STORM WATER SEWER IMPROVEMENTS

TO SERVE

LOT 5, BLOCK 1, THE COLLECTIVE ADDITION

JOHNSTON'S CLOTHIERS

CITY OF WICHITA PRIVATE PROJECT NO. 1387 PPS (607861)

CITY OF WICHITA, KANSAS

JAMES ARMOUR, P.E.-CITY ENGINEER

INDEX OF SHEETS

SU1.1	TITLE SHEET
SU1.2	SWS PLAN
SU1.3	P.C.MANHOLE
SU1.4	TYPE 1A CURB INLET
SU1.5	AREA INLET DETAILS
SG2.6	PLAT
SG2.1	SOIL EROSION BMP DETAILS COMMERCIAL
SG2.2	SOIL EROSION BMP DETAILS
SG2.3	SOIL EROSION BMP DETAILS
SG2.4	SOIL EROSION BMP DETAILS

APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA

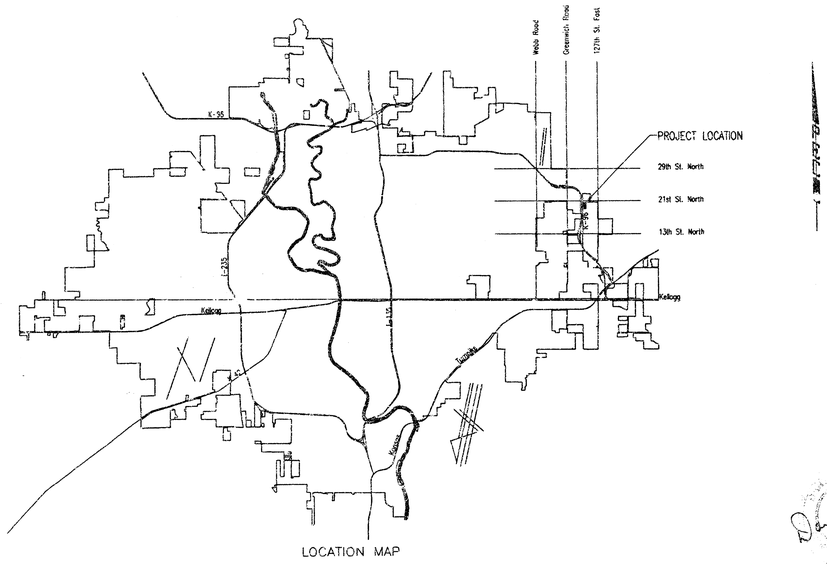
SANITARY SEWERS _____

STORM SEWERS VRH 9/23/04 *Note: replaces set submitted 10/30/03 JDL

DRIVEWAY APPROACHES _____

WATER MAINS _____

PAVING _____



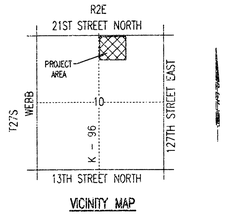
LOCATION MAP

NOTE TO CONTRACTOR

INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM CONTRACTED BY THE CONTRACTOR. 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 UNTIL SUCH INSPECTION IS ARRANGED FOR AND REQUIRED BONDS HAVE BEEN SUBMITTED TO AND APPROVED BY THE CITY NOR SHALL ANY WORK BE COMMENCED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN AUTHORIZATION BY THE CITY ENGINEER. IMPROVEMENTS PERFORMED UNDER THIS PROJECT SHALL NOT BE ACCEPTED BY THE CITY UNTIL ALL APPLICABLE DOCUMENTATION HAS BEEN SUBMITTED TO THE CITY ENGINEER. THIS MAY INCLUDE: AS-BUILT DRAWINGS, INSPECTION LOGS, TEST DOCUMENTATION, TV TAPES, AND A CERTIFICATE OF COMPLETION.

AS-BUILT
1/10/05
Date
Signed

Daniel A. Smith
9-24-04



VICINITY MAP

SEPTEMBER 2004

PLANS PREPARED BY

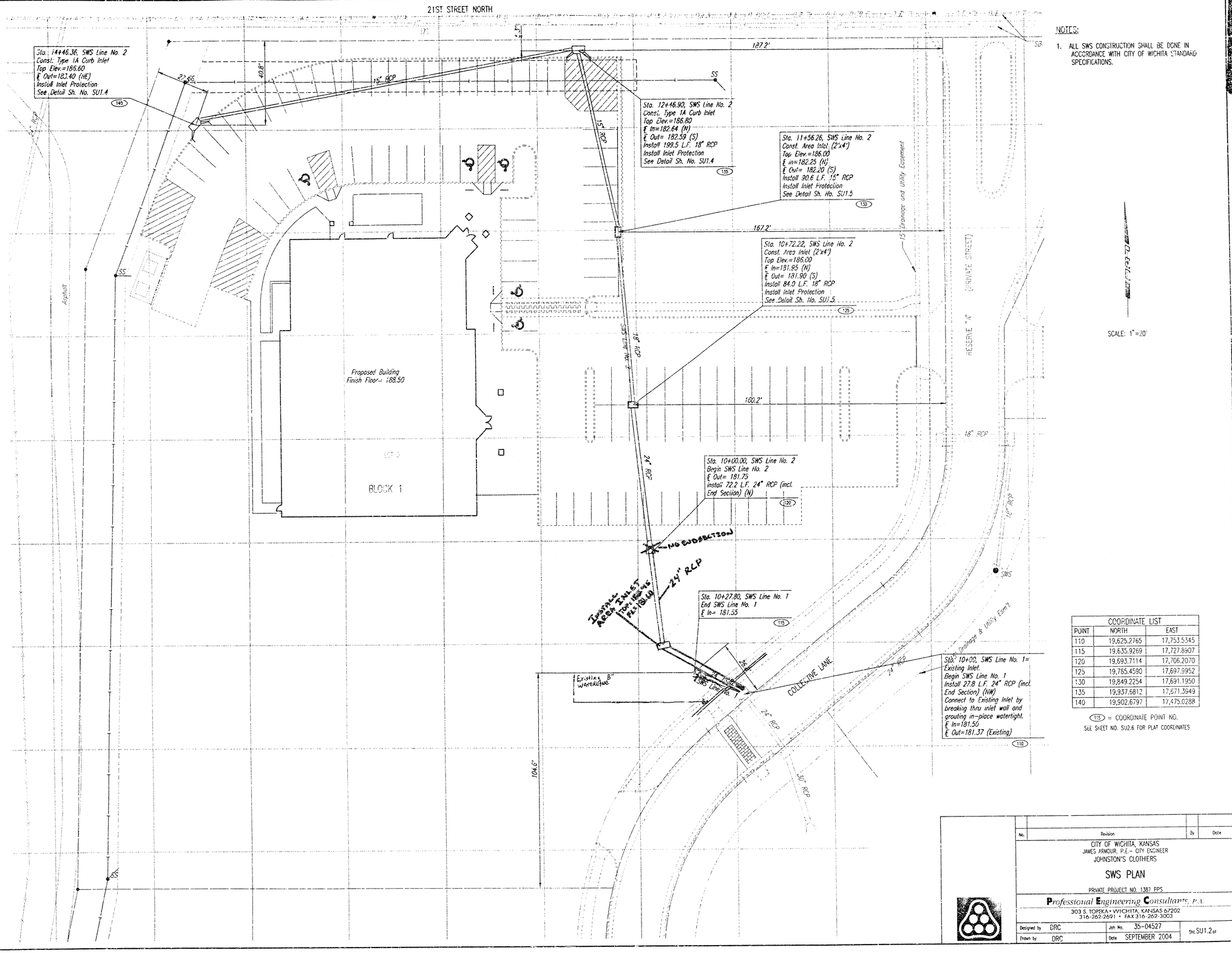
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

ENGINEERS

WICHITA, KANSAS

DSNR: DAR OPER: DAR SCALE: 1=1.00
O:\2004\04-527\PAVE DRAIN SHADE\SWSTITLE 09-22-2004 02:37:14 pm

21ST STREET NORTH



NOTES:

1. ALL SWS CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH CITY OF WICHITA STANDARD SPECIFICATIONS.

SCALE: 1"=20'

COORDINATE LIST		
POINT	NORTH	EAST
110	19,625.2765	17,753.5345
115	19,635.9269	17,727.8907
120	19,693.7114	17,706.2070
125	19,765.4590	17,697.9952
130	19,849.2254	17,691.1950
135	19,937.6812	17,671.3949
140	19,902.6797	17,475.0288

(115) = COORDINATE POINT NO.

SEE SHEET NO. SU2.6 FOR PLAT COORDINATES

No.	Revision	By	Date

CITY OF WICHITA, KANSAS
JAMES ARMOUR, P.E.- CITY ENGINEER
JOHNSTON'S CLOTHIERS

SWS PLAN

PRIVATE PROJECT NO. 1387 PPS

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

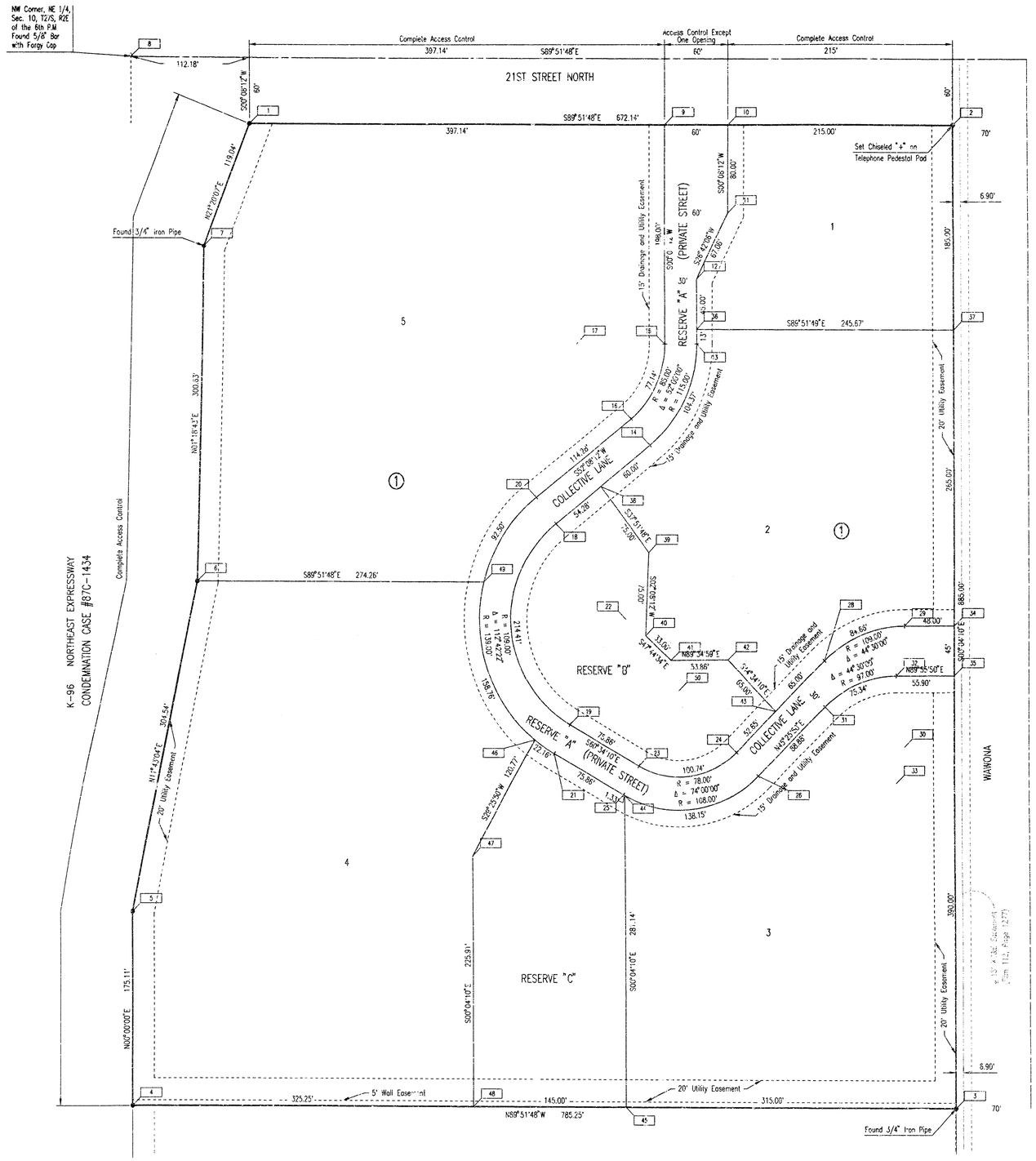
Designed by	DRC	Job No.	35-04527
Drawn by	DRC	Date	SEPTEMBER 2004

Sht. SU1.2 of

DSNR: DAR OPER: DAR SCALE: 1=20.00
G:\2004\04527\PAVE DRAIN GRADE\SWSPLAN 09-24-2004 09:31:42 am

THE COLLECTIVE

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS



B.M. – STEPPED SPIKE IN NORTH SIDE OF POWER POLE ON SOUTHWEST CORNER OF 21ST STREET NORTH AND WAHONA, 779' EAST AND 48' SOUTH OF NORTH 1/4 CORNER, SECTION 10, T27S, R2E.

ELEV. = 1,384.72 N.G.V.D.
ELEV. = 197.32 (CITY DATUM)

SCALE : 1" = 50'

• = 3/4" IRON PIPE W/PEC CAP UNLESS OTHERWISE NOTED

COORDINATE LIST		
POINT	NORTH	EAST
1	19,594.3.5236	17,461.4443
2	19,941.9203	18,133.5811
3	19,056.9178	18,134.6538
4	19,058.7906	17,349.4034
5	19,233.9008	17,349.4035
6	19,332.0921	17,411.2517
7	19,832.6417	17,418.1345
8	20,003.7910	17,349.4060
9	19,942.5763	17,858.5819
10	19,942.4332	17,918.5817
11	19,862.4334	17,918.3909
12	19,802.5051	17,888.2479
13	19,744.5053	17,088.1095
14	19,653.9898	17,843.6946
15	19,744.5769	17,858.1096
16	19,677.6741	17,825.2812
17	19,744.7796	17,773.1099
18	19,583.8478	17,753.4743
19	19,402.8611	17,766.8.72
20	19,607.5322	17,755.0609
21	19,376.7325	17,752.0761
22	19,497.7948	17,820.3763
23	19,365.5855	17,832.8883
24	19,377.9525	17,925.9534
25	19,339.4569	17,818.1473
26	19,356.5805	17,947.6066
27	19,433.5197	17,871.2151
28	19,460.5142	18,009.7654
29	19,491.8625	18,086.1266
30	19,382.8626	18,086.2587
31	19,418.9559	18,010.3266
32	19,446.8530	18,078.2810
33	19,349.8530	18,078.3986
34	19,491.9207	18,134.1265
35	19,446.9207	18,134.1811
36	19,757.5053	17,888.1405
37	19,756.9205	18,133.8053
38	19,617.1629	17,796.3259
39	19,557.9522	17,842.3595
40	19,483.0043	17,839.5632
41	19,460.8131	17,863.9876
42	19,461.2080	17,917.8441
43	19,414.8990	17,963.4594
44	19,338.8094	17,819.3117
45	19,057.6692	17,819.6525
46	19,389.1125	17,733.7210
47	19,283.9272	17,574.3782
48	19,058.0150	17,674.6520
49	19,531.4379	17,685.5092
50	19,433.5197	17,871.2151

1 = COORDINATE POINT NO.

No.	Revision	By	Date

CITY OF WICHITA, KANSAS
JAMES ARMOUR, P.E. – CITY ENGINEER
JOHNSTON'S CLOTHIERS

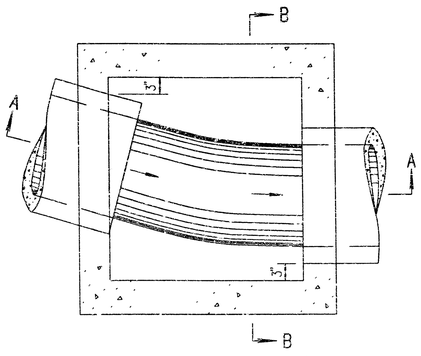
PLAT

PRIVATE PROJECT NO. 1387 PPS

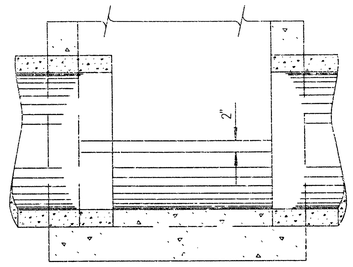
Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

Designed by DRC	Job No. 35-04527	SHT. SU2.6 of
Drawn by DRC	Date SEPTEMBER 2004	

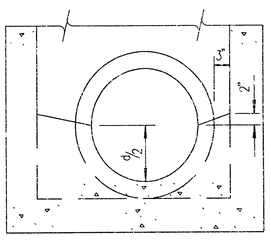
!SNR: DAR OPER: DAR SCALE: 1=50.00
O:\2004\04527\PAVE DRAIN GRADE\PLAT 09-24-2004 09:33:47 am



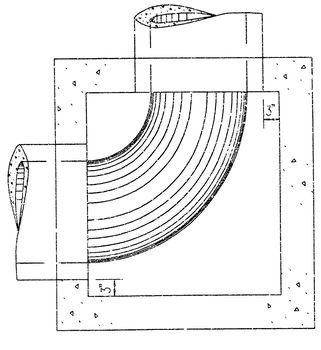
PLAN – FLOOR (Example I)



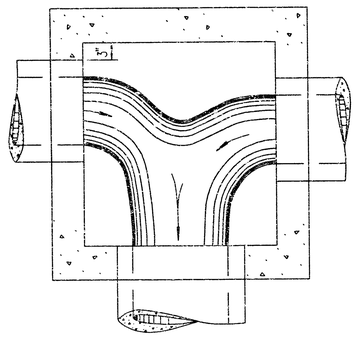
SECTION A–A (Example I)



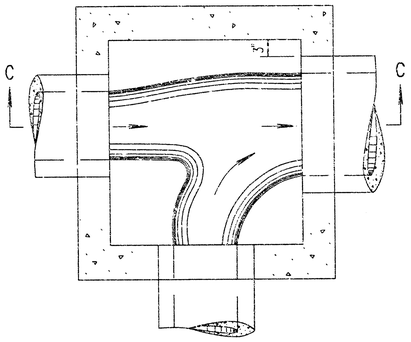
SECTION B–B (Example I)



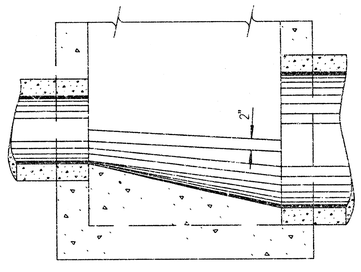
PLAN – FLOOR (Example II)



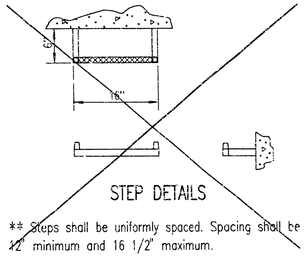
PLAN – FLOOR (Example III)



PLAN – FLOOR (Example IV)

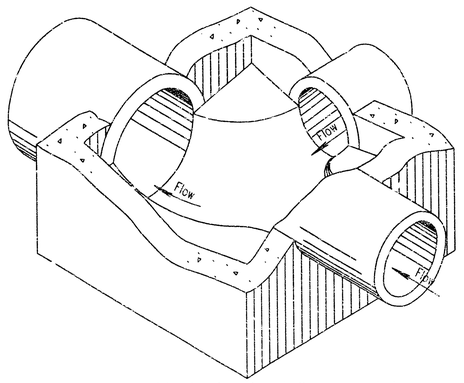


SECTION C–C (Example IV)



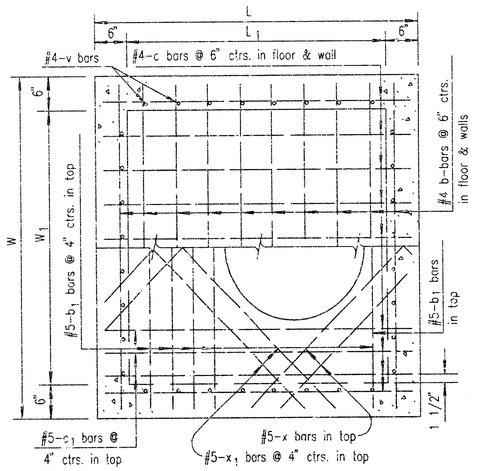
STEP DETAILS

** Steps shall be uniformly spaced. Spacing shall be 12" minimum and 16 1/2" maximum.

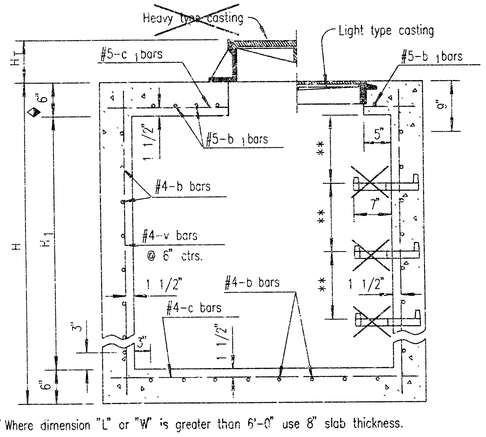


Floor of manhole shall be shaped as shown in the examples to increase hydraulic efficiency.

ISOMETRIC VIEW (Example IV)



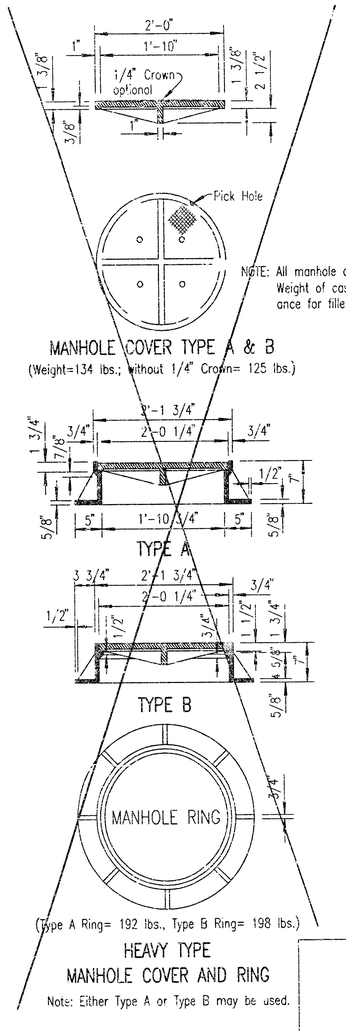
PLAN (Showing top & floor reinf.)



◆ Where dimension "L" or "W" is greater than 6'-0" use 8" slab thickness.

SECTION (Exclusive of floor shaping)

Note: Use 3000 p.s.i Concrete throughout. All exposed edges shall be finished with an edging tool.
At the contractors option, the mix used in concrete pavement may be used throughout.
In general, pipes will enter and leave manhole at various positions. Where possible bend bars around pipes.
Floor of manhole shall be shaped as shown in various "EXAMPLES" with unreinforced 3000 p.s.i. Concrete.
Manhole opening and steps, where used, shall be placed to afford easy access to top of shaped invert.
Top reinforcing bars shall be adjusted accordingly.
All castings shall be gray iron and shall comply with the KDOT Standard Specifications.
No deductions in concrete quantities shall be made for pipe openings or additions to concrete quantities shall be made for shaping floor of manholes.
The top of the manhole shall be sloped slightly to approximately fit the ground line or other condition as directed by the Engineer.
Dimensions and weights of cast iron as shown on this sheet are minimum. Larger dimensions and/or heavier weights of cast iron may be used.
The Contractor has the option of using precast manholes, as approved by the Engineer.
~~Steps shall be installed in all manholes when specified in the plans or when "H" is equal to or greater than six feet. Steps shall comply with the requirements of the KDOT Standard Specification.~~



NOTE: All manhole castings are cast iron. Weight of castings includes no allowance for fillets and overruns.

MANHOLE COVER TYPE A & B
(Weight=134 lbs.; without 1/4" Crown= 125 lbs.)

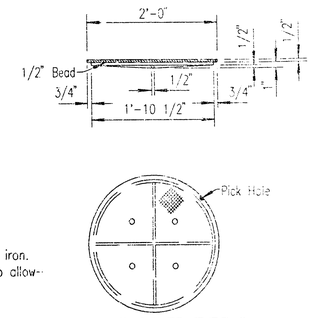
TYPE A

TYPE B

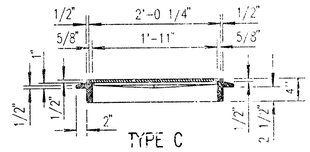
(Type A Ring= 192 lbs., Type B Ring= 198 lbs.)

HEAVY TYPE
MANHOLE COVER AND RING

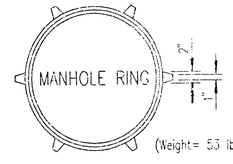
Note: Either Type A or Type B may be used.



MANHOLE COVER TYPE C
(Weight= 64 lbs.)



TYPE C



(Weight= 53 lbs.)

*LIGHT TYPE
MANHOLE COVER & RING

*Rings with four equally spaced lugs will be permitted.

NOTE: DETAIL ADAPTED FROM KDOT STANDARD DETAIL

No.	Revision	By	Date

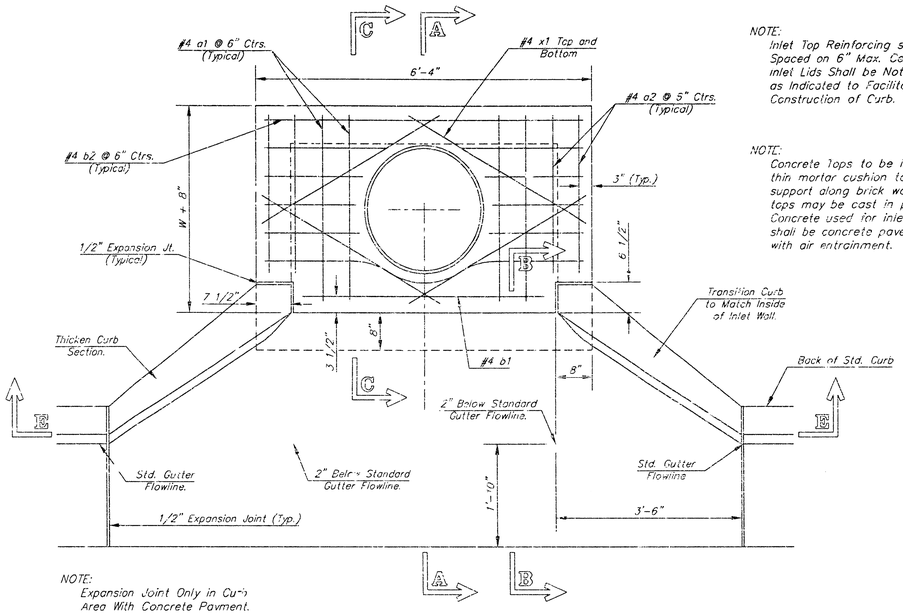
CITY OF WICHITA, KANSAS
JAMES ARMOUR, P.E.– CITY ENGINEER
JOHNSTON'S CLOTHIERS

REINFORCED CONCRETE MANHOLE

PRIVATE PROJECT NO. 1382 PPS

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

Designed by	DRC	Job No.	35-04527	Sht. SU1.3 of
Drawn by	DRC	Date	SEPTEMBER 2004	

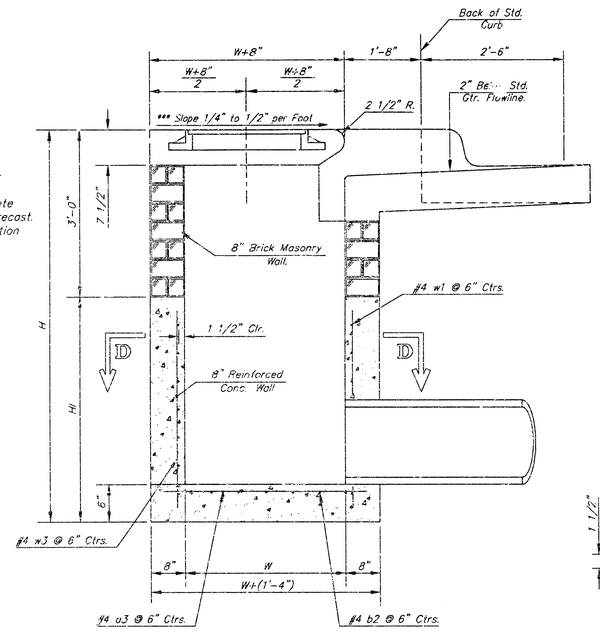


NOTE:
Expansion Joint Only in Curb Area With Concrete Pavement.

PLAN

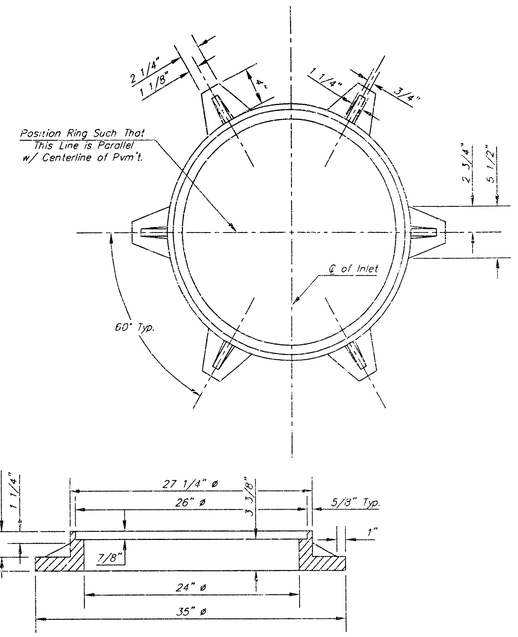
NOTE:
Inlet Top Reinforcing shall be Spaced on 6" Max. Centers. Inlet Lids Shall be Notched Out as Indicated to Facilitate Construction of Curb.

NOTE:
Concrete tops to be installed on thin mortar cushion to insure support along brick walls. Concrete tops may be cast in place or precast. Concrete used for inlet construction shall be concrete pavement mix with air entrainment.



SECTION A–A

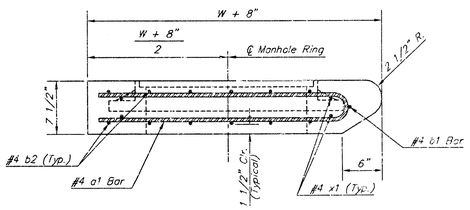
***NOTE: Slope of Inlet tops to Match Sidewalk or Parking Slopes within Limits Indicated.



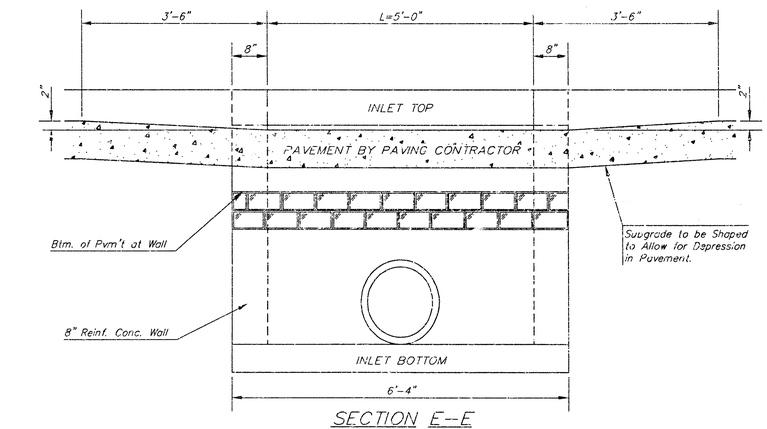
MANHOLE RING AND COVER

Weight = 180 Lbs.

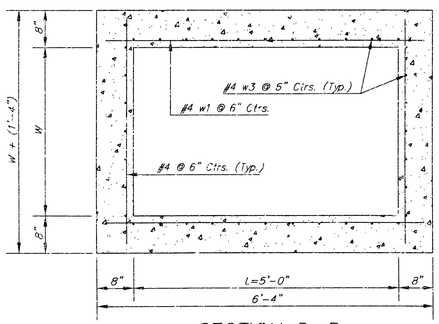
*See City of Wichita Standard Manhole Ring and Cover Detail Sheet for Cover Details to Be Used With Inlet Frame.



SECTION C–C



SECTION E–E



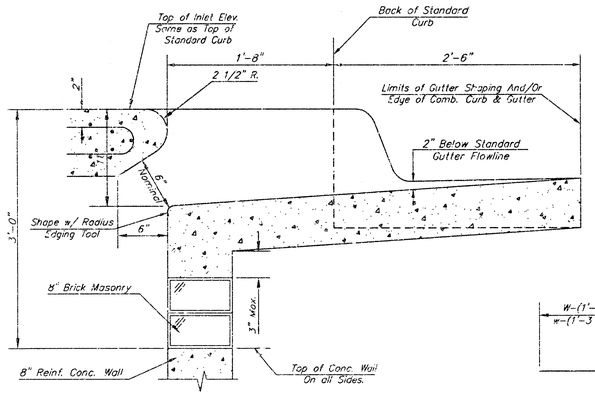
SECTION D–D

NOTE: Contractor shall have the option of constructing 8" brick masonry walls between the concrete inlet base and top on this inlet when W=5'-0" and H=7'-0" or less.

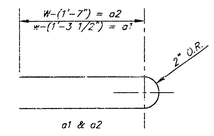
Additional curb & gutter construction necessary to connect set-back inlet to pavement will be paid for at the unit price bid for each inlet hookup.

Inlet invert shall be shaped with 8 sack sand 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.

The ends of all pipes installed in inlets shall be cut off flush with the inside face of the inlet wall



SECTION B–B



BENDING DIAGRAM

PRECAST SLAB AND FLOOR REINFORCING

		W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
MARK	SIZE	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
* a1	#4	6	6'-7"	6	8'-7"	6	10'-7"	6	12'-7"	6	14'-7"
a2	#4	4	6'-0"	4	8'-0"	4	10'-0"	4	12'-0"	4	14'-0"
a3	#4	13	4'-1"	13	5'-1"	13	6'-1"	13	7'-1"	13	8'-1"
b1	#4	1	4'-9"	1	4'-9"	1	4'-9"	1	4'-9"	1	4'-9"
* b2	#4	23	6'-1"	29	6'-1"	35	6'-1"	41	6'-1"	47	6'-1"
x1	#4	8	3'-10"	8	4'-2"	8	4'-6"	8	4'-10"	8	5'-2"

WALL REINFORCING

		W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
MARK	SIZE	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
w1	#4	①	6'-1"	①	6'-1"	①	6'-1"	①	6'-1"	①	6'-1"
w2	#4	①	4'-1"	①	5'-1"	①	6'-1"	①	7'-1"	①	8'-1"
w3	#4	32	②	36	②	40	②	44	②	48	②

* Field Bend or Cut Reinforcing as Required for Clearance.

① 4 (Ht - 12") (Ht - 21") Rounded down to nearest 0.5'

② Ht - 3"

STANDARD CURB INLET PRECAST TOPS

W	PRE-CAST TOP SIZE	PIPE SIZE	CU. YD. CONC.
3'-0"	3'-8" x 6'-4" x 7 1/2"	21" & SMALLER	0.39±
4'-0"	4'-8" x 6'-4" x 7 1/2"	24" & 30"	0.51±
5'-0"	5'-8" x 6'-4" x 7 1/2"	36" & 42"	0.64±
6'-0"	6'-8" x 6'-4" x 7 1/2"	48" & 54"	0.77±
7'-0"	7'-8" x 6'-4" x 7 1/2"	60" & 66"	0.90±

THE CITY OF WICHITA

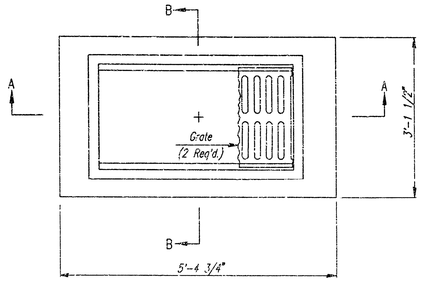
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501
(316) 268-4114 FAX

STANDARD TYPE 1-A CURB INLET OPENING = 6' x 5'-0"

NEIL D. CABLE, P.E. - CITY ENGINEER

PROJECT NUMBER	OCA NO.
1387 PPS	(607861)
DATE	SHEET SU1.4 OF
MAR 96	

DSNR: DAR OPER: DAR SCALE: 1=1.00
Q:\2004\04527\PAVE_DRAIN_GRADE\TYPE1A 09-24-2004 03:25:51 am



PLAN

GENERAL NOTES

CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.
ALL PIPES SHALL BE FLUSH CUT PRIOR TO BEING CAST INTO WALLS.

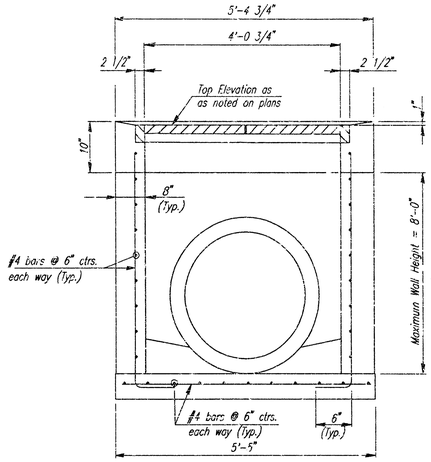
REINFORCING STEEL SHALL BE GRADE 60, A.S.T.M. A615.
ALL DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO THE CENTERLINE OF BARS UNLESS OTHERWISE NOTED.

INLET CASTINGS SHALL BE MANUFACTURED USING DUCTILE IRON CONFORMING TO ASTM A536-80 GRADE 65-45-12. 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.

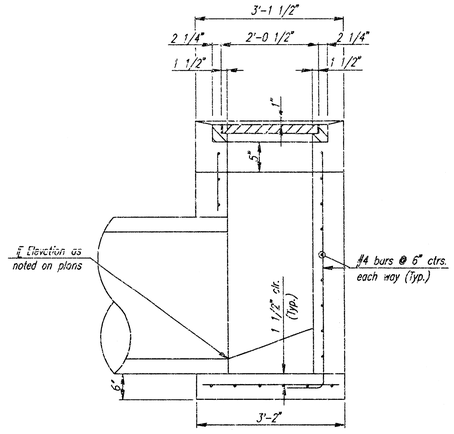
INLET FLOOR SHALL BE SHAPED WITH UNREINFORCED CONCRETE (8 SACK SAND MIX) TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.

PIPES ENTERING EXISTING STRUCTURE SHALL BE CENTERED ON INSIDE FACE OF WALL.

ALL EXPOSED STRUCTURAL STEEL SHALL BE PAINTED WITH A COAT OF INORGANIC ZINC PRIMER AND THEN WITH A TOP COAT OF OR A FIELD COAT OF ORGANIC ZINC, EACH COAT TO BE 3 TO 4 MILS. STRUCTURAL STEEL USED TO FABRICATE THE SPECIAL AREA INLET FRAME SHALL COMPLY WITH A.S.T.M. A36. WELDING SHALL COMFORM TO THE STRUCTURAL WELDING CODE A.W.S. D1.1-88.

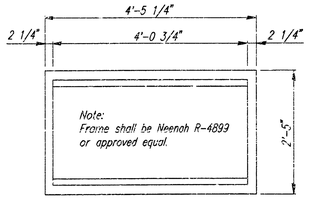


SECTION A-A



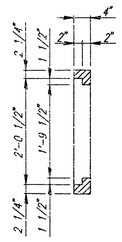
SECTION B-B

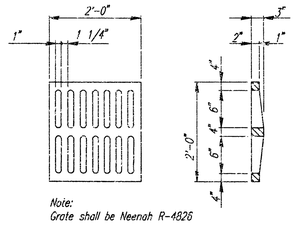
STANDARD AREA INLET



FRAME DETAIL
(Wt.=440 lbs.)

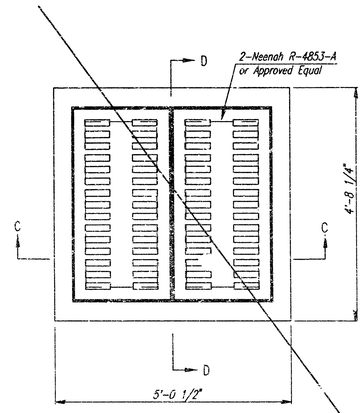
Note:
Frame to mate with 2 Neenah R-4826 Grates
or approved equal.



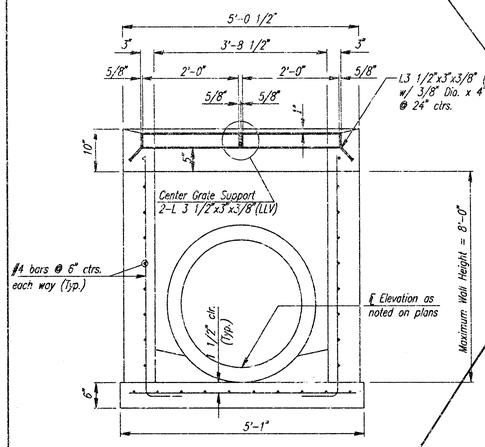


Note:
Grate shall be Neenah R-4826
or approved equal.

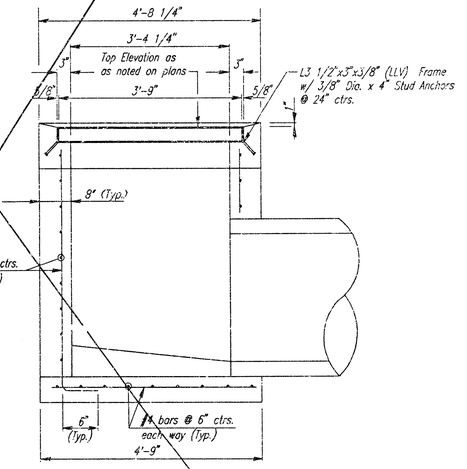
GRATE DETAIL
(Wt.=150 lbs.)
(2 Required)



PLAN

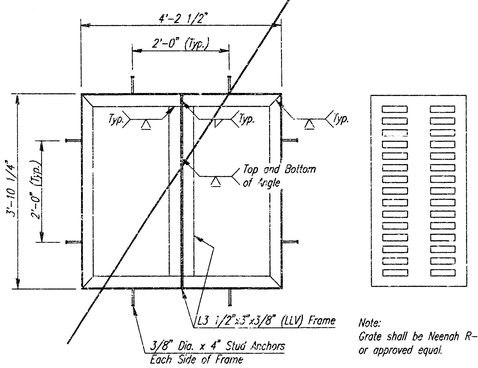


SECTION C-C



SECTION D-D

SPECIAL AREA INLET



FRAME DETAIL
(For Special Area Inlet)

Note:
Frame to mate with 2 Neenah R-4853-A Grates
or approved equal.

Note:
Grate shall be Neenah R-4853-A
or approved equal.

GRATE DETAIL
(Wt.=520 lbs.)
(2 Required)

No.	Revision	By	Date

CITY OF WICHITA, KANSAS
JAMES ARMOUR, P.E. - CITY ENGINEER
JOHNSTON'S CLOTHIERS

AREA INLET DETAILS

PRIVATE PROJECT NO. 1387 PPS

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

Designed by DRC	Job No. 35-04527	Sht. SU1.5 of
Drawn by DRC	Date SEPTEMBER 2004	

DSNR: DAR OPER: DAR SCALE: 1=4.00
Q:\2004\04527\PAVE DRAIN GRADE\AREAINLET 09-24-2004 09:29:26 am