SHEET NO.	TOTAL SHEETS
1	7

PLANS FOR CONSTRUCTION OF

PRIVATE STORM WATER SEWER

TO SERVE

LOT 13, BLOCK 2, HORSESHOE LAKE ADDITION

CITY OF WICHITA PRIVATE PROJECT NO. 616PPS (607861)

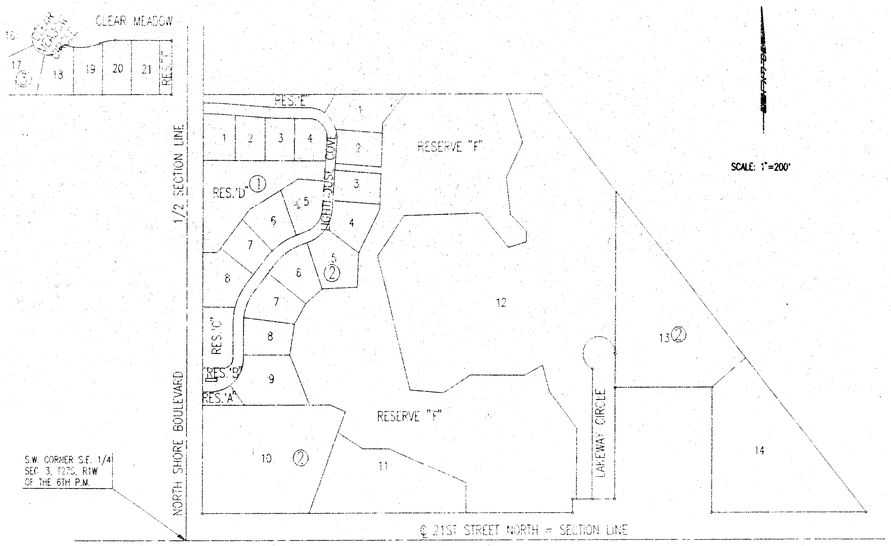
INDEX OF SHEETS

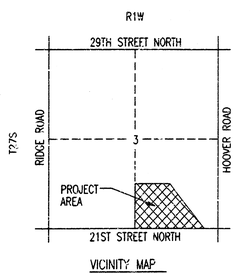
1. TITLE SHEET
2. PLAT
3. PLAN AND PROFILE
4.-7. DETAILS

PROJECT SURVEY CONTROL

B.M. – 60d NAIL IN N.E. FACE OF 12" ELM AT N.W. CORNER LOT 14, BLOCK 2.
ELEV.=134.11

B.M. – RAILROAD SPIKE IN WEST FACE OF 12" ELM 45' S.S.E. OF THE NORTH CORNER OF LOT 13, BLOCK 2
ELEV.=137.88





VICINITY MAP

GENERAL NOTES

1. CONSTRUCTION STAKING TO BE PROVIDED BY THE CONTRACTOR..
2. DEVELOPER TO PROVIDE RIGHT-OF-ACCESS.
3. CONTRACTOR IS RESPONSIBLE FOR CONTACTING KANSAS ONE-CALL AND/OR UTILITY COMPANIES TO OBTAIN FIELD LOCATES. CONTRACTOR IS RESPONSIBLE FOR WORKING AROUND EXISTING UTILITIES IN PLACE. IN THE EVENT OF CONFLICT WITH THE PROPOSED IMPROVEMENTS, CONTACT THE DEVELOPER IMMEDIATELY TO MAKE ARRANGEMENTS TO RESOLVE THE CONFLICT.

   UTILITIES AND THEIR APPURTENANCES, WHERE FOUND, ARE SHOWN ON THE DRAWING, BUT THE LOCATIONS SHOWN ARE NOT GUARANTEED AND OTHER UNDERGROUND UTILITIES MAY BE ENCOUNTERED.
4. RCP SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH CITY OF WICHITA SPECIFICATIONS FOR STORM SEWERS AND DRAINAGE.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE SAFETY CONDITIONS, INCLUDING, BUT NOT LIMITED TO, SHEETING AND/OR SHORING FOR TRENCH EXCAVATIONS AND BARRICADE(S)/BARRIER(S) TO PREVENT UNAUTHORIZED ENTRY.
6. CONSTRUCTION IN OR ALONG PUBLIC STREETS SHALL BE MARKED, SIGNED AND/OR BARRICADED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE WICHITA BARRICADE MANUAL.
7. CONTRACTOR'S WORK SHALL BE GUARANTEED FOR ONE YEAR AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP.
8. DISTURBED RIGHT-OF-WAY TO BE SEEDED BY THE CONTRACTOR..

MICHAEL W. REARY LICENSED 9989 KANSAS PROFESSIONAL ENGINEER

FEBRUARY, 1996

PLANS PREPARED BY
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA

SANITARY SEWERS _____
STORM SEWERS VRH 3/8/96
DRIVEWAY APPROACHES _____
WATER MAINS _____
PAVING _____

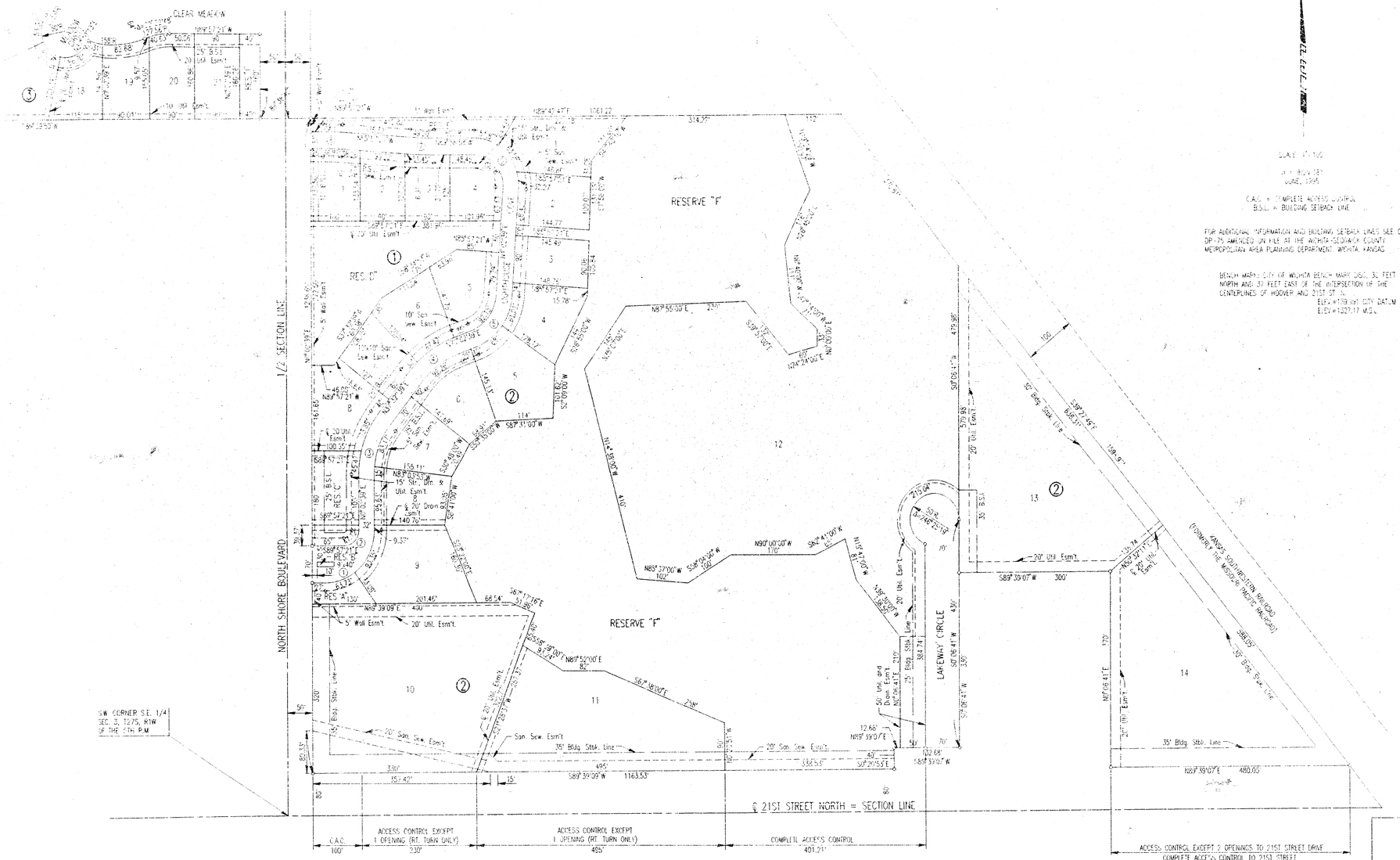
NOTE TO CONTRACTOR

INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM UNDER CONTRACT WITH THE OWNER/DEVELOPER. SAID INSPECTION TO BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD CONSTRUCTION ENGINEERING PRACTICES AND CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. NO WORK SHALL BE PERFORMED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY BY THE CONTRACTOR WITHOUT SUCH INSPECTION NOR SHALL ANY WORK BE COMMENCED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN AUTHORIZATION BY THE CITY ENGINEER.

SHEET NO.	TOTAL SHEETS
1	7

HORSESHOE LAKE

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS



SCALE: 1" = 100'

BASIS OF BEARINGS:
GRID NORTH
KANSAS STATE PLANE COORDINATE SYSTEM
SOUTH ZONE, 1983

C.A.C. = COMPLETE ACCESS CONTROL
B.S.L. = BUILDING SETBACK LINE

FOR ADDITIONAL INFORMATION AND BUILDING SETBACK LINES SEE D.R.P. DP-75 AMENDED ON FILE AT THE WICHITA-SEDGWICK COUNTY METROPOLITAN AREA PLANNING DEPARTMENT, WICHITA, KANSAS

BENCH MARK: CITY OF WICHITA BENCH MARK DISC, 3½ FEET NORTH AND 37 FEET EAST OF THE INTERSECTION OF THE CENTERLINES OF HOOVER AND 21ST ST. N.
ELEV.=1359.(est) CITY DATUM
ELEV.=1327.17 M.S.L.

CURVE NO. 1
100.00'R
Δ=90°00'00"
157.08'

CURVE NO. 2
20.00'R
Δ=180°00'00"
62.83'

CURVE NO. 3
150.00'R
Δ=7°39'20.07"
20.05'

CURVE NO. 4
175.00'R
Δ=37°39'00"
115.03'

CURVE NO. 5
83.00'R
Δ=47°02'00"
68.12'

CURVE NO. 6
58.00'R
Δ=344°21'33"
348.60'

CURVE NO. 7
700.00'R
Δ=6°41'37"
81.75'

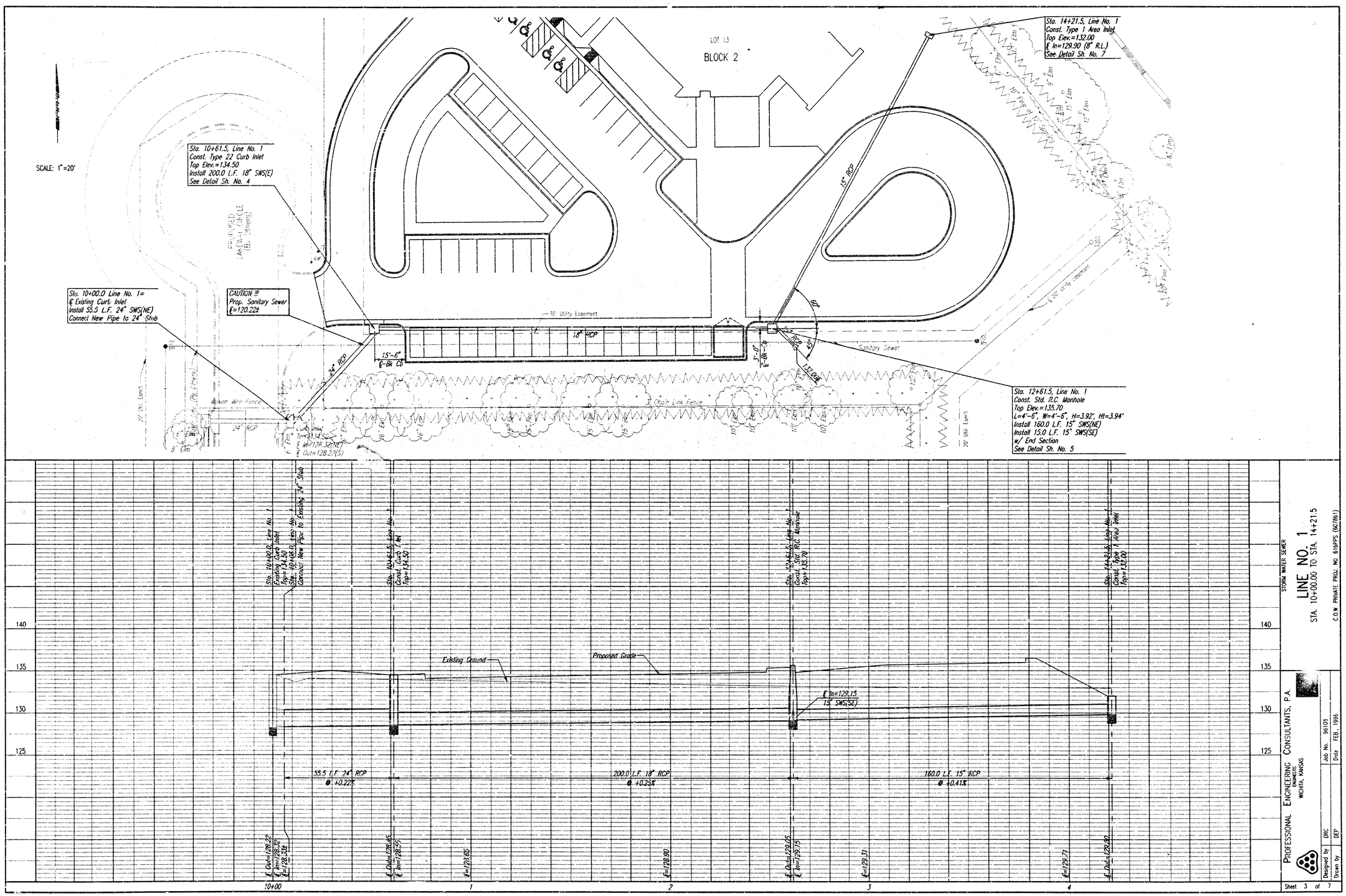
CURVE NO. 8
525.00'R
Δ=4°20'00"
39.74'

STORM WATER SEWER

PLAT

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by		Checked by	
Drawn by	DEP	Date FEB., 1996	Job No. 96108



STORM WATER SEWER

LINE NO. 1

STA. 10+00.00 TO STA. 14+21.5

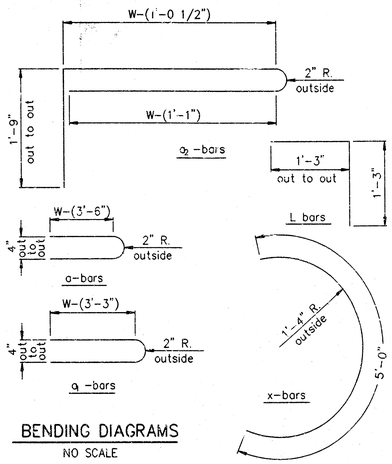
C.O.W. PRIVATE PROJ. NO. 616PPS (607861)

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

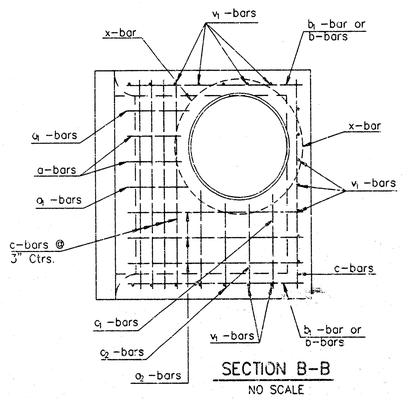
Designed by	DRC
Drawn by	DEP
Job No.	96103
Date	FEB., 1996

Sheet 3 of 7

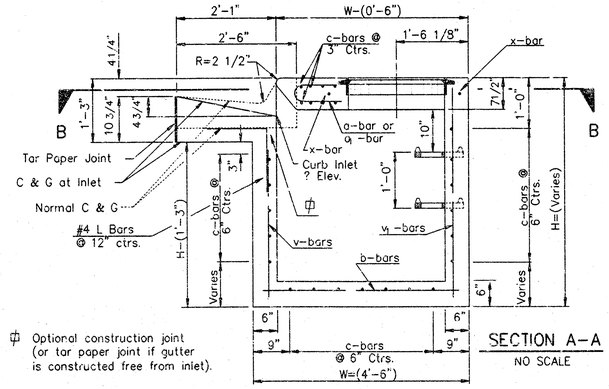
SHEET NO.	TOTAL SHEETS
4	7



BENDING DIAGRAMS
NO SCALE

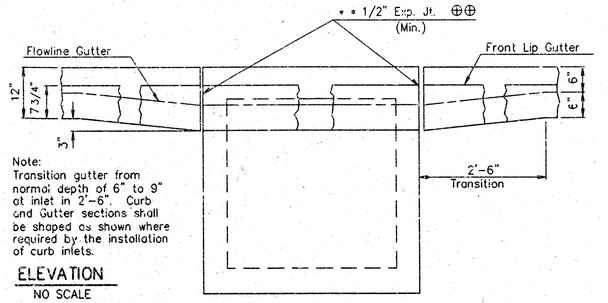


SECTION B-B
NO SCALE



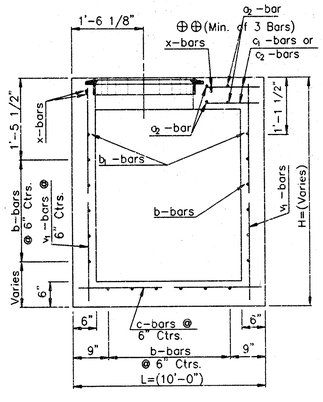
Optional construction joint (or tar paper joint if gutter is constructed free from inlet).

SECTION A-A
NO SCALE

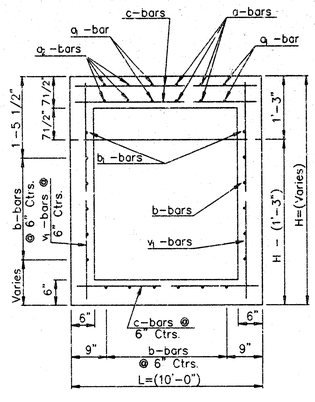


Note:
Transition gutter from normal depth of 6" to 9" at inlet in 2'-6" Curb and Gutter sections shall be shaped as shown where required by the installation of curb inlets.

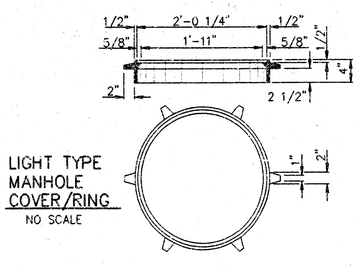
ELEVATION
NO SCALE



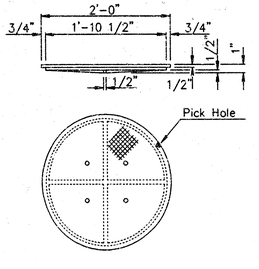
SECTION C-C
NO SCALE



SECTION D-D
NO SCALE



LIGHT TYPE MANHOLE COVER/RING
NO SCALE



CAST IRON MANHOLE RING
Weight = 53 lbs.

CAST IRON MANHOLE COVER
Weight = 64 lbs.

GENERAL NOTES

CONCRETE SHALL BE AS DESCRIBED IN THE SPECIFICATIONS. ALL EXPOSED EDGES SHALL BE FINISHED WITH AN APPROVED EDGING TOOL.

REINFORCING STEEL SHALL BE A MINIMUM GRADE 40, A.S.T.M. A615. ALL DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO THE CENTERLINE OF BARS UNLESS OTHERWISE NOTED. ALL BARS ARE #4 BARS @ 6" SPACING AND SHALL HAVE A MINIMUM CLEARANCE OF 1 1/2" UNLESS SHOWN OTHERWISE ON THE PLANS.

INLET 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 EFFECTS.

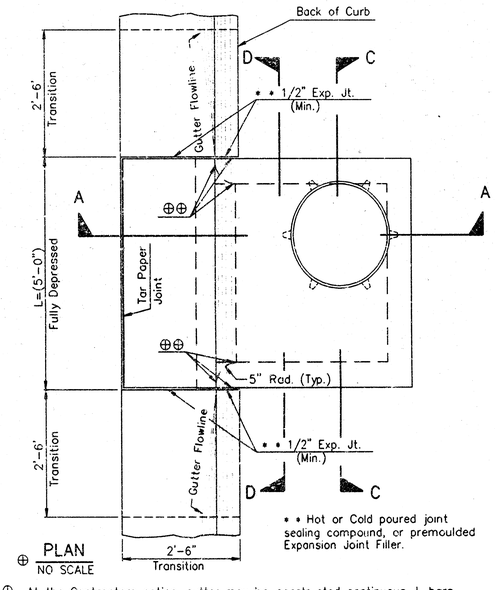
INLET FLOOR SHALL BE SHAPED WITH UNREINFORCED CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.

IF THE INLET SUBGRADE APPEARS UNSTABLE, THE CONTRACTOR WILL HAVE THE OPTION TO COMPACT THE SUBGRADE OR INCREASE THE THICKNESS OF THE INLET BASE.

ALL INLET CONSTRUCTION SHALL BE WATERTIGHT.

TOP OF INLET FLOOR SLAB SHALL BE SET AT LEAST 3" BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF THE SHAPED INVERT.

CAST IRON STEPS SHALL BE INSTALLED IN ALL CURB INLETS THAT ARE MORE THAN 6' DEEP FROM THE TOP OF THE INLET TO THE INLET FLOOR.



* * Hot or Cold poured joint sealing compound, or premoulded Expansion Joint Filler.

PLAN
NO SCALE

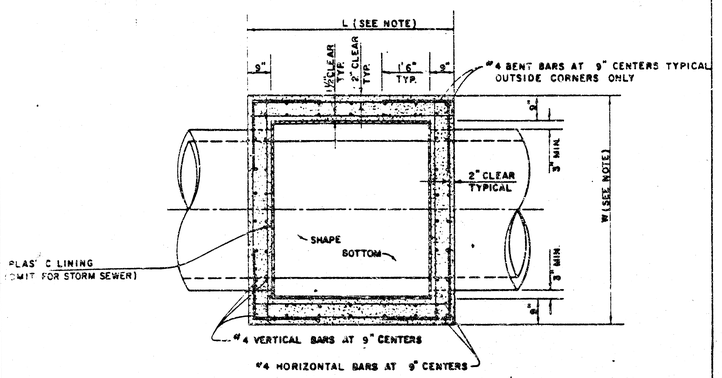
⊕ At the Contractors option, gutter may be constructed continuous, L bars omitted, and a 1/2" Expansion Joint installed between gutter and face of inlet and between curb and side of inlet with a tar paper joint between bottom of gutter and top of wall. In this method of construction, the inlet shall be completely free of the gutter and curb.

STORM WATER SEWER

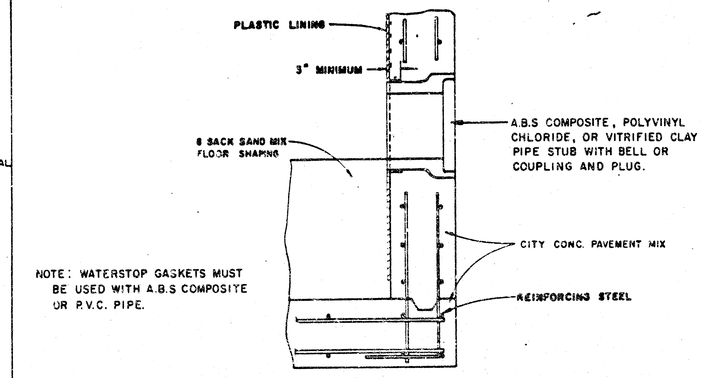
TYPE 22 CURB INLET DETAILS

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	DRC	Checked by	
Drawn by	DEP	Date FEB., 1996	Job No. 96108

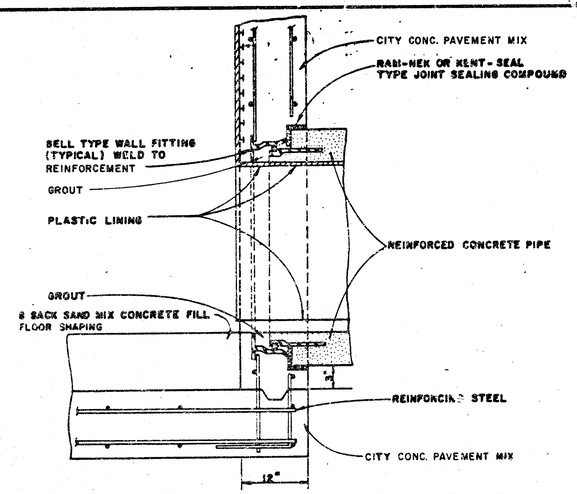


TOP VIEW

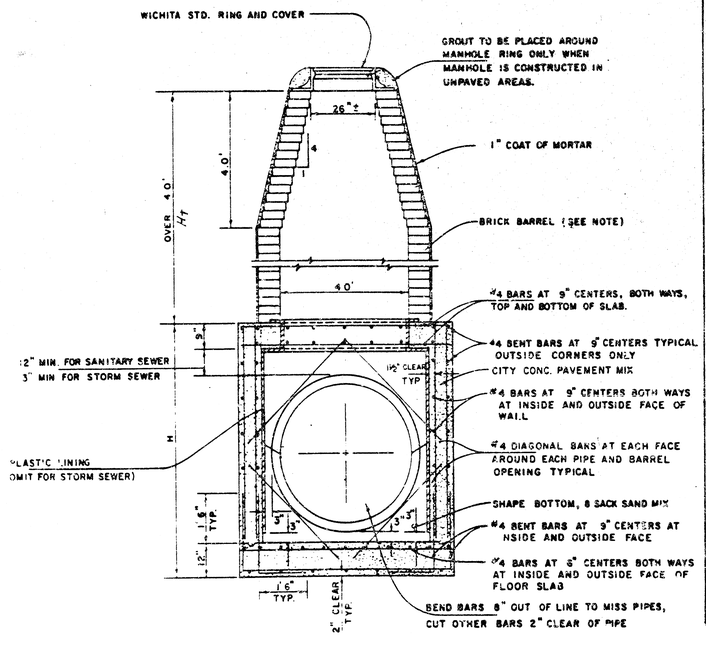


NOTE: WATERSTOP GASKETS MUST BE USED WITH A.B.S COMPOSITE OR P.V.C. PIPE.

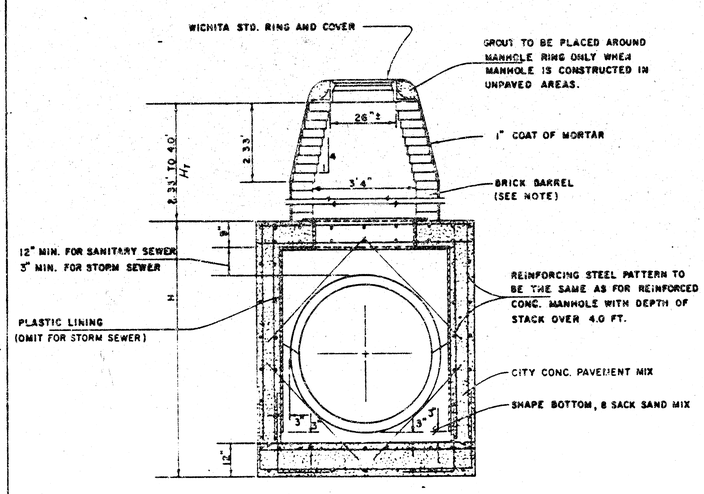
PIPE STUB DETAIL
SANITARY SEWER ONLY



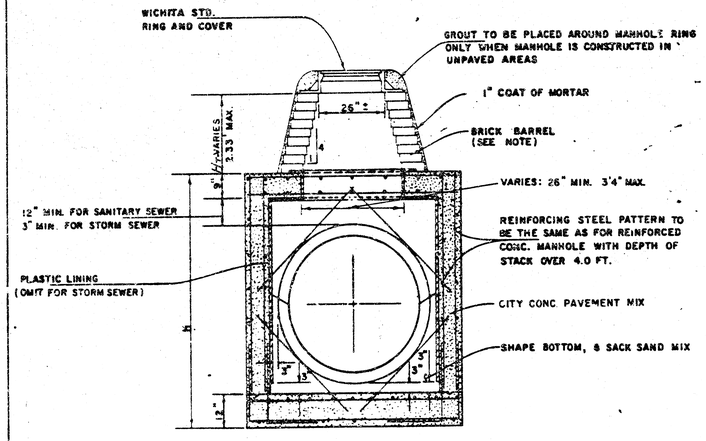
R.C.P. CONNECTION DETAIL
SANITARY SEWER ONLY



REINFORCED CONCRETE MANHOLE
DEPTH OF STACK: OVER 4.0'
SCALE 1" = 2'



REINFORCED CONCRETE MANHOLE
DEPTH OF STACK: 2.33' TO 4.0'
SCALE 1" = 2'



REINFORCED CONCRETE MANHOLE
DEPTH OF STACK: 0' TO 2.33'
SCALE 1" = 2'

NOTE:
BRICK BARRELS LESS THEN 16' DEEP SHALL HAVE 8" WALLS EXCEPT WHEN LOCATED WITHIN PUBLIC STREET OR ALLEY PAVEMENT THEN THE WALL SHALL BE 12" BRICK BARRELS MORE THEN 16' DEEP SHALL HAVE 12" WALLS. THE "L" AND "W" DIMENSIONS SHALL BE A MINIMUM OF 5'6" FOR BRICK BARRELS WITH 8" WALLS AND 6'2" FOR BRICK BARRELS WITH 12" WALLS WHEN THE BRICK BARRELS ARE OVER 4 FT. IN HEIGHT. COMLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATERTIGHT.

REVISIED 1-7-85

STANDARD DETAILS
REINFORCED CONCRETE MANHOLES
CITY OF WICHITA

FEBRUARY 1984

MANHOLE FRAME AND COVER DETAIL

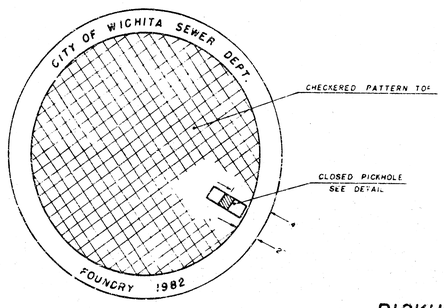
ADOPTED AS STANDARD DESIGN

BY

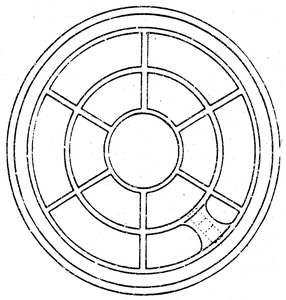
City of Wichita, Kansas

MANHOLE COVER

Weight: 180 Lbs.

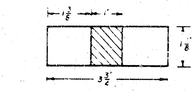


TOP VIEW

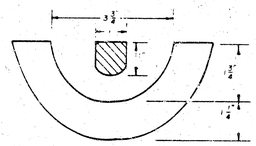


BOTTOM VIEW

PICKHOLE DETAIL



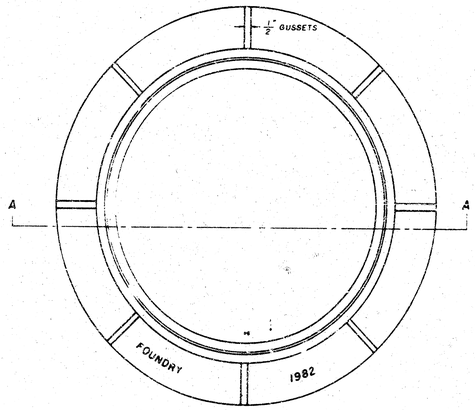
TOP VIEW



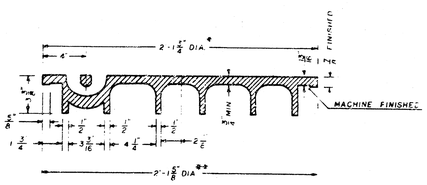
SECTION VIEW

MANHOLE FRAME

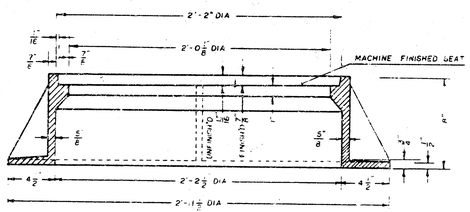
Weight: 240 Lbs.



TOP VIEW



SECTION VIEW



SECTION A-A

* OUTSIDE DIA TOP OF COVER

** OUTSIDE DIA BOTTOM OF COVER

GENERAL NOTES

1. 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.

2. 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.

3. 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 SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.

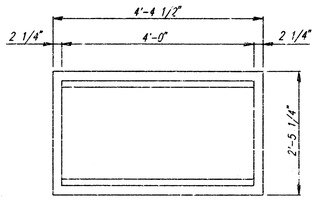
4. THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1" IN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SEWER 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.

DEC. 1981

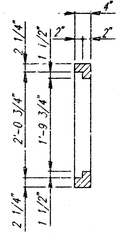
REVISED MAY 1993

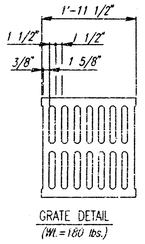
6/7

SHEET NO	TOTAL SHEETS
7	7

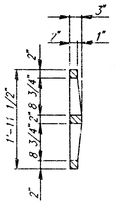


FRAME DETAIL
(Wt.=460 lbs.)





GRATE DETAIL
(Wt.=180 lbs.)



GENERAL NOTES

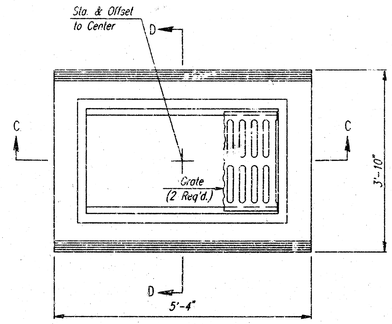
CONCRETE SHALL BE C.O.W. STANDARD PAVING MIX. ALL EXPOSED EDGES SHALL BE FINISHED WITH AN APPROVED EDGING TOOL.

REINFORCING STEEL SHALL BE A MINIMUM GRADE 40, A.S.T.M. A615. ALL DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO THE CENTERLINE OF BARS UNLESS OTHERWISE NOTED.

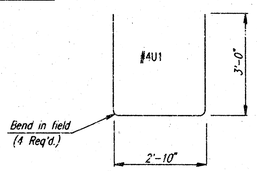
INLET CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED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

CONSTRUCTION REQUIREMENTS AND MATERIALS FOR MASONRY WALLS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

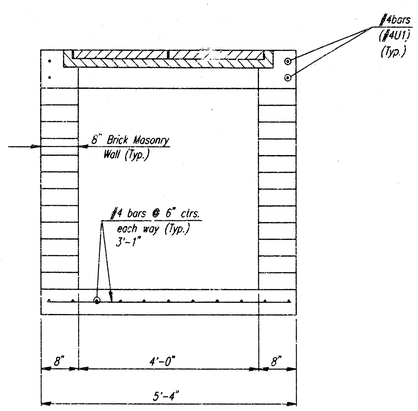
INLET FLOOR SHALL BE SHAPED WITH UNREINFORCED CONCRETE (8 SACK SAND MIX) TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.



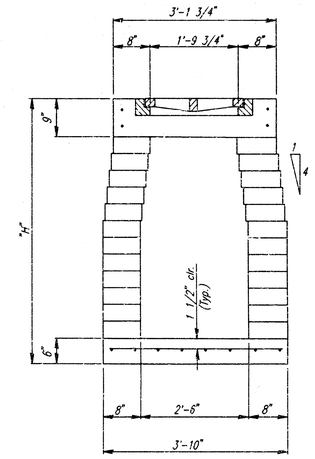
PLAN



BENDING DIAGRAM



SECTION C-C



SECTION D-D

AREA INLET

STORM WATER SEWER

TYPE 1 AREA INLET DETAILS

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	DRC	Checked by	
Drawn by	DEP	Date FEB., 1996	Job No. 96108

17-3-13