STORM WATER SEWER PLANS FOR

STORM WATER SEWER #590

IN

FOX RIDGE ADDITION

AN ADDITION TO THE CITY OF WICHITA
SEDGWICK COUNTY, KANSAS

PROJECT NO. 468-83653

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

OCA - 751342

GENERAL NOTES

1. UNLESS SHOWN OR OTHERWISE STATED ON THESE DRAWINGS, MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATIONS.
2. THE TOPS OF INLETS AND MANHOLES AS NOTED ON THE PLANS MAY VARY SO AS TO MEET PROPOSED TOP OF CURB ELEVATIONS OR PAVEMENT ELEVATIONS. THE FIELD ENGINEER SHALL LOCATE INLETS AND MANHOLES WITH REFERENCE TO PROPOSED PAVING PLANS OF THE PERTINENT STREETS.
3. ALL CONCRETE SHALL BE STANDARD PAVING MIX UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.
5. TREES TO BE REMOVED ARE MARKED ⊗. ALL TREES WHICH IN THE OPINION OF THE FIELD ENGINEER CAN BE SAVED, SHALL BE SAVED.
6. CONTRACTOR SHALL NOTIFY UTILITY COMPANIES OF CONSTRUCTION SCHEDULING.
7. EXISTING UTILITIES AND THEIR LOCATIONS, AS SHOWN ON THE PLANS REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS COMPANIES AND IS EITHER FROM COMPANY UTILITY DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED.
8. CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF SEVENTY-TWO (72) HOURS TO UTILITY COMPANIES TO STARTING ANY EXCAVATION AS FOLLOWS:

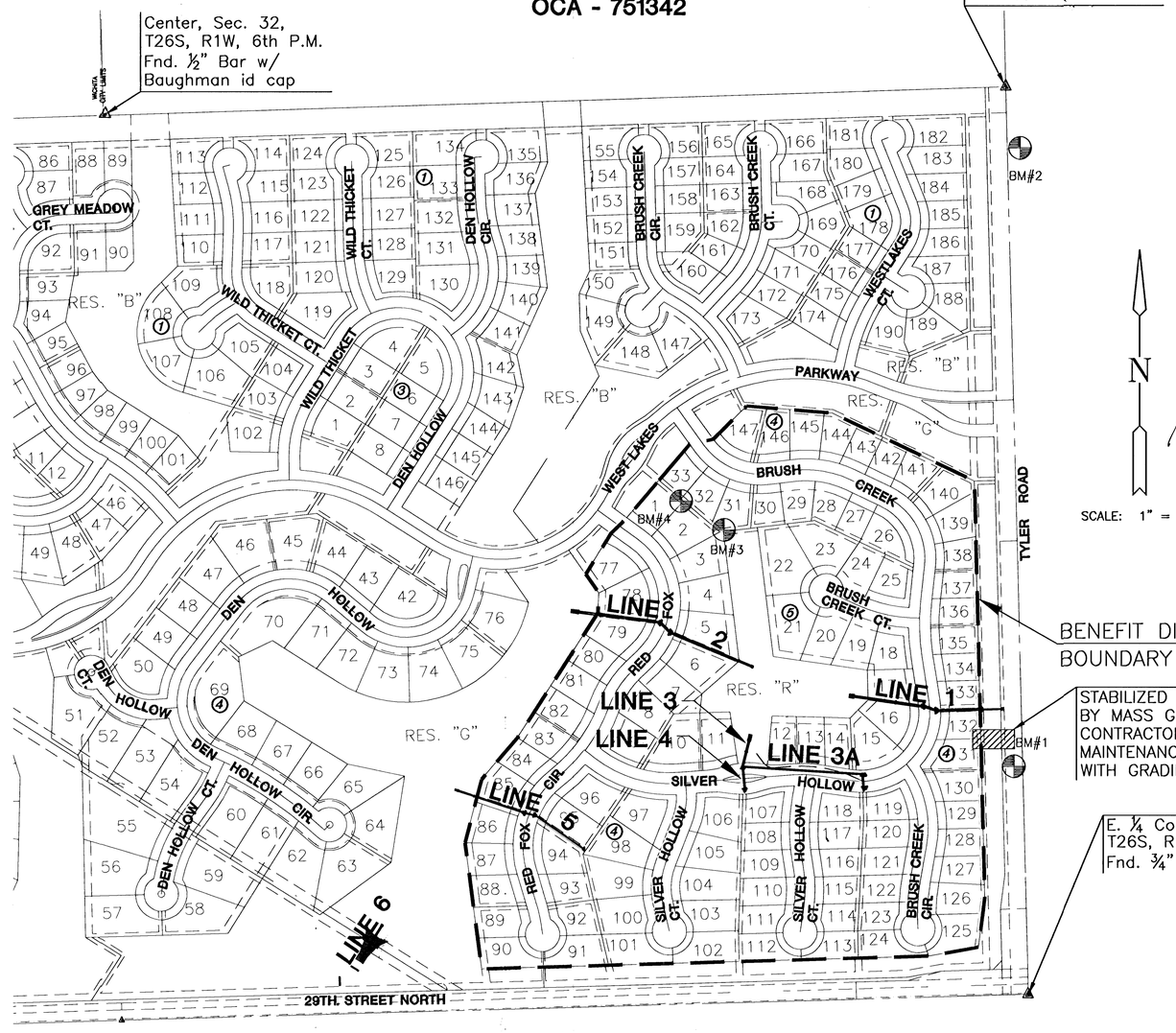
   KANSAS ONE-CALL 800-344-7233
   OR 687-2470 (LOCAL WICHITA)

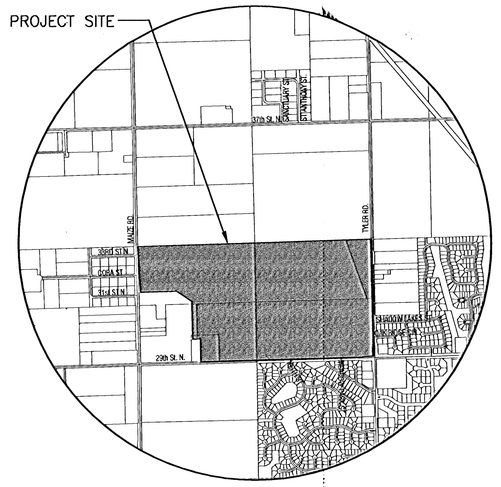
   THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF EMERGENCY:

COX COMMUNICATIONS (CABLE)	262-0661
WESTAR (ELECTRIC)	261-6512
KANSAS GAS SERVICE (GAS)	832-3101
SBC (TELEPHONE)	800-870-8390
CITY OF WICHITA WATER & SEWER	262-6000
AQUILA (GAS)	946-0096

9. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED. 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.
10. CONTRACTOR SHALL SEED, FERTILIZE, AND MULCH ALL DISTURBED AREAS (EXCEPT STREET R/W) BY THE FOLLOWING:
    ANNUAL RYE @ 200 LBS/ACRE
    10-20-10 @ 350 LBS/ACRE

    COST SHALL BE CONSIDERED SUBSIDIARY TO SITE RESTORATION.
11. CONTRACTOR TO COORDINATE WORK WITH OTHER UTILITY AND/OR PAVING CONTRACTORS ON SITE.





VICINITY MAP

INDEX TO DRAWINGS

4/27/03
GREGORY J. ALLISON LICENSED 11159 KANSAS PROFESSIONAL ENGINEER

BENCHMARKS

BM#1 Square cut top curb W. end of island at Shadow Lakes, East side of Tyler Rd. Elev. = 175.81

BM#2 RR spike in W. face of South H-pole East of Tyler Rd., 3320 N. Tyler Rd. Elev. = 175.53

BM#3 5/8" Rebar set just West of NE Corner Lot 3, Block 5 Elev.=167.01

BM#4 5/8" Rebar set just West of SE Corner Lot 33, Block 5 Elev.=165.54

MKEC ENGINEERING CONSULTANTS
411 N. WEBB ROAD
WICHITA, KS. 67206
316 - 684 - 9600

FOX RIDGE ADDITION
PROJECT NAME

TITLE SHEET
SHEET TITLE

DESIGN BY:	DRAWN BY:	CHECKED BY:
DK	DM	DK

DATE	JOB NO.	SHEET/OF
AUGUST 2003	99118DT1	1 / 16

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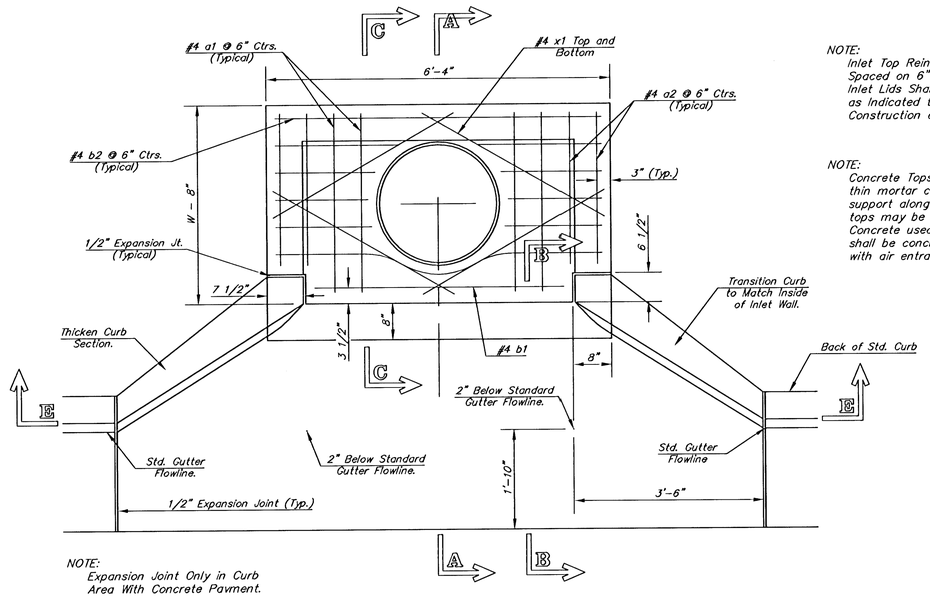
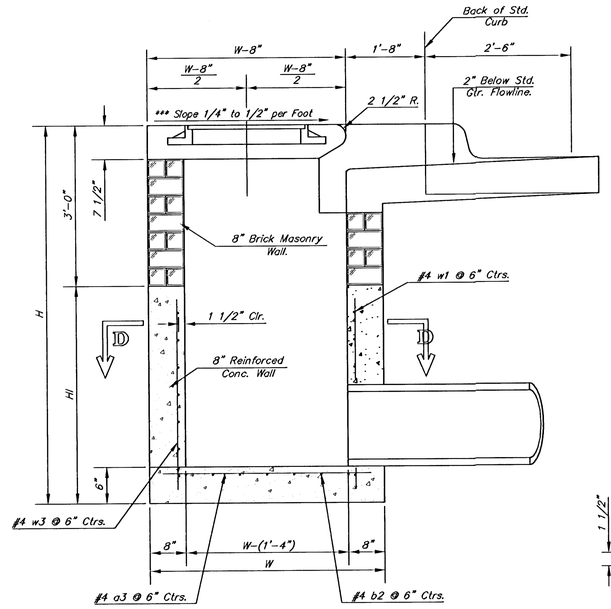


NOTE:
Expansion Joint Only in Curb Area With Concrete Pavment.

PLAN

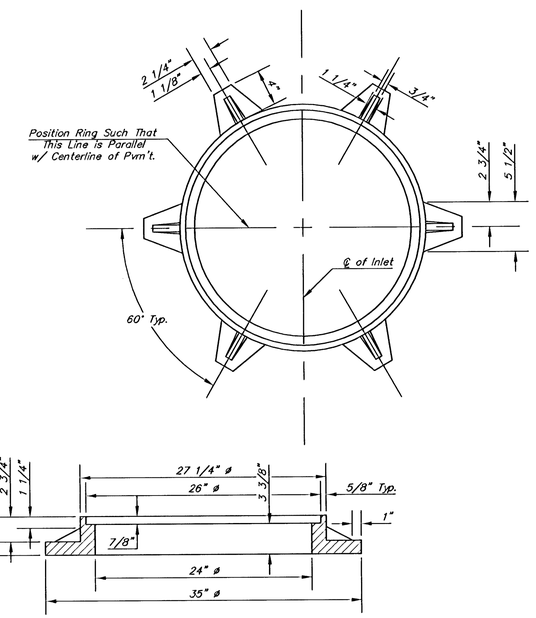
NOTE:
Inlet Top Reinforcing shall be Spaced on 6" Max. Centers. Inlet Lids Shall be Notched Out as Indicated to Facilitate Construction of Curb.

NOTE:
Concrete Tops to be installed on thin mortar cushion to insure full 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

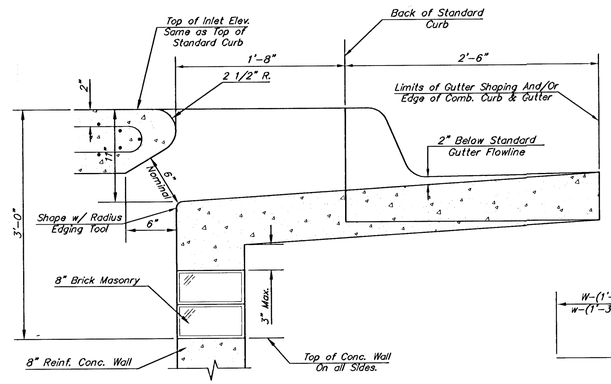
***NOTE: Slope of inlet tops to Match Sidewalk or Parking Slopes within Limits Indicated.



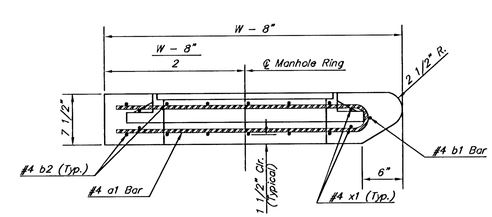
MANHOLE RING AND COVER

Weight = 180 Lbs.

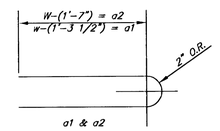
*See City of Wichita Standard Manhole Ring and Cover Detail Sheet for Cover Details to Be Used With Inlet Frame.



SECTION B–B

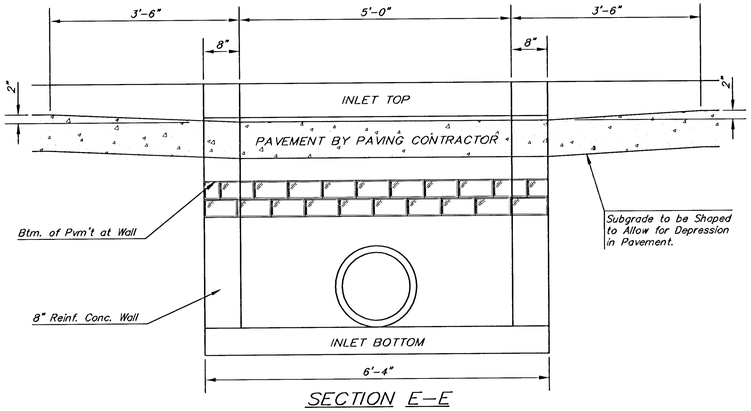


SECTION A–A

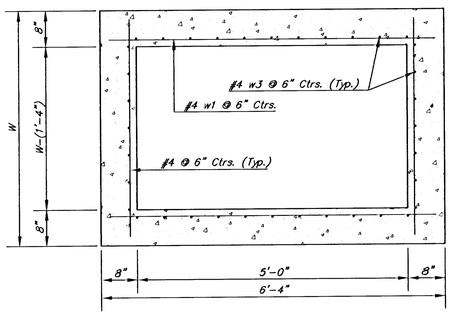


BENDING DIAGRAM

STANDARD CURB INLET PRECAST TOPS			
W	PRE-CAST TOP SIZE	PIPE SIZE	CU. YD. CONC.
4'-4"	3'-8" x 6'-4" x 7 1/2"	21" & SMALLER	0.38±
5'-4"	4'-8" x 6'-4" x 7 1/2"	24" & 30"	0.51±
6'-4"	5'-8" x 6'-4" x 7 1/2"	36" & 42"	0.64±
7'-4"	6'-8" x 6'-4" x 7 1/2"	48" & 54"	0.77±
8'-4"	7'-8" x 6'-4" x 7 1/2"	60" & 66"	0.90±



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=6'-4" and H=7'-0" or less.

Additional curb and 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

PRECAST SLAB AND FLOOR REINFORCING										
		W = 4'-4"		W = 5'-4"		W = 6'-4"		W = 7'-4"		W = 8'-4"	
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 = 4'-4"		W = 5'-4"		W = 6'-4"		W = 7'-4"		W = 8'-4"	
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 (HI - 12") (HI - 21") Rounded down to nearest 0.5'
② HI - 3"

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	INDEX CODE
468-83569	751332
DATE: FEB 03	SHEET 2 OF 15

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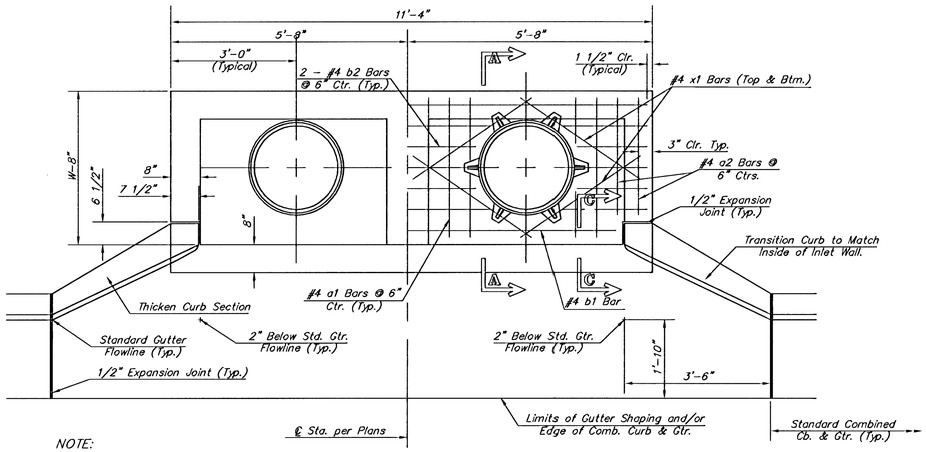
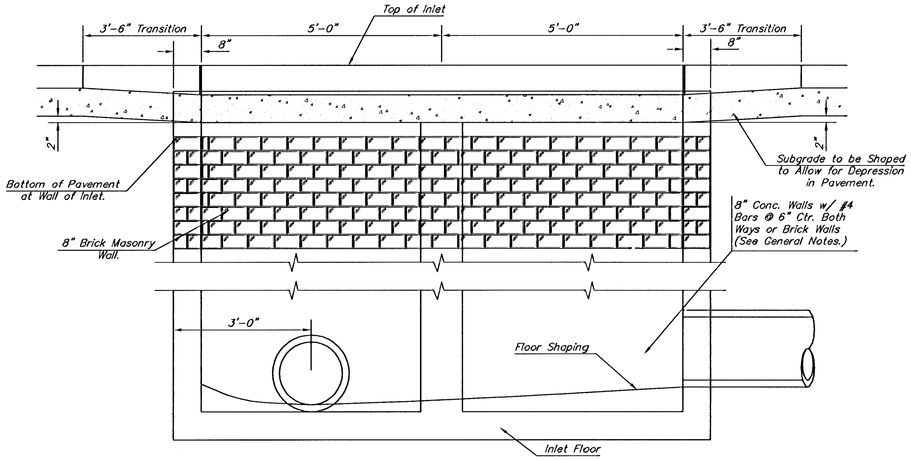


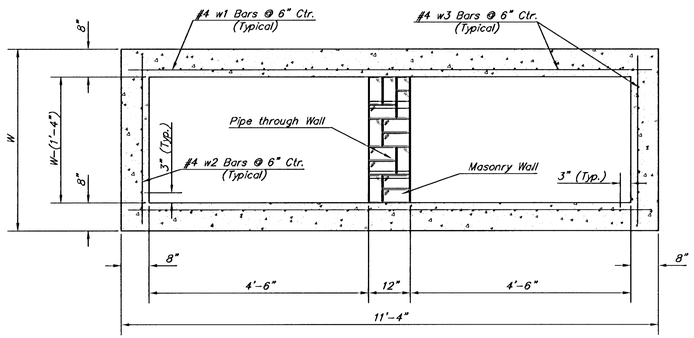
NOTE:
Expansion Joint Only in Curb Area with Concrete Pavement.

PLAN

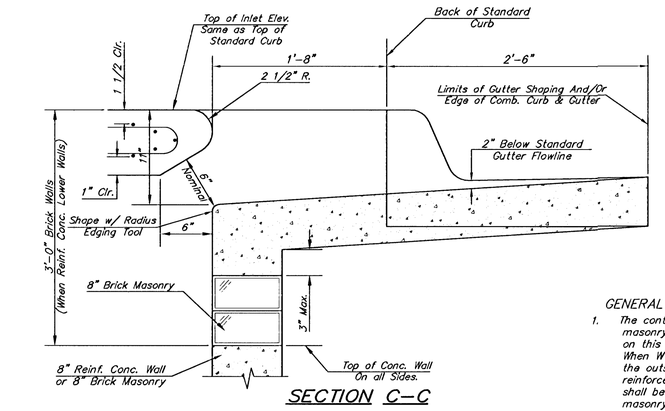
*Left Side Shown Without Slab Reinforcing, Right Side Shown With Slab Reinforcing



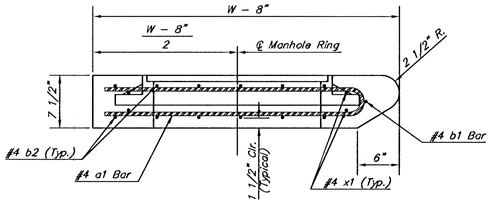
ELEVATION



SECTION B-B



SECTION C-C



SECTION A-A

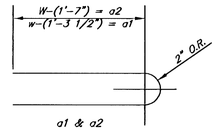
PRECAST SLAB AND FLOOR REINFORCING										
		W = 4'-4"		W = 5'-4"		W = 6'-4"		W = 7'-4"		W = 8'-4"	
MARK	SIZE	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
* a1	#4	13	6'-7"	13	8'-7"	13	10'-7"	13	12'-7"	13	14'-7"
a2	#4	4	6'-0"	4	8'-0"	4	10'-0"	4	12'-0"	4	14'-0"
a3	#4	23	4'-1"	23	5'-1"	23	6'-1"	23	7'-1	23	8'-1"
b1	#4	1	9'-9"	1	9'-9"	1	9'-9"	1	9'-9"	1	9'-9"
* b2	#4	23	11'-1"	29	11'-1"	35	11'-1"	41	11'-1"	47	11'-1"
x1	#4	16	3'-10"	16	4'-2"	16	4'-6"	16	4'-10"	16	5'-2"

WALL REINFORCING											
		W = 4'-4"		W = 5'-4"		W = 6'-4"		W = 7'-4"		W = 8'-4"	
MARK	SIZE	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
w1	#4	①	11'-1"	①	11'-1"	①	11'-1"	①	11'-1"	①	11'-1"
w2	#4	①	4'-1"	①	5'-1"	①	6'-1"	①	7'-1"	①	8'-1"
w3	#4	52	②	56	②	60	②	64	②	68	②

* Field Bend or Cut Reinforcing as Required for Clearance.
① 4 (H' - 12") (H' - 21") Rounded down to nearest 0.5'
② H' - 3"

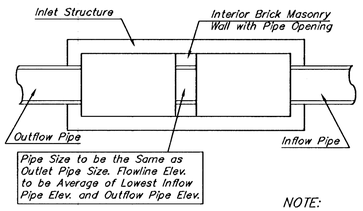
GENERAL NOTES:

1. The contractor shall be required to construct 8" brick masonry walls between the concrete inlet base and top on this inlet when W=6'-4" or less and H=7'-0" or less. When W is greater than 6'-4" and H is less than 7'-0" the outside inlet walls below the brick stack shall be reinforced concrete construction and the center wall shall be of masonry construction as shown for the masonry wall option.
2. 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.
3. Concrete tops to be installed on thin mortar cushion to insure full support along brick walls. Concrete tops may be cast in place or precast. Concrete used for inlet construction shall be concrete pavement mix.
4. Inlet top reinforcing shall be spaced on 6" max. centers. Inlet lids shall be notched out as indicated to facilitate construction of curb. Bars in inlet top to be field bent or cut to clear manhole ring.
5. The ends of all pipes installed in inlets shall be cut off flush with the inside face of the inlet wall.

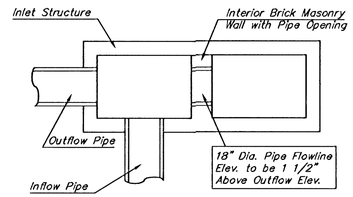


BENDING DIAGRAM

STANDARD CURB INLET PRECAST TOPS			
W	PRE-CAST TOP SIZE	PIPE SIZE	CU. YD. CONC.
4'-4"	3'-8" 11'-4" 7 1/2"	21" & SMALLER	0.83±
5'-4"	4'-8" 11'-4" 7 1/2"	24" & 30"	1.09±
6'-4"	5'-8" 11'-4" 7 1/2"	36" & 42"	1.35±
7'-4"	6'-8" 11'-4" 7 1/2"	48" & 54"	1.61±
8'-4"	7'-8" 11'-4" 7 1/2"	60" & 66"	1.87±

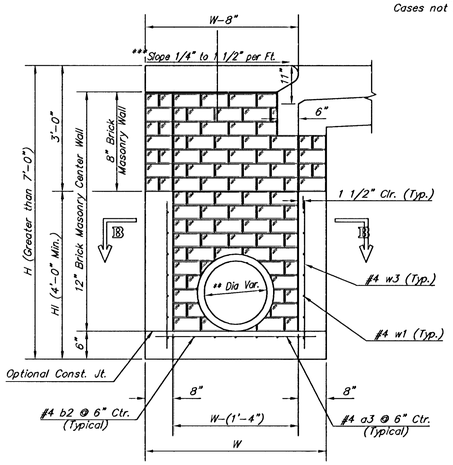


CASE I



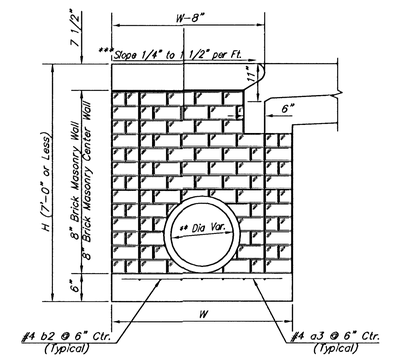
CASE II

NOTE:
Center Wall Pipe Size shall be as Specified in Inlet Construction Notes on the Plan/Profile Sheets for those Cases not Shown Here.



TYPICAL INLET SECTION AT CENTER WALL

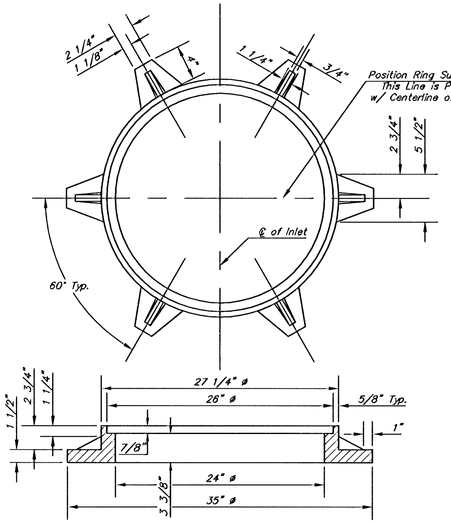
(Reinforced Concrete Walls)



TYPICAL INLET SECTION AT CENTER WALL

(Masonry Walls)

NOTES:
** A center wall opening shall be provided by means of a section of reinforced concrete pipe. See Case I and Case II above.
*** Slope of inlet tops to match sidewalk of parking slopes within limits indictated



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.

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 10'-0"

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

PROJECT NUMBER	INDEX CODE
468-83569	751332
DATE: FEB 03	SHEET 3 OF 15

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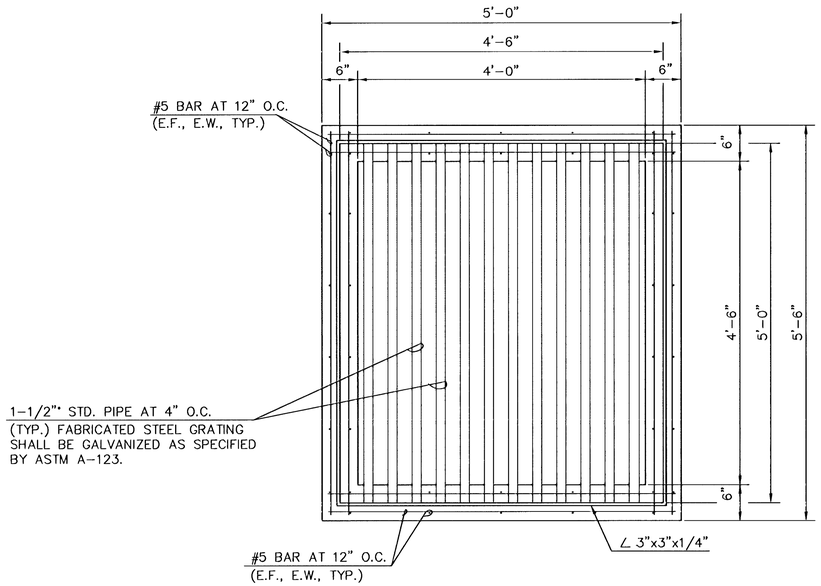
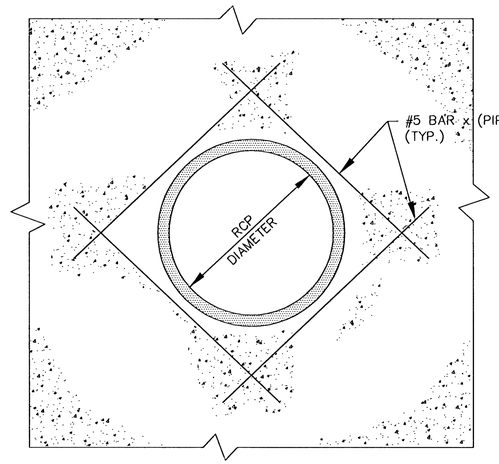
TYP1A-D.DWG



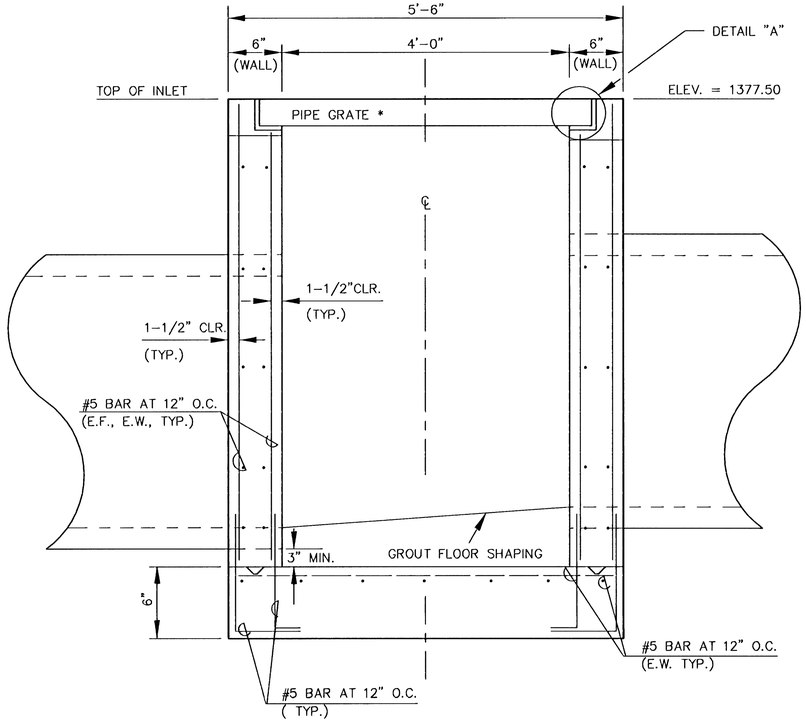
PLAN VIEW

CONTRACTOR MAY SUBSTITUTE 8" BRICK WALL FOR 6" REINFORCED CONCRETE WALL.



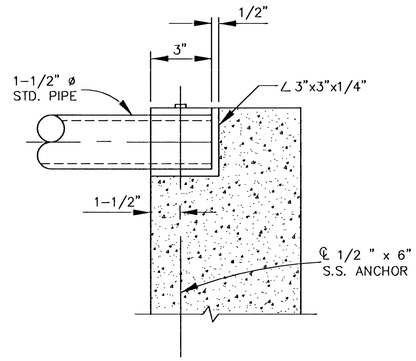
NOTE:
CUT REINFORCING AS REQUIRED TO CLEAR RCP.

TYPICAL REINFORCING AT PIPE



ELEVATION VIEW

REINFORCED CONCRETE AREA INLET



NOTE:
FABRICATED STEEL GRATING SHALL BE GALVANIZED AS SPECIFIED BY ASTM A-123.

DETAIL "A"

MATERIAL SPEC'S

MORTAR – TYPE "M"
BRICK – ASTM C62 GRADE MW
STEEL – ASTM A36 OR EQUIVALENT GALV. ASTM A-123 STDS.
CONCRETE – F_u' = 4,000 PSI MINIMUM WITH 6 SACKS OF CEMENT PER CUBIC YARD MINIMUM.

ORIFICE EQUATION $Q=C*A*\sqrt{2gh}$				
h (DEPTH)	2g	C	A	Q
0.5	64.4	0.7	8.625	34.3 cfs
1.0	64.4	0.6	8.625	41.5 cfs
2.0	64.4	0.6	8.625	58.7 cfs
2.0	64.4	0.7	8.625	68.5 cfs
3.0	64.4	0.6	8.625	71.9 cfs
4.0	64.4	0.6	8.625	83.1 cfs
5.0	64.4	0.6	8.625	92.9 cfs
6.0	64.4	0.6	8.625	101.7 cfs
7.0	64.4	0.6	8.625	109.9 cfs
8.0	64.4	0.6	8.625	117.5 cfs

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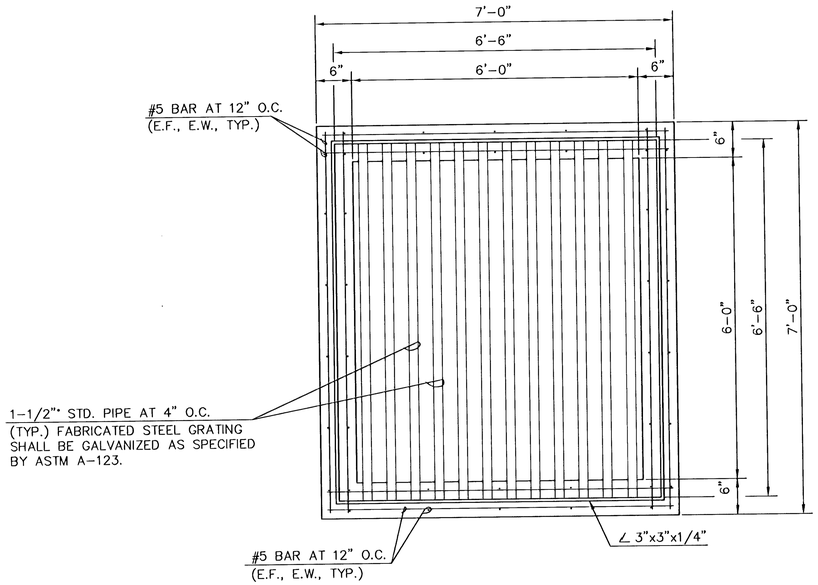
MKEC
ENGINEERING CONSULTANTS
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

FOX RIDGE ADDITION - PHASE 1
PROJECT NAME

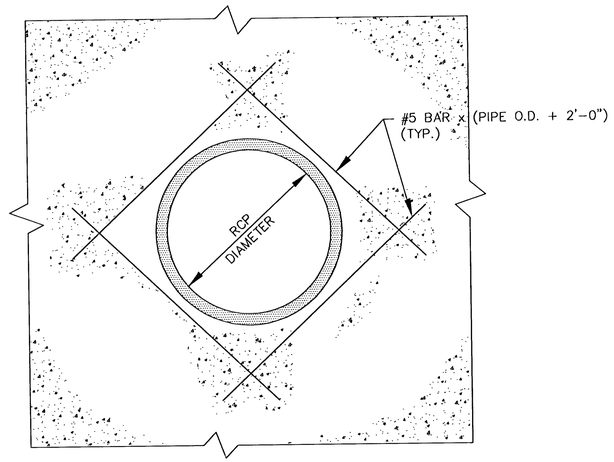
4'-0"x4'-6"
REINFORCED CONCRETE AREA INLET
SHEET TITLE

MKEC	MKEC	MKEC
DESIGN BY:	DRAWN BY:	CHECKED BY:
JULY 1996	99118DD3	4 / 15
DATE	DRAWING NAME	SHEET / OF



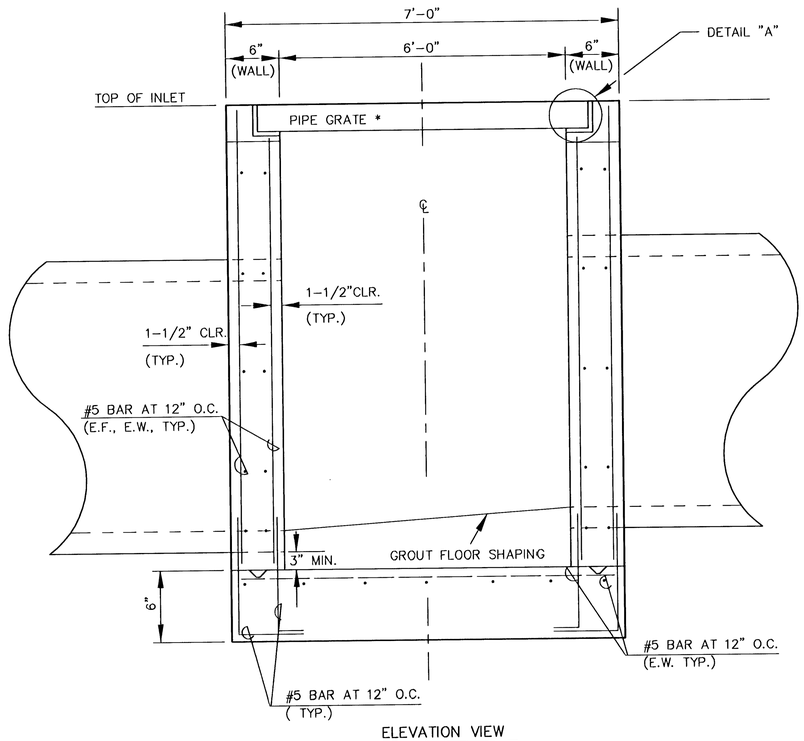
PLAN VIEW

CONTRACTOR MAY SUBSTITUTE 8" BRICK WALL FOR 6" REINFORCED CONCRETE WALL.



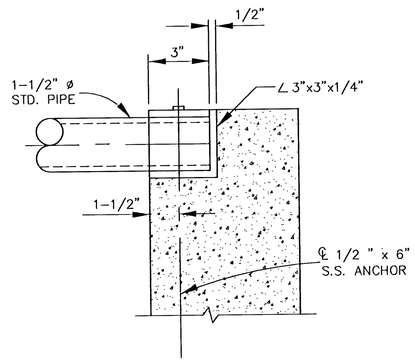
NOTE:
CUT REINFORCING AS REQUIRED TO CLEAR RCP.

TYPICAL REINFORCING AT PIPE



ELEVATION VIEW

REINFORCED CONCRETE AREA INLET



NOTE:
FABRICATED STEEL GRATING SHALL BE GALVANIZED AS SPECIFIED BY ASTM A-123.

DETAIL "A"

MATERIAL SPEC'S

MORTAR – TYPE "M"
BRICK – ASTM C62 GRADE MW
STEEL – ASTM A36 OR EQUIVALENT GALV. ASTM A-123 STDS.
CONCRETE – F_u' = 4,000 PSI MINIMUM WITH 6 SACKS OF CEMENT PER CUBIC YARD MINIMUM.

ORIFICE EQUATION				
$Q=C*A*\sqrt{2gh}$				
h (DEPTH)	2g	C	A	Q
0.5	64.4	0.7	21.6	85.8 cfs
1.0	64.4	0.6	21.6	104.0 cfs
2.0	64.4	0.6	21.6	147.1 cfs
2.0	64.4	0.7	21.6	171.6 cfs
3.0	64.4	0.6	21.6	180.1 cfs
4.0	64.4	0.6	21.6	208.0 cfs
5.0	64.4	0.6	21.6	232.6 cfs
6.0	64.4	0.6	21.6	254.8 cfs
7.0	64.4	0.6	21.6	275.2 cfs
8.0	64.4	0.6	21.6	294.2 cfs

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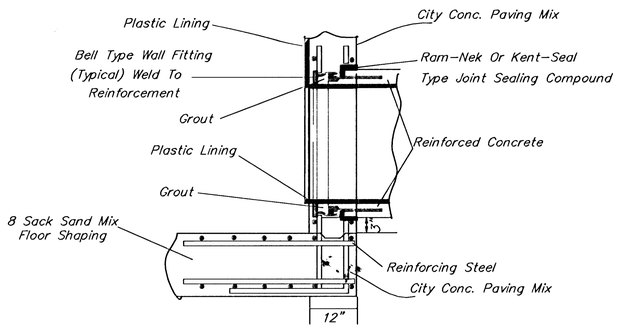
MKEC
ENGINEERING CONSULTANTS
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

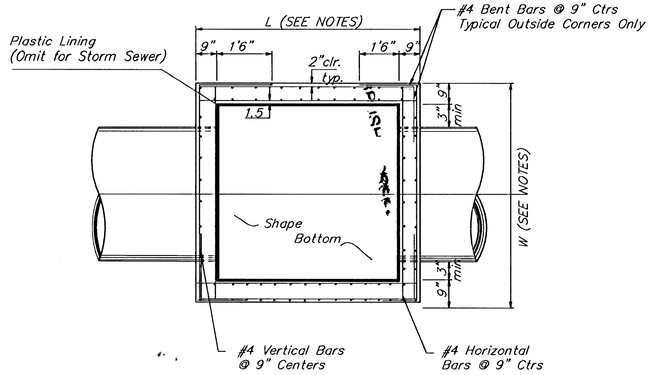
FOX RIDGE ADDITION - PHASE 1
PROJECT NAME

6'-0"x6'-0"
REINFORCED CONCRETE AREA INLET
SHEET TITLE

MKEC	MKEC	MKEC
DESIGN BY:	DRAWN BY:	CHECKED BY:
JULY 1996	99118DD3	5 / 15
DATE	DRAWING NAME	SHEET / OF

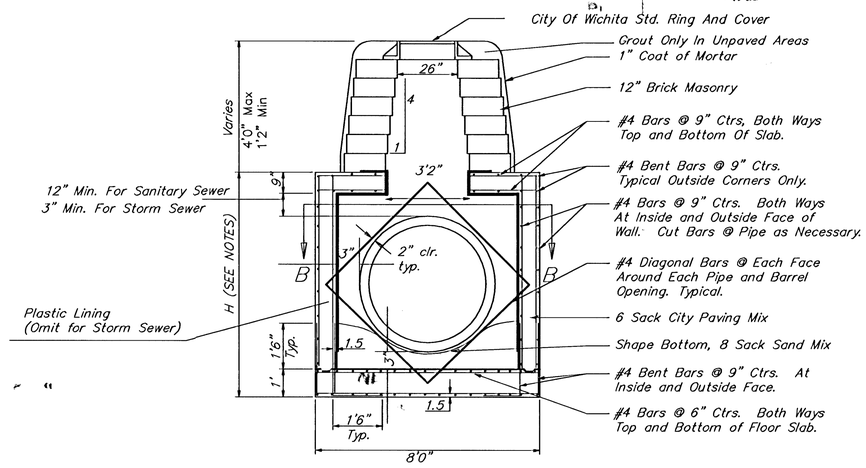


R.C.P. CONNECTION DETAIL
SANITARY SEWER ONLY



NOTE:
Bend Bars Not More Than 8" to Clear Pipes, or Cut Bars 2" Clear of Pipe, as Necessary.

TOP VIEW



REINFORCED CONCRETE MANHOLE
MANHOLE STACK 2.33' TO 4'0"

GENERAL NOTES:

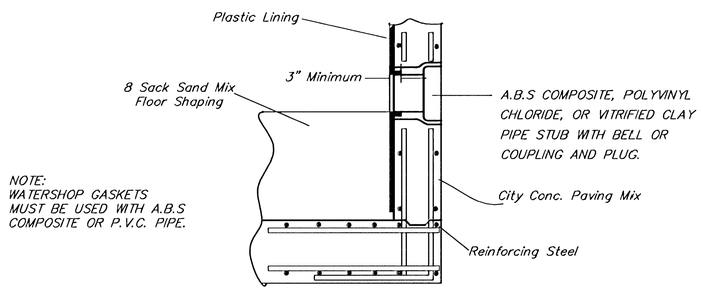
1. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE WALLS AND BASES SHALL CONFORM TO THE REQUIREMENTS FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS, USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.

2. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING. USING 8-SACK SAND MIX CONCRETE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS.

3. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE RE-QUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.

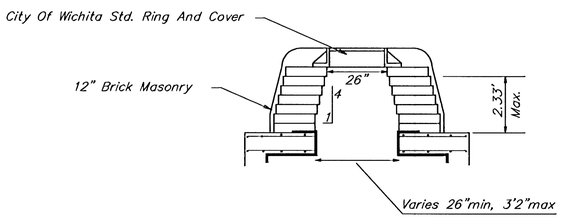
4. THE ENDS OF ALL PIPES IN MANHOLES SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF MANHOLE WALL.

5. "L" & "W" SHALL BE AS SPECIFIED IN THE PLANS.

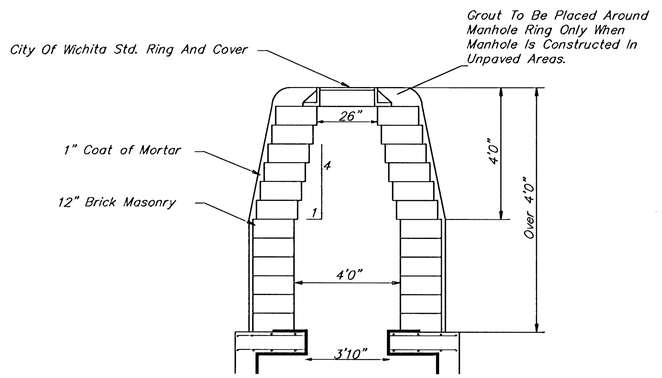


NOTE:
WATERSHOP GASKETS
MUST BE USED WITH A.B.S
COMPOSITE OR P.V.C. PIPE.

PIPE STUB DETAIL
SANITARY SEWER ONLY



REINFORCED CONCRETE MANHOLE
MANHOLE STACK LESS THAN 2.33'



REINFORCED CONCRETE MANHOLE
MANHOLE STACK OVER 4'0"

REV. 1/05/01, MCG

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THE CITY OF WICHITA

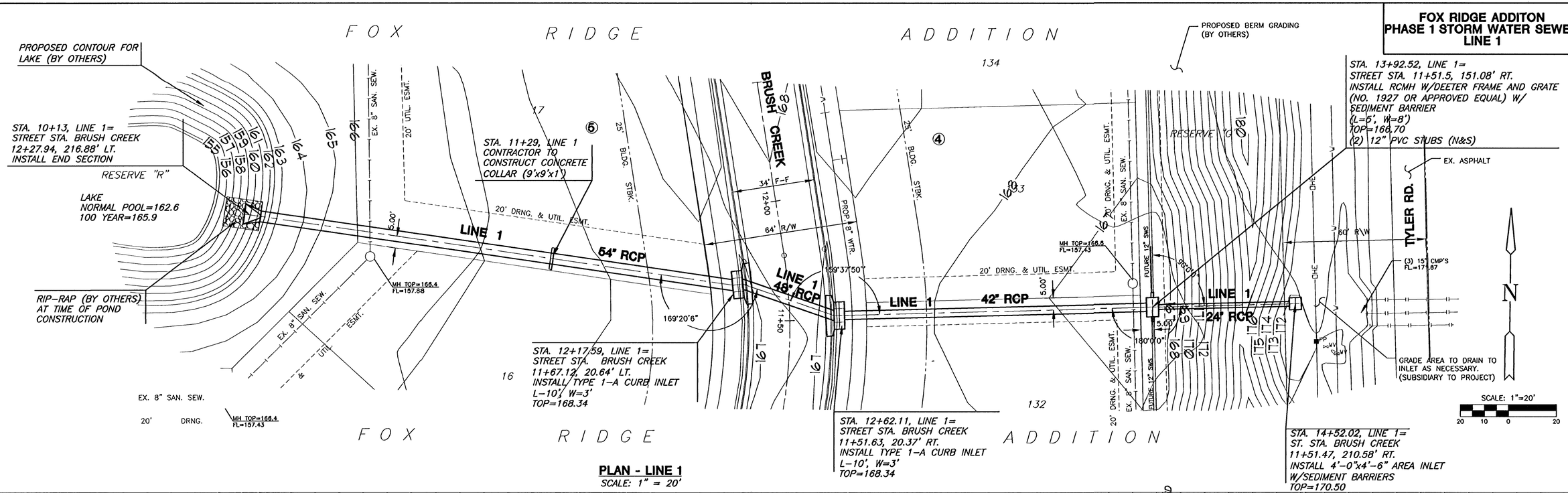
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501
(316) 268-4114 FAX

REINFORCED CONCRETE MANHOLE

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

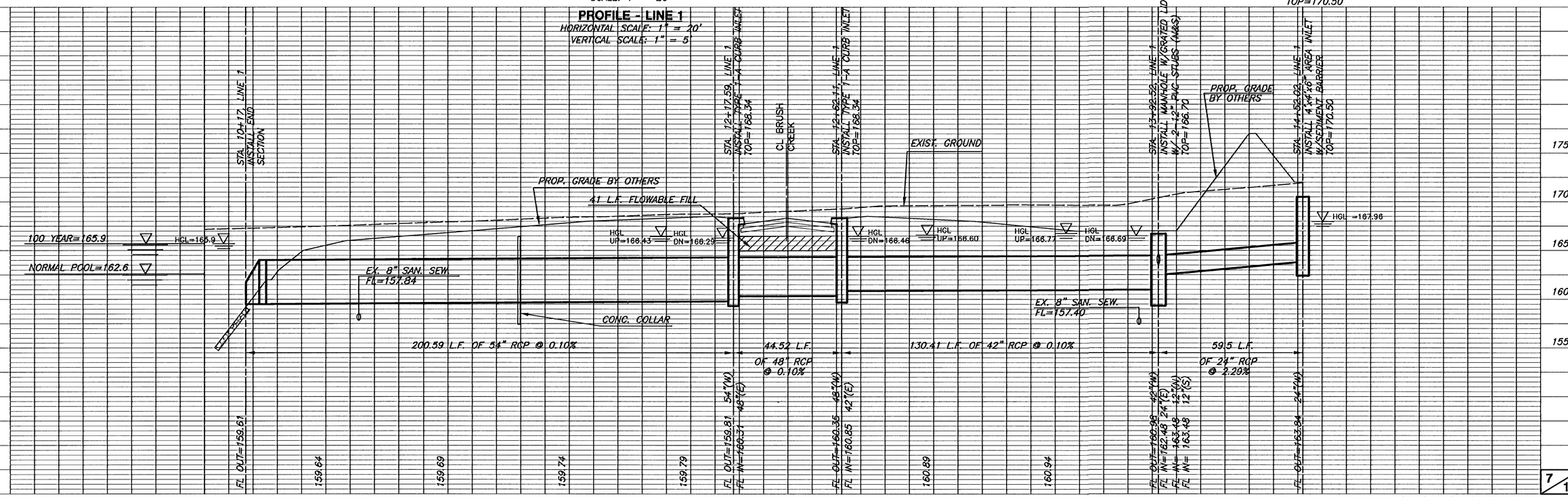
PROJECT NUMBER	INDEX CODE
XXX-XXXXX	XXXXXX
DATE: APRIL 99	SHEET 6 OF 15

FOX RIDGE ADDITON
PHASE 1 STORM WATER SEWER
LINE 1



PLAN - LINE 1
SCALE: 1" = 20'

PROFILE - LINE 1
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'



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FOX RIDGE ADDITON
PHASE 1 STORM WATER SEWER
LINE 2

SCALE: 1"=20'
20 10 0 20

PROPOSED CONTOUR FOR LAKE (BY OTHERS)

STA. 12+21.42, LINE 2= STREET STA. RED FOX 10+48.75, 20.67' LT. INSTALL TYPE 1-A CURB INLET L=10', W=3' TOP=166.92

STA. 12+66.62, LINE 2= STREET STA. RED FOX 10+31.32, 20.67' RT. INSTALL TYPE 1-A CURB INLET L=10', W=3' TOP=166.92

F O X R I D G E A D D I T I O N

78 79 5 6

⑤

MH TOP=163.9 FL=156.21

MH TOP=163.9 FL=155.9

20' DRNG. & UTIL ESMT.

EX. 8" SAN. SEW.

STA.10+56, LINE 2 CONTRACTOR TO CONSTRUCT CONCRETE COLLAR (8'x8'x1')

STA. 14+80, LINE 2 CONTRACTOR TO CONSTRUCT CONCRETE COLLAR (8'x8'x1')

RIP-RAP (BY OTHERS) AT TIME OF POND CONSTRUCTION

POND 1
NORMAL POOL=159.6
100 YEAR=163.5

80°00'00"

LINE 2 — 60"x38" HERCP

LINE 2 — 48" RCP

LINE 2 — 42" RCP

5.00

20' DRNG. & UTIL. ESMT.

142°49'20"

158°8'27"

STA. 10+48.86, LINE 2= STREET STA. RED FOX 9+24.90, 181.02' LT. INSTALL RCMH W/ DEETER FRAME & GRATE (NO. 1927 OR APPROVED EQUAL) (L=5', W=8') TOP=164.2

RED FOX

STBK.

WTR.

EX. 8" W

25' BLDG.

34' F-F

64' R/W

MH TOP=168.4 FL=155.48

RESERVE "G"

RESERVE "R"

STA. 9+90.0, LINE 2= STREET STA. RED FOX, 8+81.77, 233.96' LT. INSTALL END SECTION

STA. 15+15.21, LINE 2= STREET STA. RED FOX 10+29.10, 261.23' RT. INSTALL 6'x6' AREA INLET TOP=162.6

POND 5
NORMAL POOL=162.6
100 YEAR=165.9

N

PLAN - LINE 2
SCALE: 1" = 20'

PROFILE - LINE 2
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'

STA. 9+90.0, LINE 2 INSTALL END SECTION

STA. 10+48.86, LINE 2 INSTALL RCMH W/GRATED LID TOP=164.20

STA. 12+21.42, LINE 2 INSTALL TYPE 1-A CURB INLET TOP=166.92

STA. 12+66.62, LINE 2 INSTALL TYPE 1-A CURB INLET TOP=166.92

STA. 15+15.21, LINE 2 INSTALL 6'x6' AREA INLET TOP=162.6

PROP. GRADE BY OTHERS

EXIST. GROUND

CL RED FOX

100 YEAR=163.5

NORMAL POOL=159.6

100 YEAR=165.9

NORMAL POOL=162.6

45 L.F. FLOWABLE FILL

CONC. COLLAR

EX. 8" SAN. SEW. FL=155.88

EX. 8" WTR. TOP=156.00

EX. 8" SAN. SEW. FL=155.50

GRADE TO DRAIN

58.86 L.F. OF 60"x38" HERCP @ 0.13%

172.56 L.F. OF 48" RCP @ 0.42%

45.20 L.F. OF 48" RCP @ 0.44%

248.59 L.F. OF 42" RCP @ 0.28%

FL OUT=151.66
151.67
FL OUT=151.74 60"x38"
FL IN=155.77 48"
155.98
156.19
156.40
FL OUT=156.50 48"(SW)
FL IN=156.60 48"(SE)
FL OUT=156.80 48"(NW)
FL IN=157.30 42"(SE)
157.39
157.53
157.67
157.82
157.96
FL OUT=158.01 42"(NW)

10 11 12 13 14 15

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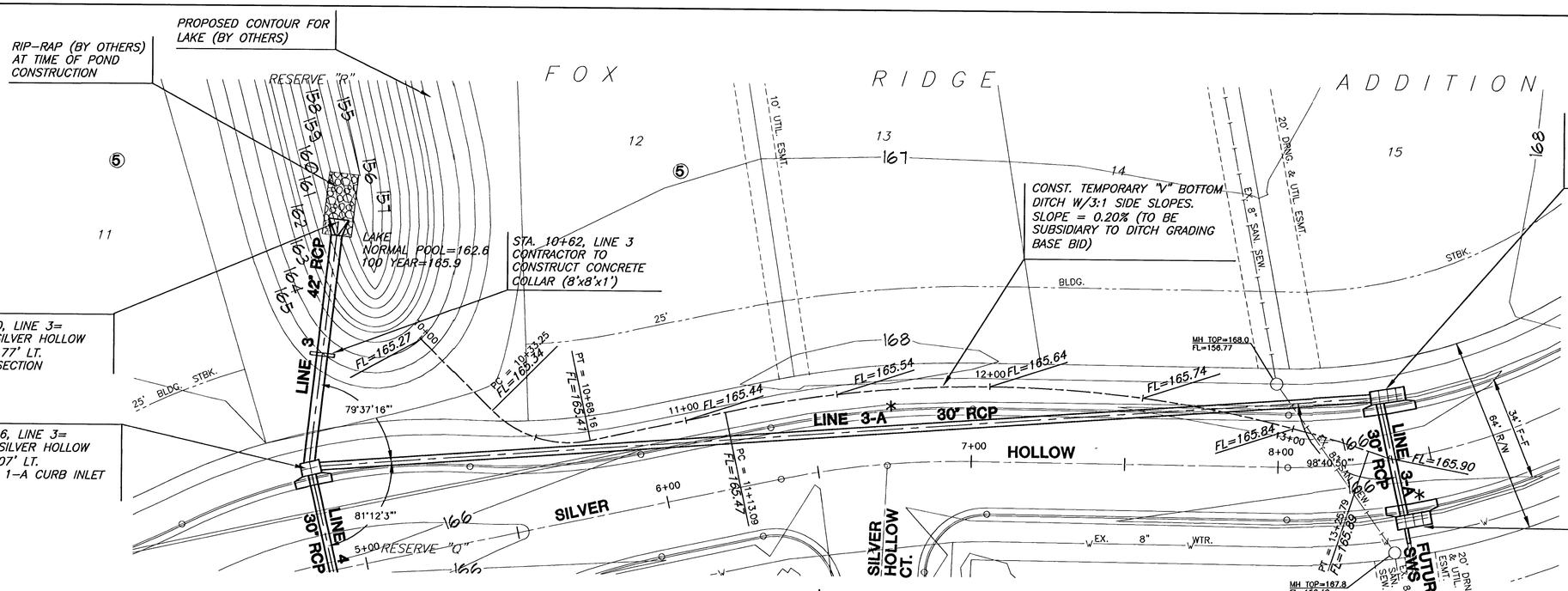
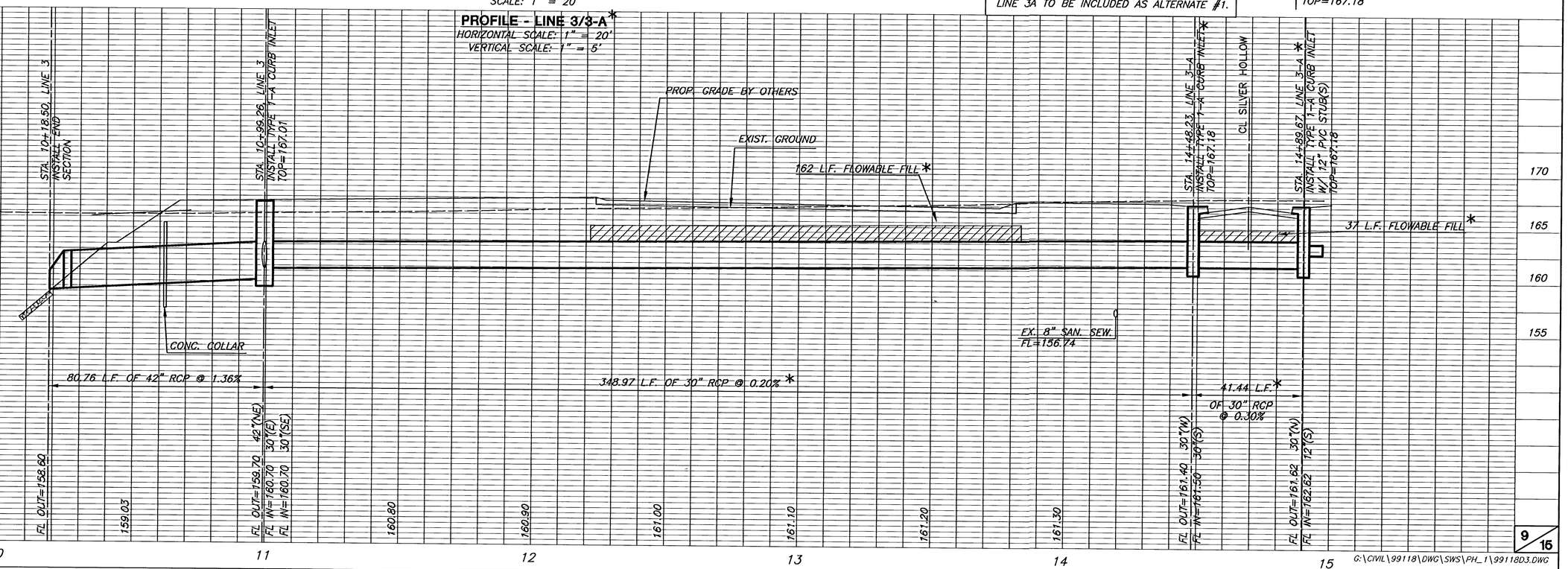
FOX RIDGE ADDITON
PHASE 1 STORM WATER SEWER
LINE 3 & 3A



PLAN - LINE 3/3-A*
SCALE: 1" = 20'

*LINE 3A TO BE INCLUDED AS ALTERNATE #1.

PROFILE - LINE 3/3-A*
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'



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FOX RIDGE ADDITON
PHASE 1 STORM WATER SEWER
LINE 4 & 5

SCALE: 1"=20'

STA. 0+68.33, LINE 4=
STREET STA. SILVER HOLLOW
4+89.26, 34.09' RT.
INSTALL TYPE 1-A CURB INLET
L=5', W=3'
1-12" PVC STUB (S)
TOP=167.01

FOX RIDGE ADD.

LINE 3 30" RCP

LINE 3-A 30" RCP

79°23'10"

81°12'3"

5+00

SILVER HOLLOW

RESERVE "C"

LINE 4
30" RCP

LINE 3
42" RCP

FOX RIDGE ADD.

FUTURE 12" SWS

MH TOP=167.7
FL=158.41

EX. 8" SAN. SEW.

20' DRNG. & UTIL. ESMT.

PROP. 8" WTR.

STA. 0+00, LINE 4=
STA. 10+99.26, LINE 3
STREET STA. SILVER HOLLOW
4+88.22, 34.07' LT.
TYPE 1-A CURB INLET
TOP=167.01

PLAN - LINE 4

SCALE: 1" = 20'

RIP-RAP (BY OTHERS) AT TIME OF POND CONSTRUCTION

PROPOSED CONTOUR FOR LAKE (BY OTHERS)

FOX RIDGE ADDITION

RESERVE "C"

MH TOP=163.9
FL=153.17

20' DRNG. & UTIL. ESMT.

EX. 8" SAN. SEW.

LAKE
NORMAL POOL=159.6
100 YEAR=163.5

STA. 10+05.31, LINE 5 (ALT. #2)=
STREET STA. RED FOX
3+51.97, 219.06' LT.
INSTALL END SECTION

NOTE: LINE 5 WILL BE BID AS ALTERNATE #2

STA. 12+04.62, LINE 5 (ALT. #2)=
STREET STA. RED FOX
3+57.84, 17.75' LT.
INSTALL TYPE 1-A CURB INLET
L=5', W=3'
TOP=165.70

28' F-F

58' R/W

4+00

FOX RIDGE ADDITION

STBK.

BLDG.

WTR.

174°36'14"

LINE 5 (ALT. #2)
36" RCP

30" RCP

158°13'17"

RED FOX

3+00

PROP. 8" WTR.

STA. 10+54, LINE 5 (ALT. #2)=
CONTRACTOR TO CONSTRUCT
CONCRETE COLLAR (7'x7'x1')

LINE 5 (ALT. #2)
15" RCP

FUTURE 12" SWS

MH TOP=164.5
FL=155.48

EX. 8" SAN. SEW.

STA. 12+40.44, LINE 5 (ALT. #2)=
STREET STA. RED FOX
3+62.83, 17.67' RT.
INSTALL TYPE 1-A CURB INLET
L=5', W=3'
TOP=165.70

STA. 14+10.47, LINE 5 (ALT. #2)=
STREET STA. RED FOX
2+43.55, 175.52' RT.
INSTALL SPECIAL SHALLOW TYPE "A"
MH W/DEETER FRAME & GRATE
(NO. 1927 OR APPROVED EQUAL
W/SEDIMENT BARRIER) & 2- 12"
PVC STUBS (NE & S)
TOP=164.00

PLAN - LINE 5 (ALT. #2)

SCALE: 1" = 20'

PROFILE - LINE 4

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'

STA. 0+00, LINE 4
STA. 10+99.26, LINE 3
TYPE 1-A CURB INLET
TOP=167.01

PROP. GRADE
BY OTHERS
EXIST. GROUND

CL SILVER HOLLOW

STA. 0+68.33, LINE 4
INSTALL TYPE 1-A CURB INLET
12" PVC STUB (S)
TOP=167.01

22 L.F. FLOWABLE FILL

22 L.F. FLOWABLE FILL

100 YEAR=163.5

NORMAL POOL=159.6

68.33 L.F. OF 30" RCP
@ 0.29%

FL OUT=159.70 42"(NE)
FL IN=160.70 30"(S)
FL IN=160.70 30"(E)

FL OUT=160.90 30"(N)
FL IN=162.40 12"(S)

PROFILE - LINE 5 (ALT. #2)

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'

STA. 10+05.31, LINE 5 (ALT. #2)
INSTALL END SECTION

FL OUT=156.10

156.67

FL=157.30

157.94

CONC. COLLAR

PROP. GRADE BY OTHERS

EX. 8" SAN. SEW.
FL=152.98

199.31 L.F. OF 36" RCP @ 1.27%

STA. 12+04.62, LINE 5 (ALT. #2)
INSTALL TYPE 1-A CURB INLET
TOP=165.70

CL RED FOX

35.82 L.F.
OF 30" RCP
@ 0.20%

FL OUT=158.63 36"(W)
FL IN=159.13 30"(E)

STA. 12+40.44, LINE 5 (ALT. #2)
INSTALL TYPE 1-A CURB INLET
TOP=165.70

32 L.F. FLOWABLE FILL

EXIST. GROUND

PROP. 8" WTR.

FL OUT=159.21 30"(W)
FL IN=160.46 15"(SE)

160.64

160.79

170.03 L.F. OF 15" RCP @ 0.30%

STA. 14+10.47, LINE 5 (ALT. #2)
INSTALL SPECIAL SHALLOW TYPE
"A" MH W/DEETER FRAME &
GRATE
TOP=164.00
2-12" PVC STUBS (NE & S)

FL OUT=160.97 15"(NW)
FL IN=161.22 12"(S)
FL IN=161.22 12"(NE)

160.94

0 10 11 12 13 14

10/15

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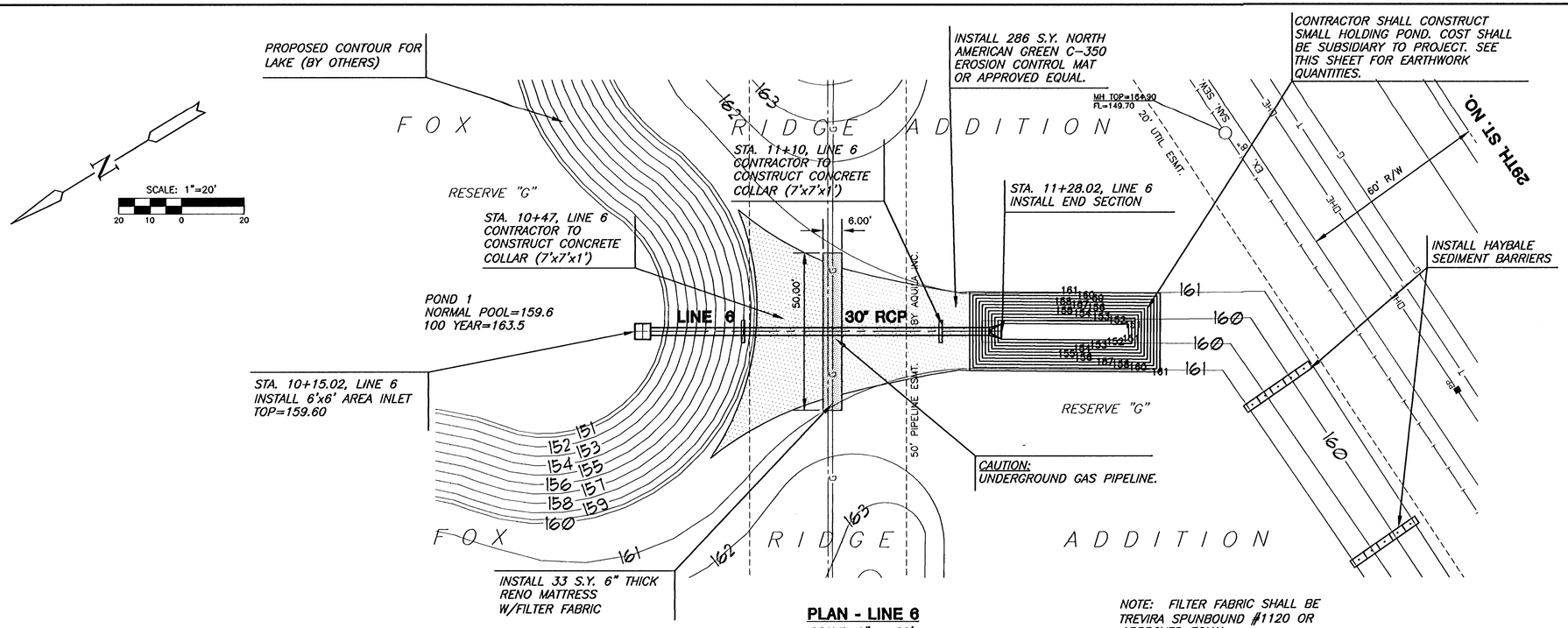
FOX RIDGE ADDITON
PHASE 1 STORM WATER SEWER
LINE 6



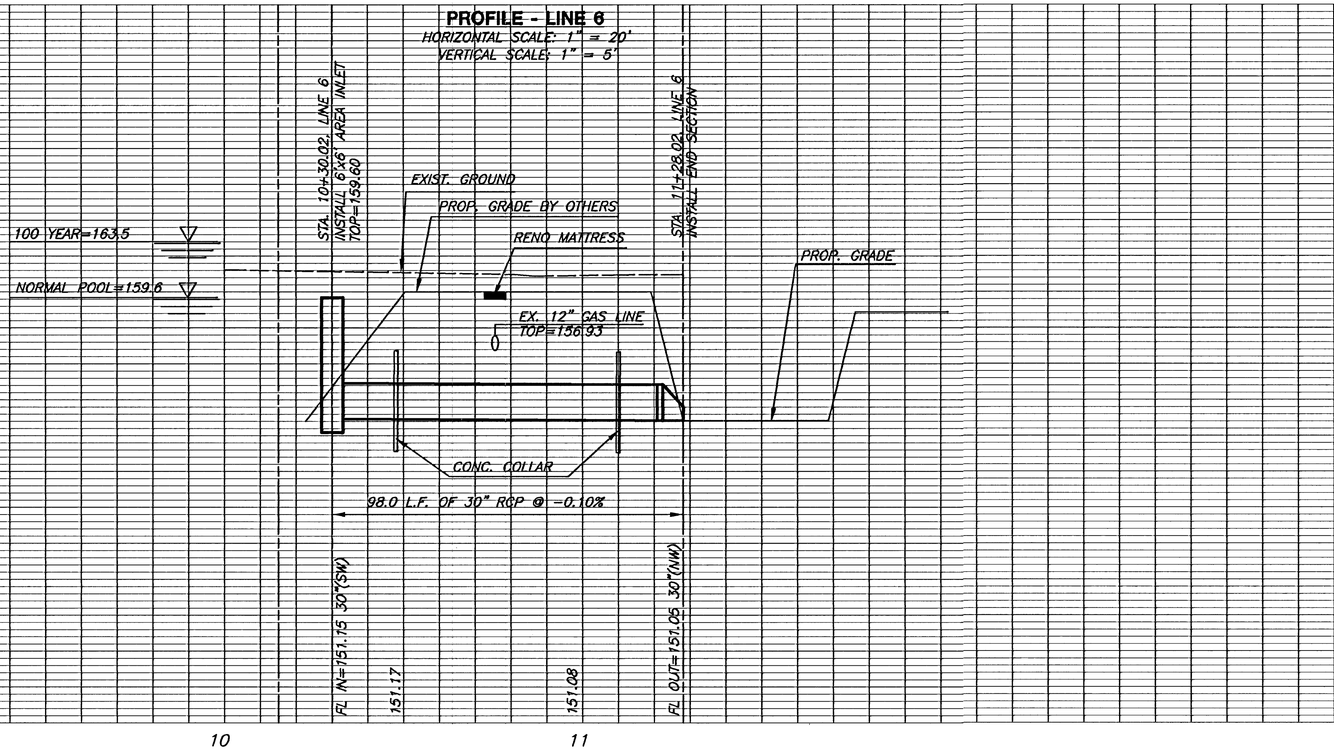
PLAN - LINE 6
SCALE: 1" = 20'

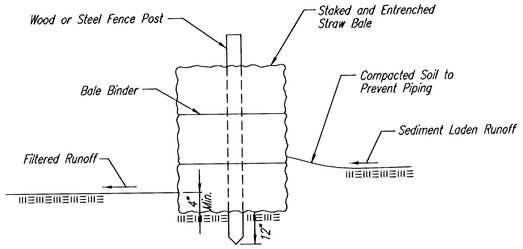
NOTE: FILTER FABRIC SHALL BE TREVIRA SPUNBOUND #1120 OR APPROVED EQUAL.

HOLDING POND GRADING*	
CUT	220.0 C.Y.
FILL	0 C.Y.

* FOR INFORMATION ONLY

PROFILE - LINE 6
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'





STRAW BALE BARRIERS

Material Specification:

Bale slope barriers may be constructed of wheat straw, oat straw, prairie hay, or bromegrass hay that is free of weeds declared noxious by the Kansas State Board of Agriculture.
The stakes used to anchor the bales should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long.

Placement:

A slope barrier should be used at the toe of a slope when a ditch does not exist. The slope barrier should be placed on nearly level ground 5' to 10' away from the toe of a slope. The barrier is placed away from the toe of the slope to provide adequate storage for settling out sediment.
When practicable, bale slope barriers should be placed along contours to avoid a concentration of flow.
Bale slope barriers can also be placed along right-of-way fence lines to keep sediment from crossing onto adjacent property. When placed in this manner, the slope barrier will not likely follow contours.

Proper installation method:

Excavate a trench the length of the planned slope barrier that is 4" deep and a bale's width wide. Make sure that the trench is excavated along a single contour. When practicable, slope barriers should be placed along contours to avoid a concentration of flow. Place the soil on the upslope side of the trench for later use.
Place the bales in the trench, making sure that they are butted tightly. Two stakes should be driven through each bale along the centerline of the ditch check, approximately 6" to 8" in from the bale ends. Stakes should be driven at least 12" into the ground.
Once all the bales have been installed and anchored, place the excavated soil against the upslope side of the check and compact it. The compacted soil should be no more than 3" to 4" deep.

List of common placement/installation mistakes to avoid:

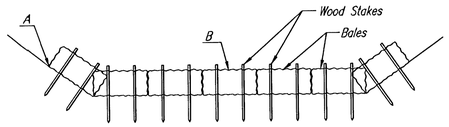
When practicable, do not place bale slope barriers across contours. Slope barriers should be placed along contours to avoid a concentration of flow. Concentrated flow over a slope barrier creates a scour hole on the downslope side of the barrier. The scour hole eventually undermines the bales and the barrier fails.
Do not place bale slope barriers in areas with shallow soils underlain by rock. If the barrier is not anchored sufficiently, it will wash out.
Bale slope barriers must be dug into the ground. Bales at ground level do not work because they allow water to flow under the barrier.

Inspection and Maintenance:

Bale slope barriers should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

Are there any points along the slope barrier where water is concentrating?
Does water flow under the slope barrier?
Does water flow through spaces between abutting bales?
Are any bales dislodged?
Are bales decomposing due to age and/or water damage?
Does sediment need to be removed from behind the slope barrier?

NOTE: Point A must be higher than Point B so that water flows over the bales and not around them.



STRAW BALE DITCH CHECKS

Material Specification:

Bale ditch checks may be constructed of wheat straw, oat straw, prairie hay, or bromegrass hay that is free of weeds declared noxious by the Kansas State Board of Agriculture.
The stakes used to anchor the bales should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long.
Optional: The downstream scour apron should be constructed of a double-netted straw erosion-control blanket at least 6' wide.
Optional: The metal landscape staples used to anchor the erosion-control blanket should be at least 8" long.

Placement:

Bale ditch checks should be placed perpendicular to the flowline of the ditch.
The ditch check should extend far enough so that the ground level at the ends of the check is higher than the top of the lowest center bale. This prevents water from flowing around the check.
Checks should not be placed in ditches where high flows are expected. Rock checks should be used instead.
Bales should be placed in ditches with slopes of 6% or less. For slopes steeper than 6%, rock checks should be used.
The following table provides check spacing for a given ditch grade:

Ditch Check Spacing

Ditch grade (%)	Check Spacing (feet)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

Proper installation method:

Excavate a trench perpendicular to the ditch flowline that is 4" deep and a bale's width wide. Extend the trench in a straight line along the entire length of the proposed ditch check. Place the soil on the upstream side of the trench-it will be used later.
Optional: On the downstream side of the trench, roll out a length of erosion-control blanket (scour apron) equal to the length of the trench. Place the upstream edge of the erosion-control blanket along the bottom upstream edge of the trench. The erosion control blanket should be anchored in the trench with one row of 8" landscape staples placed on 18" centers. The remainder of the erosion-control blanket (the portion that is not lying in the trench) will serve as the downstream scour apron. This section of the blanket should be anchored to the ground with 8" landscape staples placed around the perimeter of the blanket on 18" centers. The remainder of the blanket should be anchored using two evenly spaced rows of 8" landscape staples on 18" centers placed perpendicular to the flowline of the ditch.
Place the bales in the trench, making sure that they are butted tightly. Two stakes should be driven through each bale along the centerline of the ditch check, approximately 6" to 8" in from the bale ends. Stakes should be driven at least 12" into the ground.
Once all the bales have been installed and anchored, place the excavated soil against the upstream side of the check and compact it. The compacted soil should be no more than 3" to 4" deep and extend upstream no more than 24".

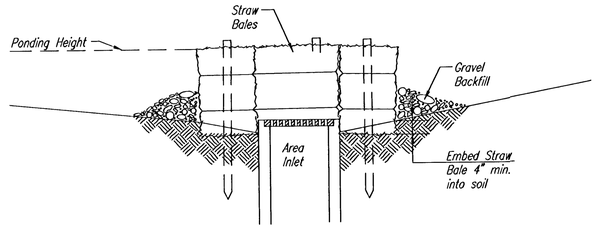
List of common placement/installation mistakes to avoid:

Do not place a bale ditch check directly in front of a culvert outlet. It will not stand up to the concentrated flow.
Do not place bale ditch checks in ditches that will likely experience high flows. They will not stand up to concentrated flow.
Follow prescribed ditch-check spacing guidelines. If spacing guidelines are exceeded, erosion will occur between the ditch checks.
Do not allow water to flow around the ditch check. Make sure that the ditch check is long enough so that the ground level at the ends of the check is higher than the top of the lowest center bale.
Do not place bale ditch checks in channels with shallow soils underlain by rock. If the check is not anchored sufficiently, it will wash out.
Bale ditch checks must be dug into the ground. Bales at ground level do not work because they allow water to flow under the check.

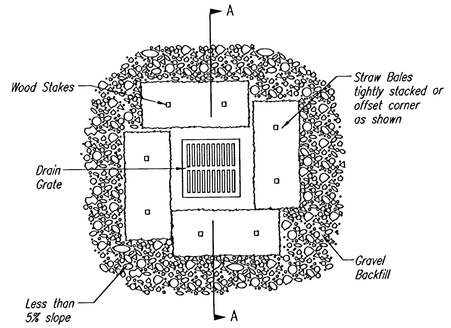
Inspection and Maintenance:

Bale ditch checks should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

Does water flow around the ditch check?
Does water flow under the ditch check?
Does water flow through spaces between abutting bales?
Are any bales and/or scour aprons (optional) dislodged?
Are bales decomposing due to age and/or water damage?
Does sediment need to be removed from behind the ditch check?



SECTION A-A



STRAW BALE BARRIERS FOR AREA INLETS
(INLET PROTECTION)

Material Specification:

Bale area inlet barriers should be constructed of wheat straw, oat straw, prairie hay, or bromegrass hay that is free of weeds declared noxious by the Kansas State Board of Agriculture.
The stakes used to anchor the bales should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long.

Placement:

Bale area inlet barriers should be placed directly around the perimeter of a drop inlet.
When a bale area inlet barrier is located near an inlet that has steep approach slopes, the storage capacity behind the barrier is drastically reduced. Timely removal of sediment must occur for a barrier to operate properly in this location.

Proper Installation Method:

Excavate a trench around the perimeter of the area inlet that is at least 4" deep by a bale's width wide.
Place the bales in the trench, making sure that they are butted tightly. Some bales may need to be shortened to fit into the trench around the area inlet. Two stakes should be driven through each bale, approximately 6" to 8" in from the bale ends.
Stakes should be driven at least 12" into the ground.
Once all the bales have been installed and anchored, place the excavated soil against the receiving side of the barrier and compact it. The compacted soil should be no more than 3" to 4" deep.
Note: When a bale area inlet barrier is placed in a shallow median ditch, make sure that the top of the barrier is not higher than the paved road. In this configuration, water may spread onto the roadway causing a hazardous condition.

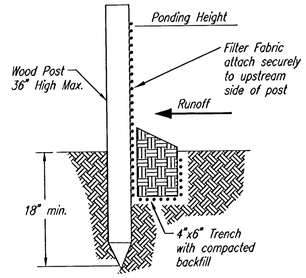
List of common placement installation mistakes to avoid:

Bales should be placed directly against the perimeter of the area inlet. This allows overtopping water to flow directly into the inlet instead of onto nearby soil causing scour.
Bale area inlet barriers must be dug into the ground. Bales at ground level do not work because they allow water to flow under the barrier.

Inspection and Maintenance:

Bale area inlet barriers should be inspected every 7 days and within 24 hours of a rainfall 1/2" or more. The following is a list of questions that should be addressed during each inspection:

Does water flow under the area inlet barrier?
Does water flow through spaces between abutting bales?
Are any bales dislodged?
Are bales decomposing due to age andlor water damage?
Does sediment need to be removed from behind the area inlet barrier?



SILT FENCE BARRIERS

SILT FENCE BARRIERS

Material Specification:

Silt fence fabric should conform to the AASHTO M288 96 silt fence specification.
The posts used to support the silt fence fabric should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long.
Silt fence fabric should be attached to the wooden posts with staples, wire, zip ties, or nails.

Placement:

A slope barrier should be used at the toe of a slope when a ditch does not exist. The slope barrier should be placed on nearly level ground 5' to 10' away from the toe of a slope. The barrier is placed away from the toe of the slope to provide adequate storage for settling out sediment.
When practicable, silt fence slope barriers should be placed along contours to avoid a concentration of flow.
Silt fence slope barriers can also be placed along right-of-way fence lines to keep sediment from crossing onto adjacent property. When placed in this manner, the slope barrier will not likely follow contours.

Proper installation method:

Excavate a trench the length of the planned slope barrier that is 6" deep by 4" wide.
Make sure that the trench is excavated along a single contour. When practicable, slope barriers should be placed along contours to avoid a concentration of flow. Place the soil on the upslope side of the trench for later use.
Roll out a continuous length of silt fence fabric on the downslope side of the trench.
Place the edge of the fabric in the trench starting at the top upslope edge. Line all three sides of the trench with the fabric. Backfill over the fabric in the trench with the excavated soil and compact. After filling the trench, approximately 24" to 36" of silt-fence fabric should remain exposed.
Lay the exposed silt fence upslope of the trench to clear an area for driving in the posts.
Just downslope of the trench, drive posts into the ground to a depth of at least 18".
Place posts no more than 4' apart.
Attach the silt fence to the anchored post with staples, wire, zip ties, or nails.

List of common placement/installation mistakes to avoid:

When practicable, do not place silt fence slope barriers across contours. Slope barriers should be placed along contours to avoid a concentration of flow. When the flow concentrates, it overtops the barrier and the silt fence slope barrier quickly deteriorates.
Do not place silt-fence posts on the upslope side of the silt fence fabric. In this configuration, the force of the water is not restricted by the posts, but only by the staples (wire, zip ties, iiails, etc.). The silt fence will rip and fail.
Do not place silt fence slope barriers in areas with shallow soils underlain by rock. If the barrier is not sufficiently anchored, it will wash out.
Silt fence slope barriers must be dug into the ground-silt fence at ground level does not work because water will flow underneath.

Inspection and Maintenance:

Silt fence slope barriers should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

Are there any points along the slope barrier where water is concentrating?
Does water flow under the slope barrier?
Do the silt fences sag excessively?
Has the silt fence torn or become detached from the posts?
Does sediment need to be removed from behind the slope barrier?

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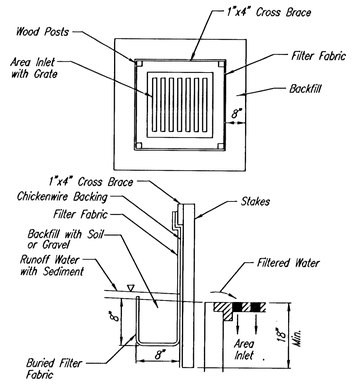
CITY OF WICHITA

SOIL EROSION BMP DETAILS

CHRISTOPHER M. CARRIER, P.E.
STORM WATER ENGINEER

PROJECT NUMBER	OCA NO.
____-_____	_____

DATE APR 2003



SILT FENCE BARRIERS FOR AREA INLETS
(INLET PROTECTION)

Material Specification:

Silt fence fabric should conform to the AASHTO M288 96 silt fence specification.
The wire or polymeric mesh backing used to help support the silt fence fabric should conform to the AASHTO M288 96 silt fence specification.
The posts used to support the silt fence fabric should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long.
The material used to frame the tops of the posts should be 1" by 4" boards.
Silt fence fabric and support backing should be attached to the wooden posts and frame with staples, wire, zip ties, or nails.

Placement:

Place a silt fence drop inlet barrier in a location where it is unlikely to be overtopped.
Water should flow through silt fence, not over it. Silt fence barriers for area inlets often fail when repeatedly overtopped.
When used as a barrierfor area inlets, silt fence fabric and posts must be supported at the top by a wooden frame.
When a silt fence barrier for area inlets is located near an inlet that has steep approach slopes, the storage capacity behind the barrier is drastically reduced. Timely removal of sediment must occur for a barrier to operate properly in this location.

Proper installation method:

Excavate a trench around the perimeter of the area inlet that is at least 8" deep by 8" wide.
Drive posts to a depth of at least 18" around the perimeter of the area inlet.
The distance between posts should be 4' or less. If the distance between two adjacent corner posts is more than 4', add another post(s) between them.
Connect the tops of all the posts with a wooden frame made of 1" by 4" boards. Use nails or screws for fastening.
Attach the wire or polymeric-mesh backing to the outside of the post/frame structure with staples, wire, zip ties, or nails.
Roll out a continuous length of silt fence fabric long enough to wrap around the perimeter of the area inlet. Add more length for overlapping the fabric joint. Place the edge of the fabric in the trench, starting at the outside edge of the trench. Line all three sides of the trench with the fabric. Backfill over the fabric in the trench with the excavated soil and compact. After filling the trench, approximately 24" to 36" of silt fence fabric should remain exposed.
Attach the silt fence to the outside of the post/frame structure with staples, wire, zip ties, or nails. The joint should be overlapped to the next post.

Note: When a silt fence barrier for area inlet is placed in a shallow median ditch, make sure that the top of the barrier is not higher than the paved road. In this configuration, water may spread onto the roadway causing a hazardous condition.

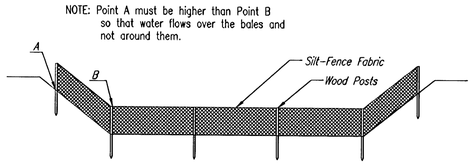
List of common placement/installation mistakes to avoid:

Water should flow through a silt fence barrier for area inlet-not over it. Place a silt fence barrier for area inlet in a location where it is unlikely to be overtopped. Silt fence barrier for area inlets often fail when repeatedly overtopped.
Do not place posts on the outside of the silt fence barrier for area inlet. In this configuration, the force of the water is not resisted by the posts, but only by the staples (wire, zip-ties, nails, etc.). The silt fence will rip and fail.
Do not install silt fence barrier for area inlets without framing the top of the posts.
The corner posts around area inlets are stressed in two directions whereas a normal silt fence is only stressed in one direction. This added stress requires more support.

Inspection and Maintenance:

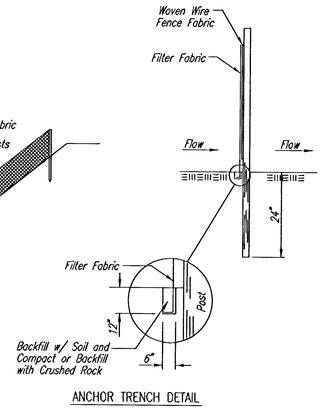
Silt fence barrier for area inlets should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

Does water flow under the silt fence?
Does the silt fence sag excessively?
Has the silt fence torn or become detached from the posts?
Does sediment need to be removed from behind the area inlet barrier?



ELEVATION

SILT FENCE DITCH CHECKS
(STREAM PROTECTION)



ANCHOR TRENCH DETAIL

Material Specification:

Silt fence fabric should conform to the AASHTO M288 96 silt fence specification.
The posts used to support the silt fence fabric should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long.
Silt fence fabric should be attached to the wooden posts with staples, wire, zip ties, or nails.

Placement:

Place silt fence in ditches where it is unlikely that it will be overtopped.
Water should flow through a silt fence ditch check, not over it. Silt fence ditch checks often fail when overtopped.
Silt fence ditch checks should be placed perpendicular to the flowline of the ditch.
The silt fence should extend far enough so that the ground level at the ends of the fence is higher than the top of the low point of the fence. This prevents water from flowing around the check.
Checks should not be placed in ditches where high flows are expected. Rock checks should be used instead.
Silt fence should be placed in ditches with slopes of 6% or less. For slopes steeper than 6%, rock checks should be used.

The following table provides check spacing for a given ditch grade:

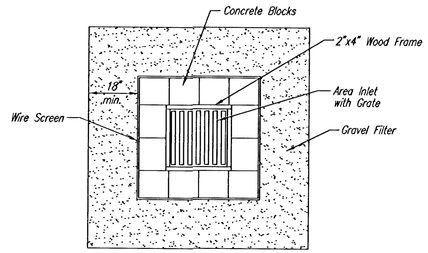
Ditch grade (%)	Check Spacing (feet)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

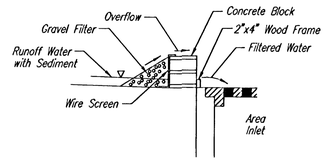
Proper installation method:

Excavate a trench perpendicular to the ditch flowline that is at least 12" deep by 6" wide.
Extend the trench in a straight line along the entire length of the proposed ditch check.
Place the soil on the upstream side of the trench for later use.
Roll out a continuous length of silt fence fabric on the downstream side of the trench.
Place the edge of the fabric in the trench starting at the top upstream edge of the trench.
Line two sides of the trench with the fabric as shown on detail. Backfill over the fabric in the trench with the excavated soil and compact. After filling the trench, approximately 24" to 36" of silt fence fabric should remain exposed.
Lay the exposed silt fence on the upstream side of the trench to clear an area for driving in the posts. Just downstream of the trench, drive posts into the ground to a depth of at least 24". Place posts no more than 4' apart.
Attach the silt fence to the anchored post with staples, wire, zip ties, or nails.

List of common placement/installation mistakes to avoid:

Water should flow through a silt fence ditch check-not over it. Place silt fence in ditches where it is unlikely that it will be overtopped. Silt fence installations quickly deteriorate when water overtops them.
Do not place silt fence posts on the upstream side of the silt fence fabric. In this configuration, the force of the water is not restricted by the posts, but only by the staples (wire, zip ties, nails, etc.). The silt fence will rip and fail.
Do not place a silt fence ditch check directly in front of a culvert outlet. It will not stand up to the concentrated flow.
Do not place silt fence ditch checks in ditches that will likely experience high flows. They will not stand up to concentrated flow.
Follow prescribed ditch check spacing guidelines. If spacing guidelines are exceeded, erosion will occur between the ditch checks.
Do not allow water to flow around the ditch check. Make sure that the ditch check is long enough so that the ground level at the ends of the fence is higher than the low point on the top of the fence.
Do not place silt fence ditch checks in channels with shallow soils underlain by rock. If the check is not anchored sufficiently, it will wash out.





CONCRETE BLOCK FILTER FOR AREA DRAIN
(INLET PROTECTION)

Gravel barriers provide little filtering of large inflow waters. However, when installed correctly and maintained, they can effectively treat low runoff flows.

Placement of gravel filters around area drains must be completed in a manner that will not cause local flooding.

Gravel filters can be used if the immediate and adjacent area to the area drain consists of soil or pavement.

Only gravel filters are to be installed on top of the pavement.

Instructions for Installing:

STEP 1: Place concrete blocks around the grate. The blocks can be stacked one or two high and should be supported by a 2"x4" board.
STEP 2: Wrap 1/2" mesh wire screen around the concrete blocks.
STEP 3: Place 1" to 1-1/2" diameter rock around the blocks and wire screen. Be sure the rock extends down from the top of the concrete block.
STEP 4: To prevent damage to vehicles, signs warning drivers about the structures may be necessary.

An alternative method is use of gravel bags that are supported to prevent collapsing.

Use of rock having diameters smaller than 1" may result in clogging of pores and reduce the amount of water flowing into an inlet.

Maintenance:

All gravel filters installed around area drains should be inspected and repaired after each runoff event. Sediment should be removed when material is within 3" of the top of any block. Periodically, the gravel should be raked to increase infiltration and filtering of runoff waters. Accumulated sediment is to be removed immediately from roads and streets after every runoff event.

Inspection and Maintenance:

Silt fence ditch checks should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

Does water flow around the ditch check?
Does water flow under the ditch check?
Does the silt fence sag excessively?
Has the silt fence torn or become detached from the posts?
Does sediment need to be removed from behind the ditch check?

CITY OF WICHITA

SOIL EROSION BMP DETAILS

CHRISTOPHER M. CARRIER, P.E.
STORM WATER ENGINEER

PROJECT NUMBER ____-_____
OCA NO. _____
DATE MAY 2001
SHEET 13 OF 15

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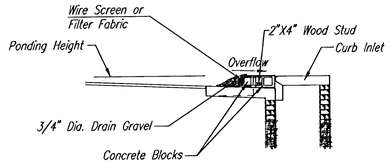
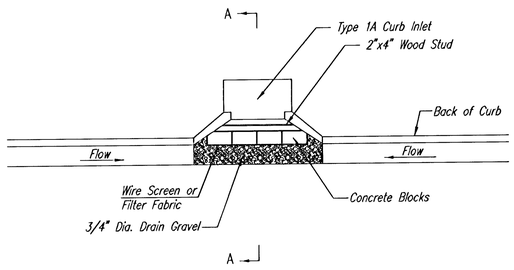


SECTION A-A



CURB INLET GRAVEL FILTERS
(INLET PROTECTION-RESIDENTIAL STREETS ONLY)

NOTE: Other types of curb inlet protection may be approved by the city so long as equal protection is provided.

A gravel inlet filter shall be installed at sump locations on residential streets. This type of protection is not to be used on arterial or collector streets at any time that it would pose an undue traffic hazard.

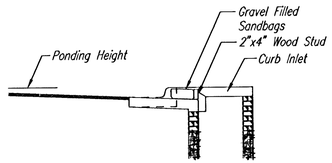
Instructions for Installing:

STEP 1: Place concrete blocks around the inlet as shown on drawing. Insert 2x4 board as shown.
STEP 2: Wrap 1/2" mesh wire screen around the concrete blocks.
STEP 3: Place 1" to 1-1/2" diameter rock around the blocks and wire screen. Be sure the rock extends down from the top of the concrete block.
STEP 4: To prevent damage to vehicles, signs warning drivers about the structures may be necessary. An alternative installation is the use of gravel bags supported by a 2"x4" board to prevent collapsing.

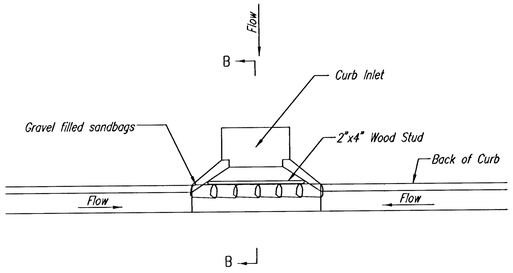
Use of rock with diameters smaller than 1" in the bag may result in clogging of pores and reduce the amount of water flowing into an inlet.

Maintenance:

All curb inlet gravel filters shall be inspected and repaired after each runoff event. Sediment deposits are to be removed once material is within 8 cm (3 inches) of the top of any block. Periodically, the gravel shall be raked to increase infiltration and filtering of runoff waters. Accumulated sediment is to be removed immediately from roads and streets.

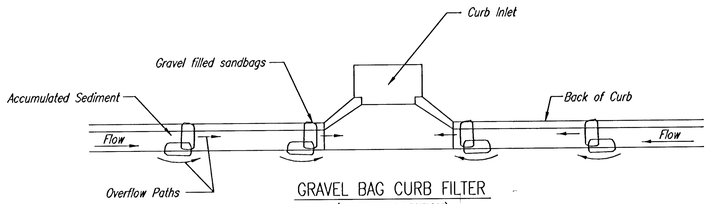


SECTION B-B



CURB INLET SANDBAG FILTERS
(INLET PROTECTION)

NOTE: Other types of curb inlet protection may be approved by the City so long as equal protection is provided.



GRAVEL BAG CURB FILTER
(INLET PROTECTION)

NOTE: Place two or more sets of bags in a manner that results in maximum support. The flow line bag must be lower than top of curb.

CURB SEDIMENT TRAPS

When inlets are located on streets having a grade (i.e., sump conditions do not exist), installing gravel (or sand) bags in the gutter flow line to create small sediment traps can be considered. Gravel bags are recommended over sand bags to allow for drainage.

If the spacing between bags becomes too large, little sediment may be trapped. Spacing of bags should be completed using the table or graph that illustrates placement distances based upon street slope. When installed in the gutter, bag tops must be lower than the sidewalk.

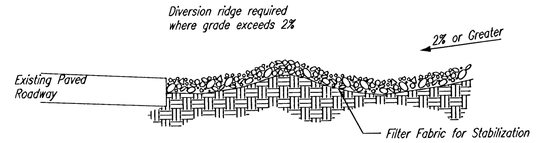
Spacing:

Gravel bags are to be placed according to street grades using the following table or graph that appears below.

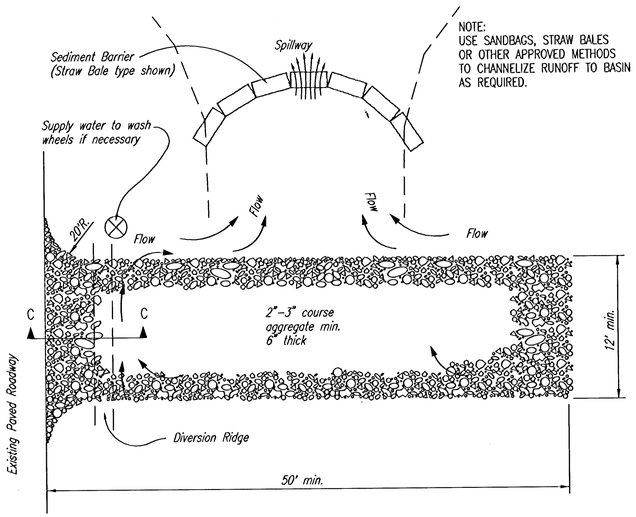
GRADE (%)	SPACING (FEET)
0.5	75
1.0	45
2.0	18
3.0	12
4.0	9
5.0	6

Maintenance:

Collected sediment shall be removed after every runoff event. Bags that are destroyed by vehicular traffic or through natural deterioration are to be immediately replaced.



SECTION C-C



STABILIZED CONSTRUCTION ENTRANCE

NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABLIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN, AS SHOWN ABOVE.
4. DRIVE ENTRANCES ONTO RESIDENTIAL LOTS WILL NOT BE REQUIRED TO HAVE THE SEDIMENT BARRIER SHOWN, BUT WHEEL WASHING MAY BE REQUIRED IF STABILIZED ENTRANCE IS NOT SUFFICIENT TO KEEP MUD FROM BEING TRACKED ONTO ADJACENT STREET. ENTRANCE SHALL EXTEND FROM BACK OF CURB TO DWELLING.

CITY OF WICHITA

SOIL EROSION BMP DETAILS

CHRISTOPHER M. CARRIER, P.E.
STORM WATER ENGINEER

PROJECT NUMBER 468-83199
OCA NO. ------
DATE MAR 2003

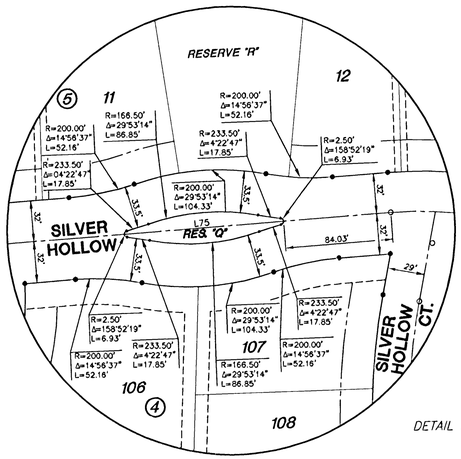
G:\CIVIL\99118\DWG\SWS\PH_1\99118ER3.DWG

DSNR: DEP OPER: DEP SCALE: 1=1.00
Z:\STANDARD\Standards Wichita\SEBMP_PEC_DTL.S3 06-05-2001 02:03:06 pm

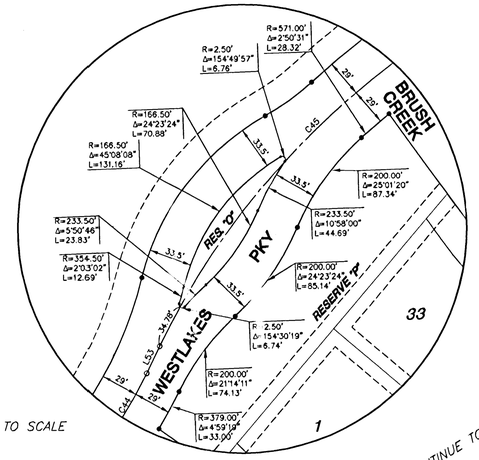
FINAL PLAT

FOX RIDGE ADDITION

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS

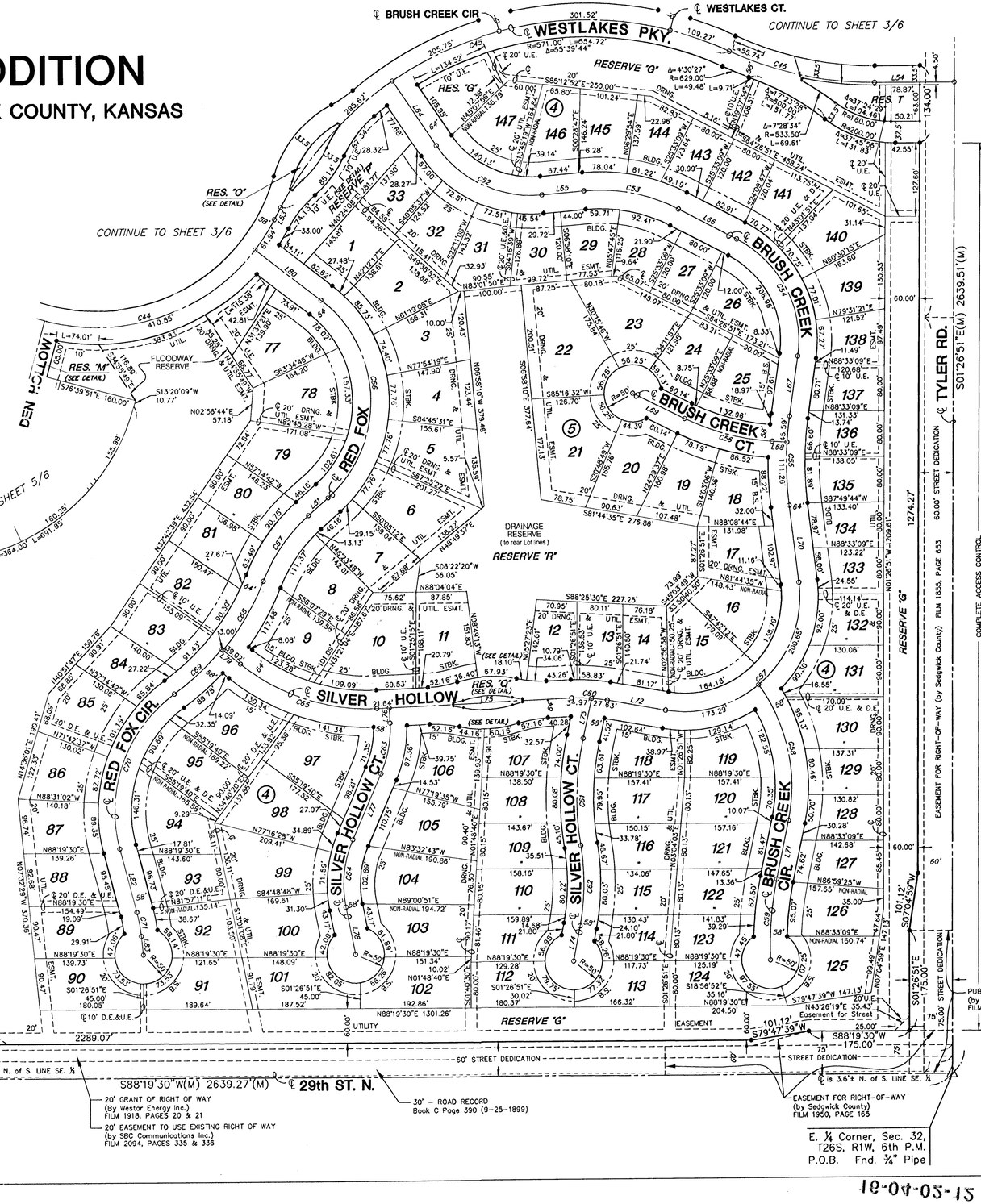


RESERVE "Q"



RESERVE "O"

DETAIL NOT TO SCALE



S. ¼ Corner, Sec. 32,
T26S, R1W, 6th P.M.
Fnd. ¾" Bar w/ 1½"
Alum. Cap stamped
Sedgwick County

E. ¼ Corner, Sec. 32,
T26S, R1W, 6th P.M.
P.O.B. Fnd. ¾" Pipe

LEGEND

- △ = Found Section Corner
- ○ = Found Survey Monument
- ● = Set ⅝" Rebar W/ MKEC CLS 39 id. cap
- D.E. = Drainage Easement
- B.S. = Building Setback
- U.E. = Utility Easement
- (M) = Measured
- — — — = Floodway Reserve

N

SCALE: 1" = 100'

100 0 100 200

NOTES

1. There shall be no parking on or along Westlakes Parkway.

MINIMUM PAD ELEVATIONS (LOWEST OPENINGS)			
LOT	BLOCK	ELEVATION (CITY DATUM)	ELEVATION (NGVD)
77	4	164.9	1352.3
78	4	164.9	1352.3
79	4	164.9	1352.3
80	4	164.9	1352.3
81	4	164.9	1352.3
82	4	164.9	1352.3
83	4	164.9	1352.3
84	4	164.9	1352.3
85	4	164.9	1352.3
86	4	164.9	1352.3
87	4	164.9	1352.3
88	4	164.9	1352.3
89	4	164.9	1352.3
90	4	164.9	1352.3
2	5	167.9	1355.3
3	5	167.9	1355.3
4	5	167.9	1355.3
5	5	167.9	1355.3
6	5	167.9	1355.3
7	5	167.9	1355.3
8	5	167.9	1355.3
10	5	167.9	1355.3
11	5	167.9	1355.3
12	5	167.9	1355.3
13	5	167.9	1355.3
14	5	167.9	1355.3
15	5	167.9	1355.3
16	5	167.9	1355.3
17	5	167.9	1355.3
18	5	167.9	1355.3
19	5	167.9	1355.3
20	5	167.9	1355.3
21	5	167.9	1355.3
22	5	167.9	1355.3
30	5	167.9	1355.3
31	5	167.9	1355.3

CURVE TABLE			
CURVE	LENGTH	RADIUS	DELTA
C44	589.66'	350.00'	Δ=96°31'44"
C45	912.16'	600.00'	Δ=87°06'18"
C46	260.56'	600.00'	Δ=24°52'54"
C52	213.42'	200.00'	Δ=61°08'22"
C53	170.28'	300.00'	Δ=32°31'19"
C54	246.38'	200.00'	Δ=70°34'56"
C55	156.85'	600.00'	Δ=14°58'42"
C56	158.56'	400.00'	Δ=22°42'46"
C57	373.94'	200.00'	Δ=107°07'33"
C58	248.70'	300.00'	Δ=47°29'52"
C59	141.66'	600.00'	Δ=13°31'38"
C60	62.60'	285.00'	Δ=12°35'03"
C61	188.26'	500.00'	Δ=21°34'21"
C62	140.60'	400.00'	Δ=20°08'23"
C63	89.91'	200.00'	Δ=25°45'28"
C64	120.34'	200.00'	Δ=34°28'27"
C65	255.75'	350.00'	Δ=41°52'01"
C66	394.00'	225.00'	Δ=100°19'56"
C67	139.37'	300.00'	Δ=26°37'04"
C68	139.57'	450.00'	Δ=17°46'16"
C69	114.38'	447.00'	Δ=14°39'42"
C70	304.23'	253.00'	Δ=68°53'52"
C71	42.33'	275.00'	Δ=8°49'06"

LINE TABLE		
LINE	LENGTH	BEARING
L53	23.61'	N25°56'24"E
L54	138.63'	S88°09'47"W
L64	135.85'	S35°49'48"E
L65	73.72'	N83°01'50"E
L66	113.90'	S64°26'51"E
L67	105.94'	S06°08'04"W
L68	25.98'	S88°13'08"E
L69	100.87'	S65°30'23"E
L70	134.97'	N08°50'38"W
L71	104.90'	S09°45'06"W
L72	102.90'	S81°43'05"E
L73	70.70'	N10°28'03"E
L74	62.53'	N09°02'05"E
L75	339.88'	N85°41'51"E
L76	26.41'	N04°18'09"W
L77	125.29'	N21°27'20"E
L78	83.90'	N13°01'08"W
L79	42.02'	N52°26'08"W
L80	144.37'	S53°55'16"E
L81	46.16'	S46°24'40"W
L82	114.54'	N16°40'18"W
L83	32.69'	N07°51'12"W