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ABBREVIATIONS

CD = ROADWAY
TCD = TRAFFIC CONTROL DETAILS
BCD = BRIDGE CONSTRUCTION DETAILS

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BDC16D-05- ADDED SHEET CD-602-2A
BDC17D-10-REVISED
BDC17D-02-REVISED
BDC16D-01-ORIGINAL SHEET

BDC20D-08-REVISED CD-159-3, CD-159-4, CD-159-5

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INDEX FOR STANDARD ROADWAY CONSTRUCTION DETAILS

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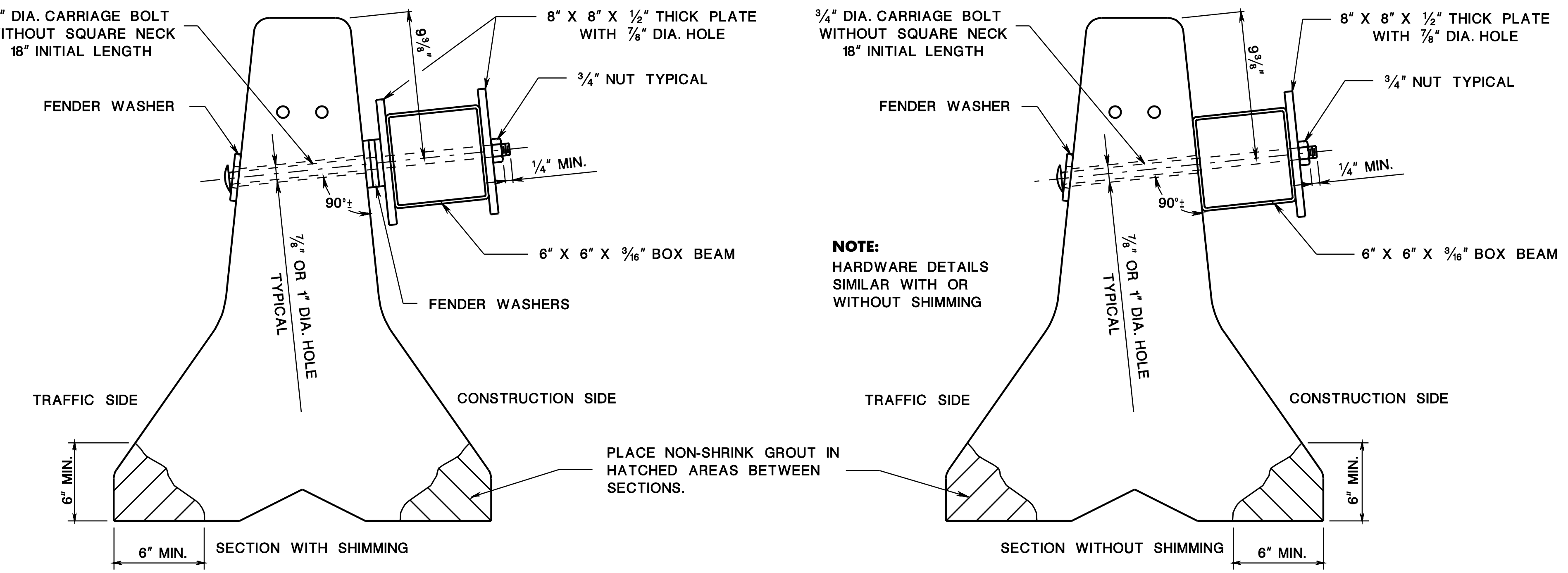


BOX BEAM STIFFENING OF CONSTRUCTION BARRIER CURB WITH ATTACHMENT TYPE B

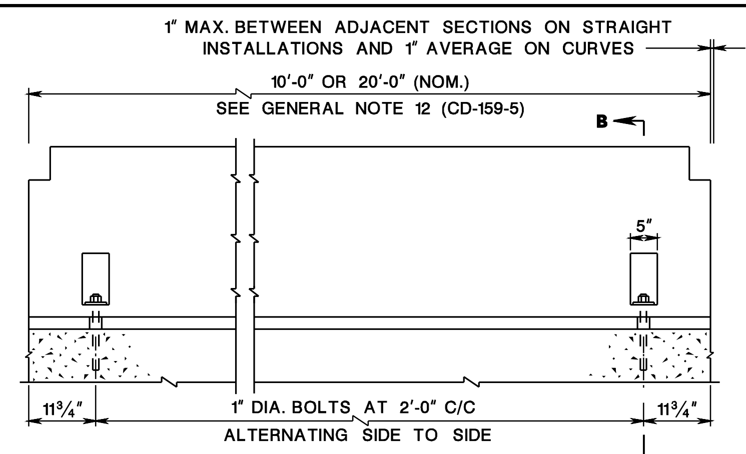
GENERAL NOTES:

1. BOX BEAM IS TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS.
2. CONSTRUCTION BARRIER CURB WITH BOX BEAM STIFFENER MAY ONLY BE USED WITH SEGMENTS 14'-0" OR LONGER.
3. CONSTRUCTION BARRIER CURB MAY ONLY BE INSTALLED TO THE FOLLOWING MINIMUM RADII: 14'-0" SEGMENT - 161'-0" RADIUS; 16'-0" SEGMENT - 184'-0" RADIUS; 18'-0" SEGMENT - 207'-0" RADIUS; 20'-0" SEGMENT - 230'-0" RADIUS.
4. WHERE CONSTRUCTION BARRIER CURB ARE PLACED ON A RADIUS, THE RESULTING GAPS BETWEEN THE BOX BEAM AND CONCRETE BARRIER TO BE SHIMMED.
5. THE SHIMMING CONSISTS OF 8" X 8" X 1/2" SQUARE PLATE, AND FENDER WASHERS AS NEEDED TO SNUG THE BOX BEAM STIFFENER TO THE CONSTRUCTION BARRIER CURB.
6. FENDER WASHER TO BE 3" NOMINAL O.D.
7. THE PRESENCE OF NORMAL HOLES DRILLED PER THIS SHEET WILL NOT AFFECT THE REUSABILITY OF THE CONCRETE SEGMENTS.
8. DRILL HOLES IN CONSTRUCTION BARRIER CURB FOR PURPOSE OF BOX BEAM ATTACHMENT USING A CORE DRILL OR ANY OTHER APPROVED ROTARY DRILLING DEVICE THAT DOES NOT IMPART AN IMPACT FORCE.
9. DO NOT USE BOX BEAM STIFFENING AS MEDIAN BARRIER (TRAFFIC ON BOTH SIDES OF BARRIER).
10. HOLES ARE NOT TO BE DRILLED AND ANCHOR PIN AND ANCHOR BOLT INSTALLATION IS NOT ALLOWED IN CONCRETE BRIDGE DECKS THAT WILL BE PERMANENTLY USED, UNLESS APPROVED BY THE DEPARTMENT BASED ON SPECIAL FIELD CONDITIONS. WHEN ANCHOR PIN AND BOLT INSTALLATION IS ALLOWED FOR PERMANENT OR NON-PERMANENT BRIDGE DECKS, ENSURE THAT CONCRETE IS SOUND AND IN GOOD CONDITION, AND CONCRETE THICKNESS IS SUFFICIENT.

CD-159-3.3

NOTES:

1. BOLTS ARE REQUIRED IN EVERY ANCHOR POCKET HOLE.
2. WHEN BARRIER HAS BEEN REMOVED, THE BOLTS ARE TO BE REMOVED OR CUT OFF TO A LEVEL OF 1/2" MINIMUM BELOW THE SURFACE AND THE HOLE FILLED TO THE SATISFACTION OF THE RE.



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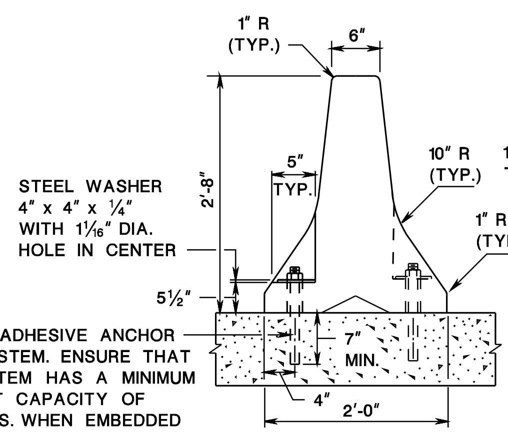
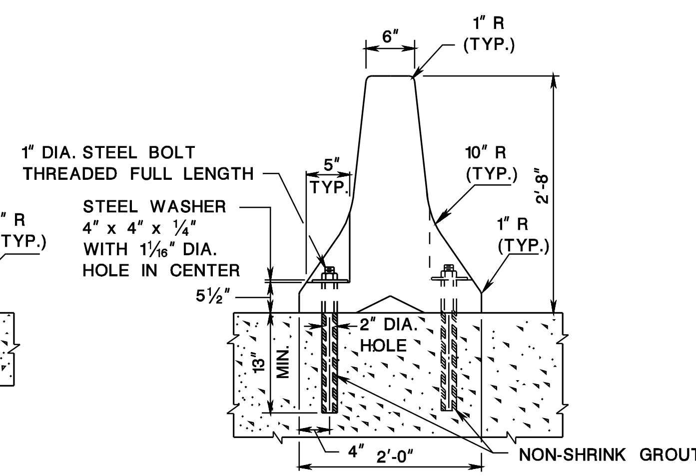


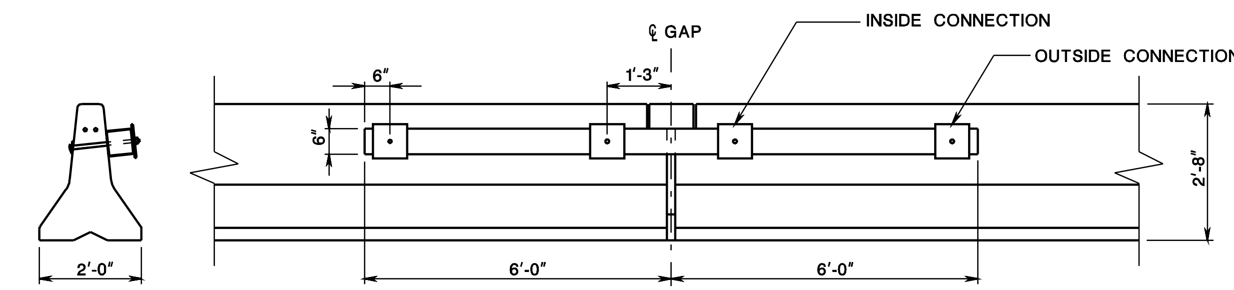
VIEW B–B
CONCRETE PAVEMENT
(SEE GENERAL NOTE 10)



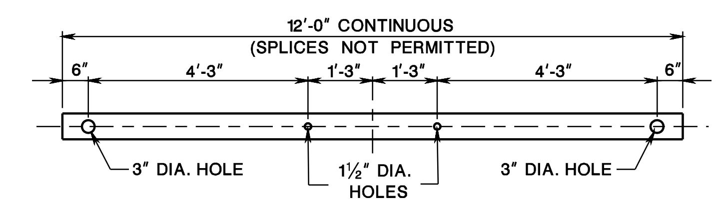
VIEW B–B
HMA PAVEMENT

ANCHORAGE FOR CONSTRUCTION BARRIER CURB WITH ATTACHMENT TYPE D

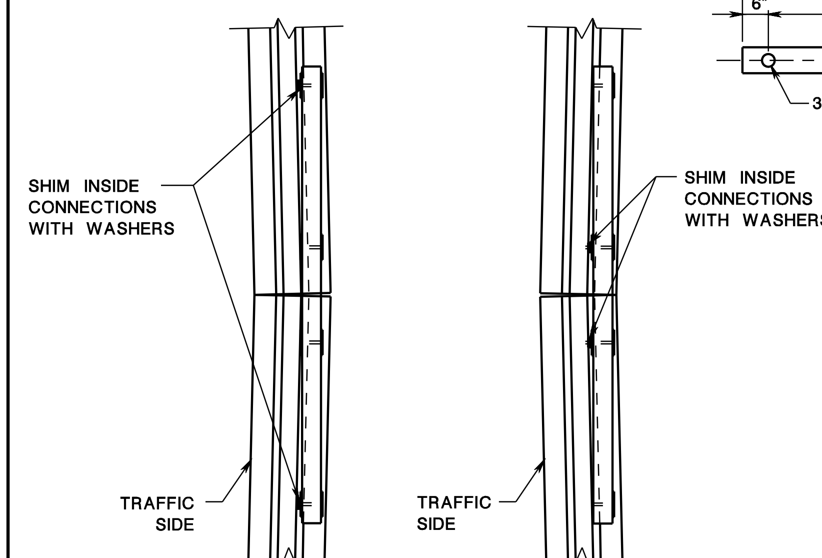
CD-159-3.2



SIDE VIEW
(CONSTRUCTION SIDE)



BOX BEAM
HOLE LAYOUT DETAIL



PLAN VIEW
CONSTRUCTION BARRIER CURB CURVING TOWARD TRAFFIC

PLAN VIEW
CONSTRUCTION BARRIER CURVING AWAY FROM TRAFFIC

CD-159-3.1

CONSTRUCTION BARRIER CURB (MASH TL–3)

N.T.S.

CD-159-3

NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS

BDC21D-06-REVISED
BDC18D-01-ORIGINAL SHEET

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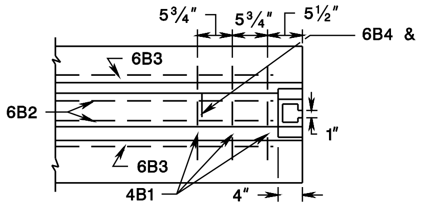
CONSTRUCTION BARRIER CURB CONNECTION DETAILS



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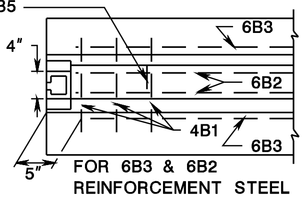
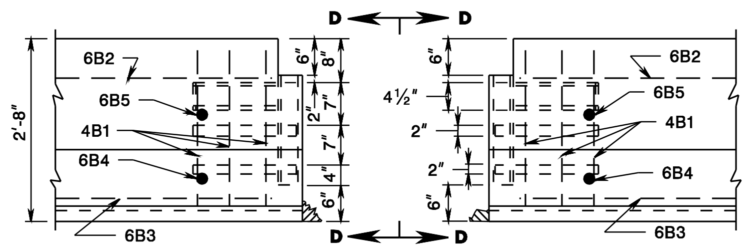
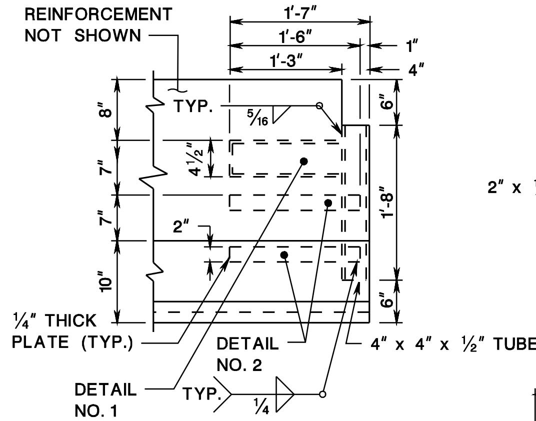




ELEVATION

FOR SECTION D-D, PLACE NON-SHRINK GROUT IN HATCHED AREAS BETWEEN SECTIONS, WHEN REQUIRED BY THE TABLE OF JOINT AND ANCHORAGE TREATMENT.



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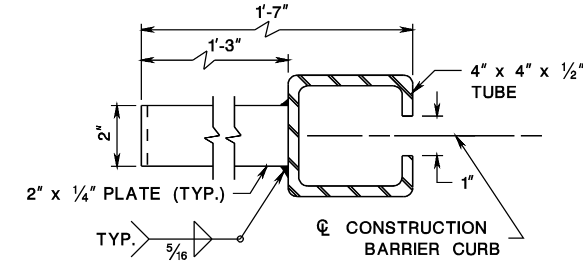
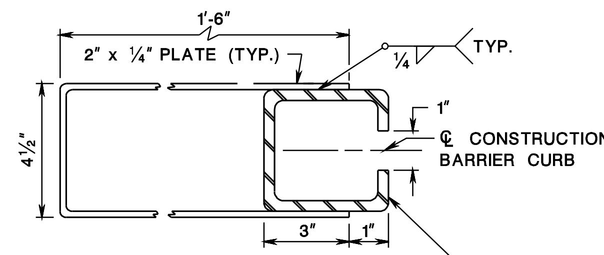
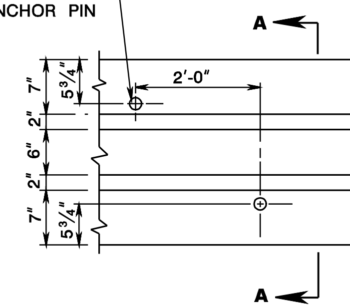


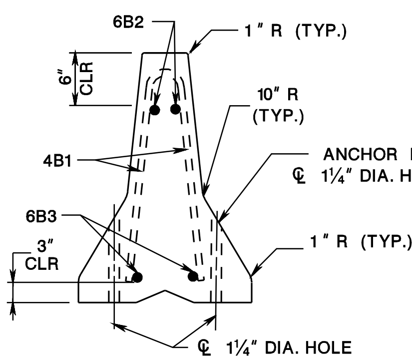
PLAN VIEW DETAIL NO. 1



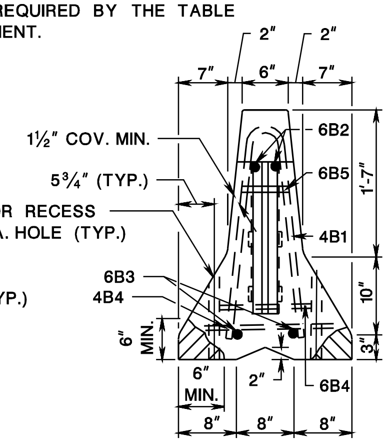
PLAN VIEW DETAIL NO. 2



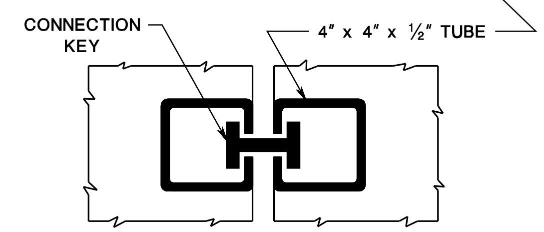
PLAN–ANCHOR RECESS



SECTION A–A

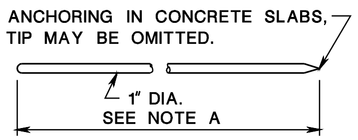


SECTION D–D



KEY IN PLACE

FOR ANCHORING IN CONCRETE SLABS, THE TIP MAY BE OMITTED.



ANCHOR PIN

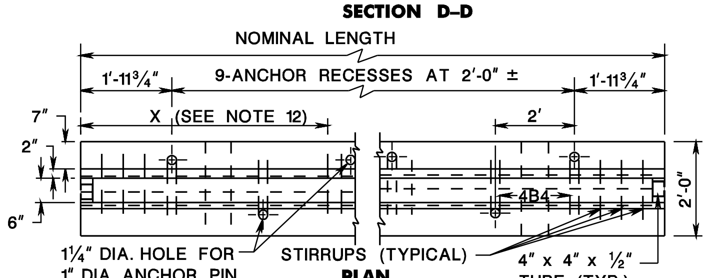
ATTACHMENT TYPE	TABLE OF JOINT AND ANCHORAGE TREATMENTS FOR CONSTRUCTION BARRIER CURB
A	CONNECTION KEY AND BARRIER END SECTIONS FULLY PINNED*
B	CONNECTION KEY, 6″ X 6″ BOX BEAM, NON-SHRINK GROUT EVERY JOINT, AND BARRIER END SECTIONS FULLY PINNED*
C	CONNECTION KEY, NON-SHRINK GROUT EVERY JOINT, TRAFFIC SIDE OF ALL SECTIONS PINNED, AND BARRIER END SECTIONS FULLY PINNED*

*FULLY PINNED - PINS IN EVERY ANCHOR RECESS ON BOTH SIDES

TABLE OF VARIABLE REINFORCEMENT STEEL

NOMINAL LENGTH OF BARRIER UNIT	MARK	"X"	NO. EACH SECTION
20′	4B4	N.A.	9
20′	4B5	6′-11″	2
18′	4B4	N.A.	8
18′	4B5	6′-5″	2
16′	4B4	N.A.	7
16′	4B5	5′-11″	2
14′	4B4	N.A.	6
14′	4B5	7′-0″	1
12′	4B4	N.A.	5
12′	4B5	6′-0″	1
10′	4B4	N.A.	4
10′	4B5	5′-0″	1
8′	4B4	N.A.	3
8′	4B5	-	0

"X" DISTANCE FROM END OF BARRIER TO 4B5 REINFORCEMENT STEEL



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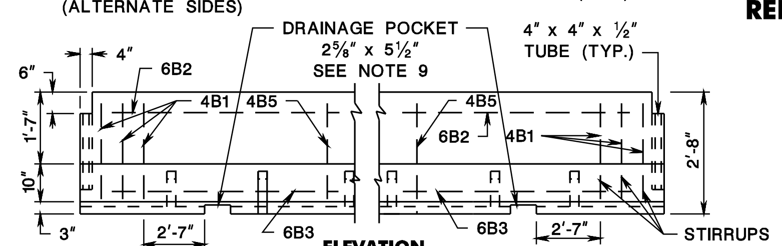
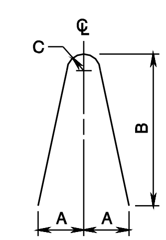


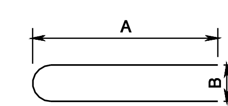
ELEVATION

CONSTRUCTION BARRIER CURB

REINFORCEMENT STEEL LIST (EACH BARRIER SECTION)								
MARK	SIZE	NUMBER IN EACH SECTION	LENGTH	TYPE	A	B	C	LOCATION
4B1	#13	6	4′-11″	I	5″	26″	2″	STIRRUPS
4B4	#13	SEE NOTE 12	3′-1″	II	15½″	4″		STIRRUPS
4B5	#13	SEE NOTE 12	4′-11″	I	5″	26″	2″	STIRRUPS
6B2	#19	2	SEE NOTE 12	STR.				LONGITUDINAL (TOP) NORMAL SECTION
6B3	#19	2	SEE NOTE 12	STR.				LONGITUDINAL (BOTTOM) NORMAL SECTION
6B4	#19	2	1′-2″	STR.				TRANSVERSE (BOTTOM) NORMAL SECTION
6B5	#19	2	0′-6″	STR.				TRANSVERSE (TOP) NORMAL SECTION



TYPE "I" REINFORCEMENT STEEL



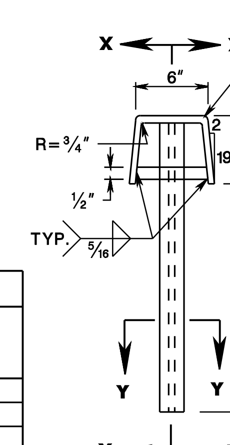
TYPE "II" REINFORCEMENT STEEL

GENERAL NOTES:

1. STEEL PLATE TO BE ASTM A36, A588, A441, OR A572 GRADE 50.
2. USE REINFORCEMENT STEEL ASTM A615, GRADE 60.
3. USE CONCRETE CLASS B.
4. CONCRETE CLEAR COVER FOR REINFORCEMENT STEEL IS 1½″ (MIN.).
5. USE TUBE STEEL ASTM A500, GRADE B OR C.
6. USE ANCHOR PINS 1 INCH DIA. ASTM A36 AND ANCHOR BOLTS 1 INCH DIA. ASTM F1554 GRADE 36.
7. ANCHOR PINS ARE NOT REQUIRED IN EVERY UNIT. SEE TABLE OF JOINT AND ANCHORAGE TREATMENTS.
8. PIN ALL END SECTIONS UNLESS OTHERWISE NOTED.
9. 2⅝″ X 5½″ DRAINAGE POCKETS - TWO REQUIRED IN SECTIONS 12 FEET AND GREATER. ONE REQUIRED IN 8 FOOT AND 10 FOOT SECTIONS.
10. AFTER A BARRIER UNIT HAS BEEN PLACED AND THE CONNECTION KEY INSERTED, REMOVE ANY SLACK IN THE JOINT BY PULLING THE UNIT IN A DIRECTION PARALLEL TO ITS LONGITUDINAL AXIS.
11. THE CONSTRUCTION BARRIER CURB TO BE CAST IN STEEL FORMS.
12. THE CONSTRUCTION BARRIER CURB IS IN UNITS OF 20 FEET, HOWEVER, OTHER LENGTHS MAY BE USED TO MEET FIELD CONDITIONS. THE NUMBER AND PLACEMENT OF THE 4B4 AND 4B5 REINFORCEMENT STEEL WILL VARY WITH THE LENGTH OF THE BARRIER UNIT AS SHOWN ON THE TABLE OF VARIABLE REINFORCEMENT STEEL. THE 6B2 AND 6B3 REINFORCEMENT STEEL TO BE 10 INCHES SHORTER THAN THE NOMINAL LENGTH OF THE BARRIER UNITS.
13. REINFORCING SHOWN IS THE MINIMUM REQUIRED. ADDITIONAL REINFORCING NECESSARY FOR HANDLING IS THE OPTION AND RESPONSIBILITY OF THE CONTRACTOR.
14. WELDING AND FABRICATION OF STEEL STRUCTURES TO BE IN ACCORDANCE WITH SECTIONS 1 THROUGH 6 OF THE ANSI / AASHTO / AWS D1.5 BRIDGE WELDING CODE AND SECTION 10 OF THE ANSI / AWS D.1 STRUCTURAL WELDING CODE, WHICHEVER IS MORE STRICT WHEN THERE IS CONFLICT. ENSURE THAT THE WELDS ARE FREE OF SCALE, SLAG, RUST, MOISTURE, GREASE, OR ANY OTHER MATERIAL THAT WILL PREVENT PROPER WELDING OR PRODUCE OBJECTIONAL FUMES. WELDING IS TO BE SHIELDED METAL ARC WELDING USING PROPERLY DRIED 5⁄32″ DIA. E7018 ELECTRODES.
15. AFTER REMOVAL OF THE BARRIER, FILL THE HOLES IN THE SURFACE ON WHICH THE BARRIER SAT WHICH WERE USED TO ANCHOR THE SYSTEM. THE ONLY EXCEPTION IS WHEN THE HOLES ARE IN AN AREA WHICH IS TO BE REMOVED. FILL HOLES IN FLEXIBLE PAVEMENT OR UNPAVED AREAS, AS DIRECTED. FILL HOLES IN PORTLAND CEMENT CONCRETE PAVEMENTS OR, WHEN ALLOWED, STRUCTURAL DECKS WITH NON-SHRINK GROUT MATERIAL MEETING THE REQUIREMENTS OF SECTION 903.08.02.A, EXCEPT THAT IN LATEX MODIFIED CONCRETE BRIDGE DECK, USE A COMPATIBLE NON-SHRINK GROUT MATERIAL.
16. THE APPROACH END OF THE CONSTRUCTION BARRIER CURB TO BE FLARED AWAY FROM TRAFFIC AT A RATE OF 8:1. ON CURVED ROADWAYS, AVOID KINKS IN THE BARRIER ALIGNMENT.
17. HOLES ARE NOT TO BE DRILLED AND ANCHOR PIN AND ANCHOR BOLT INSTALLATION IS NOT ALLOWED IN CONCRETE BRIDGE DECKS THAT WILL BE PERMANENTLY USED, UNLESS APPROVED BY THE DEPARTMENT BASED ON SPECIAL FIELD CONDITIONS. WHEN ANCHOR PIN AND BOLT INSTALLATION IS ALLOWED FOR PERMANENT OR NON-PERMANENT BRIDGE DECKS, ENSURE THAT CONCRETE IS SOUND AND IN GOOD CONDITION, AND CONCRETE THICKNESS IS SUFFICIENT.

NOTE A
ENSURE THAT THE LENGTH OF THE ANCHOR PIN IS SUCH THAT THE FOLLOWING MINIMUM EMBEDMENT LENGTH ARE OBTAINED:
(a) INTO CONCRETE PAVEMENT 0′-5″.
(b) INTO FLEXIBLE PAVEMENT 1′-6″
(c) INTO UNPAVED AREA 2′-6″
WHEN ANCHOR PINS ARE IN PLACE, THEY WILL NOT PROJECT ABOVE THE PLANE OF THE CONCRETE SURFACE OF THE BARRIER.
HOLES, WHEN ALLOWED, IN BRIDGE DECKS TO BE 1¼″ DIAMETER MAXIMUM AND MADE WITH A CORE DRILL OR ANY OTHER APPROVED ROTARY DRILLING DEVICE THAT DOES NOT IMPART AN IMPACT FORCE.

NOTE B
FOR INSTALLATION ON BRIDGE DECKS, WHEN ALLOWED, REFER TO BRIDGE PLANS FOR NECESSARY MODIFICATIONS AS REQUIRED AND GENERAL NOTE 15.



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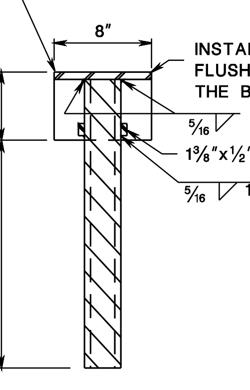
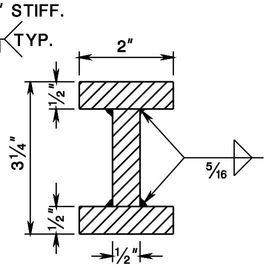


SECTION X–X



SECTION Y–Y

CONNECTION KEY

NOTE:
REINFORCEMENT STEEL IS IN METRIC UNITS.

CONSTRUCTION BARRIER CURB (ALTERNATE A) (MASH TL–3)

N.T.S.

CD-159-4

NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS

CD-159-4.1

BDC21D-06-REVISED
BDC16D-01-ORIGINAL SHEET
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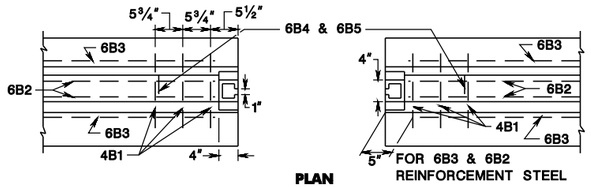
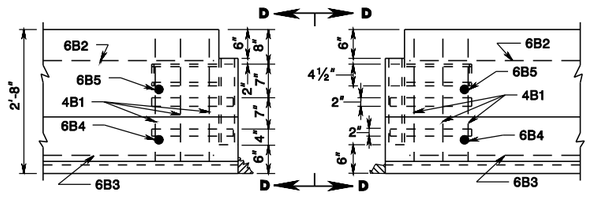
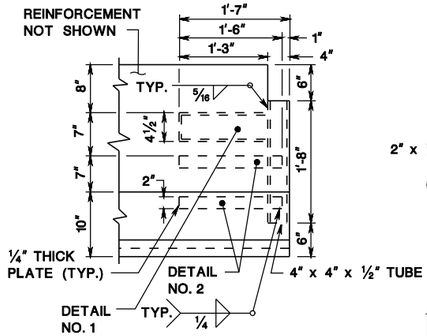
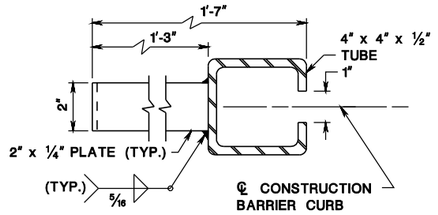
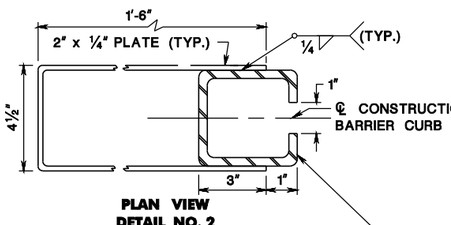
CONSTRUCTION BARRIER CURB CONNECTION DETAILS

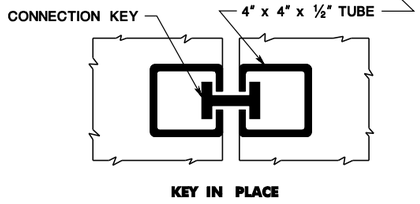




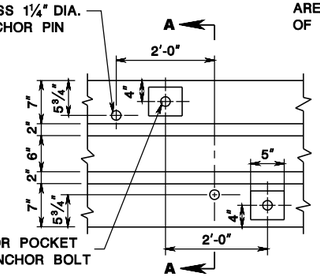








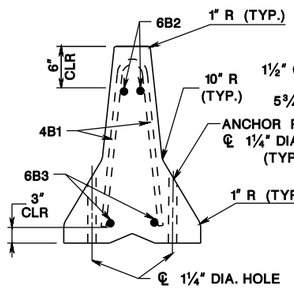
ANCHOR RECESS 1¼" DIA.
HOLE FOR ANCHOR PIN
(TYP.)

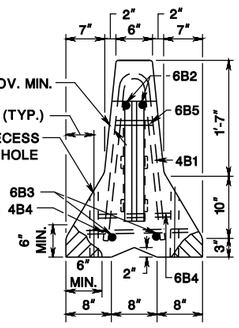


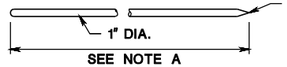
2" DIA. ANCHOR POCKET
HOLE FOR ANCHOR BOLT
(TYP.)

FOR SECTION D-D, PLACE NON-SHRINK GROUT IN HATCHED AREAS BETWEEN SECTIONS, WHEN REQUIRED BY THE TABLE OF JOINT AND ANCHORAGE TREATMENT.

PLAN–ANCHOR RECESS/POCKET





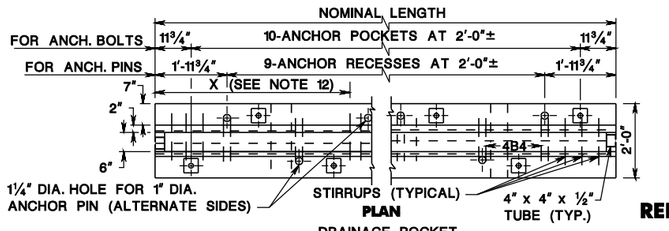


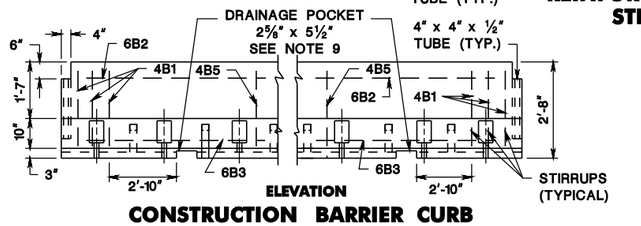
ANCHOR PIN

ATTACHMENT TYPE	TABLE OF JOINT AND ANCHORAGE TREATMENTS FOR CONSTRUCTION BARRIER CURB
A	CONNECTION KEY AND BARRIER END SECTIONS FULLY PINNED*
B	CONNECTION KEY, 6" X 6" BOX BEAM, NON-SHRINK GROUT EVERY JOINT, AND BARRIER END SECTIONS FULLY PINNED*
C	CONNECTION KEY, NON-SHRINK GROUT EVERY JOINT, TRAFFIC SIDE OF ALL SECTIONS PINNED, AND BARRIER END SECTIONS FULLY PINNED*
D	CONNECTION KEY, NON-SHRINK GROUT EVERY JOINT, AND BOLT EVERY ANCHOR POCKET HOLE IN EVERY UNIT

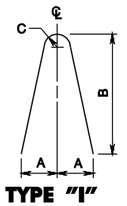
*FULLY PINNED - PINS IN EVERY ANCHOR RECESS ON BOTH SIDES

TABLE OF VARIABLE REINFORCEMENT STEEL			
NOMINAL LENGTH OF BARRIER UNIT	MARK	"X"	NO. EACH SECTION
20'	4B4	N.A.	9
20'	4B5	6'-11"	2
18'	4B4	N.A.	8
18'	4B5	6'-5"	2
16'	4B4	N.A.	7
16'	4B5	5'-11"	2
14'	4B4	N.A.	6
14'	4B5	7'-0"	1
12'	4B4	N.A.	5
12'	4B5	6'-0"	1
10'	4B4	N.A.	4
10'	4B5	5'-0"	1
8'	4B4	N.A.	3
8'	4B5	-	0
"X" DISTANCE FROM END OF BARRIER TO 4B5 REINFORCEMENT STEEL			

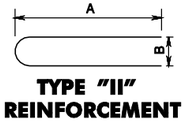




CONSTRUCTION BARRIER CURB

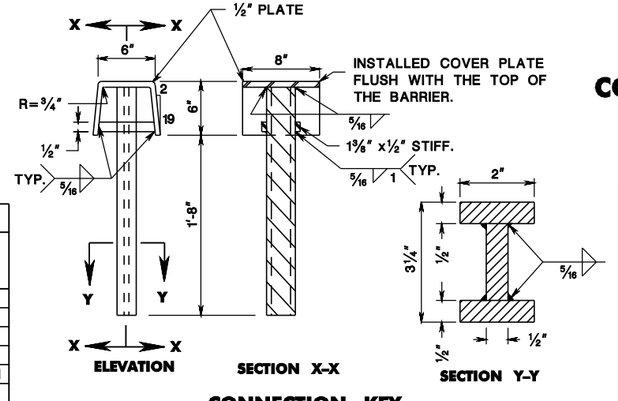


TYPE "I" REINFORCEMENT STEEL



TYPE "II" REINFORCEMENT STEEL

REINFORCEMENT STEEL LIST (EACH BARRIER SECTION)								
MARK	SIZE	NUMBER IN EACH SECTION	LENGTH	TYPE	A	B	C	LOCATION
4B1	#13	6	4'-11"	I	5"	26"	2"	STIRRUPS
4B4	#13	SEE NOTE 12	3'-1"	II	15½"	4"		STIRRUPS
4B5	#13	SEE NOTE 12	4'-11"	I	5"	26"	2"	STIRRUPS
6B2	#19	2	SEE NOTE 12	STR.				LONGITUDINAL (TOP) NORMAL SECTION
6B3	#19	2	SEE NOTE 12	STR.				LONGITUDINAL (BOTTOM) NORMAL SECTION
6B4	#19	2	1'-2"	STR.				TRANSVERSE (BOTTOM) NORMAL SECTION
6B5	#19	2	0'-6"	STR.				TRANSVERSE (TOP) NORMAL SECTION



CONNECTION KEY

CD-159-5.1

GENERAL NOTES:

1. STEEL PLATE TO BE ASTM A36, A588, A441, OR A572 GRADE 50.
2. USE REINFORCEMENT STEEL ASTM A615, GRADE 60.
3. USE CONCRETE CLASS B.
4. CONCRETE CLEAR COVER FOR REINFORCEMENT STEEL IS 1½" (MIN.).
5. USE TUBE STEEL ASTM A500, GRADE B OR C.
6. USE ANCHOR PINS 1 INCH DIA. ASTM A36 AND ANCHOR BOLTS 1 INCH DIA. ASTM F1554 GRADE 36.
7. ANCHOR PINS ARE NOT REQUIRED IN EVERY UNIT. SEE TABLE OF JOINT AND ANCHORAGE TREATMENTS.
8. PIN ALL END SECTIONS UNLESS OTHERWISE NOTED.
9. 2⅝" X 5½" DRAINAGE POCKETS - TWO REQUIRED IN SECTIONS 12 FEET AND GREATER. ONE REQUIRED IN 8 FOOT AND 10 FOOT SECTIONS.
10. AFTER A BARRIER UNIT HAS BEEN PLACED AND THE CONNECTION KEY INSERTED, REMOVE ANY SLACK IN THE JOINT BY PULLING THE UNIT IN A DIRECTION PARALLEL TO ITS LONGITUDINAL AXIS.
11. THE CONSTRUCTION BARRIER CURB TO BE CAST IN STEEL FORMS.
12. THE CONSTRUCTION BARRIER CURB IS IN UNITS OF 20 FEET, HOWEVER, OTHER LENGTHS MAY BE USED TO MEET FIELD CONDITIONS. THE NUMBER AND PLACEMENT OF THE 4B4 AND 4B5 REINFORCEMENT STEEL WILL VARY WITH THE LENGTH OF THE BARRIER UNIT AS SHOWN ON THE TABLE OF VARIABLE REINFORCEMENT STEEL. THE 6B2 AND 6B3 REINFORCEMENT STEEL TO BE 10 INCHES SHORTER THAN THE NOMINAL LENGTH OF THE BARRIER UNITS.
13. REINFORCING SHOWN IS THE MINIMUM REQUIRED. ADDITIONAL REINFORCING NECESSARY FOR HANDLING IS THE OPTION AND RESPONSIBILITY OF THE CONTRACTOR.
14. WELDING AND FABRICATION OF STEEL STRUCTURES TO BE IN ACCORDANCE WITH SECTIONS 1 THROUGH 6 OF THE ANSI / AASHTO / AWS D1.5 BRIDGE WELDING CODE AND SECTION 10 OF THE ANSI / AWS D.1 STRUCTURAL WELDING CODE, WHICHEVER IS MORE STRICT WHEN THERE IS CONFLICT. ENSURE THAT THE WELDS ARE FREE OF SCALE, SLAG, RUST, MOISTURE, GREASE, OR ANY OTHER MATERIAL THAT WILL PREVENT PROPER WELDING OR PRODUCE OBJECTIONAL FUMES. WELDING IS TO BE SHIELDED METAL ARC WELDING USING PROPERLY DRIED 5/32" DIA. E7018 ELECTRODES.
15. AFTER REMOVAL OF THE BARRIER, FILL THE HOLES IN THE SURFACE ON WHICH THE BARRIER SAT WHICH WERE USED TO ANCHOR THE SYSTEM. THE ONLY EXCEPTION IS WHEN THE HOLES ARE IN AN AREA WHICH IS TO BE REMOVED. FILL HOLES IN FLEXIBLE PAVEMENT OR UNPAVED AREAS, AS DIRECTED. FILL HOLES IN PORTLAND CEMENT CONCRETE PAVEMENTS OR, WHEN ALLOWED, STRUCTURAL DECKS WITH NON-SHRINK GROUT MATERIAL MEETING THE REQUIREMENTS OF SECTION 903.08.02.A, EXCEPT THAT IN LATEX MODIFIED CONCRETE BRIDGE DECK, USE A COMPATIBLE NON-SHRINK GROUT MATERIAL.
16. THE APPROACH END OF THE CONSTRUCTION BARRIER CURB TO BE FLARED AWAY FROM TRAFFIC AT A RATE OF 8:1. ON CURVED ROADWAYS, AVOID KINKS IN THE BARRIER ALIGNMENT.
17. HOLES ARE NOT TO BE DRILLED AND ANCHOR PIN AND ANCHOR BOLT INSTALLATION IS NOT ALLOWED IN CONCRETE BRIDGE DECKS THAT WILL BE PERMANENTLY USED, UNLESS APPROVED BY THE DEPARTMENT BASED ON SPECIAL FIELD CONDITIONS. WHEN ANCHOR PIN AND BOLT INSTALLATION IS ALLOWED FOR PERMANENT OR NON-PERMANENT BRIDGE DECKS, ENSURE THAT CONCRETE IS SOUND AND IN GOOD CONDITION, AND CONCRETE THICKNESS IS SUFFICIENT.

NOTE A

ENSURE THAT THE LENGTH OF THE ANCHOR PIN IS SUFFICIENT SUCH THAT THE FOLLOWING MINIMUM EMBEDMENT LENGTH ARE OBTAINED:

(a) INTO CONCRETE PAVEMENT 0'-5".
(b) INTO FLEXIBLE PAVEMENT 1'-6"
(c) INTO UNPAVED AREA 2'-6"

WHEN ANCHOR PINS ARE IN PLACE, THEY WILL NOT PROJECT ABOVE THE PLANE OF THE CONCRETE SURFACE OF THE BARRIER.

HOLES, WHEN ALLOWED, IN BRIDGE DECKS TO BE 1¼" DIAMETER MAXIMUM AND MADE WITH A CORE DRILL OR ANY OTHER APPROVED ROTARY DRILLING DEVICE THAT DOES NOT IMPART AN IMPACT FORCE.

NOTE B

FOR INSTALLATION ON BRIDGE DECKS, WHEN ALLOWED, REFER TO BRIDGE PLANS FOR NECESSARY MODIFICATIONS AS REQUIRED AND GENERAL NOTE 15.

NOTE:

REINFORCEMENT STEEL IS IN METRIC UNITS.

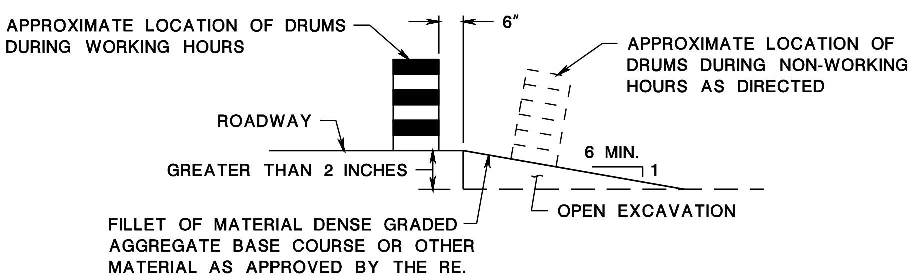
CONSTRUCTION BARRIER CURB (ALTERNATE B) (MASH TL–3)

N.T.S.

CD-159-5

NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS



NOTE:

ESCAPE RAMPS MUST BE CONSTRUCTED AND MAINTAINED DURING NON-WORKING HOURS WHERE A VERTICAL DROP GREATER THAN 2 INCHES EXISTS ADJACENT TO TRAVELED LANE.

ESCAPE RAMP DETAIL

REGULATORY APPROACH SPEED OF TRAFFIC	RECOMMENDED SIGHT DISTANCE TO BEGINNING OF CHANNELIZING TAPERS		
	DESIRABLE		MINIMUM
MILES/HOUR	RURAL FEET	URBAN FEET	RURAL AND URBAN FEET
25	375	525	150
30	450	625	200
35	525	725	250
40	600	825	325
45	675	925	400
50	750	1025	475
55	875	1150	550
60	1000	1275	650
65	1050		725

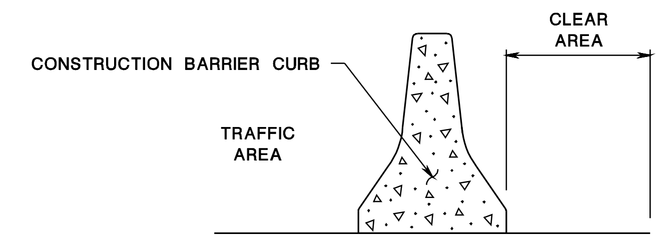
NOTES:

1. AVOIDANCE MANEUVER IS FOR A SPEED, PATH, AND / OR DIRECTION CHANGE PRIOR TO THE BEGINNING OF CHANNELIZING TAPERS.
2. RECOMMENDED DISTANCES BETWEEN TWO SEPARATE LANE CLOSURES ARE DOUBLE THE VALUES SHOWN ABOVE.
3. RURAL AND URBAN ROAD DESIGNATIONS ARE AS DEFINED IN THE NJDOT STATE HIGHWAY STRAIGHT LINE DIAGRAMS.
4. PROVIDE DESIRABLE VALUES WHEREVER POSSIBLE. IF IT IS NOT FEASIBLE OR PRACTICAL TO PROVIDE DESIRABLE VALUES BECAUSE OF HORIZONTAL OR VERTICAL CURVATURE OR IF RELOCATION OF THE TAPER IS NOT POSSIBLE, THEN MINIMUM VALUES CAN BE APPLIED. WHEN MINIMUM VALUES ARE USED, PAY SPECIAL ATTENTION TO THE USE OF SUITABLE TRAFFIC CONTROL DEVICES WHEN PROVIDING ADVANCED WARNING OF THE CONDITIONS THAT ARE LIKELY TO BE ENCOUNTERED.
5. LOCATE TAPERS TO MAXIMIZE THE VISIBILITY OF THEIR TOTAL LENGTH.

RECOMMENDED TAPER LENGTH AND SPACING FOR CHANNELIZING TAPERS						RECOMMENDED SPACING ALONG TANGENTS
REGULATORY APPROACH SPEED OF TRAFFIC	MINIMUM TAPER RATIO IN LENGTH PER FOOT OF WIDTH	MINIMUM TAPER LENGTH L - FOR LANE WIDTHS			MAXIMUM DEVICE (B) SPACING ALONG TAPERS IN FEET	MAXIMUM DEVICE (D) SPACING ALONG TANGENTS IN FEET
MILES /HOUR		10'	11'	12'		
25	10.5:1	105	115	125	25	50
30	15:1	150	165	180	30	60
35	20.5:1	205	225	245	35	70
40	27:1	270	300	325	40	80
45	45:1	450	495	540	45	90
50	50:1	500	550	600	50	100
55	55:1	550	605	660	55	110
60	60:1	600	660	720	60	120
65	65:1	650	715	780	65	130

NOTE:

THE MAXIMUM DEVICE SPACING ALONG CURVES IS DEFINED FOR TAPERS (B) IN THE ABOVE TABLE.



NOTES:

1. CHANGES TO THE PROPOSED ATTACHMENT TYPE AT ANY LOCATION MUST BE APPROVED BY THE DEPARTMENT.
2. NO ROADWAY DROP OFFS, OBSTRUCTIONS, STORAGE OF MATERIALS, OR WORK WILL BE PERMITTED IN THE CLEAR AREA UNLESS APPROVED BY THE RE.

STAGE	LOCATION	ATTACHMENT TYPE
	RTE. STA. TO STA.	

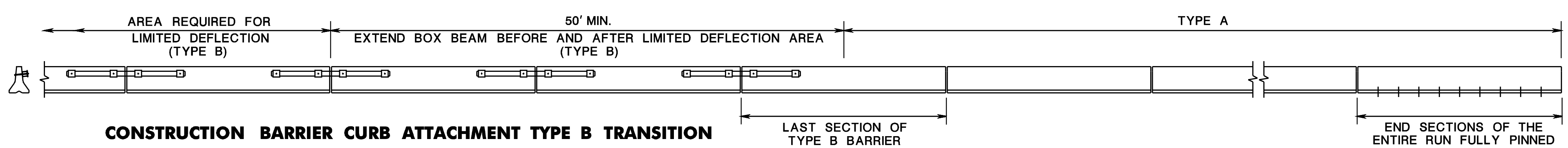
ATTACHMENT TYPE	CLEAR AREA
A	39 INCHES
B	33 INCHES
C	12 INCHES
D	0 INCHES

CONSTRUCTION BARRIER CURB ATTACHMENT TYPE AND CLEAR AREA

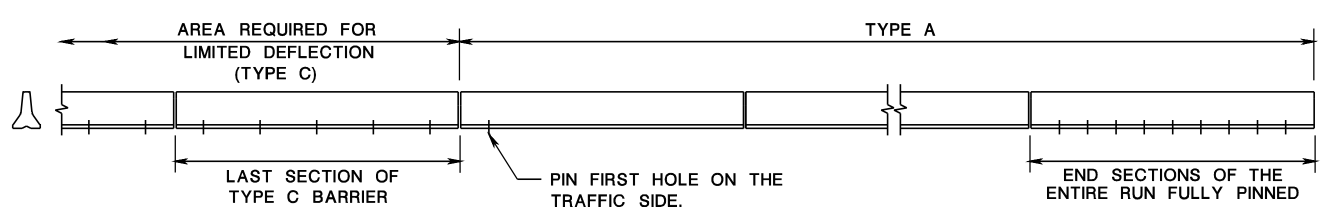
NOTE TO DESIGNER:

THIS SHEET REQUIRES DESIGN SPECIFIC INFORMATION TO BE ADDED AND INCLUDED IN THE CONTRACT PLANS.

REMOVE THIS NOTE AFTER DESIGN SPECIFIC INFORMATION IS ADDED.



CONSTRUCTION BARRIER CURB ATTACHMENT TYPE B TRANSITION



CONSTRUCTION BARRIER CURB ATTACHMENT TYPE C TRANSITION

N.T.S.

TCD-2

NEW JERSEY DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS