

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E., CITY ENGINEER

STREET IMPROVEMENTS
MID-CONTINENT DRIVE
SAFETY IMPROVEMENTS

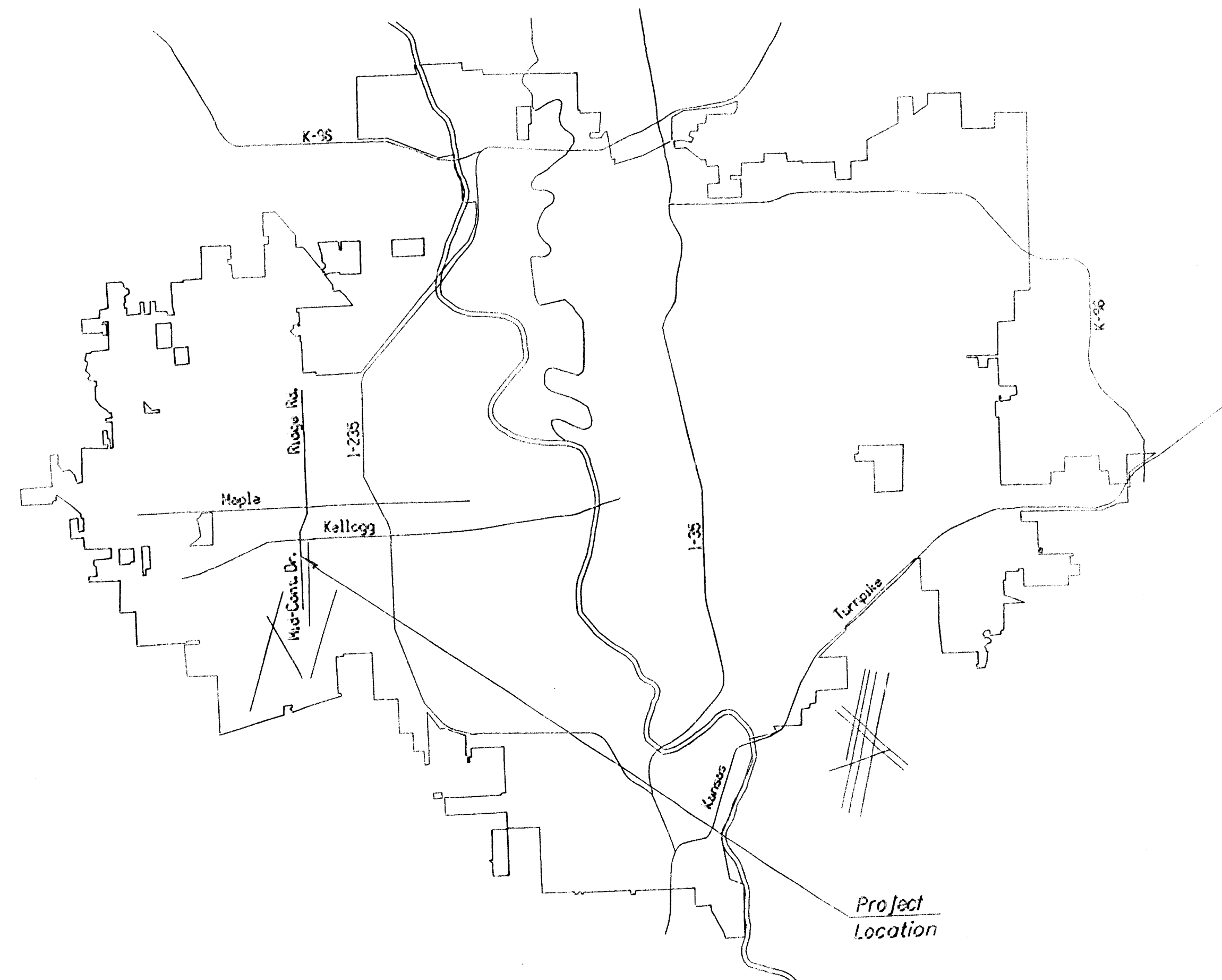
CITY OF WICHITA PROJECT NO. 472-76-245-82638-000-000-001
INDEX NO. 132241

INDEX OF SHEETS

1. Title Sheet
2. Plan Sheet
3. Misc. Details
4. Special Type II Curb, Inlet & Manhole
- 4a. Manhole Frame and Cover Detail
- 5-7. Impact attenuator (G-R-E-A-T System)
8. Traffic Control

EARTHWORK

EXCAVATION 80 CU. YDS.
COMPACTED FILL CU. YDS.
PROJECT LENGTH = LIN. FT.



GENERAL NOTES

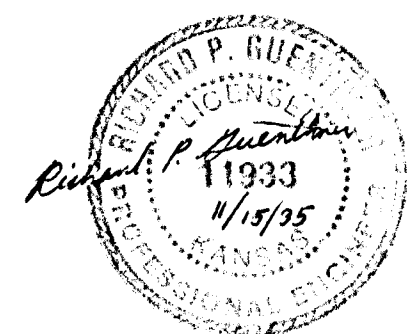
RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR AND APPROVED AS NOTED BELOW.

ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WOULD REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL ARCHEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.

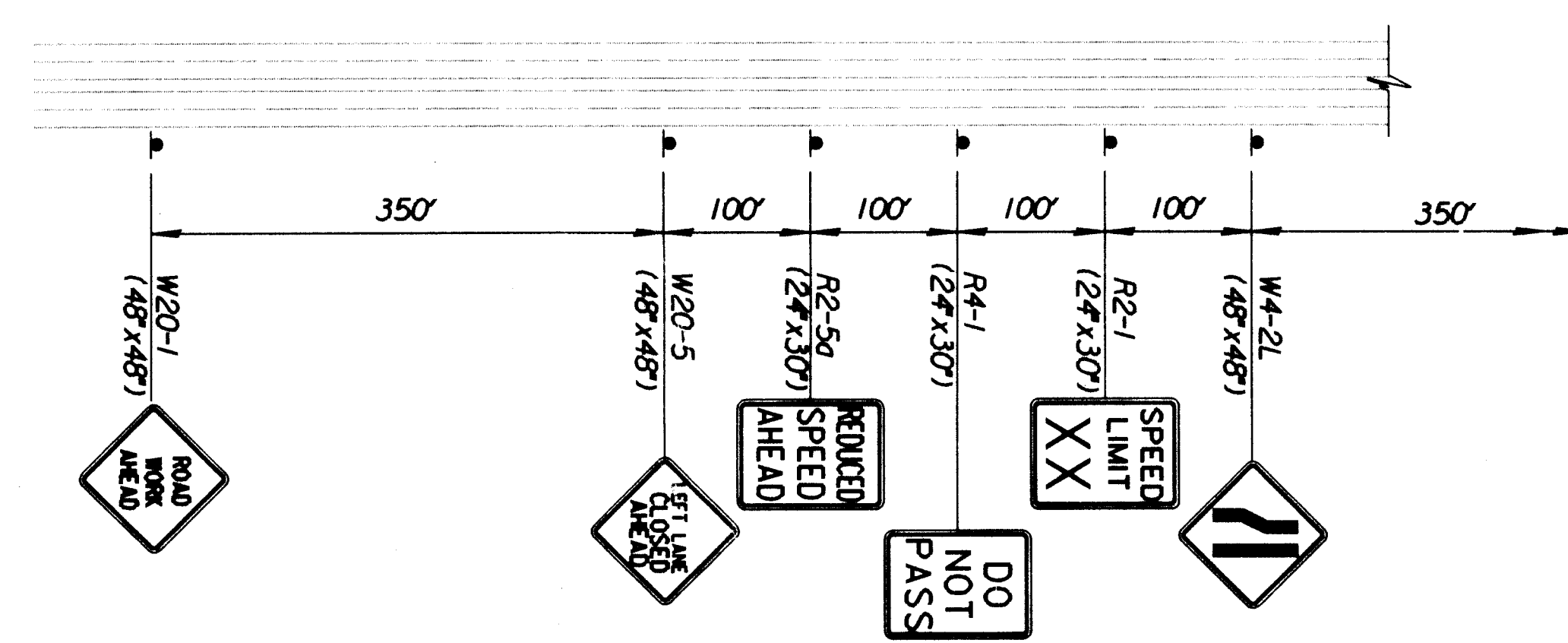
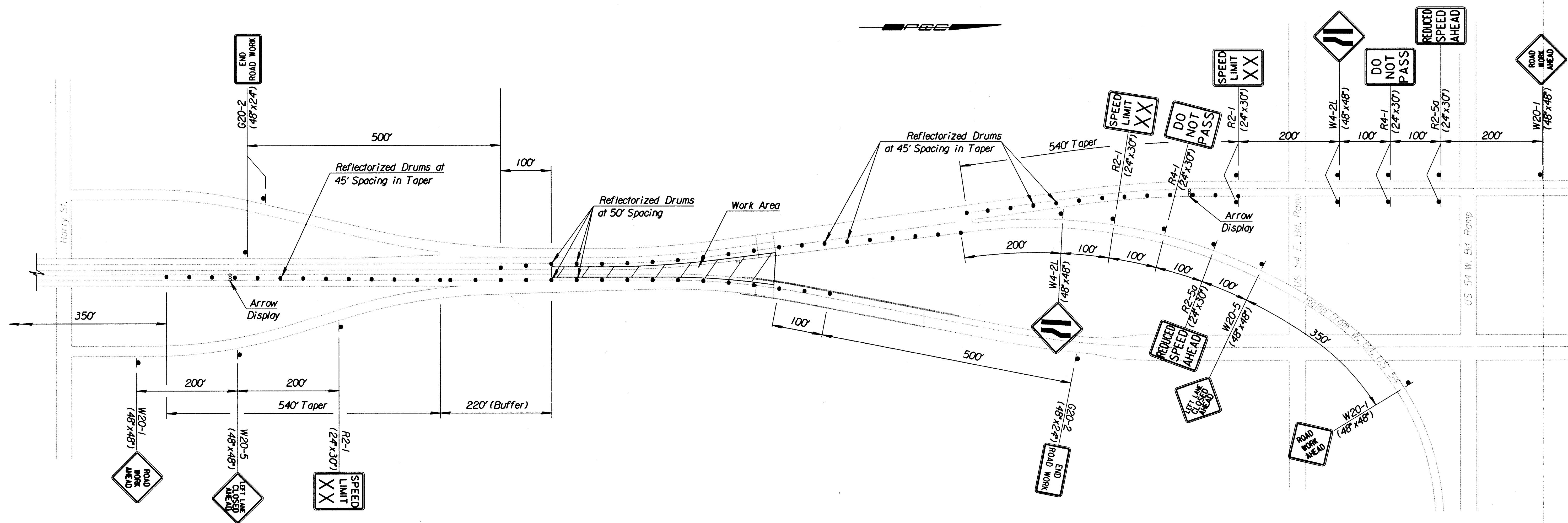
CONTRACTOR SHALL SATISFY HIMSELF OF SUBSURFACE CONDITIONS PRIOR TO FLOODING.

TEMPORARY SURFACING MATERIAL (ROCK, ASPHALT, ETC.) MAY HAVE BEEN PLACED WITHIN STREET RIGHTS-OF-WAY FOR HAUL ROADS AND TEMPORARY ACCESS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS TO DETERMINE EXTENT OF ANY OF SUCH SURFACING. CONTRACTOR SHALL REMOVE SAID TEMPORARY SURFACING IN THE SAME MANNER AS NOTED ABOVE FOR RUBBLE. THIS REMOVAL SHALL BE SUBSIDIARY TO "EXCAVATION".

Note: Traffic to be carried through construction. One Median Lane to be closed in each direction. See Sheet No. 8 for Traffic control Plan.



NOVEMBER 1995



Notes:

Traffic Control should conform to the latest edition of the Manual on Uniform Traffic Control devices and the City of Wichita Barricade Manual.

Traffic Control will not be paid for directly but shall be considered subsidiary to other bid items on the project.

Speed Limit to be determined by the Engineer.

Revisions		By	Date
No.			
CITY OF WICHITA			
TRAFFIC CONTROL			
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.			
WICHITA, KANSAS			
Designed by	RPG	Checked by	RPG
Drawn by	MAF	Date	Oct. 1995
		Job No.	95498

BM #1chis '+ on conc. Slope Liner between S. End of Bridges & Sta. 62+26.69 Elev. 1351.95

SECTION AT PRESSURE RELIEF JOINT

width to match width
 @Subsidiary to the bid item
 of Pressure Relief Jt. 2" Min) "Barrier Protection Curb & Gutter"

Top of Asphalt

Base

Joint System

PARTIAL SECTION
Sta. 64+52.20 to Sta. 65+36.79

Median Surfacting (SC-1)

Varies
5'-0" to
2'-0"

See Sh. No. 3 for
Sections A-A, B-B & C-C

Removal Limits of Exist. Curd & Gutter, Pavement or Asphalt Mat.

LEGEND

1. Sta. 65+67.04 to Sta. 65+87.54
 Install 5-Boyd
 Impact Attenuator (G-R-E-A-T System)
 with 3'-0" Concrete Back up
 See Details Sh. Nos. 5 - 7

Note: Existing signs within the limits of the removal area shall be removed and stockpiled for pickup by the City of Wichita. This work shall be considered subsidiary to other removal items.

Remove and
Replace Pavement
as directed by
the Engineer

S. Bd. Sta. 63+00
Construct Special Type II
Curb Inlet & Manhole
W=9'-6", H=4'-6"
Connect to Exist. 15" RCP (W)
and Exist. 15" RCP (SE)
Remove Exist. Curb Inlet
See Sheet No. 4, 4A.

3.4.67 Beginning of Existing Barrier Curb from Barrier Transition

5-0 Transition to Existing
Barrier Shape. See Sh. No. 3

Barrier Shape, See Sh. No. 3

**40.08
Beginning of Existing Transition
from Barrier Church*

See Detail, this sheet

Construct Gap in Barrier Protection
Curb & Gutter at Pressure Relief Joint

N. BOUND LANES CURVE DATA

P. L. STA. 63+05.07 (B.K.)-
P. L. STA. 63+04.23 (A.N.D.)
4.25' LT. & STA. 62+93.23
P.C. STA. 61+67.15 (Not Shown on Plans)
Δ= 117°00'00" LT.
D= 4700'00"
R= 1432.39'
T= 137'.92"
L= 275'.00"
E= 6.62'

Construct Gap in Barrier Protection
Curb & Gutter at Pressure Relief Joint
See Detail this sheet

Pay Length for Barrier Protection Curb & Gutter

P.O.T. f Sta. 62+26.69
1. Chis ++
2. Chis ++ Top Hubgun
3. Chis ++ Top Hubgun
4. f Inlet MH Lid

MSS 0189
MNM 3066
ENE 0000

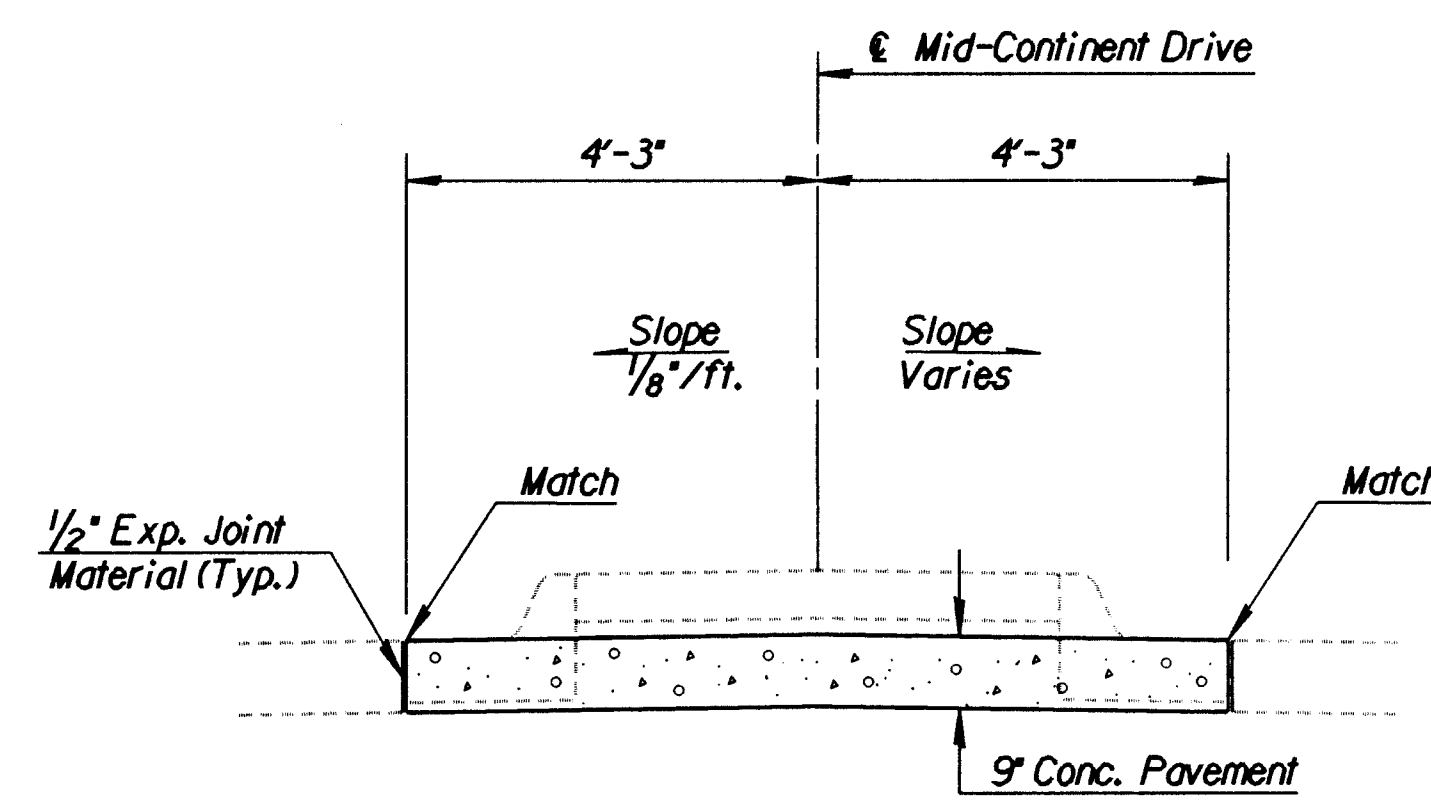
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Scale: 1"=20'

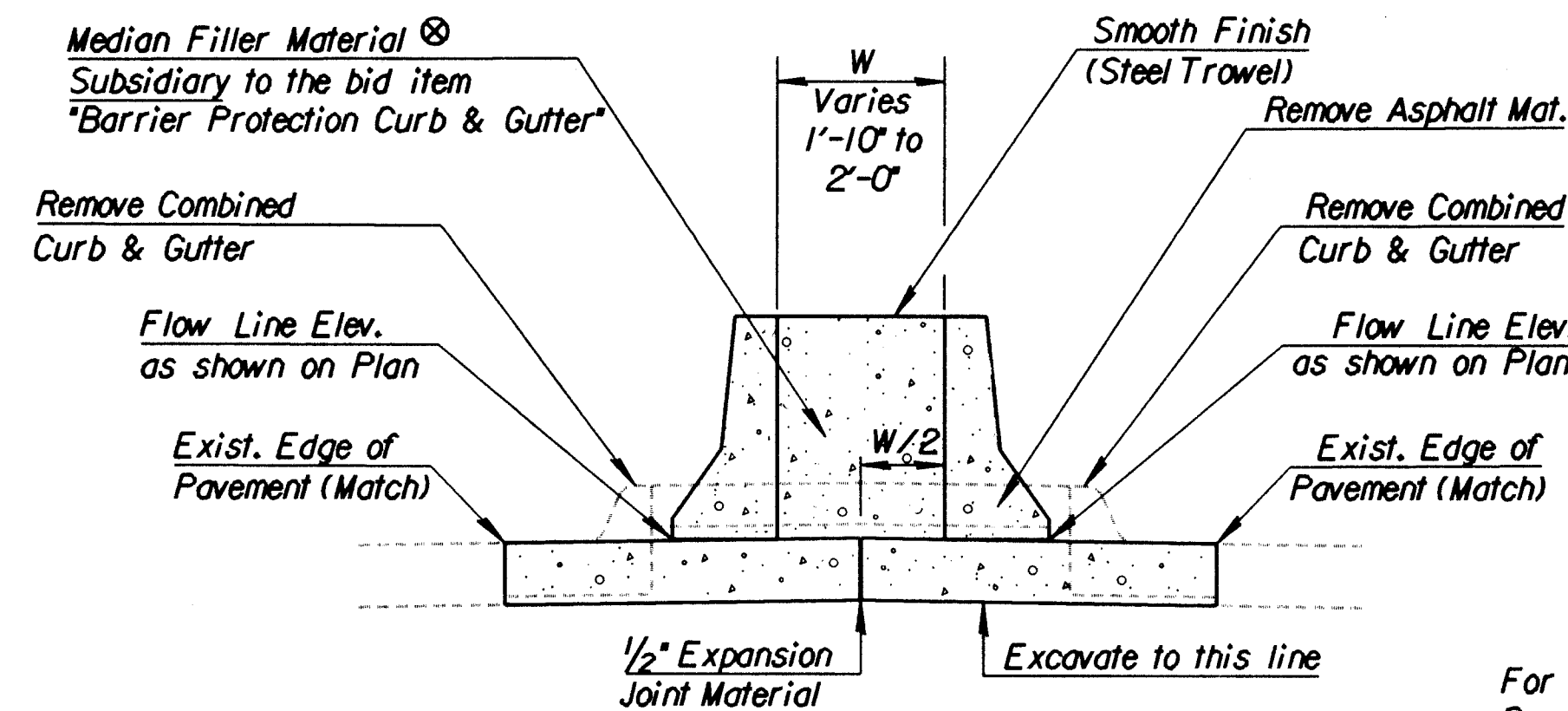
PROJECT NO.	472-82638	2	8
SHEET NO.			
TOTAL SHEETS			

1					
No.	Revisions	By	Date		
CITY OF WICHITA					
PLAN					
STA. 62+00 to STA. 68+00					
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.					
WICHITA, KANSAS					
Designed by	RFC	Checked by		BER	
Drawn by	MAF	Date	Oct. 1995	Job No.	95498

PROJECT NO.	SHEET NO.	TOTAL SHEETS
472-82638	3	8



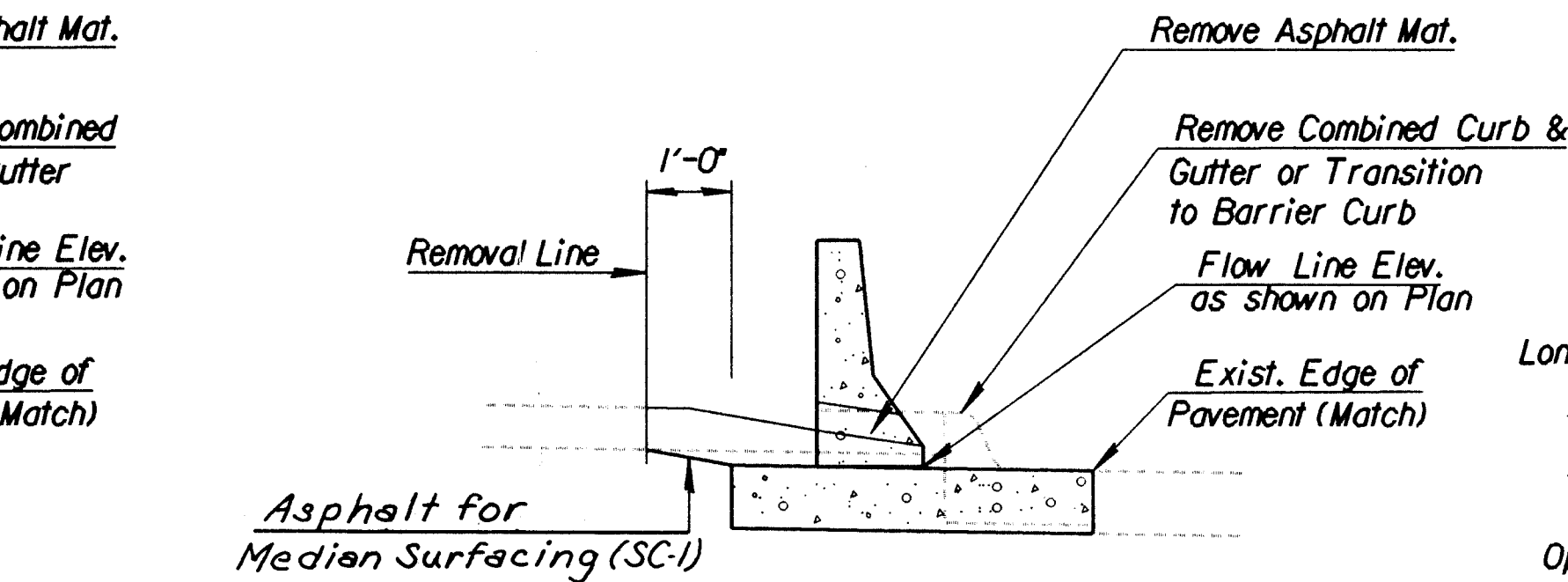
SECTION A-A
Sta. 65+87.54 to Sta. 66+37.54



For Reinforcing in Barrier,
See Detail, this sheet

SECTION B-B
Sta. 65+36.79 to Sta. 65+62.04

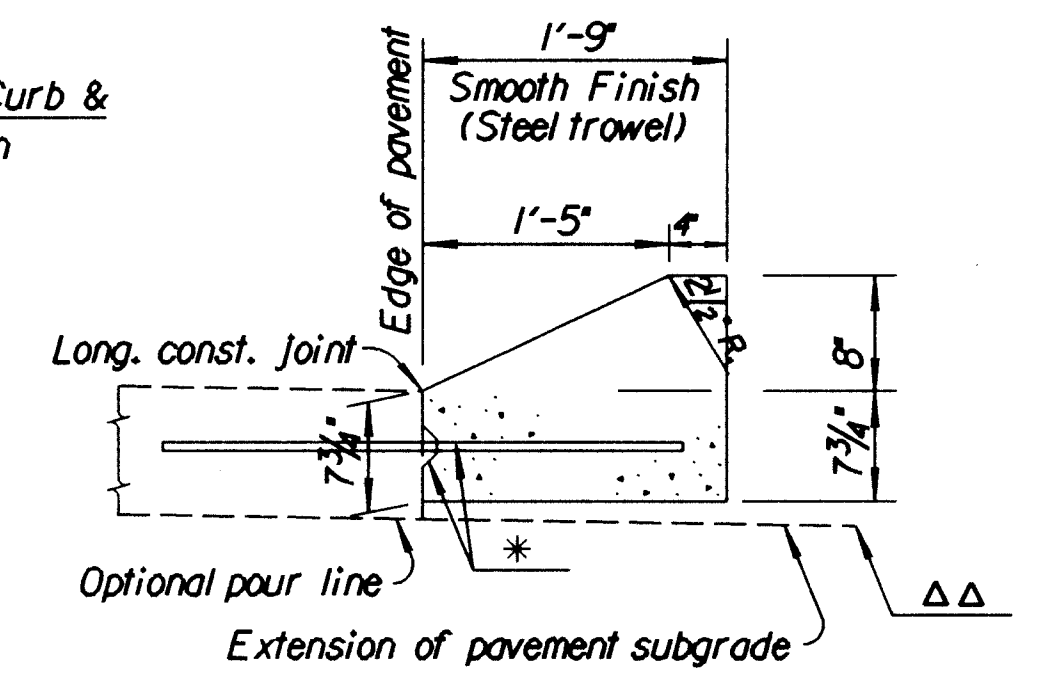
⊗ Median Filler Material shall consist of Concrete having a minimum 28 day compressive strength of 2500 PSI.



For Reinforcing in Barrier
See Detail, this sheet.

SECTION C-C
Typical N. Bd. & S. Bd. Roadways

N. Bd. Sta. 62+40.08 to & Sta. 65+36.79
S. Bd. Sta. 62+34.67 to S. Bd. Sta. 65+45.50
(= & Sta. 65+36.79)



TYPICAL SECTION
CURB (SPECIAL) (1'-9" WIDTH)

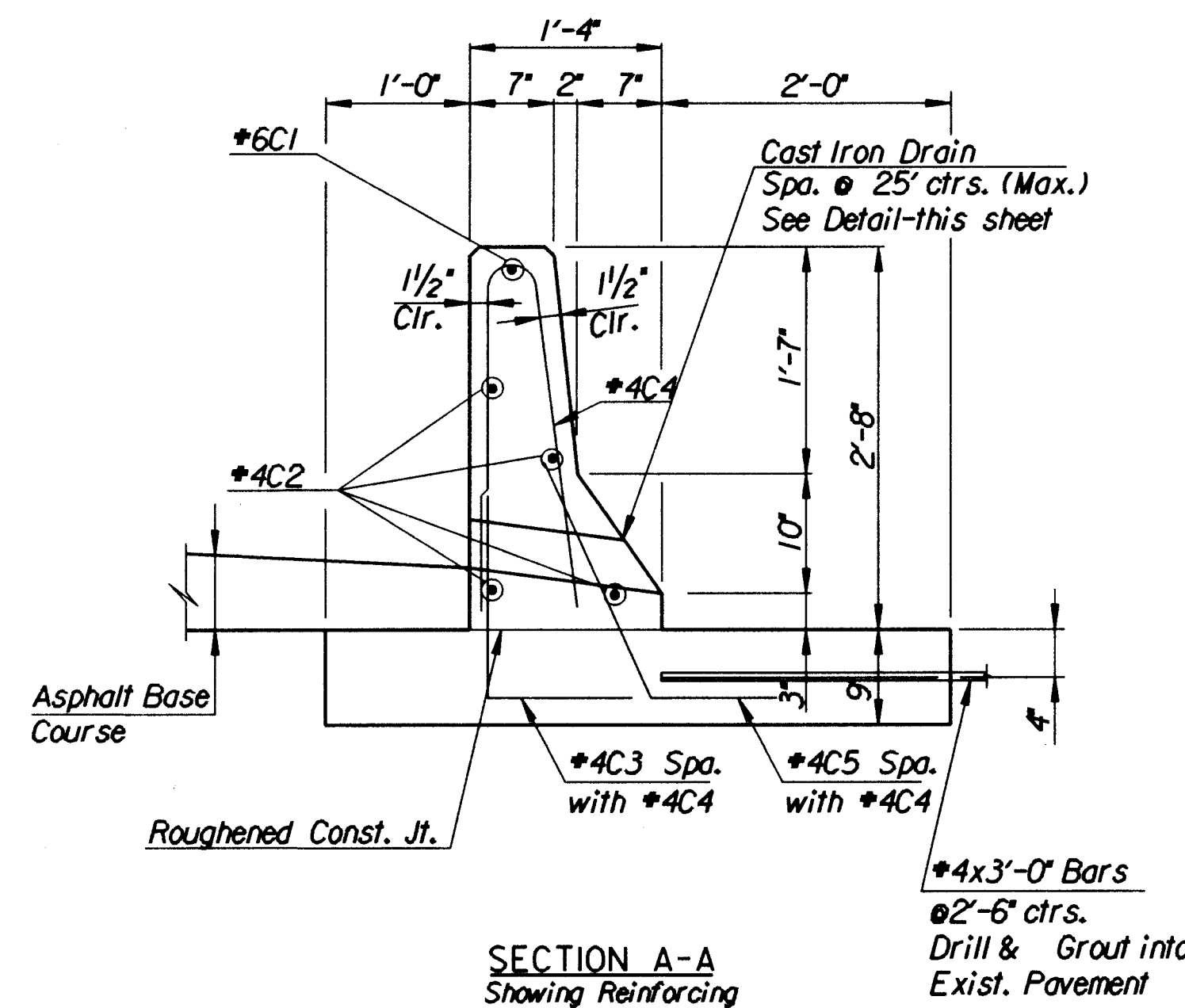
* Longitudinal construction joint and #4x 3'-0" bars @ 2'-6" ctrs., where concrete pavement is constructed.

△△ Contractor has the option of thickening the curb and gutter as shown.

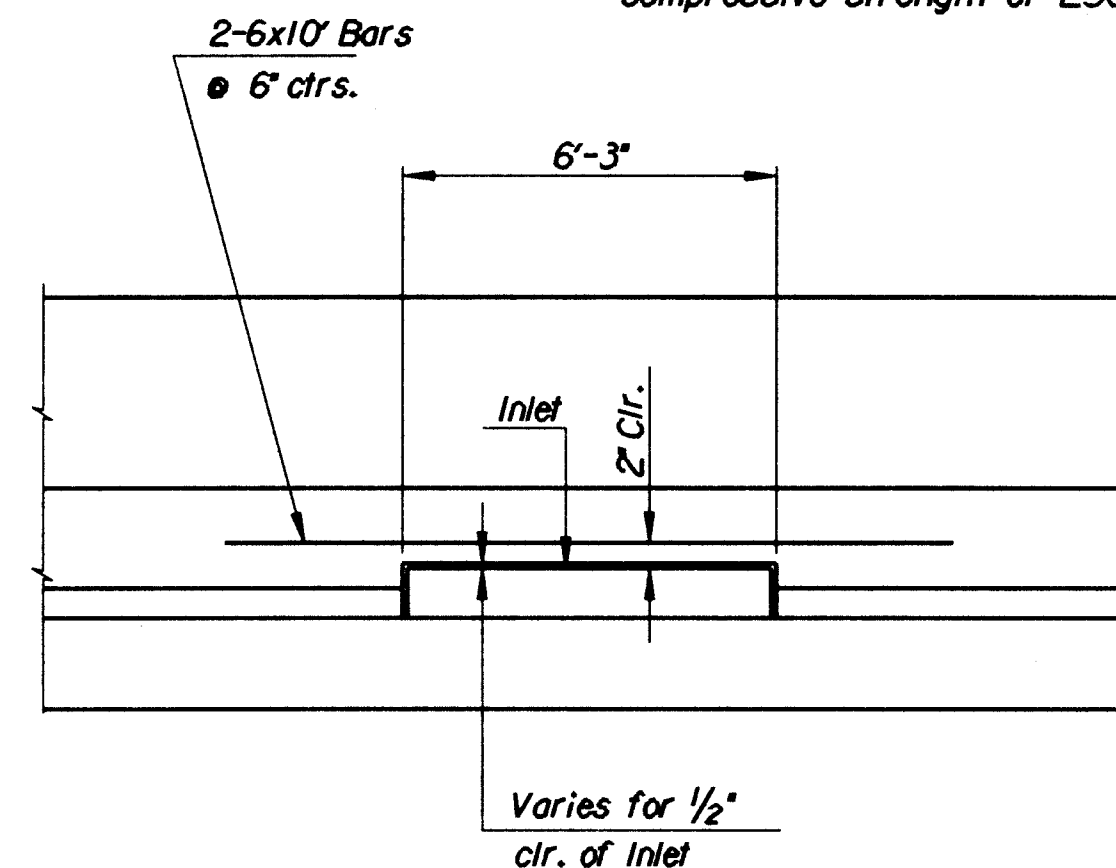
CURB (SPECIAL) - (1'-9" WIDTH)

THE "CURB (SPECIAL)" SHALL BE CONSTRUCTED OF AIR ENTRAINED CONCRETE HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 P.S.I. TIE BARS SHALL BE A MINIMUM OF A-615 GRADE 40 REINFORCING STEEL.

THE BID ITEM "CURB (SPECIAL)" SHALL BE MEASURED PER LINEAL FOOT. THE AMOUNT OF COMPLETED AND ACCEPTED WORK, MEASURED BY LINEAL FOOT, SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID. THIS PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, EQUIPMENT AND LABOR NECESSARY.

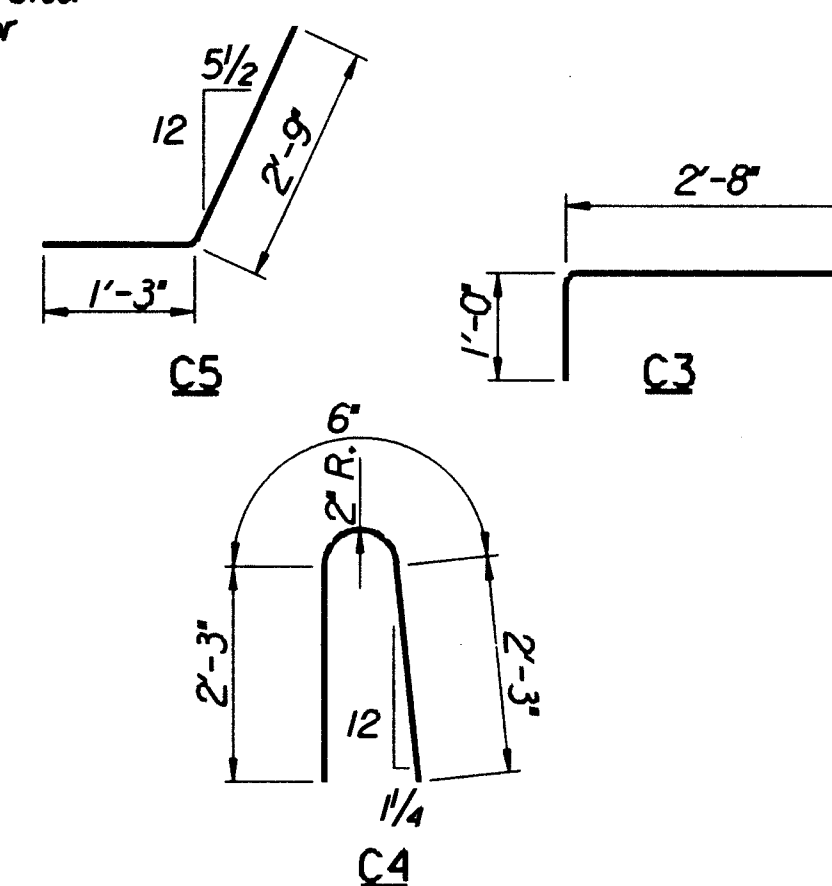


SECTION A-A
Showing Reinforcing



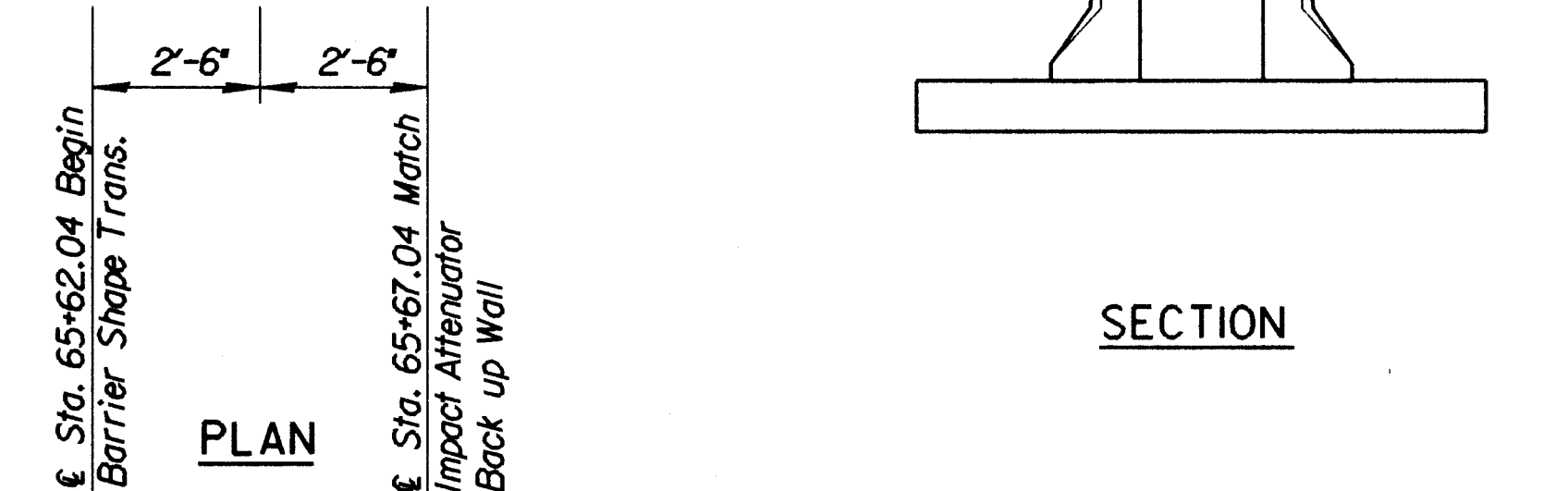
TYPICAL BARRIER INLET BLOCKOUT

NOTE: Cut and/or bend Vertical Reinforcing Steel where applicable. See Plan Sheets for location of Inlet Blockouts.



BENDING DIAGRAMS

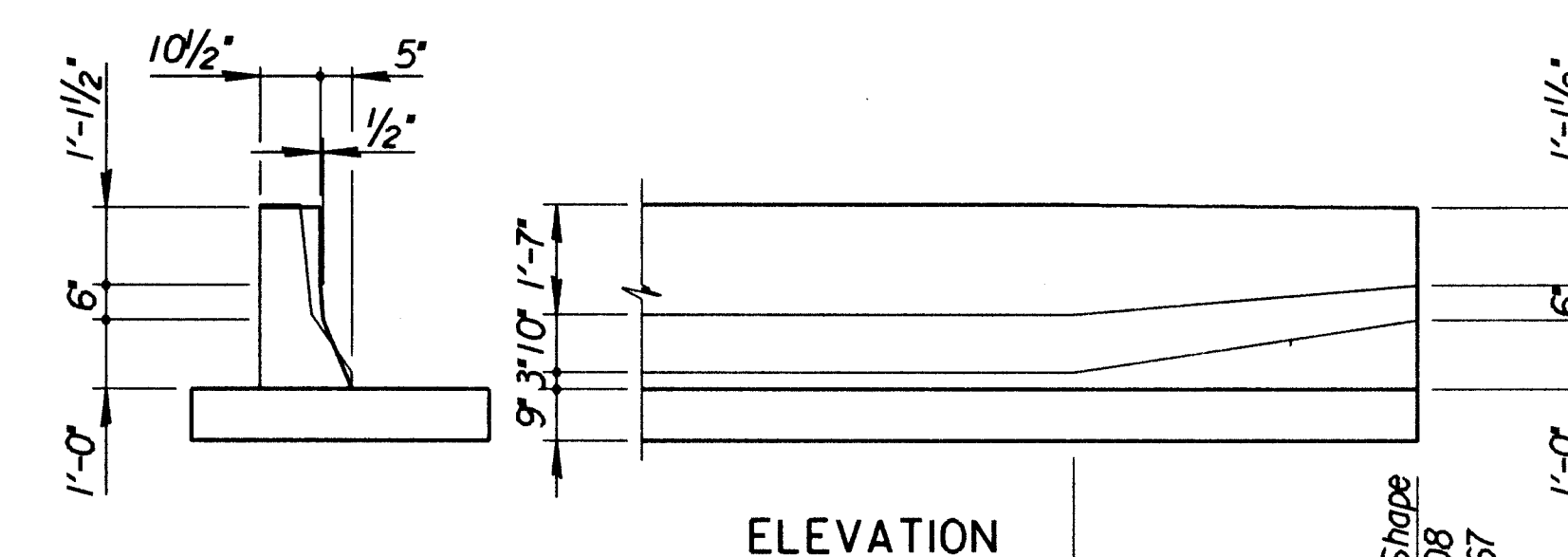
BENDING DIAGRAMS
All Dimensions are out to out of bars.



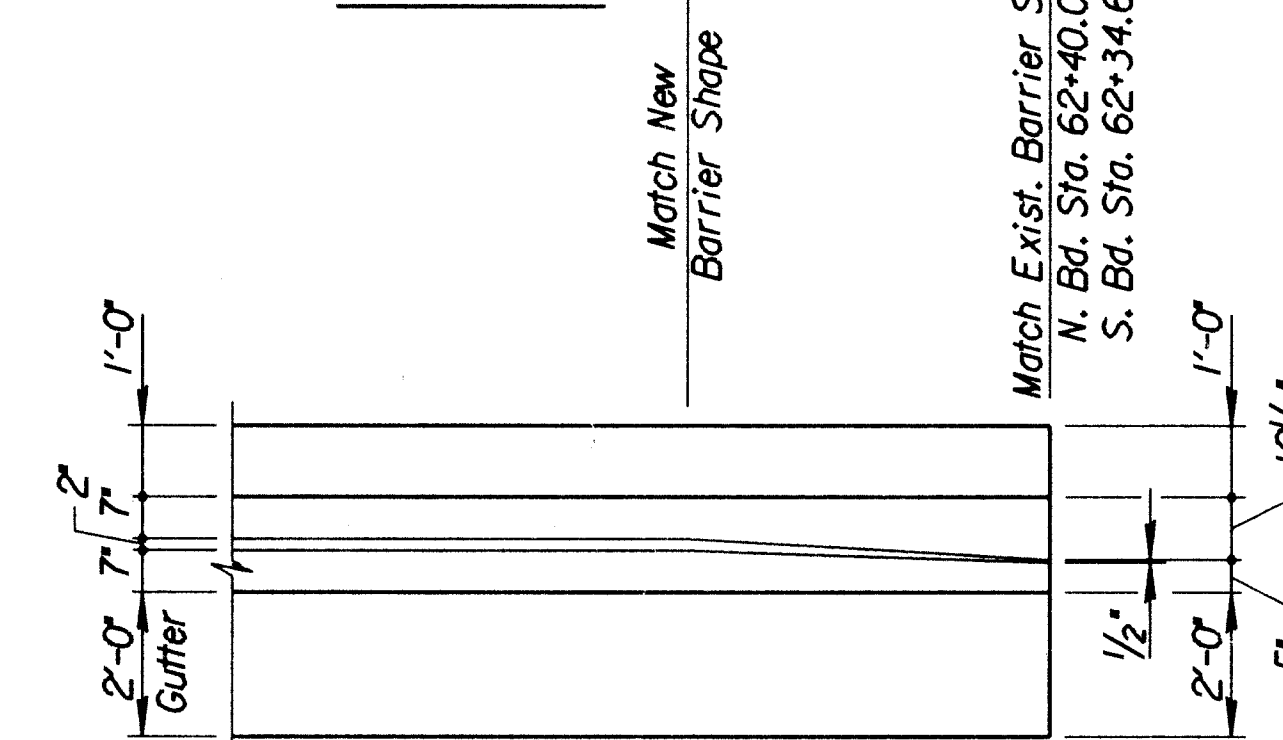
PLAN

DETAIL SHOWING TRANSITION OF BARRIER SHAPE

Sta. 65+62.04 to Sta. 65+67.04

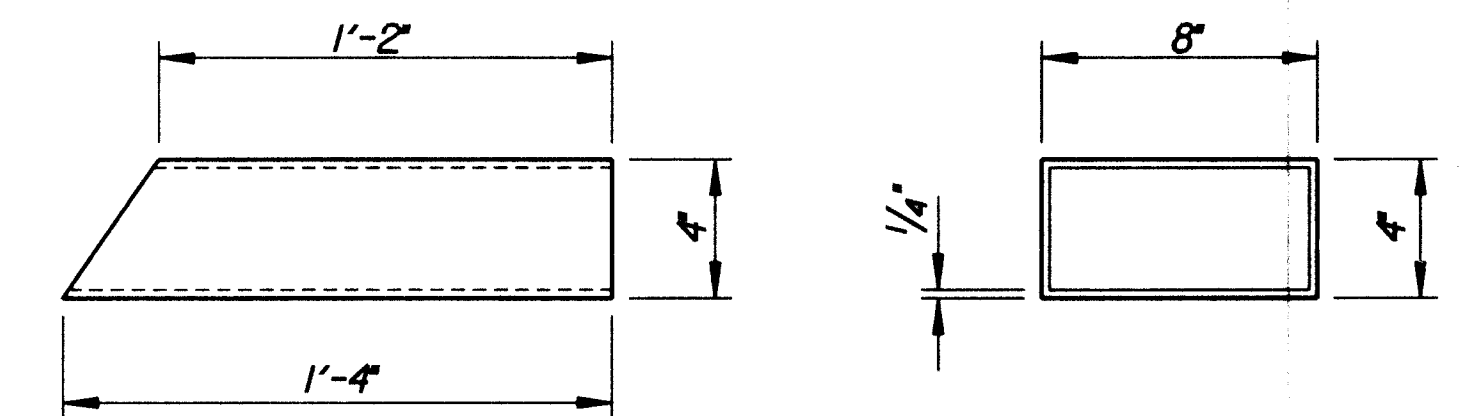


ELEVATION



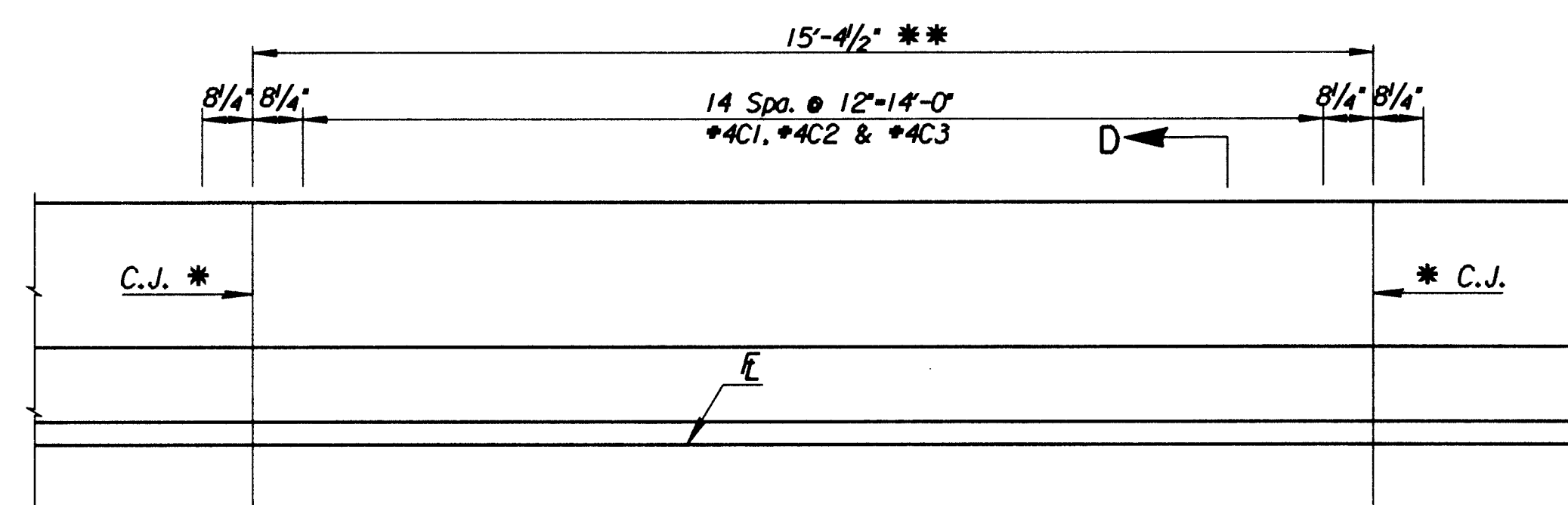
PLAN

DETAIL SHOWING TRANSITION OF BARRIER
SHAPE FROM EXISTING TO PROPOSED

ELEVATION

TYPICAL SECTION

CAST IRON DRAIN DETAILS

ELEVATION

BARRIER PROTECTION CURB & GUTTER

- * Every fourth joint should be aligned with an existing pavement joint.
- ** One fourth existing pavement joint lengths.

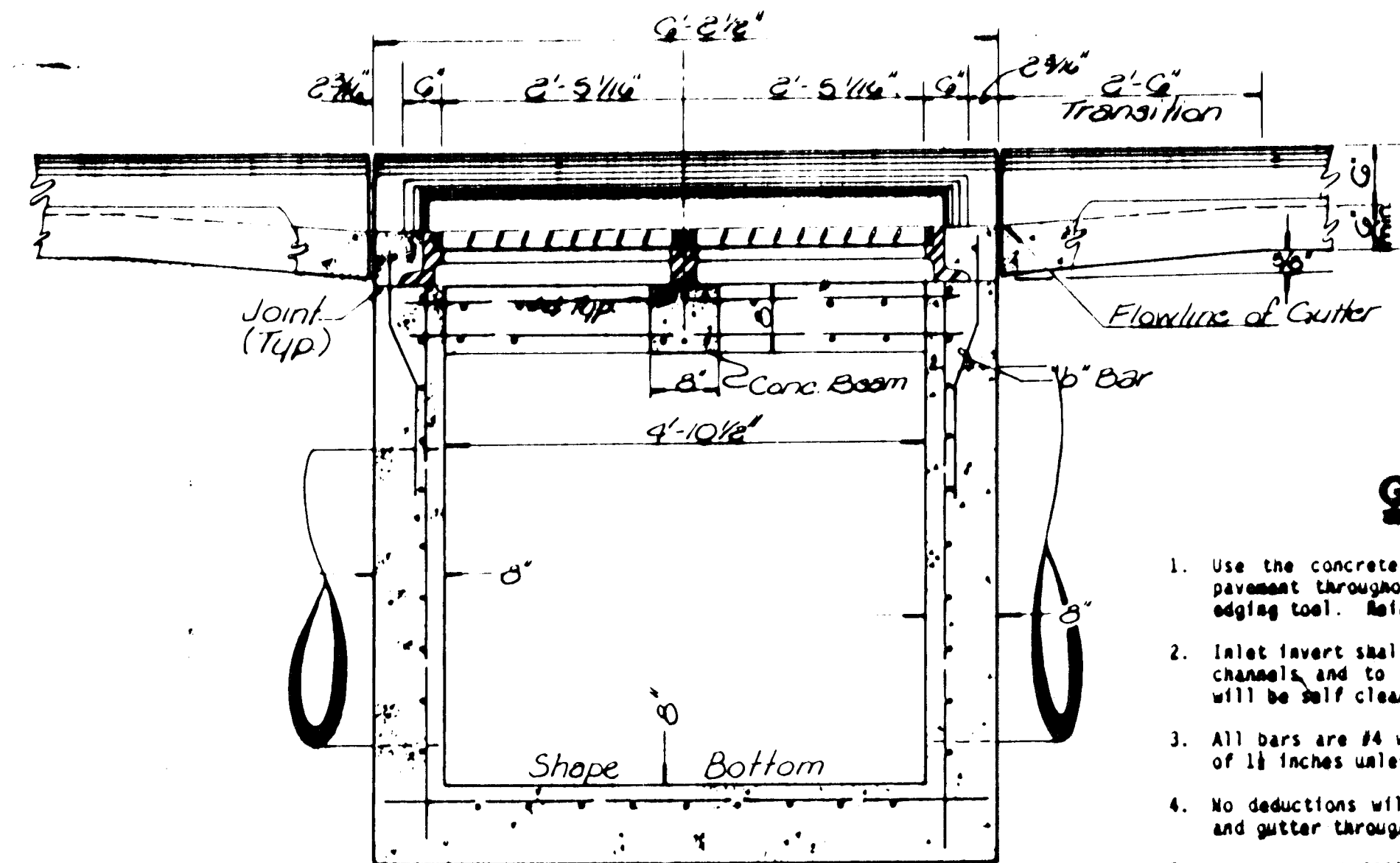
BARRIER PROTECTION CURB & GUTTER NOTES

THE "BARRIER PROTECTION CURB & GUTTER" SHALL BE CONSTRUCTED OF AIR ENTRAINED CONCRETE HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 P.S.I. AND A MINIMUM OF A-615 GRADE 40 REINFORCING STEEL.

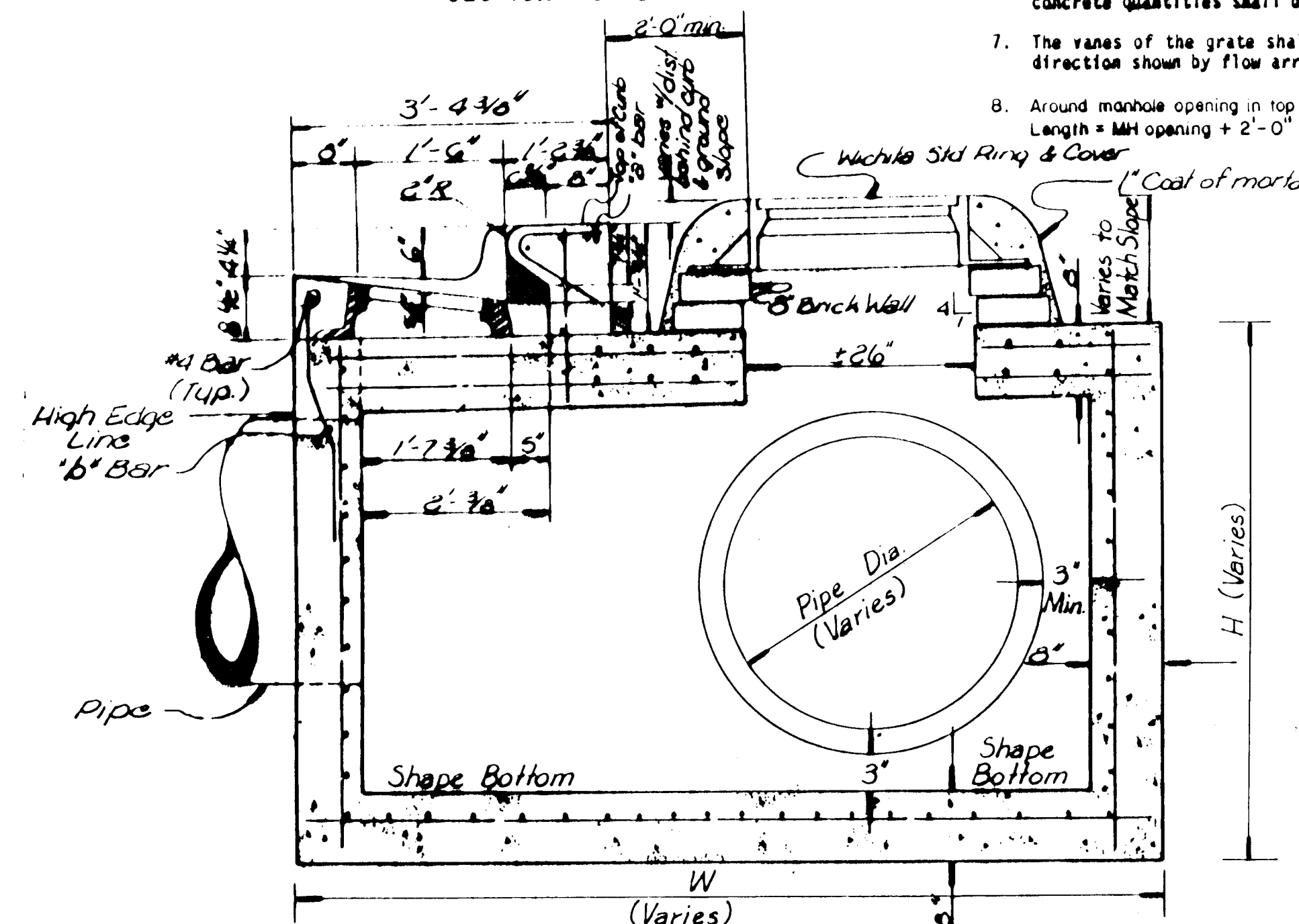
THE BARRIER SHALL BE GROOVED WITH A $\frac{3}{4}$ " VERTICAL CHAMFER STRIP AT ONE FOURTH THE DISTANCE TO THE EACH EXISTING PAVEMENT JOINT LINE.

THE BID ITEM "BARRIER PROTECTION CURB & GUTTER" SHALL BE MEASURED PER LINEAL FOOT ALONG THE FLOWLINE AS PER PLAN. THE AMOUNT OF COMPLETED AND ACCEPTED WORK, MEASURED BY LINEAL FOOT, SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID. THIS PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, EQUIPMENT AND LABOR NECESSARY.

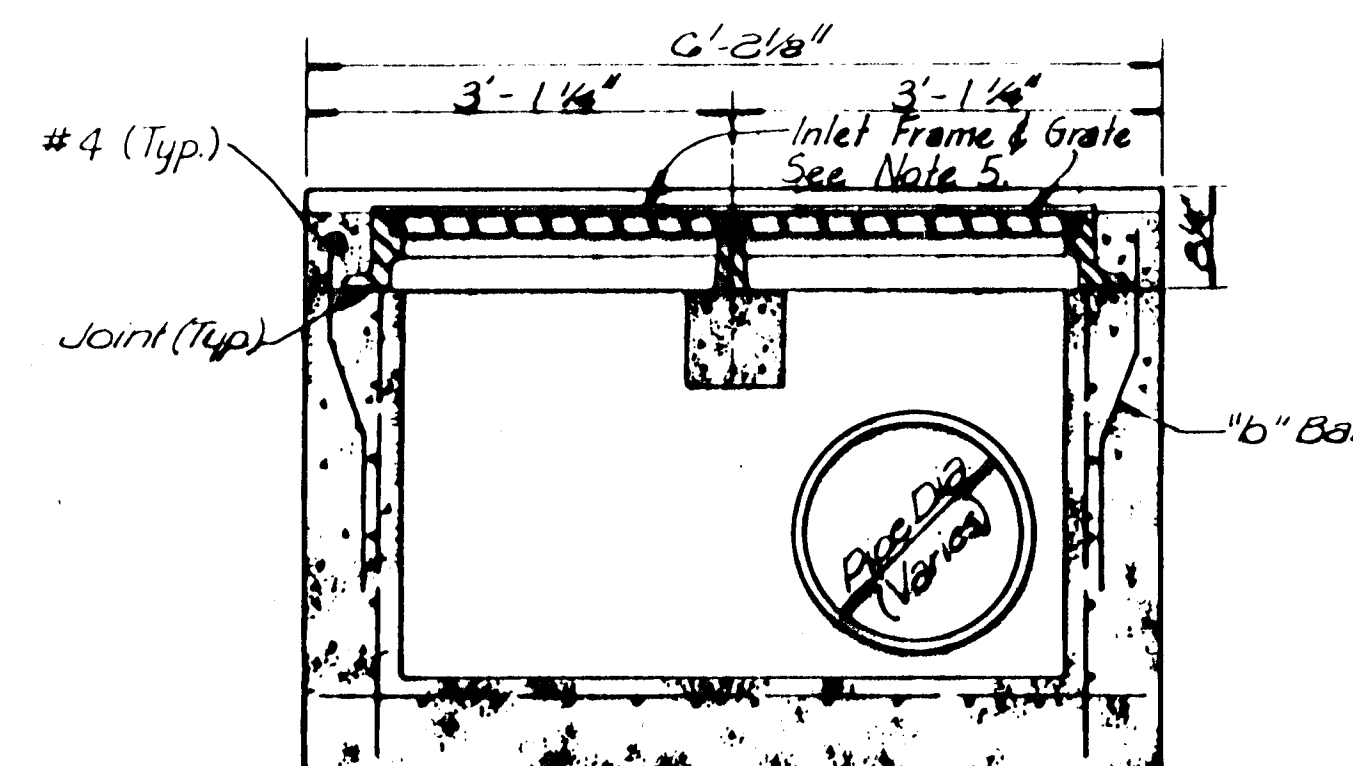
I			
No.	Revisions	By	Date
CITY OF WICHITA			
MISCELLANEOUS DETAILS			
PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by	RPG	Checked by	BER
Drawn by	MAF	Date Oct. 1995	Job No. 95498



SECTION C - C



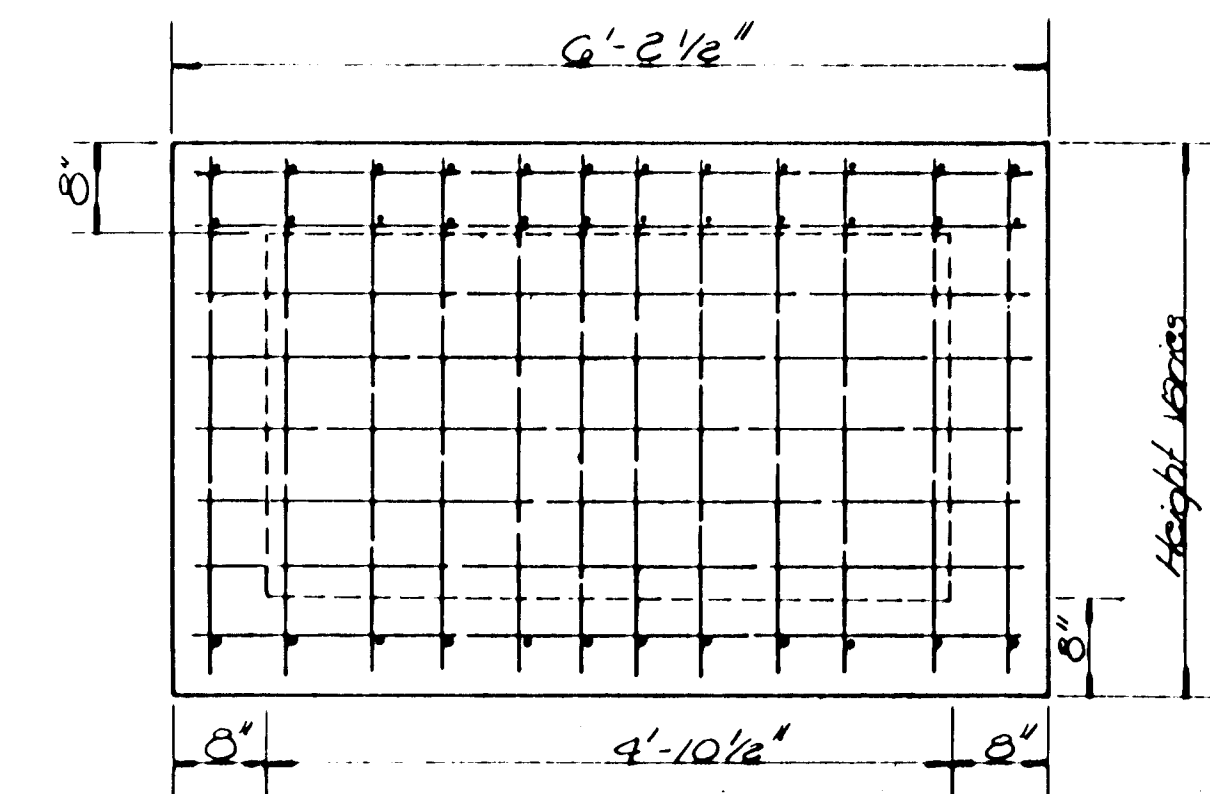
SECTION A - A
(No Scale)



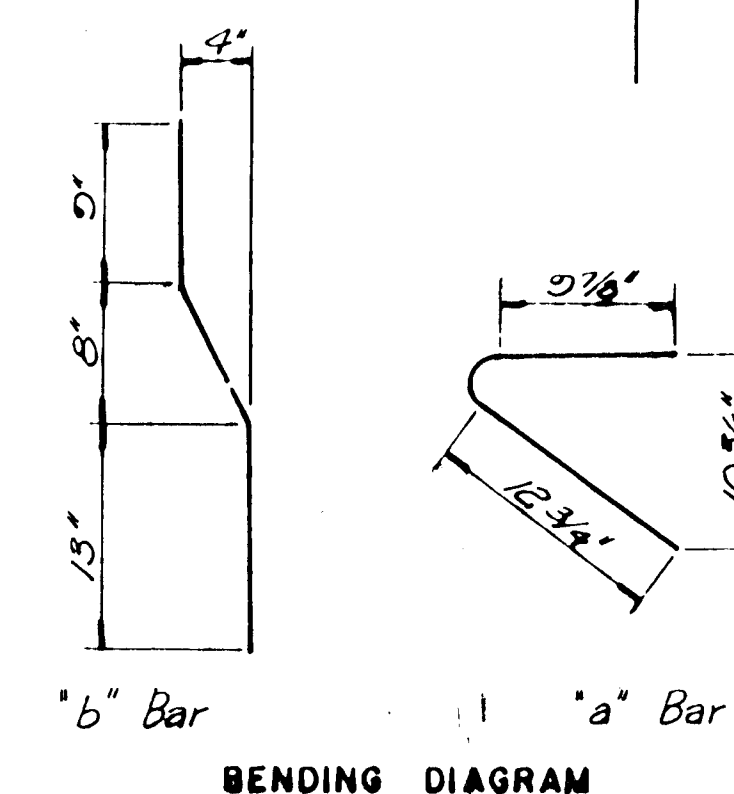
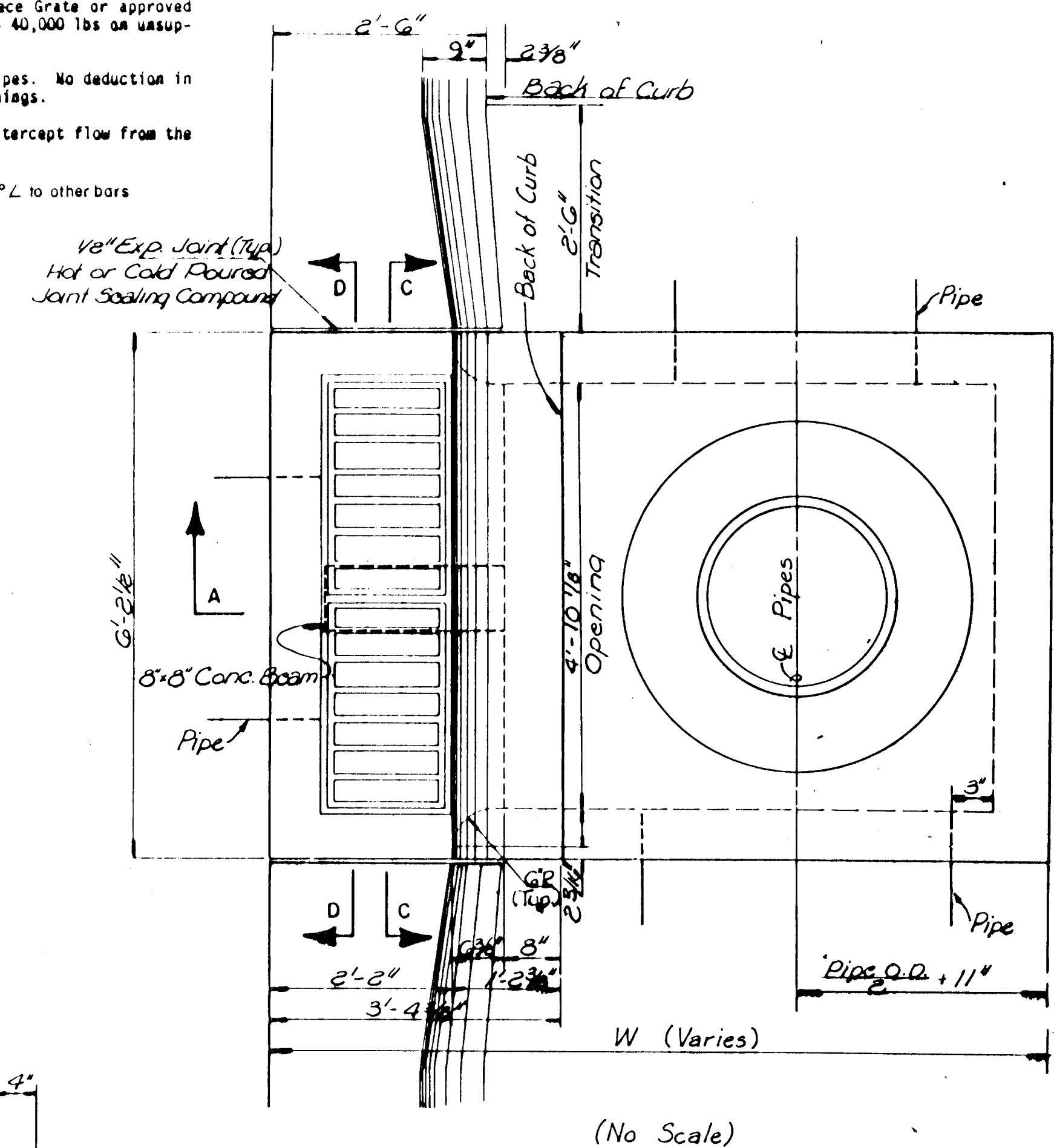
SECTION D - D
(No Scale)

GENERAL NOTES

1. Use the concrete mix specified for the City of Wichita concrete pavement throughout. All exposed edges shall be finished with an edging tool. Reinforcing bars shall be bent around pipe.
2. Inlet invert shall be shaped with a sack mix concrete to create flow channels, and to increase hydraulic efficiency such that the inlet will be self cleaning between all inlet and/or outlet pipes.
3. All bars are #4 with 6\" spacing and shall have a minimum clearance of 1 1/2 inches unless otherwise noted on the plans.
4. No deductions will be made in pay length of curb, gutter, or curb and gutter through the inlet area.
5. Use Neenah R-3288 HV Inlet Frame with two piece Grate or approved equal. Inlet frame to be proof load tested to 40,000 lbs on unsupported side.
6. Reinforcing bars shall be cut or bent around pipes. No deduction in concrete quantities shall be made for pipe openings.
7. The vanes of the grate shall be oriented to intercept flow from the direction shown by flow arrows on the plans.
8. Around manhole opening in top slab use #5 bar @ 45° L to other bars. Length = MH opening + 2'-0\"



REAR WALL

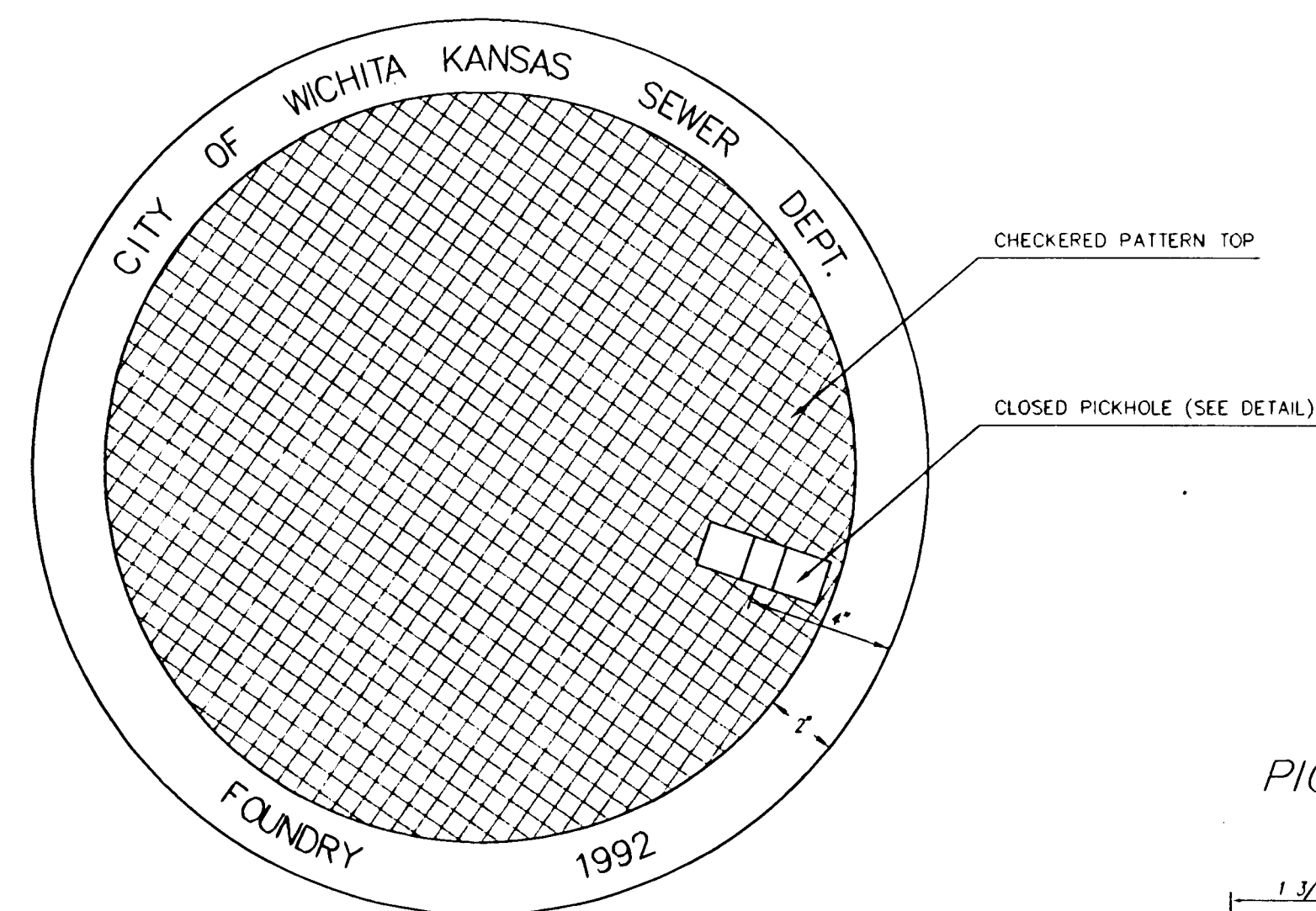


DEETER FOUNDRY, Inc. casting No. 2442/43 with style H grate is an approved equal to NEENAH castings specified. Inlet drawing is based on NEENAH castings and concrete walls and supports will require some field modification to accommodate DEETER castings.

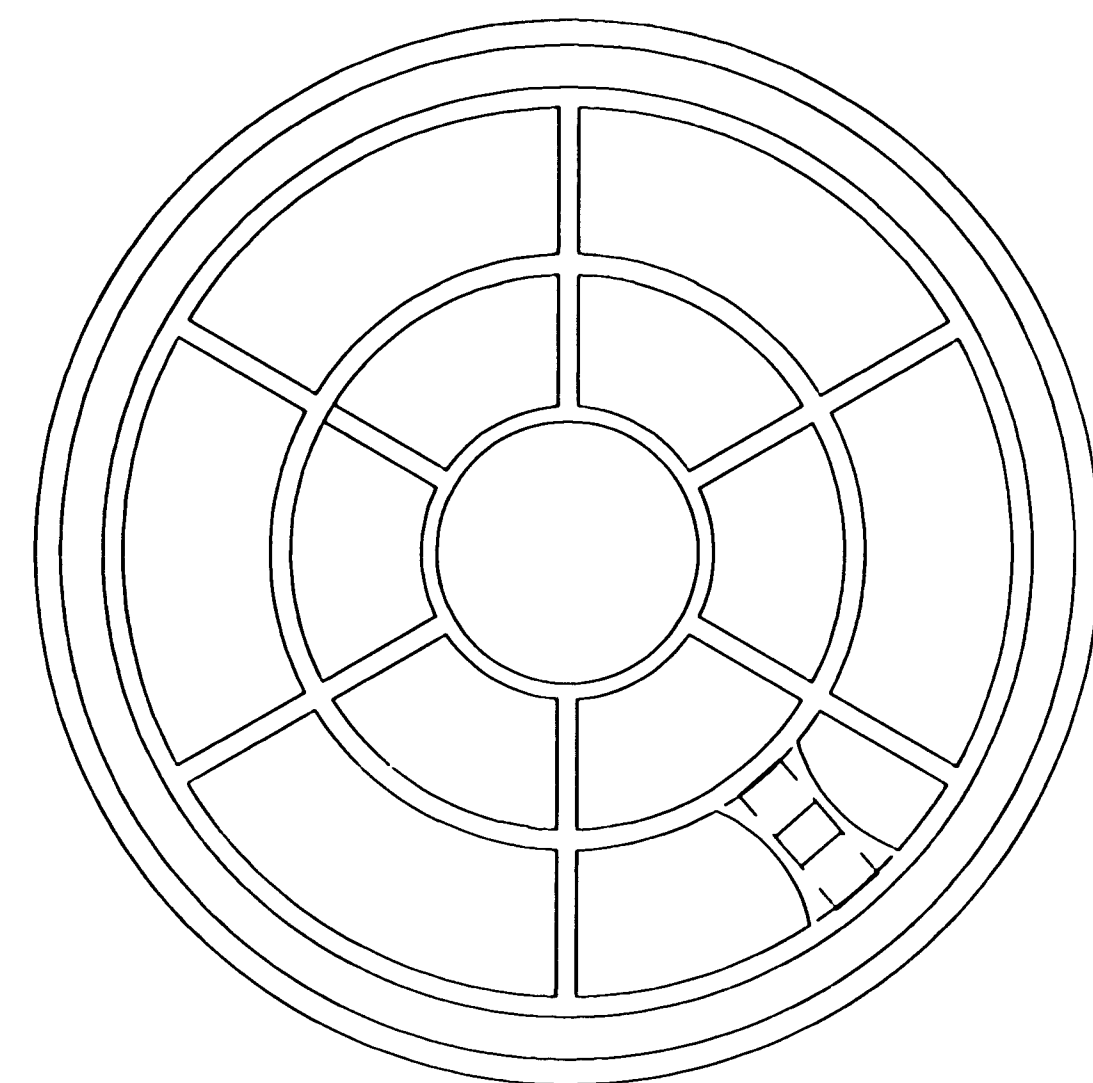
**SPECIAL TYPE II
CURB INLET &
MANHOLE**

Project No. 472-82638

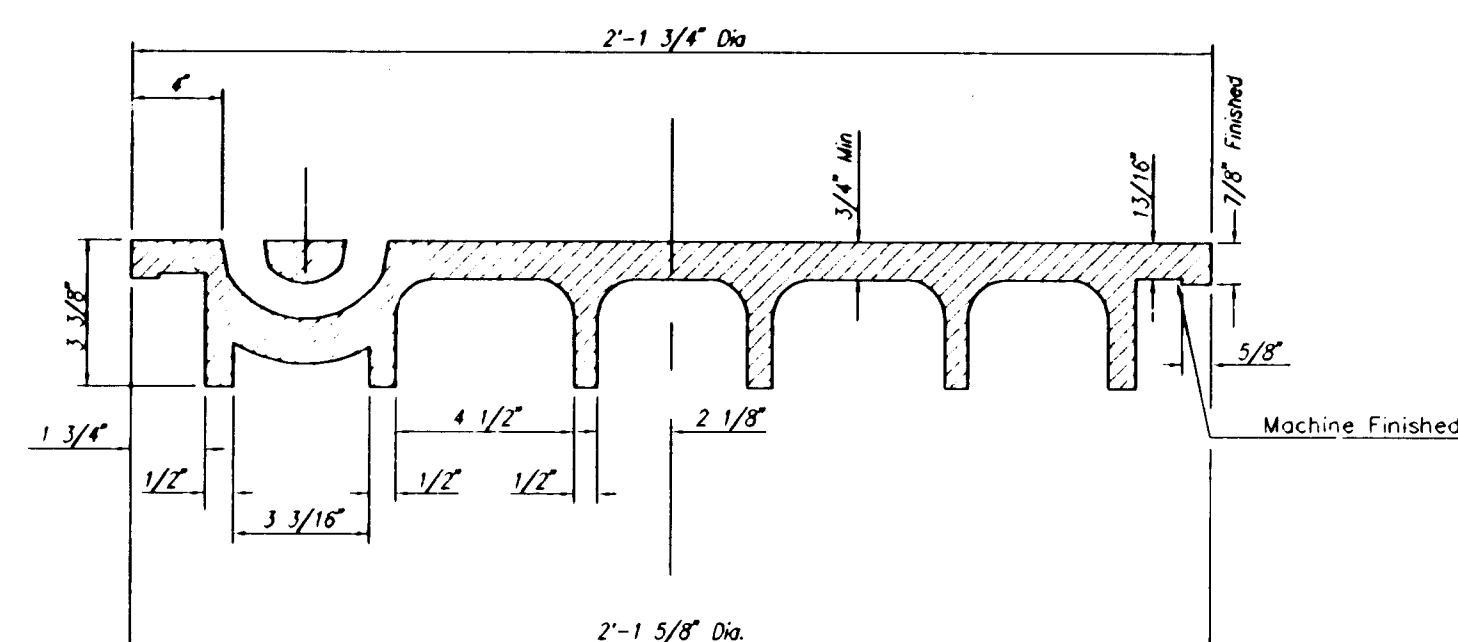
MANHOLE COVER
Weight = 180 Lbs.



TOP VIEW

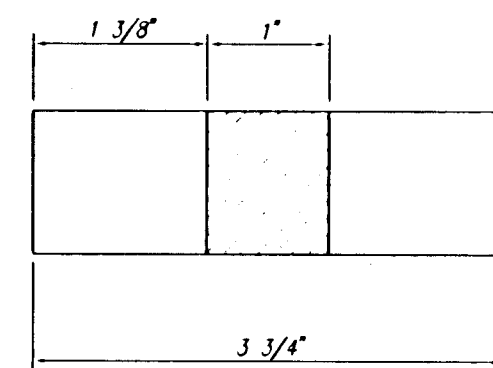


BOTTOM VIEW

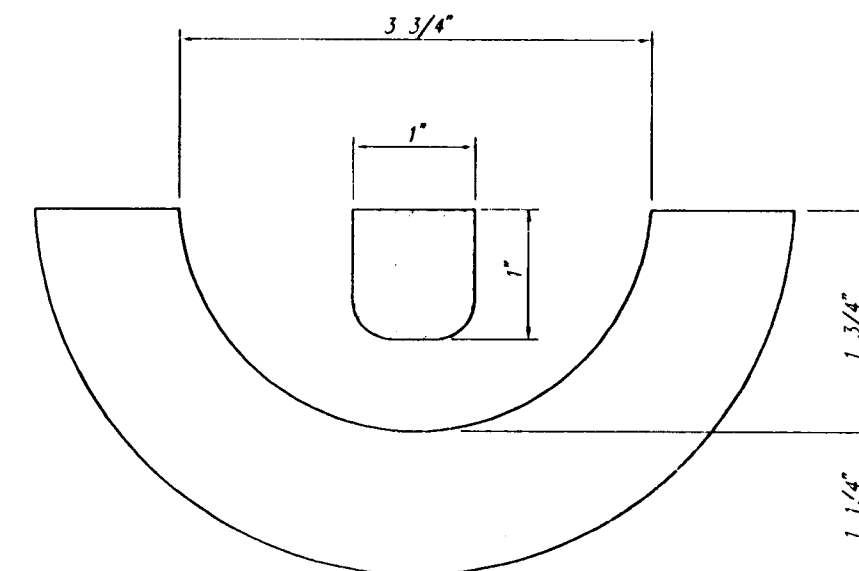


SECTION VIEW

PICKHOLE DETAIL



TOP VIEW

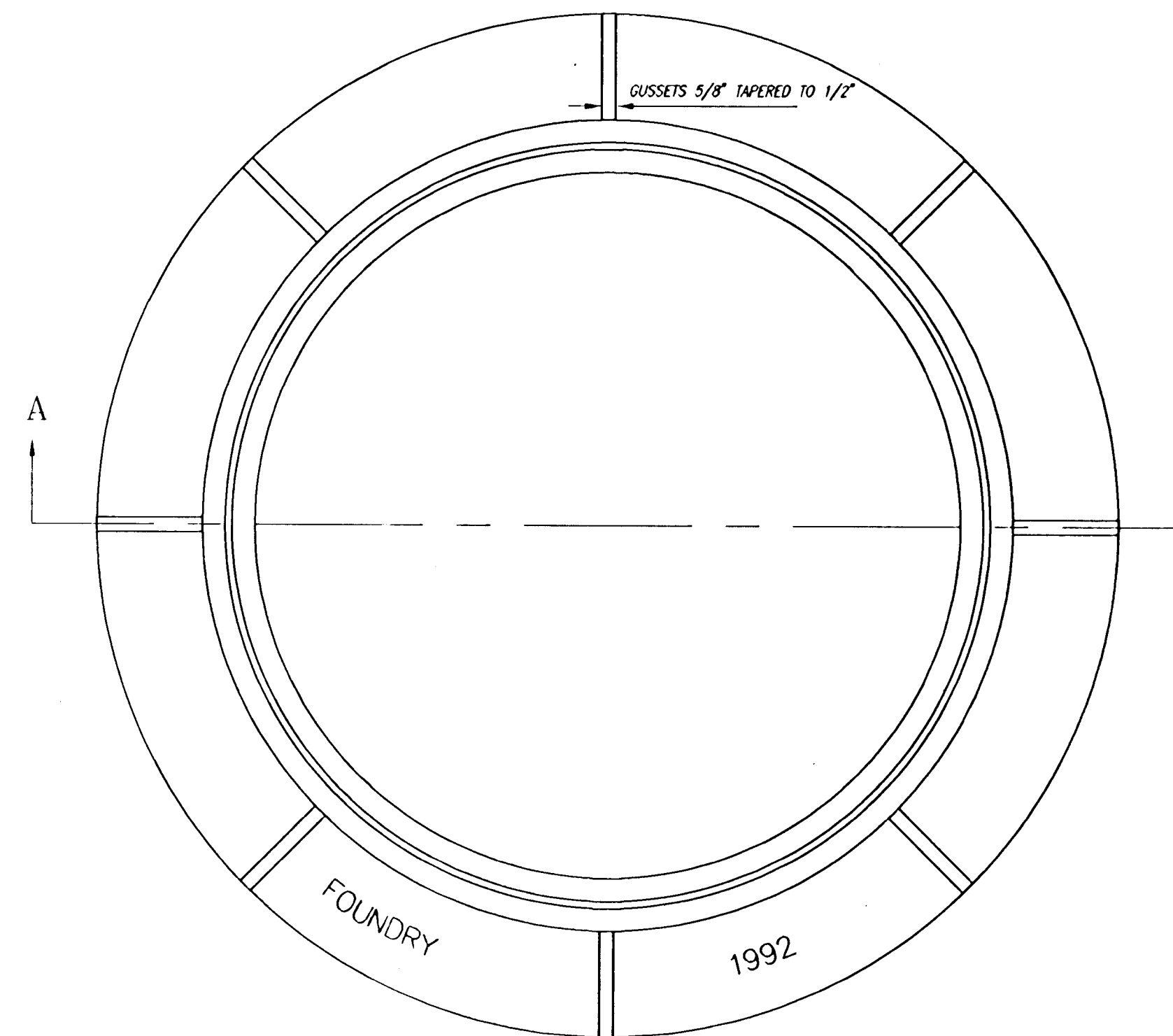


SECTION VIEW

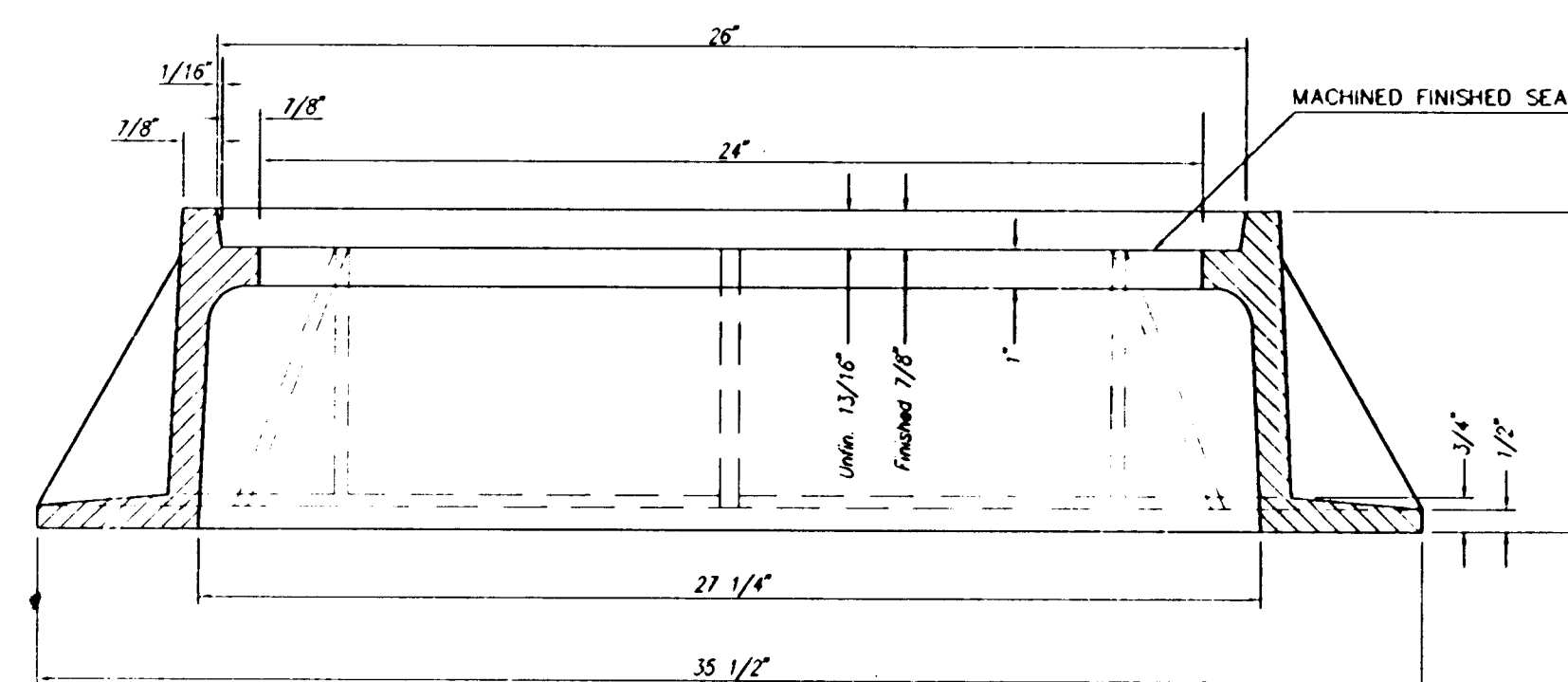
MANHOLE FRAME AND COVER DETAIL

ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

MANHOLE FRAME
Weight = 240 Lbs.



TOP VIEW



SECTION A-A

GENERAL NOTES

MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.

MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDRY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALLOWABLE CLEARANCES AND NON-ROCKING REQUIREMENTS. THIS WILL REQUIRE MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.

THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME RECESS SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH AS THESE SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.

THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1 INCH IN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SEWER DEPARTMENT". THE WORD DEPARTMENT MAY BE ABBREVIATED. THE TEXTURE OF THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN A CHECKERED PATTERN DESIGN AS INDICATED ON THE DRAWINGS. SMOOTH BLOCKOUTS SHALL BE UTILIZED TO HIGHLIGHT THE LETTERING ON THE COVER SURFACE. THE TOTAL AREA OF SMOOTH SURFACE BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.

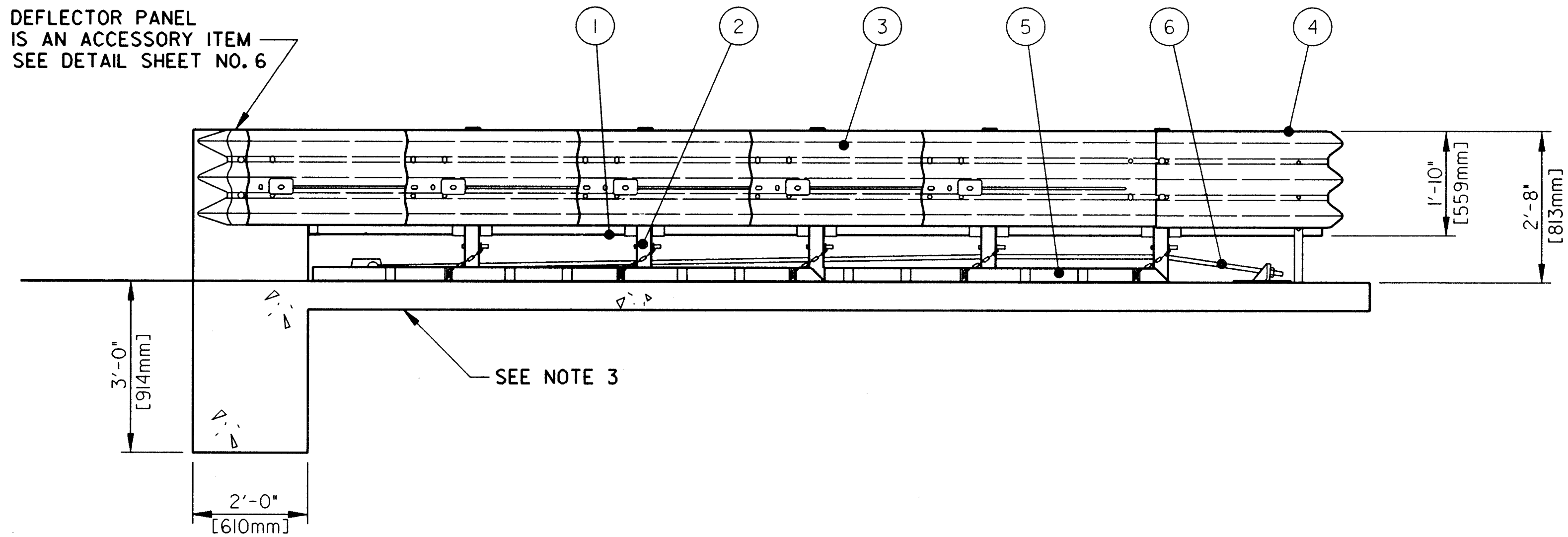
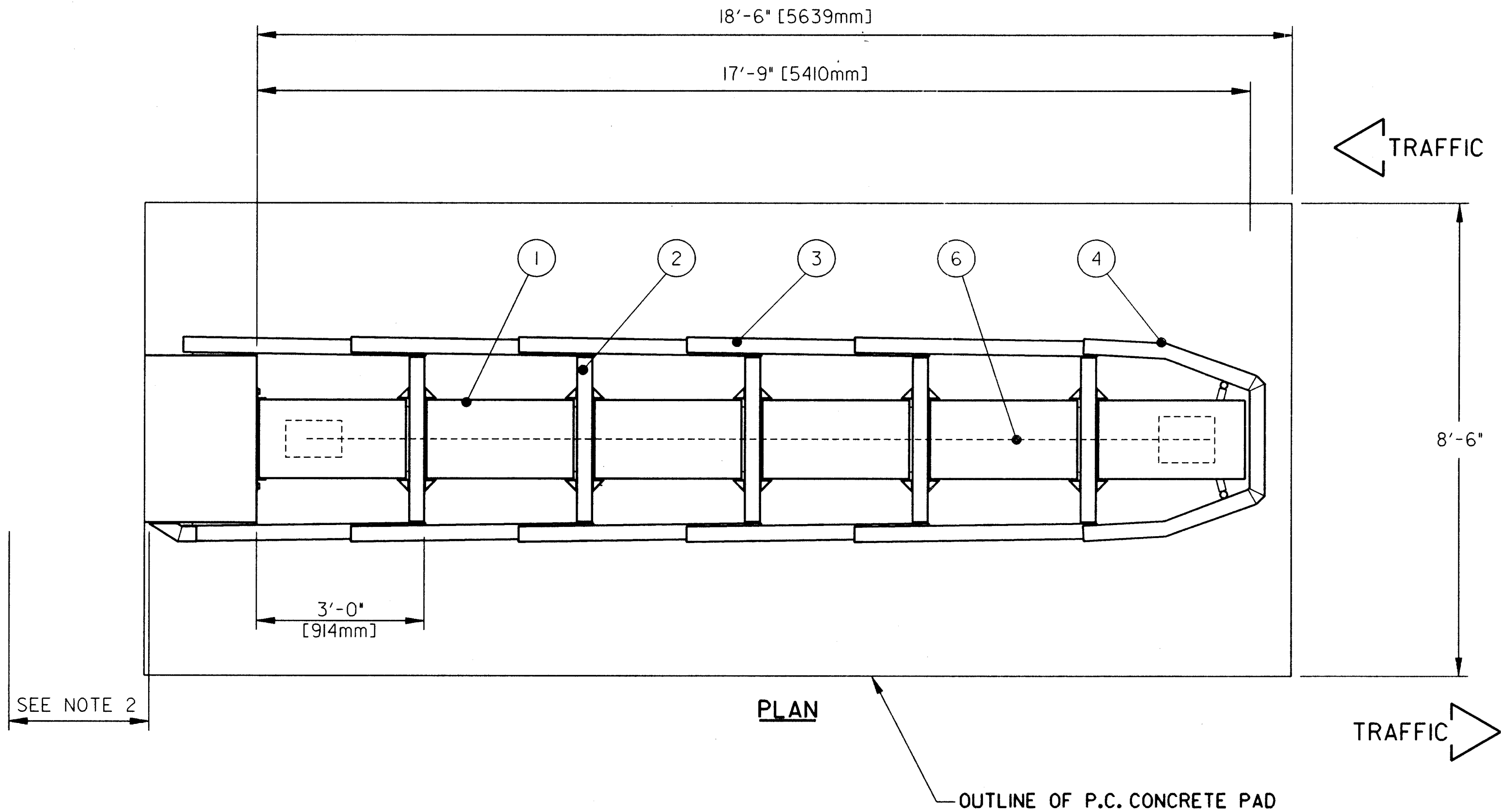
MANHOLE CASTINGS SHALL WEIGH A MINIMUM OF 180 POUNDS ON THE SOLID COVER AND 240 POUNDS ON THE MANHOLE RING. THIS IS A TOTAL OF 420 POUNDS ON A RING AND COVER SET. CASTINGS WEIGHING LESS THAN THE MINIMUM SPECIFICATIONS WILL NOT BE ACCEPTED.

TO INSURE CONFORMANCE TO TENSILE STRENGTH REQUIREMENTS ALL CASTINGS SHALL BE JULIAN HEAT DATED WITH THE FOLLOWING REQUIREMENTS:

TWO TEST BAR SPECIMENS MUST BE POURED WHEN PRODUCING CITY OF WICHITA CASTINGS. ONE OF THE TEST BAR SPECIMENS SHALL BE SENT TO AN INDEPENDENT LABORATORY FOR TENSILE STRENGTH VERIFICATION TESTING. A TEST REPORT SHALL ACCOMPANY EACH SHIPMENT OF CASTINGS. THE HEAT DATE(S) ON THE CASTINGS SHALL RESPOND TO THE TENSILE STRENGTH REPORT(S). THE TEST REPORT WILL BE PAID FOR BY THE SUPPLIER. THE REMAINING TEST BAR SPECIMEN WILL BE SHIPPED TO SEWER MAINTENANCE AT 715 W. HARRY, WICHITA, KANSAS 67213.

MANHOLE FRAME AND COVER DETAIL			
ADOPTED AS STANDARD DESIGN BY CITY OF WICHITA, KANSAS			
CITY OF WICHITA, KANSAS M. E. LINDEBAK - CITY ENGINEER			REVISED 6/27/95
PROJ. NO. 472-76-245-82672-000-000-001			SHEET 4a OF 8

PROJECT NO.	SHEET NO.	TOTAL SHEETS
472-82638	5	8



KEY

- ① HEX-FOAM II CARTRIDGE
- ② DIAPHRAGM Ø
- ③ THRIE BEAM FENDER PANEL ØØ
- ④ NOSE COVER ØØ
- ⑤ CHAIN RAIL ØØ
- ⑥ RESTRAINING CABLE ØØ

Ø SEE DETAIL SHEET NO. 6

ØØ SEE DETAIL SHEET NO. 7

NOTES:

- IN COMPLIANCE WITH THE AASHTO 1989 ROADSIDE DESIGN GUIDE, MANUFACTURER RECOMMENDS REMOVAL OF ALL CURBS AND ISLANDS TO ENSURE PROPER IMPACT PERFORMANCE.
- PROVISION SHALL BE MADE FOR REAR FENDER PANELS TO SLIDE REARWARD UPON IMPACT [2'-6" (762mm) MIN.].
- 6" [152mm] MIN. REINFORCED 4000 PSI [27.6 MPa] P.C. CONCRETE PAD OR 8" [203mm] MIN. NON-REINFORCED 4000 PSI [27.6 MPa] P.C. CONCRETE ROADWAY.

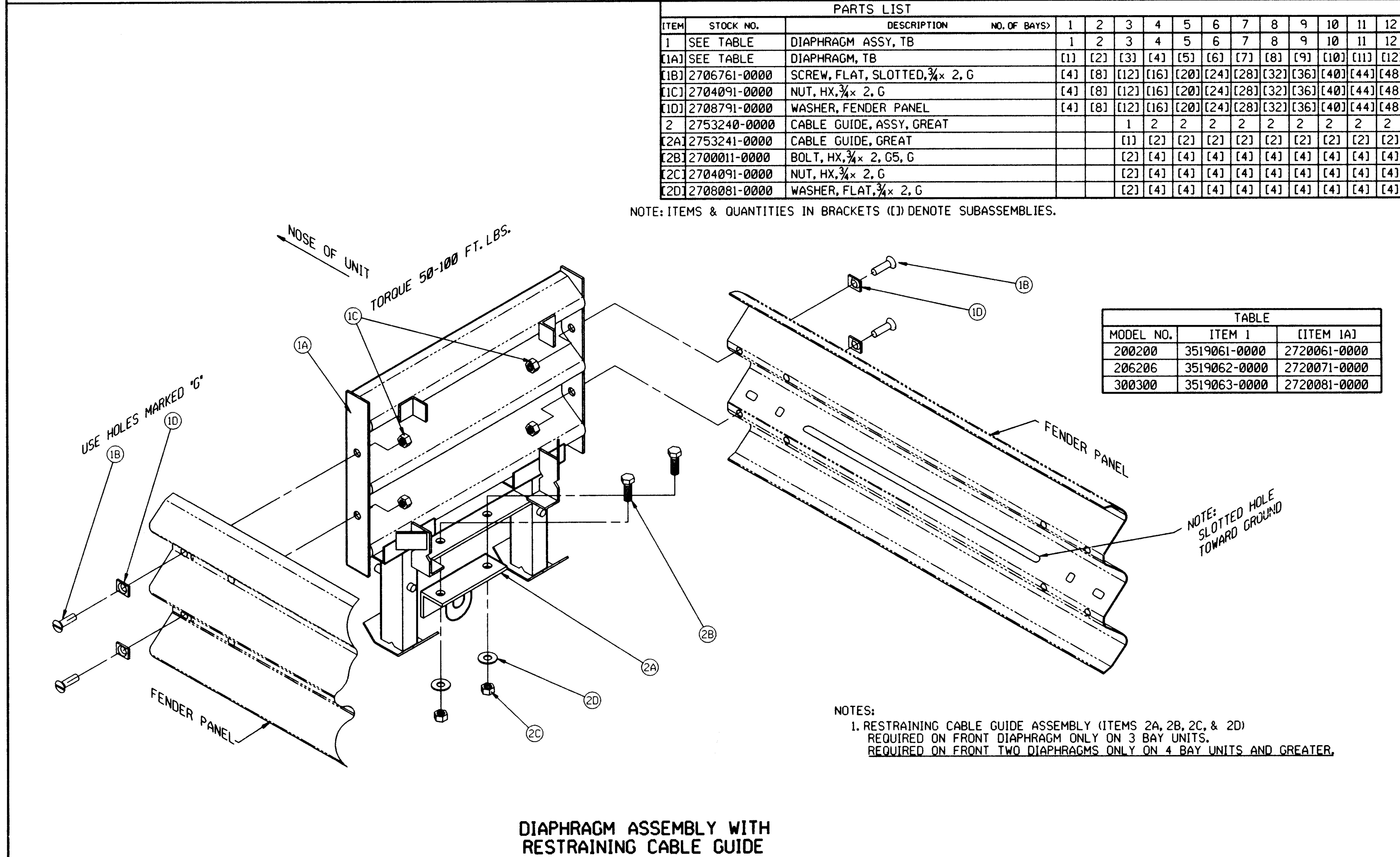
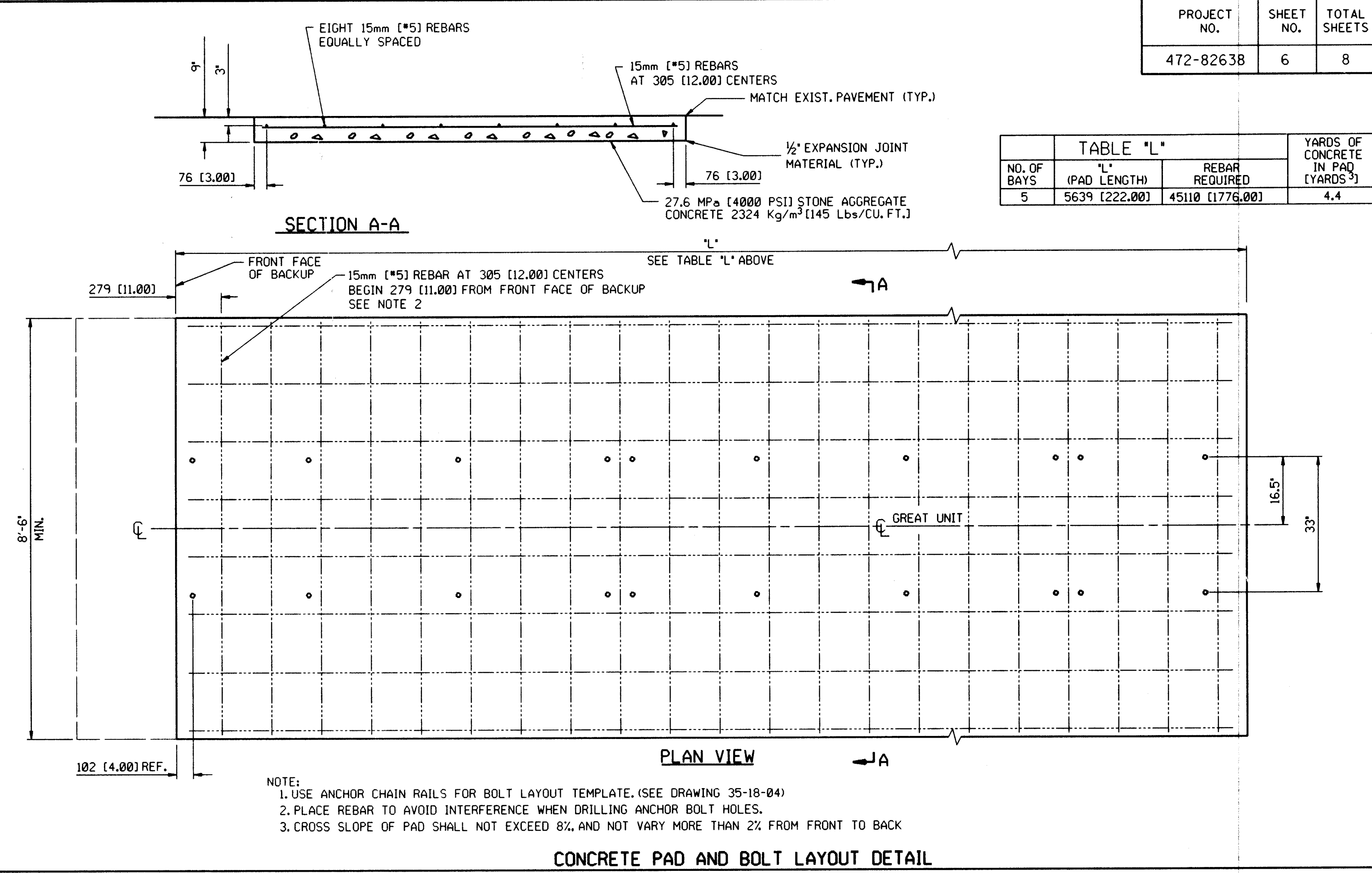
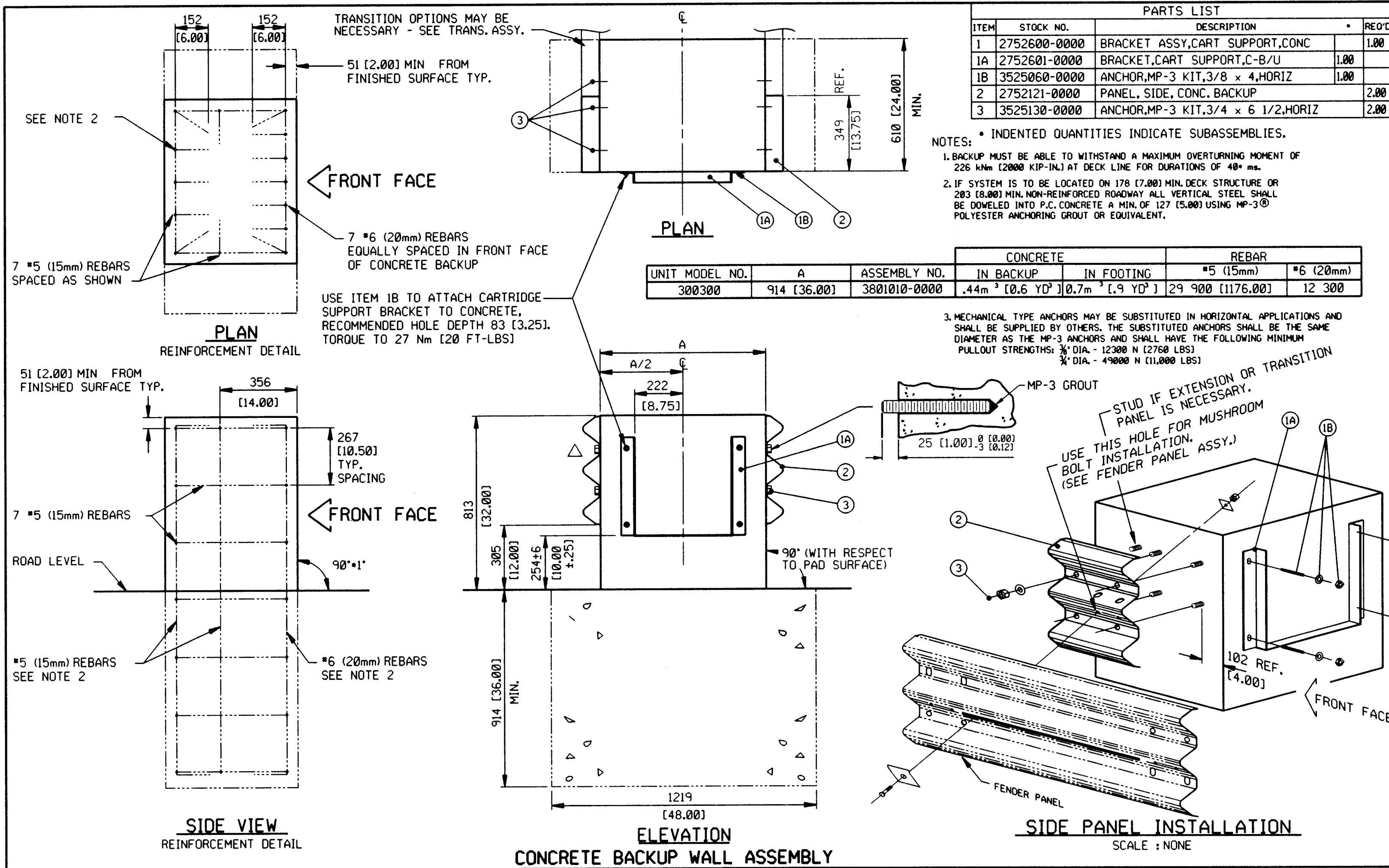
ELEVATION

- INSTALLATION OF THE IMPACT ATTENUATOR SHALL COMPLY WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND SPECIFICATIONS.
- SEE DETAILS FOR G-R-E-A-T SYSTEM, SHEET NOS. 6 & 7. UNIT SHALL BE A 5 BAY SYSTEM, MODEL NO. 300300.
- CONCRETE PAD AND BACK-UP WALL ARE SUBSIDIARY TO THE IMPACT ATTENUATOR. THE UNIT PRICE FOR THE 'IMPACT ATTENUATOR' SHALL BE FULL COMPANSATION FOR ALL MATERIALS, LABOR, EXCAVATION, BACKFILLING, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

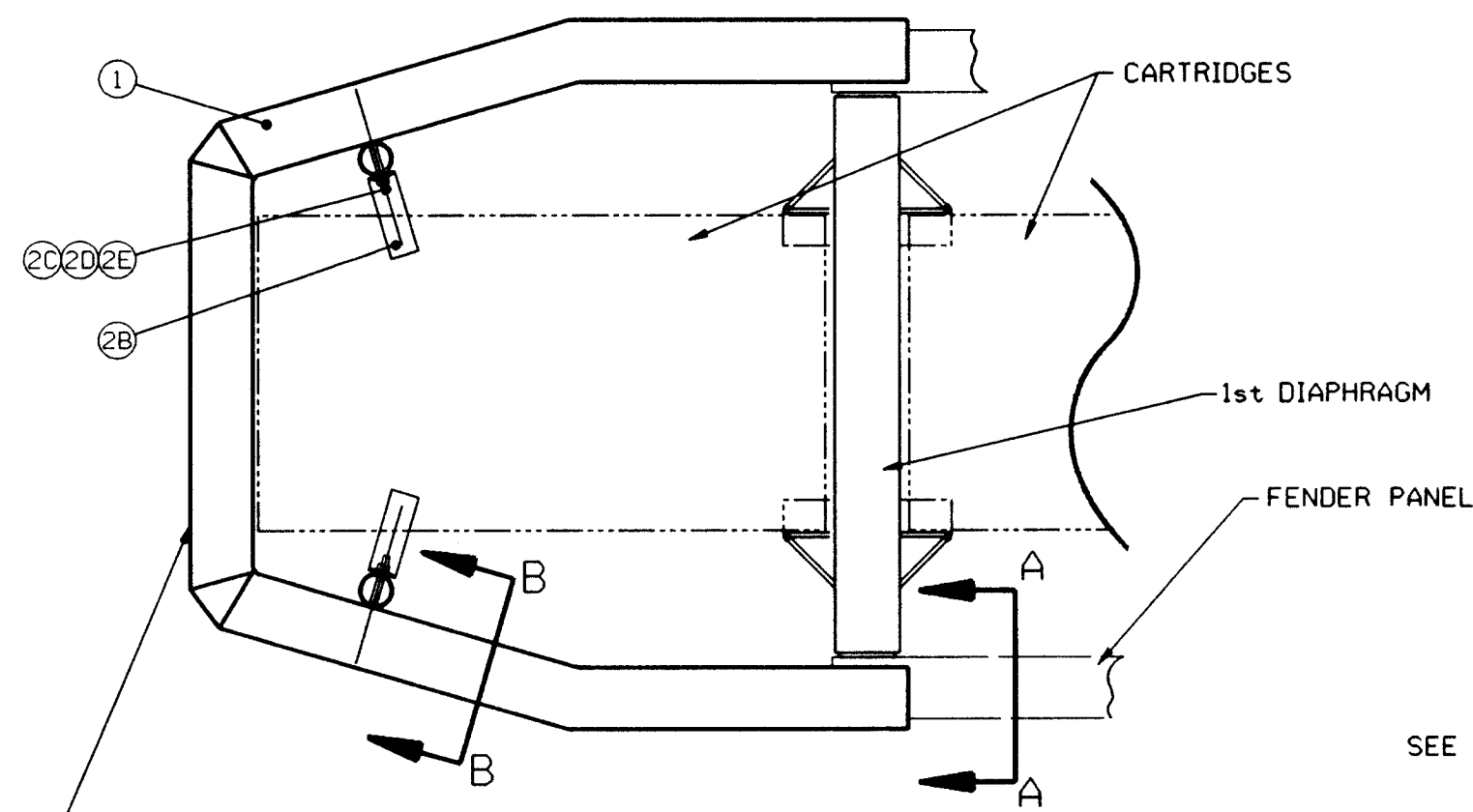
BIDIRECTIONAL
MODEL NO. 300300SF5

1			
No.	Revisions	By	Date
CITY OF WICHITA			
IMPACT ATTENUATOR			
PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by	RPG	Checked by	BER
Drawn by	MAF	Date	Oct. 1995 Job No. 95498

usr/ustn/dgn/1995/95498/greedsys.dgn
drawn by : M.Fry
plotted by : mcf 11-15-95

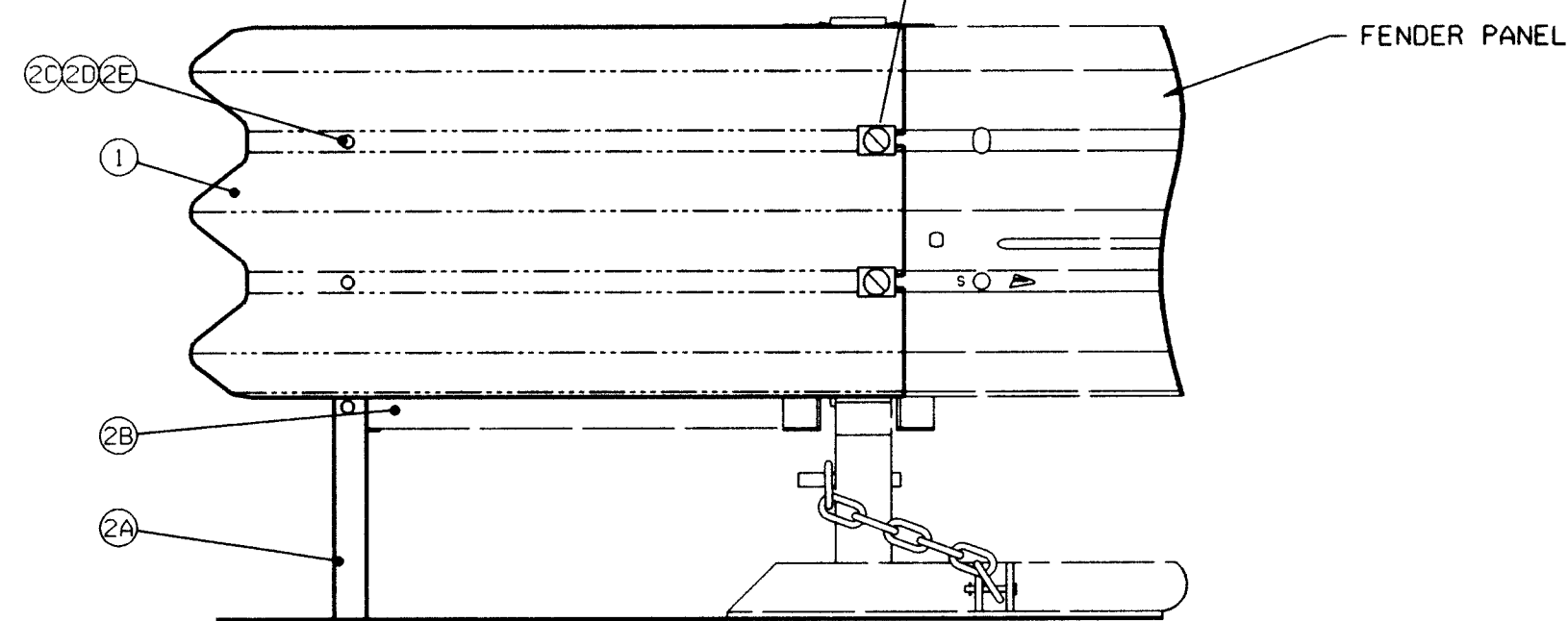


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drawn by : M.Fry
plotted by : mdf 11-15-95



PLAN VIEW

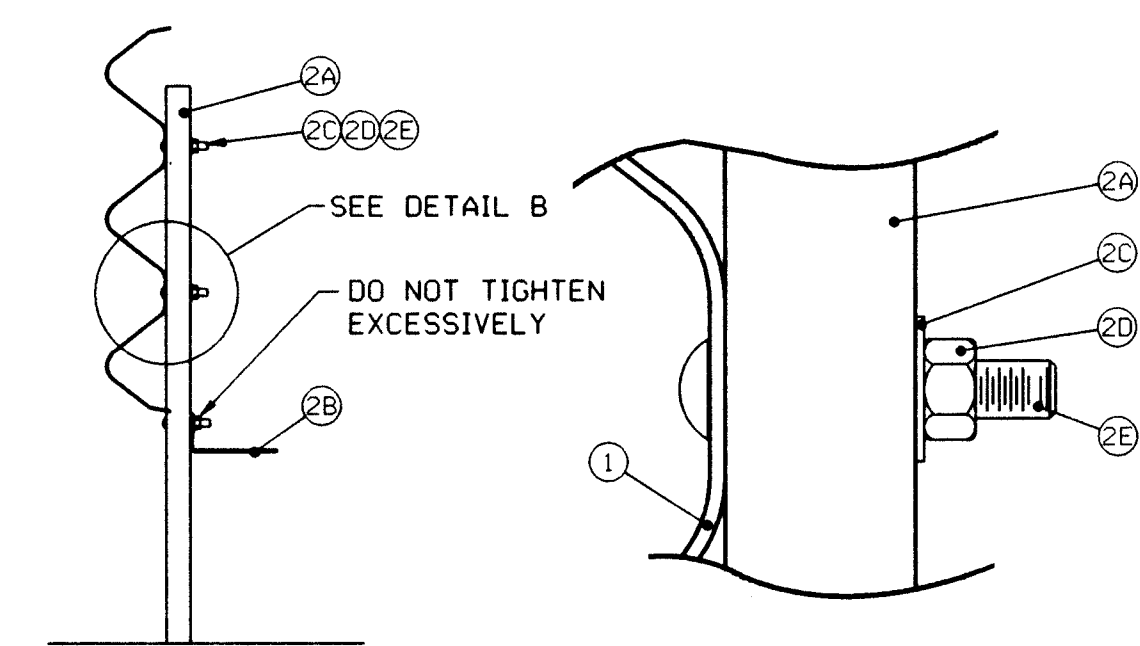
AFTER CARTRIDGE IS INSERTED, THE NOSE WRAP SHOULD BE MOVED BACK INTO THE DIAPHRAGM AND HELD IN PLACE WHILE BOLTS ARE TIGHTENED TO 33.75 Nm (25 FT. LBS.).



RIGHT SIDE VIEW

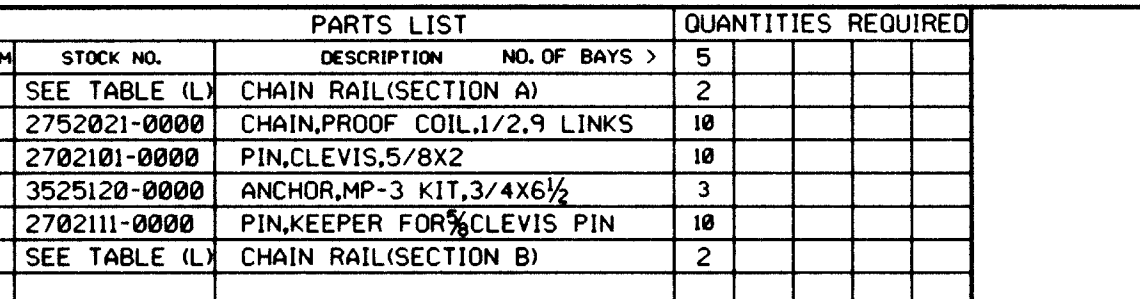
NOSE ASSEMBLY

SECTION A-A



DETAIL A

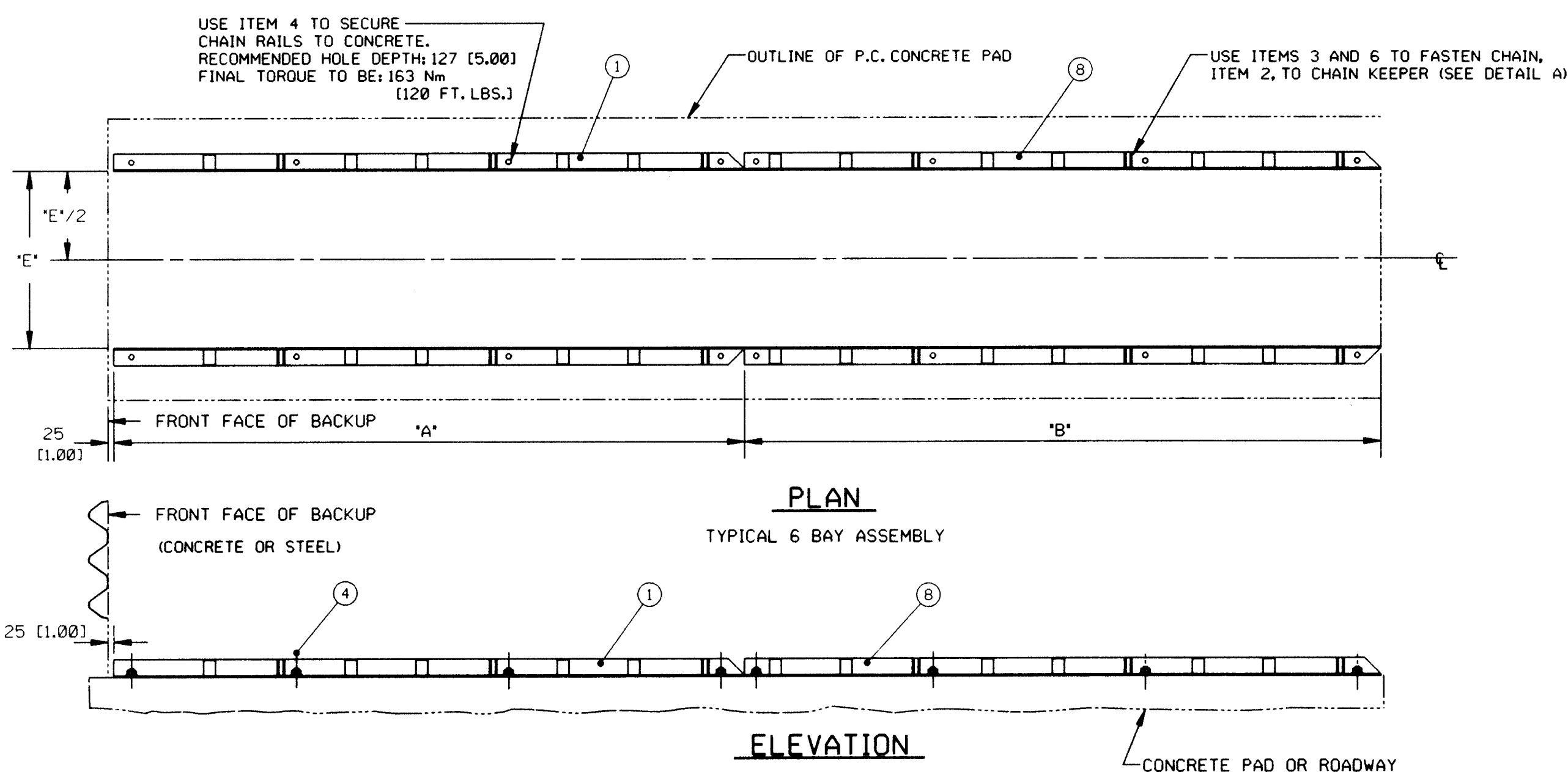
SECTION B-B



DETAIL B

UNIT	"E"
MODEL NO.	914 (35,000)

TABLE "L"				
ASSEMBLY NO.	NO. OF BAYS	TOTAL RAIL LENGTH	"A"	"B"
3518040-0500	5	4547 (179.00)	2718 (107.0) (2722033-0000)	1829 (72.00) (2722036-0000)



PLAN

TYPICAL 6 BAY ASSEMBLY

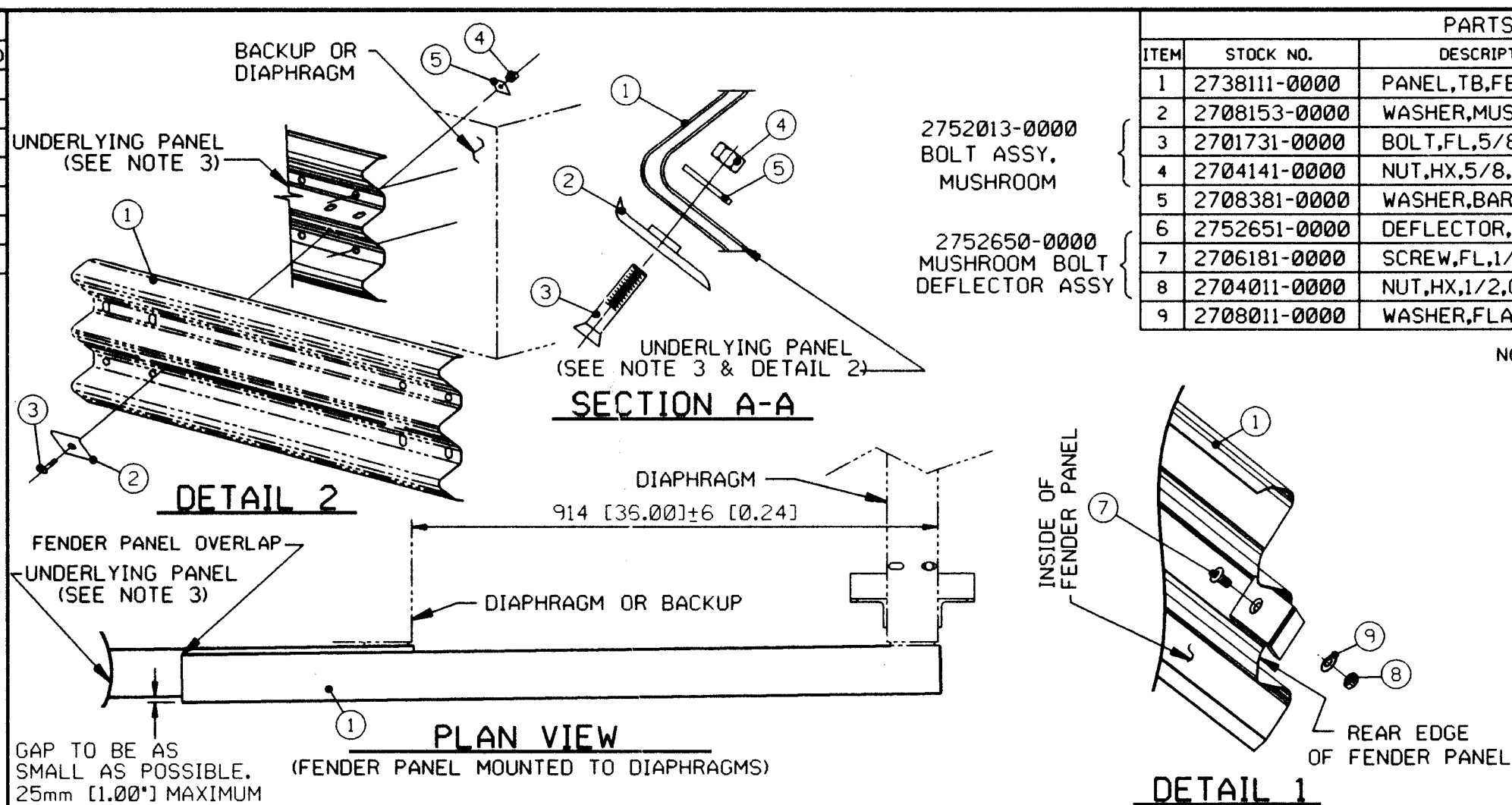
ELEVATION

CHAIN RAIL ASSEMBLY

- NOTES:
1. USE CHAIN RAILS AS TEMPLATE TO LOCATE MP-3 ANCHOR BOLTS
 2. CHAIN RAILS ARE IDENTIFIED BY LENGTH.

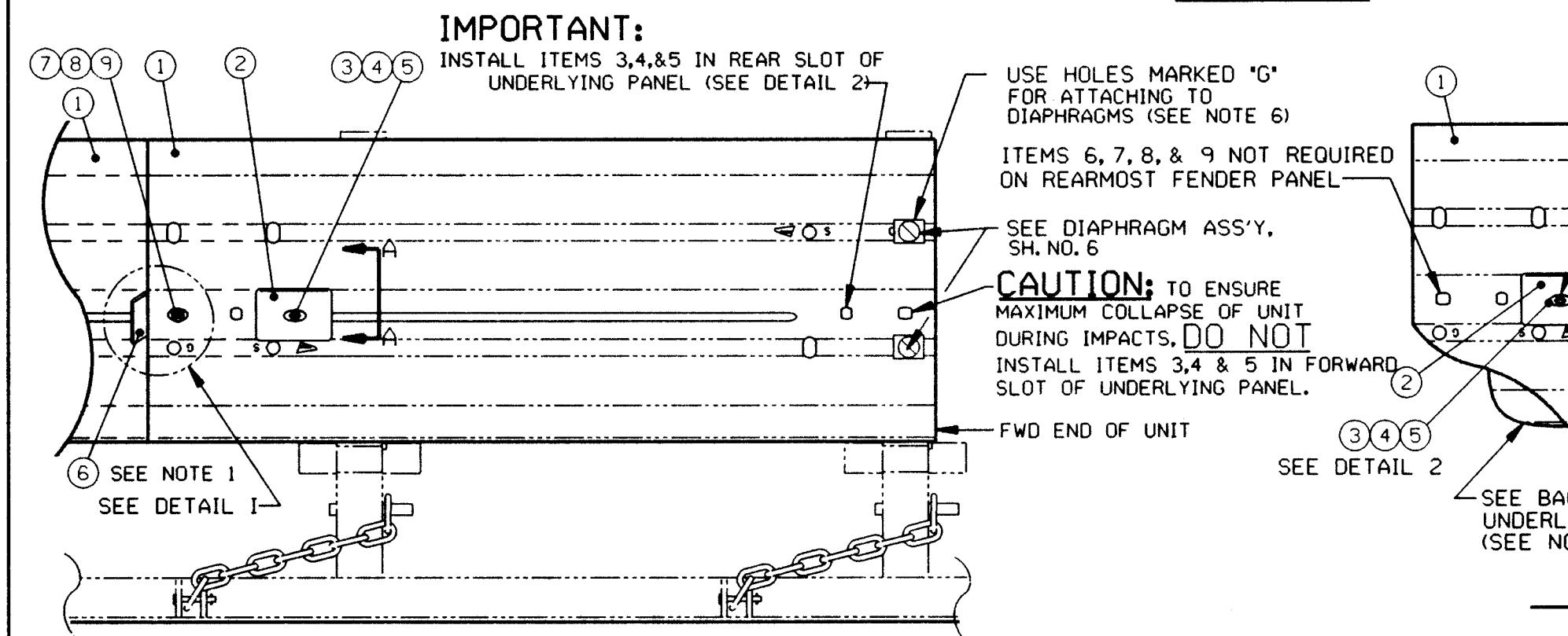
PARTS LIST				
ITEM	STOCK NO.	DESCRIPTION	NO. OF BAYS	RECD
1	2020811-0000	COVER, NOSE, GREAT, GRAY	1	1
2	2714890-0000	NOSE, LEG ASSY	2	2
2A	2714892-0000	LEG, PLASTIC, GREAT, NOSE	2	2
2B	2714891-0000	TAB, GREAT NOSE LEG	2	2
2C	2704031-0000	WASHER, FLAT, 3/8X1, G	6	6
2D	2708021-0000	NUT, HX, 3/8, G	6	6
2E	2708951-0000	BOLT, CR, 3/8X2 1/2, G2, G	6	6

- FOR YELLOW, THE LAST FOUR DIGITS ARE -0100
•• DENOTES SUBASSEMBLIES



DETAIL 2

PLAN VIEW



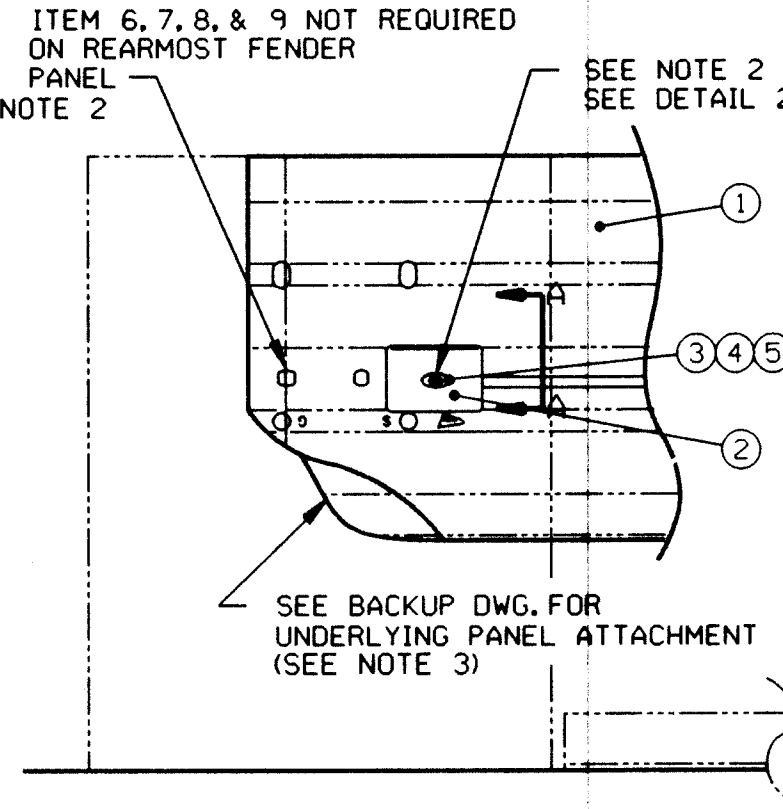
LEFT SIDE VIEW

FENDER PANEL ASSEMBLY

DETAIL 1

SIDE VIEW

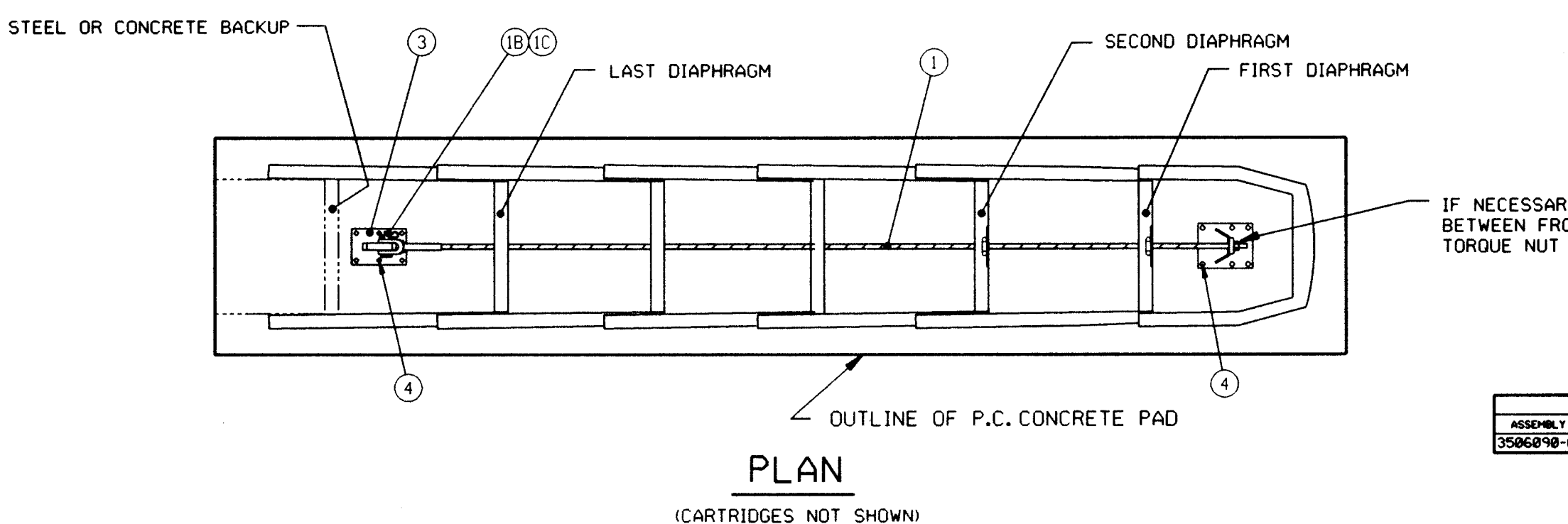
STEEL BACKUP



SIDE VIEW

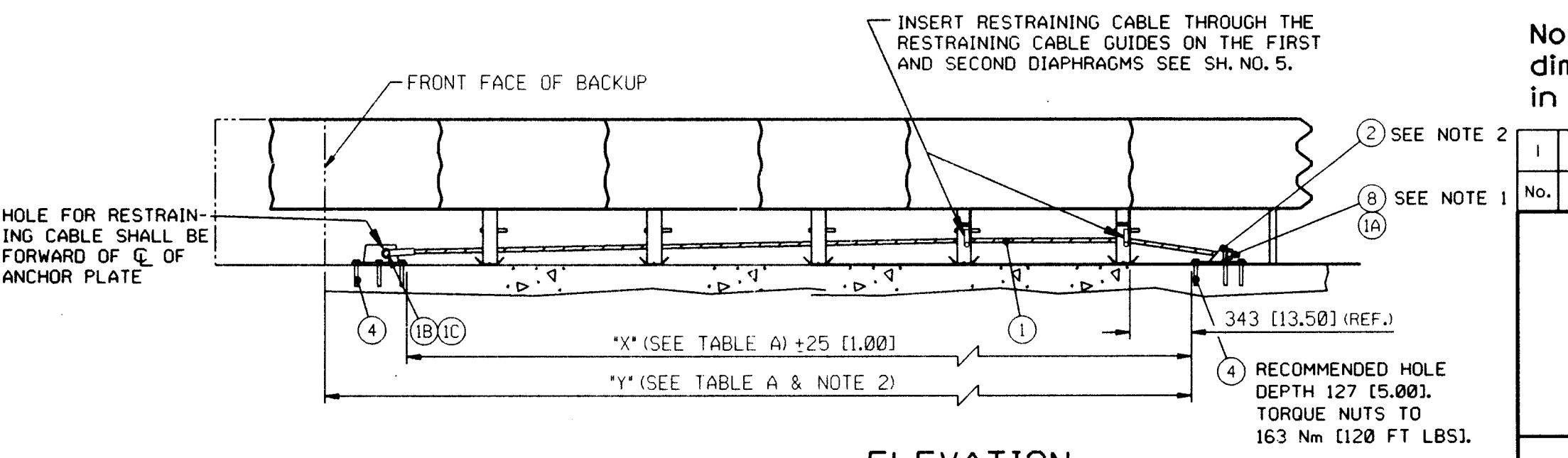
CONCRETE BACKUP

THRIVE BEAM FENDER PANEL ASSEMBLY



PLAN

(CARTRIDGES NOT SHOWN)



ELEVATION

- NOTES:
1. USE ITEM 8 AS REQUIRED FOR SHIM.
 2. FRONT AND REAR ANCHORAGE MAY BE SIMULTANEOUSLY MOVED REARWARD 76 (3.00) TO AVOID REBAR.

RESTRAINING CABLE ANCHOR ASSEMBLY

PARTS LIST				
ITEM	STOCK NO.	DESCRIPTION	NO. OF BAYS	RECD
1	2738111-0000	PANEL, TB, FENDER	10	10
2	2708153-0000	WASHER, MUSHROOM, FORGED, G	10	10
3	2701731-0000	BOLT, FL, 5/8X3, G8, SOCKET	10	10
4	2704141-0000	NUT, HX, 5/8, G	10	10
5	2708381-0000	WASHER, BAR, 2X2X1/4, G	10	10
6	2752651-0000	DEFLECTOR, MUSHROOM BOLT	8	8
7	2706181-0000	SCREW, FL, 1/2X1, SLOTTED, G	8	8
8	2704011-0000	NUT, HX, 1/2, G	8	8
9	2708011-0000	WASHER, FLAT, 1/2X1 3/8, G	8	8

- NOTES:
1. ITEM 6 TO BE BOLTED TO ITEM 1, BEFORE ITEM 1 IS INSTALLED.
 2. ITEM 4 TO BE INSTALLED AND TIGHTENED, USING A 3/4" ALLEN WRENCH AND TORQUE WRENCH TO 81.4 Nm $\pm$ 20.3 Nm (60 ft.lb. $\pm$ 15 ft.lb.).
 3. UNDERLYING PANEL IS EITHER ANOTHER FENDER PANEL OR, IN THE CASE OF THE LAST FENDER PANEL, IT COULD BE A BACKUP SIDE PANEL, EXTENSION PANEL, OR TRANSITION PANEL.
 4. WARNING: THE MUSHROOM DEFLECTORS MUST BE USED ON ALL EXCEPT THE LAST BAY. FAILURE TO USE THE MUSHROOM DEFLECTORS COULD CAUSE THE FENDER PANELS TO CATCH ON THE MUSHROOM WASHERS DURING AN IMPACT.
 5. WARNING: DO NOT FASTEN THE LAST FENDER PANEL RIGIDLY TO THE HAZARD WITH ADDITIONAL FASTENERS BESIDES THE MUSHROOM ASSEMBLY. THE LAST PANEL MUST BE ABLE TO SLIDE TO ALLOW THE LAST CARTRIDGE TO CRUSH.
 6. CAUTION: DURING ASSEMBLY OF A G-R-E-A-T SYSTEM, BE SURE THE HOLES LABELED "G" ARE USED TO ATTACH FENDER PANELS TO THE DIAPHRAGMS. IF THE HOLES LABELED "S" ARE ACCIDENTLY USED THE CARTRIDGES WILL NOT FIT.

PARTS LIST				
ITEM	STOCK NO.	DESCRIPTION	NO. OF BAYS	RECD
1	SEE TABLE A	CABLE, RESTRAINING, 7/8" 0	1	1
1A	2704121-0000	NUT, HX, 1 1/2, G	1	1
1B	2702021-0000	CLEVIS PIN, 1 1/8 X 4 1/2	1	1
1C	2702231-0000	PIN, COTTER, 3/8 X 2 1/2	1	1
2	2753251-0000	ANCHOR, CABLE, (STUD END)	1	1
3	2752391-0000	ANCHOR, CABLE	1	1
4	3525120-0000	ANCHOR, MP-3 KIT, 3/4 X 6 1/2	2	2
8	2708491-0000	WASHER, BAR, 3 X 3 X 1/4, G	6	6

- DENOTES SUBASSEMBLIES

TABLE A				
ASSEMBLY NO.	CABLE PART NO.	NO. OF BAYS	"X"	"Y"
3506040-0500	2742112-0000	5	445 (175.25)	495 (195.50)

Note: Unless otherwise noted, all dimensions on this sheet are given in millimeters and inches in parenthesis.

1	Revisions	By	Date
CITY OF WICHITA			
IMPACT ATTENUATOR DETAILS			
PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by	Checked by		
Drawn by	Date	Oct. 1995	Job No. 95498