

SU Project 562-855106
STORM WATER SEWER IMPROVEMENTS
to serve

FAIRWAY AVENUE
CITY OF WICHITA, KANSAS
James L. Armour, P.E. City Engineer

Project Number
468-84197
O.C.A. Number:
660516

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GENERAL NOTES:

- Contractor will be required to provide notice to utility companies a minimum of forty-eight (48) hours prior to any excavation, as follows:

Kansas One-Call 687-2470

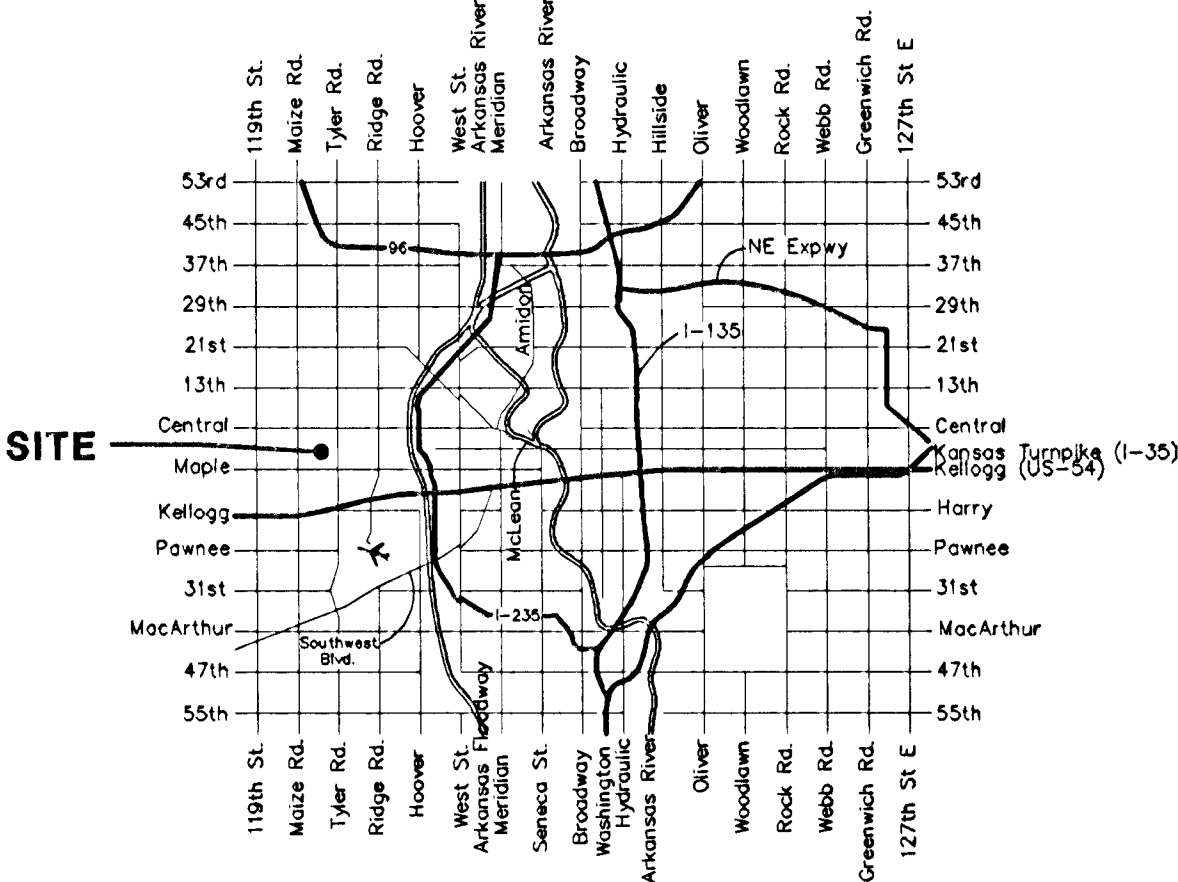
The Contractor must notify the following in case of an emergency:

Cox Communications 262-4270
Kansas Gas Service 1-888-482-4950
Westar Energy 383-8650
Aquila Energy 1-800-303-0357
SBC 268-2245
City of Wichita Water Dept. 268-4563
City of Wichita Sewer Maint. 268-4024
City of Wichita Storm Sewer Maint. 268-4090
City of Wichita Traffic Maint. 268-4034
Conoco Phillips Pipeline 1-877-267-2290
Southern Star Pipeline 529-6600
Kinder Morgan Pipeline 1-888-844-5658
Enbridge Pipeline 1-800-323-6241
- All existing and proposed erosion control measures including silt fencing, erosion control mat, straw bales, inlet barriers, and const. entrance shall be maintained throughout construction by the contractor and until project is accepted by the City of Wichita. The on-site engineer shall complete weekly reports on the status of erosion control measures. The contractor shall be required to comply with maintenance and/or replacement of erosion control measures as determined by the on-site engineer until project is accepted by City of Wichita. Maintenance and/or replacement of erosion control measures to be paid by L.S. bid item "Site Clearing & Restoration."
- All areas disturbed during construction shall be re-graded to pre-construction elevations and sodded with "in kind" sod. All excess excavation shall be disposed of off-site by the contractor at locations provided by the contractor. All work required to restore elevations, sod, and to move excess excavation shall be incidental to "Site Clearing & Restoration" bid item.
- Utility service lines, poles, valve boxes, meters, and etcetera are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be adjusted by its owner during construction. Existing utilities and their location, as shown on the plans, represent the best information obtainable for design. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.
- Rubble from the removal of miscellaneous structures and excess excavation which is to be wasted shall be disposed of off site at sites to be provided by the Contractor. 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 archaeological investigations unless buried in a previously approved borrow location.
- Trees and shrubs in public right-of-way which are in direct conflict with proposed new construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.
- The Contractor shall give all property owners and/or tenants of developed property abutting the construction of this project a minimum of five (5) days notice prior to start of construction. Contractor shall install traffic control measures per MUTCD standard specifications. Signs reading "No thru traffic" shall be installed at the intersections of 2nd Street & Putter Lane and Fairway Avenue & Shade Avenue.

BENCHMARKS

BM #1: Rail Road Spike in light pole between Lots 9 & 10, Block 13, Westlink Village Addition, Wichita, Sedgwick County, KS.
Elevation = 1326.39 MSL

BM#2: " " cut in top of curb, north side of 2nd Street, SW corner of Lot 11, Block 10, Westlink Village Addition, Sedgwick County, KS.
Elevation = 1321.62 MSL



Vicinity Map



Baughman Company, P.A. 315 Ellis St. Wichita, KS 67211 P 316-262-7271 F 316-262-0144
ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

BM #1: Rail Road Spike in light pole between Lots 9 & 10, Block 13, Westlink Village Addition, Wichita, Sedgwick County, KS.
Elevation = 1326.39 MSL

BM #2: " " cut in top of curb, north side of 2nd Street, SW corner of Lot 11, Block 10, Westlink Village Addition, Sedgwick County, KS.
Elevation = 1321.62 MSL

Sta 0+25.5, Line 2
Construct 1-36" RCP Stub w/Plug (NE)(25 L.F. @+0.150%)
MH Top Elev. = 1324.65

Sta 0+04.4, Line 2
Begin construction of 29"x45" HERCP.
MH Top Elev. = 1323.95

Sta 0+29.9, Line 2
Construct special type II-A double curb inlet.
Top Elev. = 1324.85

Sta 0+37.1, Line 1
Construct std. type II double curb inlet.
Top Elev. = 1324.90

Sta 0+44.3, Line 1
Construct std. type II double curb inlet.
Top Elev. = 1324.95

Sta 0+51.5, End Line 1
Construct std. type II double curb inlet.
Top Elev. = 1325.00

Saw Cut a neat line and remove existing A.C. and concrete pavement and construct 166 square yards of reinforced concrete pavement with 5" Rock Base with Tensor reinforcement, including monolithic curb where needed, per City Specs. Cost of removal to be incidental to "Pavement Removal" Bid Item.

Sta 0+08.8, Line 2
Encase existing 8" sanitary sewer line per detail, six feet each side of SWS crossing.

Sta 0+28.8, End Line 1
Construct std. type II double curb inlet.
Top Elev. = 1325.30

Sta 0+14.4, Line 1
Construct std. type II double curb inlet.
Top Elev. = 1324.90

Sta 0+21.6, Line 1
Construct std. type II double curb inlet.
Top Elev. = 1325.10

Sta 0+07.2, Line 1
Construct std. type II double curb inlet.
Top Elev. = 1324.70

Sta 0+00, Line 1
=Sta 0+00, Begin Line 2
Construct special type II-A double curb inlet.
Top Elev. = 1324.50

Sta -0+07.2, Begin Line 1
Construct std. type II double curb inlet.
Top Elev. = 1324.55

Sta 0+04.4 to Sta 0+25.5
Install 21.1 L.F. Flowable Fill per City Specs.
Top Elevation = 1323.0

NOTE:
Contractor to allow access to all homeowners and all existing driveways at all times. Any sprinkler or irrigation systems affected during construction shall be returned to pre-construction condition by the contractor and shall be incidental to "Site Clearing & Restoration" Bid Item.

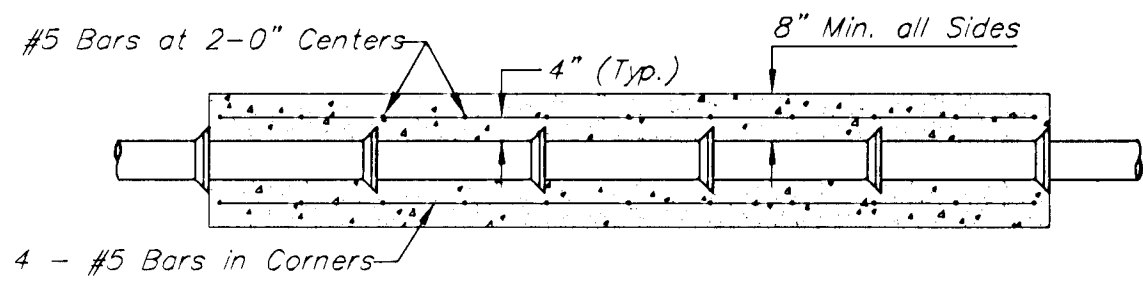
CAUTION!
Ex. WTR Service Line Crossing

CAUTION!
Ex. 8" SS Crossing

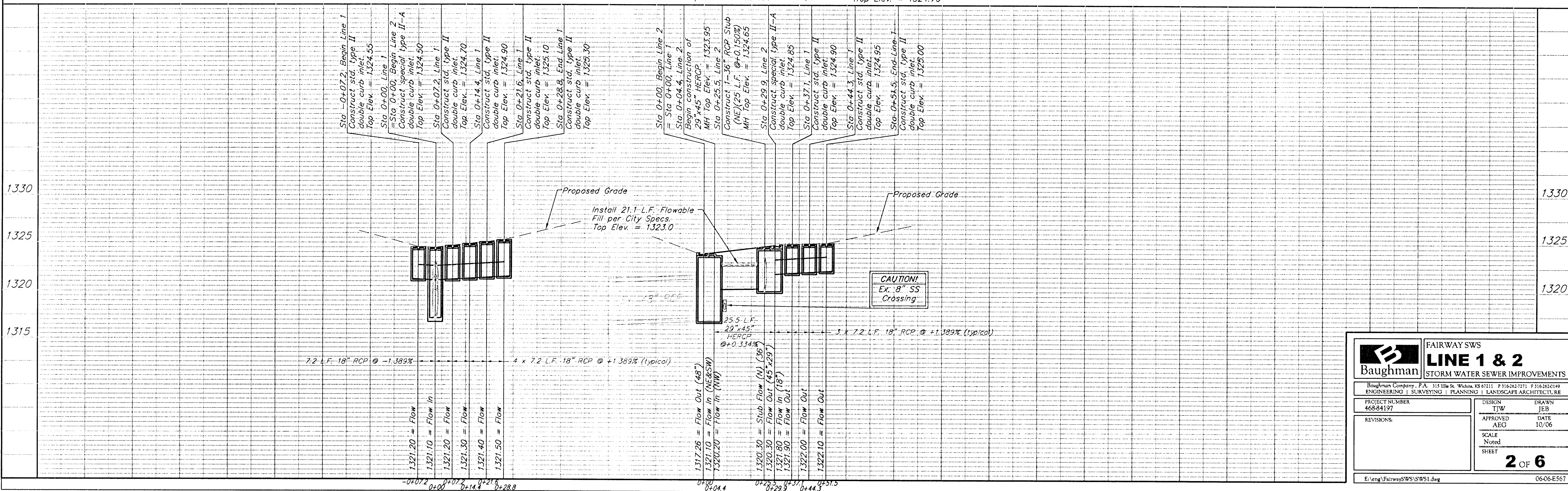
Existing A.C. Pavement to be removed & replaced with concrete valley gutter pavement per City Specs.

Existing concrete valley gutter to be removed & replaced with concrete valley gutter pavement per City Specs.

NOTE:
Contractor shall remove all existing inlet structures. Cost to be incidental to "Pavement Removal" Bid Item.



REINFORCED CONCRETE ENCASEMENT OF SANITARY SEWERS

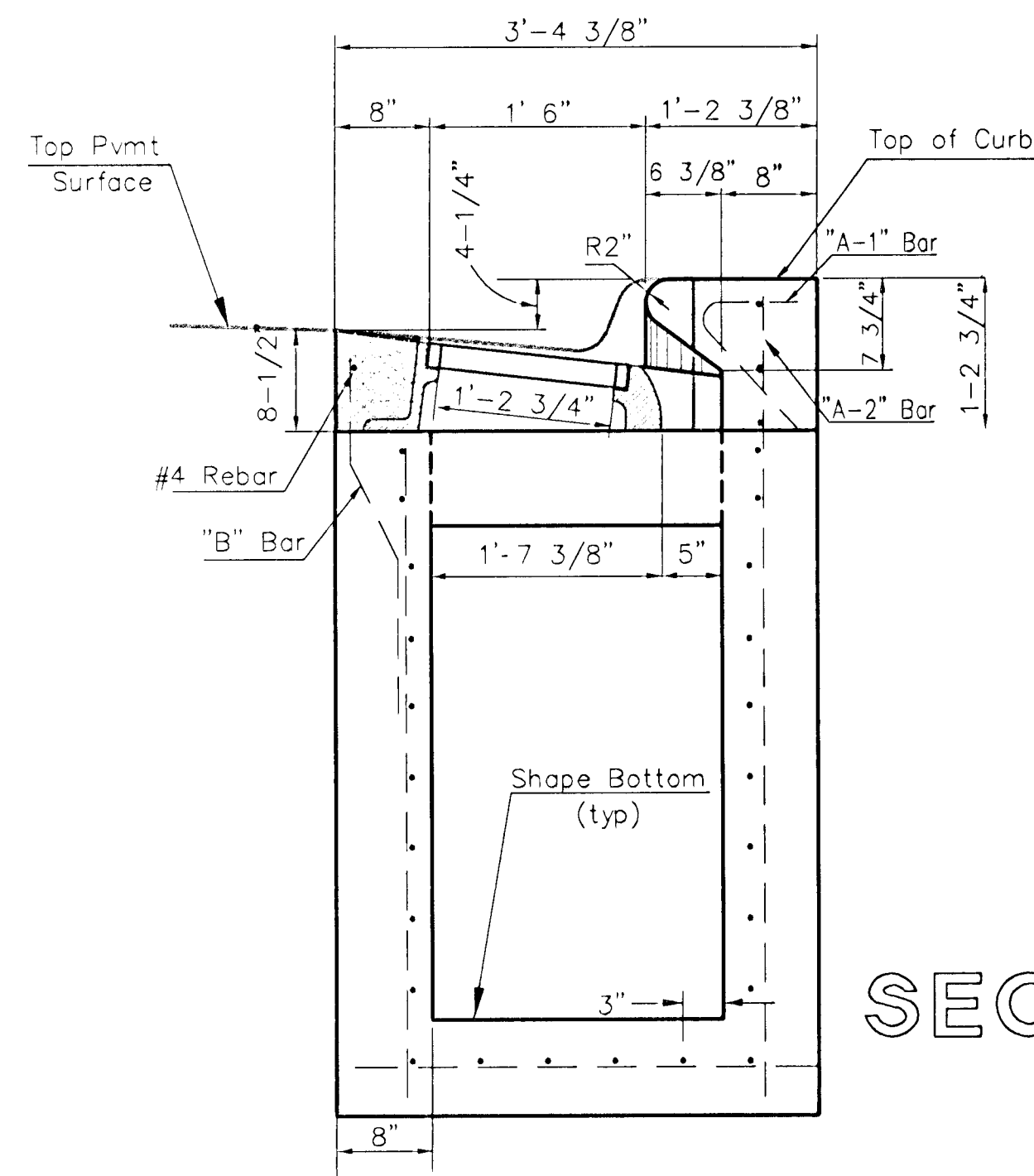


FAIRWAY SWS
LINE 1 & 2
STORM WATER SEWER IMPROVEMENTS

Baughman Company, P.A. 315 Ellis St. Wichita, KS 67211 P 316-262-7771 F 316-262-0149
ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

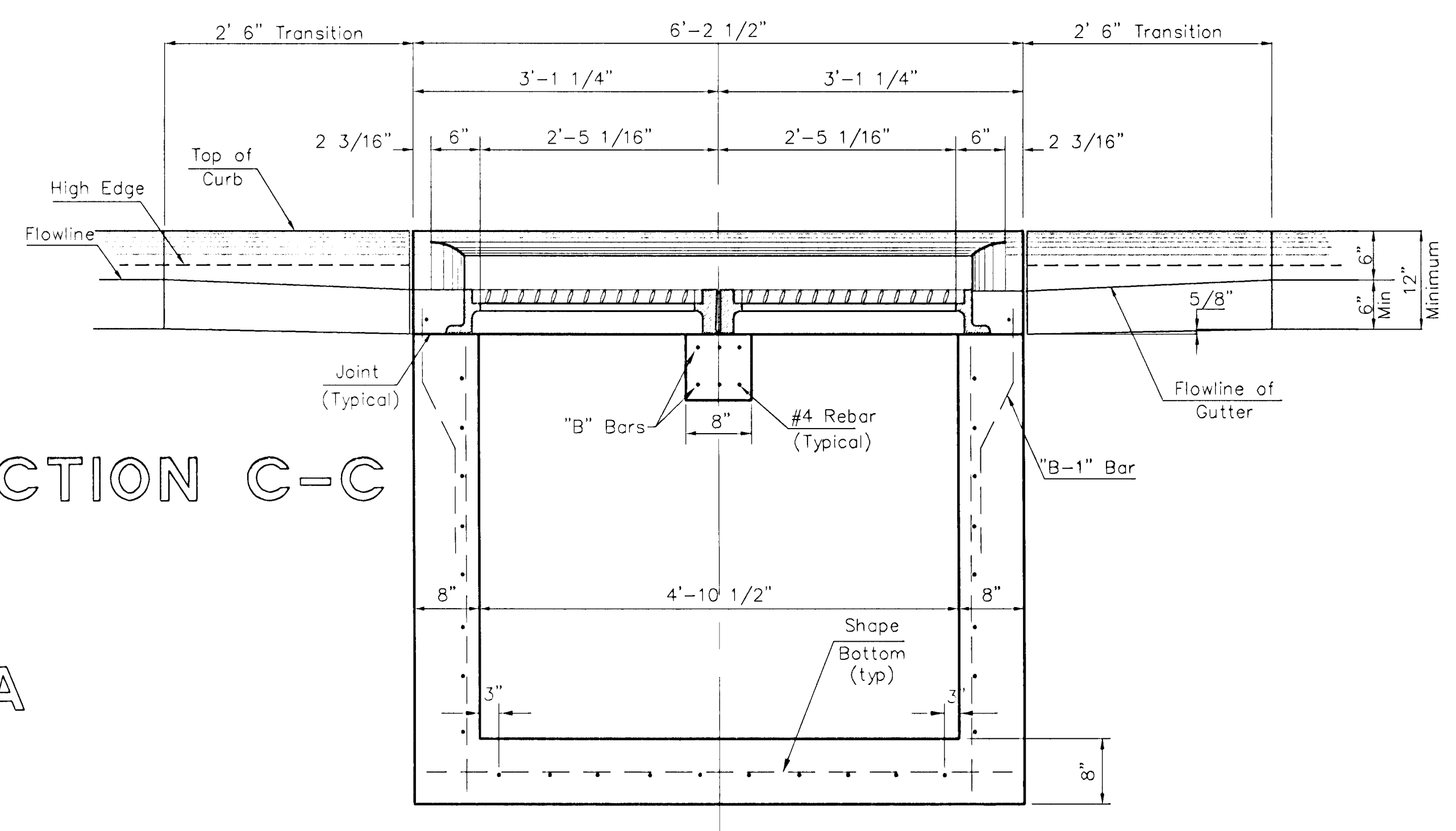
PROJECT NUMBER 468-84197	DESIGN TJW	DRAWN JEB
APPROVED AEG	DATE 10/06	
REVISIONS:	SCALE Noted	SHEET 2 OF 6

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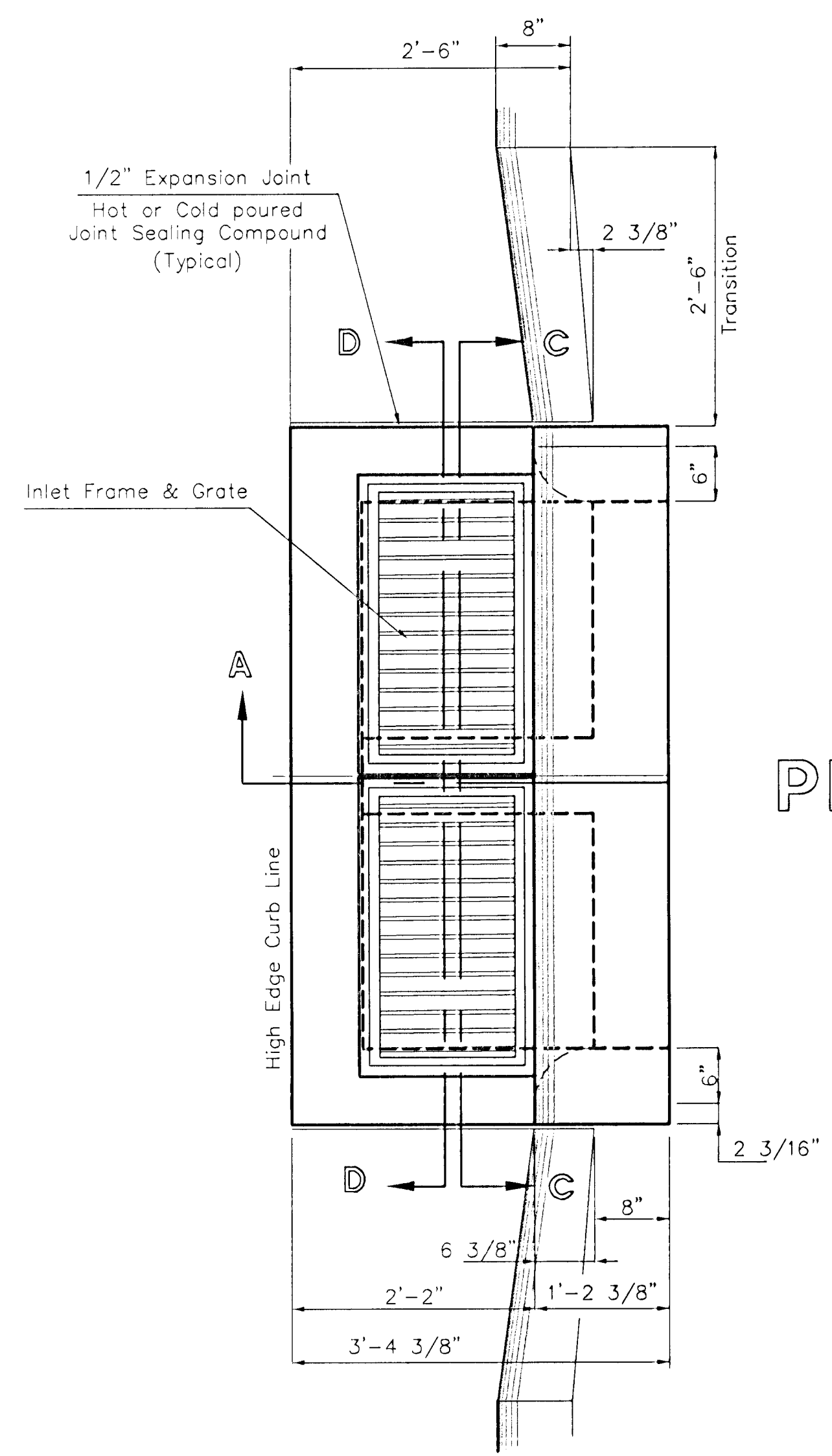
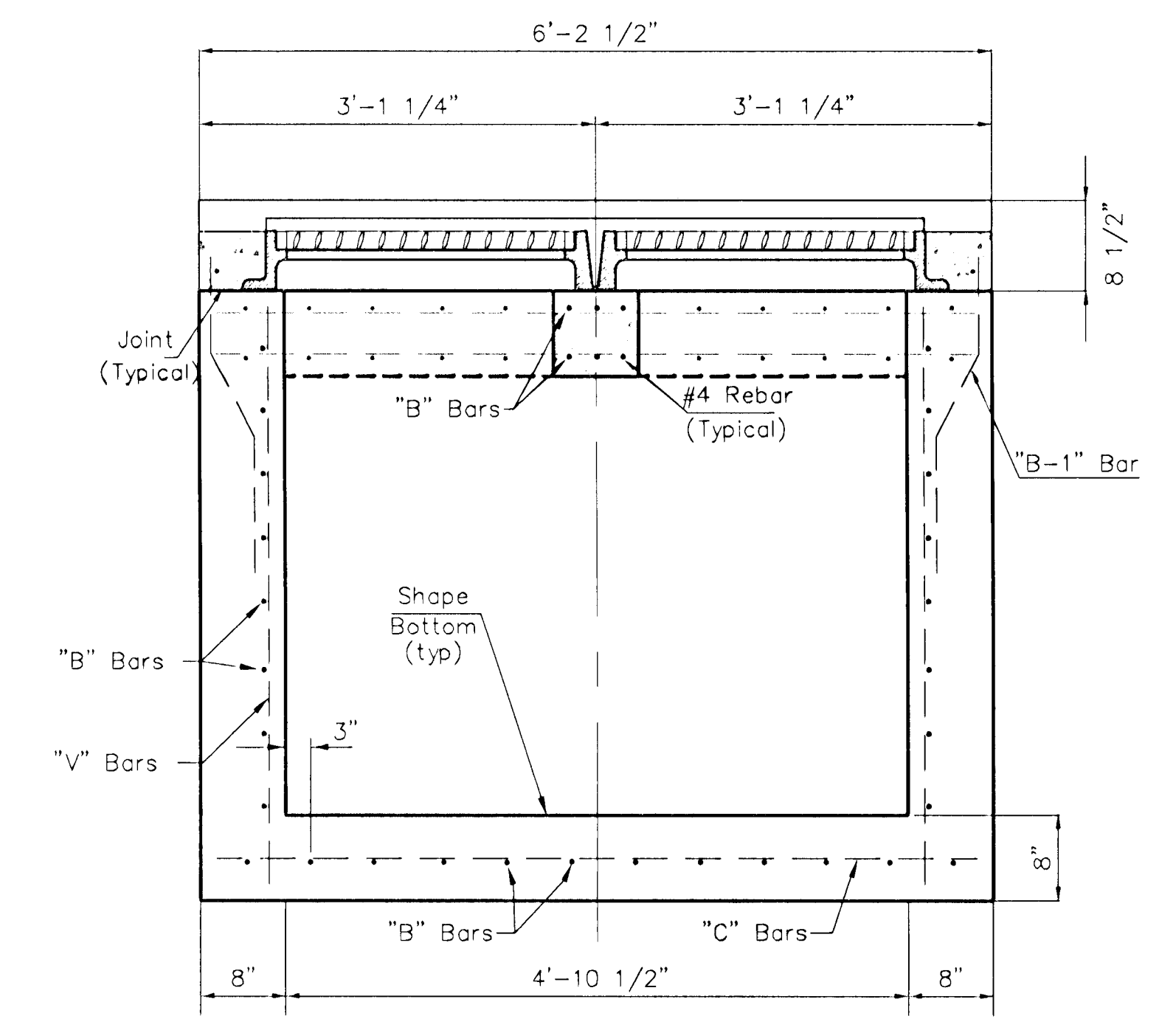


SECTION A-A

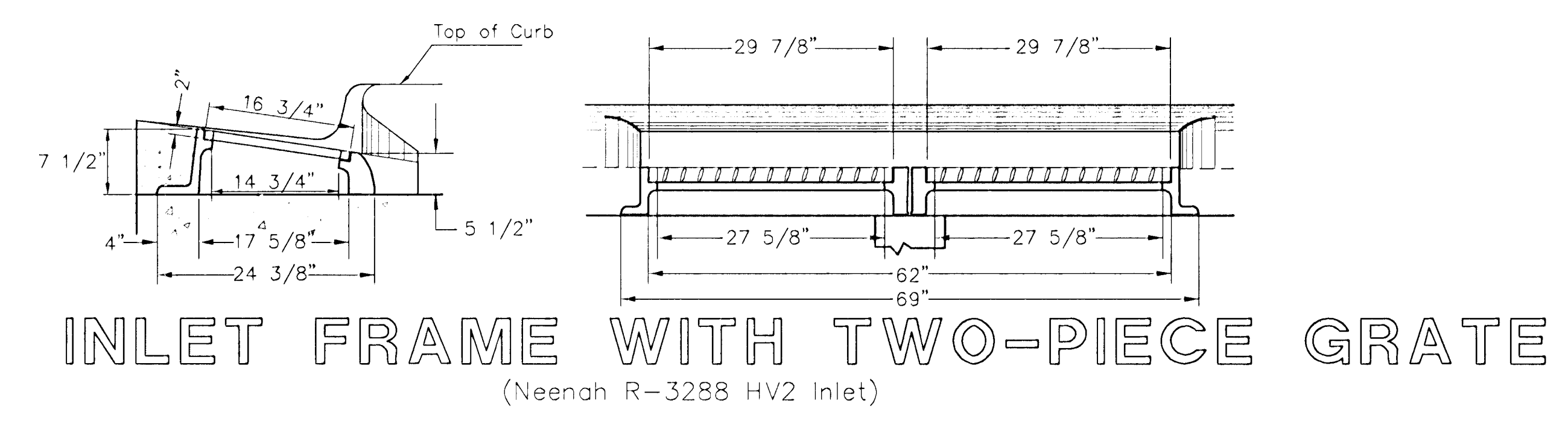
SECTION C-C



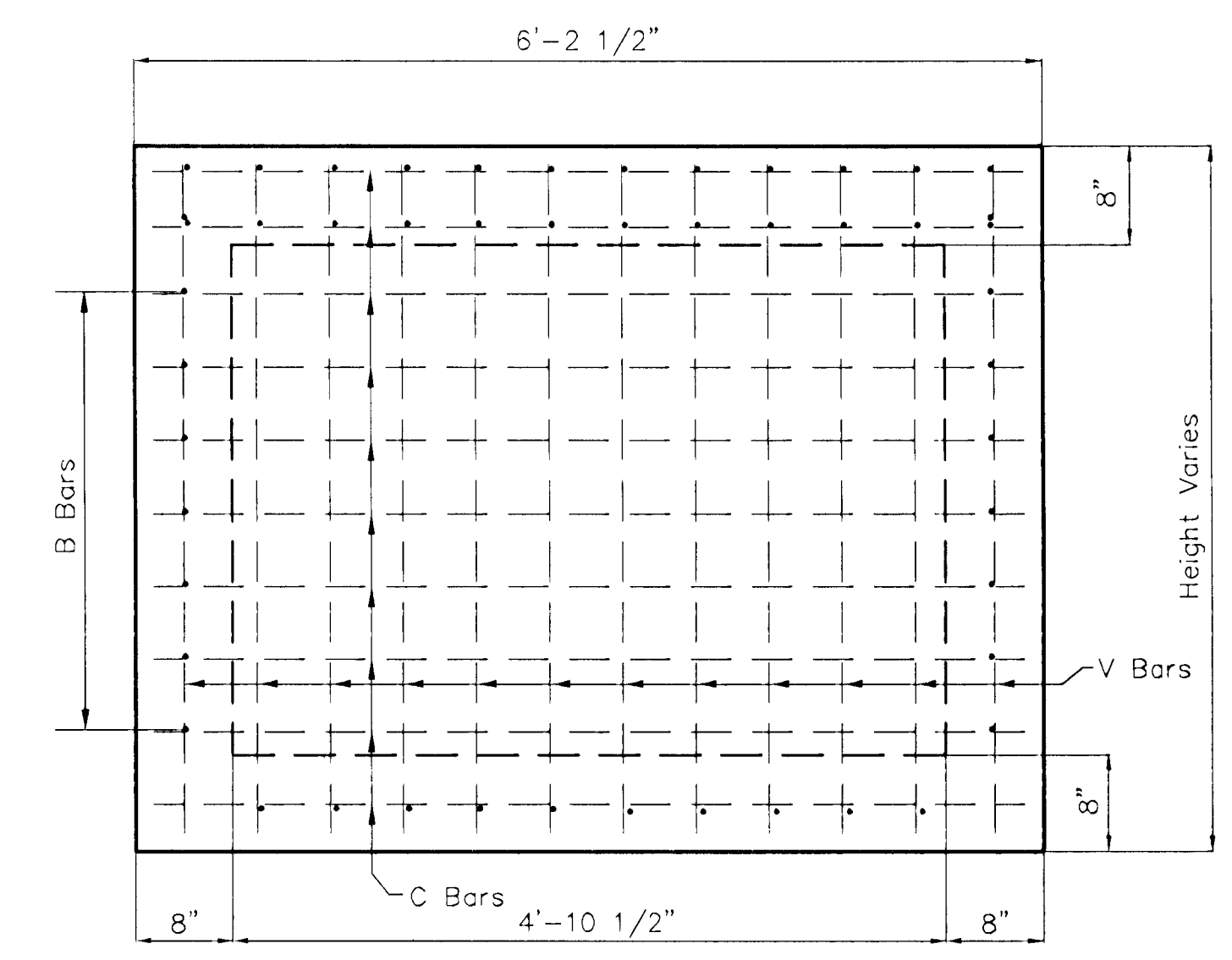
SECTION D-D



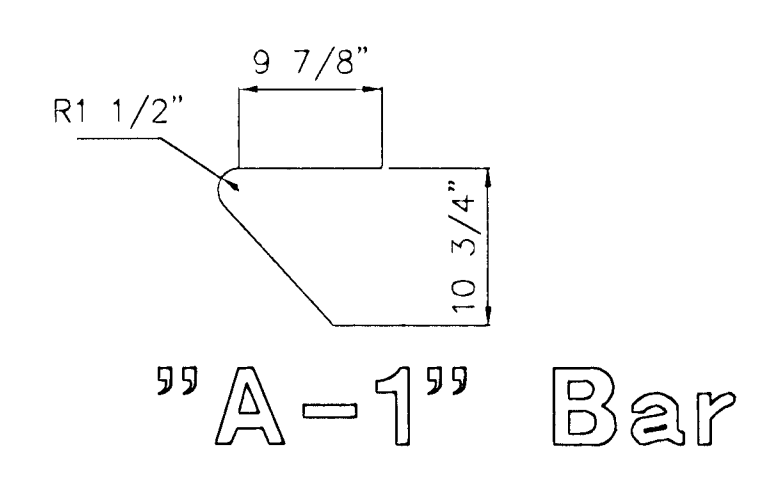
PLAN VIEW



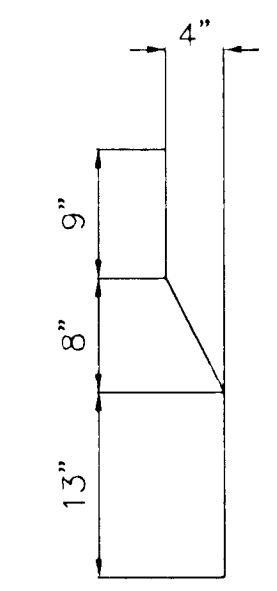
INLET FRAME WITH TWO-PIECE GRATE
(Neenah R-3288 HV2 Inlet)



REAR WALL



"A-1" Bar



"B-1" Bar

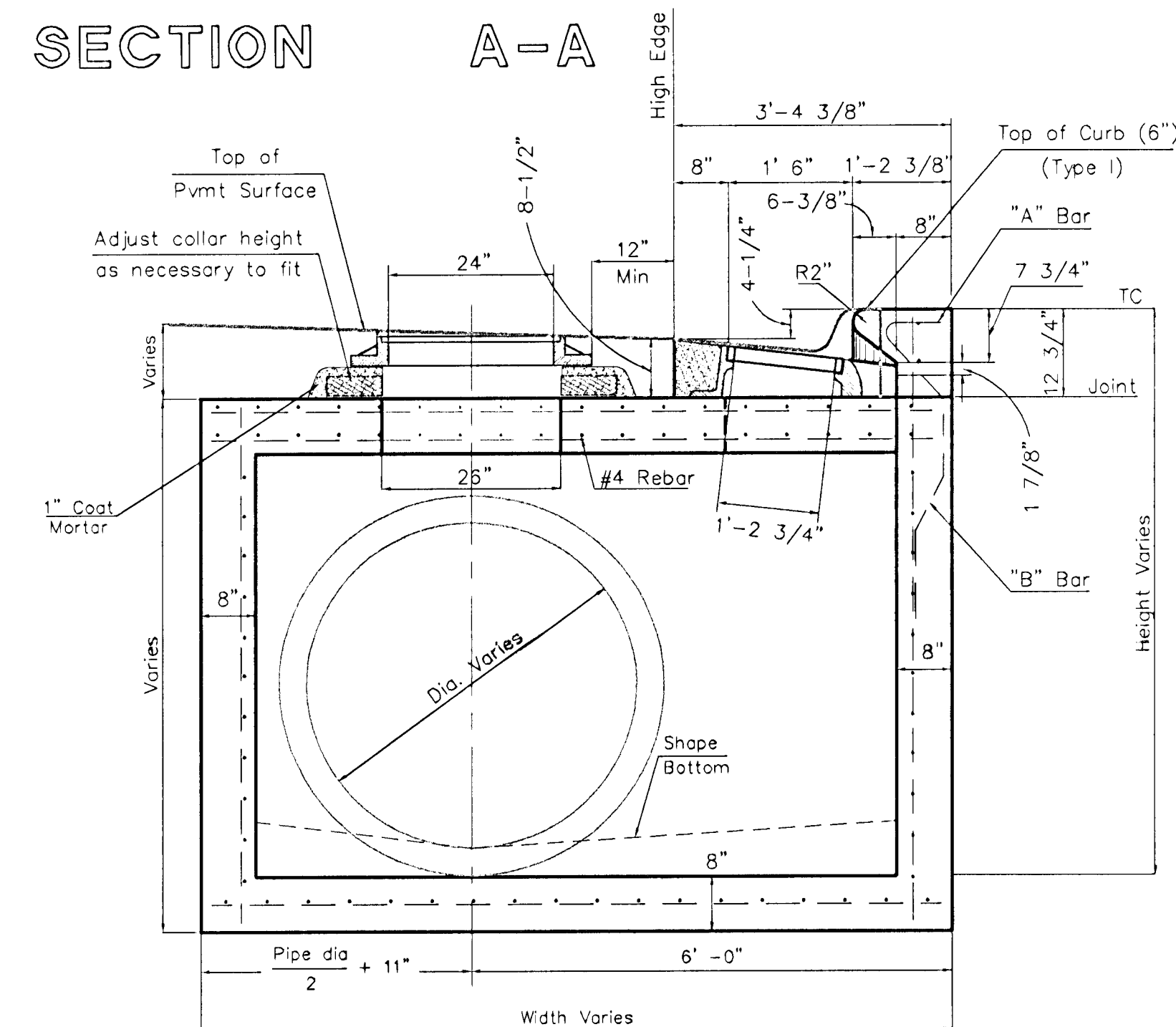
General Notes

1. Use class A mix specified for the City of Wichita concrete pavement throughout curb inlet. All exposed edges shall be finished with an edging tool. Reinforcing bars shall be bent around pipe.
2. Inlet invert shall be shaped with 8 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 HV2 Double Inlet Frame w/ two piece grate or approved equal. Inlet frame to be proof load tested to 40,000 lbs. on the 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 with respect to the flow arrows shown on the plans.
8. All castings shall be gray iron and shall comply with KDOT Standard Specifications.
9. All exposed cast iron surfaces shall be painted either in the shop topcoat or a field coat of organic zinc, each coat to be 3 to 4 mils.

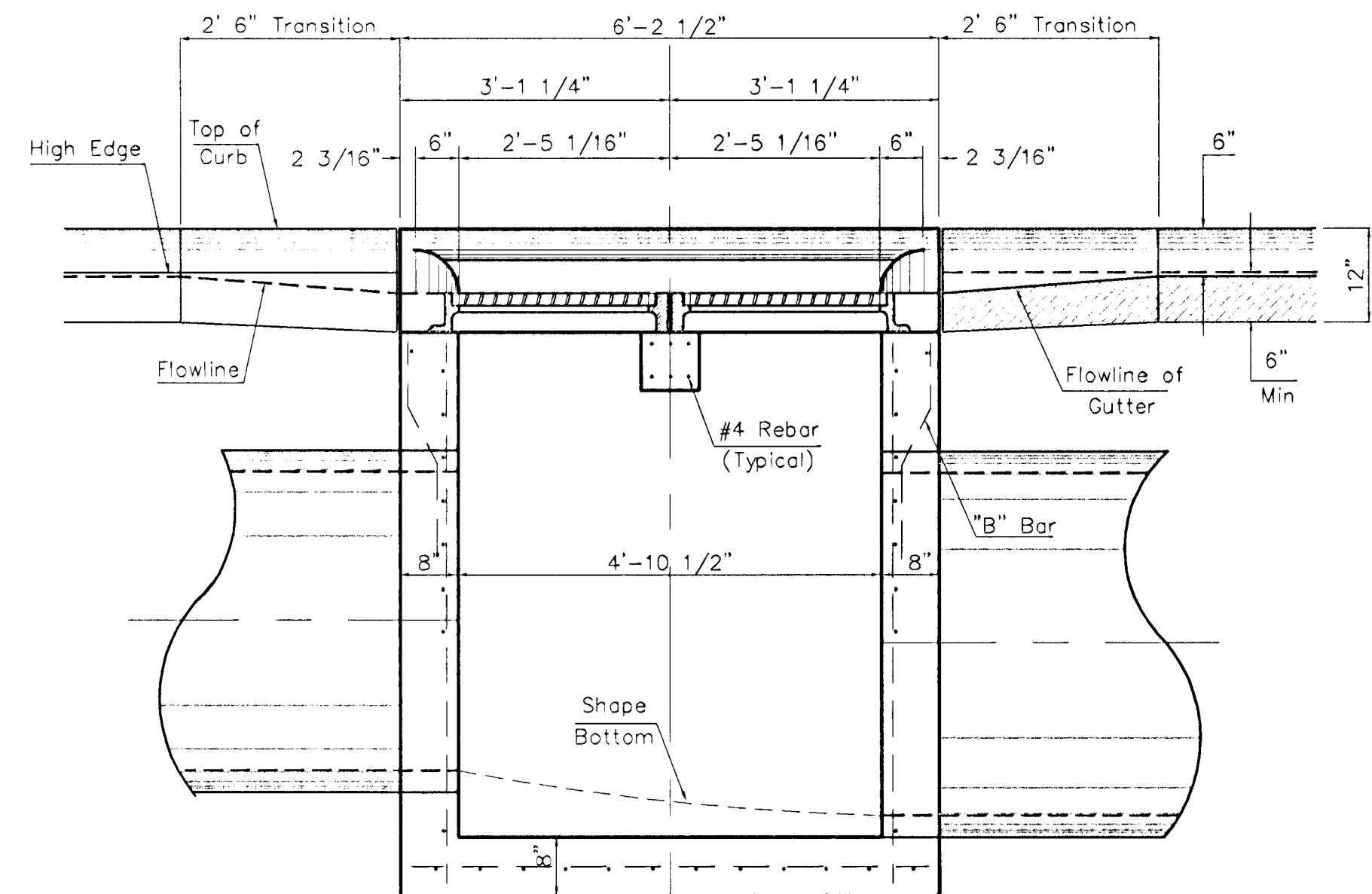
Revised - Dec. 1995 - SGSJR

 City of Wichita Special Type II Curb Inlet Details Inlet Opening = 6" x 4'-10 1/8"	
Baughman Company, P.A. 315 Elm St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149 ENGINEERING SURVEYING PLANNING LANDSCAPE ARCHITECTURE	
PROJECT NUMBER 468-94197	DESIGN C.O.W. APPROVED DATE 10/06
REVISIONS:	SCALE None SHEET 3 OF 6
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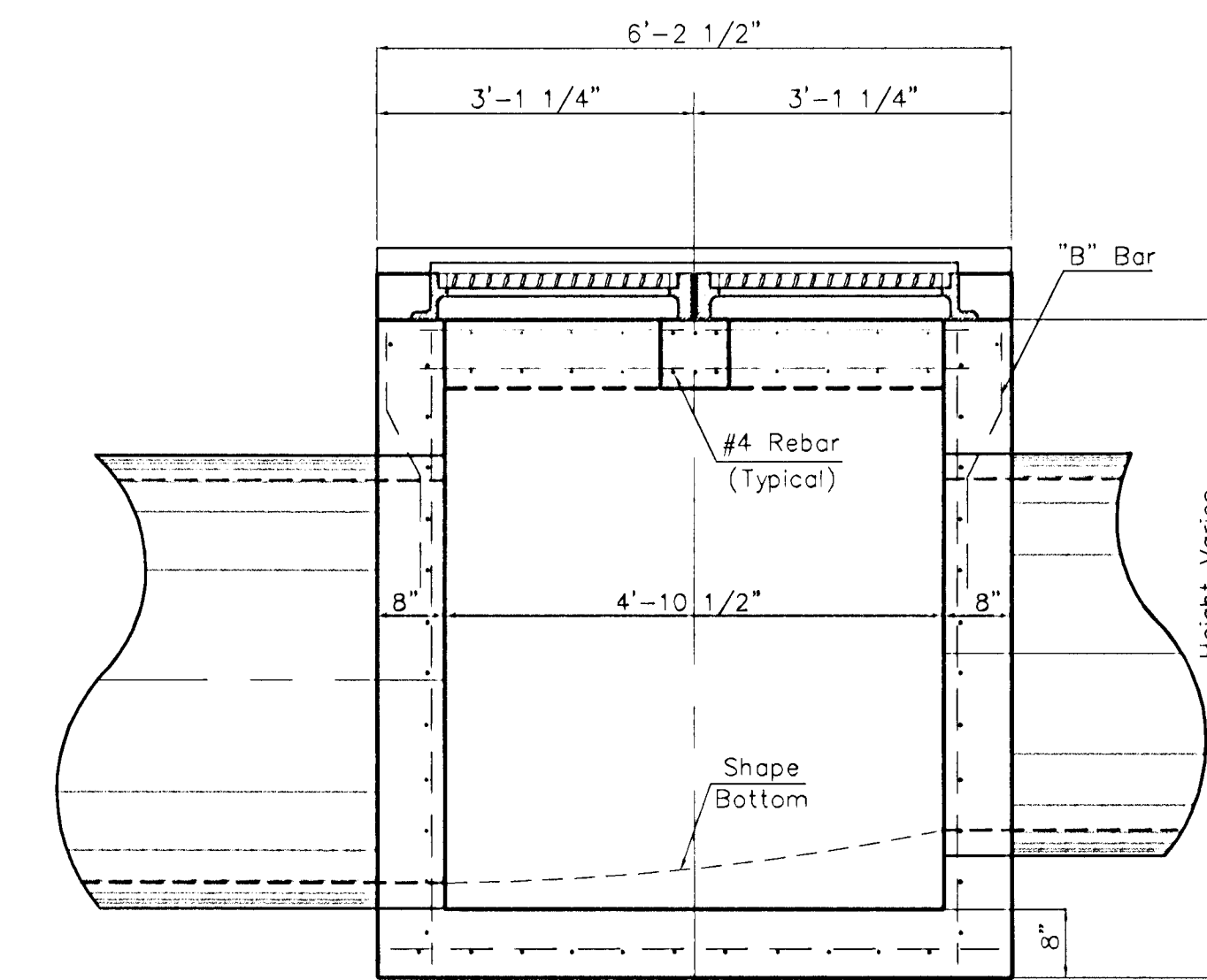
SECTION A-A



SECTION C-C



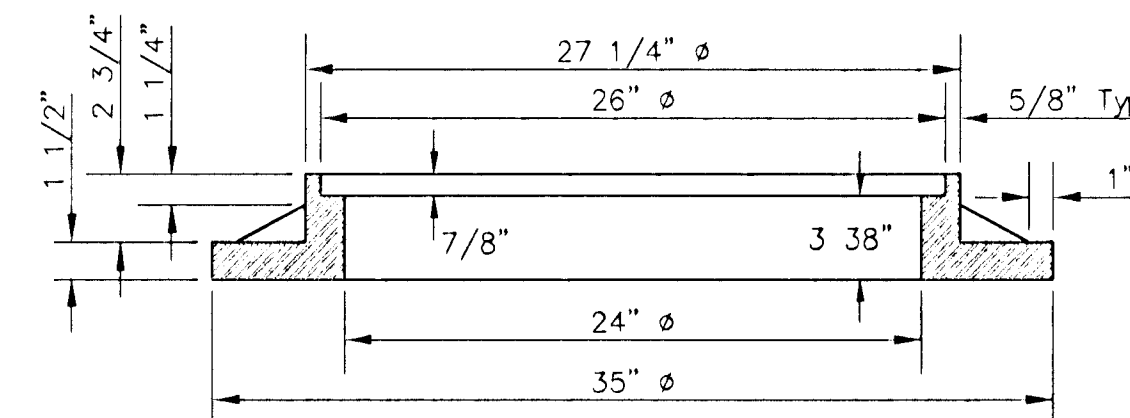
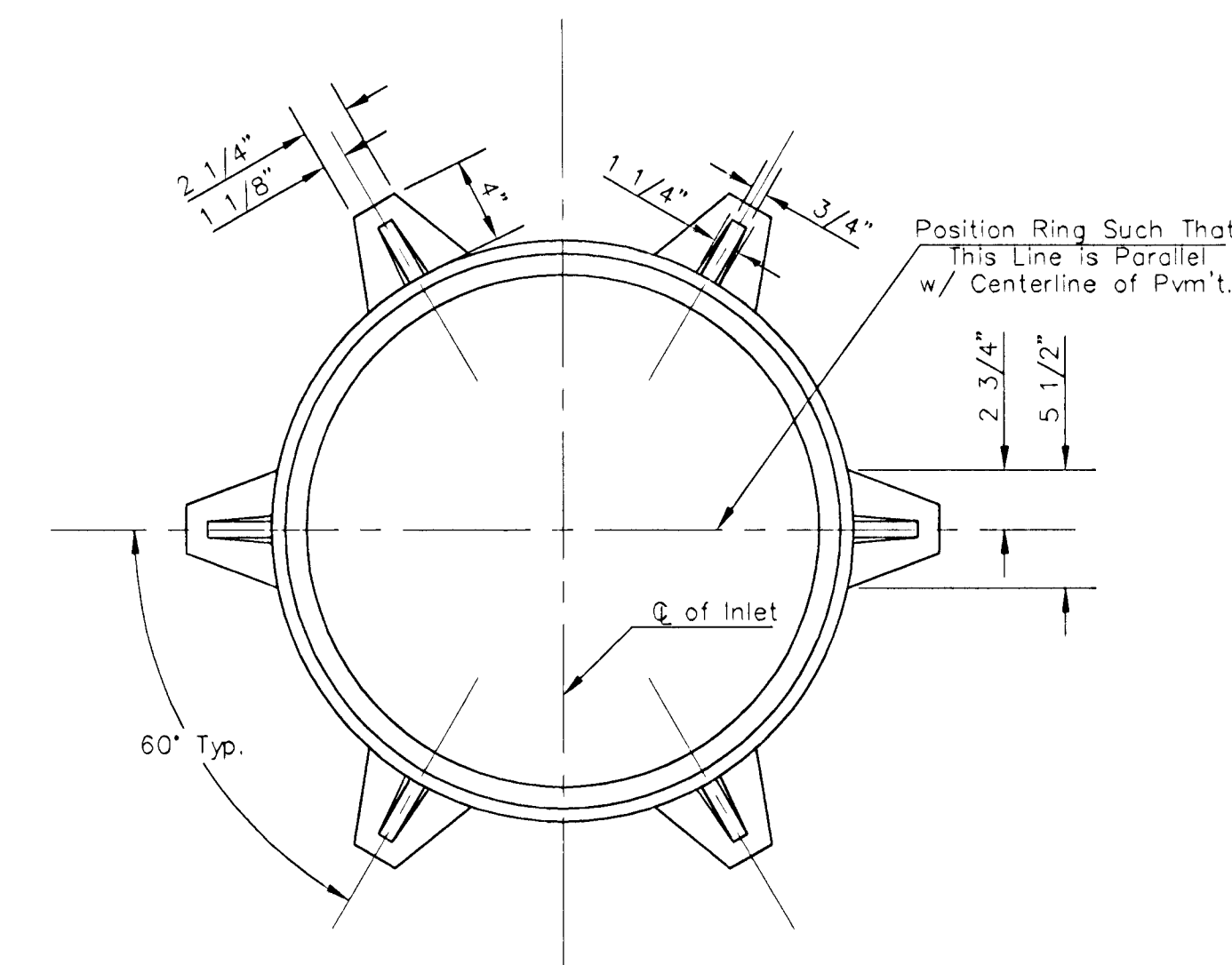
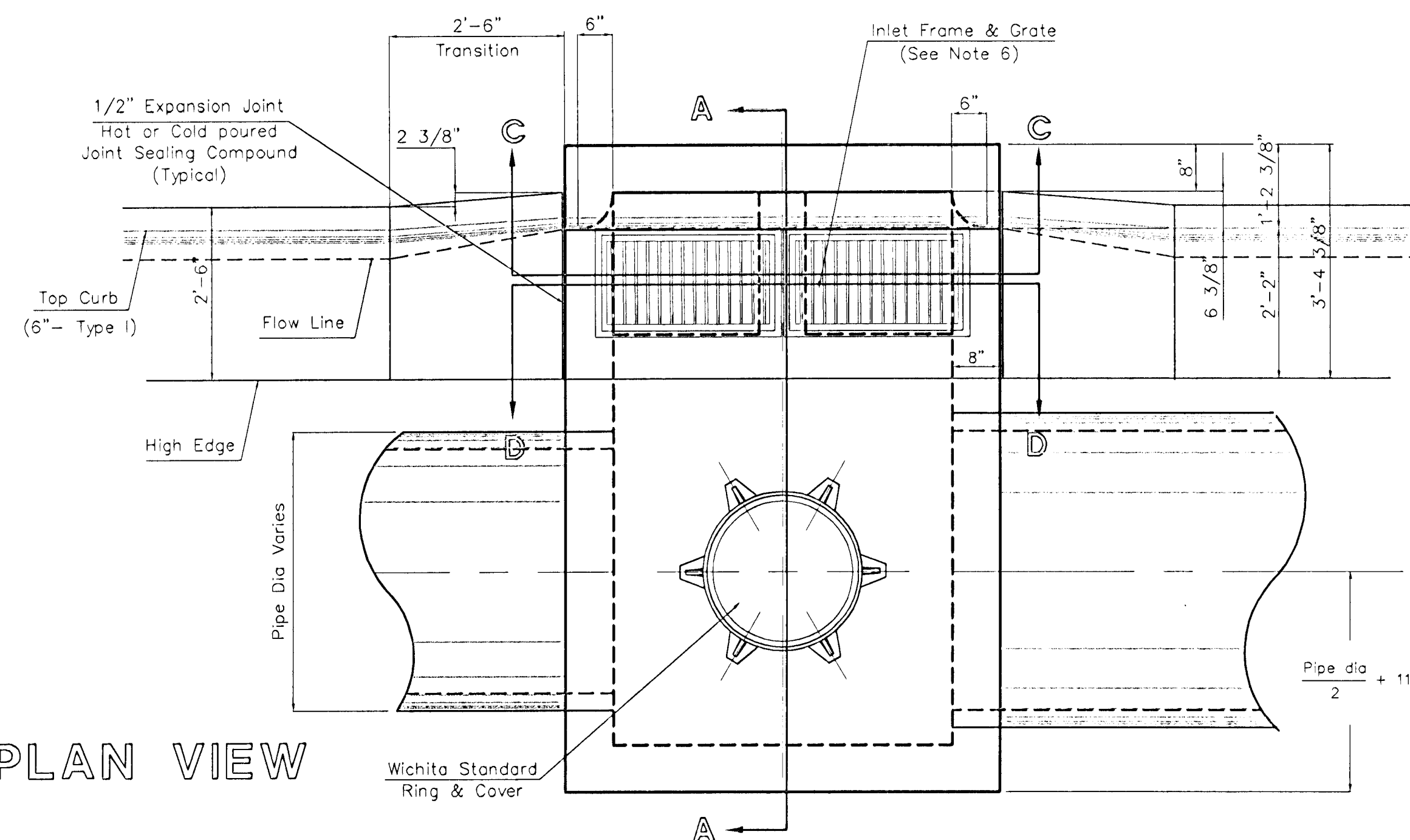
SECTION D-D



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 8 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 w/ 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 with respect to the flow arrows shown on the plans.
8. Around manhole opening in top slab use #5 bar @ 45° angle to other bars. Length = MH opening + 2'0"

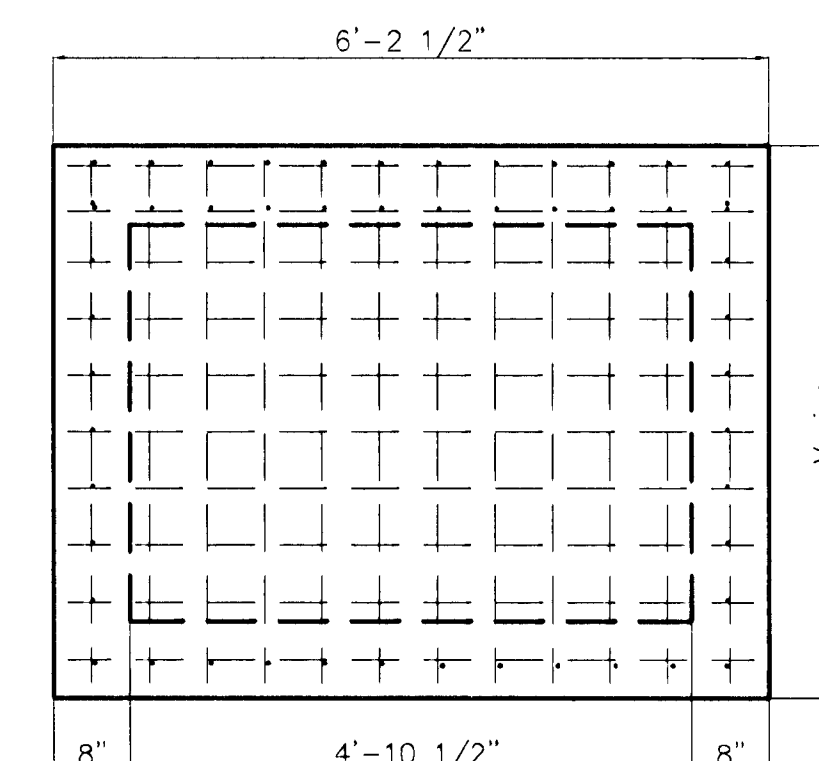
PLAN VIEW



Inlet Frame Weight = 180 lbs

MANHOLE RING AND COVER

*See City of Wichita Standard Manhole Ring and Cover Detail Sheet for Cover Details to Be Used With Inlet Frame.



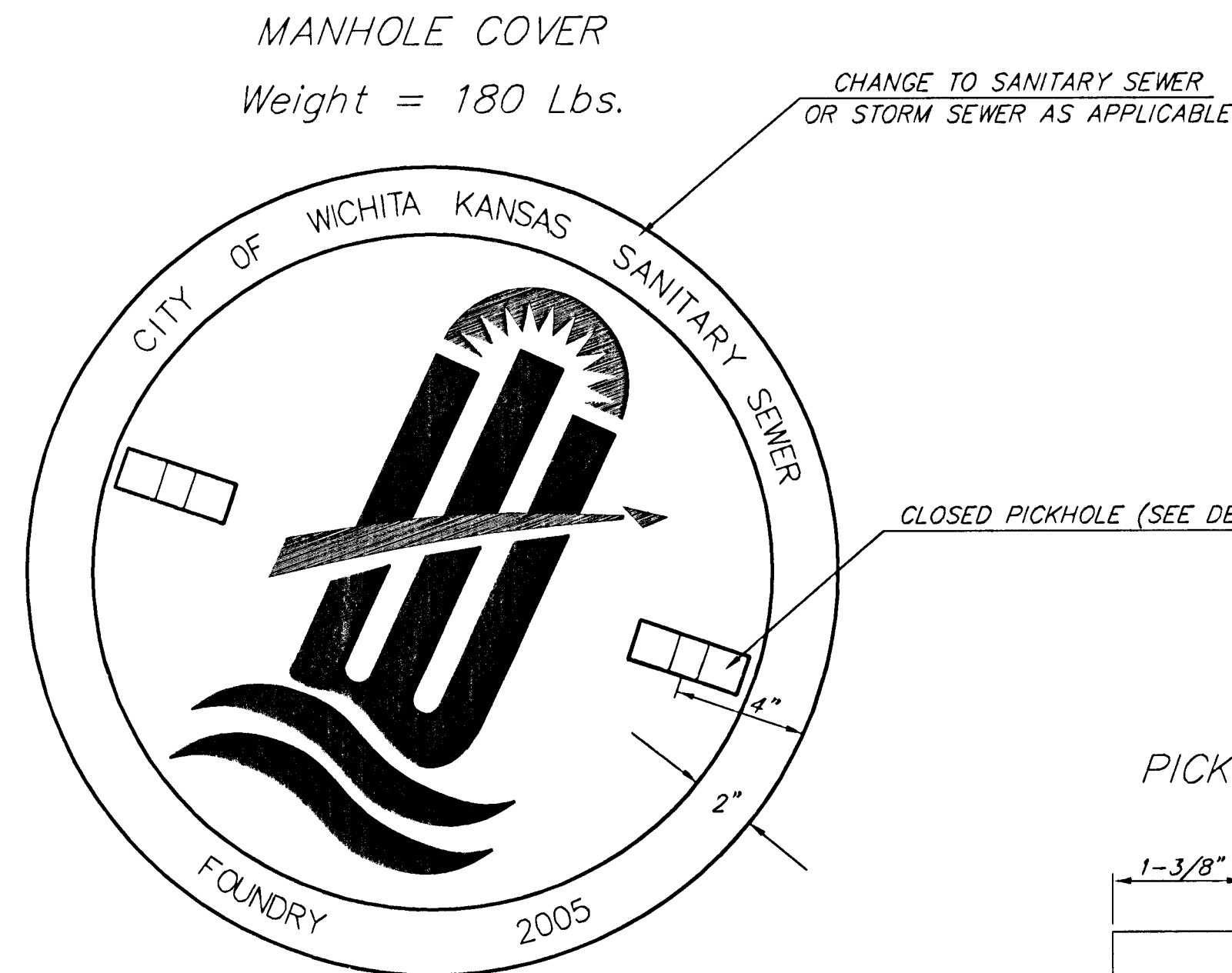
REAR WALL

		City of Wichita Special Type II	
		Curb Inlet Details	
Inlet Opening = 6' x 4'-10 1/8"			
Baughman Company, P.A. 315 Elm St. Wichita, KS 67211 P 316262-7271 F 316262-0149 ENGINEERING SURVEYING PLANNING LANDSCAPE ARCHITECTURE			
PROJECT NUMBER 468-84197	DESIGN C.O.W.	DRAWN Staff	
REVISIONS:	APPROVED	DATE 10/06	
SCALE None		SHEET	
		4 OF 6	
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STANDARD AND LIGHT WEIGHT MANHOLE FRAME AND COVER DETAIL

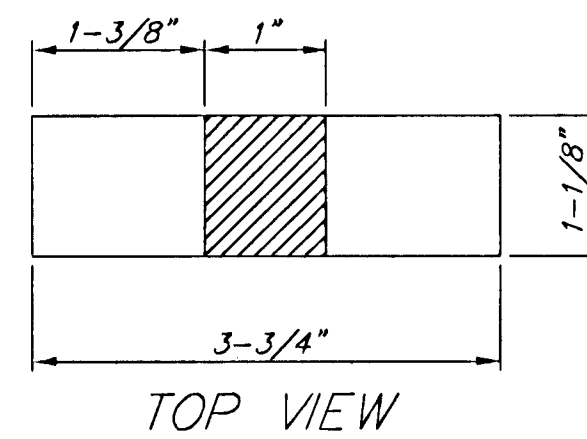
ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

LIGHT WEIGHT
MANHOLE FRAME
Weight = 161 Lbs.

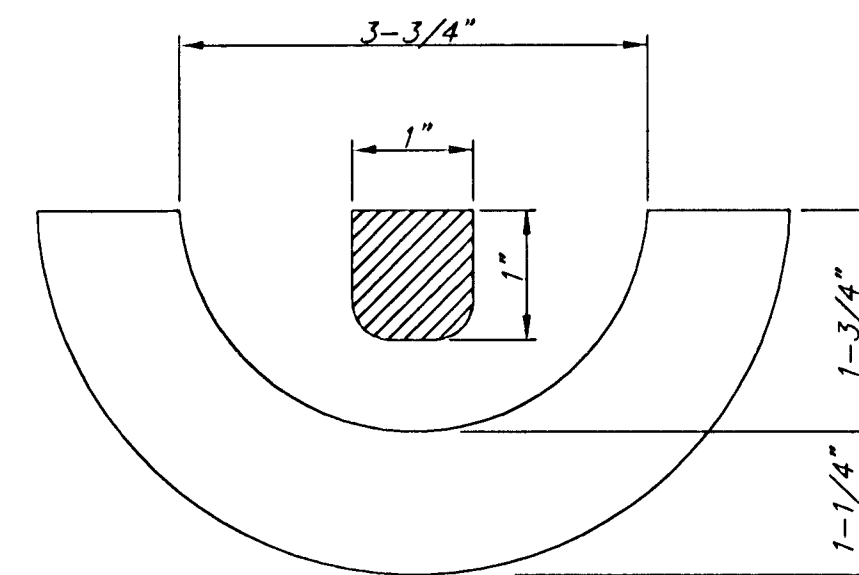


TOP VIEW

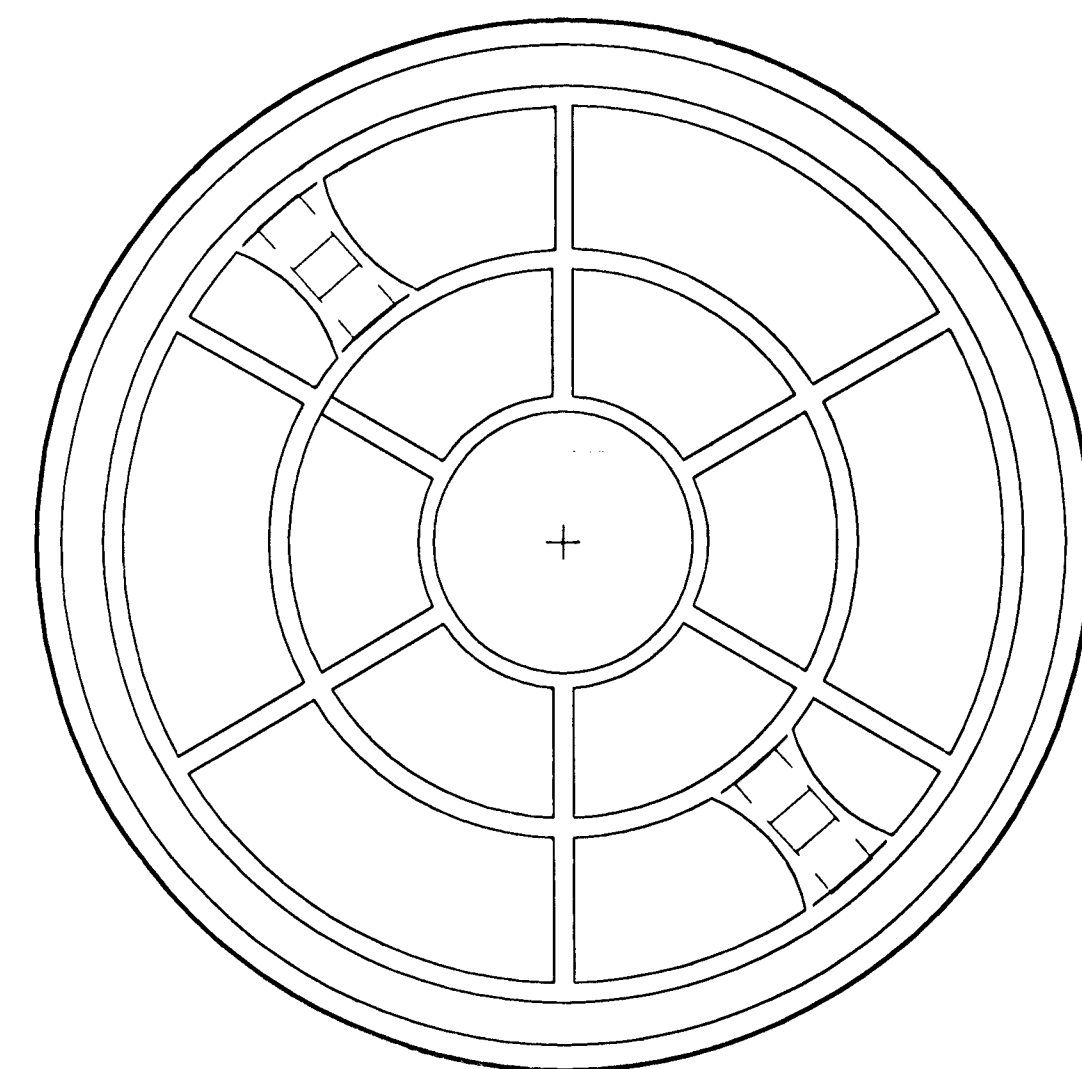
PICKHOLE DETAIL



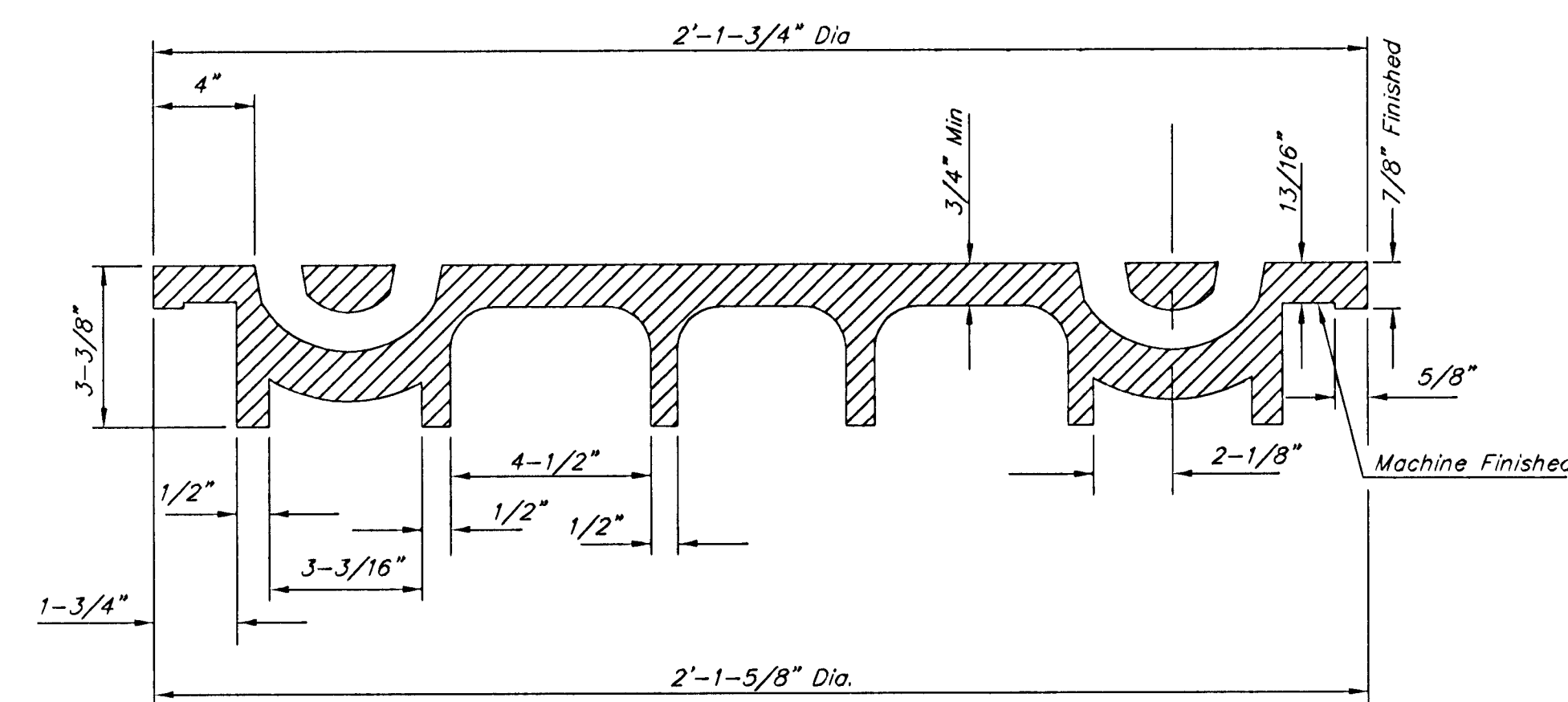
TOP VIEW



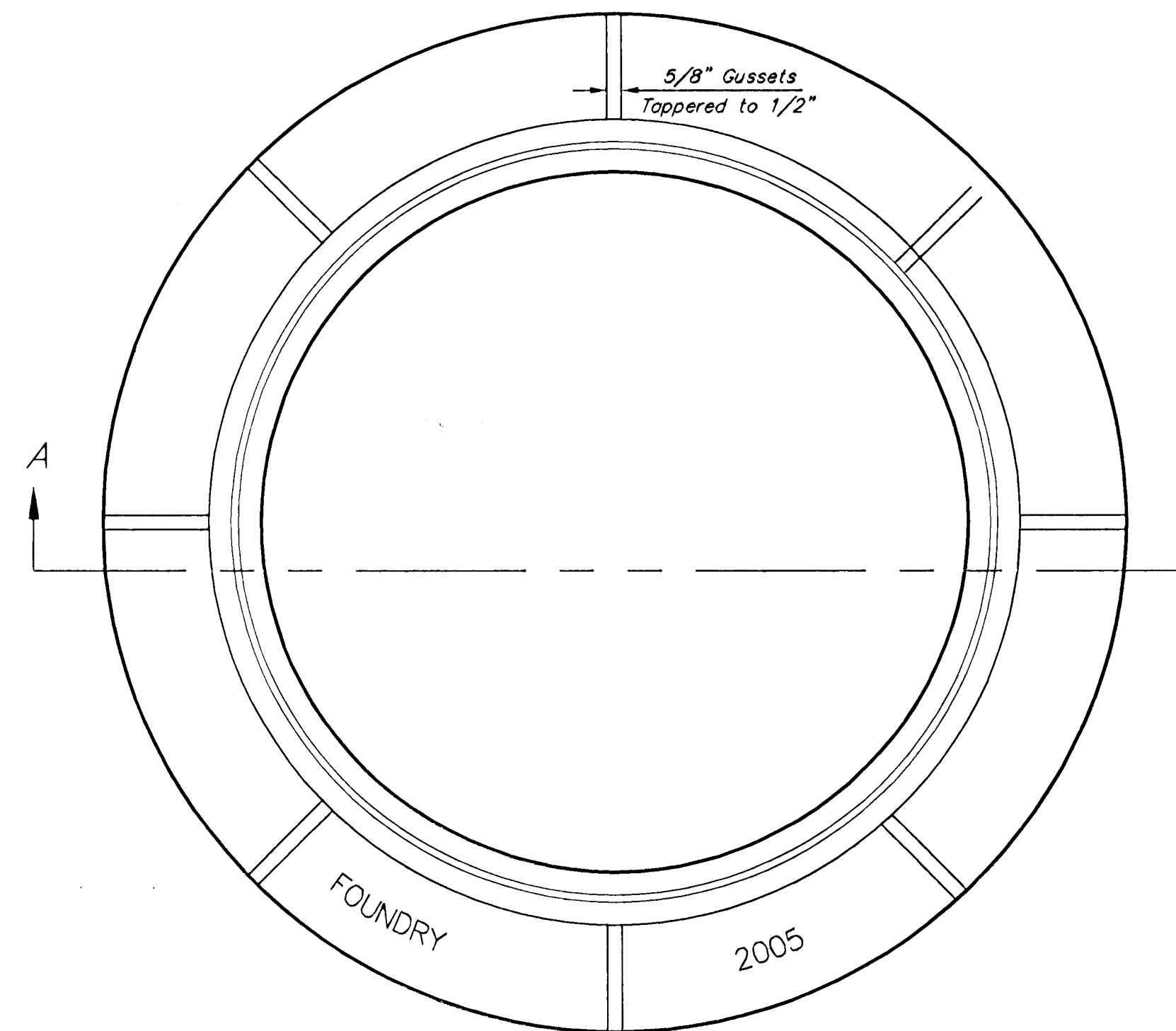
SECTION VIEW



BOTTOM VIEW



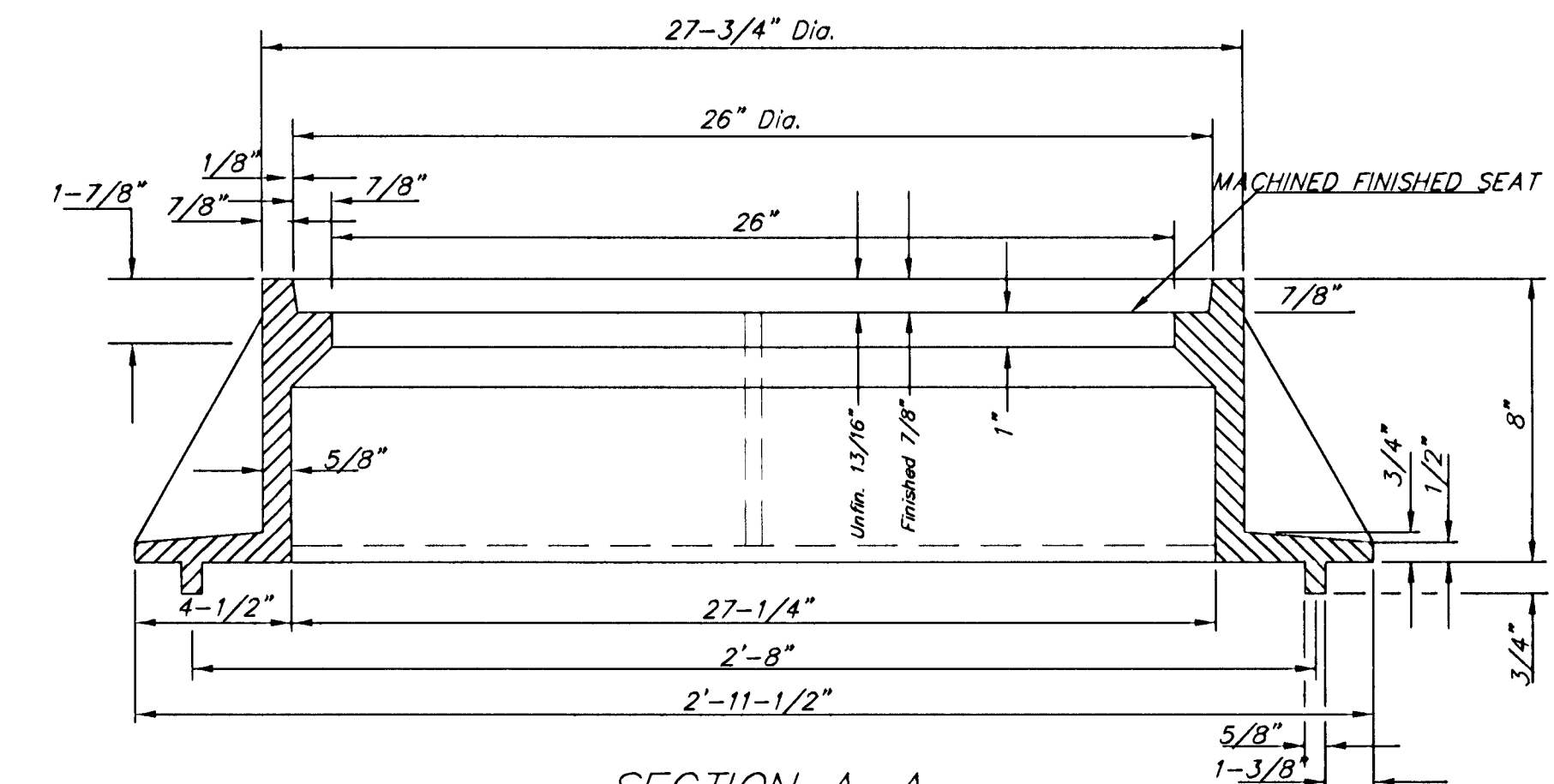
SECTION VIEW



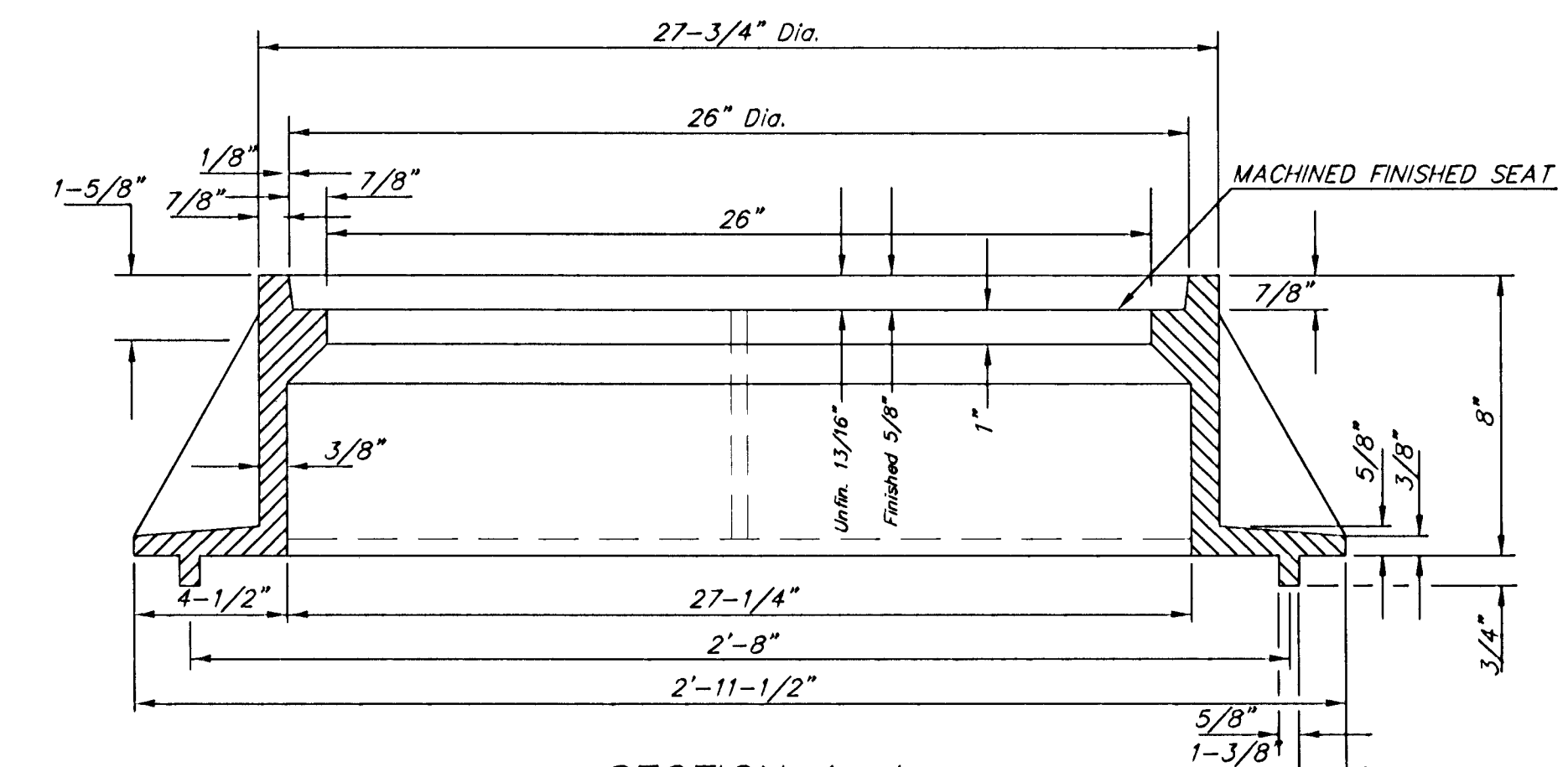
TOP VIEW

GENERAL NOTES

1. MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 50 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.
2. LIGHT WEIGHT MANHOLE CASTINGS SHALL WEIGH A MINIMUM OF 180 POUNDS ON THE SOLID COVER AND 161 POUNDS ON THE MANHOLE RING. THIS IS A TOTAL OF 341 POUNDS ON A RING AND COVER SET. CASTINGS WEIGHING LESS THAN THE MINIMUM SPECIFICATIONS WILL NOT BE ACCEPTED.
3. STANDARD MANHOLE CASTINGS SHALL WEIGH A MINIMUM OF 180 POUNDS ON THE SOLID COVER AND 430 POUNDS ON THE MANHOLE RING. THIS IS A TOTAL OF 610 POUNDS ON A RING AND COVER SET. CASTINGS WEIGHING LESS THAN THE MINIMUM SPECIFICATIONS WILL NOT BE ACCEPTED.
4. 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.
5. 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 THAT THESE SEATING SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.
6. 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 SANITARY SEWER", OR "CITY OF WICHITA STORM SEWER". 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.
7. MANHOLE FRAME WITHOUT MUDRING TO BE USED ONLY ON RECONSTRUCTION PROJECTS WHERE ADDITIONAL CLEARANCE IS NEEDED.



SECTION A-A
STANDARD
MANHOLE FRAME
Weight = 250 Lbs.



SECTION A-A
LIGHT WEIGHT
MANHOLE FRAME
Weight = 161 Lbs.

L:\Sewers\Manhole Frame Cover Light Weight R.dwg

		STANDARD & LIGHT WEIGHT MANHOLE FRAME AND COVER	
		CITY ENGINEER	
JAMES L. ARMOUR, P.E. CITY ENGINEER			
PROJECT NUMBER 468-841967	DCA NUMBER 660516	DATE 10/2006	
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1820 (316) 268-4501 (316) 268-4114 FAX		DESIGN COW	DRAWN COW
		SHEET 5 OF 6	

REV. 3-13-02, MCG



Diagram illustrating a joint to be sawed in two separate operations. The diagram shows a cross-section of a joint between two concrete slabs. The joint is filled with a circular area labeled "Hot Poured Joint Sealant (ASTM D1190)". A "1/2\" Heat Resistant Backer Rod" is shown around the sealant. The top surface is labeled "Pavement Surface". Dimensions are indicated: 3/8\" for the sealant diameter, 1/8\" for the backer rod diameter, and 3/8\" for the sealant depth. The total height of the joint is labeled 0/4. The text "JOINT TO BE SAWED IN TWO SEPARATE OPERATIONS" is written below the diagram.

Diagram illustrating the joint sawing sequence for a concrete joint. The joint width is $3/8"$. The cut depth is $1-3/8"$. The cut spacing is $1/8"$. The diagram shows the 1st Cut, 2nd Cut, and 3rd Cut. The joint is filled with Hot Poured Joint Sealant (ASTM D1190) and a $1/2"$ Heat Resistant Backer Rod. The Pavement Surface is indicated. The diagram also shows Induced Cracking.

JOINT TO BE SAWED IN TWO SEPARATE OPERATIONS

Technical drawing of a metal keyway detail. The drawing shows a cross-section of a metal part with a central keyway. The keyway has a width of 6 inches (labeled "6" and "Typ."). The metal part has a total width of 2-1/2 inches. The keyway is filled with "Wire Fabric". The top surface of the metal part is labeled "Saw Cut 3/8" x 1-3/8" & Seal" and "See 2nd Cut on Detail A". The bottom surface is labeled "Metal Keyway".

Wire Fabric

Saw Cut & Seal See Detail B

$D/3$

$2'-1/2"$

$D/2$

$6"$
Typ.

#4 X 2'-0" Tie Bars @ 30" Ctrs.

Technical drawing of a cross-section of a concrete pile with a metal keyway. The drawing shows a central metal keyway with a width of 6 inches. The pile has a total diameter of D and a wall thickness of $D/2$. The keyway is filled with wire fabric. The keyway is $2\frac{1}{2}$ inches deep. The keyway is made of #4 x 2'-0 inch tie bars at 30-degree centers. The keyway is saw cut $\frac{3}{8}$ inch x $1\frac{3}{8}$ inch and sealed. The drawing is labeled "Typ." for typical.

NOTE: 6" X 12" W4XW4 Wire Fabric Reinforcing Shall Be Placed So That The Wires With The 6" Spacing Will Run Parallel With The Longitudinal Joints.

