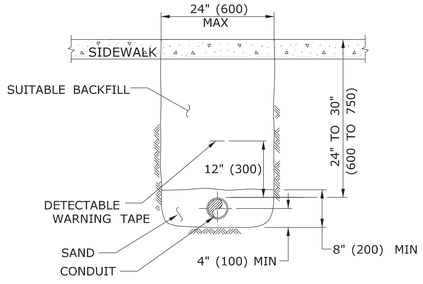
SIGN # 41-4669



PAVEMENT - BITUMINOUS CONCRETE OR OVERLAYED PORTLAND CEMENT CONCRETE

NOTES:
STANDARD SPECIFICATIONS, ARTICLE: 3.04 & 4.06.03

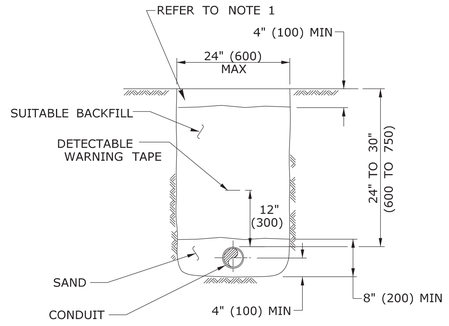
1. TOTAL HOT MIX ASPHALT (HMA) THICKNESS TO MATCH EXISTING BITUMINOUS CONCRETE AND PORTLAND CEMENT CONCRETE (PCC) THICKNESS.
2. WHEN ALLOWED BY ENGINEER, USE CONTROLLED LOW STRENGTH MATERIAL (CLSM) AS BEDDING MATERIAL. TOP OF CLSM AT LEAST 20" (500) BELOW SURFACE.



SIDEWALK

NOTES:
STANDARD SPECIFICATIONS, ARTICLE: 9.21 & 9.22

1. WHERE CONCRETE SIDEWALK DAMAGED OR CUT, REPLACE THE ENTIRE SECTION BETWEEN JOINTS. REPLACEMENT SIDEWALK IS PAID FOR AT THE CONTRACT UNIT PRICE FOR "CONCRETE SIDEWALK".



EARTH

NOTES:
STANDARD SPECIFICATIONS, ARTICLE: 9.50

1. IN MOWED AREAS: PLACE TOPSOIL, FERTILIZER, SEED, & MULCH.

GENERAL NOTES:

1. TOP OF CONDUIT NO LESS THAN 24" (600) DEEP.
2. COMPACT BACKFILL IN ≤ 6" (150) LIFTS. HAND COMPACTION NOT PERMITTED.

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:
-- RMC (RIGID METAL CONDUIT)

REV.	DATE	REVISION DESCRIPTION
1	4-2012	REVISED BITUMINOUS CONRCETE TO HMA, & MINOR REVISIONS.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 4/14/2012

DIMENSIONS ARE IN ENGLISH (') & METRIC UNITS (mm). METRIC DIMENSIONS ARE ROUNDED:
- OVER 1" TO NEAREST 5 mm
- UNDER 1" TO NEAREST 1 mm.

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-1001_01

SUBMITTED BY: NAME/DATE/TIME:
Tracy L. Fogarty 2012.05.01 12:54:42-04'00'

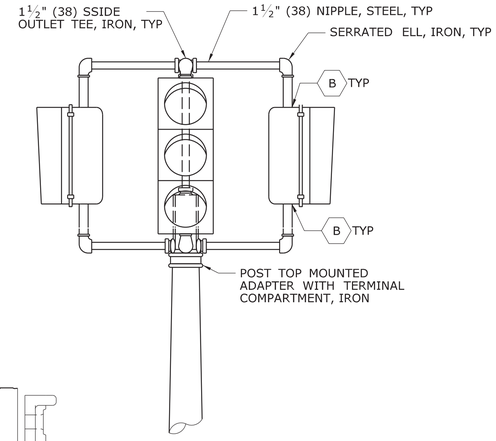
APPROVED BY: NAME/DATE/TIME:
Timothy M. Wilson 2012.05.09 10:23:34-04'00'

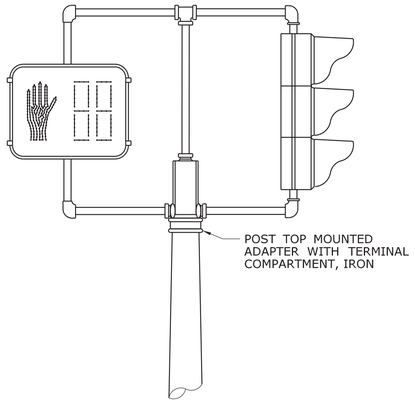
CTDOT STANDARD SHEET

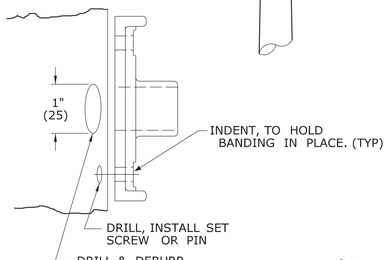
OFFICE OF ENGINEERING

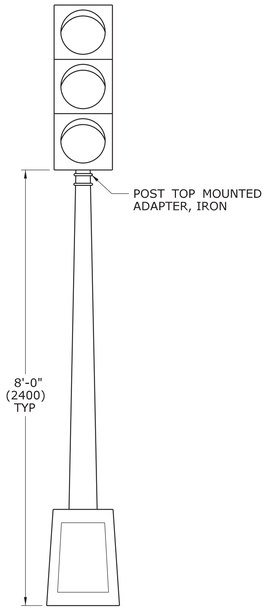
STANDARD SHEET TITLE:
TRENCHING & BACKFILLING, ELECTRICAL CONDUIT

STANDARD SHEET NO.:
TR-1001_01

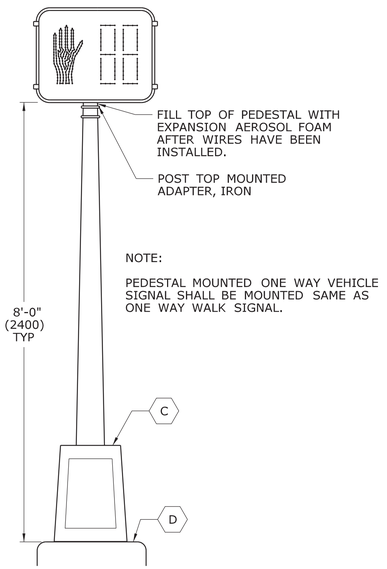








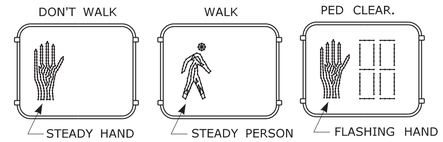
ONE WAY TRAFFIC SIGNAL PEDESTAL MOUNTED



NOTE:

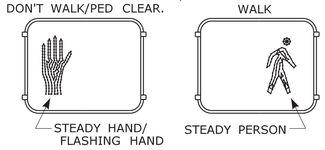
PEDESTAL MOUNTED ONE WAY VEHICLE SIGNAL SHALL BE MOUNTED SAME AS ONE WAY WALK SIGNAL.

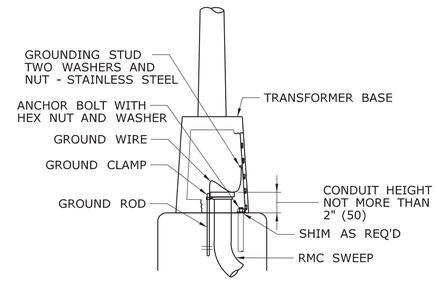
ONE WAY WALK SIGNAL PEDESTAL MOUNTED



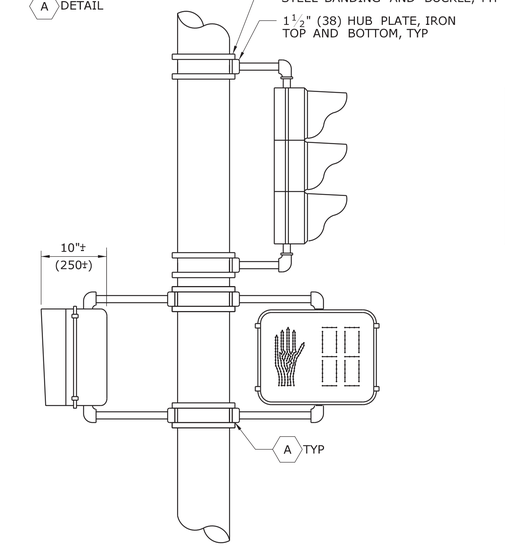
TYPICAL INDICATION WHEN LIT

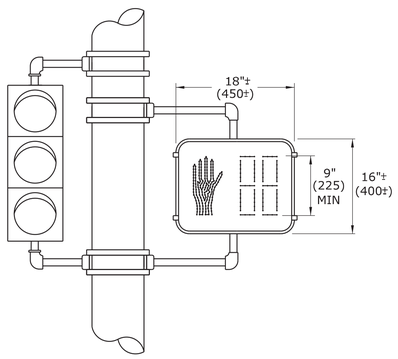
NON-COUNTDOWN DISPLAY, ONLY WHEN SHOWN ON PLAN.

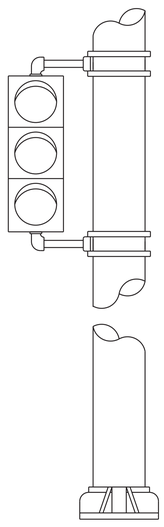




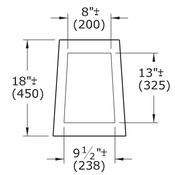
ALUMINUM PEDESTAL INSTALLATION DETAIL



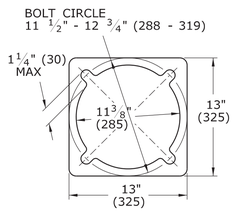




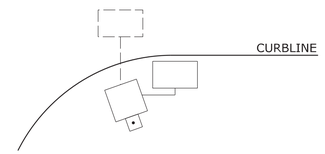
ONE WAY TRAFFIC SIGNAL POLE MOUNTED



ALUMINUM PEDESTAL DOOR OPENING DETAIL



PEDESTAL BASE PLAN



WHEN PEDESTALS OR SPAN POLES ARE INSTALLED CLOSE TO THE CURB, SIDE MOUNT PEDESTRIAN OR TRAFFIC SIGNALS TO AVOID VISOR DAMAGE FROM TURNING VEHICLES.

NOTES:

A SECURE LOWER HUB PLATE WITH STAINLESS STEEL SET SCREW OR PIN PRIOR TO BANDING TO PREVENT MOVEMENT. INSTALL CABLE THROUGH BOTTOM OF HUB PLATE.

B REFER TO CTDOT TRAFFIC STANDARD SHEET, TR-1105_01, TRAFFIC SIGNALS & CABLE ASSIGNMENTS.

C IF THREADED, MIN 1" (25) THREADED INTO BASE, SECURED WITH STAINLESS STEEL SET SCREWS.

D BASE DESIGNED AS BREAK-AWAY.

INCANDESCENT WALK SIGNAL LAMPS ARE 67 WATTS, RATED AT 8000 HOURS LAMP LIFE. LED WALK SIGNAL LAMPS ARE MAXIMUM 15 WATTS, WARRANTEED AT 5 YEAR LIFE.

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:
- STEEL SPAN POLE, MAST ARM ASSEMBLY SHAFT
- ALUMINM PEDESTAL
- TRAFFIC SIGNAL
- PEDESTRIAN SIGNAL
- PEDESTAL MOUNTED, TRAFFIC & PEDESTRIAN SIGNALS
- POLE MOUNTED, TRAFFIC & PEDESTRIAN SIGNALS

REV.	DATE	REVISION DESCRIPTION
2	4-2012	MINOR REVISIONS.
1	1-2010	INCLUDED COUNTDOWN PEDESTRIAN SIGNALS.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 4/14/2012

DIMENSIONS ARE IN ENGLISH (".") & METRIC UNITS (mm). METRIC DIMENSIONS ARE ROUNDED:
- OVER 1" TO NEAREST 5 mm
- UNDER 1" TO NEAREST 1 mm.

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-1102_01

SUBMITTED BY: NAME/DATE/TIME:
Tracy L. Fogarty 2012.05.01 12:55:27-04'00'

APPROVED BY: NAME/DATE/TIME:
Timothy M. Wilson 2012.05.09 10:24:58-04'00'

CTDOT STANDARD SHEET

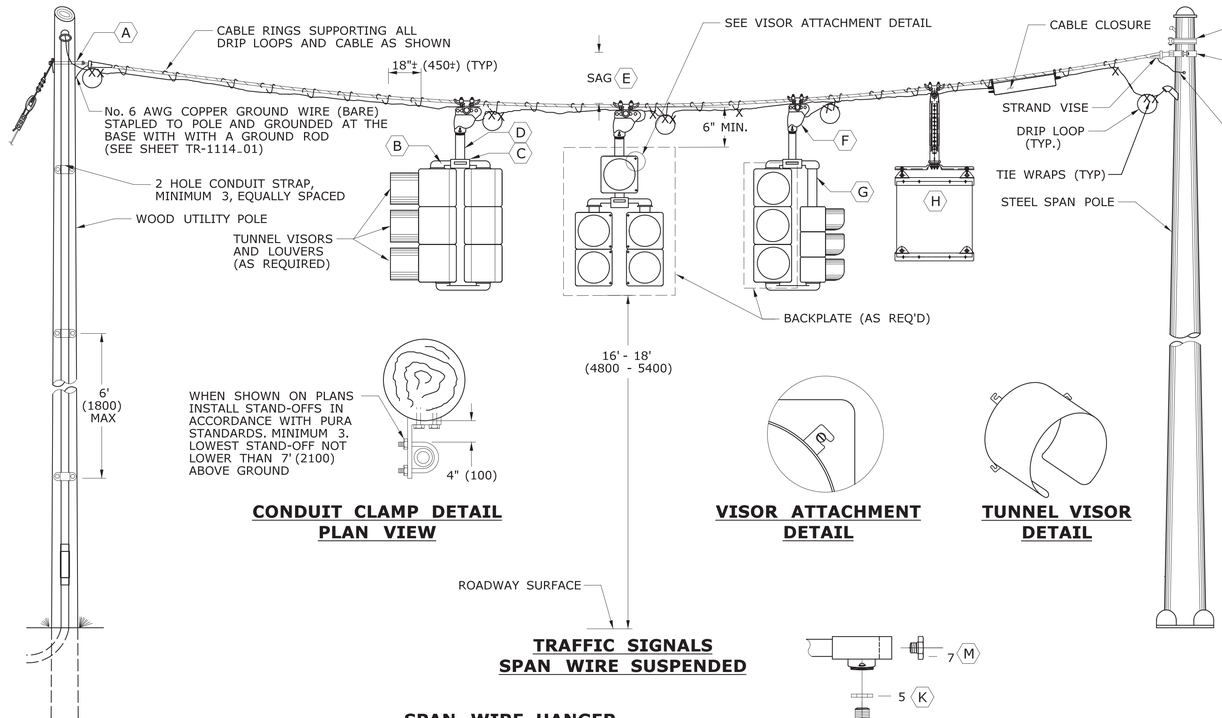
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

PEDESTALS, PEDESTRIAN SIGNALS

STANDARD SHEET NO.:

TR-1102_01

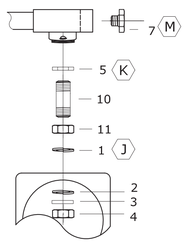


CONDUIT CLAMP DETAIL PLAN VIEW

VISOR ATTACHMENT DETAIL

TUNNEL VISOR DETAIL

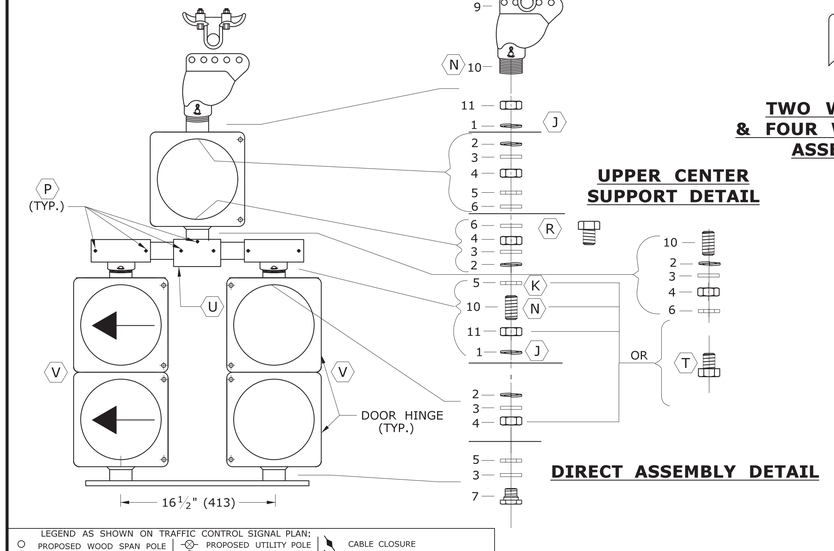
TRAFFIC SIGNALS SPAN WIRE SUSPENDED



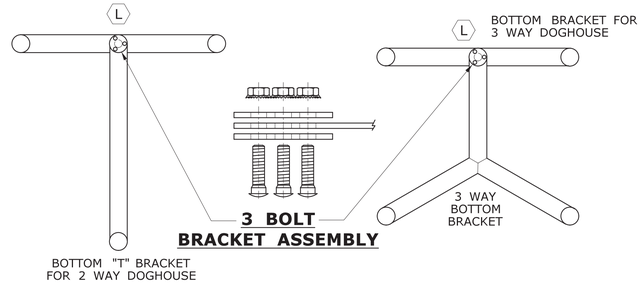
TWO WAY, THREE WAY & FOUR WAY NIPPLE DOWN ASSEMBLY DETAIL

SPAN WIRE HANGER ASSEMBLY DETAIL

UPPER CENTER SUPPORT DETAIL



DIRECT ASSEMBLY DETAIL



3 BOLT BRACKET ASSEMBLY

ITEM DESCRIPTION, FOR ASSEMBLY DETAILS
1 - SERRATED TABBED LOCKRING, ALUMINUM (TAB MUST BE FULL WIDTH OF RING)
2 - GASKET, NEOPRENE
3 - WASHER, STEEL
4 - HEX NUT, STEEL
5 - CONDUIT LOCKNUT, STEEL
6 - BUSHING PLASTIC (ONLY IN JUNCTION BOX OR NIPPLED DOWN TRAFFIC SIGNAL)
7 - OCTAGONAL CAP, ALUMINIUM
8 - SPAN WIRE CLAMP
9 - WIRE OUTLET BODY, IRON, FEMALE ONLY
10 - NIPPLE, STEEL
11 - HEX NUT, STEEL, NOTCHED W/SETSCREWS

NOTES: FOR ASSEMBLY DETAILS
J APPLY SILICONE CAULK BETWEEN OR AROUND SERRATED LOCKRING AND HOUSING.
K OPTIONAL USE IF NIPPLE THREADS TOO FAR INTO ELBOW.
L DRILL HOLE IN CENTER OF 2 WAY BOTTOM BRACKET - INSTALL 3 BOLT BRACKET (SEE DETAIL).
M DO NOT INSERT ORNAMENTAL CAP PAST DOTTED LINE.
N ALL THREAD.
P SETSCREW (SQUARE OR ALLEN) ON ALL FITTINGS.
R CHASE NIPPLE CAN BE SUBSTITUTED FOR THE COMBINATION OF ITEMS 6, 5 AND 10.
S INSTALL STAINLESS STEEL WASHER ON INSIDE OF COTTER PIN. COTTER PIN AND WASHER SHALL BE ON SIDE OF HANGER AWAY FROM SIGNAL CABLES.
T CHASE NIPPLE CAN BE SUBSTITUTED FOR COMBINATION 4, 5, 10 AND 11.
U CENTER HUB SAME AS C EXCEPT TOP OPENING MAY BE THREADED.
V DOOR HINGE ON OUTSIDE OF SIDE BY SIDE ASSEMBLY.

TRAFFIC SIGNAL CABLE COLOR ASSIGNMENTS

SIGNAL ASSEMBLY & CABLE USED	SIGNAL FUNCTION	ARTERY 1	ARTERY 2	SIDE STREET 1	SIDE STREET 2
2 - WAY 9 CONDUCTOR	RED	RED		BLACK	
	YELLOW	ORANGE		WHITE \ BLACK	
	GREEN	GREEN		BLUE	
	SPARE	GREEN\BLACK		RED \ BLACK	
	NEUTRAL	WHITE			
3 - WAY 12 CONDUCTOR	RED	RED	RED \ BLACK	BLACK	
	YELLOW	ORANGE	ORANGE \ BLACK	WHITE \ BLACK	
	GREEN	GREEN	GREEN \ BLACK	BLUE	
	SPARE	BLUE\BLACK	BLACK \ WHITE		
	NEUTRAL	WHITE			
4 - WAY 15 CONDUCTOR	RED	RED	RED \ BLACK	BLACK	RED \ WHITE
	YELLOW	ORANGE	ORANGE \ BLACK	WHITE \ BLACK	BLACK \ WHITE
	GREEN	GREEN	GREEN \ BLACK	BLUE	GREEN \ WHITE
	SPARE	BLUE\BLACK		BLUE \ WHITE	
	NEUTRAL	WHITE			

PEDESTRIAN SIGNAL CABLE COLOR ASSIGNMENTS

SIGNAL ASSEMBLY & CABLE USED	SIGNAL FUNCTION	WIRE COLOR
WALK SIGNAL W/ PUSHBUTTON 7 CONDUCTOR	DON'T WALK	RED
	WALK	GREEN
	NEUTRAL FOR WALK SIGNAL	WHITE
	PEDESTRIAN PUSHBUTTON	BLACK
	NEUTRAL FOR PUSHBUTTON	ORANGE
	SPARE CONDUCTOR	WHITE \ BLACK
	SPARE CONDUCTOR *	BLUE \ BLACK
WALK SIGNAL W/ PUSHBUTTON 7 CONDUCTOR	RED	RED
	YELLOW	ORANGE
	GREEN	GREEN
	NEUTRAL FOR TRAFFIC SIGNAL	WHITE
	PEDESTRIAN PUSHBUTTON	BLACK
	NEUTRAL FOR PUSHBUTTON	WHITE \ BLACK
	SPARE CONDUCTOR *	BLUE \ BLACK

* IF 14/7 FEEDS MORE THAN ONE BUTTON, SPLIT THE BUTTONS AND USE BLUE WITH BLACK TRACER FOR THE ADDITIONAL BUTTON.

TABLE NOTES:
1. INSTALL SEPARATE CABLE BETWEEN CLOSURE AND EACH TRAFFIC SIGNAL ASSEMBLY. WIRE EACH TRAFFIC SIGNAL SECTION SEPARATELY BACK TO CABLE CLOSURE. JUMPERS BETWEEN TERMINALS ARE NOT ALLOWED EXCEPT ON NEUTRAL CONDUCTORS.
2. WIRE ALL SIGNALS, SAME DIRECTION FROM CONTROLLER, SEPARATELY WITH CONDUCTORS IN 21 CONDUCTOR CABLE, EVEN IF INDICATIONS ARE IDENTICAL.
3. CABLES THAT FEED PEDESTRIAN INDICATIONS, PUSH BUTTONS, AND DETECTORS BYPASS CABLE CLOSURE.
4. REFER TO STANDARD SHEET TR-1113_01 FOR CABLE CLOSURE - TYPE A.

NOTES:
SERVICE CONDUCTORS: THW, THWN OR XHHW. INDIVIDUAL WIRES MAY BE USED IN LIEU OF MULTI-CONDUCTOR CABLE.
ALL WORK ON UTILITY POLES MUST COMPLY WITH CURRENT PURA REGULATIONS AND NESC RULES.
A ATTACH SPAN AT LEAST 12" (300) BELOW LOWEST POWER COMPANY ATTACHMENT, AND AT LEAST 40" (1000) ABOVE HIGHEST COMMUNICATIONS ATTACHMENT, UNLESS OTHERWISE DIRECTED ON PLANS.
B ELBOW OR "T" FITTING MUST HAVE NOTCH FOR SERRATED TABBED LOCKRING.
C TOP BRACKET CENTER HUB SHALL BE MIN 4" (100) ROUND AND 3" (75) DEEP OR EQUAL VOLUME. SERRATION CAST IN HUB OR TABBED OR SERRATED LOCKRING, TOP OPENING NOT THREADED.
D NIPPLE LENGTH DEPENDS ON SPAN HEIGHT.
E SAG OF SPAN TO BE 5%± LENGTH, UNLESS OTHERWISE ALLOWED BY ENGINEER.
F FACE ALL ENTRANCE FITTINGS TOWARD CABLE CLOSURE.
G INSTALL EXTENSION NIPPLE ON TOP OF SIGNAL HOUSING SO BOTTOM OF ALL SIGNALS ARE EVEN.
H REFER TO TR-GS_01 "SIGN FACE SHEET ALUMINUM, R-SERIES SIGNS TYPICAL DETAILS", AND TO TR-1114_01 FOR SIGN HANGER ASSEMBLY.
MAXIMUM SIGN SIZE 36" X 36" (900 X 900). ALL STAINLESS STEEL HARDWARE.
SECURE LOUVERS TO TUNNEL VISORS WITH 3 STAINLESS STEEL SCREWS.

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:
PROPOSED WOOD SPAN POLE
EXISTING WOOD SPAN POLE
PROPOSED STEEL SPAN POLE
EXISTING STEEL SPAN POLE
PROPOSED UTILITY POLE
EXISTING UTILITY POLE
POLE ANCHOR & GUY
CABLE CLOSURE
SPAN MOUNTED SIGN
SPAN MOUNTED TRAFFIC SIGNAL

REV.	DATE	REVISION DESCRIPTION
4	1-2018	REVISED GROUNDING NOTE FOR SPAN AND OTHER MINOR REVISIONS.
3	3-2015	REMOVED STRAIN INSULATOR.
2	5-2013	MINOR REVISIONS.
1	4-2012	MINOR REVISIONS.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 5/22/2018

DIMENSIONS ARE IN ENGLISH (.") & METRIC UNITS (mm).
METRIC DIMENSIONS ARE ROUNDED:
- OVER 1" TO NEAREST 5 mm
- UNDER 1" TO NEAREST 1 mm.

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

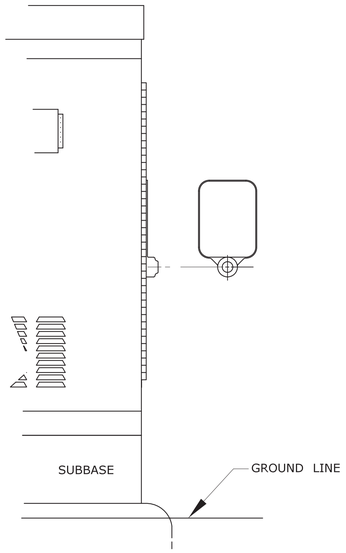
Filename: CTDOT_TRAFFIC_STD_2018-05-21.dgn Model: TR-1105_01

SUBMITTED BY: NAME/DATE/TIME:
Tracy L. Fogarty, P.E. 2018.08.16 12:13:06-04'00'
APPROVED BY: NAME/DATE/TIME:
Mark F. Carlino, P.E. 2018.08.21 07:46:03-04'00'

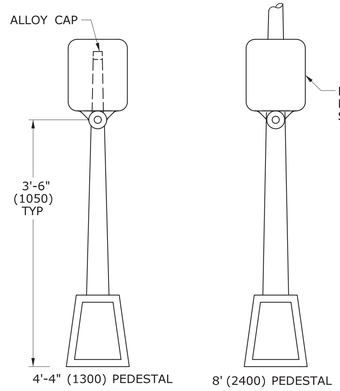
CTDOT STANDARD SHEET
OFFICE OF ENGINEERING

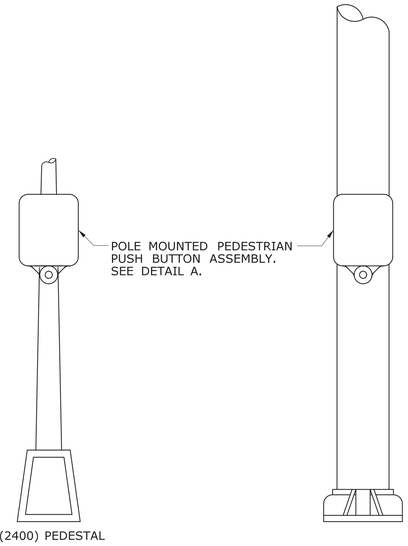
STANDARD SHEET TITLE:
TRAFFIC SIGNALS & CABLE ASSIGNMENTS

STANDARD SHEET NO.:
TR-1105_01



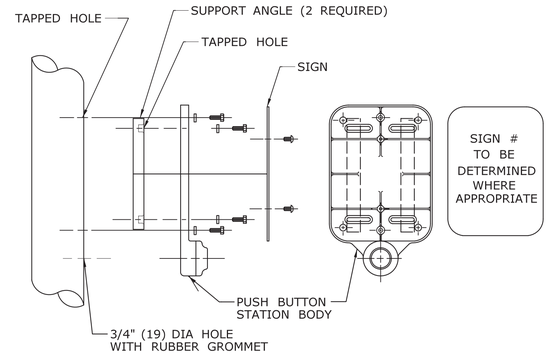
SURFACE MOUNTED



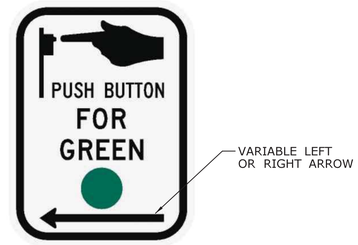


PEDESTAL MOUNTED

SPAN POLE/MAST ARM MOUNTED



DETAIL A



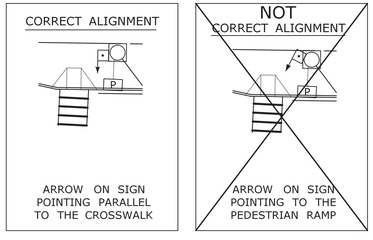
SIGN # 31-0833
USE APPROPRIATE LEFT OR RIGHT ARROW

SIGN # 31-0835

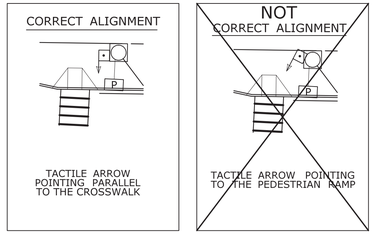
FOR CROSSING WITH SIDE STREET GREEN

GENERAL NOTES:

3'-6" (1050) FROM FINISHED GRADE SUCH AS SIDEWALK TO CENTER OF PUSH BUTTON.
PUSH BUTTON INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN, CURRENT EDITION GOVERNS.
4'-4" (1300) PEDESTAL TO INCLUDE ALLOY CAP SECURED WITH STAINLESS STEEL SET SCREW.

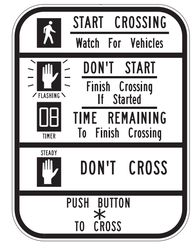


PEDESTRIAN PUSH BUTTON ALIGNMENT



ACCESSIBLE PEDESTRIAN SIGNAL AND DETECTOR

EXAMPLE ALIGNMENTS FOR EXCLUSIVE PEDESTRIAN PHASE



*USE APPROPRIATE ARROW UNLESS OTHERWISE NOTED ON PLAN.

FOR NEW PUSHBUTTON HOUSING, USE 9" x 15" SIGN NO. 31-0856.

FOR EXISTING PUSHBUTTON HOUSING, WITH 9" x 12" SIZE, USE SIGN NO. 31-0845.

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:
- PEDESTRIAN PUSH BUTTON
- PEDESTRIAN PUSH BUTTON, PEDESTAL MOUNTED
- PEDESTRIAN PUSH BUTTON, POLE MOUNTED

REV.	DATE	REVISION DESCRIPTION
3	8-2018	UPDATED PEDESTRIAN SIGN LEGENDS AND NOTES.
2	4-2014	ADDED PEDESTRIAN EXAMPLE ALIGNMENTS
1	4-2012	MINOR REVISIONS & UPDATED SIGN #31-0845.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 8/9/2018

DIMENSIONS ARE IN ENGLISH (‘.”) & METRIC UNITS (mm).
METRIC DIMENSIONS ARE ROUNDED:
- OVER 1" TO NEAREST 5 mm
- UNDER 1" TO NEAREST 1 mm.

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD_2018-01-25.dgn Model: TR-1107_01

SUBMITTED BY: NAME/DATE/TIME:
Tracy L. Fogarty, P.E. 2018.08.16 12:13:35-04'00'

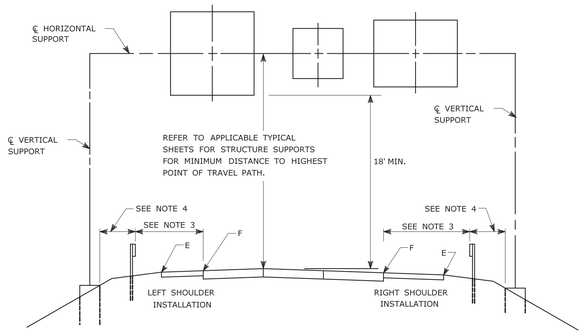
APPROVED BY: NAME/DATE/TIME:
Mark F. Carlino, P.E. 2018.08.21 07:46:57-04'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
PEDESTRIAN PUSH BUTTONS

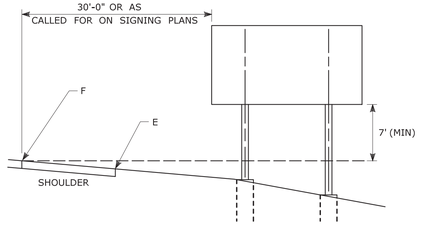
STANDARD SHEET NO.:
TR-1107_01



TYPICAL PLACEMENT OF OVERHEAD SIGNS ON SIGN SUPPORTS

NOTES:

1) FOR PLACEMENT OF CANTILEVER SIGN SUPPORT USE APPLICABLE PORTION OF ABOVE DETAIL.
2) BARRIER SYSTEMS MAY BE REQUIRED FOR BOTH SIDES OF SUPPORTS IN MEDIANS.
3) IMPACT PROTECTION SHALL BE PROVIDED FOR THE SIGN SUPPORTS LOCATED WITHIN CLEAR ZONE.
4) SIGN SUPPORT FOUNDATIONS SHALL BE LOCATED OUTSIDE OF BARRIER SYSTEMS DEFLECTION AREA.
5) ALL SIGNS ARE TO BE LEVEL, REGARDLESS OF CAMBER IN SUPPORT.



TYPICAL PLACEMENT OF SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS

NOTES:

1) MIN. VERTICAL CLEARANCE ABOVE SIDEWALKS SHALL BE 7'.
2) WHERE GUIDE RAIL IS USED, THE OFFSET TO THE NEAR EDGE OF SIGN FACE SHALL BE AS SHOWN ELSEWHERE IN THE CONTRACT PLANS.
3) ON INTERSECTING ROADS AT RAMP TERMINI, THE OFFSET TO THE NEAR EDGE OF OF SIGN FACE SHALL BE 6' MIN. FROM POINT "E".
4) IF 30'-0" MIN. CANNOT BE MET, PLEASE CONTACT THE ENGINEER.

FOR MAXIMUM EFFECTIVENESS, POSITION SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS AS FOLLOWS:

ON A TANGENT SECTION, POSITION THE SIGN SO THE VERTICAL AXIS IS PLUMB AND THE HORIZONTAL AXIS IS AT AN ANGLE OF 90° WITH THE TRAFFIC LANE WHICH THE SIGN SERVES. SIGNS LOCATED 30 FT OR MORE FROM THE EDGE OF THE ROAD SHALL BE TURNED APPROXIMATELY 3° TOWARD THE ROAD.

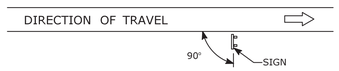


DIAGRAM "A"

ON A HORIZONTAL CURVE SECTION, POSITION THE SIGN SO THE VERTICAL AXIS IS PLUMB AND THE HORIZONTAL AXIS IS AT AN ANGLE OF 90° WITH A STRAIGHT LINE BETWEEN THE SIGN AND THE POINT AT WHICH THE SIGN SHALL BE READ.

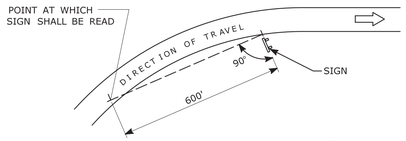
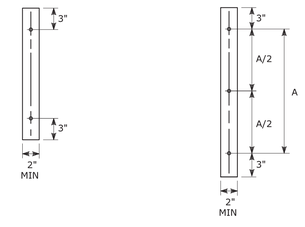


DIAGRAM "B"

SIGN ORIENTATION DETAILS FOR SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS

RETROREFLECTIVE STRIPS 48" LONG OR LESS:

RETROREFLECTIVE STRIPS OVER 48" LONG:

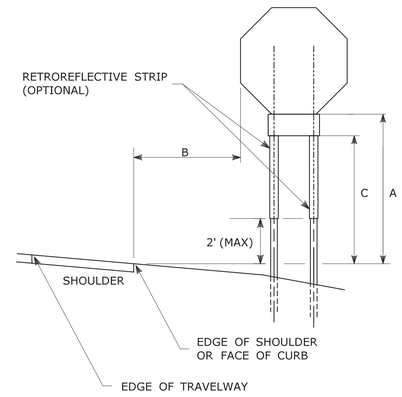


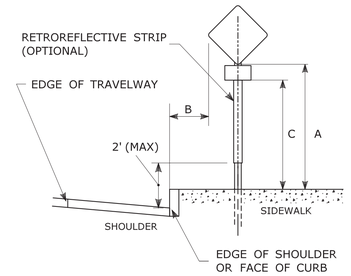
RETROREFLECTIVE STRIP DETAIL

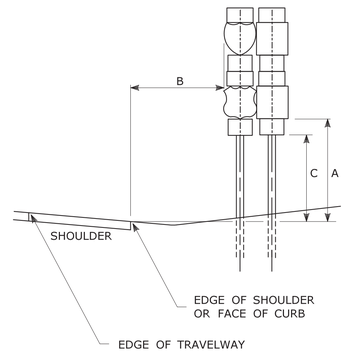
NOTES:

RETROREFLECTIVE STRIPS WHICH ARE 48 IN LONG OR LESS SHALL BE ATTACHED USING 2 BOLTS AND RETROREFLECTIVE STRIPS OVER 48 IN LONG SHALL BE ATTACHED USING 3 BOLTS AS SHOWN ON THE DETAILS ABOVE.
REFER TO STANDARD SHEET No. TR-1208_02 "METAL SIGN POSTS AND SIGN MOUNTING DETAILS" FOR MOUNTING DETAILS.

RETROREFLECTIVE STRIP COLOR SHALL MATCH THE BACKGROUND COLOR OF THE SIGN, EXCEPT THAT THE COLOR OF THE STRIP FOR "YIELD" AND "DO NOT ENTER" SIGNS SHALL BE RED.







TYPICAL SIGN PLACEMENT DETAIL

NOTES:

ALL SIGNS AND SHIELDS ON DIRECTIONAL ASSEMBLIES SHALL ABUT VERTICALLY.

REFER TO STANDARD SHEET No. TR-1208_02 "METAL SIGN POSTS AND SIGN MOUNTING DETAILS" FOR SIGN POSTS AND SIGN MOUNTING.

IF A RETFOREFLECTIVE STRIP IS USED ON SIGN SUPPORT, IT SHALL BE PLACED FOR THE FULL LENGTH OF THE SUPPORT FROM THE BOTTOM OF THE SIGN TO WITHIN 2 FT ABOVE THE EDGE OF THE ROADWAY.

PARKING SIGNS TYPICALLY USE 45° MOUNTING BRACKET.

DIM."A" MIN SIGN HEIGHT	DIM."B" MIN LATERAL OFFSET (1)	DIM."C" MIN PLAQUE HEIGHT (1)	ASSEMBLY LOCATION
7' (2)	6' 12' (3)	5'	SIGNS ON FREEWAYS AND EXPRESSWAYS EXCEPT CHEVRON ALIGNMENT SIGNS, ONE-DIRECTION LARGE ARROW SIGNS, DO NOT ENTER SIGNS, AND WRONG WAY SIGNS
5'	2'	4'	• SIGNS IN RURAL AREAS • DO NOT ENTER AND WRONG WAY SIGNS ALONG EXIT RAMPS • DO NOT ENTER AND WRONG WAY SIGNS ON LIMITED ACCESS HIGHWAYS
5'	2'	N/A	• CHEVRON ALIGNMENT SIGNS LOCATED ON FREEWAYS, EXPRESSWAYS, RAMPS, AND IN RURAL AREAS • ONE-DIRECTION LARGE ARROW SIGNS LOCATED ON FREEWAYS, EXPRESSWAYS, RAMPS, AND IN RURAL AREAS
4'	6' 12' (3)	N/A	INCIDENT MANAGEMENT SIGNS AND MILE POST MARKER ASSEMBLIES LOCATED ON FREEWAYS AND EXPRESSWAYS
4'	2'	4'	CENTRAL ISLANDS OF ROUNDABOUTS
7'	2' (4)	6'	BUSINESS & RESIDENTIAL AREAS WHERE PARKING OR OTHER OBSTRUCTIONS LIMIT VISIBILITY
7'	2' (4)	7'	SIDEWALKS (5)

(1) OR AS DIRECTED BY THE ENGINEER

(2) 8 FT MINIMUM HEIGHT REQUIRED IF A SUPPLEMENTAL PLAQUE IS SUBMOUNTED BELOW THE MAJOR SIGN.

(3) 6 FT FROM EDGE OF SHOULDER, WHEN SHOULDER IS OVER 6 FT WIDE
12 FT FROM EDGE OF TRAVELWAY, WHEN SHOULDER IS LESS THAN 6 FT WIDE.

(4) A LATERAL OFFSET OF AT LEAST 1 FT FROM THE FACE OF THE CURB MAY BE USED WHERE SIDEWALK WIDTH IS LIMITED OR WHERE EXISTING UTILITY POLES ARE CLOSE TO THE CURB.

(5) A CLEAR PATH OF NOT LESS THAN 4 FT SHALL BE PROVIDED IN SIDEWALK AREAS.

REV.	DATE	REVISION DESCRIPTION
3	8-2018	INCLUDED INCIDENT MANAGEMENT AND MILE MARKER SIGNS.
2	4-2017	MINOR REVISIONS.
1	2-2011	MINOR REVISIONS.

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Plotted Date: 8/10/2018

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: TR_1208_01_1_2018.dgn Model: TR-1208_01

SUBMITTED BY: NAME/DATE/TIME:
Mark F. Makuch, P.E.
2018.08.17 09:06:06-04'00'

APPROVED BY: NAME/DATE/TIME:
Mark F. Carlino, P.E.
2018.08.21 07:48:06-04'00'

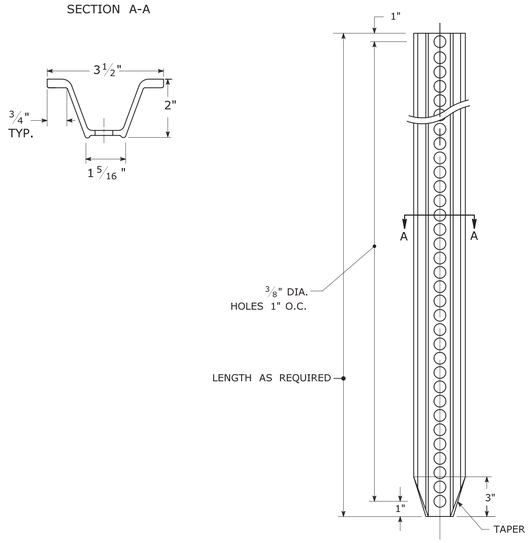
CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

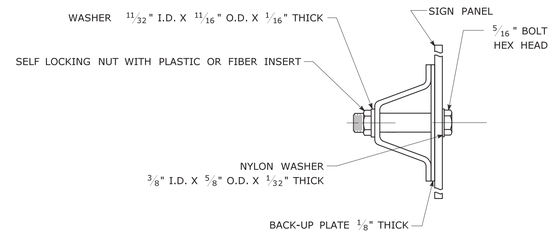
STANDARD SHEET TITLE:
SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS

STANDARD SHEET NO.:
TR-1208_01

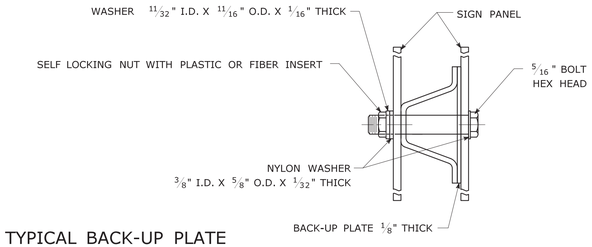
TYPICAL METAL SIGN POSTS



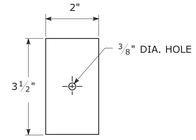
TYPICAL SIGN PANEL ATTACHMENT



TYPICAL BACK TO BACK SIGN PANEL ATTACHMENT



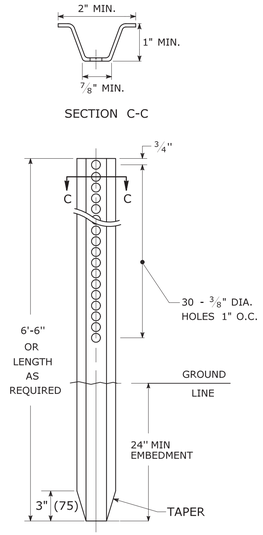
TYPICAL BACK-UP PLATE



BOLTS - STAINLESS STEEL CONFORMING TO ASTM F593, ALLOY GROUP 1 OR 2 (ALLOY TYPES 304 OR 316).
SELF LOCKING NUTS - STAINLESS STEEL CONFORMING TO ASTM F594, ALLOY GROUP 1 OR 2 (ALLOY TYPES 304 OR 316).
WASHERS - STAINLESS STEEL CONFORMING TO ASTM A240, (ALLOY TYPES 304 OR 316).

METAL DELINEATOR POST

WT./FT. = 1.12 LBS./FT. MIN.

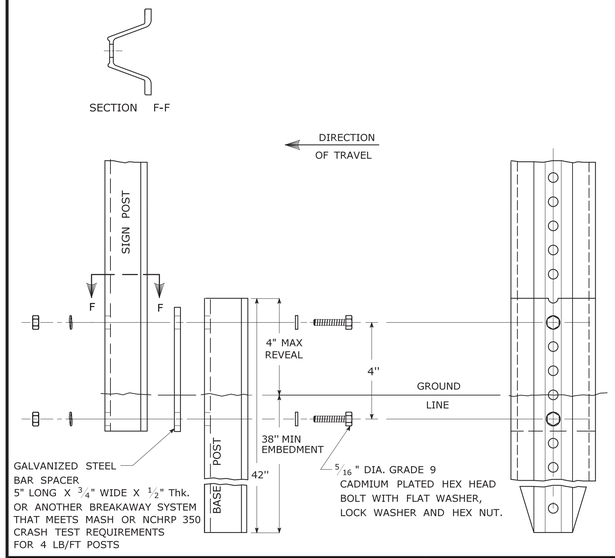


GENERAL NOTES:

1. STEEL FOR DELINEATOR POSTS SHALL BE ASTM A36 STEEL. STEEL FOR ALL OTHER POSTS SHALL CONFORM TO THE MECHANICAL REQUIREMENTS OF ASTM A 499 GRADE 80 AND TO THE CHEMICAL REQUIREMENTS OF ASTM A1 CARBON STEEL TEE RAIL HAVING NOMINAL WEIGHT (MASS) OF 91 LBS. OR GREATER PER LINEAR YARD.
2. AFTER FABRICATION, ALL STEEL POSTS, STRAPS AND PLATES SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A123.
3. WASHERS FOR BREAKAWAY INSTALLATIONS SHALL MEET ASTM F436, TYPE 1.
4. SPACER BAR FOR BREAKAWAY INSTALLATION SHALL CONFORM TO THE MECHANICAL REQUIREMENTS OF ASTM A36.
5. ALL BOLTS, NUTS, AND WASHERS FOR BREAKAWAY INSTALLATIONS SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A153.
6. ALL SIGN POSTS SHALL HAVE BREAKAWAY FEATURES THAT MEET AASHTO REQUIREMENTS CONTAINED IN THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS." THE BREAKAWAY FEATURES SHALL BE STRUCTURALLY ADEQUATE TO CARRY THE SIGNS SHOWN IN THE PLANS AT 60 mph WIND LOADINGS. INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
7. SIGN POSTS SHALL BE 4 LBS./FT.

BREAKAWAY INSTALLATION

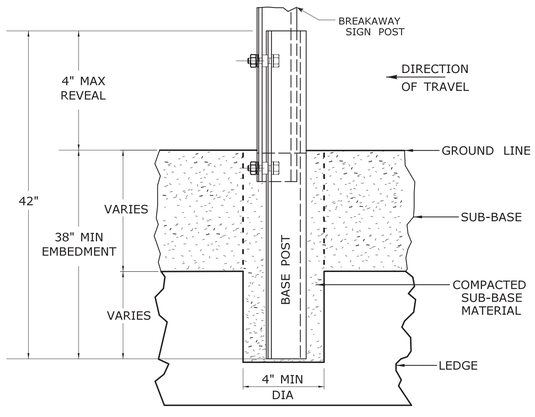
FOR 4 LBS./FT. POSTS



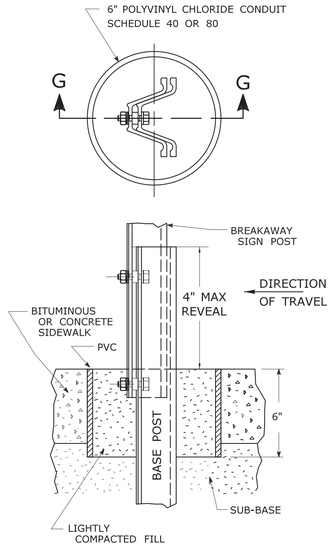
TYPICAL SIGN POST INSTALLATION IN LEDGE

LEDGE SHALL BE REMOVED TO DRIVE THE BASE POST TO A DEPTH OF 38".

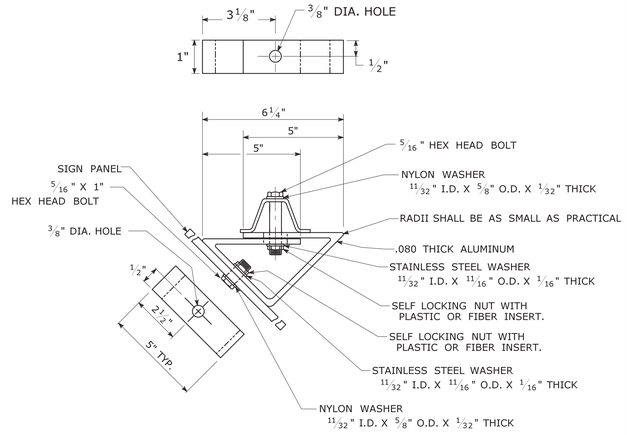
HOLE SHALL BE FILLED WITH SUB-BASE MATERIAL AND COMPACTED WITH A TAMPING BAR, OR TECHNIQUE APPROVED BY THE ENGINEER, PRIOR TO BASE POST INSTALLATION.



TYPICAL SLEEVE FOR PAVED AREAS



45° MOUNTING BRACKET FOR INSTALLATION OF PARKING SIGNS



REV.	DATE	REVISION DESCRIPTION
2	6-2017	SIGN POST REVISIONS.
1	2-2011	MINOR REVISIONS.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 6/6/2017

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: TR-1208_02_May_2017_Revision.dgn Model: TR-1208_02

SUBMITTED BY:	NAME/DATE/TIME:
Mark Makuch	Mark F. Makuch, P.E. 2017.06.07 07:30:30-04'00'
Mary E. Baker	Mary E. Baker, P.E. 2017.06.13 15:28:14-04'00'
APPROVED BY:	NAME/DATE/TIME:
	Gregory M. Dorosh, P.E. 2017.06.15 09:27:29-04'00'

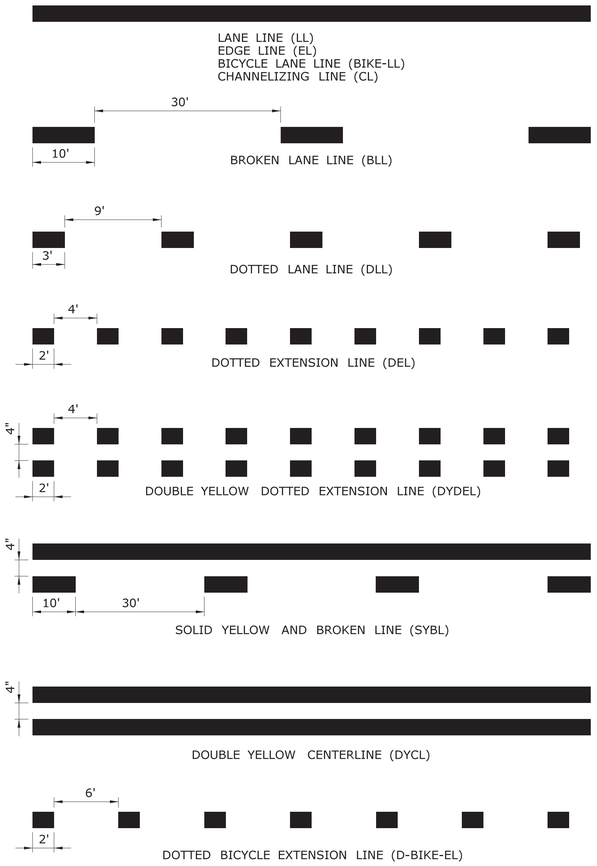
CTDOT STANDARD SHEET

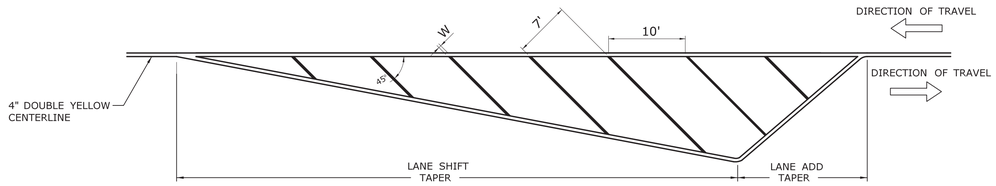
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

METAL SIGN POSTS AND SIGN MOUNTING DETAILS

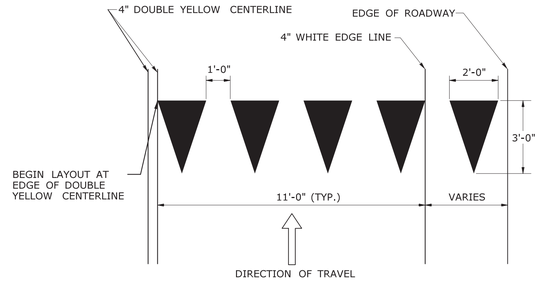
GUIDE SHEET NO.: TR-1208_02



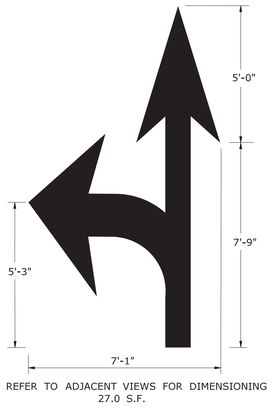


CROSS HATCHED ISLAND DETAIL
(YELLOW)

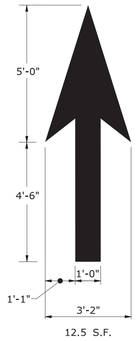
W IS TO BE 6" WHEN POSTED SPEED ≤ 45 MPH
W IS TO BE 12" WHEN POSTED SPEED > 45 MPH
CROSS HATCHED ISLANDS ARE TO BE INSTALLED WHERE CALLED FOR ON THE PLANS



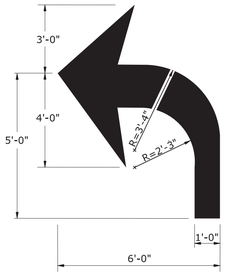
YIELD LINE DETAIL
(WHITE)



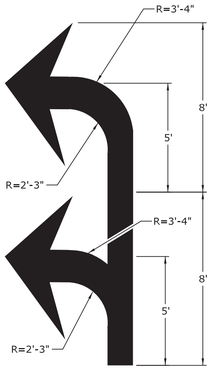
REFER TO ADJACENT VIEWS FOR DIMENSIONING
27.0 S.F.



12.5 S.F.



15.5 S.F.

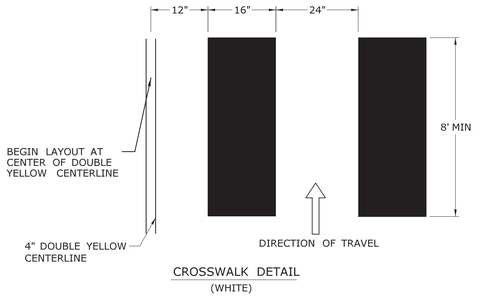


35 S.F.
DOUBLE LEFT ARROW

27.0 S.F.
LEFT & RIGHT ARROW COMBO

38.5 S.F.
3 WAY ARROW COMBO

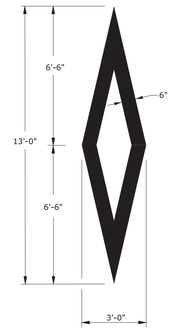
PAVEMENT ARROW DETAILS
(WHITE)
ARROWS SHALL BE CENTERED IN TRAVEL LANE



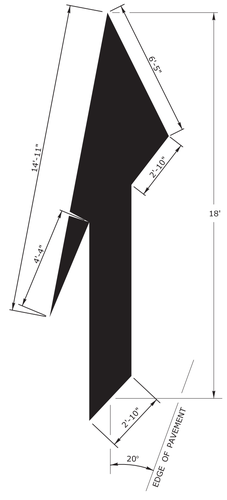
CROSSWALK DETAIL
(WHITE)

NOTES :

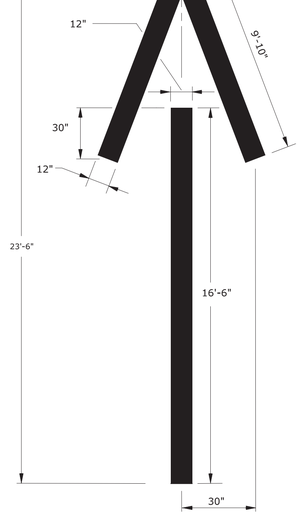
1. AREA OF PAVEMENT MARKINGS AS INDICATED IS APPROXIMATE.
2. RIGHT TURN PAVEMENT MARKING ARROWS ARE MIRROR IMAGE OF LEFT TURN PAVEMENT MARKING ARROWS.



WHITE PREFERENTIAL LANE SYMBOL
13.0 S.F.



WHITE LANE REDUCTION ARROW
41.8 S.F.



WHITE WRONG WAY PAVEMENT ARROW
36.2 S.F.

REV.	DATE	REVISION DESCRIPTION
1	8-2018	REMOVED ROUNDABOUT MARKINGS.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 8/10/2018

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: TR-1210_04.dgn Model: CT_Civil_2D_Sheet

SUBMITTED BY:	NAME/DATE/TIME:
	Mark F. Makuch, P.E. 2018.08.17 09:07:44-04'00'
APPROVED BY:	NAME/DATE/TIME:
	Mark F. Carlino, P.E. 2018.08.21 07:48:45-04'00'

CTDOT STANDARD SHEET

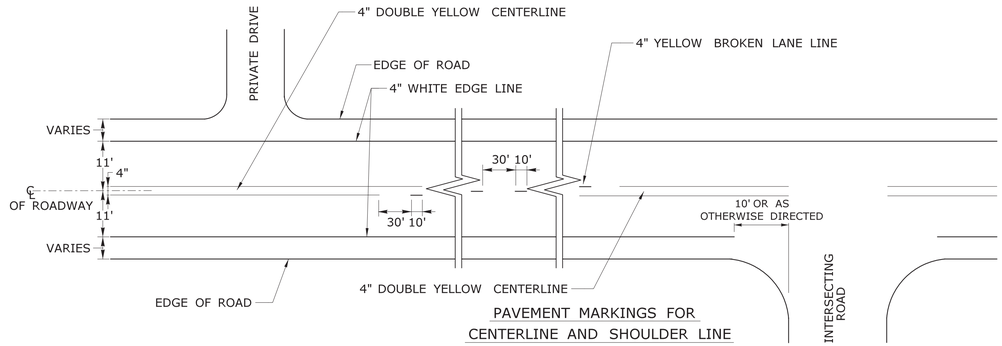
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

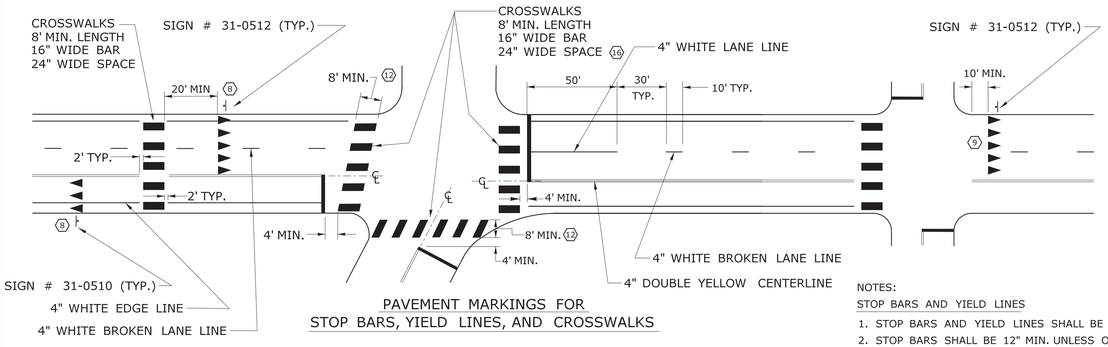
PAVEMENT MARKING LINES AND SYMBOLS

STANDARD SHEET NO.:

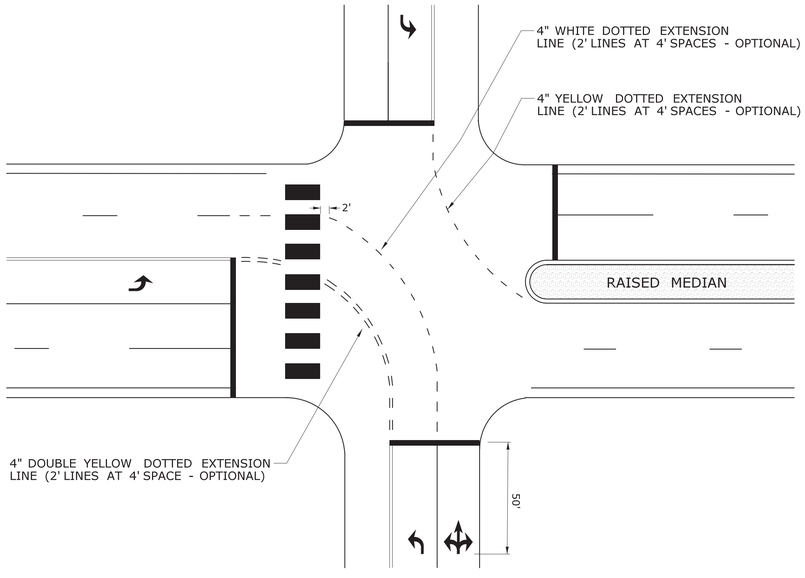
TR-1210_04



PAVEMENT MARKINGS FOR
CENTERLINE AND SHOULDER LINE



PAVEMENT MARKINGS FOR
STOP BARS, YIELD LINES, AND CROSSWALKS



TURNING EXTENSIONS

NOTES:

STOP BARS AND YIELD LINES

1. STOP BARS AND YIELD LINES SHALL BE WHITE.
2. STOP BARS SHALL BE 12" MIN. UNLESS OTHERWISE NOTED ON PLANS.
3. STOP BARS TO BE PLACED A MINIMUM OF 4' IN ADVANCE OF THE NEAREST EDGE OF CROSSWALK AND SHOULD BE PLACED 90° TO THE CENTERLINE OF THE ROADWAY. TO
4. IN THE ABSENCE OF A MARKED CROSSWALK THE STOP BAR SHOULD BE PLACED 90° THE CENTERLINE OF THE ROADWAY, AT THE DESIRED STOPPING POINT AT LEAST 5' AND NO MORE THAN 30' FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY.
5. THE STOP SIGN SHOULD BE PLACED IN LINE WITH THE STOP BAR. HOWEVER, IF THE STOP SIGN CANNOT BE LOCATED EXACTLY WHERE VEHICLES ARE EXPECTED TO STOP, THE STOP BAR SHOULD BE PLACED AT THE STOPPING POINT.
6. FOR STOP BARS AT RAMPS SEE DETAILS "R", "S", "T", & "U" AND NOTES ON TRAFFIC STANDARD SHEET TR-1210 07 "PAVEMENT MARKINGS FOR DIVIDED HIGHWAYS EXIT RAMPS".
7. FOR YIELD LINE INSTALLATIONS, ONLY FULL TRIANGLES ARE TO BE INSTALLED.

⑧ MID-BLOCK CROSSWALKS ARE CROSSWALKS LOCATED MORE THAN 50 FEET FROM A SIGNALIZED OR UNSIGNALIZED INTERSECTION. YIELD LINES ASSOCIATED WITH MIDBLOCK CROSSWALKS SHALL BE INSTALLED AND SHOULD BE LOCATED 20 TO 50 FEET IN ADVANCE OF THE NEAREST CROSSWALK LINE OR AS DIRECTED BY THE ENGINEER.
WHERE A YIELD LINE EXISTS ON AN APPROACH TO A CROSSWALK, THE APPROAPRIATE "YIELD TO PEDESTRIANS" SIGN IS REQUIRED.

⑨ FOR CROSSWALKS AT UNSIGNALIZED INTERSECTIONS WITH MINOR STREET STOP CONTROL, YIELD LINES SHALL BE INSTALLED ON MULTI-LANE APPROACHES, BUT NOT SINGLE LANE APPROACHES.

10. THE YIELD SIGN SHOULD BE PLACED IN LINE WITH A YIELD LINE. HOWEVER, IF THE YIELD SIGN CANNOT BE LOCATED EXACTLY WHERE VEHICLES ARE EXPECTED TO YIELD, THE YIELD LINE SHOULD BE PLACED AT THE YIELDING POINT.

CROSSWALKS

11. CROSSWALK MARKINGS SHALL BE WHITE.

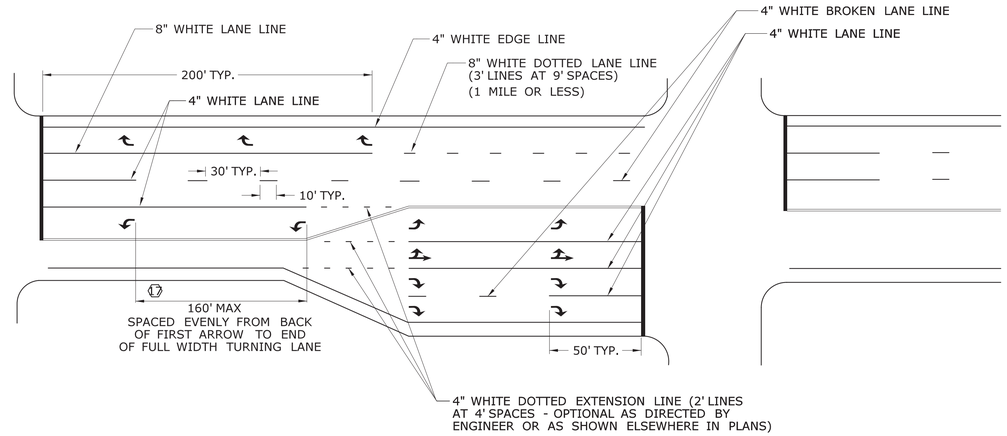
⑫ AT LOCATIONS WHERE THE CROSSWALK IS SKEWED, BARS TO BE PARALLEL TO ℄ AND ENDS OF BARS TO BE PARALLEL. THE LENGTH OF THE BARS WILL VARY DEPENDING ON THE ANGLE OF SKEW.

13. BARS SHOULD BE NO CLOSER THAN 1' FROM EDGE OF ROAD.
14. ONLY FULL LENGTH BARS ARE TO BE INSTALLED.
15. DECORATIVE CROSSWALKS SHALL BE BANDED FROM CURB TO CURB WITH A MINIMUM 12" WIDE WHITE TRANSVERSE LINE ALONG EACH EDGE.

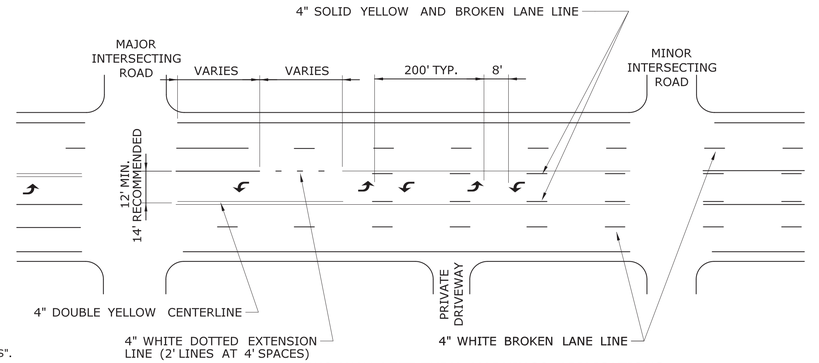
⑯ 24" WIDE SPACE TO BE CENTERED ON YELLOW CENTERLINE.

PAVEMENT MARKINGS FOR TURNING LANES

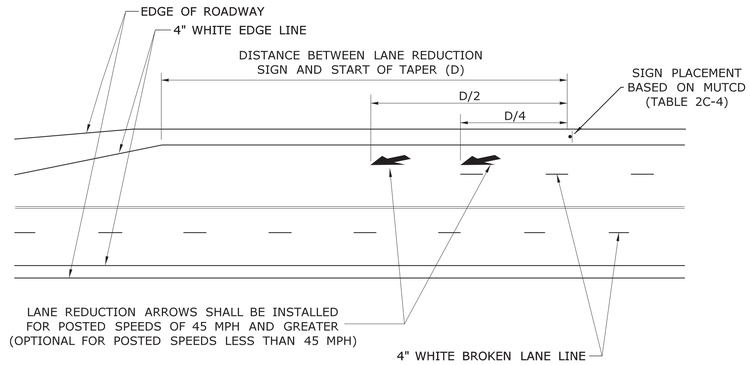
⑰ INSTALL AT LEAST TWO ARROWS PER LANE WHERE STORAGE LENGTH IS GREATER THAN 150 FEET.



PAVEMENT MARKINGS FOR TURNING LANES
AND ROAD LANE-DROP



TWO-WAY LEFT-TURN MARKINGS APPLICATIONS



LANE REDUCTION TRANSITIONS

REV.	DATE	REVISION DESCRIPTION
1	8-2018	REVISED YIELD LINE SIGNAGE AND NOTES.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 8/10/2018

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: TR-1210_08.DGN Model: TR-1210_05

SUBMITTED BY: NAME/DATE/TIME:
Mark F. Makuch, P.E.
2018.08.17 09:10:18-04'00'

APPROVED BY: NAME/DATE/TIME:
Mark F. Carlino, P.E.
2018.08.21 07:49:18-04'00'

CTDOT
STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
PAVEMENT MARKINGS
FOR NON FREEWAYS

STANDARD SHEET NO.:
TR-1210_08

E5 - SERIES

ES-1

COPY & BORDER - WHITE
BACKGROUND - GREEN

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	51-6147	2

16 - SERIES

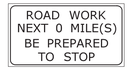
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
16-M	5.0	30X24	80-1613	1
16-H	17.5	60X42	80-1608	2
16-E	35.0	84X60	80-1605	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
16-S	10.0	48X30	80-1619	2

G20 - SERIES

G20-2a

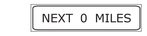
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	8.0	48X24	80-9612	2



VARIABLE MILEAGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	90.0	120X108	80-9728	

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9711	1
	16.0	48	80-9712	2



VARIABLE MILEAGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	7.0	72X14	80-9720	

VARIABLE ARROW
COPY & BORDER - WHITE
BACKGROUND - BLUE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	50-5934	2

M4 - SERIES

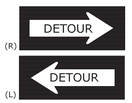
M4-8

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.0	24X12	80-9707	1

M4-8a

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	3.0	24X18	80-9708	1

M4-10



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	6.0	48X18	80-9701R	2
	6.0	48X18	80-9702L	2

VARIABLE ARROW

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	5.0	30X24	80-9710	1

M4-9b

VARIABLE ARROW

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	5.0	30X24	80-9703	1

M4-9b

VARIABLE ARROW

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	6.25	30X36	80-9706	1

R4 - SERIES

R4-7

COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	5.0	24X30	31-1526	1

R4-9

COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	5.0	24X30	31-1517	1
	12.0	36X48	31-1518	1
	20.0	48X60	31-1519	2

R1 - SERIES

R1-1

COPY & BORDER - WHITE
BACKGROUND - RED

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	5.19	30	31-0552	1
	13.30	48	31-0557	2

R1-2

COPY & BORDER - RED
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	3.90	36	31-0523	1
	10.83	60	31-0528	2

R9 & R11 - SERIES

R9-9

COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	3.75	30X18	80-9076	1

R9-11

VARIABLE ARROW
COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	3.0	24X18	80-9074	1

R9-11a

VARIABLE ARROW
COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.0	24X12	80-9075	1

R11-2

COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	10.0	48X30	80-9080	2

R11-3a

VARIABLE MILEAGE
COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	12.5	60X30	80-9077	2

R11-3b

VARIABLE MILEAGE
COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	12.5	60X30	80-9078	2

R11-3b

COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	12.5	60X30	80-9081	2

COPY & BORDER - BLACK
BACKGROUND - WHITE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	14.0	48X42	31-1906	2
	22.5	60X54	31-1907	2

W1 - SERIES

W1-4

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9432L	1
	9.0	36	80-9431R	1
	16.0	48	80-9452L	2
	16.0	48	80-9451R	2

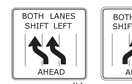
W1-6

(L or R)

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	8.0	48X24	80-9424	2
	12.5	60X30	80-9423	2

W1-8

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	3.0	18X24	80-9401	1
	5.0	24X30	80-9403	1
	7.5	30X36	80-9404	1



(L) (R)

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9433L	2
	16.0	48	80-9435R	2

(L) (R)

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9434L	2
	16.0	48	80-9436R	2

(L) (R)

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	25.0	60	80-9443L	2
	25.0	60	80-9445R	2

W1-4b

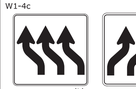
(L) (R)

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	25.0	60	80-9444L	2
	25.0	60	80-9446R	2

(L) (R)

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	25.0	60	80-9483L	2
	25.0	60	80-9485R	2

W1-4c



(L) (R)

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	25.0	60	80-9484L	2
	25.0	60	80-9486R	2

W3 - SERIES

W3-1

OCTAGON - RED W/ WHITE BORDER
ARROW & BORDER - BLACK
BACKGROUND - FLUORESCENT ORANGE

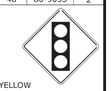
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9050	1
	16.0	48	80-9051	2

W3-2

TRIANGLE - RED W/ WHITE BORDER
ARROW & BORDER - BLACK
BACKGROUND - FLUORESCENT ORANGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9054	1
	16.0	48	80-9055	2

W3-3

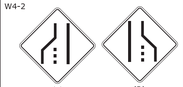


TOP CIRCLE - RED
MIDDLE CIRCLE - YELLOW
BOTTOM CIRCLE - GREEN
COPY & BORDER - BLACK
BACKGROUND - FLUORESCENT ORANGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9052	1
	16.0	48	80-9053	2

W4-W6 - SERIES

W4-2



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9918L	2
	16.0	48	80-9917R	2

W6-3

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9945	2

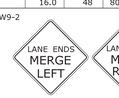
W8-W9 - SERIES

W8-1

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9901	1
	16.0	48	80-9902	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9801	1
	16.0	48	80-9802	2

W9-2



(L) (R)

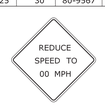
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9910L	2
	16.0	48	80-9911R	2

W13 - SERIES

W13-1

SUBPLATE
VARIABLE SPEED

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	4.0	24	80-9569	1
	6.25	30	80-9567	1



VARIABLE SPEED

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9506	1
	16.0	48	80-9508	2

W3-5

VARIABLE SPEED

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9520	1
	16.0	48	80-9521	2

W16 - SERIES

W16-15P

COPY & BORDER - BLACK
BACKGROUND - ORANGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.0	24X12	80-9049	

W20 - SERIES

W20-1

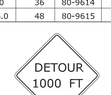
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	6.25	30	80-9602	1
	9.0	36	80-9603	1
	16.0	48	80-9604	2

W20-1

VARIABLE DISTANCE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9614	1
	16.0	48	80-9615	2

W20-2

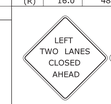


	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9805	1
	16.0	48	80-9806	2

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9834	1
	16.0	48	80-9835	2

(L) (R)

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
(L)	16.0	48	80-9836	2
(R)	16.0	48	80-9839	2



(L) (R)

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
(L)	16.0	48	80-9837	2
(R)	16.0	48	80-9838	2

(L) (R)

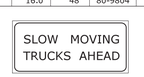
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
(L)	16.0	48	80-9847	2
(R)	16.0	48	80-9848	2

(L) (R)

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
(L)	16.0	48	80-9846	2
(R)	16.0	48	80-9849	2

W20-7a

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9803	1
	16.0	48	80-9804	2



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	32.0	96X48	80-9815	2

W16-9P

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.0	24X12	80-9870	
	3.75	30X18	80-9871	

W16-3aP

VARIABLE MILEAGE

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.5	30X12	80-9872	
	4.5	36X18	80-9873	

W21 - SERIES

W21-6

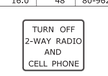
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9607	1

W22 - SERIES

W22-1

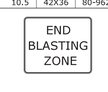
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9620	1
	16.0	48	80-9625	2

W22-2

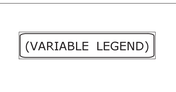


	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	10.5	42X36	80-9623	2

W22-3



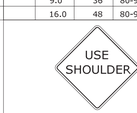
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	10.5	42X36	80-9621	2



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	4.17	60X10	80-9913	2
	12.0	96X18	80-9914	2
	3.33	48X10	80-9916	2

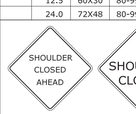
BLANK OR
VARIABLE LEGEND

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	9.0	36	80-9933	1
	16.0	48	80-9934	2



	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	16.0	48	80-9956	2

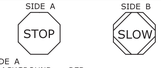
	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	12.5	60X30	80-9928	2
	25.0	72X48	80-9929	2



(1) (2)

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
(1)	16.0	48	80-9957	2
(2)	9.0	36	80-9958	1
(2)	16.0	48	80-9959	2

STOP-SLOW PADDLE



SIDE A
BACKGROUND - RED
COPY & BORDER - WHITE
SIDE B
BACKGROUND - ORANGE
COPY & BORDER - BLACK PLAIN

	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS
	2.25	18	80-9950	PADDLE

NOTES:
1. R1-SERIES SIGN THE LEGEND "O.S.T.A." SHALL APPEAR.
2. POSTS - SEE STANDARD SHEET TR-1208_02 - "METAL SIGN POSTS AND SIGN MOUNTING DETAILS".
3. POSTS SHALL BE 4 LBS./FT.
4. ALL POSTS NOTED ARE FOR LONG TERM INSTALLATION. SEE STANDARD SHEET TR-1208_02.
5. FOR TEMPORARY SUPPORTS SEE STANDARD SHEET TR-1220_02 - "CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES".
6. FOR SPECIFIC SIGN DESIGN, CONTACT CONN. D.O.T., DIVISION OF TRAFFIC ENGINEERING. FOR BOLT HOLE PATTERN REFER TO FHWA PUBLICATION "STANDARD HIGHWAY SIGNS". SIGNS OF DIFFERENT DIMENSIONS TO BE ERECTED ON THE SAME POSTS, OR SPAN/MAST ARM MOUNTED, MAY REQUIRE SPECIAL BOLT HOLE PATTERNS.
7. ALL CONSTRUCTION SIGNS TO BE PAID FOR UNDER THE CONSTRUCTION SIGNS ITEM IN THE CONTRACT.
8. MATERIALS & COLORS SHALL CONFORM TO STATE SPECIFICATIONS.

MATERIALS:
SIGNS AND THEIR PORTABLE SUPPORTS SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 2 DEVICES. ALUMINUM THICKNESS FOR POST MOUNTED SIGNS SHALL BE .100" EXCEPT SIGN #s. 80-1605, 80-9914, 80-9815, 80-9728, 80-9519, & 51-6147 (L OR R) WHICH SHALL BE .125", PLYWOOD THICKNESS FOR POST MOUNTED SIGNS SHALL BE 1/2" EXTERIOR GRADE A-C OR BETTER. SIGN BLANKS SHALL HAVE ONE COAT OF PRIMER PAINT PRIOR TO APPLICATION OF RETROREFLECTIVE SHEETING & COPY.

COLORS:
BACKGROUND - FLUORESCENT ORANGE - EXCEPT AS NOTED.
LEGEND - BLACK - EXCEPT AS NOTED.
ALL SIGNS WITH FLUORESCENT ORANGE BACKGROUND TO USE TYPE VIII RETROREFLECTIVE SHEETING.
ALL OTHER SIGNS TO USE TYPE IX RETROREFLECTIVE SHEETING.

REV.	DATE	REVISION DESCRIPTION
6	8-2018	REVISED POST REQUIREMENTS AND SHEETING TYPE.
5	8-2015	UPDATED PER MUTCD AND FORM 816 JAN 2015 REVISION.
4	6-2012	REVISED NOTE #1 TO REFERENCE "O.S.T.A."
3	4-2012	REVISED NEW SIGNAL SIGN(S) TO CONFORM TO 2009 MUTCD.
2	2-2011	MINOR REVISIONS.
1	3-2010	REMOVED OBSOLETE SIGNS (50-5925, 50-5935).

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 8/10/2018

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: TR-1220_01_1_2018.dgn Model: TR-1220_01

SUBMITTED BY: NAME/DATE/TIME:
Mark F. Makuch, P.E.
2018.08.17
09:11:08-04'00'

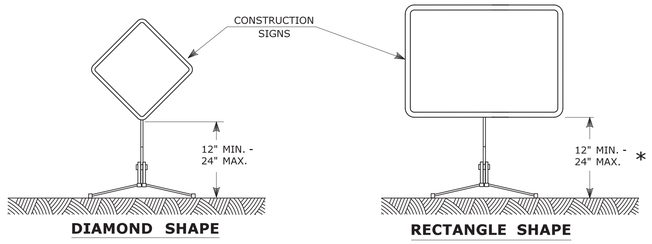
APPROVED BY: NAME/DATE/TIME:
Mark F. Carlino, P.E.
2018.08.21 07:49:34-04'00'

CTDOT
STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS

STANDARD SHEET NO.:
TR-1220_01

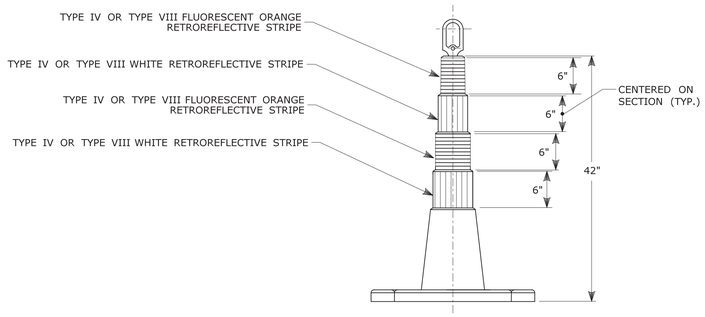


PORTABLE CONSTRUCTION SIGNS

NOTES FOR PORTABLE SIGN SUPPORTS:

1. SIGNS AND THEIR PORTABLE SUPPORTS SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 2 DEVICES AND THE LATEST EDITION OF THE MUTCD.
2. MOUNTING HEIGHT OF SIGNS SHALL BE A MINIMUM OF 12" AND A MAXIMUM OF 24". SIGNS SHALL BE MOUNTED HIGHER AS NEEDED TO MEET FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER.
3. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY SUPPORT DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
4. PORTABLE SIGN SUPPORTS SHALL BE STABILIZED IN A MANNER THAT WILL NOT AFFECT THEIR COMPLIANCE WITH NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 2 DEVICES.
5. PORTABLE CONSTRUCTION SIGN SUPPORTS SHOULD NOT BE USED FOR DURATION OF MORE THAN 3 DAYS EXCEPT FOR R9-8 THROUGH R9-11a SERIES, R11 SERIES, W1-6 THROUGH W1-8 SERIES, M4-10, AND E5-1. SEE STANDARD SHEET TR-1220_01 - "SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS" FOR SIGN DETAILS.

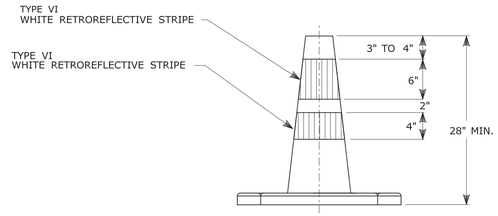
* FOR E5-1 (EXIT SIGNS) USE MIN 48".



42" TRAFFIC CONE

NOTES:

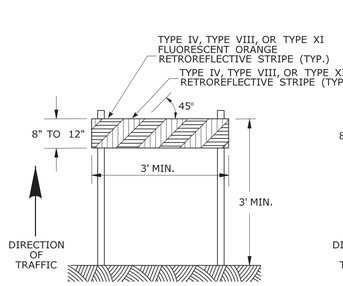
1. TRAFFIC CONES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 1 DEVICES AND THE LATEST EDITION OF THE MUTCD.
2. IF RUBBER CONES ARE USED, THEY SHALL HAVE INTERIOR RIBS FOR RIGIDITY.
3. IF PLASTIC CONES ARE USED, THEY SHALL BE COLOR IMPREGNATED.
4. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY CONE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
5. THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
6. THE SECTIONS OF CONES NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.



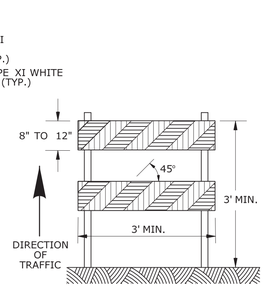
TRAFFIC CONE

NOTES:

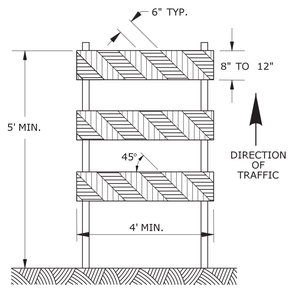
1. TRAFFIC CONES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 1 DEVICES AND THE LATEST EDITION OF THE MUTCD.
2. IF RUBBER CONES ARE USED, THEY SHALL HAVE INTERIOR RIBS FOR RIGIDITY.
3. IF PLASTIC CONES ARE USED, THEY SHALL BE COLOR IMPREGNATED.
4. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY CONE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
5. THE ENTIRE AREA OF WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
6. TRAFFIC CONES NOT USED AT NIGHT MAY UTILIZE TYPE III SHEETING.
7. THE SECTIONS OF CONES NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.



TYPE I BARRICADE



TYPE II BARRICADE

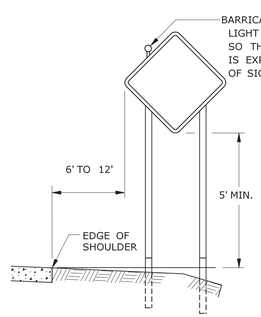


TYPE III BARRICADE

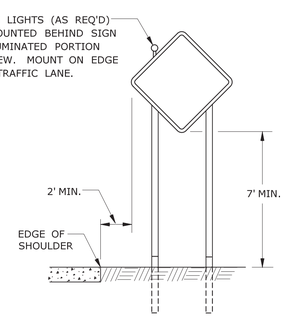
CONSTRUCTION BARRICADES

NOTES:

1. CONSTRUCTION BARRICADES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH AND THE LATEST EDITION OF THE MUTCD.
2. MARKINGS FOR BARRICADE RAILS SHALL BE ALTERNATE FLUORESCENT ORANGE AND WHITE STRIPES SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS. 6" WIDE STRIPES SHALL BE USED.
3. THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS. THE SIDES OF BARRICADES FACING TRAFFIC SHALL HAVE RETROREFLECTIVE RAIL FACES.
4. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY BARRICADE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
5. CORNERS OF BARRICADE RAILS SHALL BE ROUNDED.
6. SIGNS MAY ONLY BE INSTALLED ON TYPE III BARRICADES AND SHALL BE PLACED SO AS TO COVER NO MORE THAN ONE BARRICADE RAIL.



RURAL AREA



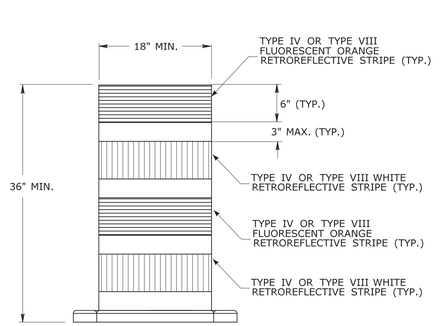
URBAN AREA

PLACEMENT OF CONSTRUCTION SIGNS TYPICAL LONG TERM INSTALLATION

NOTES:

SUPPORTS SHALL BE METAL SIGN POSTS AND HAVE BREAK-AWAY FEATURES.

REFER TO STANDARD SHEETS:
TR-1208.01 - "SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS."
TR-1208.02 - "METAL SIGN POSTS AND SIGN MOUNTING DETAILS."



TRAFFIC DRUM FRONT VIEW

NOTES:

1. TRAFFIC DRUM SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 1 DEVICES AND THE LATEST EDITION OF THE MUTCD.
2. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY DRUM DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
3. THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
4. THE SECTIONS OF DRUMS NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.

REV.	DATE	REVISION DESCRIPTION
3	8-2018	UPDATED SHEETING TYPE AND COLOR.
2	8-2015	UPDATED PER MUTCD AND FORM 816 JAN 2015 REVISION.
1	2-2011	MINOR REVISIONS.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 8/10/2018

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: TR-1220_02_3_2018.dgn Model: TR-1220_02

SUBMITTED BY: NAME/DATE/TIME:
Mark F. Makuch, P.E. 2018.08.17 09:12:43-04'00'

APPROVED BY: NAME/DATE/TIME:
Mark F. Carlino, P.E. 2018.08.21 07:49:51-04'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES

STANDARD SHEET NO.:
TR-1220_02