

CITYWIDE INFRASTRUCTURE REHABILITATION AND IMPROVEMENTS



PUBLIC WORKS

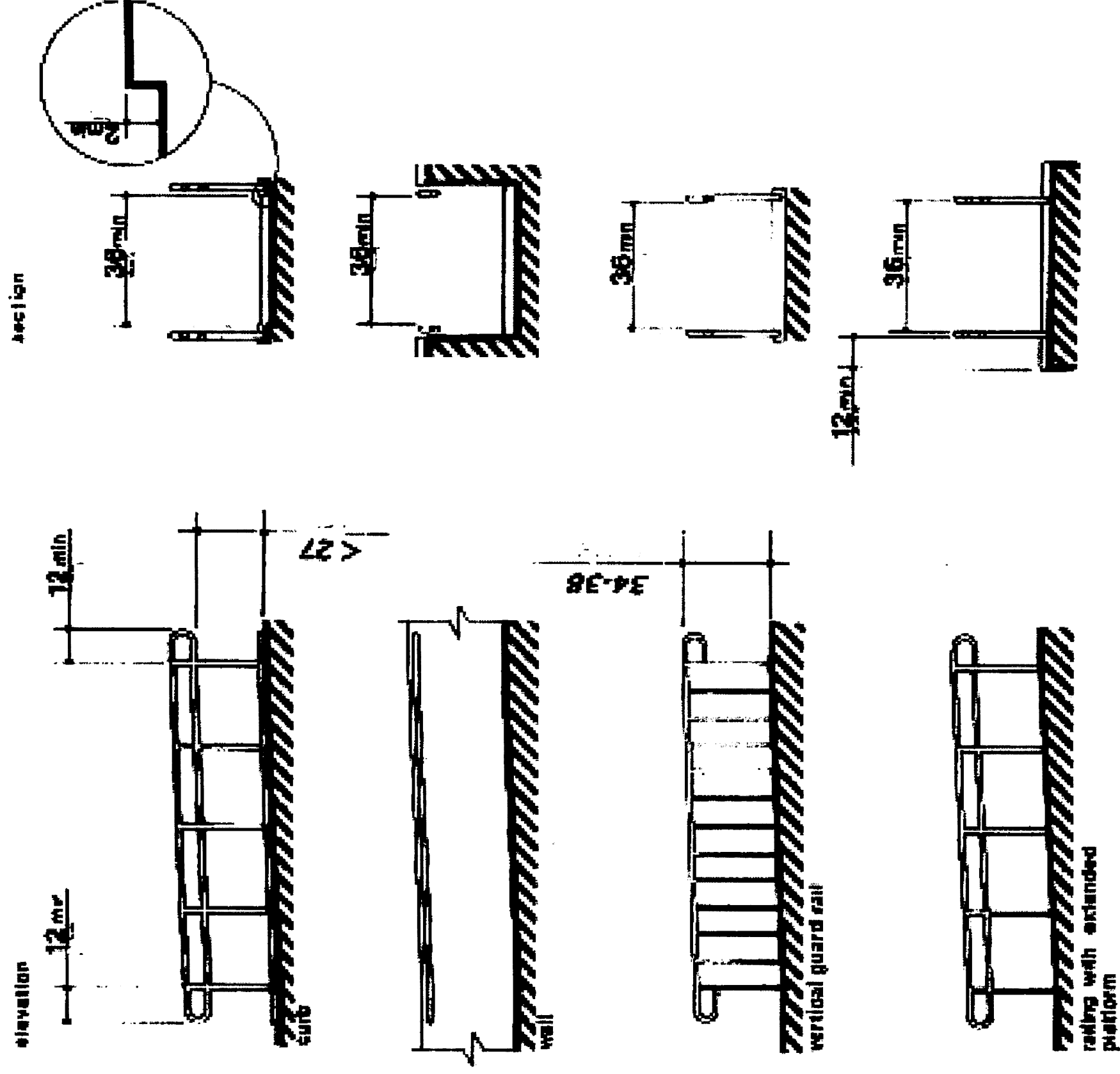
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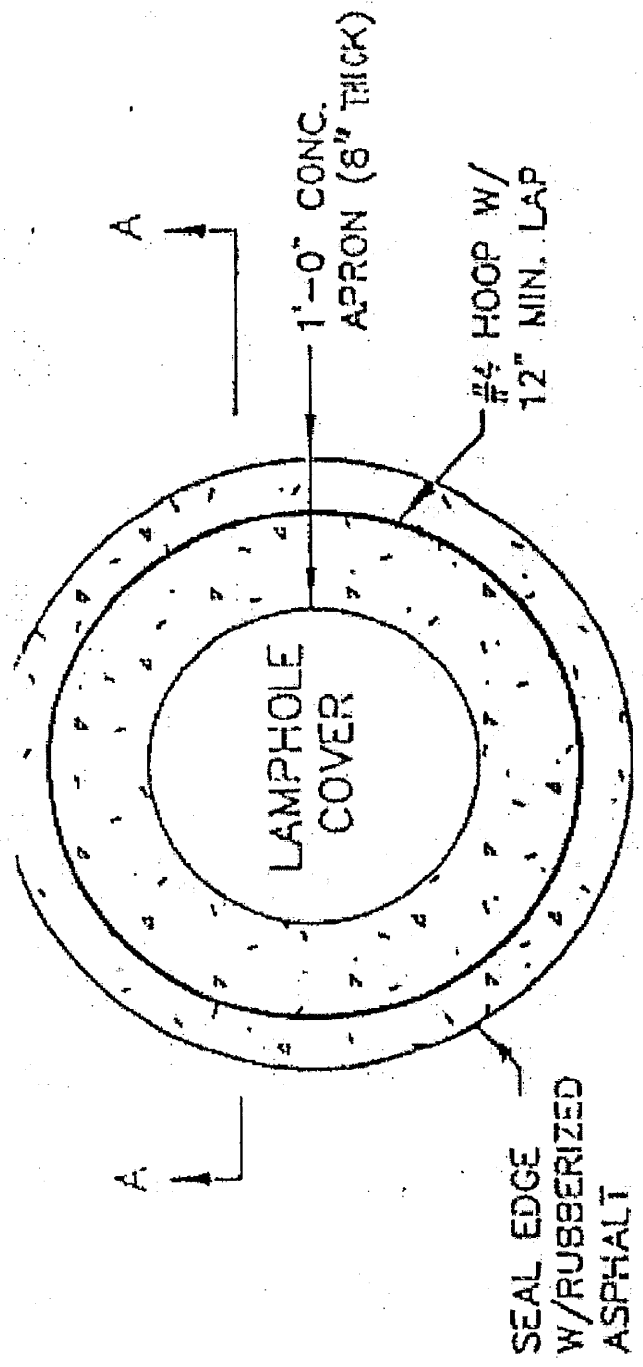
PUBLIC WORKS DEPARTMENT

*4015 NORTH HARVARD AVE
TULSA, OKLAHOMA 74115
(918) 596-9621*

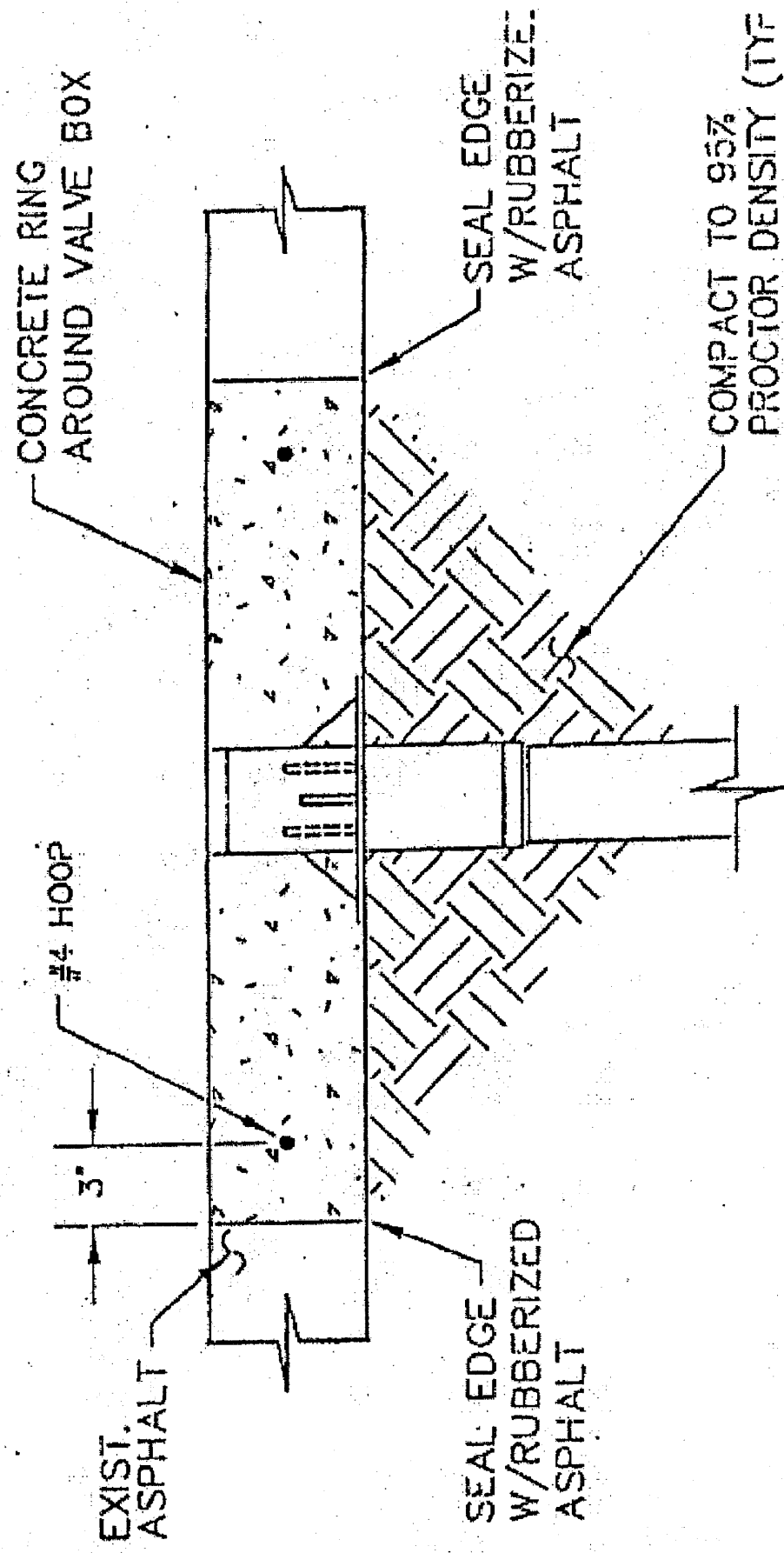
DRAWINGS



Examples of Edge Protection and Handrail Extensions



PLAN VIEW

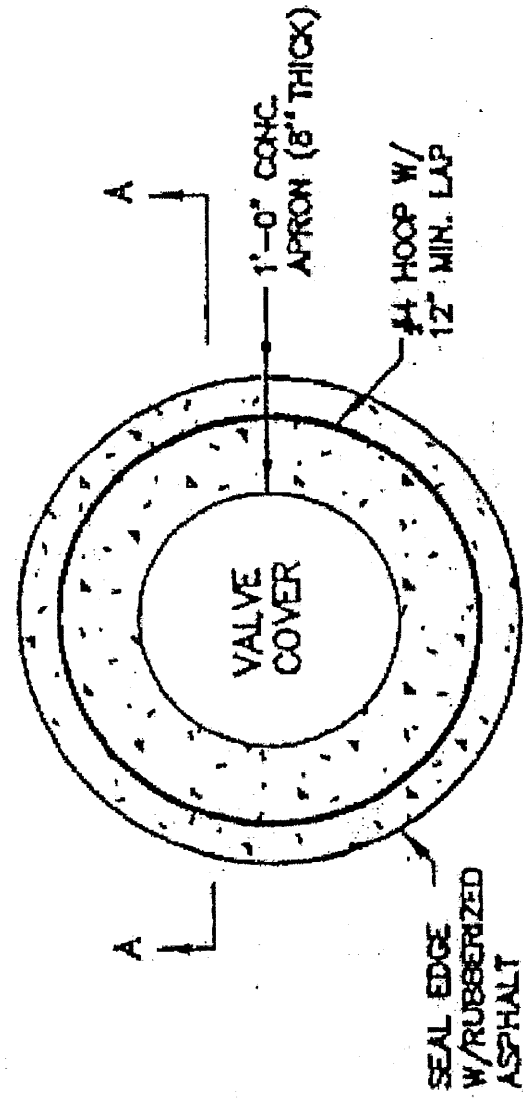


SECTION A

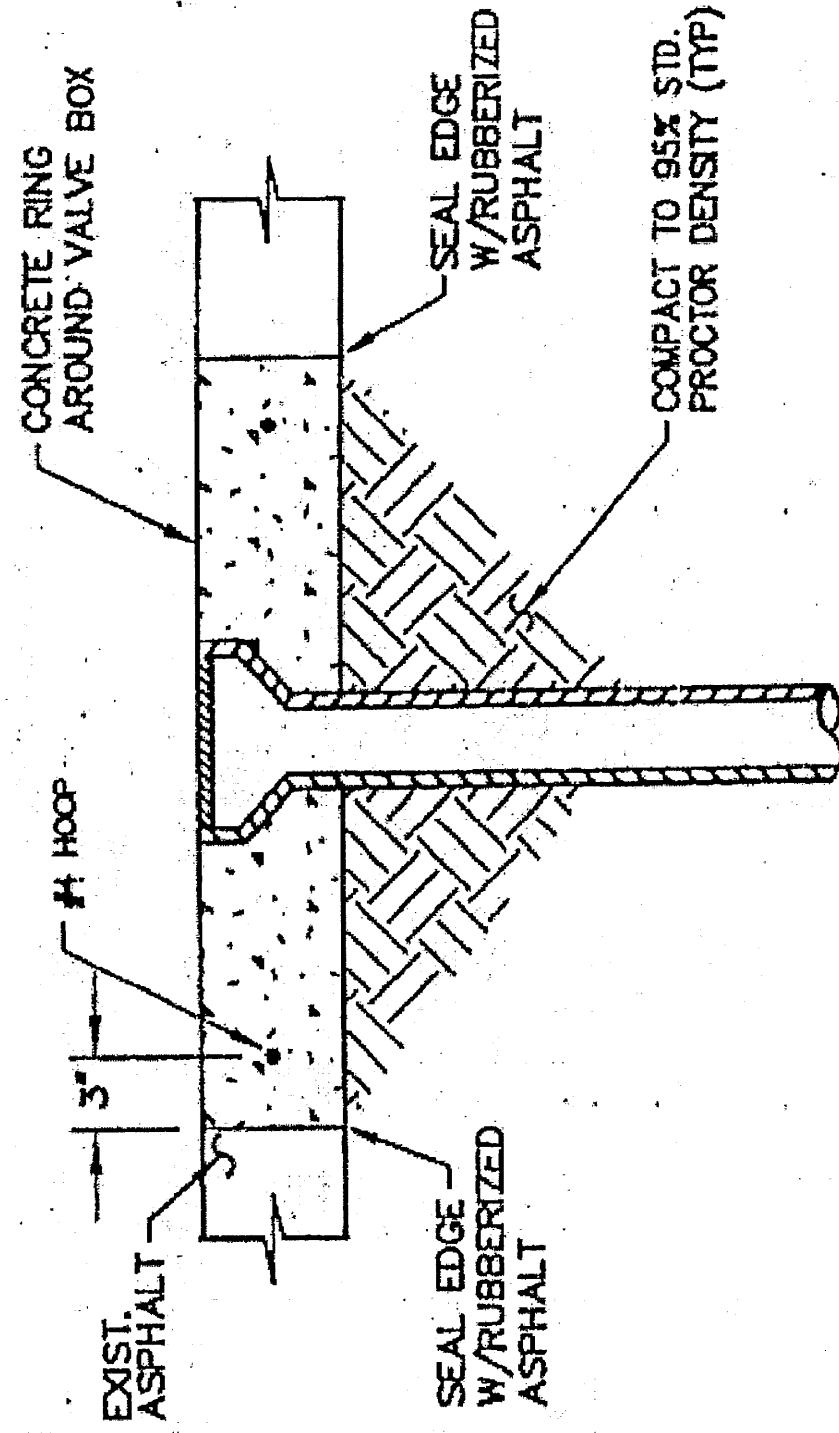
LAMPHOLES IN ASPHALT
ADJUST TO GRADE

N.T.S.

ARJ-2



PLAN VIEW

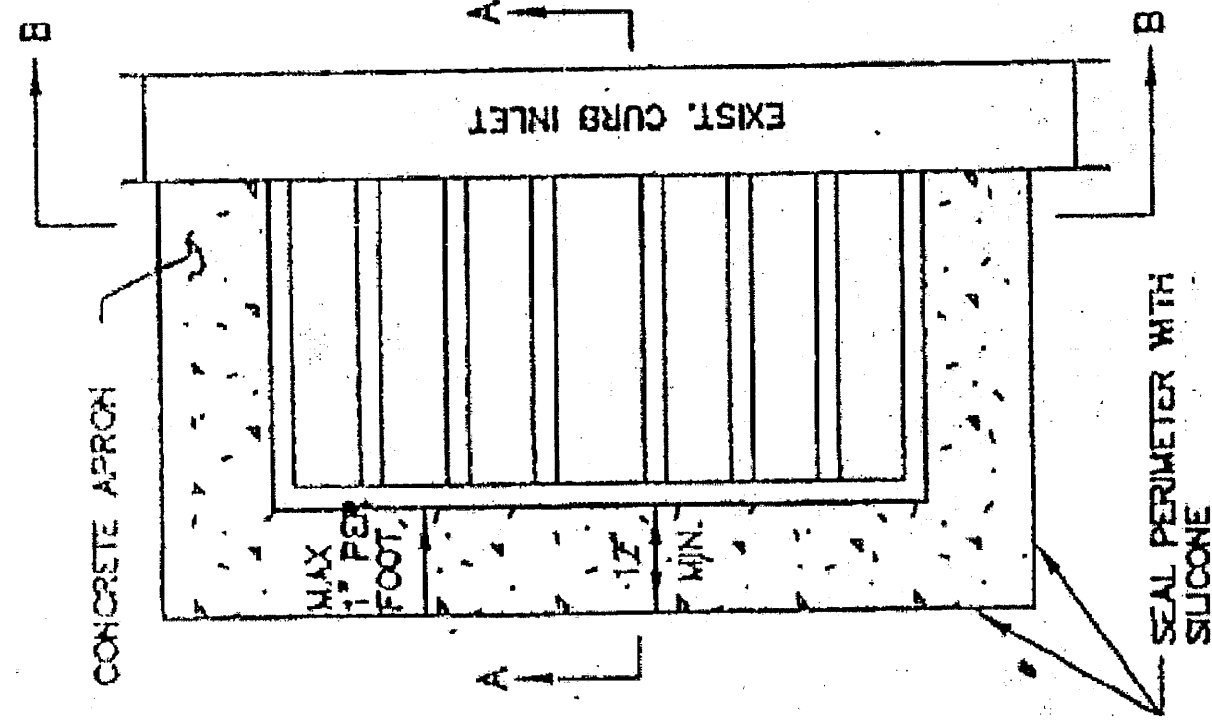


SECTION A

WATER VALVES TO GRADE
IN ASPHALT STREET

N.T.S.

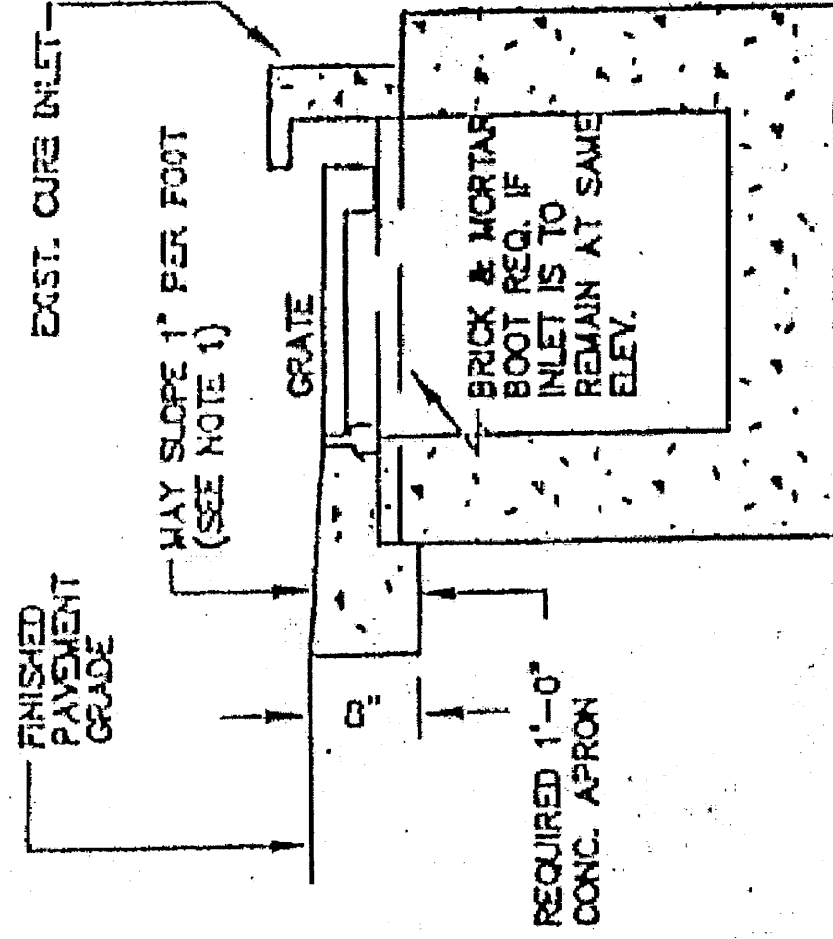
ARU-3



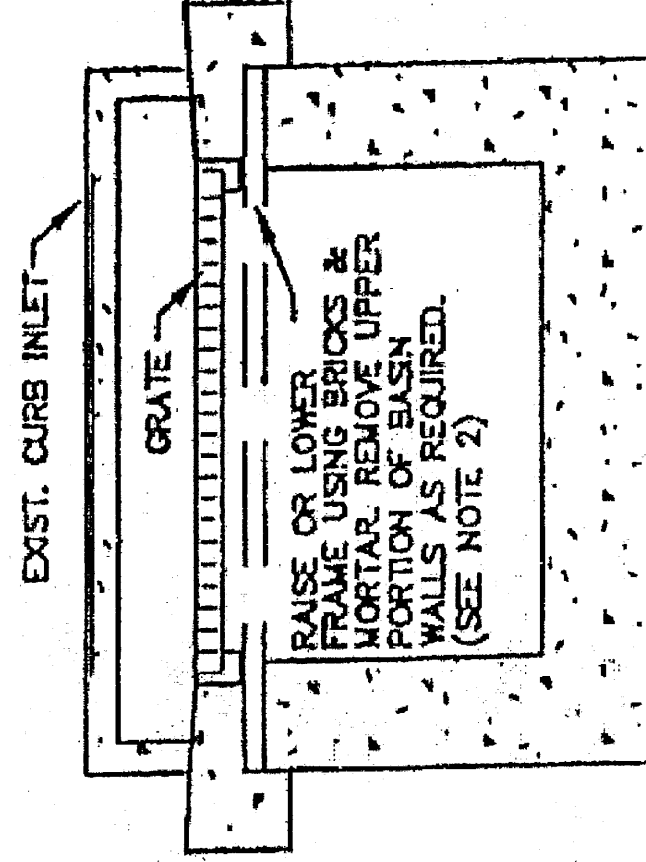
PLAN VIEW

NOTE 1: CONCRETE APRON SHALL BE SLOPED AS REQUIRED; MAX SLOPE IS 1" PER LINEAR FOOT.

NOTE 2: IF BASIN WALLS ARE CONCRETE, MAY DOWEL APRON INTO EXIST. WALL



SECTION A-A



SECTION B-B

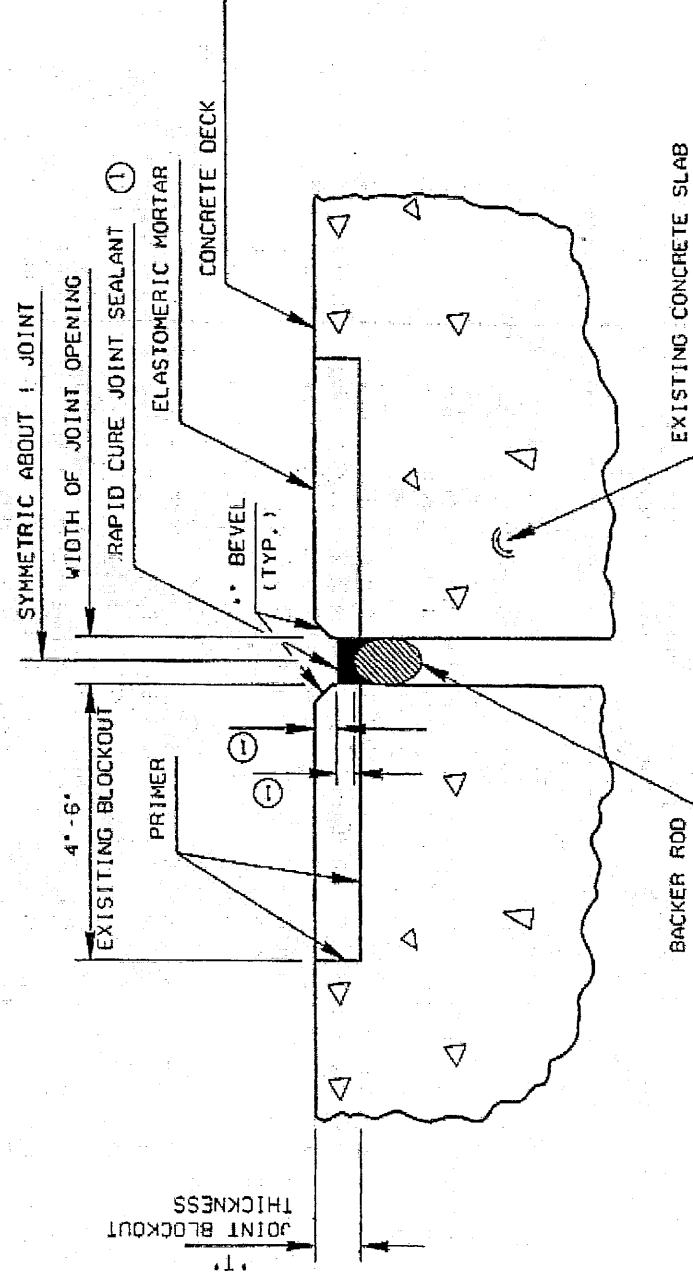
INLETS ADJUST TO GRADE

N.T.S.

ARW-4

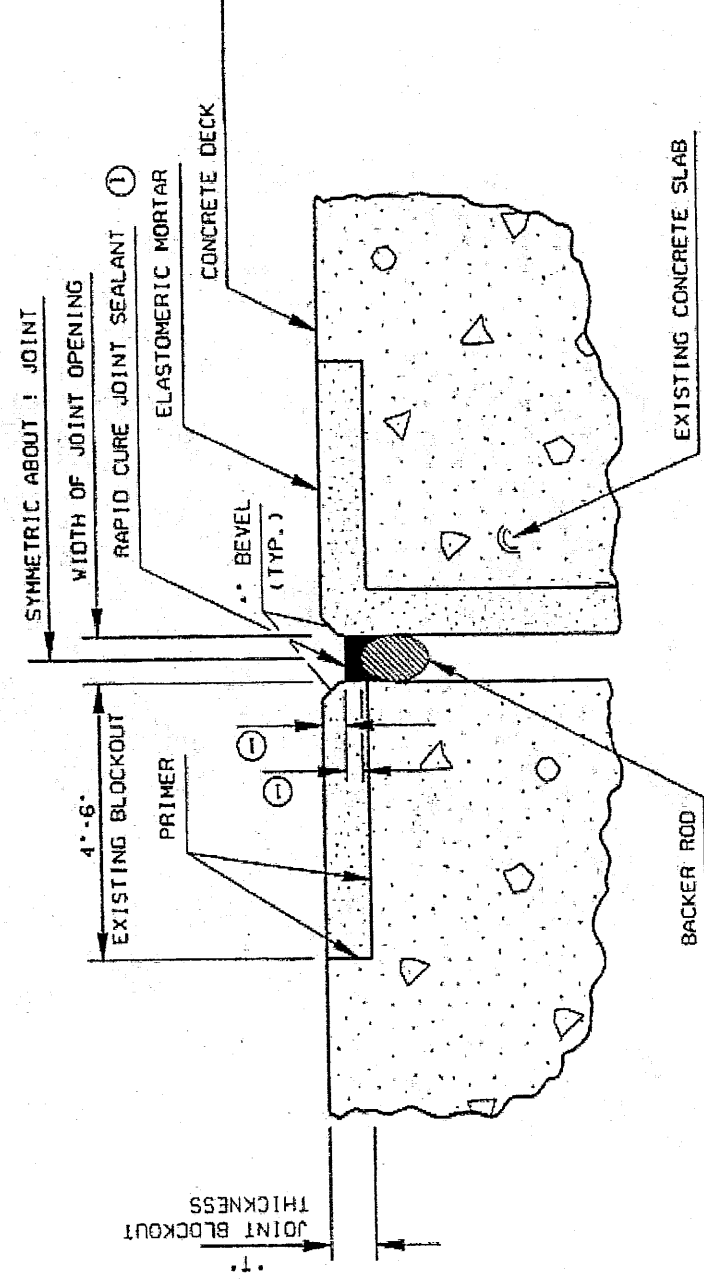
JOINT REPAIR
WITH OUT NOSING

- ① REFER TO TABLE 1
- ② DO NOT BOND ELASTOMERIC MORTAR TO WEAK OR ROTTEN CONCRETE.



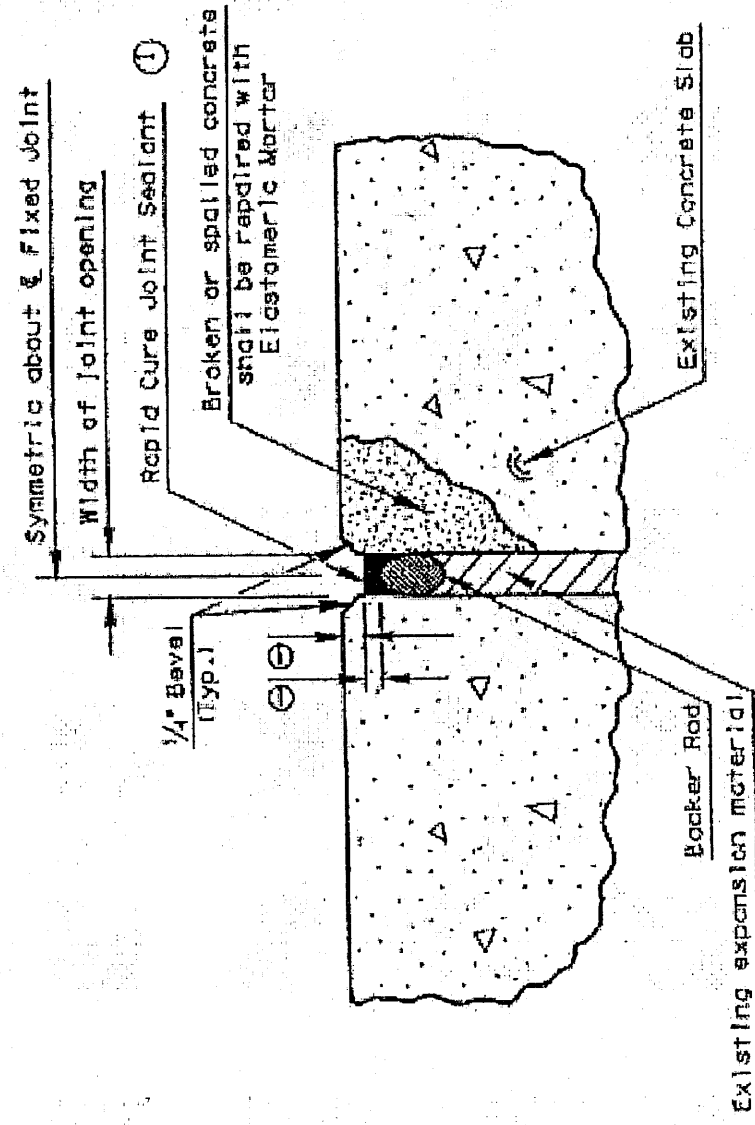
JOINT REPAIR
WITH NOSING (ONE SIDE)

- ① REFER TO TABLE 1
- ② DO NOT BOND ELASTOMERIC MORTAR TO WEAK OR ROTTEN CONCRETE.



JOINT REPAIR FOR FIXED
JOINTS WITH NO OVERLAY

- ① Refer to Table 1
- ② Do not bond Elastomeric Mortar to weak or rotten concrete.

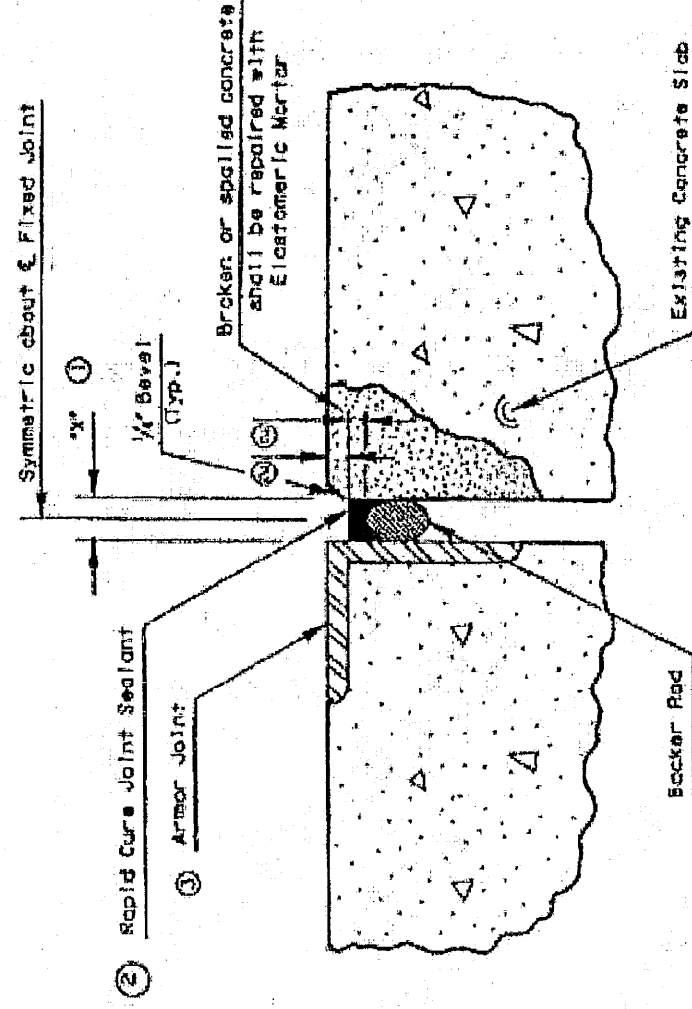


NOTE: Remove broken or spalled concrete to solid material. In some instances the concrete removal may be so extensive that it may be necessary to reinforce the Elastomeric Mortar.

Noting of sufficient thickness can be ready for traffic in 2-4 hours depending on temperature.

JOINT REPAIR FOR EXPANSION JOINTS WITH NO OVERLAY

- ① "X" should be in the range of 1" to 3". See Table 2
- ② Refer to Table 1
- ③ If Armor Joint is loose, removal of the Armor Joint is strongly recommended.
- ④ Do not bond Elastomeric Mortar to weak or rotten concrete.



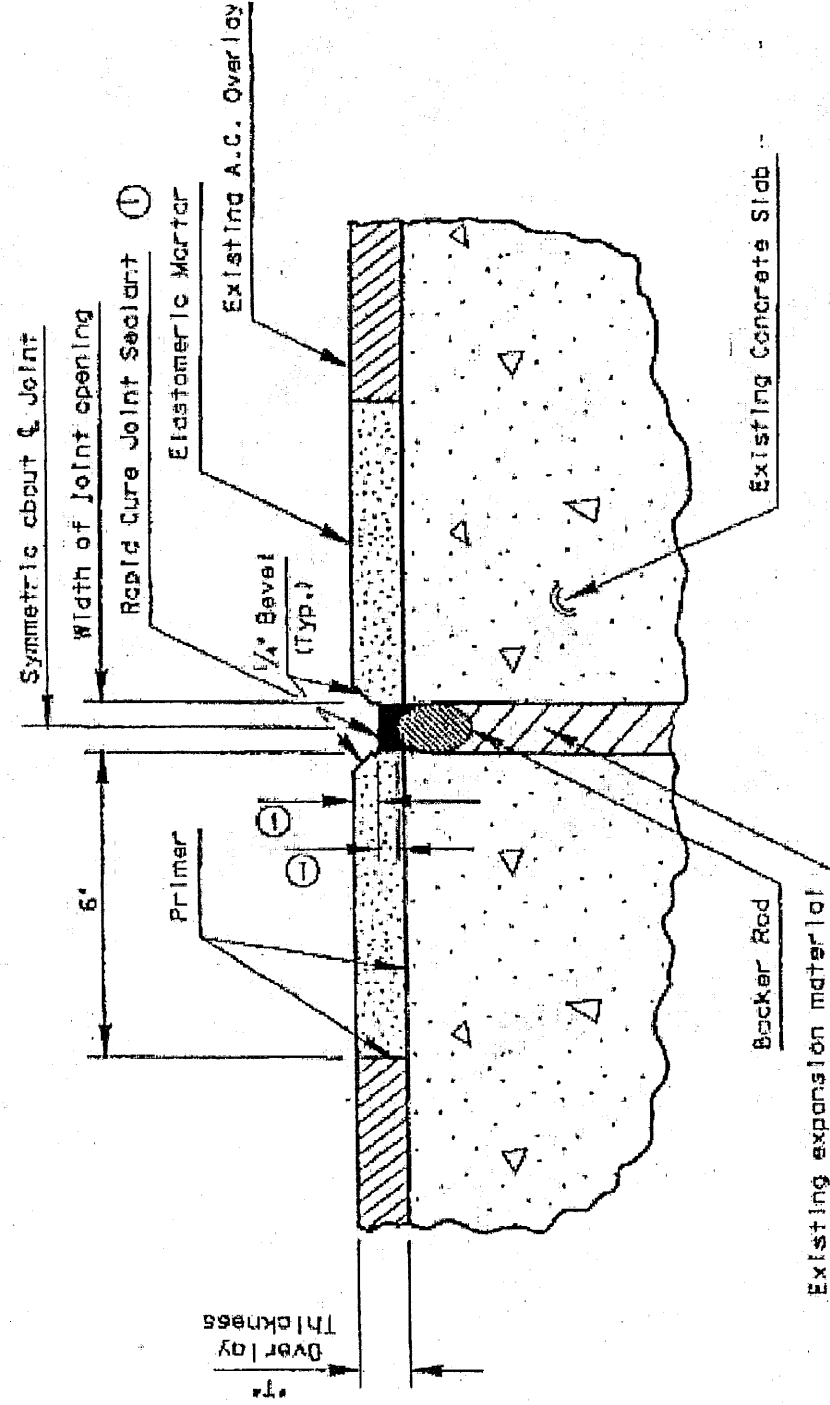
NOTE: Remove broken or spalled concrete to solid material. In some instances the concrete removal may be so extensive that it may be necessary to reinforce the Elastomeric Mortar.

If full depth removal of the deck is required, and the limits of removal extend more than 6 inches back from the joint edge, contact the Bridge Division for recommendations.

Mowing of sufficient thickness can be ready for traffic in 2-4 hours depending on temperature.

JOINT REPAIR FOR FIXED
JOINTS WITH A.C. OVERLAY

- ① Refer to Table 1
- ② Do not bond Elastomeric Mortar to weak or rotten concrete.

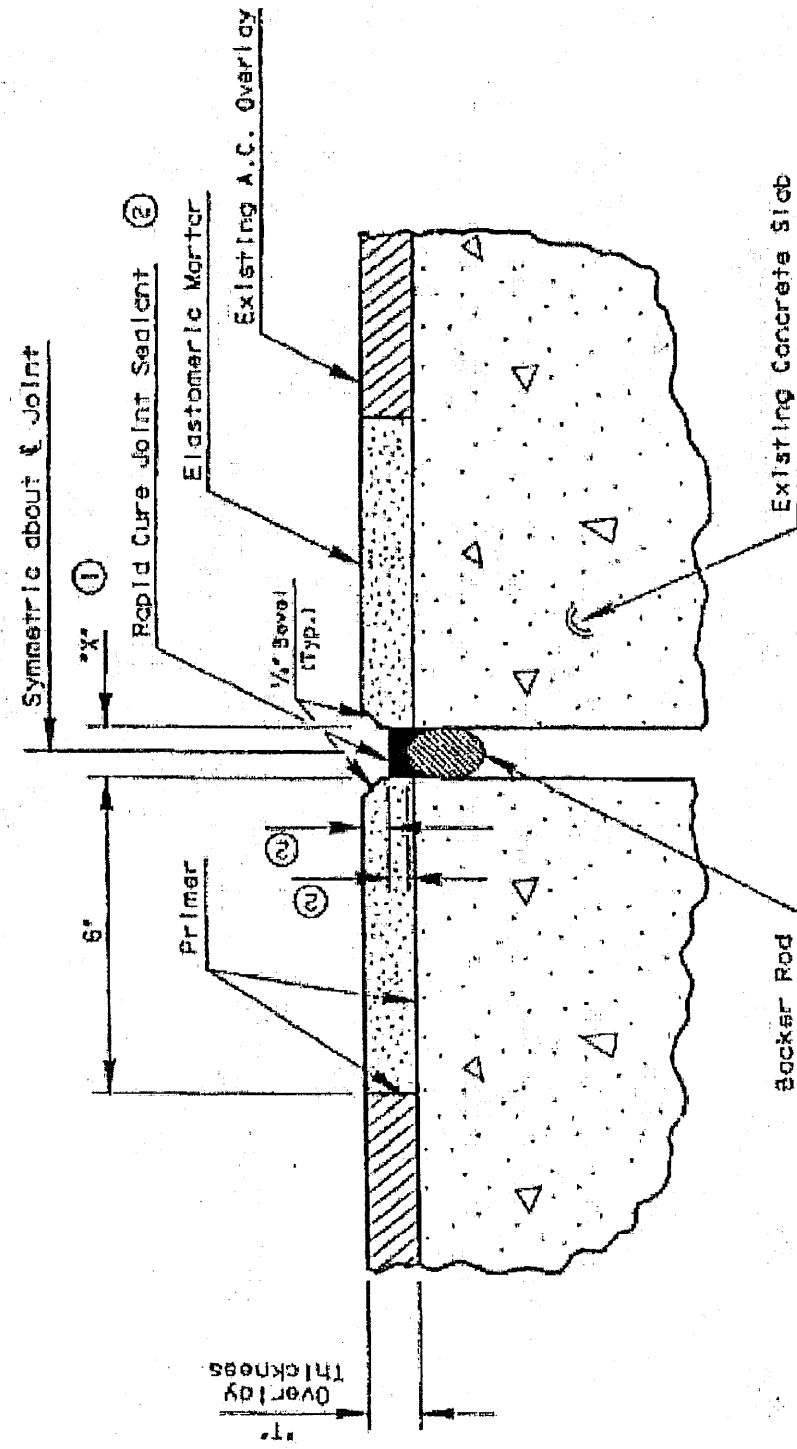


NOTE: Asphalt Concrete Overlay across the bridge deck and the approach slabs at the joint. Sealant locations shall be cut and removed as detailed and the concrete surface prepared in accordance with the Sealant manufacturers specifications.

Noting of sufficient thickness can be ready for traffic in 2-4 hours depending on temperature.

JOINT REPAIR FOR JOINTS HAVING OVERLAYS AND OPENINGS OF 1' TO 3'

- ① "X" should be in the range of 1' to 3'
- ② Refer to Table 1
- ③ Do not bond Elastomeric Mortar to weak or rotten concrete.



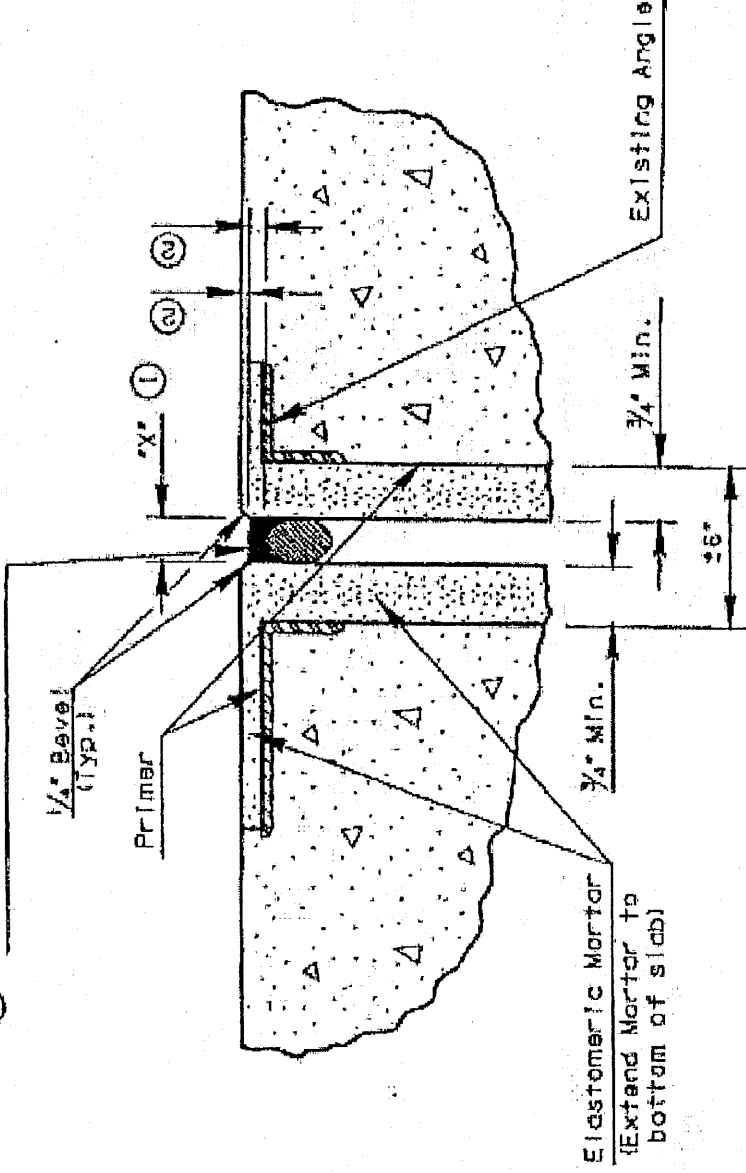
NOTE: Asphalt Concrete Overlay across the bridge deck and the approach slabs at the joint Sealant Locations shall be cut and removed as detailed and the concrete surface prepared in accordance with the Sealant manufacturers specifications.

Noting of sufficient thickness can be ready for traffic in 2-4 hours depending on temperature.

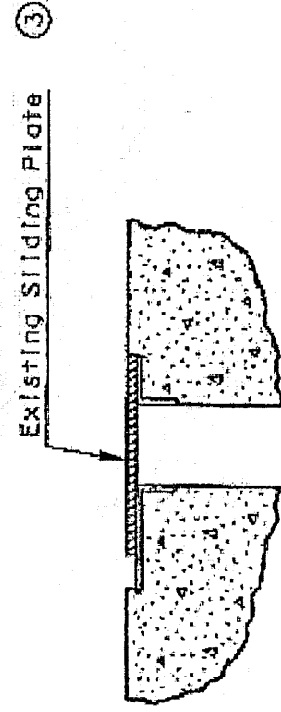
JOINT REPAIR FOR JOINTS HAVING SLIDING PLATES AND NO OVERLAY

- ① "X" should be in the range of 1" to 3". See Table 2
- ② Refer to Table 1
- ③ If sliding plates are loose, remove the plate and replace with Elastomeric Mortar. If the plate is not loose leave in place.
- ④ Do not bond Elastomeric Mortar to weak or rotten concrete.

② Ready Cure Joint Sealant



DETAIL OF EXPANSION JOINT WITH SLIDING PLATE REMOVED

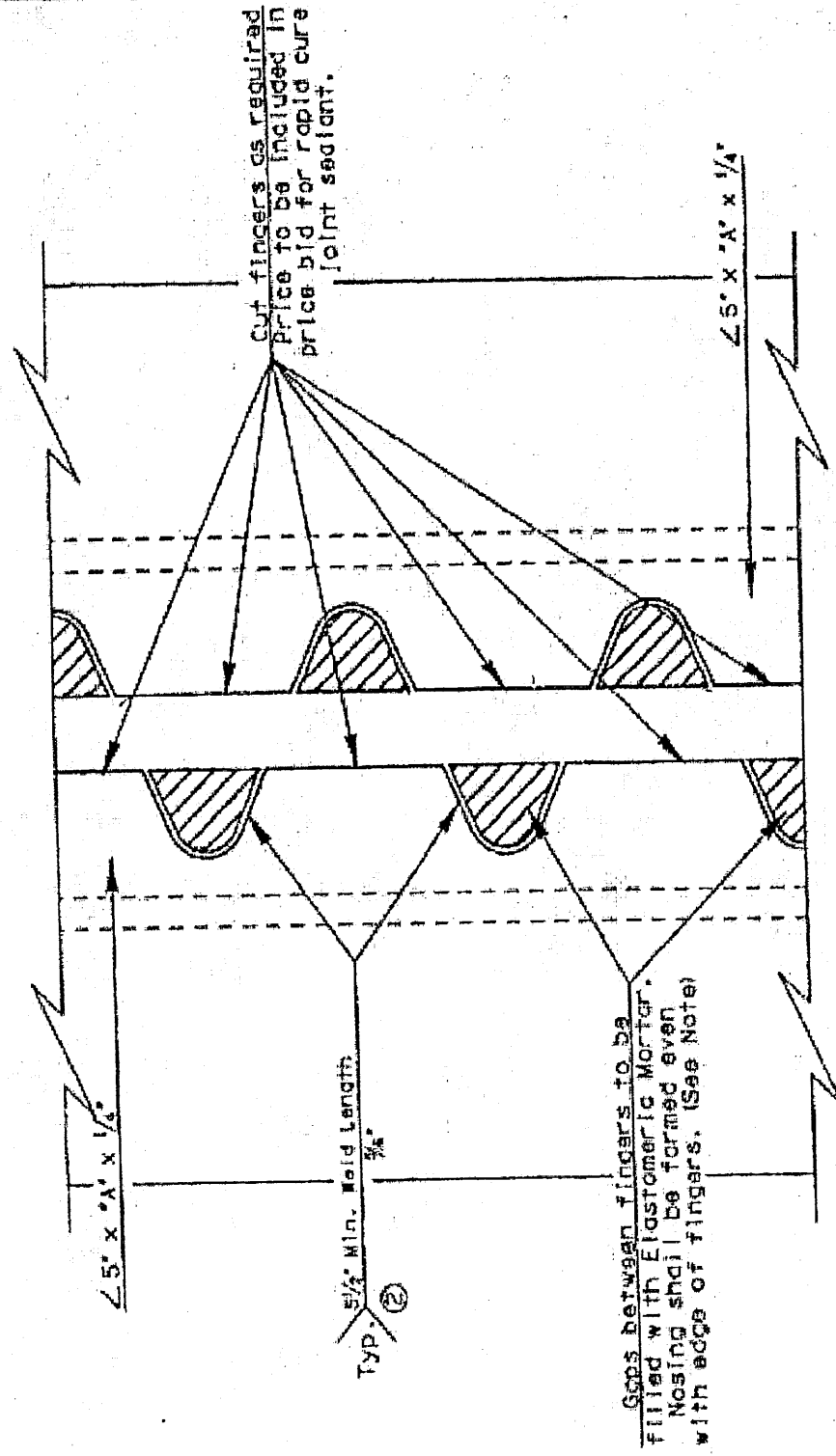


DETAIL OF EXPANSION JOINT WITH SLIDING PLATE IN PLACE

Note: Nosing of sufficient thickness can be ready for traffic in 2-4 hours depending on temperature.

JOINT REPAIR FOR FINGER JOINT HAVING NO OVERLAY

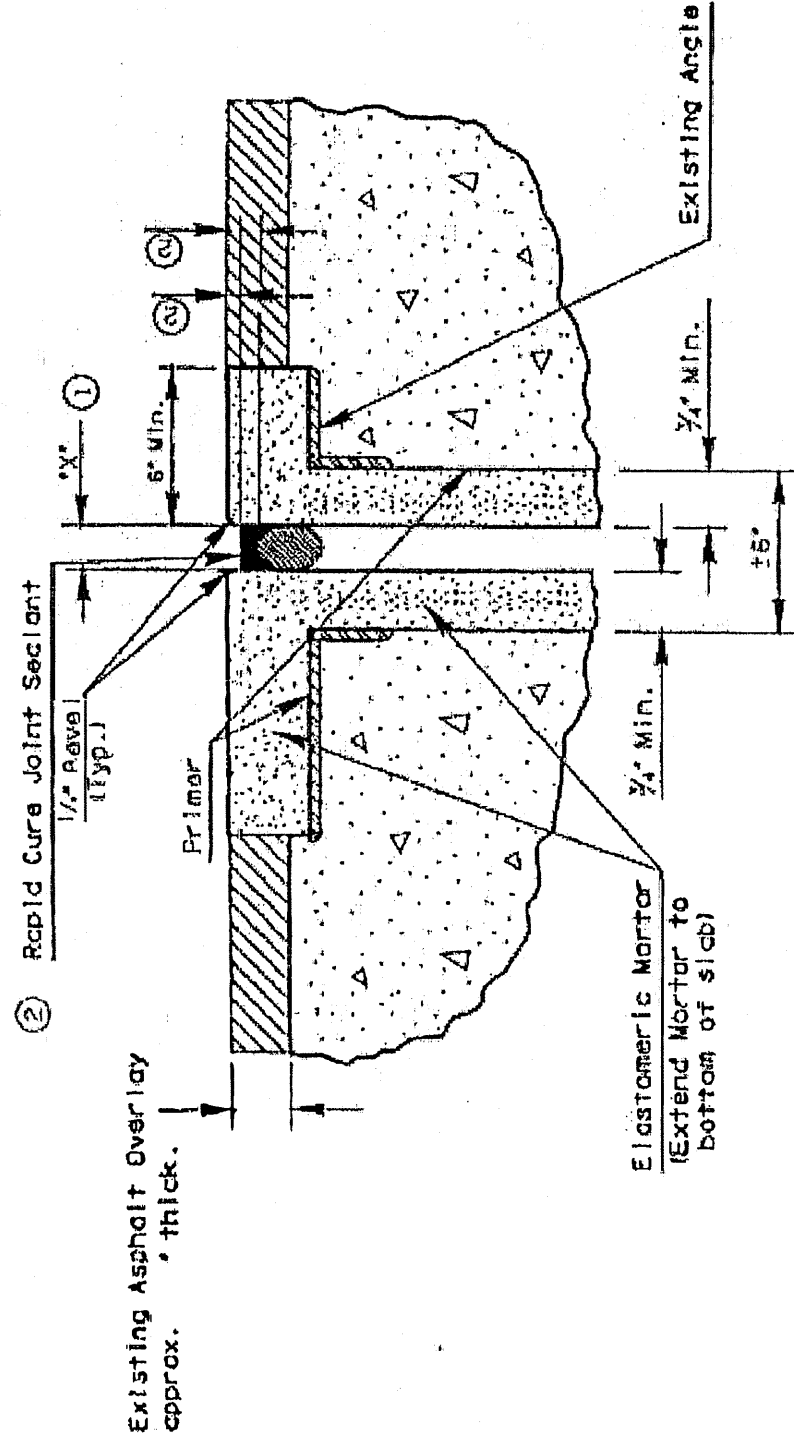
- ① "x" should be in the range of 1'-3". See Table 2
- ② Cost of welding to be included in price bid for rapid cure joint sealant.



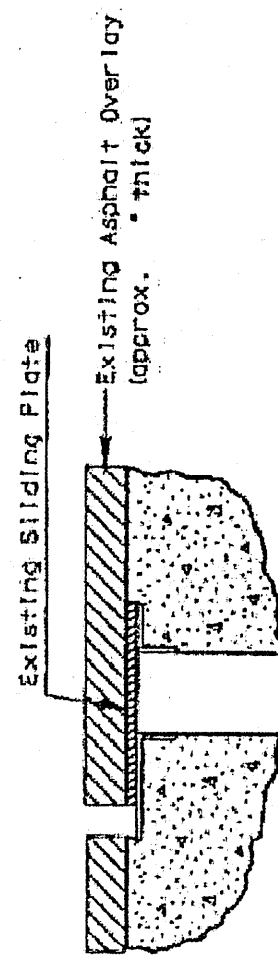
Note: Nosing of sufficient thickness can be ready for traffic in 2-4 hours depending on temperature.

JOINT REPAIR FOR JOINTS HAVING SLIDING PLATES WITH OVERLAY

- ① 'X' should be in the range of 1' to 3'. See Table 2
- ② Refer to Table 1
- ③ Do not bond Elastomeric Mortar to weak or rotten concrete.



DETAIL OF EXPANSION JOINT WITH SLIDING PLATE REMOVED



DETAIL OF EXPANSION JOINT WITH SLIDING PLATE IN PLACE

Note: Nosing of sufficient thickness can be ready for traffic in 2-4 hours depending on temperature.

TABLE 1: SEALANT DIMENSIONS (inches)

Joint Opening	Sealant Thickness	Sealant Recess	Joint Opening Compression	Joint Opening Extension	Total Movement Range
1	1/2	1/2*	1/2	1 1/2	1
1 1/2	1/2	1/2*	3/4	2 1/4	1 1/2
2	1/2	1/2*	1	3	2
2 1/2	1/2	1/2*	1 1/4	3 3/4	2 1/2
3	1/2	5/8*	1 1/2	4 1/2	3

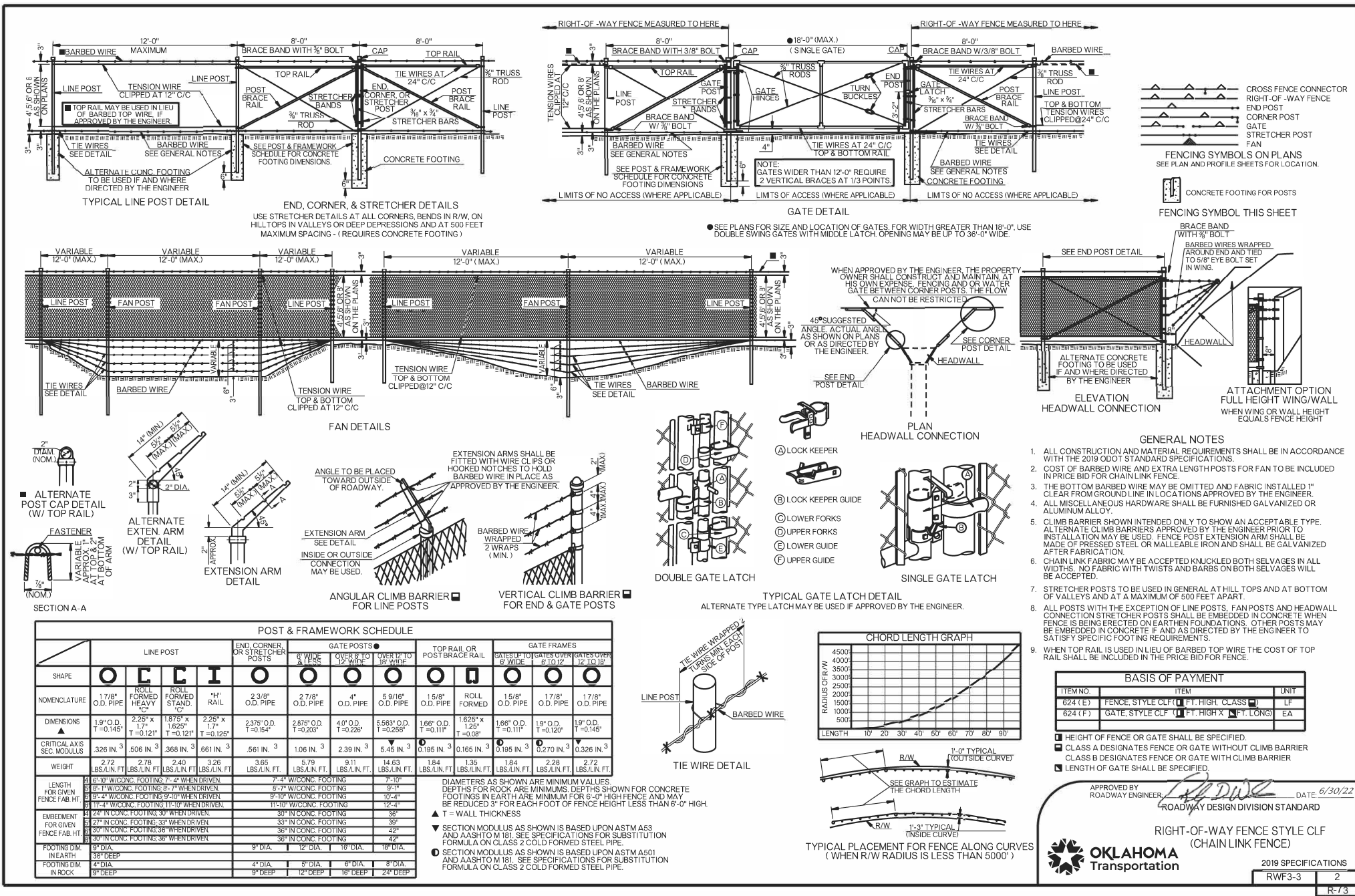
All dimensions shown in Table 1 are inches.

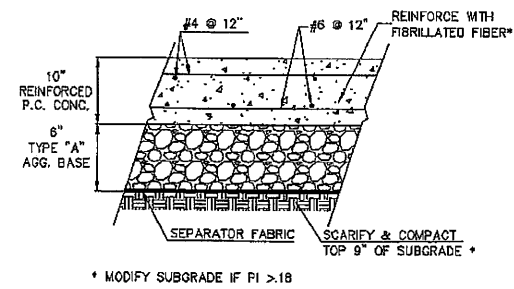
*Exceptions: No recess at shoulders.

TABLE 1 NOTES:

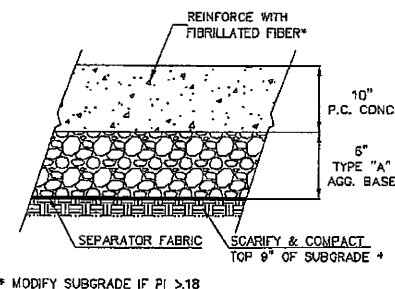
1. Table based on temperatures of 77°F +/- 2° and 50% RH +/- 5%.
2. Width at time of sealing.
For joints less than 1" or those greater than 3" at time of sealing, contact the Bridge of ODOT for recommendations.
3. Installation temperatures shall be in accordance with Subsection 504.04(c)2 of the 2019 Standard Specifications.

Rev. 9/27/99

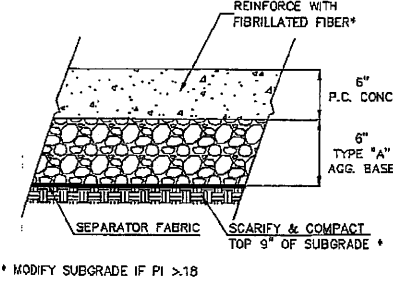




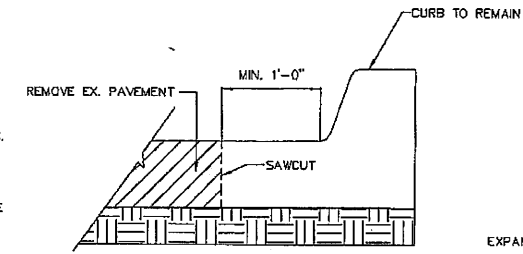
TYPICAL TRAINING PAD SECTION
NOT TO SCALE



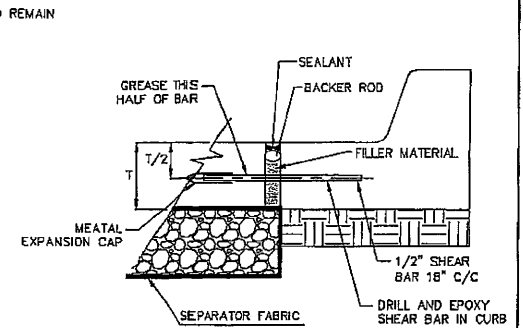
TYPICAL 10" CONCRETE SECTION
NOT TO SCALE



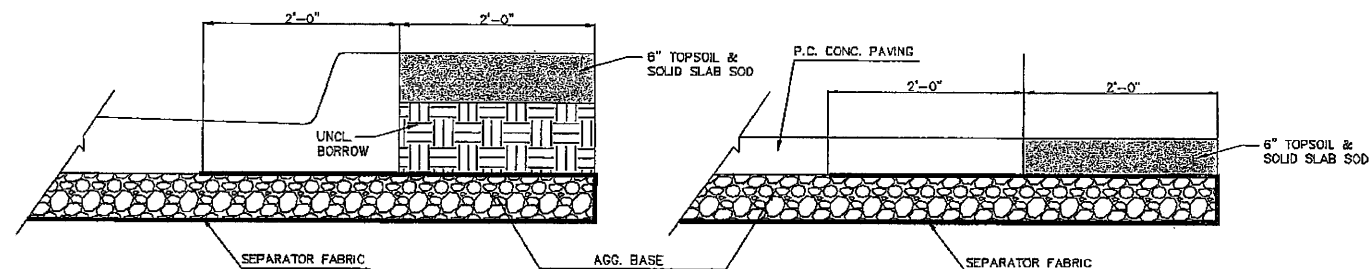
TYPICAL 6" CONCRETE SECTION
NOT TO SCALE



SAWCUT REMOVAL DETAIL
NOT TO SCALE

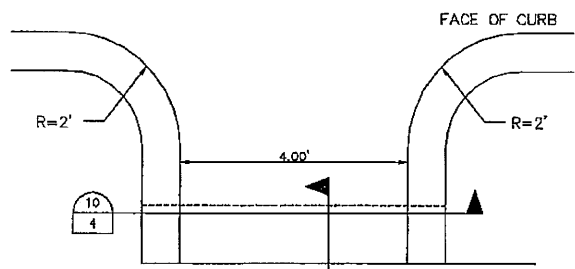


JOINT AT EX. CURB
NOT TO SCALE

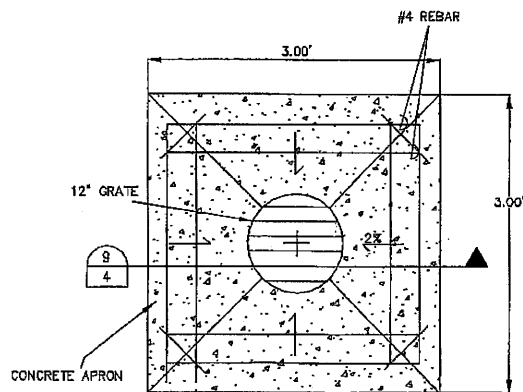


TYPICAL BASE TERMINATION
NOT TO SCALE

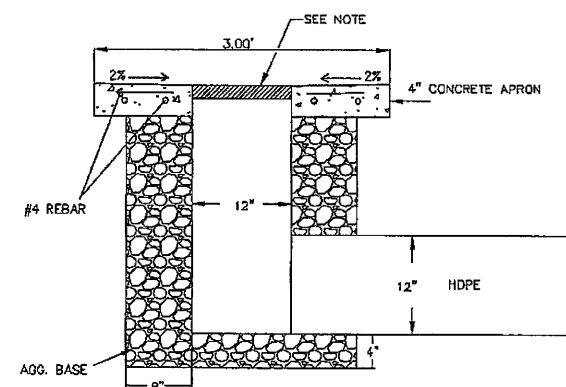
*NOTE: FIBRILLATED FIBER REINFORCING WILL BE REQUIRED IN ALL NEW CONCRETE PAVEMENT CONSTRUCTION. FIBRILLATED FIBER REINFORCING SHALL CONSIST OF VIRGIN POLYPROPYLENE FIBRILLATED FIBERS CONFORMING TO ASTM C-1116 TYPE III 4.1.3 AND ASTM C-1116 PERFORMANCE LEVEL 1. FIBERS MUST CONTAIN NO REPROCESSED OLEFIN MATERIAL AND MUST BE SPECIFICALLY MANUFACTURED FOR USE AS SECONDARY REINFORCEMENT.
MANUFACTURED BY: FIBERMIX STEALTH BY FIBERMESH OF CHATTANOOGA, TN OR APPROVED EQUAL.



TYPICAL FLUME SECTION
NOT TO SCALE

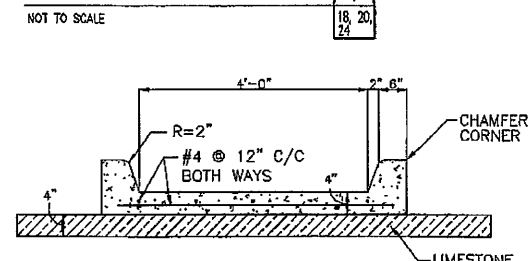


AREA INLET PLAN
NOT TO SCALE

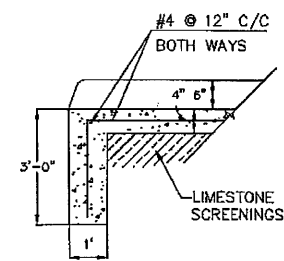


SECTION
NOT TO SCALE

*NOTE: AREA INLET TO BE NYLOPLAST DRAIN BASIN PT. NO. 2812AG OR APPROVED EQUAL TO BE INSTALLED PER M.A.N. SPECIFICATIONS GRATE TO BE NYLOPLAST STANDARD HINGED H-20 RATED PT. NO. 1289CGS OR APPROVED EQUAL TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.



SECTION
NOT TO SCALE



SECTION
NOT TO SCALE



REGISTERED PROFESSIONAL ENGINEER

SEAL

FIRE STATION DRIVEWAYS
PROJECT NO. 055250

TYPICAL SECTIONS (1)

CITY OF TULSA, OKLAHOMA
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES DIVISION

PLANS & ESTIMATE PREPARED BY:
BKL, INCORPORATED
5311 E. TULSA
TULSA, OKLA. 74115
818-635-9588

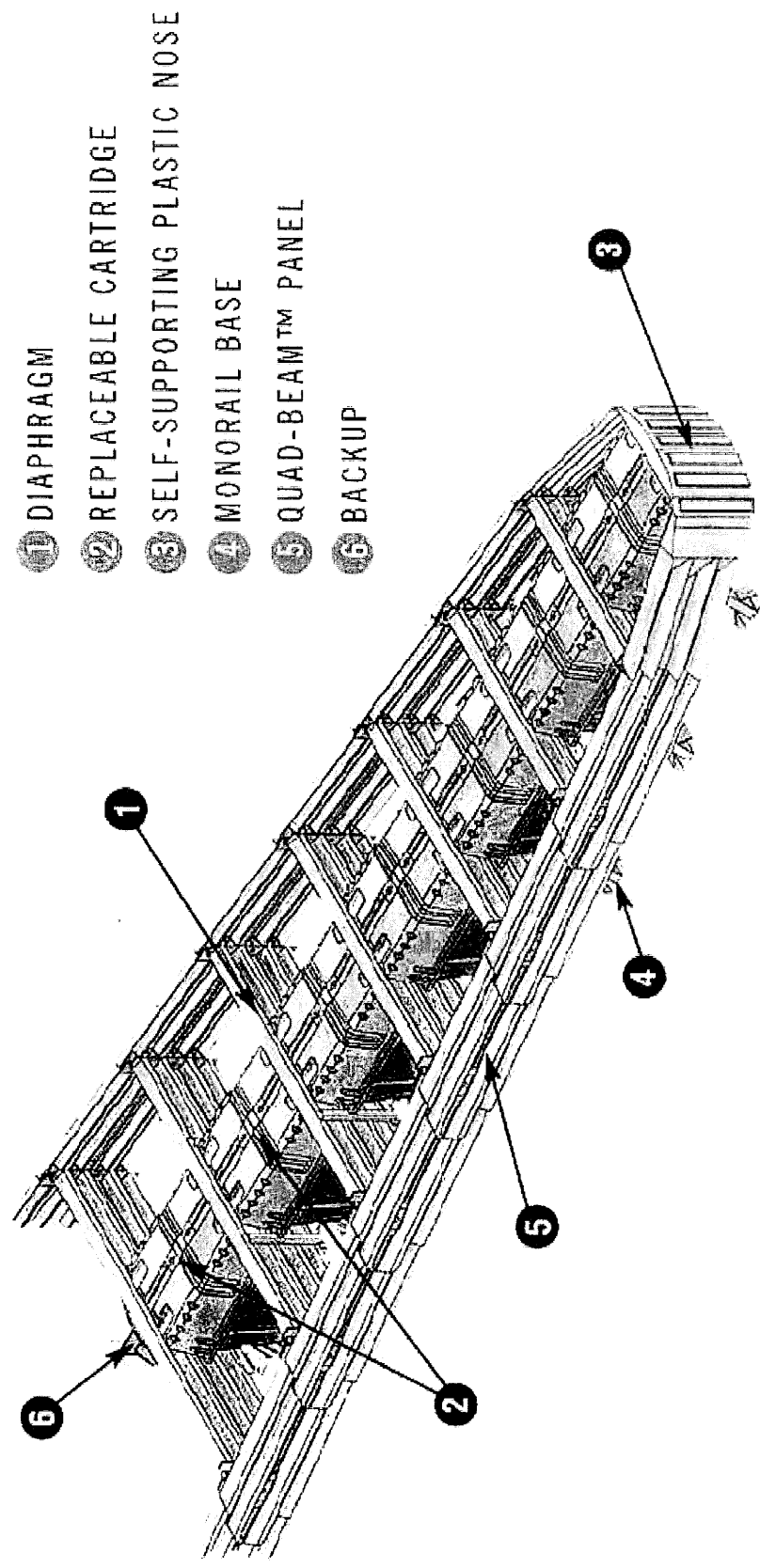
REVISION	BY	DATE	PLAN SCALE	DRAWN BY	SLW	11/05	APPROVED
			N/A	DESIGNED BY:	GDR	10/05	
				SURVEY BY:			
			PROFILE SCALE	FIELD INGR.			
			HORIZONTAL:	SECT. INGR.			
			VERTICAL:	PROD. INGR.			
				RECOMMENDED			
				DEPUTY DIRECTOR			
			FILE:	DRAWING:			PUBLIC WORKS DIRECTOR
			ATLAS PAGE NO.				DATE: SEPTEMBER 20, 2007
							SHEET 4 OF 32 SHEETS

RECORD PLANS
March 10th, 2009

Name	QuadGuard II™ Wide
Manufacturer	Energy Absorption Systems, Inc.
Website	http://www.energyabsorption.com/products/products_quadguard_crash.asp
FHWA Acceptance Letter	HSA-10/CC42-A (http://safety.fhwa.dot.gov/roadway_dept/road_hardware/barriers/pdf/cc42a.htm)

General Characteristics (wide):

- 6 bay (excluding the nose section bay). First 3 bays use Type I cartridge and last 3 bays use Type II cartridges.
- 10 degree maximum side flare.
- 2 standard backup widths 60 and 90 inches
- Replaceable/crushable cartridges
- Re-directive, bi- and unidirectional, non-gating, non-pocketing
- 20 feet 9 inches long
- This system is not resettable and should be used in areas where minimal impacts are anticipated.

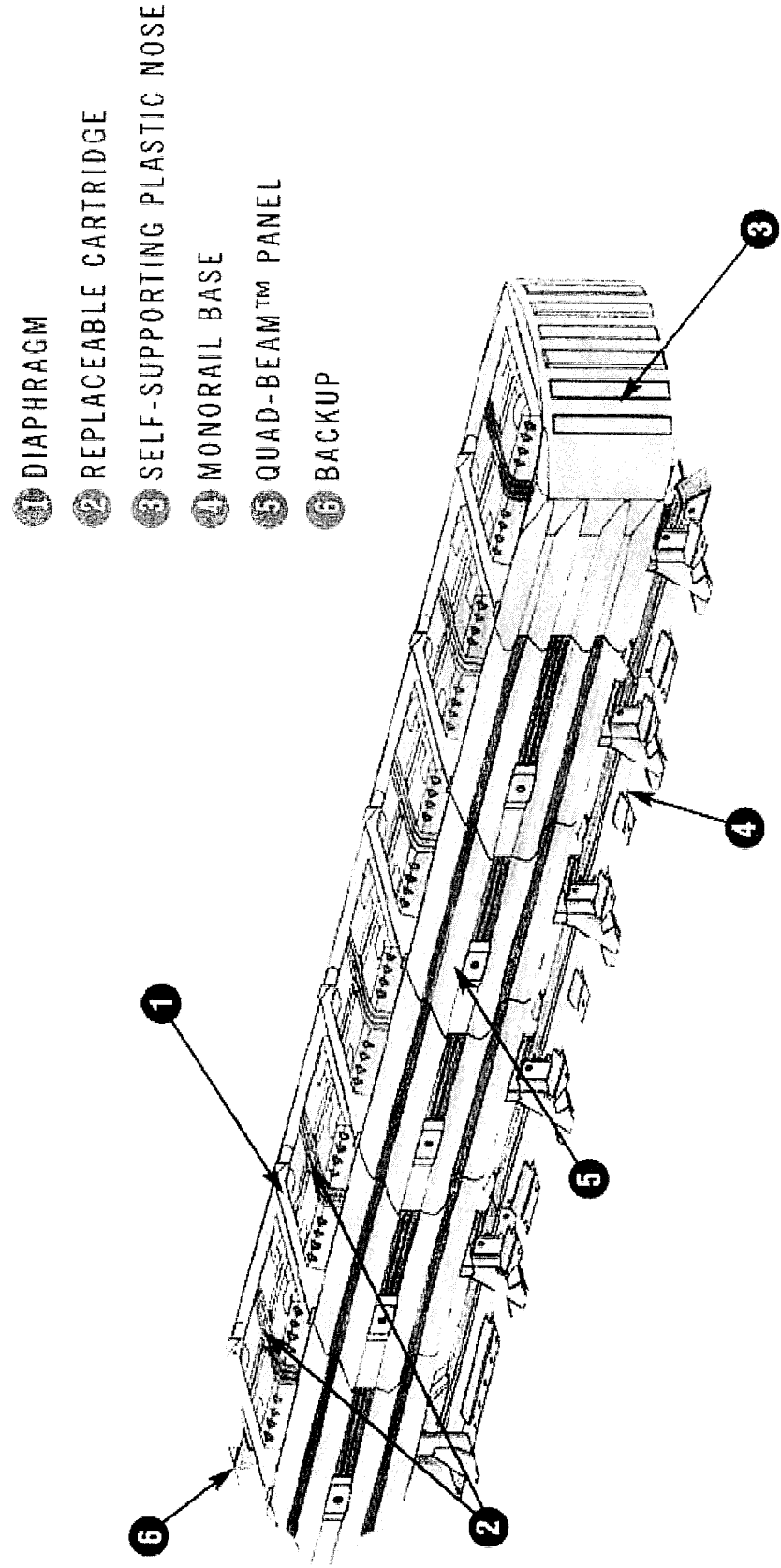


(Revised October 24, 2011)

Name	QuadGuard II™ Narrow
Manufacturer	Energy Absorption Systems, Inc.
Website	http://www.energyabsorption.com/products/products_quadguard_crash.asp
FHWA Acceptance Letter	HNG/CC-35 and CC-35B (http://safety.fhwa.dot.gov/roadway_dept/road_hardware/barriers/pdf/cc-35.pdf) (http://safety.fhwa.dot.gov/roadway_dept/road_hardware/barriers/pdf/cc-35b.pdf)

General Characteristics (narrow):

- 6 bay (excluding the nose section bay). First 3 bays use Type I cartridge and last 3 bays use Type II cartridges.
- Backup width is 90 inches
- Replaceable/crushable cartridges
- Re-directive, bi- and unidirectional, non-gating, non-pocketing
- 22 feet long
- This system is not resettable and should be used in areas where minimal impacts are anticipated.

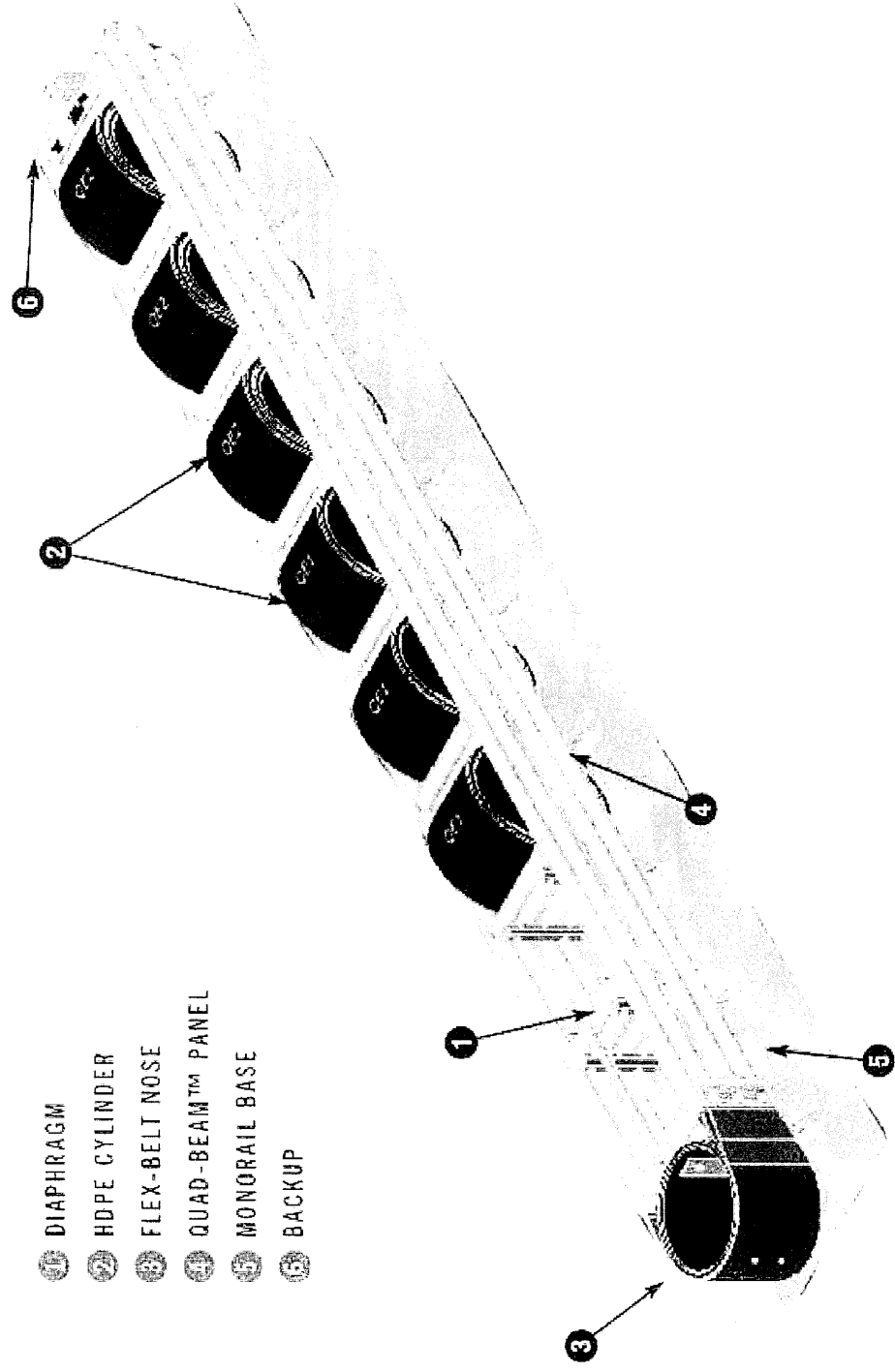


(Revised October 24, 2011)

Name	QuadGuard™ Elite
Manufacturer	Energy Absorption Systems, Inc.
Website	http://www.energyabsorption.com/products/products_quadguard_elite.asp
FHWA Acceptance Letter	HNG-14 /CC-57 and CC-57B (http://safety.fhwa.dot.gov/roadway_dept/road_hardware/barriers/pdf/cc-57.pdf http://safety.fhwa.dot.gov/roadway_dept/road_hardware/barriers/pdf/cc57b.pdf)

General Characteristics:

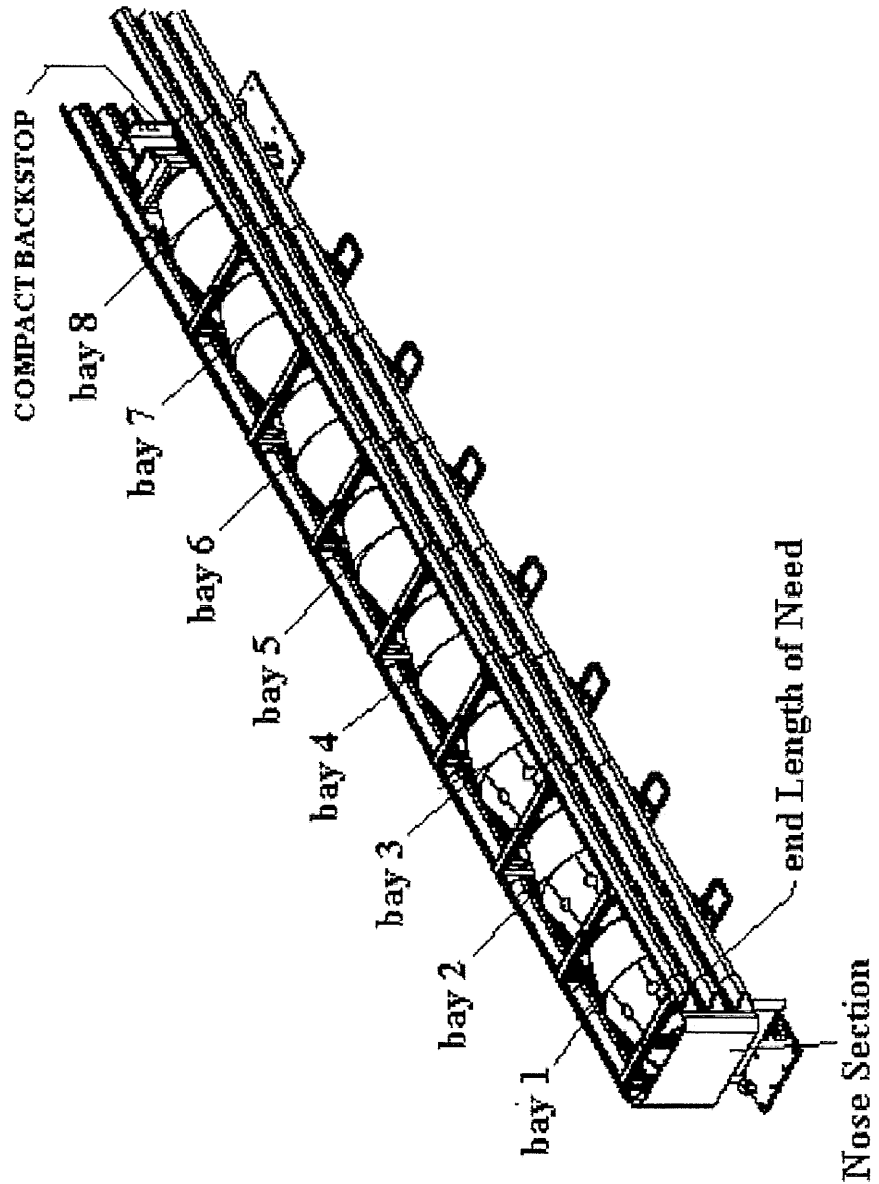
- 11 bay (no cylindrical in the first 2 bays). New approved 8-bay is acceptable.
- Backup widths available in 24, 30, 36, 69, or 90 inches. The 60 and 90 inch system flare out to obtain the required width at backup
- HDPE cylinders
- Re-directive, bi- and unidirectional, non-gating, non-pocketing
- This system can withstand multiple impacts with minimal repair
- This resettable system because High Density Poly Ethylene will return to their original shape
- 33 feet 4 inches long (11-bay)
- 26.6 feet (8-bay)



Name	TAU-II™ Family (Parallel, Taper, or Combination)
Manufacturer	Barrier Systems, Inc.
Website	http://www.barriersystemsinc.com/products/product.asp?key=3&nav_family=2
FHWA Acceptance Letter	HSA-10/CC-75 for Narrow or Parallel System (http://safety.fhwa.dot.gov/roadway_dept/road_hardware/barriers/pdf/cc75.pdf)
	HSA-10/CC-75B for Combination (variable width) (http://safety.fhwa.dot.gov/roadway_dept/road_hardware/barriers/pdf/cc75b.pdf)

General Characteristics (For Parallel or Narrow Systems):

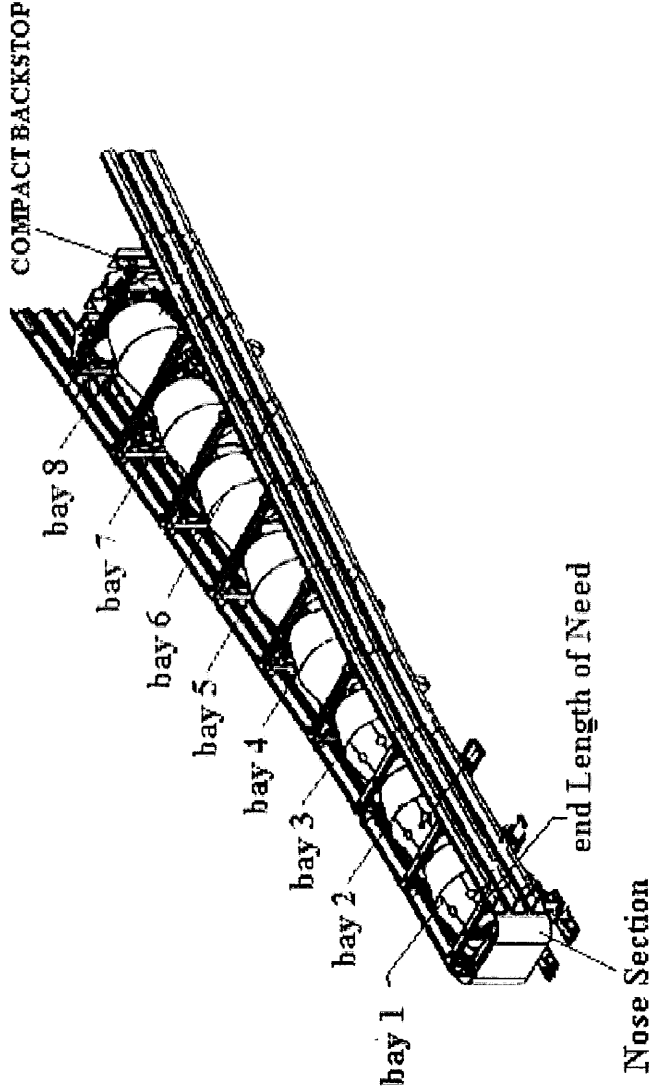
- Backup widths are available in 24, 30, and 36 inches
- 8 bay with 2 types crushable/replace cartridges. First 3 cartridges are Type A and last B cartridges are Type II.
- Re-directive, bi- and unidirectional, non-gating, non-pocketing
- 26.9 feet long
- This system is not resettable and should be used in areas where minimal impacts are anticipated.



UNIVERSAL TAU II
TL-3 SYSTEM shown

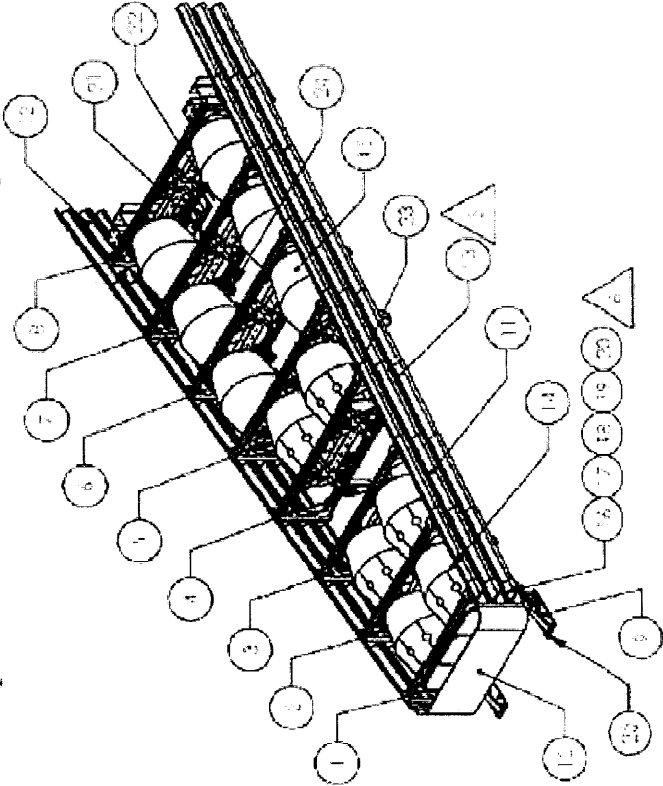
General Characteristics (Combination Systems):

- Backup widths could accommodate up to 60 inches
- 8 bay with 2 types crushable/replace cartridges. First 3 rows are Type A cartridges and remainders are Type B cartridges.
- 26.9 feet long
- 5 degree outward flare rate.
- Re-directive, bi- and unidirectional, non-gating, non-pocketing
- This system is not resettable and should be used in areas where minimal impacts are anticipated.



UNIVERSAL TAU II Wide
TL-3 System shown

- Variations for TAU-II (Taper systems):
- Backup widths could accommodate up to 96 inches

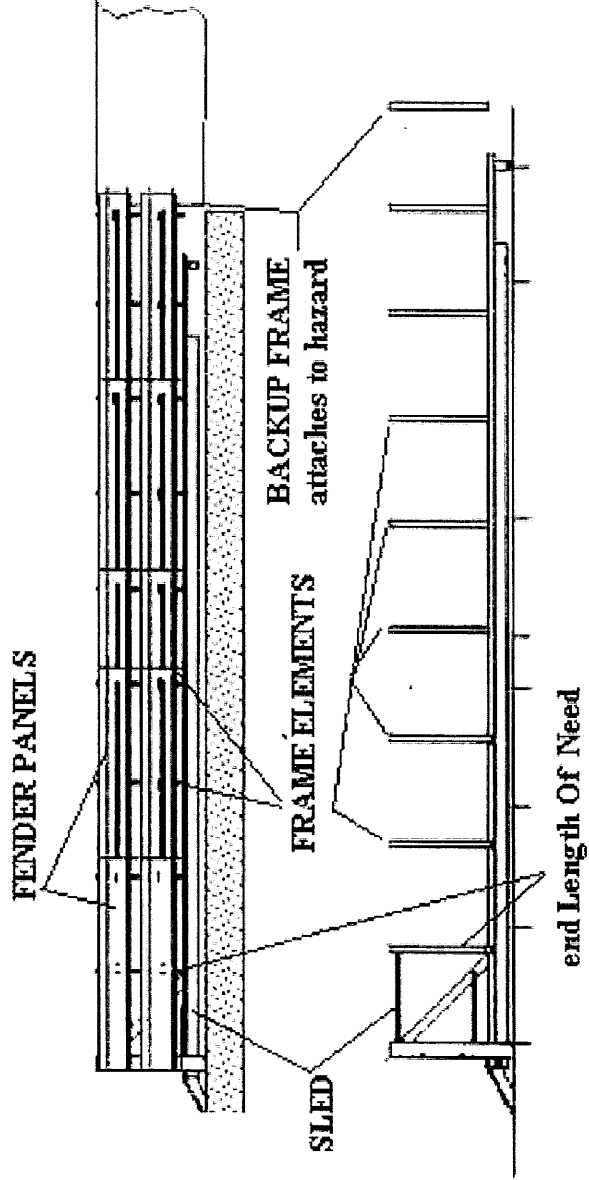


	60+ mph* (110 km/h) Type Load-3									
up to 30" (762 mm)	B	B	B	B	B	B	A	A	A	A
36" (914 mm)	B	B	B	B	B	B	A	A	A	A
42" (1066 mm)	B	B	B	B	B	B	A	A	A	A
48" (1219 mm)	B	B	B	B	B	B	A	A	A	A
54" (1371 mm)	B	B	B	B	B	B	A	A	A	A
60" (1523 mm)	B	B	B	B	B	B	A	A	A	A
66" (1676 mm)	B	B	B	B	B	B	A	A	A	A
72" (1829 mm)	B	B	B	B	B	B	A	A	A	A
78" (1980 mm)	B	B	B	B	B	B	A	A	A	A
84" (2133 mm)	B	B	B	B	B	B	A	A	A	A
90" (2286 mm)	B	B	B	B	B	B	A	A	A	A
96" (2438 mm)	B	B	B	B	B	B	A	A	A	A

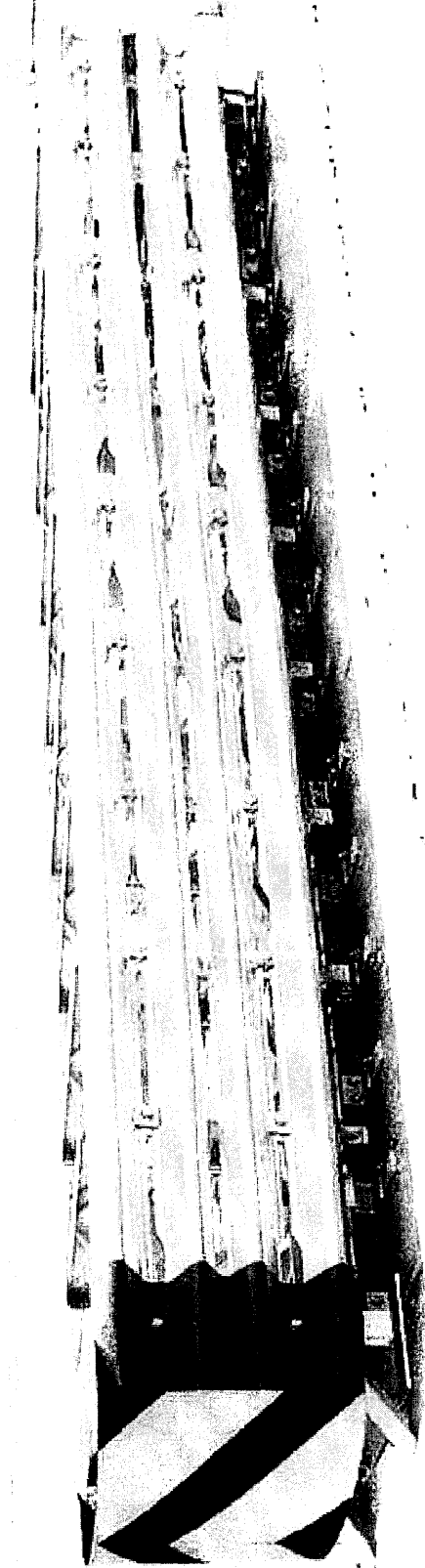
Name	TRACC Family (FastTRACC™ and WideTRACC™)
Manufacturer	Trinity Highway Products, LLC.
Website	http://www.highwayguardrail.com/products/tracc.html
FHWA Acceptance Letter	HNG-14/CC-54 (for FastTRACC) (http://safety.fhwa.dot.gov/roadway_dept/road_hardware/barriers/pdf/cc-54.pdf) HSA-10/CC-54D (for WideTRACC) (http://safety.fhwa.dot.gov/roadway_dept/road_hardware/barriers/pdf/cc54d.pdf)

General Characteristics (FastTRACC or TRACC):

- Length 21 feet
- Backup width is available in 24 inches
- Re-directive, bi- and unidirectional, non-gating, non-pocketing
- This system is not resettable and should be used in areas where minimal impacts are anticipated.
- No cartridges.
- Consisted of impact “sled”, 2 guidance tracks, and steel frames.



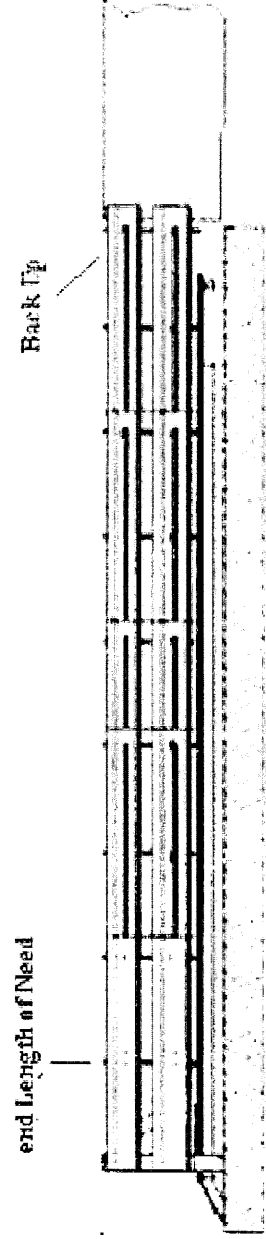
TRACC



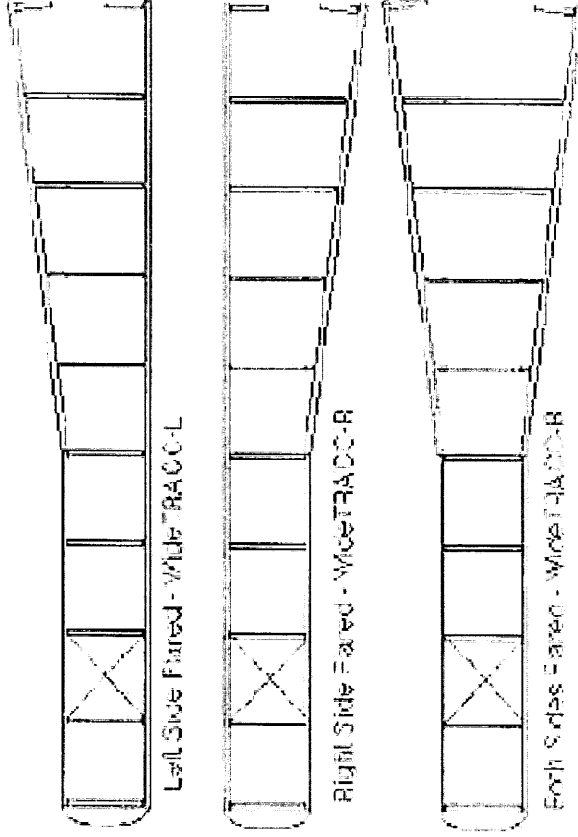
(ISO Drawing is not available)

General Characteristics (WideTRACC):

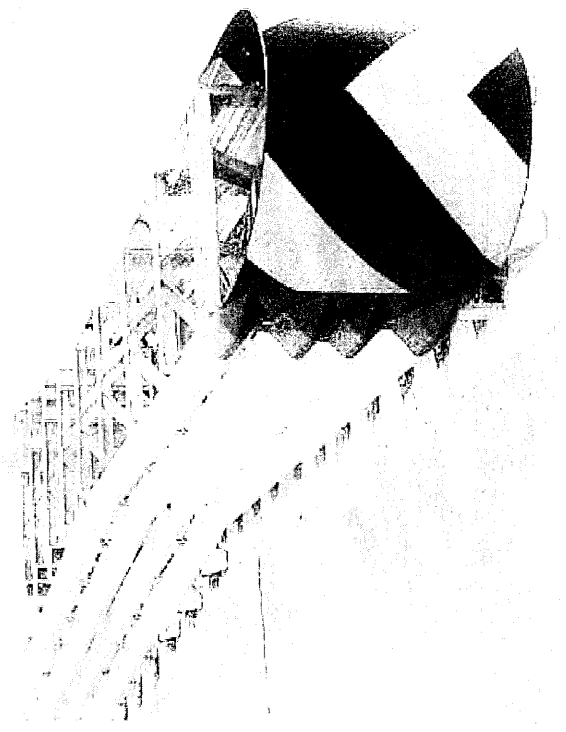
- Length 21 feet
- At 9.5 feet from beginning, the side panels begin to flare outward at 7 degrees. At the length of 21 feet, it could shield the hazardous object of up to 58 inches. To accommodate for larger objects, the attenuators need to move forward and maintaining 7 degrees until it covers the hazardous object.
- Re-directive, bi- and unidirectional, non-gating, non-pocketing
- This system is not resettable and should be used in areas where minimal impacts are anticipated.
- No cartridges.
- Consisted of impact “sled”, 2 guidance tracks, and steel frames



TRACC



Basic WideTRACC configurations



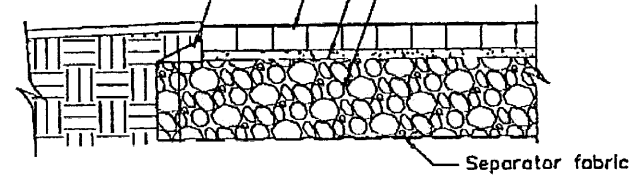
(ISO Drawing is not available)

Paver restraint at turf equal to
Pave Edge by Pave Tech Inc. -
(612) 881-5773. Install per
manufacturer's instructions.

60mm concrete unit pavers

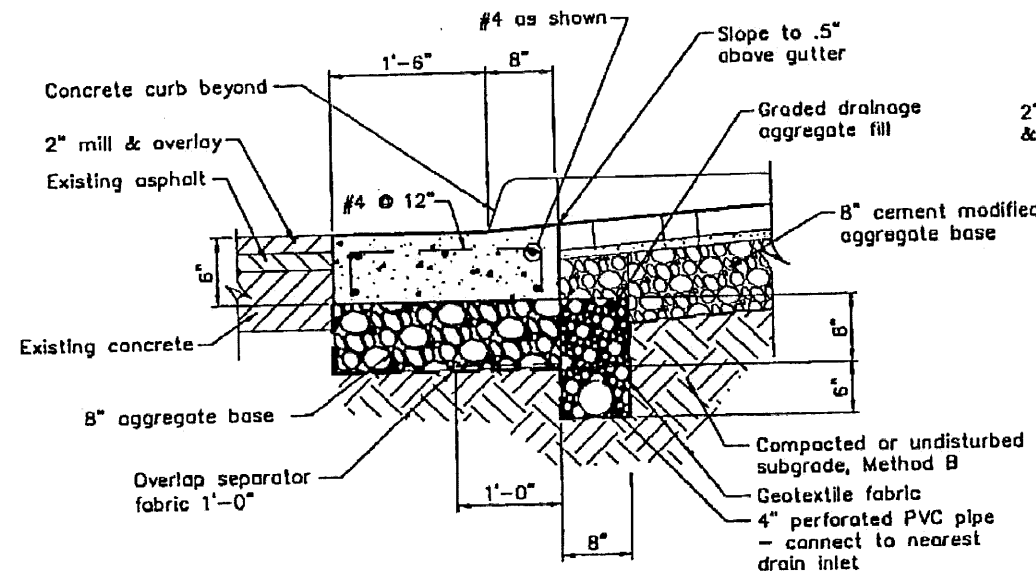
1" - 1 1/2" sand setting bed

8" cement modified
aggregate base



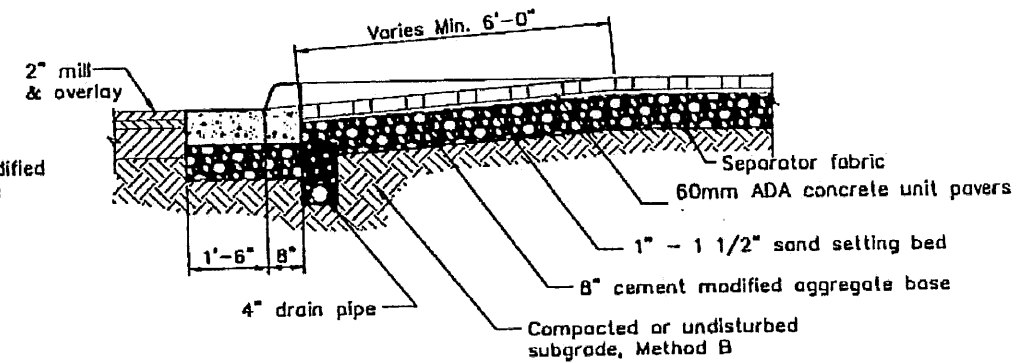
CONCRETE UNIT PAVER

Scale: 1"=1'-0"



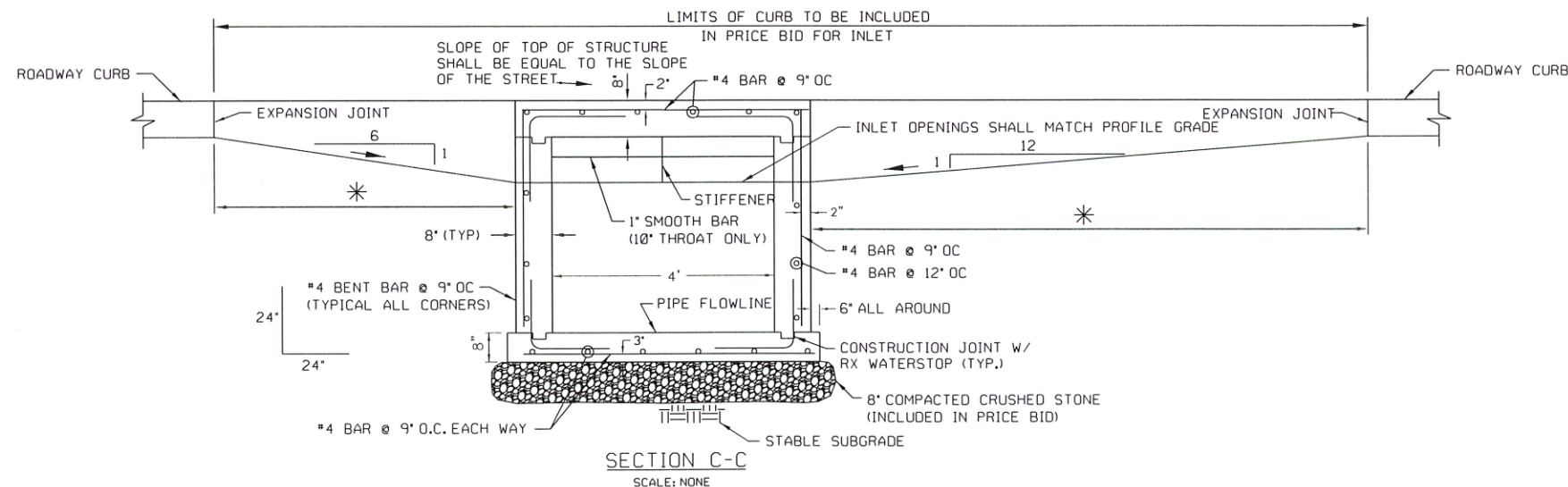
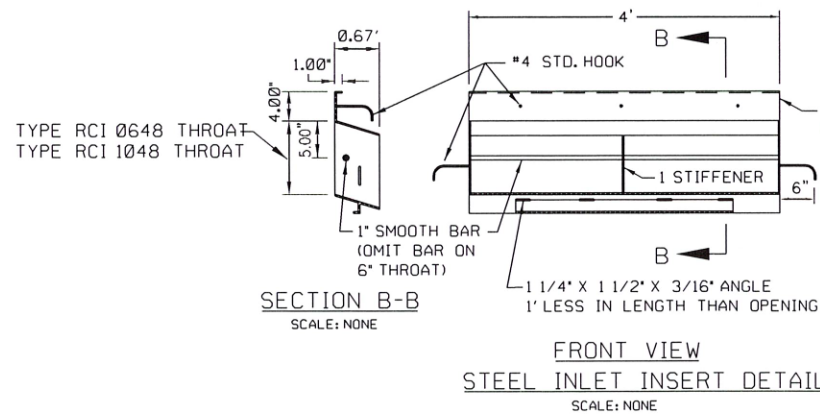
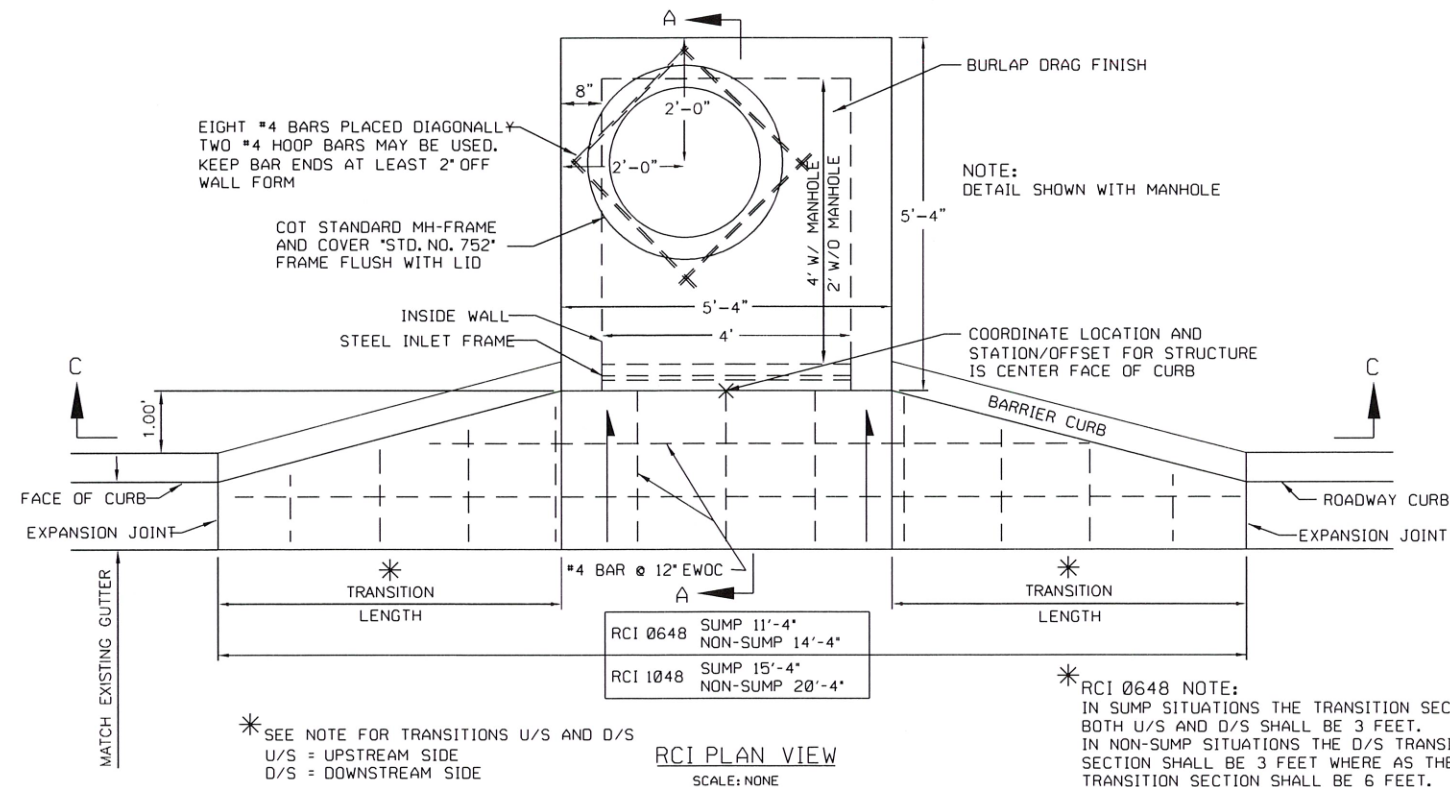
SPECIALTY CURB AND EDGE DRAIN

Scale: 1"=1'-0"

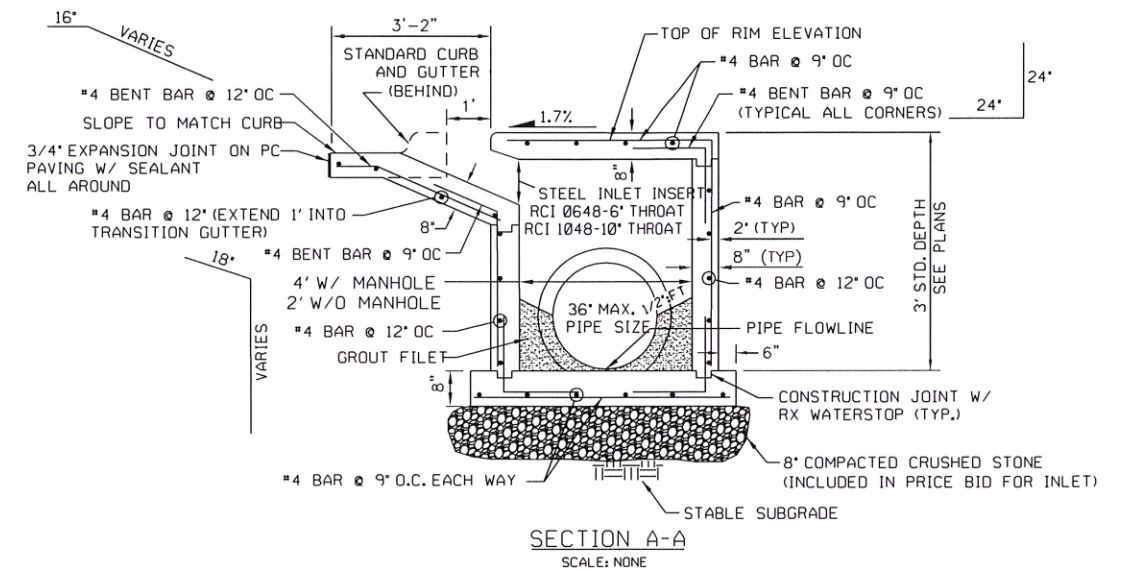


HANDICAP RAMP SECTION

Scale: 1/2" = 1'-0"



- CAST IN PLACE CONCRETE NOTES
1. ALL CONCRETE SHALL BE CLASS A, AS DESIGNATED IN SECTION 509 OF THE ODOT SPECIFICATIONS, LATEST EDITION.
 2. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.
 3. CLEAR DISTANCES FROM CAST-IN-PLACE CONCRETE SURFACES TO REINFORCING SHALL BE 2" FOR WALLS, 1-1/2" FOR SUPPORTED SLABS, 3" FROM THE BOTTOM OF FOOTINGS AND 2" FROM THE TOP OF SLABS, UNLESS OTHERWISE NOTED.
 4. REINFORCING STEEL SHALL MEET ASTM SPECIFICATION A615, GRADE 60.
 5. ALL BARS SHALL LAP A MINIMUM OF 30 BAR DIAMETERS OR 18", WHICHEVER IS GREATER, UNLESS OTHERWISE NOTED BY THE ENGINEER.
 6. ALL EXPOSED CAST IN PLACE CONCRETE SURFACES SHALL HAVE ALL VOIDS FILLED, BURRS AND FINS REMOVED.
 7. ALL JOINTS SHALL BE SEALED WITH AN APPROVED SILICONE SEALANT.
 8. MINIMUM CONCRETE COVER OF REINFORCING STEEL SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE STANDARD OR BE 2" FOR EXTERIOR WALL STEEL OR 3" FOR THE BOTTOM FLOOR STEEL.



NOTE:
RCI STRUCTURES W/O MANHOLES SHOULD BE LIMITED TO CASES WHERE A SINGLE INLET IS EXTENDED BEYOND A JUNCTION BOX.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
611.06 (G)	INLET, TYPE "RCI 0648 & RCI 1048"	EA.
611.06 (H)	ADDITIONAL DEPTH IN INLET TYPE "RCI 0648 & RCI 1048"	V.F.

NOTE:
DETAIL SHOWN WITH MANHOLE RCI 0648 (6" THROAT)

	SUMP W/ MANHOLE		SUMP W/O MANHOLE		NO SUMP W/ MANHOLE		NO SUMP W/O MANHOLE	
	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.
STD. DEPTH 3'	3.1	290	2.3	215	3.3	299	2.6	225
ADD. VERT. FT.	1	31	.7	24	1	31	.7	24

RCI 1048 (10" THROAT)

	SUMP W/ MANHOLE		SUMP W/O MANHOLE		NO SUMP W/ MANHOLE		NO SUMP W/O MANHOLE	
	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.
STD. DEPTH 3'	3.5	295	2.6	221	3.7	307	2.8	236
ADD. VERT. FT.	1	31	.7	24	1	31	.7	24

REVISION	BY	DATE

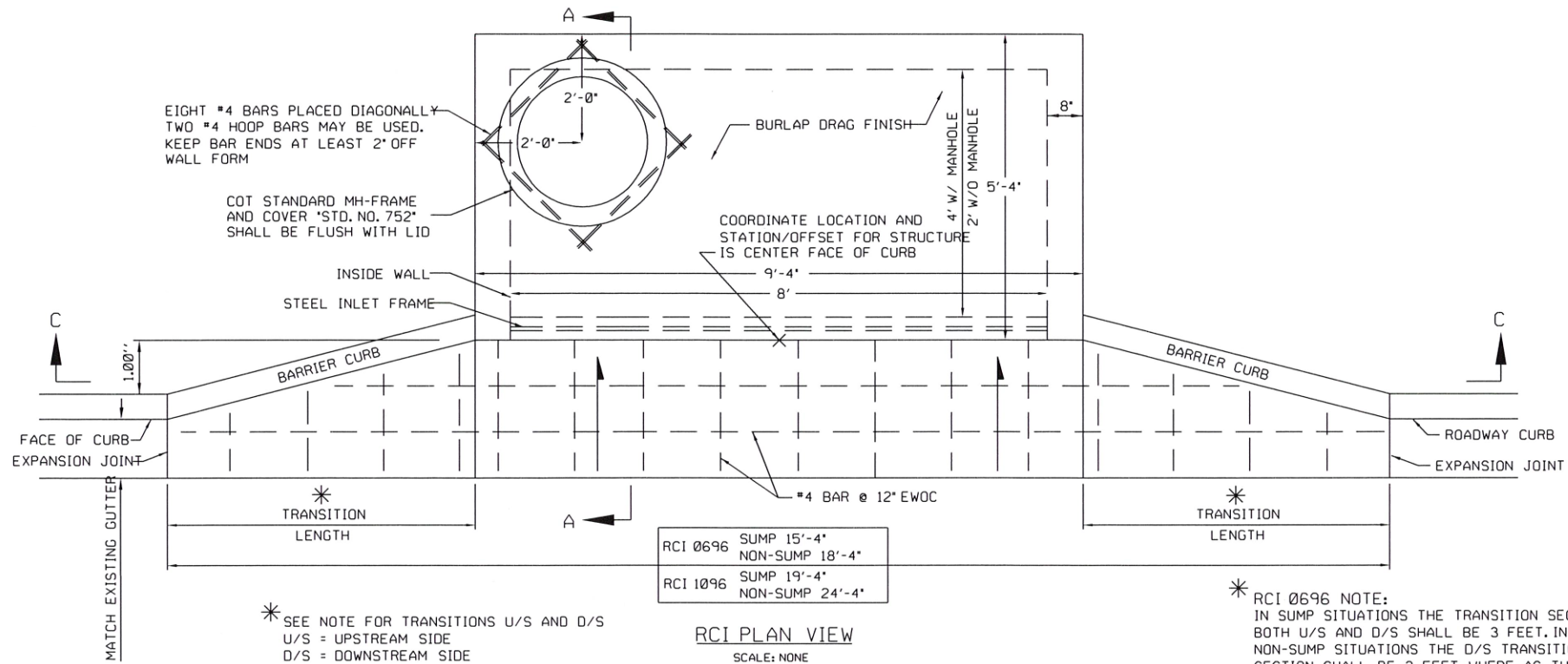
[Signature]
CITY ENGINEER

[Signature]
DESIGN MANAGER

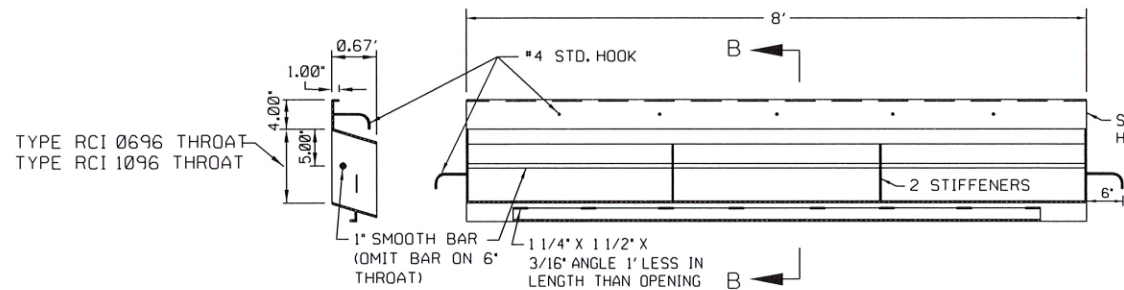
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

RECESSED CURB INLET DETAILS
RCI 0648 - 6" THROAT
RCI 1048 - 10" THROAT

DATE: MARCH 2022 STD. 769A

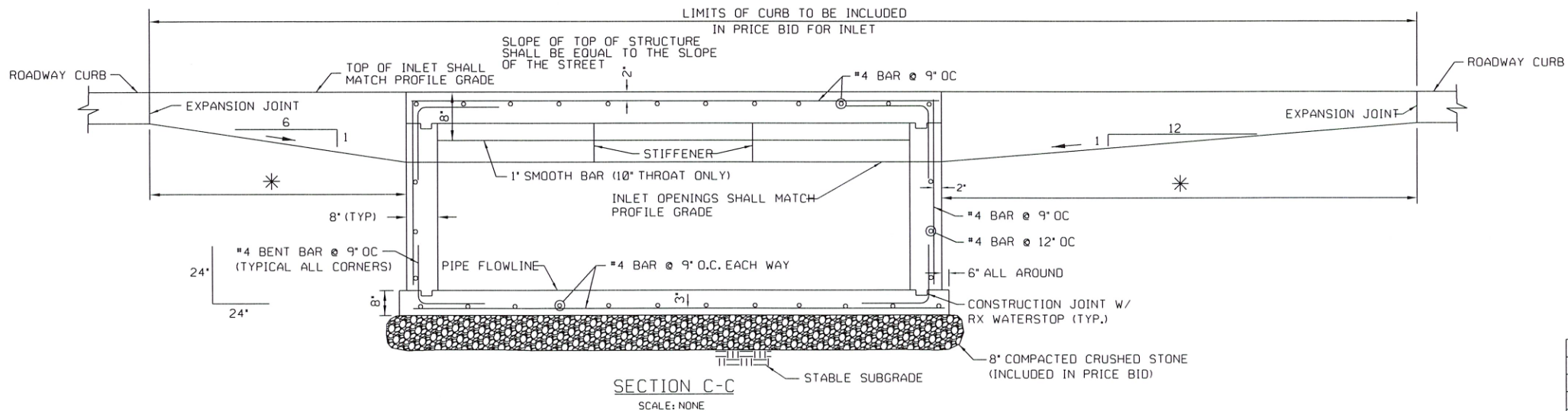


RCI PLAN VIEW
SCALE: NONE



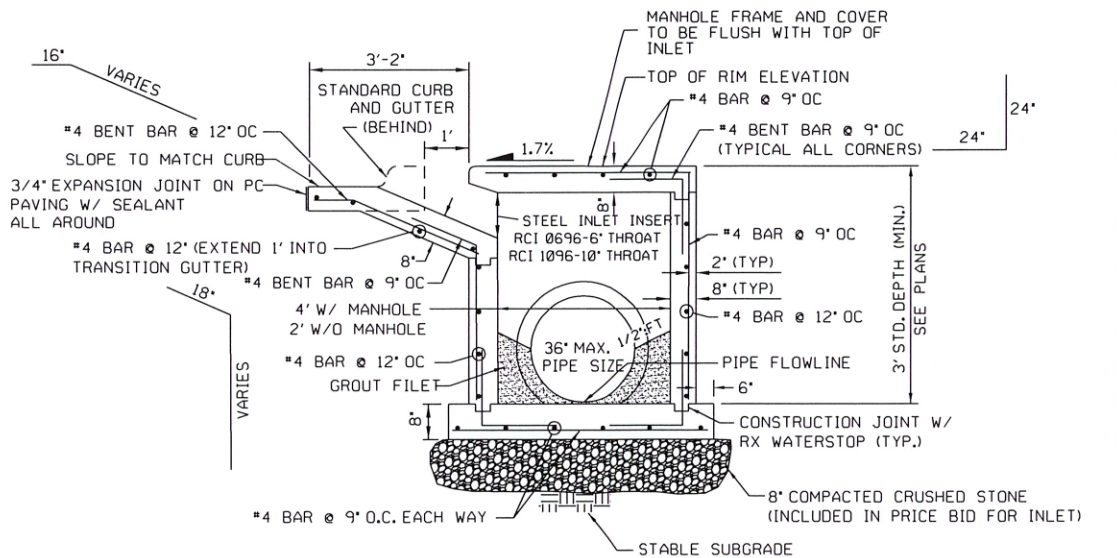
SECTION B-B
SCALE: NONE

FRONT VIEW
STEEL INLET INSERT DETAIL
SCALE: NONE



SECTION C-C
SCALE: NONE

- CAST IN PLACE CONCRETE NOTES
1. ALL CONCRETE SHALL BE CLASS A, AS DESIGNATED IN SECTION 509 OF THE ODOT SPECIFICATIONS, LATEST EDITION.
 2. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.
 3. CLEAR DISTANCES FROM CAST-IN-PLACE CONCRETE SURFACES TO REINFORCING SHALL BE 2" FOR WALLS, 1-1/2" FOR SUPPORTED SLABS, 3" FROM THE BOTTOM OF FOOTINGS AND 2" FROM THE TOP OF SLABS, UNLESS OTHERWISE NOTED.
 4. REINFORCING STEEL SHALL MEET ASTM SPECIFICATION A615, GRADE 60.
 5. ALL BARS SHALL LAP A MINIMUM OF 30 BAR DIAMETERS OR 18", WHICHEVER IS GREATER, UNLESS OTHERWISE NOTED BY THE ENGINEER.
 6. ALL EXPOSED CAST IN PLACE CONCRETE SURFACES SHALL HAVE ALL VOIDS FILLED, BURRS AND FINS REMOVED.
 7. ALL JOINTS SHALL BE SEALED WITH AN APPROVED SILICONE SEALANT.
 8. MINIMUM CONCRETE COVER OF REINFORCING STEEL SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE STANDARD OR BE 2" FOR EXTERIOR WALL STEEL OR 3" FOR THE BOTTOM FLOOR STEEL.



SECTION A-A
SCALE: NONE

- STEEL INLET FRAME NOTES
1. STEEL INLET INSERT SHALL BE AS MANUFACTURED BY SHAWNEE STEEL & WELDING, INC. OF MERIAM, KS. OR APPROVED EQUAL. REFER TO THE STEEL INLET INSERT DETAIL.
 2. COST OF INLET INSERT SHALL BE INCLUDED IN THE PRICE BID FOR INLET.
 3. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
 4. ALL STEEL SHALL BE 7 GAGE OR 3/16" THICK.
 5. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
 6. THE ENTIRE FRAME SHALL BE HOT DIP ZINC COATED IN ACCORDANCE WITH ASTM A-123.

NOTE:
RCI STRUCTURES W/O MANHOLES SHOULD BE LIMITED TO CASES WHERE A SINGLE INLET IS EXTENDED BEYOND A JUNCTION BOX.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
611.06 (G)	INLET, TYPE "RCI 0696 & RCI 1096"	EA.
611.06 (H)	ADDITIONAL DEPTH IN INLET TYPE "RCI 0696 & RCI 1096" V.F.	

NOTE:
DETAIL SHOWN WITH MANHOLE RCI 0696 (6" THROAT)

	SUMPS W/ MANHOLE		SUMPS W/O MANHOLE		NO SUMPS W/ MANHOLE		NO SUMPS W/O MANHOLE	
	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.
STD. DEPTH 3'	5.3	451	4	268	5.6	457	4.2	275
ADD. VERT. FT.	1.3	45	.8	38	1.3	45	.8	38

RCI 1096 (10" THROAT)

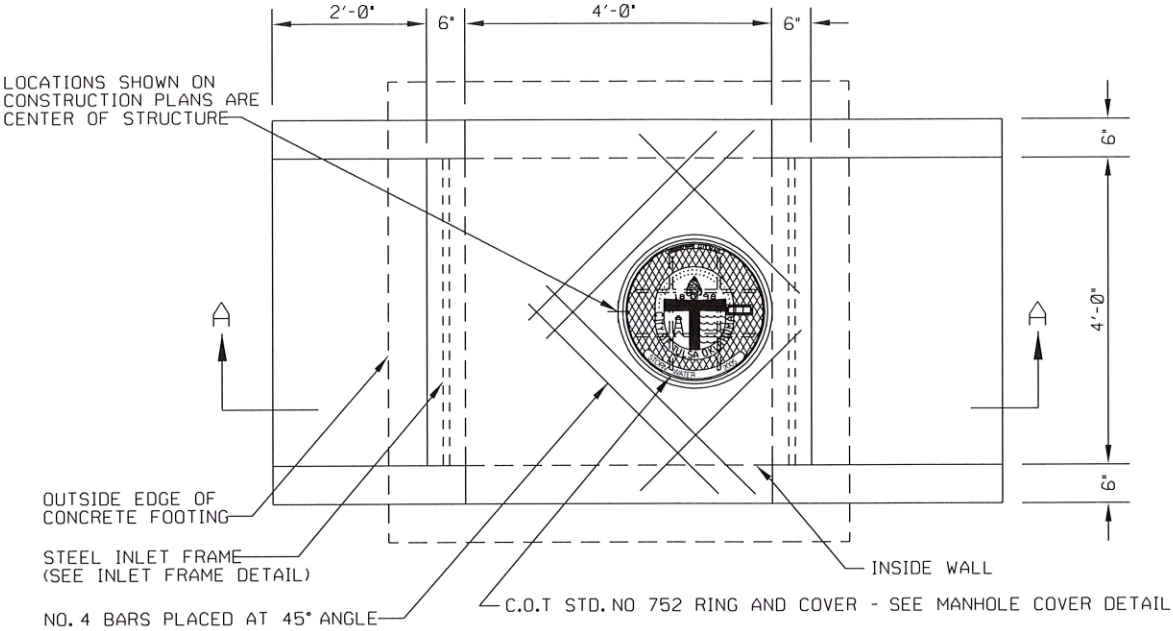
	SUMPS W/ MANHOLE		SUMPS W/O MANHOLE		NO SUMPS W/ MANHOLE		NO SUMPS W/O MANHOLE	
	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.
STD. DEPTH 3'	5.7	464	4.3	281	6.1	477	4.7	295
ADD. VERT. FT.	1.3	45	.8	38	1.3	45	.8	38

REVISION	BY	DATE

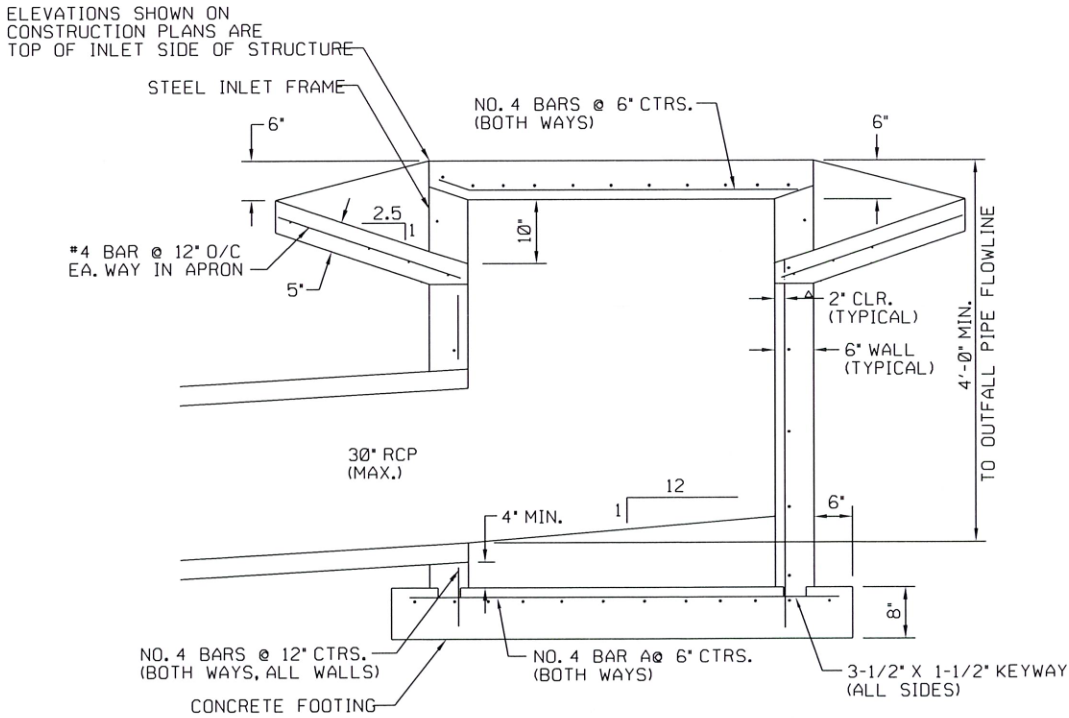
CITY ENGINEER
DESIGN MANAGER

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT
RECESSED CURB INLET DETAILS
RCI 0696 - 6" THROAT
RCI 1096 - 10" THROAT
DATE: MARCH 2022
STD. 769B

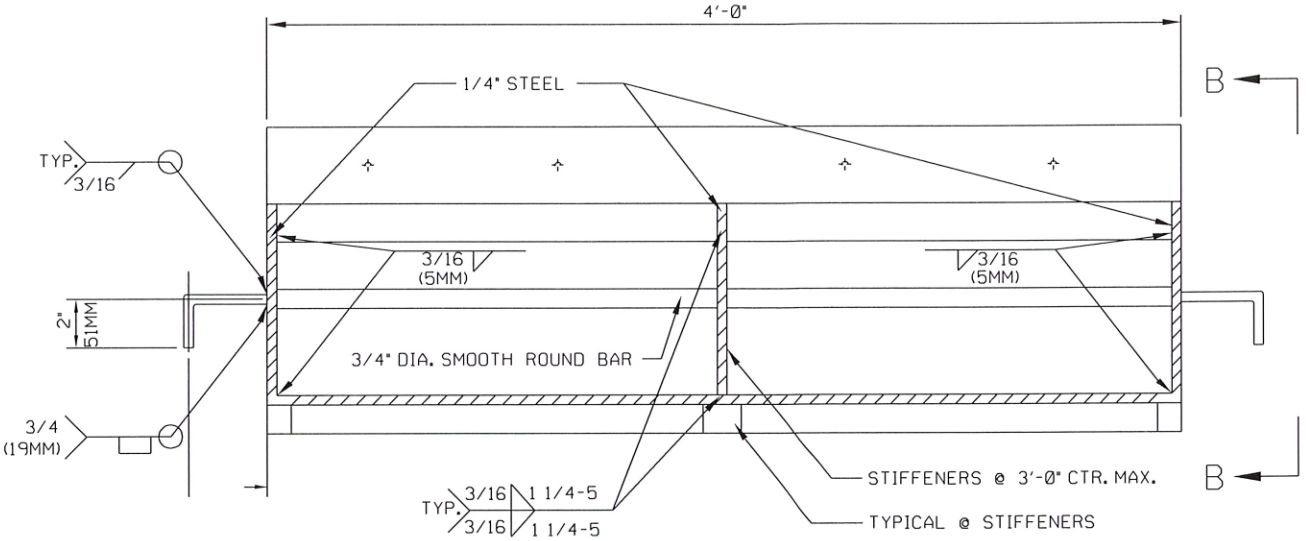
PATH NAME: /EI/PARTS/STD/DGN/STD/791-SPECIAL-TYPEI-DROP-INLET.DGN RMD 06/04/2020



PLAN VIEW



SECTION A-A



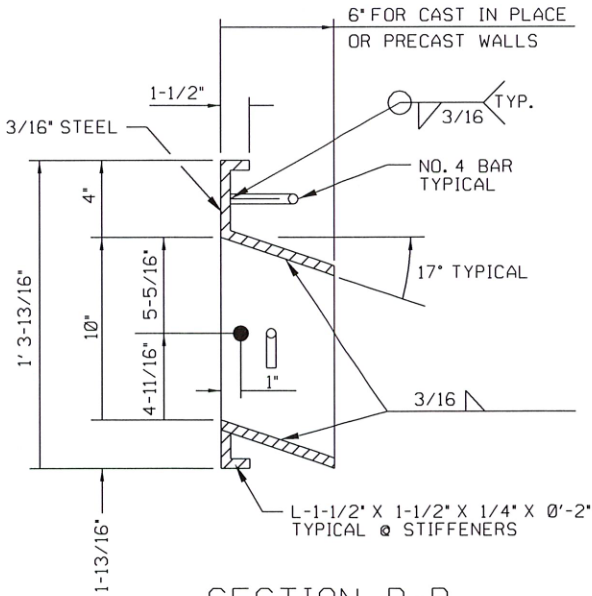
FRONT VIEW

AREA INLET NOTES

1. ALL STORM SEWER STRUCTURES SHALL BE PRE-CAST OR CAST IN PLACE. MASONRY CONSTRUCTION WILL NOT BE ALLOWED.
2. BERM LOCATION AND ELEVATION MAY VARY. SEE GRADING PLAN FOR EXACT LOCATION.
3. CONCRETE CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF 2019 STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION.
4. INLET FLOORS SHALL BE SHAPED WITH NON-REINFORCED CONCRETE INVERTS TO PROVIDE SMOOTH FLOW.
5. BEVEL ALL EXPOSED CONCRETE EDGES WITH 3/4" CHAMFER STRIPS.
6. REINFORCING STEEL SHALL BE GRADE 60 AS PER ASTM A615 AND SHALL BE BENT COLD.
7. ALL LAP SPLICES SHALL BE A MINIMUM OF 40 BAR DIAMETERS IN LENGTH.

STEEL INLET FRAME NOTES

1. ALL WELDS SHALL BE PREFORMED WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
2. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
3. THE ENTIRE FRAME SHALL BE HOT DIP ZINC COATED IN ACCORDANCE WITH ASTM A-123.



SECTION B-B

10" STEEL INLET FRAME

AS MANUFACTURED BY SHAWNEE STEEL & WELDING, INC. OR APPROVED EQUAL.

REVISION	BY	DATE

[Signature]
CITY ENGINEER

[Signature]
DESIGN MANAGER

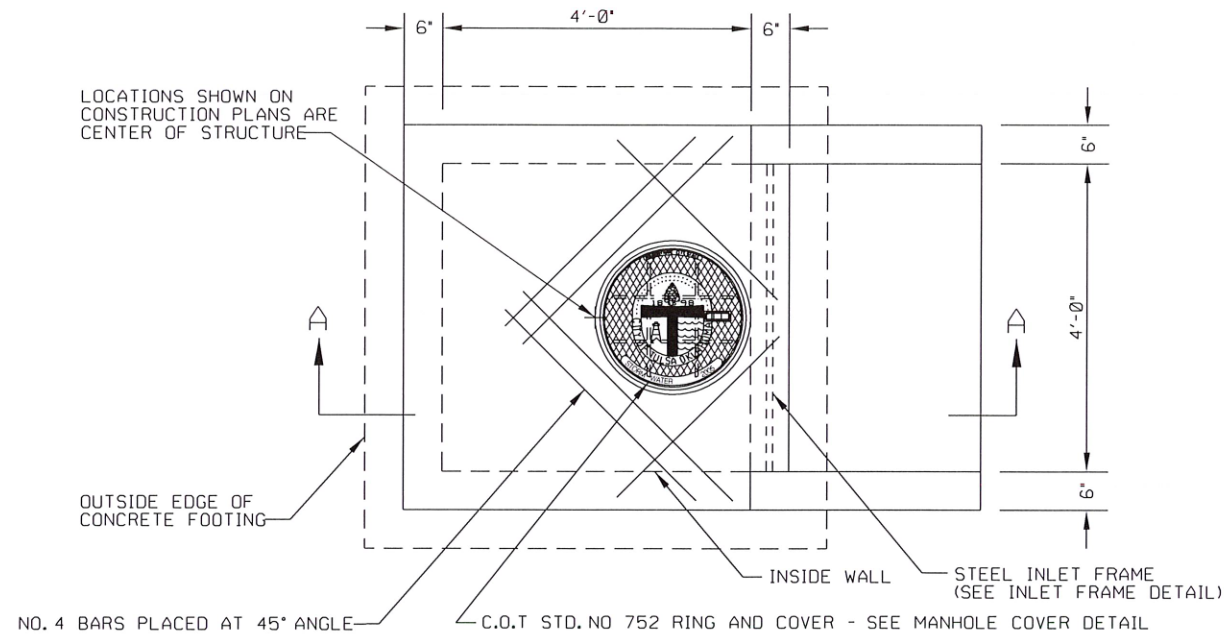
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

SPECIAL TYPE I DROP INLET

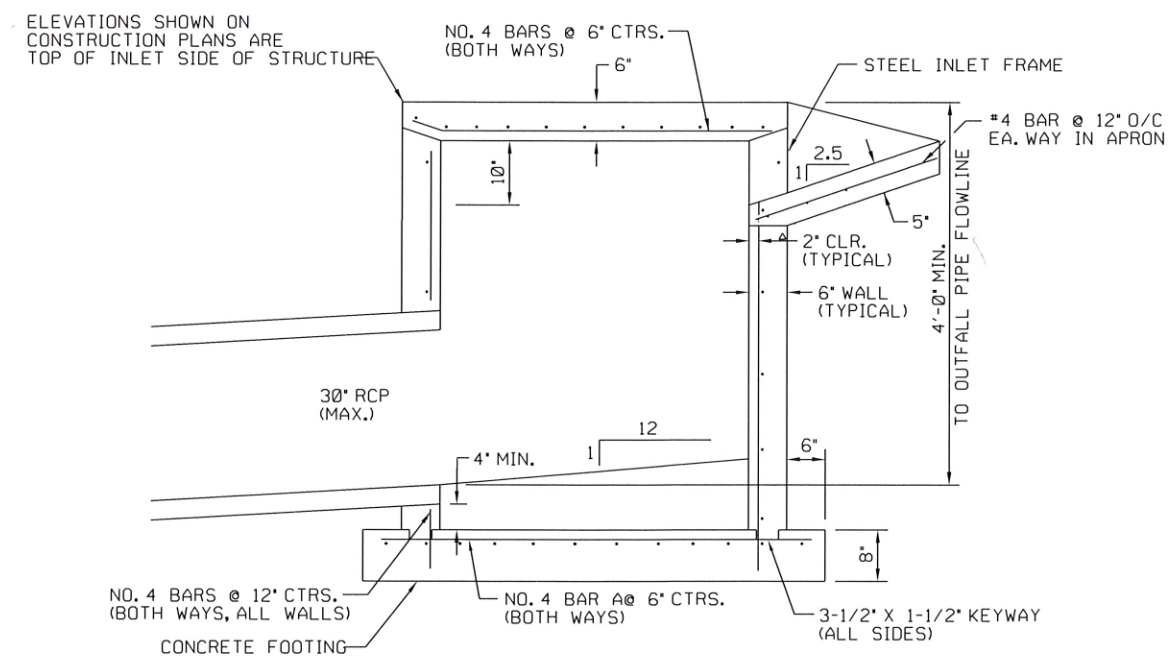
DATE: MARCH 2022

STD. 791

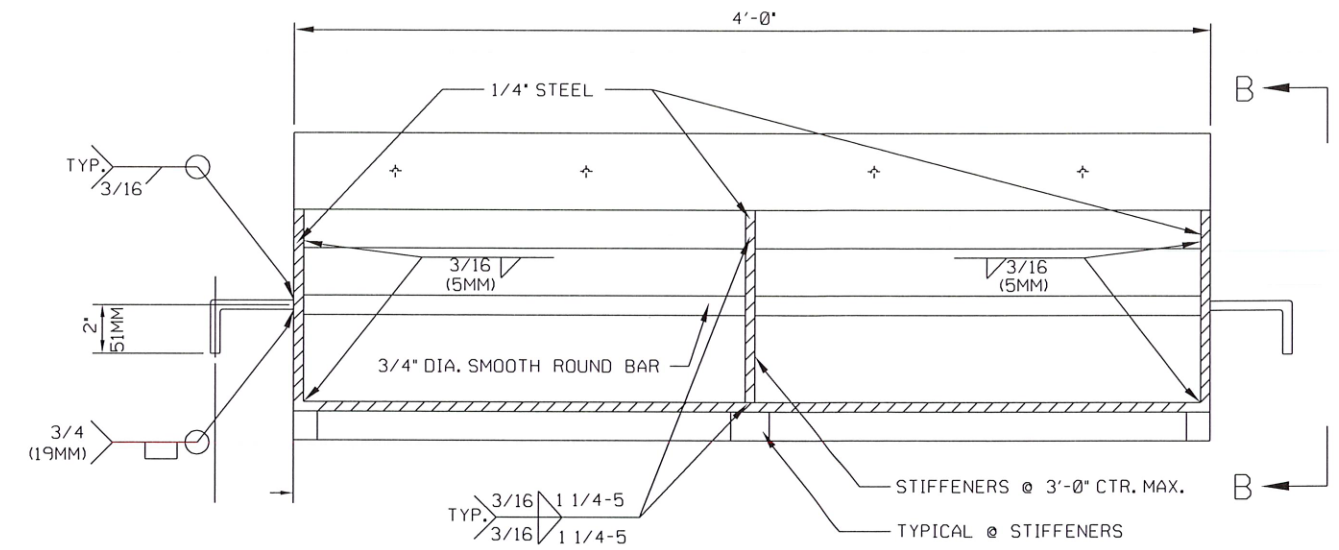
PATH NAME: /E1/PARTS/STD/DCN.STDS/792-SPECIAL-TYPEII-DROP-INLET.DGN RMD 06/04/2020



PLAN VIEW



SECTION A-A



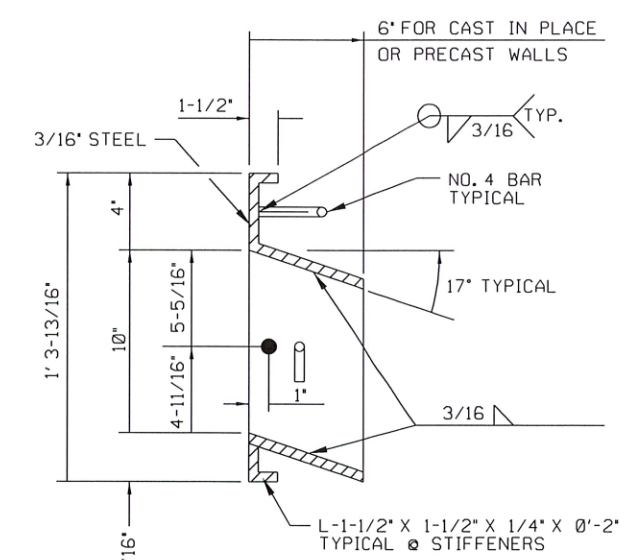
FRONT VIEW

AREA INLET NOTES

1. ALL STORM SEWER STRUCTURES SHALL BE PRE-CAST OR CAST IN PLACE. MASONRY CONSTRUCTION WILL NOT BE ALLOWED.
2. BERM LOCATION AND ELEVATION MAY VARY. SEE GRADING PLAN FOR EXACT LOCATION.
3. CONCRETE CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF 2019 STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION.
4. INLET FLOORS SHALL BE SHAPED WITH NON-REINFORCED CONCRETE INVERTS TO PROVIDE SMOOTH FLOW.
5. BEVEL ALL EXPOSED CONCRETE EDGES WITH 3/4" CHAMFER STRIPS.
6. REINFORCING STEEL SHALL BE GRADE 60 AS PER ASTM A615 AND SHALL BE BENT COLD.
7. ALL LAP SPLICES SHALL BE A MINIMUM OF 40 BAR DIAMETERS IN LENGTH.

STEEL INLET FRAME NOTES

1. ALL WELDS SHALL BE PREFORMED WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
2. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
3. THE ENTIRE FRAME SHALL BE HOT DIP ZINC COATED IN ACCORDANCE WITH ASTM A-123.



SECTION B-B

10" STEEL INLET FRAME

AS MANUFACTURED BY SHAWNEE STEEL & WELDING, INC. OR APPROVED EQUAL.

REVISION	BY	DATE

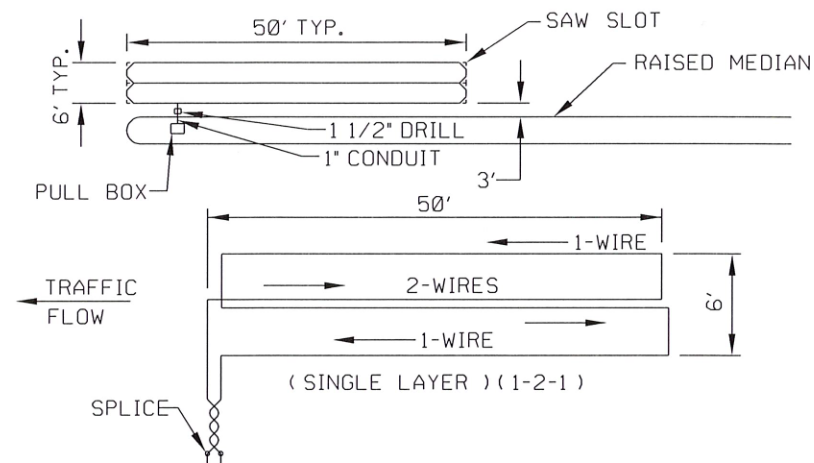
[Signature]
CITY ENGINEER

[Signature]
DESIGN MANAGER

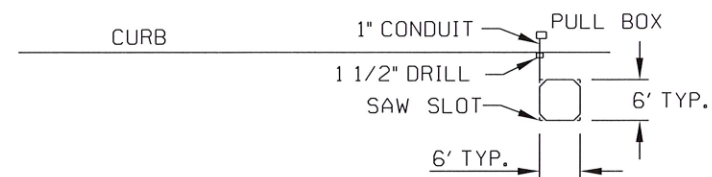
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

SPECIAL TYPE II DROP INLET

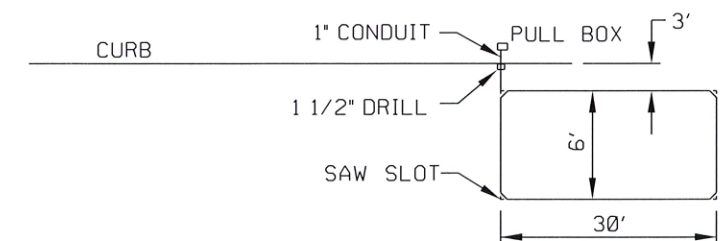
DATE: MARCH 2022 STD. 792



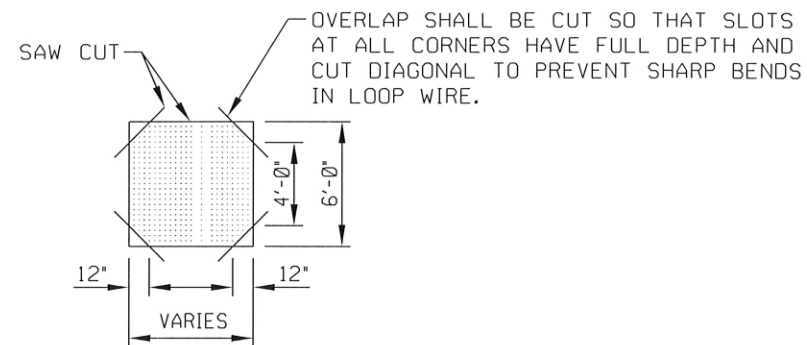
LEFT TURN QUADRUPOLE LOOP WINDING INSTRUCTIONS



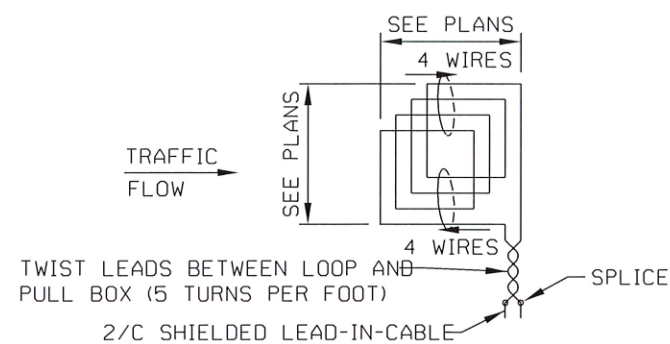
STRAIGHT THROUGH LOOP (SMALL)



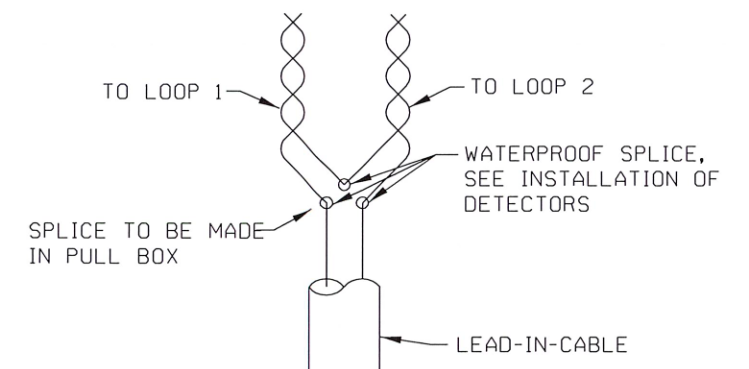
STRAIGHT THROUGH LOOP (LARGE)



ALL SAW CUT CORNERS - DIAGRAM



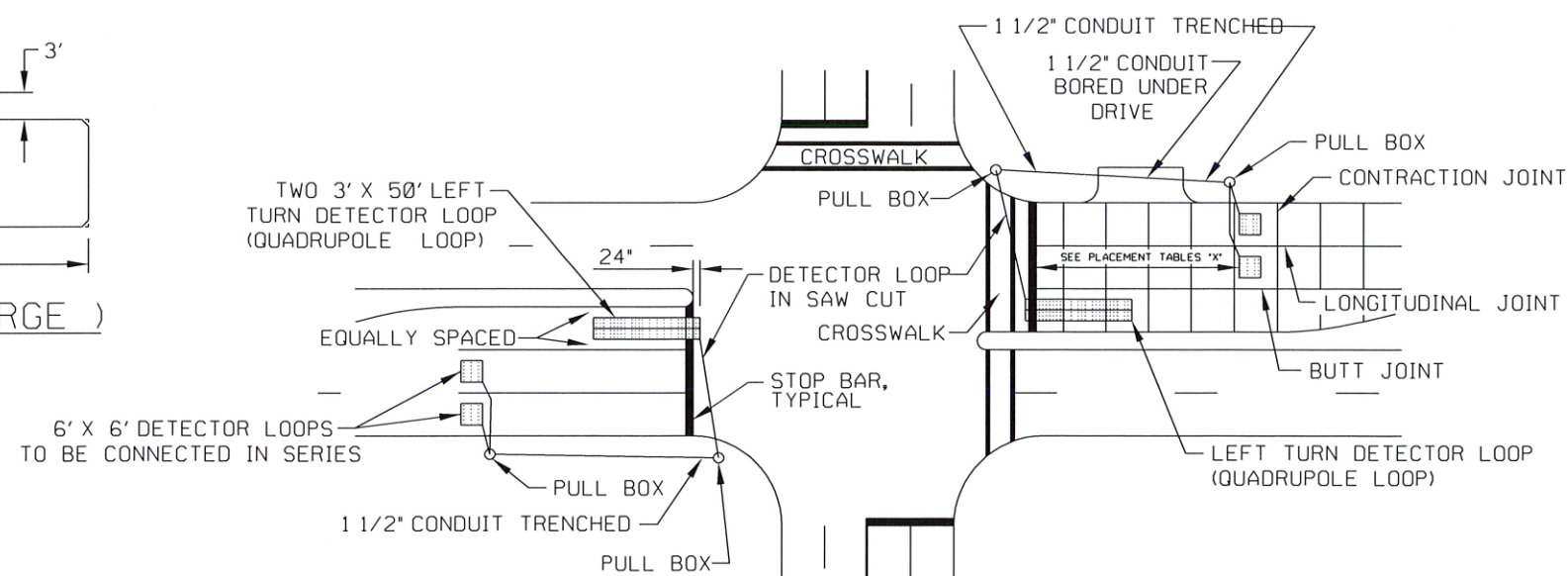
STANDARD LOOP
(6' x 6')
(6' x 30')



TYPICAL LOOP DETECTOR WIRE CONNECTION IN SERIES

SAW CUT DEPTH CHART (IN.)					
NUMBER OF WIRES	1-2	3	4	5	6
CONCRETE	1 1/4	1 3/4	2	2 1/2	2 3/4
ASPHALT	1 3/4	2 1/4	2 1/2	3	3 1/4

PLACEMENT TABLE	
DESIGN SPEED MPH	DISTANCE *X* FT.
30	220
35	256
40	293
45	330



TYPICAL DETECTOR WIRE AND LOOP PLACEMENT

REVISION	BY	DATE


CITY ENGINEER

Kent W. Ky

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

INSTALLATION OF DETECTORS

DATE: MARCH 2022

TD. 604A