

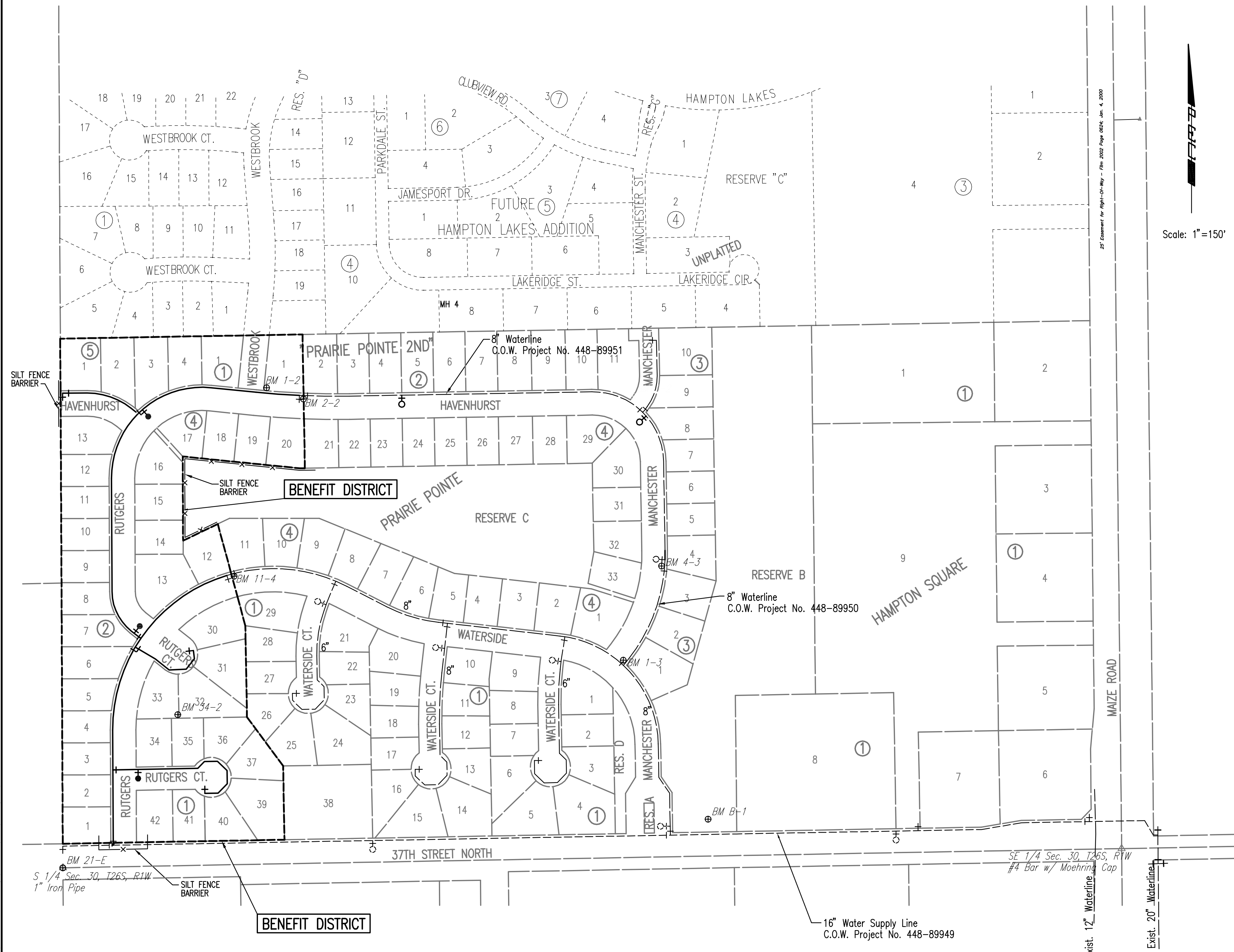
GENERAL NOTES

- ALL ELEVATIONS SHOWN ARE CITY OF WICHITA DATUM. (U.S.G.S. - 1187.4 = CITY DATUM)
- CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT (48) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

KANSAS ONE-CALL	687-2470
THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:	
COX COMMUNICATIONS	262-0661
KANSAS GAS SERVICE	832-3169
WESTAR ENERGY	383-8600
AQUILA NETWORK	1(800)-527-0357
SBC	1(800)-870-8390
CITY OF WICHITA WATER DEPARTMENT	262-6000
CITY OF WICHITA SEWER MAINTENANCE	262-6000
- ALL WATER MAINS AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF WICHITA, KANSAS STANDARD SPECIFICATIONS.
- THE WATER MAIN SHALL BE CONSTRUCTED ON THE ALIGNMENT SHOWN BY THE PLANS. TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE. THE COST FOR ANY NECESSARY TREE TRIMMING, CLEARING AND/OR GRUBBING SHALL BE SUBSIDIARY TO SITE CLEARING.
- OPENING AND CLOSING WATER VALVES SHALL BE DONE SLOWLY TO PREVENT DAMAGE TO THE WATER DISTRIBUTION SYSTEM FROM WATER HAMMER. ALL VALVES CLOSED BY THE CONTRACTOR MUST BE REOPENED AS NEW CONSTRUCTION PERMITS. PROJECT INSPECTOR MUST ASCERTAIN THAT ANY VALVE CLOSED BY THE CONTRACTOR IS REOPENED. CONTRACTOR WILL BE PERMITTED TO OPERATE WATER VALVES ONLY WHEN THE PROJECT INSPECTOR ASSIGNED TO THE PROJECT IS PRESENT.
- THE CONTRACTOR SHALL NOT START WORK ON THE PROJECT UNTIL THE PROJECT INSPECTOR IS ASSIGNED TO THE PROJECT AND IS PRESENT ON THE SITE. ANY WORK DONE WITHOUT INSPECTION WILL BE REQUIRED TO BE UNCOVERED FOR INSPECTION.
- THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY DIRECTLY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.
- 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. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO SITE RESTORATION.
- THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, ENTRANCES, AND BANK LINES TO THEIR ORIGINAL SLOPES AND GRADES EXCEPT AS SHOWN OTHERWISE.
- NO SERVICES WILL BE INSTALLED AS PART OF THIS PROJECT.
- INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA AND LOCAL BUSINESS OR RESIDENTIAL TRAFFIC GENERATED WITHIN THE PROJECT AREA ARE TO BE CARRIED THROUGH CONSTRUCTION AS FURTHER PROMULGATED BY PROJECT SPECIAL PROVISIONS. THE CONTRACTOR SHALL UTILIZE BARRICADES, SIGNS, GUARDS, AND FLAGMEN IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES INCLUDING ANY TREES REMOVED AND TREE TRIMMINGS AND EXCESS EXCAVATED MATERIAL SHALL BE DISPOSED OF ON SITES PROVIDED BY THE CONTRACTOR. THESE SITES SHALL ALSO BE APPROVED OF BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, 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 WILL 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 MAY REQUIRE ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED DISPOSAL LOCATION.
- ALL LAWN/TURF AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE RESTORED WITH THE SAME GRASS/SOD AS EXISTING. RESTORATION OF DISTURBED AREAS SHALL INCLUDE, BUT NOT BE LIMITED TO, TOP SOIL PREPARATION, SEEDING, MULCH, AND/OR RESEEDING. ALL SEEDING/SODDING WORK SHALL BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATIONS AND THE CITY OF WICHITA ADMINISTRATIVE REGULATION NO. AR78 WHICH GOVERNS CLEANUP AND RESTORATION OR REPLACEMENT FOLLOWING CONSTRUCTION. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO THE LUMP SUM PRICE BID FOR "SITE RESTORATION".
- ALL APPROVED EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE STOCKPILED WITHIN PRAIRIE POINT ADDITION OR PRAIRIE POINT 2ND ADDITION AT NO ADDITIONAL COST TO THE OWNER. STOCKPILE LOCATIONS SHALL BE AS DIRECTED BY THE OWNER AND IN ACCORDANCE WITH GENERAL NOTE NO. 12 ABOVE.
- EACH BIDDER SHALL VISIT THE SITE OF THE PROJECT BEFORE SUBMITTING THE PROPOSAL FOR THIS WORK SO THAT HE WILL BE FULLY INFORMED OF THE EXISTING FIELD CONDITIONS AND THE OBSTACLES WHICH MIGHT BE ENCOUNTERED. UPON AWARD OF THE CONTRACT THE CONTRACTOR WILL NOT BE GRANTED ANY ADDITIONAL COMPENSATION WITH REGARDS TO TIME AND MONEY FOR CONDITIONS THAT MAY HAVE BEEN EVALUATED DURING ANY INSPECTION OF THE SITE.
- THE CONTRACTOR SHALL SEE ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WITH TEMPORARY RYE GRASS. RYE GRASS SEED SHALL BE PLANTED AT A MINIMUM RATE OF SIX (6) POUNDS PER ONE THOUSAND (1,000) SQUARE FEET. THIS TEMPORARY SEEDING MAY BE OMITTED ONLY IF OTHER SEEDING IS REQUIRED IN ACCORDANCE WITH GENERAL NOTE NO. 13 ABOVE. TEMPORARY SEEDING OR PERMANENT SEEDING/SODDING SHALL BE APPLIED WITHIN 14 DAYS AFTER THE AREA HAS BEEN DISTURBED.
- EROSION CONTROL (BMP'S)
 THE CONTRACTOR SHALL INSTALL AND/OR MAINTAIN EROSION CONTROL METHODS AS SPECIFIED ON SHEETS 9-12 THE FOLLOWING QUANTITIES ARE ESTIMATED, AND SHOULD BE CONSIDERED THE MINIMUM EFFORT REQUIRED. THE GENERAL LOCATION OF THE REQUIRED EROSION CONTROL IS ILLUSTRATED ON THE PROJECT KEY MAP. THE WATERLINE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE EROSION CONTROL SHOWN THROUGH THE COMPLETION OF THIS PROJECT. INSTALLATION OF THESE BMP'S DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF ABATING SOIL EROSION.

SILT FENCE BARRIER	918 L.F.
CONSTRUCTION ENTRANCE	1 EACH

Scale: 1"=150'



- BENCHMARK LIST**
- BM #B-1 - CHISELED "d" ON THE WEST END OF CONCRETE HEADWALL 93 FEET± NORTH OF CENTERLINE OF 37TH STREET NORTH AND 139 FEET± EAST OF CENTERLINE OF MANCHESTER STREET AT SOUTH END OF POND. ELEV. = 168.12
 - BM #2-2 - CHISELED "d" ON THE NORTH TOP OF HAVENHURST STREET NEAR THE SOUTHWEST CORNER OF LOT 2, BLOCK 2, PRAIRIE POINT ADDITION. ELEV. = 176.77
 - BM #11-4 - CHISELED "d" ON CENTER OF CURB INLET ON NORTH SIDE OF WATERSIDE STREET NEAR SOUTHWEST CORNER OF LOT 11, BLOCK 4, PRAIRIE POINT ADDITION. ELEV. = 173.775
 - BM #21-E - CHISELED "d" ON CONCRETE BASE OF BRICK FENCE POST ON SOUTH SIDE OF 37TH STREET NORTH, 440 FEET EAST OF ONE HALF MILE LINE, 300 FEET± EAST OF RUTGERS STREET. ELEV. = 169.61
 - BM #34-2 - "T" POST 4 FEET NORTH OF TELEPHONE PEDESTAL NEAR NORTHEAST CORNER OF LOT 34, BLOCK 2, PRAIRIE POINT ADDITION, 280 FEET± EAST AND 360 FEET± NORTH OF THE SOUTH QUARTER CORNER, SECTION 32, T26, R1W. (THIS IS ALSO CONTROL POINT #2230) ELEV. = 172.455

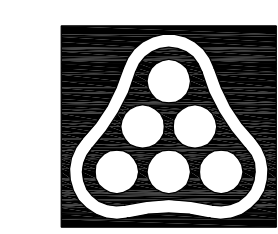
LEGEND

- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- EXISTING WATER VALVE
- PROPOSED WATER VALVE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING BLOW OFF
- PROPOSED BLOW OFF
- PROPOSED HYDRANT TEE w/FUTURE FIRE HYDRANT

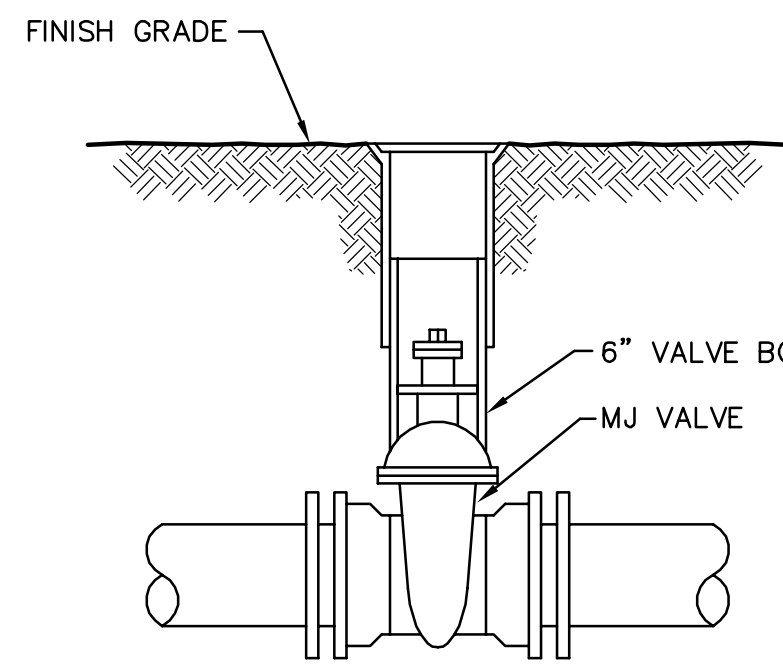
NOTE: WATERLINE VALVES TO BE OPERATED BY CONTRACTOR ONLY IF WATER DEPARTMENT REPRESENTATIVE IS ON SITE.

SEE SHEET NO. 7 & 8 FOR PLAT COORDINATES

Served 03-05-2007 2:52:40 PM by TLS
 Plot Scale 1:150 03-06-2007 9:03:23 AM by BEJ
 J:\SEN\01\2006\06563\2007-03-05 to City\Waterline\DWG\02-Key Map

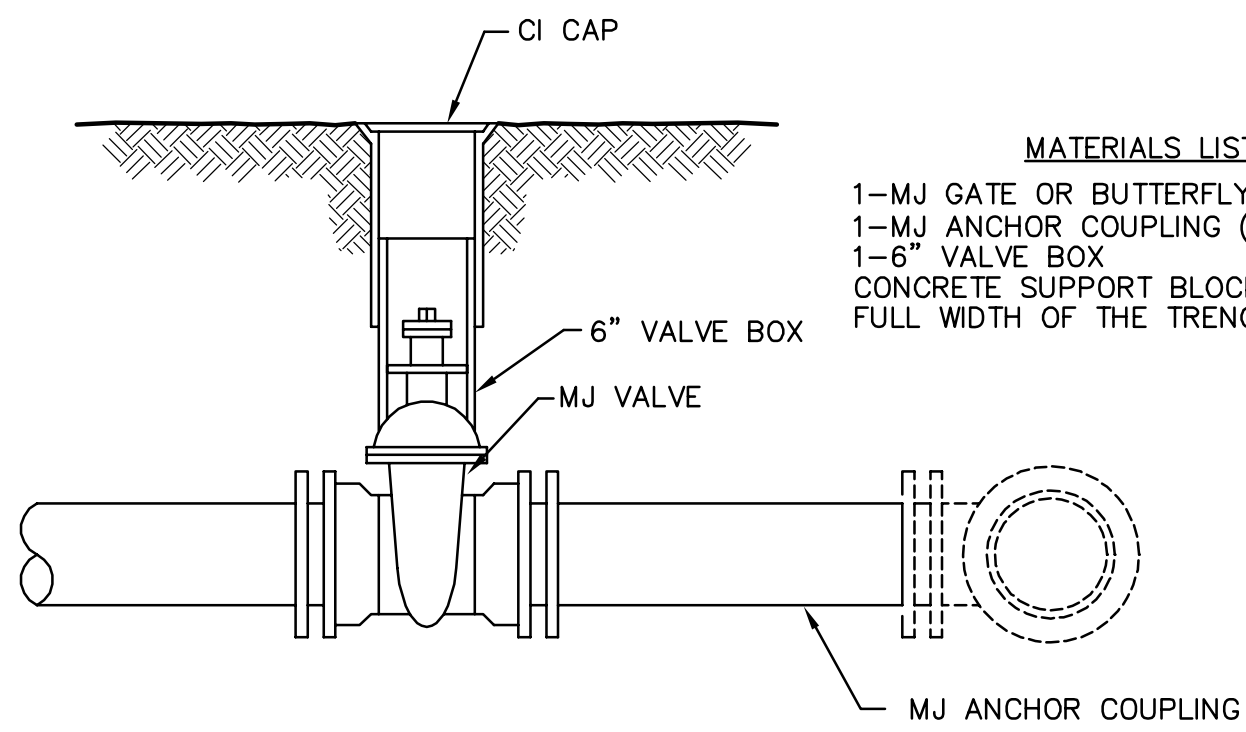


No.	Revision	By	Date
CITY OF WICHITA, KANSAS JAMES L. ARMOUR, P.E. - ACTING CITY ENGINEER PRAIRIE POINT - PHASE 3 KEY MAP AND GENERAL NOTES CITY OF WICHITA PROJECT NO. 448-89974 Professional Engineering Consultants, P.A. 303 S. TOPKA • WICHITA, KANSAS 67202 316-262-2691 • FAX 316-262-3003			
Designed by	MDK	Job No.	35-06563-2-042
Drawn by	TLS	Date	October 2006
			Sht. 2 of 13



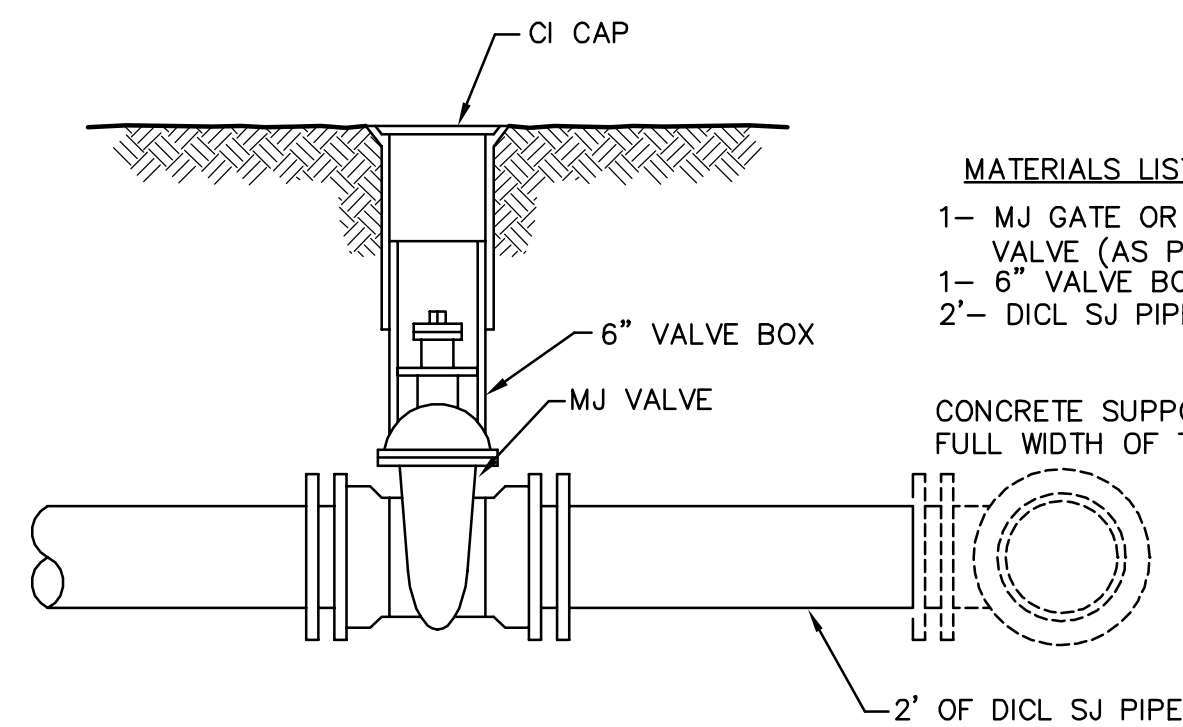
- MATERIALS LIST**
- 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
 - 1-6" VALVE BOX
 - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

LINE VALVE ASSEMBLY



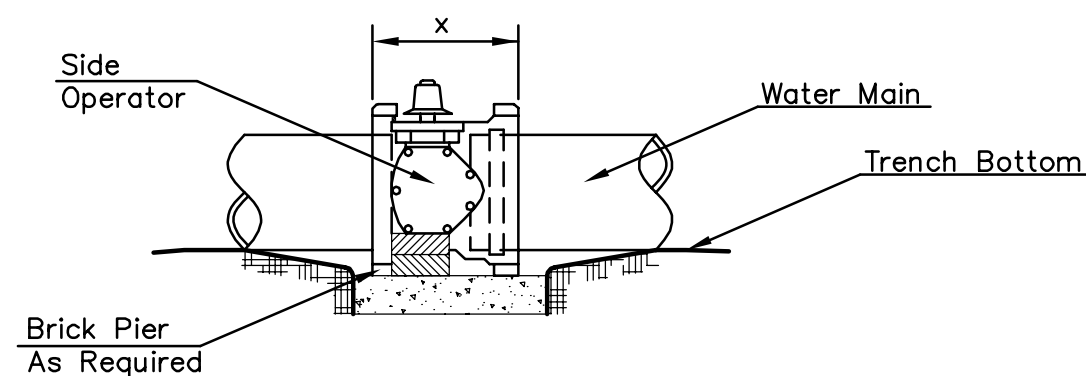
- MATERIALS LIST**
- 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
 - 1-MJ ANCHOR COUPLING (12" OR SMALLER)
 - 1-6" VALVE BOX
 - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

ANCHORED VALVE ASSEMBLY



- MATERIALS LIST**
- 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
 - 1-6" VALVE BOX
 - 2'- DI CL SJ PIPE
 - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

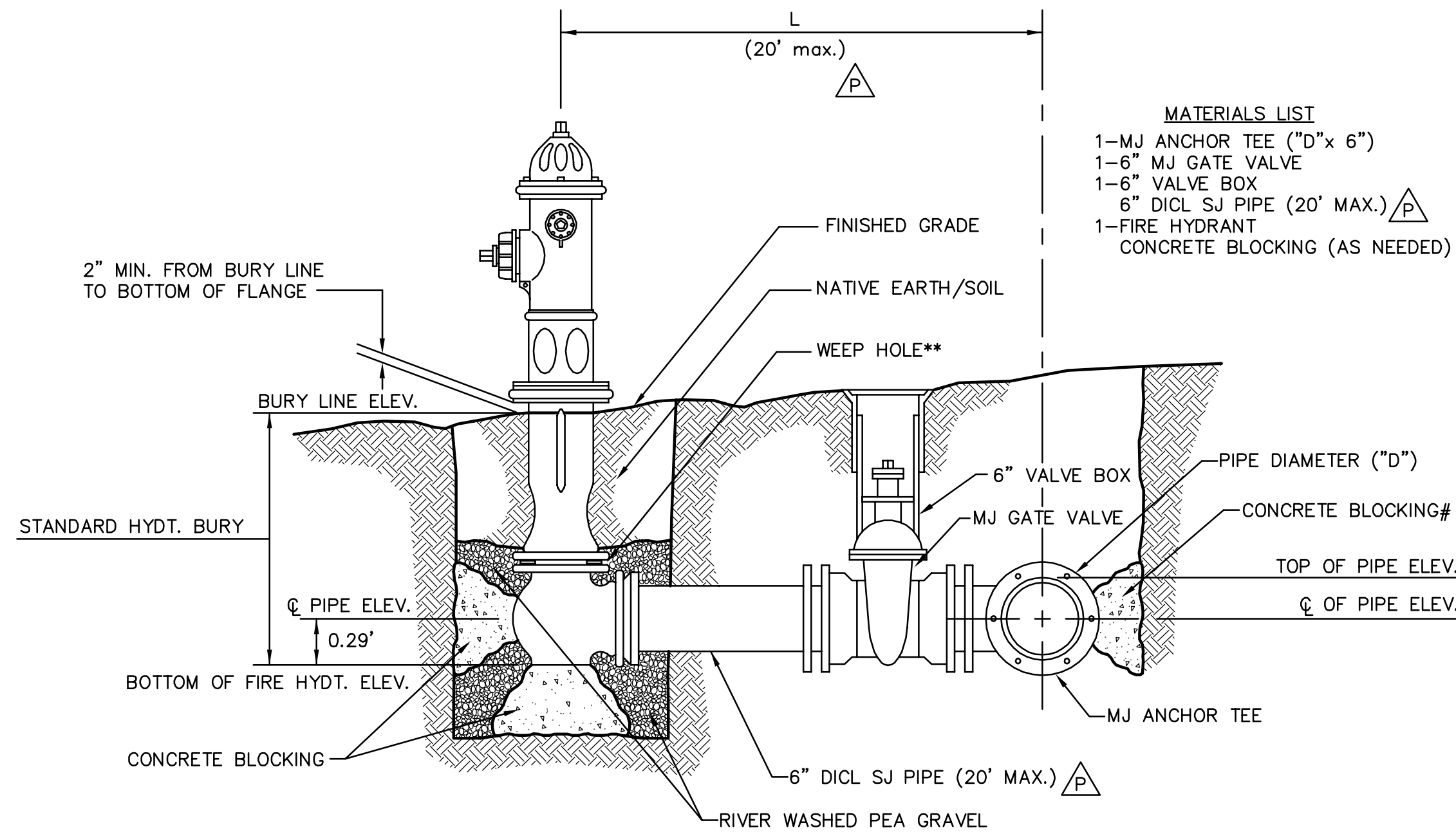
VALVE ASSEMBLY



NOTES

- This detail covers Butterfly Valve installation, inclusive, regardless of type of pipe or joint used. Larger lines to be detailed on plans.
- 6" Valve Box and Cover required per City of Wichita Std. Specifications.
- Conc. Support Block to be full width of trench.

CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION



- MATERIALS LIST**
- 1-MJ ANCHOR TEE ("D"x 6")
 - 1-6" MJ GATE VALVE
 - 1-6" VALVE BOX
 - 6" DI CL SJ PIPE (20' MAX.)
 - 1-FIRE HYDRANT
 - CONCRETE BLOCKING (AS NEEDED)

** CAUTION! WEEP HOLES TO BE KEPT CLEAR DURING CONSTRUCTION AND BACKFILL. CONCRETE FOR THRUST BLOCKING SHALL NOT OBSTRUCT WEEP HOLES. PLACE 1 CUBIC FOOT OF RIVER WASHED PEA GRAVEL AROUND EACH WEEP HOLE.

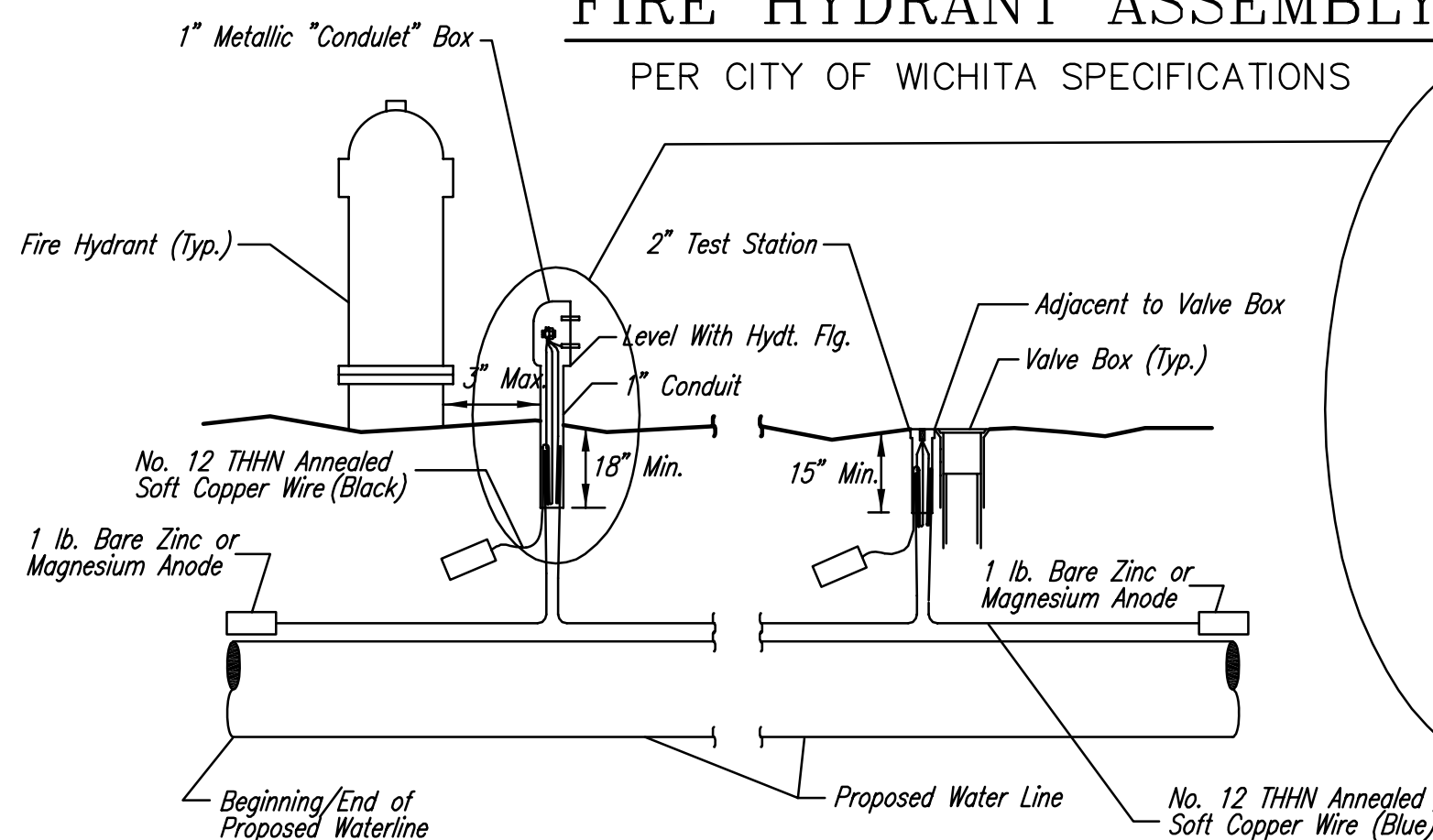
CONCRETE THRUST BLOCKING SHALL BE KEPT CLEAR OF BOLTS, NUTS, AND MJ ACCESSORIES.

* IF HYDRANT BURY IS IN EXCESS OF 5', CONTRACTOR SHALL USE STANDARD 5' HYDRANT BURY AND HYDRANT BARREL EXTENSIONS AS NECESSARY.

FIRE HYDRANTS REQUIRED

STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*
Line 2 Sta. 0+63.01	172.6	168.77	4.5'
Line 4 Sta. 0+21.03	175.5	170.67	5.5'
Line 4 Sta. 6+19.64	175.8	171.97	4.5'

FIRE HYDRANT ASSEMBLY
PER CITY OF WICHITA SPECIFICATIONS



TRACER WIRE

Conductive type pipe locator/tracer wire shall be installed to locate all waterline pipe regardless of pipe material. The wire shall extend the entire length of the proposed pipe. The wire shall be taped to the waterline and pulled with the pipe. Split-bolt connectors shall be used at splice locations. Electrical tape shall cover all splices so no bare wire is exposed. Test stations shall be installed adjacent to all fire hydrants along the waterline and at blowoffs or valves near the ends of the waterlines. Any exceptions to the location of test stations shall be approved by the engineer. At each test station, the tracer wire shall be connected to a 1 lb. Zinc or magnesium anode. Anodes shall also be attached to the tracer wire at both the beginning and the end of the proposed waterline. A typical layout of the tracer wire and test station is provided in the above figure.

WIRE

The tracer wire shall be Blue No. 12 THHN annealed soft copper wire with thermal plastic insulation. The insulation shall be heat, oil, and gasoline resistant as manufactured by Temple Electric or approved equal. To allow for grade adjustment, a minimum of 12" of excess wire shall be coiled at the bottom of the test station for all wires. The insulation sheathing shall be removed such that 1" bare copper wire is exposed at all points of connection. Contractor shall attach wire being installed with proposed water main to any tracer wire installed with adjacent waterline projects.

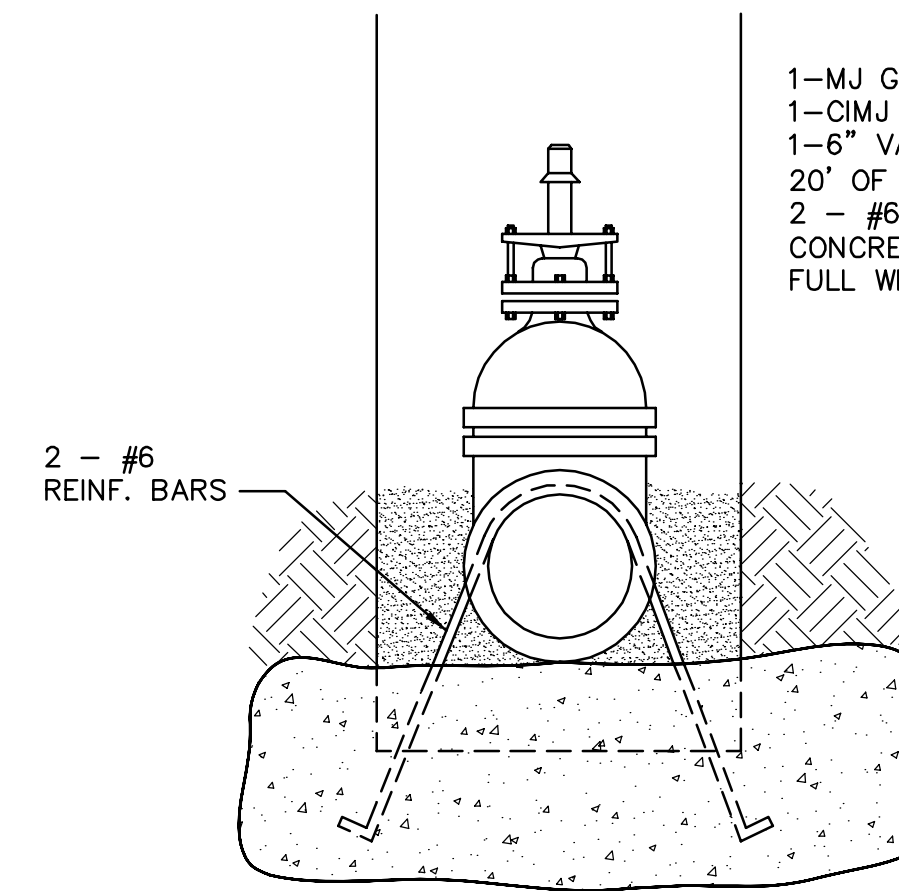
TEST STATIONS

The test station for fire hydrant applications shall be a 1 inch galvanized "condulet" style test station as manufactured by AGRA Industries with a removable solid cover having two leads extending from the face or approved equal. The test station for valve applications shall be 2 inch flush style test station T2PS3B as manufactured by HANDLEY Industries or approved equal. The "condulet" style test station shall be attached to a 1 inch rigid galvanized conduit with a minimum length of 36" and plastic end bushing. The flush style shall have the word "WATER" stamped or molded into the lid. All test stations shall be manufactured using molded blue tops or sufficiently coated with blue enamel paint. The tracer wire and the anode wire shall be installed to allow 10 inches of wire within the test station. In concrete environments such as sidewalks or in the downtown area the contractor shall use the flush style test station. The location of all test stations shall be approved by the engineer, recorded, and shown in the as-built drawings.

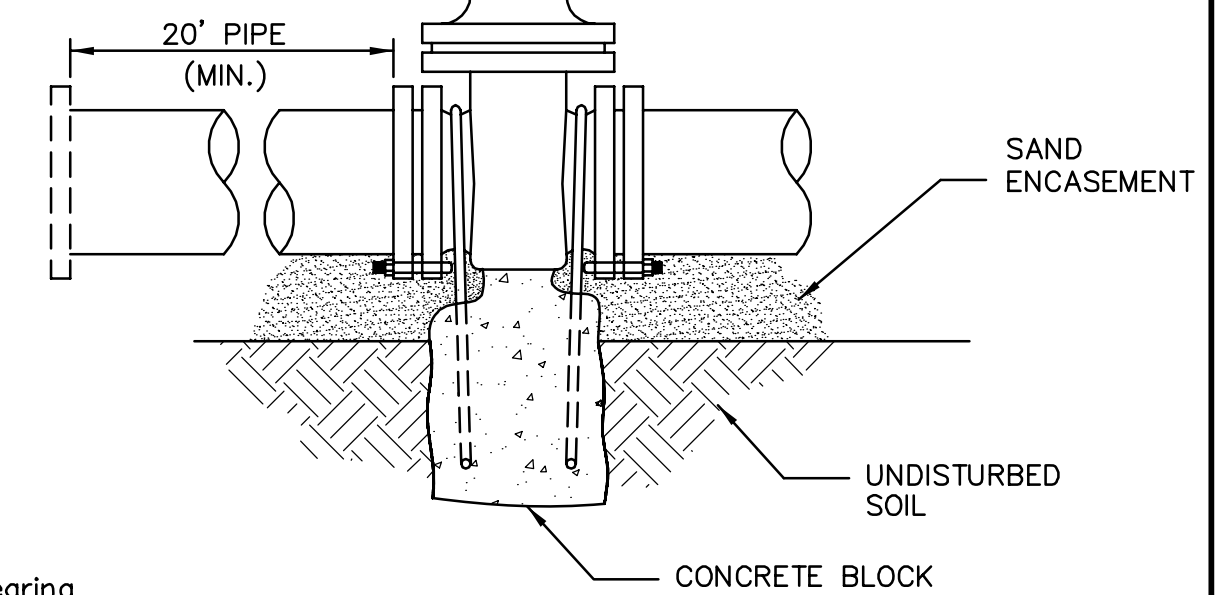
ANODES

The anodes shall be 1 lb. bare zinc or magnesium. The anodes shall be buried at the same elevation as the waterline at each test station. The anodes shall be connected to Black No. 12 THHN annealed soft copper wire which shall be extended to the test station.

TRACER WIRE DETAIL
COST IS SUBSIDIARY TO PIPE INSTALLATION



- MATERIALS LIST**
- 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
 - 1-CIMJ CAP WHEN NECESSARY
 - 1-6" VALVE BOX
 - 20' OF PIPE (BID WITH PIPE)
 - 2 - #6 REINF. BARS
 - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH



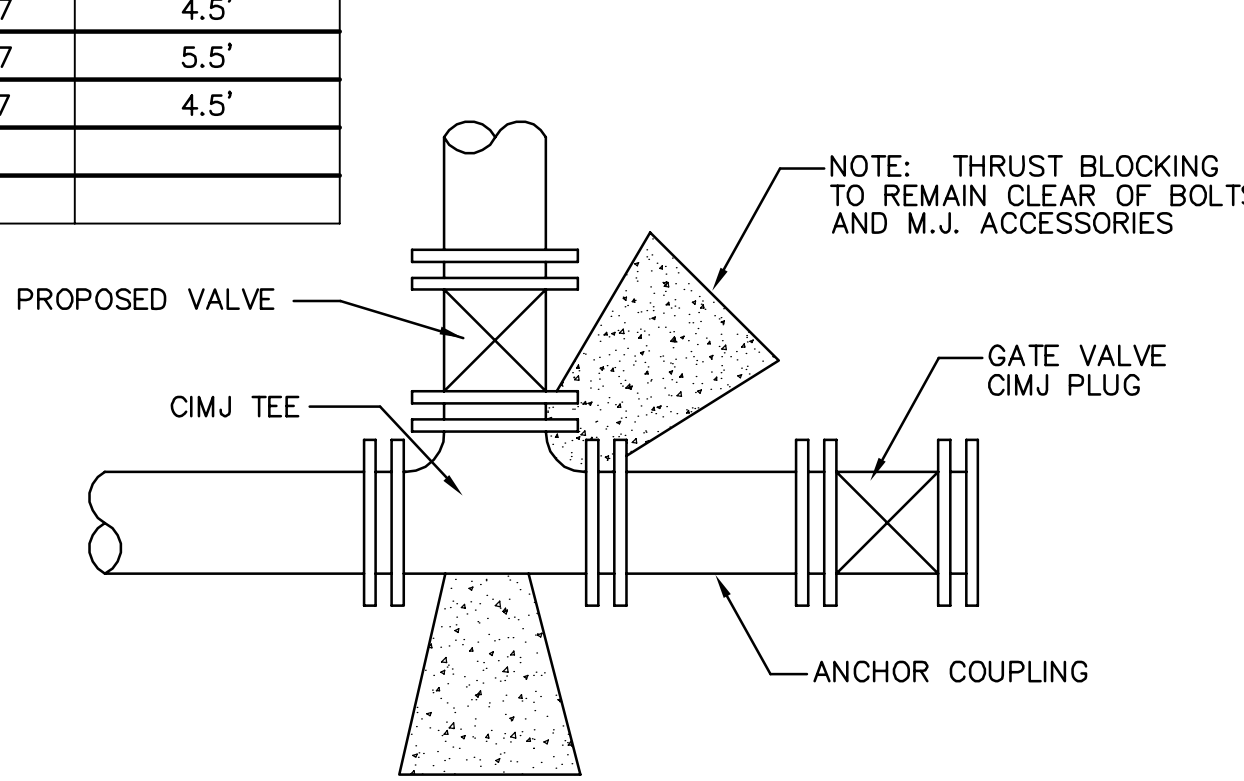
Notes:

- Concrete Block at Valve to have sufficient bearing in undisturbed soil to prevent thrust movement as shown in table at right. Field Engineer to determine thrust loading of undisturbed soil and final size of thrust block.
- The thrust block shall be constructed such that bolts, nuts, and other MJ accessories are kept clear of concrete.
- All valves at dead ends and at other locations as called out on the plans shall be blocked as shown here.

THRUST AT VALVES

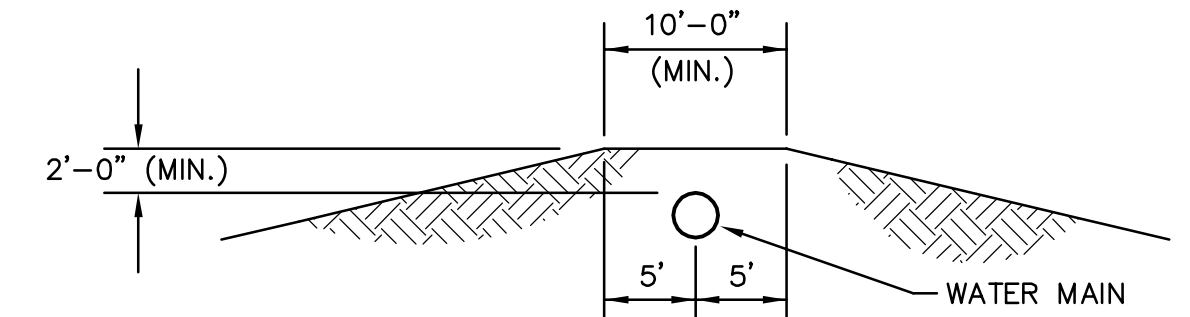
VALVE	THRUST AT 150 #/in ²
4"	1809 lbs.
6"	4245 lbs.
8"	7540 lbs.
12"	16965 lbs.

ANCHORED VALVE ASSEMBLY, SPECIAL



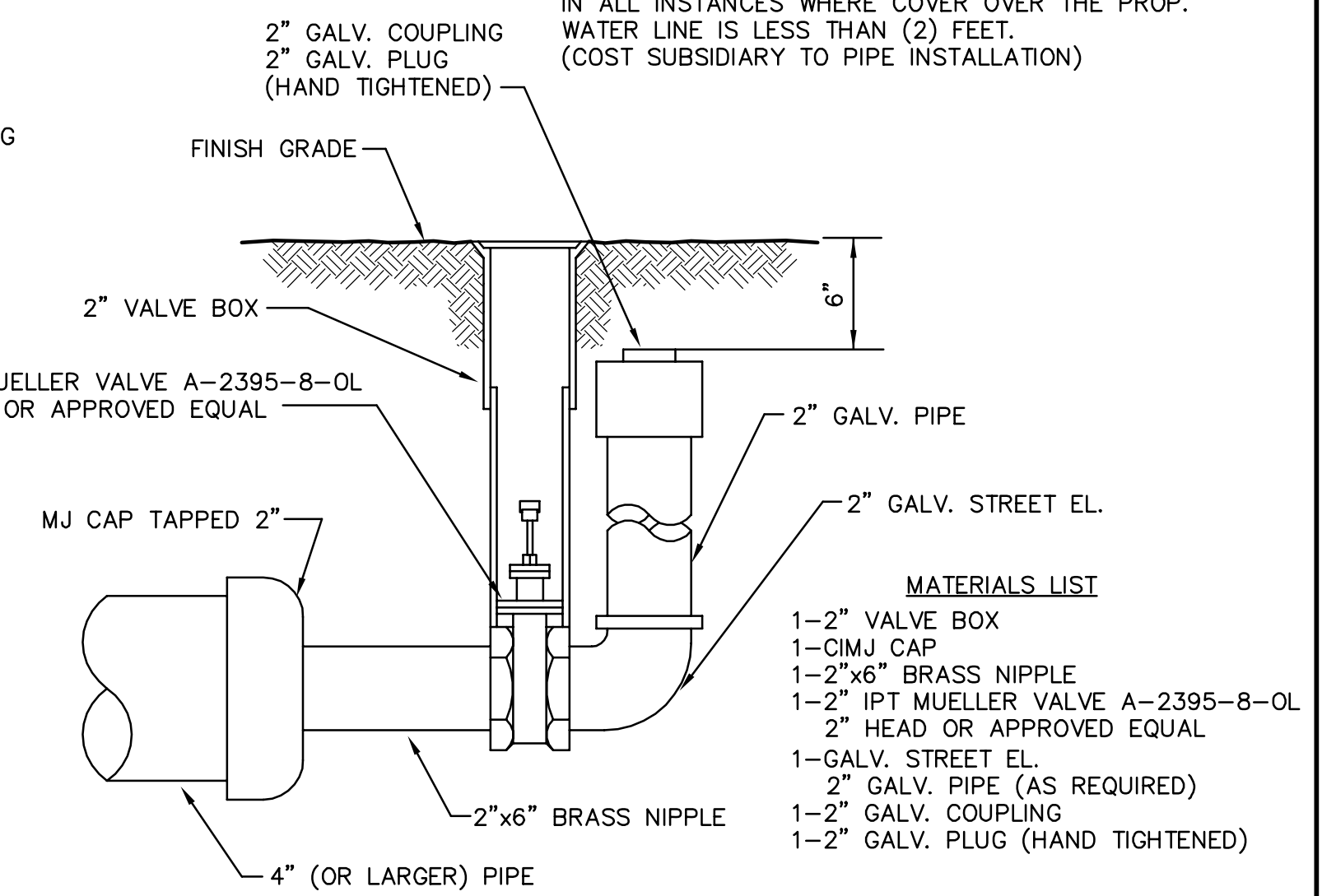
KEY BLOCK DETAIL

2 Blue Wires and 1 Black Wire
All Connected to Single Test Lead
With Split Bolt Connection and Blue No. 12 THHN Annealed Soft Copper Wire



PROTECTIVE FILL DETAIL

MINIMUM PROTECTIVE FILL SHALL BE PROVIDED IN ALL INSTANCES WHERE COVER OVER THE PROP. WATER LINE IS LESS THAN (2) FEET. (COST SUBSIDIARY TO PIPE INSTALLATION)



2" BLOWOFF ASSEMBLY

- MATERIALS LIST**
- 1-2" VALVE BOX
 - 1-CIMJ CAP
 - 1-2"x6" BRASS NIPPLE
 - 1-2" IPT MUELLER VALVE A-2395-8-OL
 - 1-2" HEAD OR APPROVED EQUAL
 - 1-GALV. STREET EL.
 - 2" GALV. PIPE (AS REQUIRED)
 - 1-2" GALV. COUPLING
 - 1-2" GALV. PLUG (HAND TIGHTENED)

- Revised: 01-07-05 per CITY
- Revised: 10-06-04 by PEC
- Revised: 08-14-01, CITY
- Revised: 11-13-00, MCG
- Revised: 6-7-00, MCG

THE CITY OF WICHITA

CITY ENGINEER'S OFFICE
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4900
(316) 268-4114 FAX

STANDARD WATER ASSEMBLY DETAILS

JAMES L. ARMOUR, P.E. - CITY ENGINEER

PROJECT NUMBER 448-89974	OCA NO. 73535
DATE DEC 98	SHEET 3 OF 13

N-9,968.8760, E-7,560.1745
 @ Rutgers, Sta. 34+83.91, 56.29' Lt.=
 WL 1, Sta. 0+00.00
 Existing 16" x 8" Tee *
 Remove 8" CI MJ Plug
 from existing 8" Anchored Valve
 and begin new water
 main installation.
 1- 8" CI CL PE x MJ 22 1/2" Bend (Vert.)
 Defl.= 19° 16' 09"

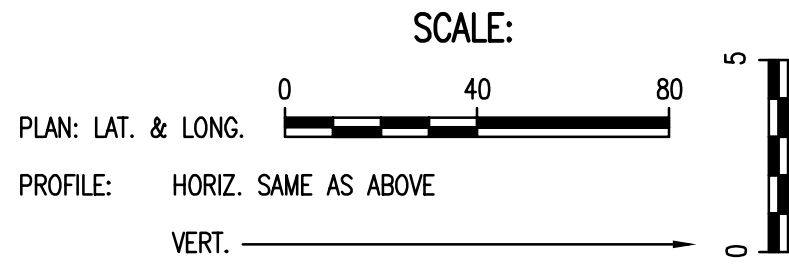
@ Rutgers, Sta. 10+66.15, 26' Lt.=
 WL 1, Sta. 0+09.13
 1- 8" CI CL MJ 22 1/2" Bend (Vert.)
 Defl.= 18° 37' 05"

N-10,154.5983, E-7,559.2749
 @ Rutgers, Sta. 12+42.73, 26.00' Lt.=
 WL 1, Sta. 1+85.72
 1- 8" x 8" CI CL MJ Tee
 1- 8" Valve Assembly (E)
 Top Valve Box El.= 172.5

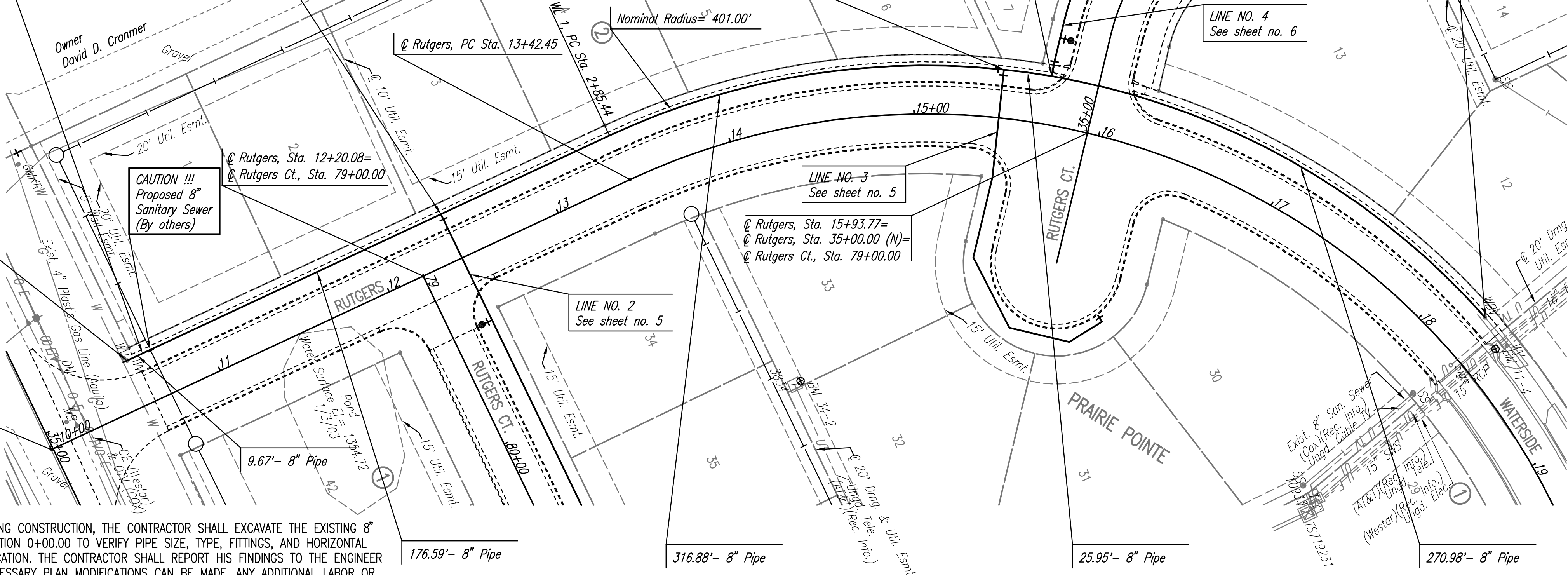
N-10,461.2895, E-7,615.1691
 @ Rutgers, Sta. 15+45.53, 26.00' Lt.=
 WL 1, Sta. 5+02.60
 1- 8" x 4" CI CL MJ Tee
 1- 8" Valve Assembly (S)
 (MJ Gate Valve)
 1- 4" Valve Assembly (E)
 (MJ Gate Valve)
 Top Valve Box El.= 175.0 (E)
 Top Valve Box El.= 175.2 (S)

N-10,483.1447, E-7,629.1486
 @ Rutgers, Sta. 15+69.80, 26.00' Lt.=
 WL 1, Sta. 5+28.55
 1- 8" x 8" CI CL MJ Tee

N-10,640.0930, E-7,843.7312
 @ Rutgers, Sta. 18+23.21, 26.00' Lt.=
 WL 1, Sta. 7+99.53
 Existing Blowoff Assembly *
 Remove 8" CI MJ Cap and Connect
 new 8" water main to existing 8" main.



PLAN	CHECKED	DATE
	CHECKED	



WL CURVE DATA
 $\Delta=177^{\circ}22'53''$ Rt D= 14° 17' 17.6" R= 401.00' L= 1241.45' T= 17544.86E= 17148.44
 CURVE DATA BASED ON @ RADIUS $\Delta/2= 88^{\circ} 41' 26.5''$

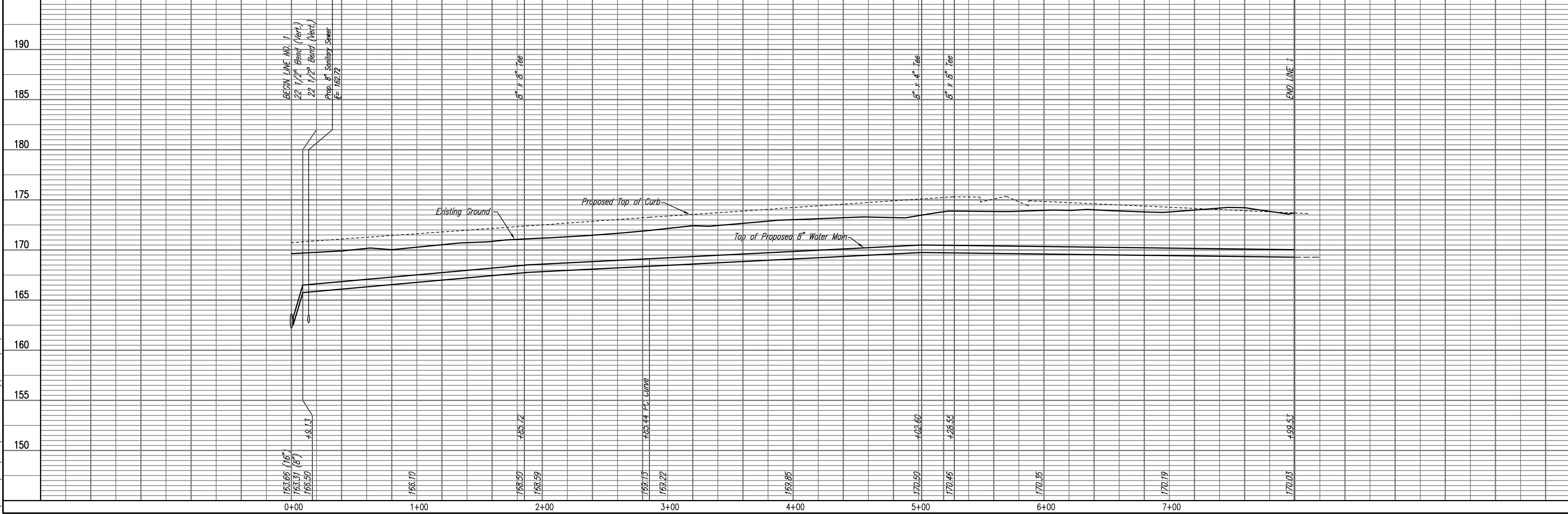
WL STATION	WL ARC LENGTH	CHORD LENGTH ON -6' OFFSET Left	DEFLECTION ANGLE	TOTAL DEFLECTION
PC 2+85.44			0°00'00.0"	0°00'00.0"
3+00.00	14.56'	14.78'	1°02'24.7"	01°02'24.7"
3+25.00	25.00'	25.37'	1°47'09.7"	02°49'34.4"
3+50.00	25.00'	25.37'	1°47'09.7"	04°36'44.1"
3+75.00	25.00'	25.37'	1°47'09.7"	06°23'53.8"
4+00.00	25.00'	25.37'	1°47'09.7"	08°11'03.5"
4+25.00	25.00'	25.37'	1°47'09.7"	09°58'13.2"
4+50.00	25.00'	25.37'	1°47'09.7"	11°45'22.9"
4+75.00	25.00'	25.37'	1°47'09.7"	13°32'32.6"
5+00.00	25.00'	25.37'	1°47'09.7"	15'19'42.3"
5+02.60	2.60'	2.64'	0°11'08.7"	15'30'51.0"
5+25.00	22.40'	22.73'	1°38'01.0"	17°06'52.0"
5+28.55	3.55'	3.60'	0°15'13.0"	17°22'05.0"
5+50.00	21.45'	21.77'	1°31'56.7"	18°54'01.7"
5+75.00	25.00'	25.37'	1°47'09.7"	20°41'11.4"
6+00.00	25.00'	25.37'	1°47'09.7"	22'28'21.1"
6+25.00	25.00'	25.37'	1°47'09.7"	24'15'30.8"
6+50.00	25.00'	25.37'	1°47'09.7"	26'02'40.6"
6+75.00	25.00'	25.37'	1°47'09.7"	27'49'50.3"
7+00.00	25.00'	25.37'	1°47'09.7"	29'36'60.0"
7+25.00	25.00'	25.37'	1°47'09.7"	31'24'09.7"
7+50.00	25.00'	25.37'	1°47'09.7"	33'11'19.4"
7+75.00	25.00'	25.37'	1°47'09.7"	34'58'29.1"
7+99.53	24.53'	24.89'	1°45'08.8"	36'43'37.9"
PT 15+26.89	727.36'	641.12'	51°57'48.9"	88°41'26.8"
TOTAL	L= 1241.45'		Defl./ft.= 4.286467 min.	

* PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE THE EXISTING 8" WATERLINE AT STATION 0+00.00 TO VERIFY PIPE SIZE, TYPE, FITTINGS, AND HORIZONTAL AND VERTICAL LOCATION. THE CONTRACTOR SHALL REPORT HIS FINDINGS TO THE ENGINEER SO THAT ANY NECESSARY PLAN MODIFICATIONS CAN BE MADE. ANY ADDITIONAL LABOR OR MATERIALS NECESSARY TO COMPLETE THE CONNECTION SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.

Unless noted otherwise, elevations shown are top of pipe

WATERLINE NO. 1

PROFILE	CHECKED	DATE
	CHECKED	



CITY OF WICHITA, KANSAS
 JAMES L. ARMOUR, P.E. - ACTING CITY ENGINEER
 PRAIRIE POINTE - PHASE 3

WATERLINE NO. 1

Professional Engineering Consultants, P.A.
 803 S. TOPICKA WICHITA, KANSAS 67202
 316.262.2691 • FAX 316.262.3008

Designed By MDK
 Job No. 35-06563-2-042
 Date October 2006

Drawn By TLS
 Project No. 448-89974

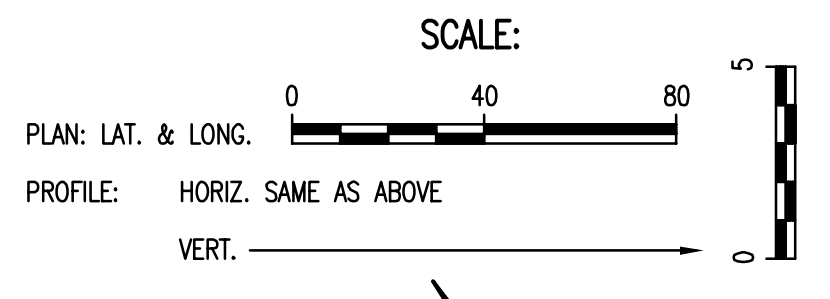
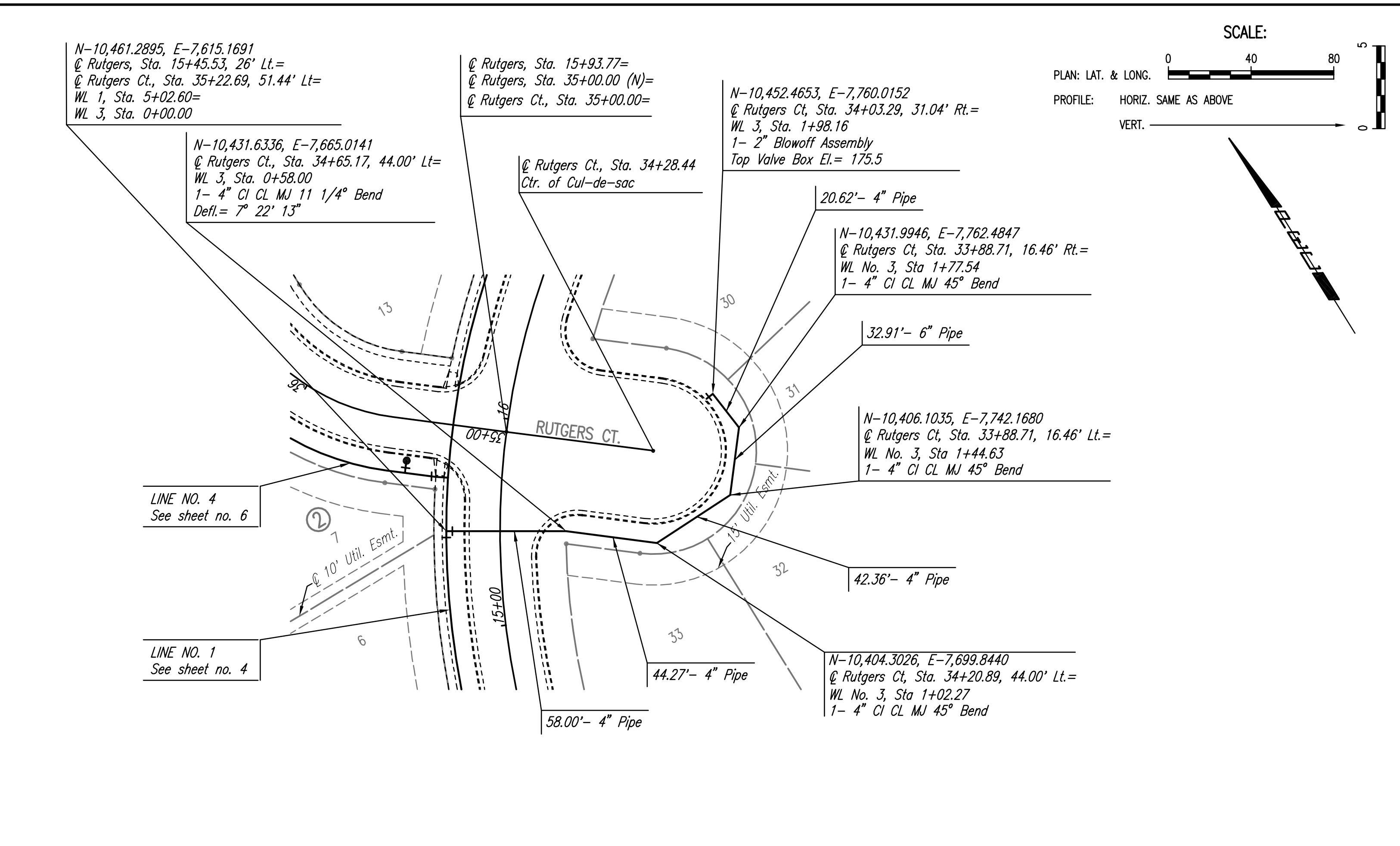
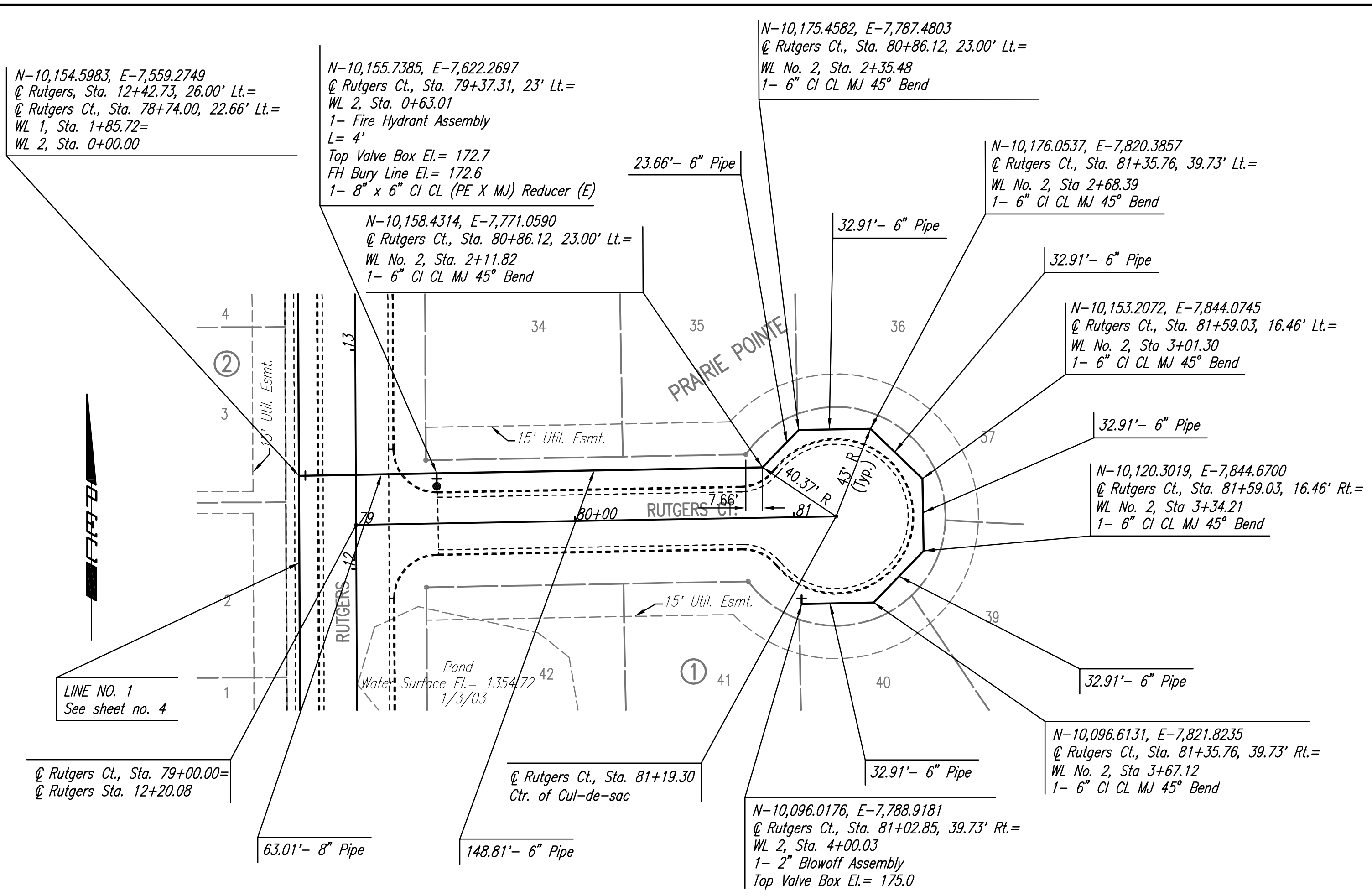
Sheet 4 of 13

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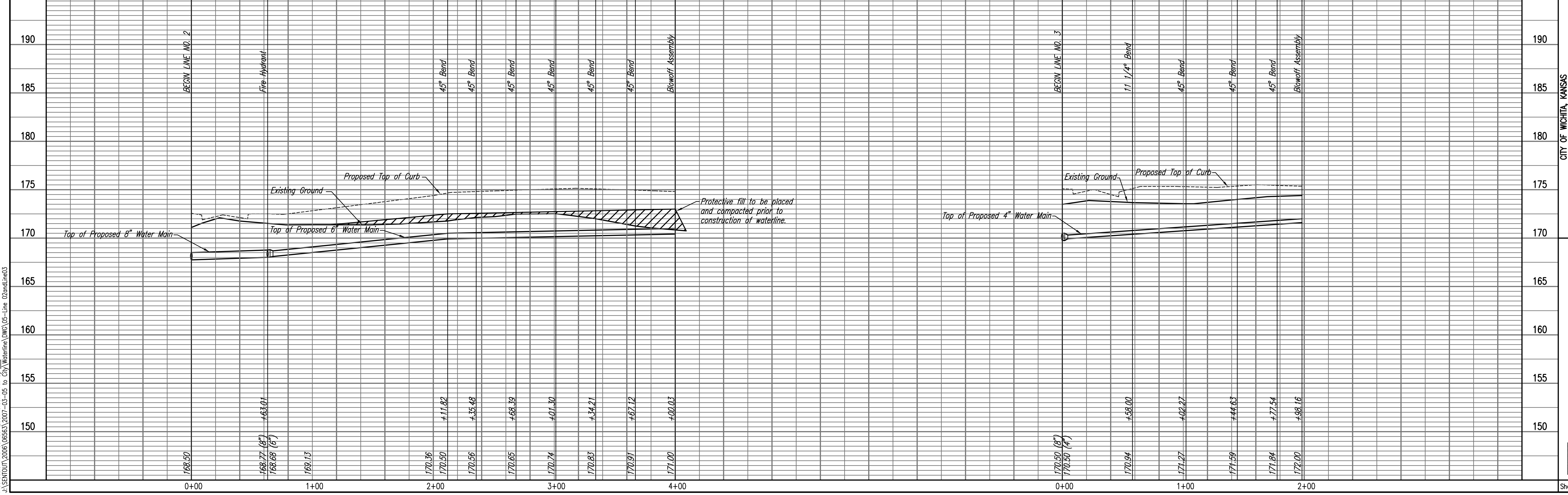
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Unless noted otherwise, elevations shown are top of pipe



CITY OF WICHITA, KANSAS
 JAMES L. ARMOUR, P.E. - ACTING CITY ENGINEER
 PRAIRIE POINTE - PHASE 3

WATERLINE NO. 2 AND 3

CITY OF WICHITA PROJECT NO. 448-59974

Professional Engineering Consultants, P.A.
 803 S. TOPICKA WICHITA, KANSAS 67202
 316.262.2691 • FAX 316.262.3008

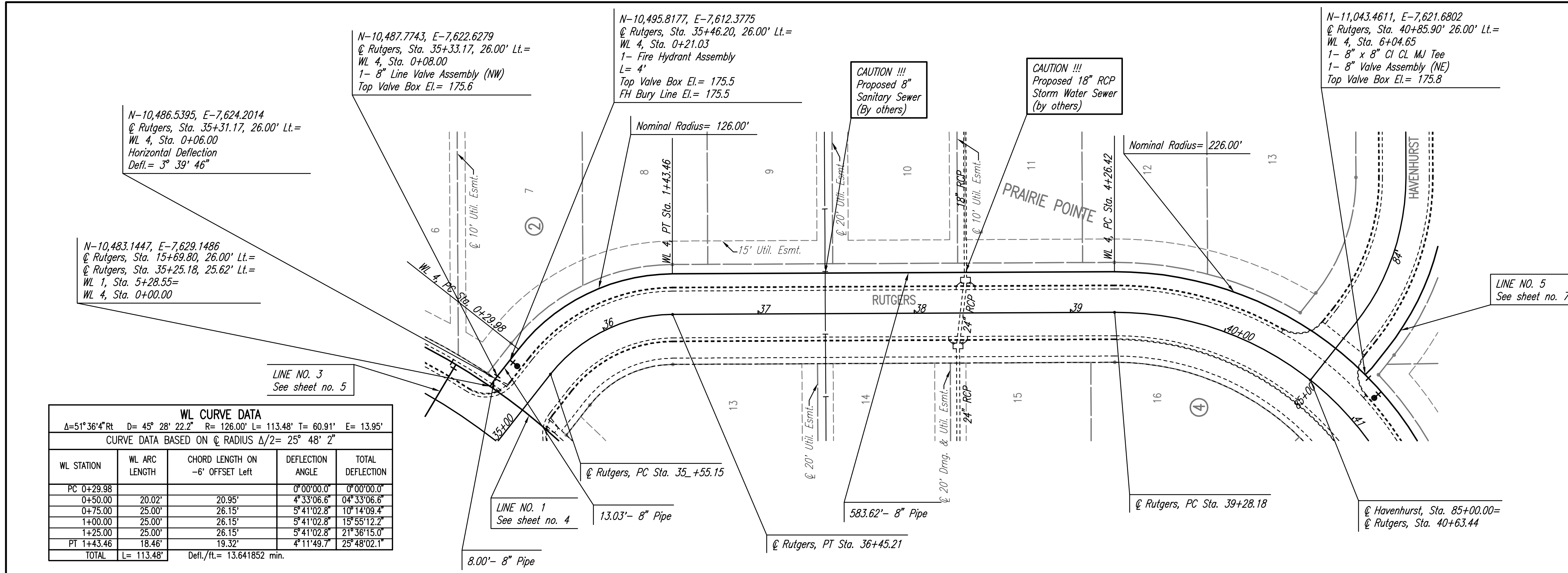
Designed by MDK
 Drawn by TLS

Job No. 35-06563-2-042

PLAN	CHECKED	DATE
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PROFILE	CHECKED	DATE
	CHECKED	

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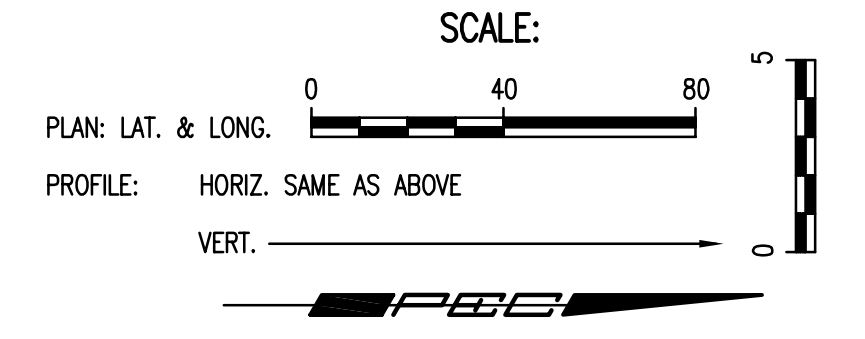


WL CURVE DATA
 $\Delta=51^{\circ}36'4''$ Rt D= 45' 28" 22.2' R= 126.00' L= 113.48' T= 60.91' E= 13.95'
 CURVE DATA BASED ON \odot RADIUS $\Delta/2= 25^{\circ} 48' 2''$

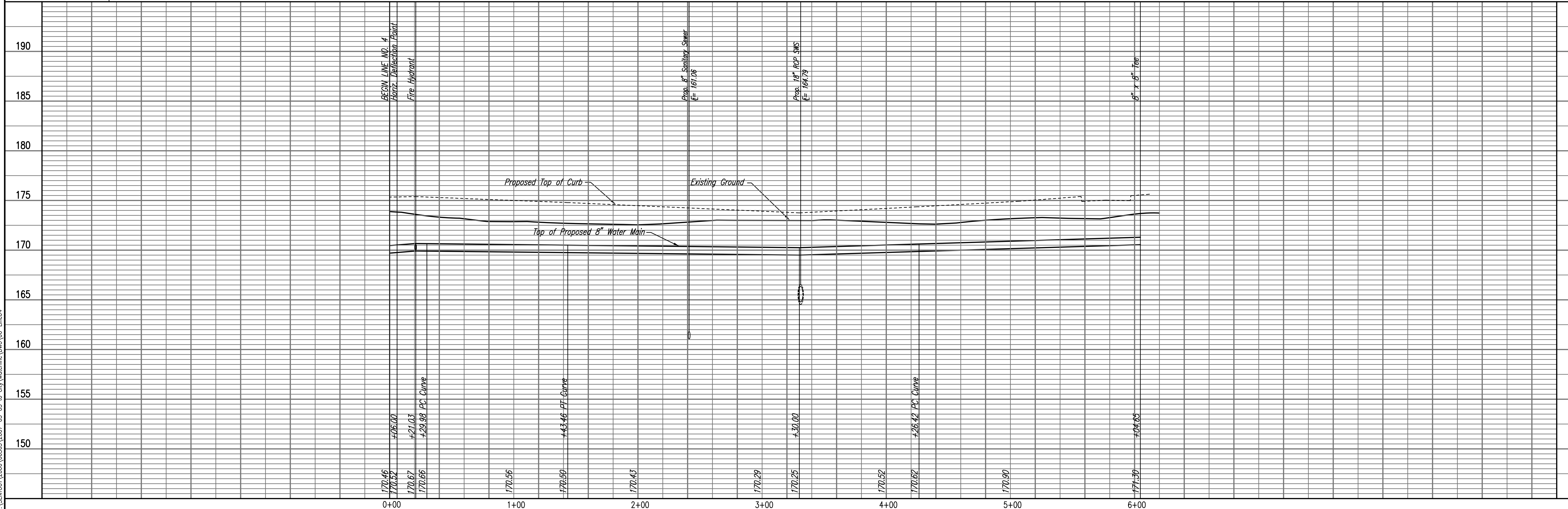
WL STATION	WL ARC LENGTH	CHORD LENGTH ON -6' OFFSET Left	DEFLECTION ANGLE	TOTAL DEFLECTION
PC 0+29.98			0°00'00.0"	0°00'00.0"
0+50.00	20.02'	20.95'	4°33'06.6"	04°33'06.6"
0+75.00	25.00'	26.15'	5°41'02.8"	10°14'09.4"
1+00.00	25.00'	26.15'	5°41'02.8"	15°55'12.2"
1+25.00	25.00'	26.15'	5°41'02.8"	21°36'15.0"
PT 1+43.46	18.46'	19.32'	4°11'49.7"	25°48'02.1"
TOTAL	L= 113.48'			Defl./ft.= 13.641852 min.

WL CURVE DATA
 $\Delta=96^{\circ}2'32''$ Rt D= 25' 21' 7.6" R= 226.00' L= 378.83' T= 251.18' E= 111.89'
 CURVE DATA BASED ON \odot RADIUS $\Delta/2= 48^{\circ} 1' 16''$

WL STATION	WL ARC LENGTH	CHORD LENGTH ON -6' OFFSET Left	DEFLECTION ANGLE	TOTAL DEFLECTION
PC 4+26.42			0°00'00.0"	0°00'00.0"
4+50.00	23.58'	24.20'	2°59'20.5"	02°59'20.5"
4+75.00	25.00'	25.65'	3°10'08.5"	06°09'28.9"
5+00.00	25.00'	25.65'	3°10'08.5"	09°19'37.4"
5+25.00	25.00'	25.65'	3°10'08.5"	12°29'45.8"
5+50.00	25.00'	25.65'	3°10'08.5"	15°39'54.3"
5+75.00	25.00'	25.65'	3°10'08.5"	18°50'02.8"
6+00.00	25.00'	25.65'	3°10'08.5"	22°00'11.2"
6+04.85	4.85'	4.77'	0°35'22.0"	22°35'33.2"
6+19.64	14.99'	15.39'	1°54'00.5"	24°29'33.7"
6+25.00	5.36'	5.50'	0°40'46.0"	25°10'19.7"
6+50.00	25.00'	25.65'	3°10'08.5"	28°20'28.2"
6+75.00	25.00'	25.65'	3°10'08.5"	31°30'36.6"
7+00.00	25.00'	25.65'	3°10'08.5"	34°40'45.1"
7+25.00	25.00'	25.65'	3°10'08.5"	37°50'53.5"
7+50.00	25.00'	25.65'	3°10'08.5"	41°01'02.0"
7+75.00	25.00'	25.65'	3°10'08.5"	44°11'10.5"
8+00.00	25.00'	25.65'	3°10'08.5"	47°21'18.9"
PT 8+05.25	5.25'	5.39'	0°39'55.8"	48°01'16.1"
TOTAL	L= 378.83'			Defl./ft.= 7.605635 min.



WATERLINE NO. 4



CITY OF WICHITA, KANSAS
 JAMES L. ARMOUR, P.E. - ACTING CITY ENGINEER
 PRAIRIE POINTE - PHASE 3

WATERLINE NO. 4

CITY OF WICHITA PROJECT NO. 448-89974

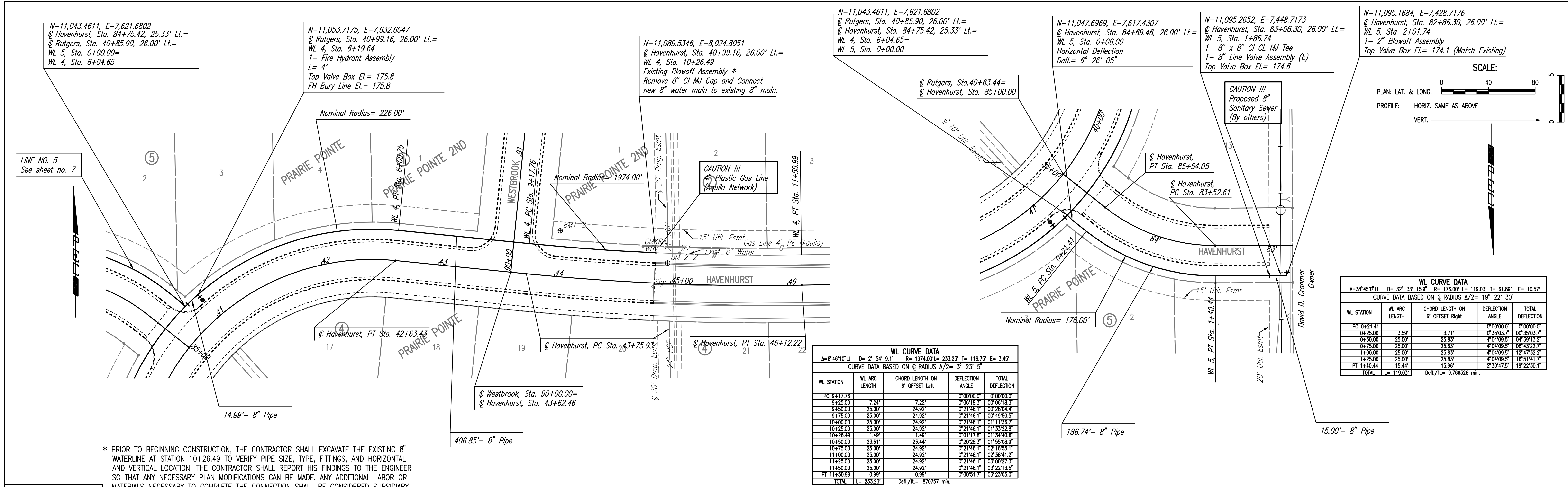
Professional Engineering Consultants, P.A.
 803 S. TOPICKA WICHITA, KANSAS 67202
 316-262-2691 • FAX 316-262-3008

Designed By MDK
 Drawn By TLS

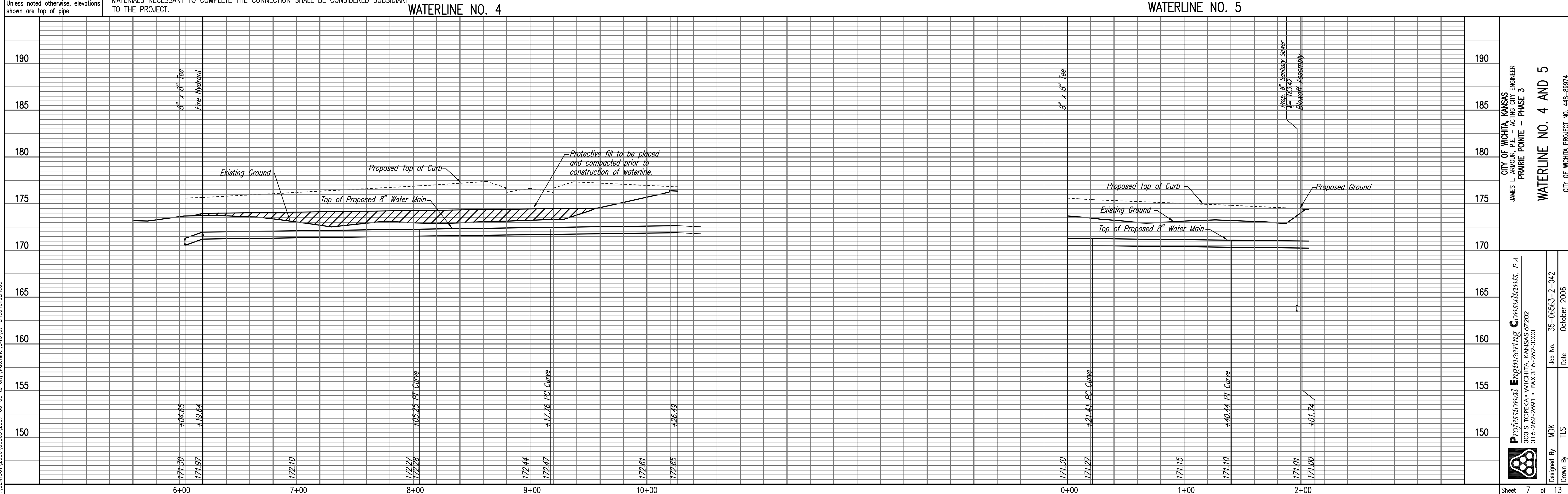
Job No. 35-06563-2-042
 Date October 2006

Sheet 6 of 13

PLAN	CHECKED	DATE
	CHECKED	



* PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE THE EXISTING 8" WATERLINE AT STATION 10+26.49 TO VERIFY PIPE SIZE, TYPE, FITTINGS, AND HORIZONTAL AND VERTICAL LOCATION. THE CONTRACTOR SHALL REPORT HIS FINDINGS TO THE ENGINEER SO THAT ANY NECESSARY PLAN MODIFICATIONS CAN BE MADE. ANY ADDITIONAL LABOR OR MATERIALS NECESSARY TO COMPLETE THE CONNECTION SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.



PROFILE	CHECKED	DATE
	CHECKED	

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CITY OF WICHITA, KANSAS
 JAMES L. ARMOUR, P.E. - ACTING CITY ENGINEER
 PRAIRIE POINTE - PHASE 3

WATERLINE NO. 4 AND 5

Professional Engineering Consultants, P.A.
 803 S. TOPKA WICHITA, KANSAS 67202
 316-262-2691 • FAX 316-262-3008

Designed By: MDK
 Drawn By: TLS

Job No.: 35-06563-2-042
 Date: October 2006

Sheet 7 of 13

PRAIRIE POINTE

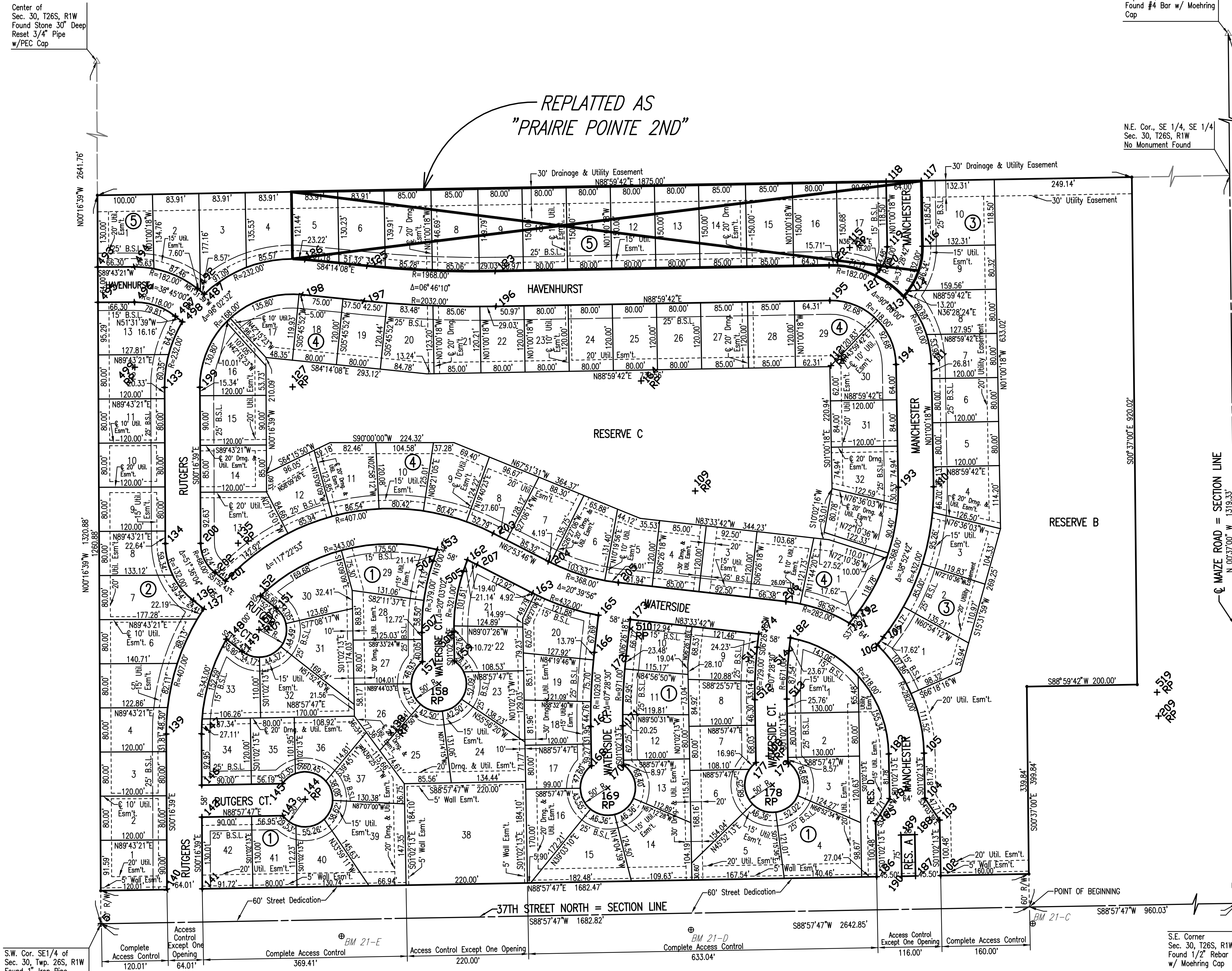
AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS

Center of
Sec. 30, T26S, R1W
Found Stone 30" Deep
Reset 3/4" Pipe
w/PEC Cap

E 1/4 Corner, Sec. 30
Twp. 26S, R1W
Found #4 Bar w/ Moehring
Cap

N.E. Cor., SE 1/4, SE 1/4
Sec. 30, T26S, R1W
No Monument Found

REPLATED AS
"PRAIRIE POINTE 2ND"



COORDINATE LIST			COORDINATE LIST		
POINT	NORTH	EAST	POINT	NORTH	EAST
5	9,910.2996	7,434.4567	168	10,197.1680	8,323.6307
102	9,997.8548	8,956.3825	169	10,156.9686	8,353.3630
103	10,098.3141	8,954.5643	170	10,198.2175	8,381.6212
104	10,137.8371	8,927.8447	171	10,269.4222	8,380.3324
105	10,219.6077	8,926.3648	172	10,395.8735	8,386.2972
106	10,416.0235	8,841.6776	173	10,462.1705	8,393.7784
107	10,429.9311	8,852.4939	174	10,435.8858	8,626.7083
108	10,214.5046	8,644.4109	177	10,202.5606	8,621.5819
109	10,695.1439	8,511.4864	178	10,162.3612	8,651.3142
110	10,702.7200	8,943.4199	179	10,203.6102	8,679.5724
111	10,925.6265	8,939.5102	182	10,428.8279	8,684.2799
112	10,922.4347	8,757.5382	183	10,218.4496	8,862.3752
113	11,047.4847	8,889.7747	184	10,136.6789	8,863.8552
114	11,058.0999	8,897.6219	185	10,096.2150	8,838.5833
115	11,136.5672	8,791.4763	186	9,995.7557	8,840.4015
116	11,138.8821	8,923.4560	187	9,997.0315	8,910.8900
117	11,257.3595	8,921.3779	188	10,072.0192	8,909.5328
118	11,256.2372	8,857.3877	189	10,071.5668	8,884.5369
119	11,137.7597	8,859.4658	190	9,996.5791	8,885.8941
120	11,096.1447	8,846.1574	191	10,455.3143	8,791.1579
121	11,085.5294	8,838.3102	192	10,469.2219	8,801.9743
122	11,104.4067	8,754.3464	193	10,701.5976	8,879.4298
123	11,093.7918	8,149.1595	194	10,924.5041	8,875.5200
124	13,061.4891	8,114.6461	195	11,040.4166	8,755.4688
125	11,103.4413	7,916.9782	196	11,029.8016	8,150.2819
126	11,114.7409	7,805.0473	197	11,039.7649	7,910.5500
127	10,883.9141	7,781.7450	198	11,051.0645	7,798.6190
133	10,882.7904	7,549.7477	199	10,882.1004	7,613.7469
134	10,599.8309	7,551.1182	200	10,600.1409	7,615.1175
135	10,600.4702	7,683.1167	201	10,531.9039	7,660.3436
136	10,496.6251	7,601.6294	202	10,546.9742	7,641.1384
137	10,481.5547	7,620.8346	203	10,618.5587	8,145.2182
138	10,256.2545	7,959.7872	204	10,567.1107	8,245.7398
139	10,254.2832	7,552.7920	205	10,529.0187	8,372.1377
140	9,972.4759	7,554.1569	206	10,494.7261	8,676.0321
141	9,973.6341	7,618.1521	207	10,561.5870	8,116.0595
142	10,103.6440	7,617.5224	209	10,286.9935	9,351.1734
143	10,106.3033	7,764.4526	487	11,051.9240	7,621.7554
144	10,136.0357	7,804.6519	492	11,061.9804	7,609.1003
145	10,164.2938	7,763.4030	493	11,101.1683	7,428.6885
146	10,161.6484	7,617.2414	494	11,101.4894	7,494.9892
147	10,254.5931	7,616.7912	495	11,037.1690	7,428.9985
148	10,426.4010	7,661.9631	496	11,037.4902	7,495.2992
149	10,404.2383	7,690.2066	497	11,011.8745	7,569.2833
150	10,443.5736	7,721.0730	498	11,001.8180	7,581.9384
151	10,482.9088	7,751.9394	499	10,919.4916	7,495.8708
152	10,505.0715	7,723.6959	504	10,568.8411	8,036.8286
153	10,588.8278	8,043.7159	505	10,549.9452	8,091.6642
157	10,385.7540	8,017.1678	507	10,438.5076	8,016.2130
158	10,345.5547	8,046.9001	508	10,439.5571	8,074.2035
159	10,386.8036	8,075.1583	510	10,445.3660	8,395.1510
162	10,569.9318	8,098.5515	511	10,411.8072	8,623.9911
163	10,510.1391	8,216.5811	512	10,316.8710	8,619.5130
164	10,894.6978	8,413.4023	513	10,317.9206	8,677.5035
165	10,469.6425	8,336.2534	514	10,405.3036	8,681.6254
166	10,402.3772	8,328.6630	519	10,330.1238	9,347.9038
167	10,268.3726	8,322.3419			

+106 = COORDINATE POINT NO.

= 1/2" REBAR WITH PEC CAP UNLESS OTHERWISE NOTED

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No.	Revision	By	Date
CITY OF WICHITA, KANSAS JAMES L. ARMOUR, P.E. - ACTING CITY ENGINEER PRAIRIE POINT - PHASE 3			
PLAT CITY OF WICHITA PROJECT NO. 448-89974			
Professional Engineering Consultants, P.A. 303 S. TOPKA • WICHITA, KANSAS 67202 316-262-2691 • FAX 316-262-3003			
Designed by	MDK	Job No.	35-06563-2-042
Drawn by	TLS	Date	October 2006
			Sht. 8 of 13

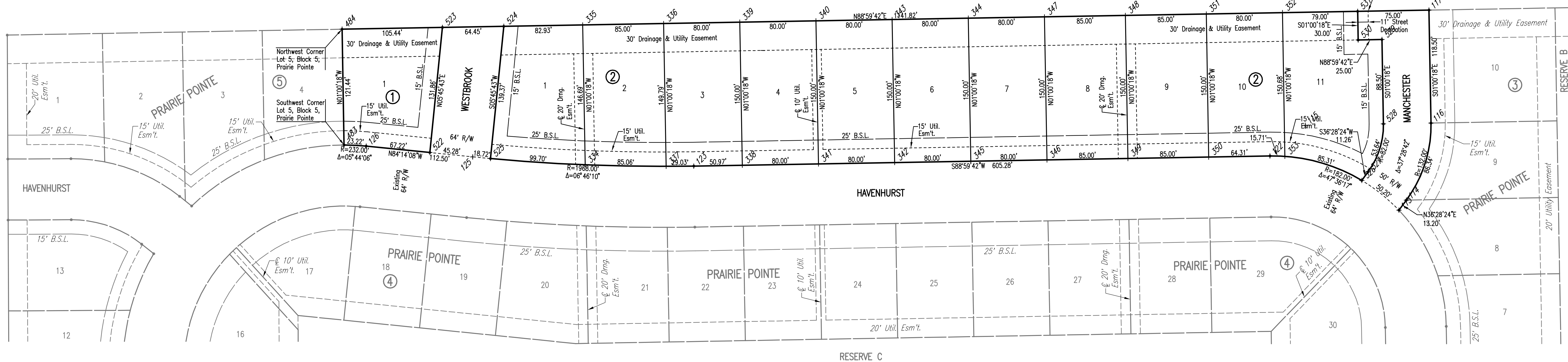
PRAIRIE POINTE 2ND

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS

OWNER: JEAN E. WOODARD REVOCABLE TRUST
UNPLATTED - CITY OF MAIZE - TO BE PLATTED AS "HAMPTON LAKES ADDITION"

OWNER: JEAN E. WOODARD REVOCABLE TRUST
UNPLATTED - CITY OF MAIZE - TO BE PLATTED AS "HAMPTON LAKES ADDITION"

Northeast Corner
Lot 17, Block 5,
Prairie Pointe



COORDINATE LIST		
POINT	NORTH	EAST
113	11,047.4847	8,889.7747
114	11,058.0999	8,897.6219
115	11,136.5672	8,791.4763
116	11,138.8821	8,923.4560
117	11,257.3595	8,921.3779
122	11,104.4067	8,754.3464
123	11,093.7918	8,149.1595
125	11,103.4413	7,916.9782
126	11,114.7409	7,805.0473
334	11,095.0979	8,035.0872
335	11,241.7689	8,032.5146
336	11,243.2596	8,117.5015
337	11,093.4968	8,120.1284
338	11,094.6856	8,200.1198
339	11,244.6626	8,197.4892
340	11,246.0655	8,277.4769
341	11,096.0886	8,280.1075
342	11,097.4916	8,360.0952
343	11,247.4685	8,357.4646
344	11,248.8715	8,437.4523
345	11,098.8946	8,440.0829
346	11,100.2976	8,520.0706
347	11,250.2745	8,517.4400
348	11,251.7651	8,602.4269
349	11,101.7882	8,605.0575
350	11,103.2789	8,690.0445
351	11,253.2558	8,687.4139
352	11,254.6588	8,767.4016
353	11,104.0046	8,770.0440
483	11,115.9141	7,781.8645
484	11,237.3352	7,779.7348
522	11,107.9896	7,871.9232
523	11,239.1843	7,885.1614
524	11,240.3146	7,949.6004
525	11,101.6500	7,935.6085
526	11,078.7696	8,850.7230
527	11,087.8224	8,857.4152
528	11,138.0052	8,873.4637
529	11,226.4873	8,871.9117
530	11,226.0489	8,846.9155
531	11,256.0442	8,846.3894

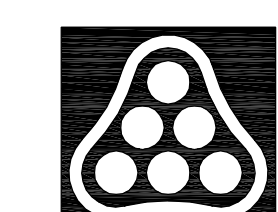
+106 = COORDINATE POINT NO.

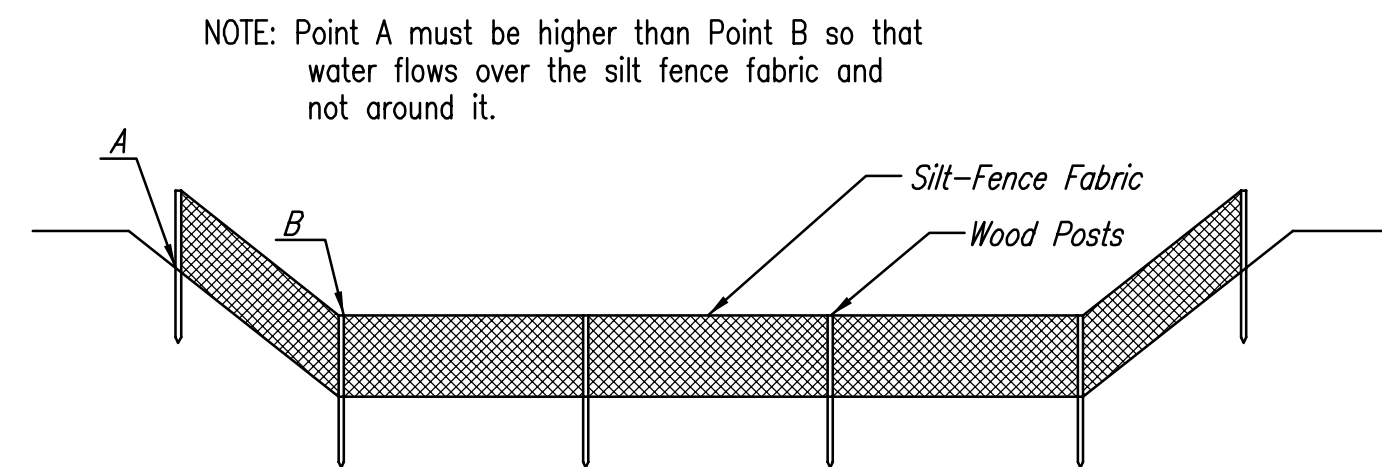
SCALE: 1" = 50'
• = 1/2" REBAR WITH PEC CAP UNLESS OTHERWISE NOTED
B.S.L. = BUILDING SETBACK LINE



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Plot Scale: 1/8" = 10' - 06-2007 9:02:01 AM by JLS
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No.	Revision	By	Date
CITY OF WICHITA, KANSAS JAMES L. ARMOUR, P.E. - ACTING CITY ENGINEER PRAIRIE POINTE - PHASE 3 PLAT CITY OF WICHITA PROJECT NO. 448-89974			
Professional Engineering Consultants, P.A. 303 S. TOPKA • WICHITA, KANSAS 67202 316-262-2691 • FAX 316-262-3003			
Designed by	MDK	Job No.	35-06563-2-042
Drawn by	TLS	Date	October 2006
			Sht. 9 of 13





ELEVATION
SILT FENCE DITCH CHECKS
(STREAM PROTECTION)

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. Silt fence ditch 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 Check Ditch grade (%)	Spacing 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.

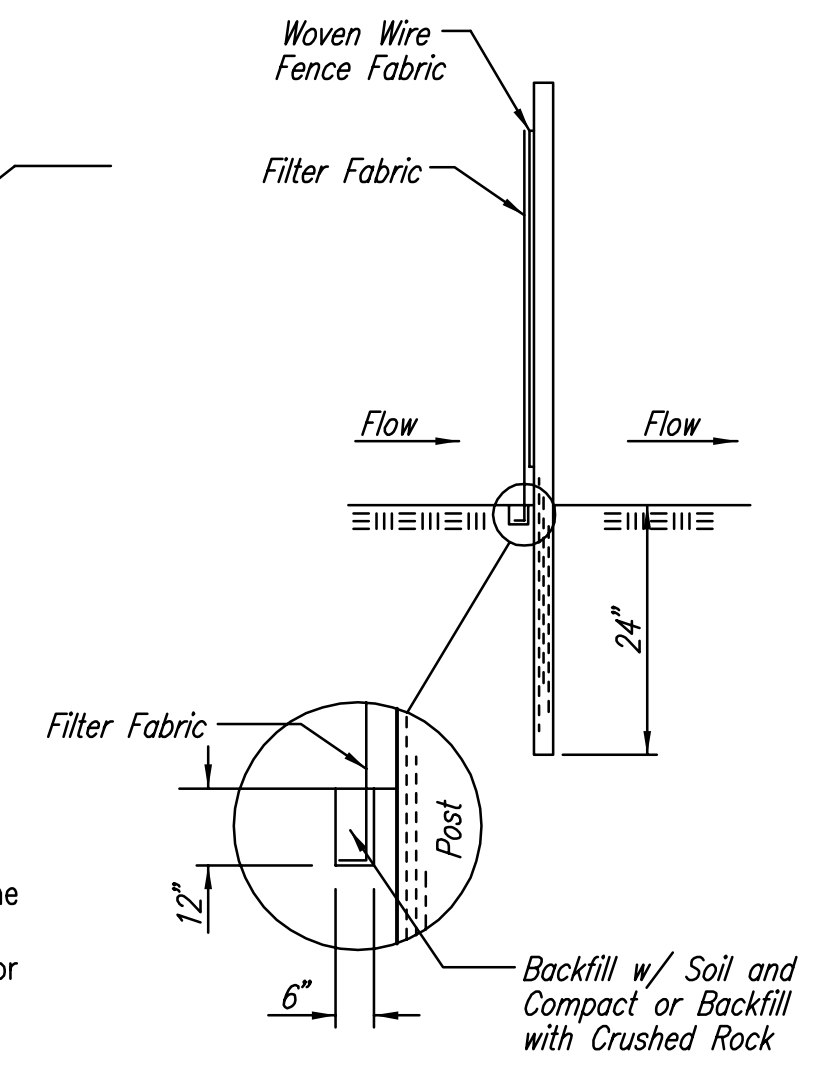
List of common placement/installation mistakes to avoid:

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.

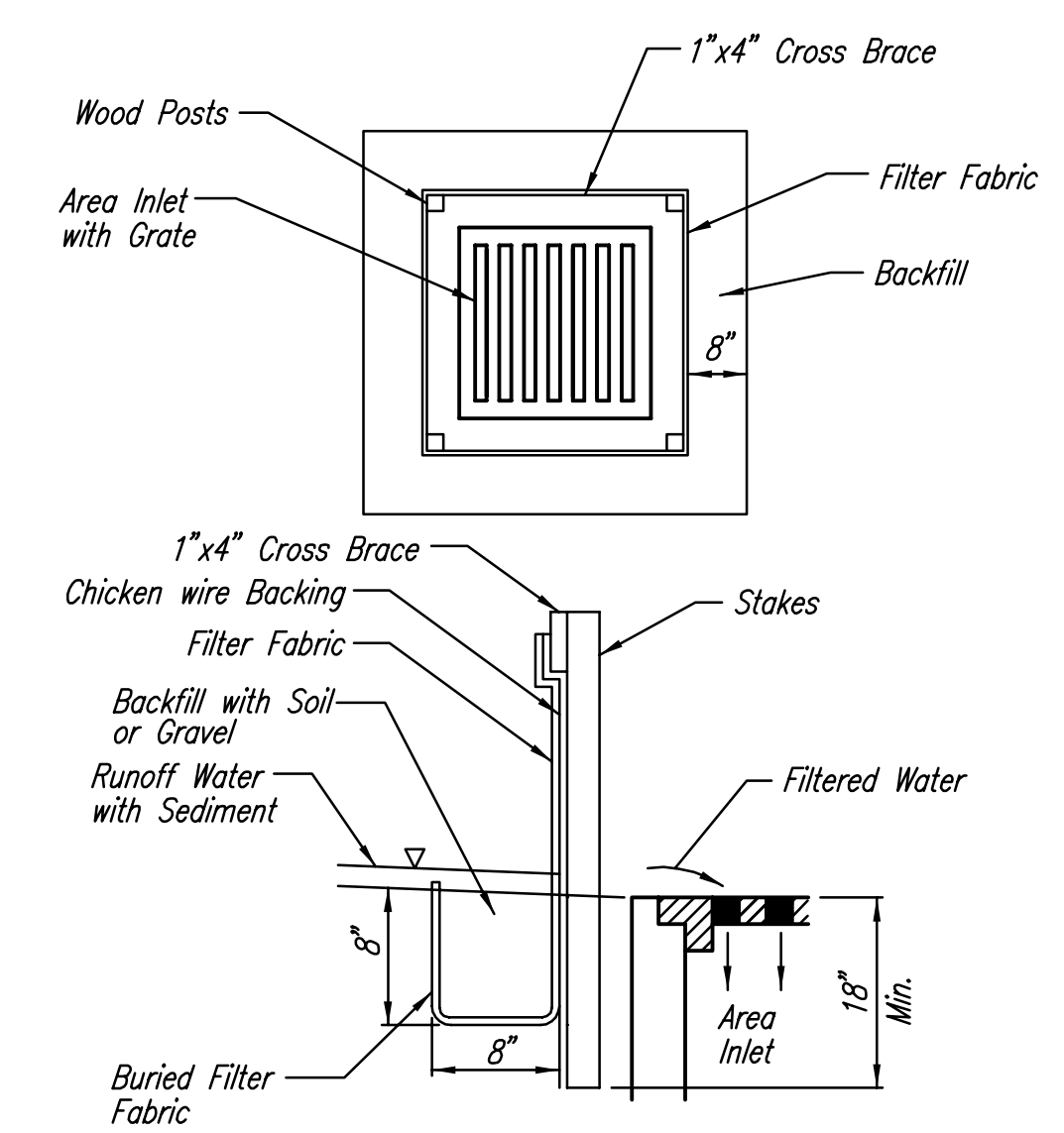
Inspection and Maintenance:

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?



ANCHOR TRENCH DETAIL



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 barrier for 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.

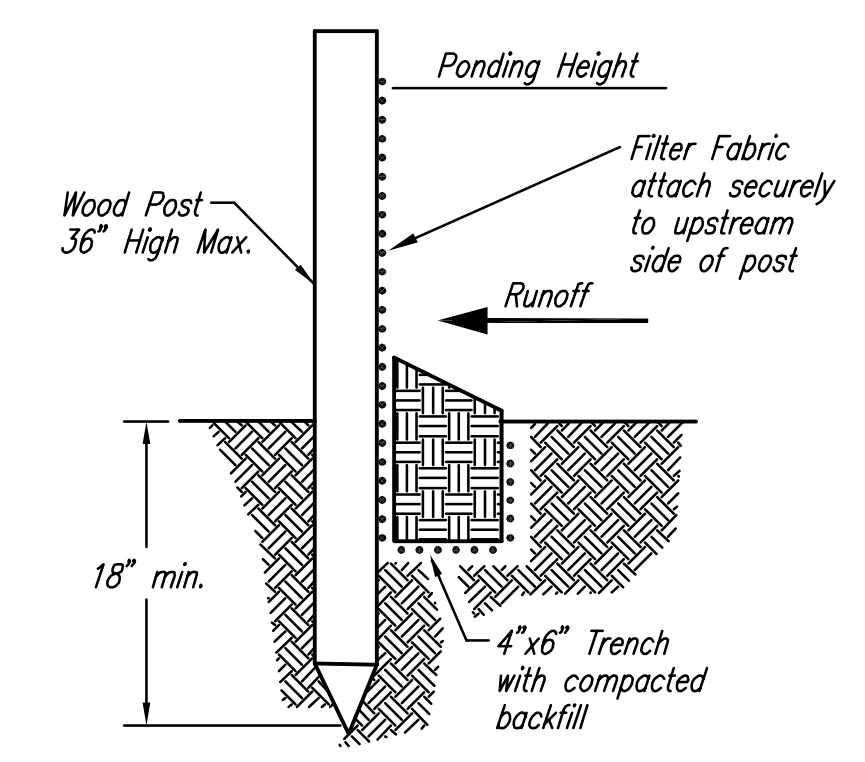
List of common placement/installation mistakes to avoid:

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?



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, nails, 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:

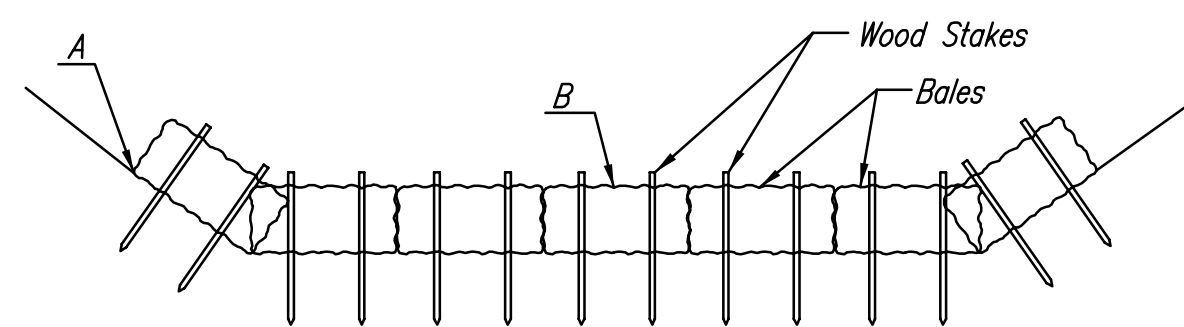
Silt fence slope barriers should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

- 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?

	<i>SOIL EROSION BMPs</i>	
	SILT FENCE DITCH CHECK AND BARRIER DETAILS	
	JIM ARMOUR, P.E. CITY ENGINEER	
	PROJECT NUMBER 448-89974	OCA NO. 735353
DATE JAN, 2007	SHEET 11 OF 13	

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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.

Straw bale ditch 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 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.

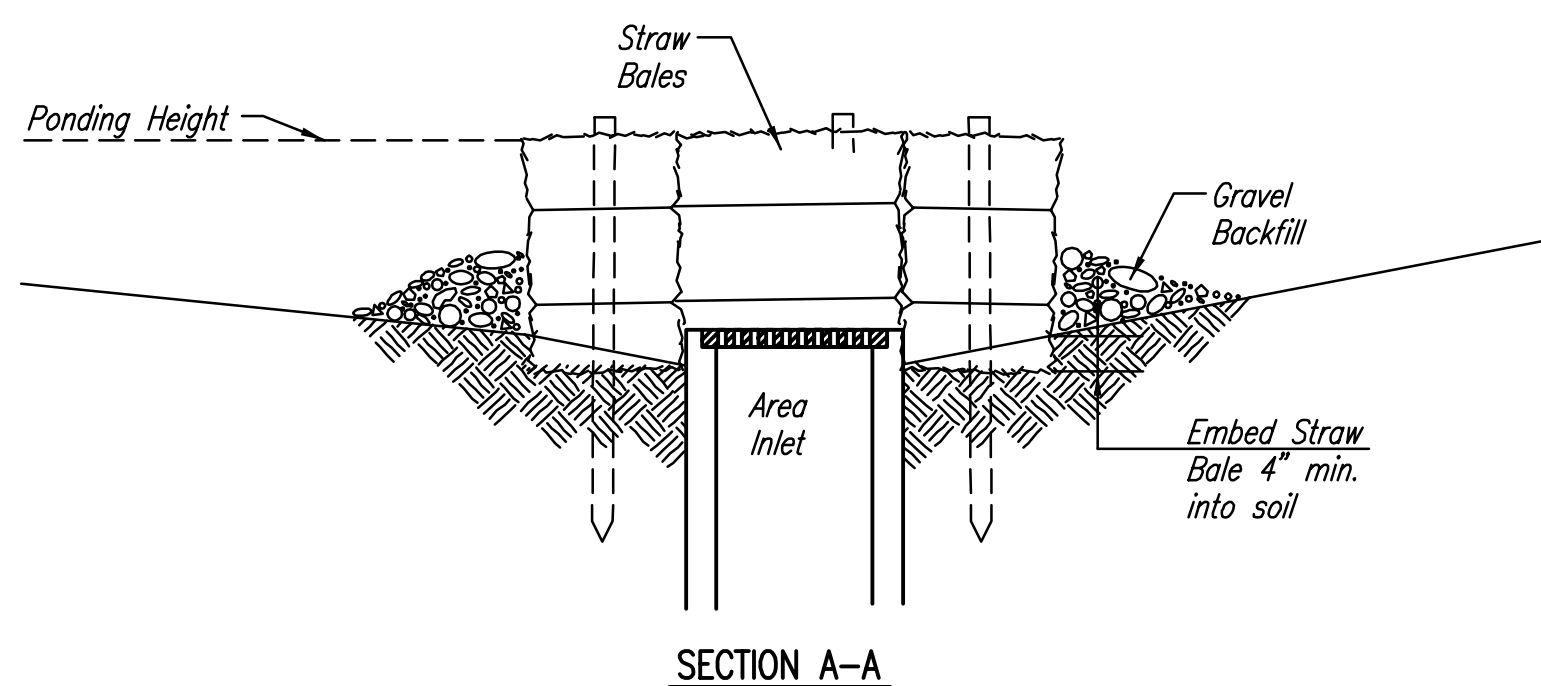
Do not place bale ditch checks in channels with shallow soils underlain by rock. If the check is not anchored sufficiently, it will wash out.

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.

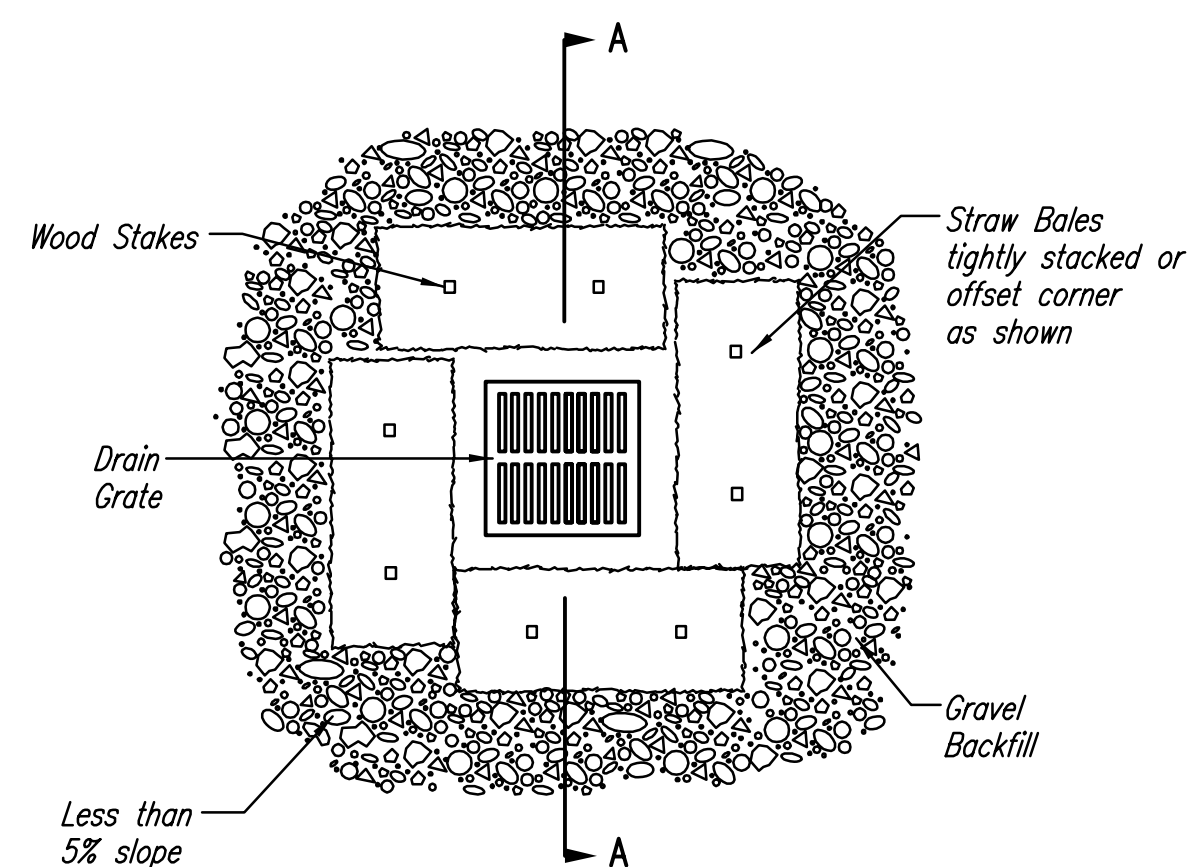
Inspection and Maintenance:

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. Twine should be used to bind bales. The use of wire binding is prohibited because it does not biodegrade readily.

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.

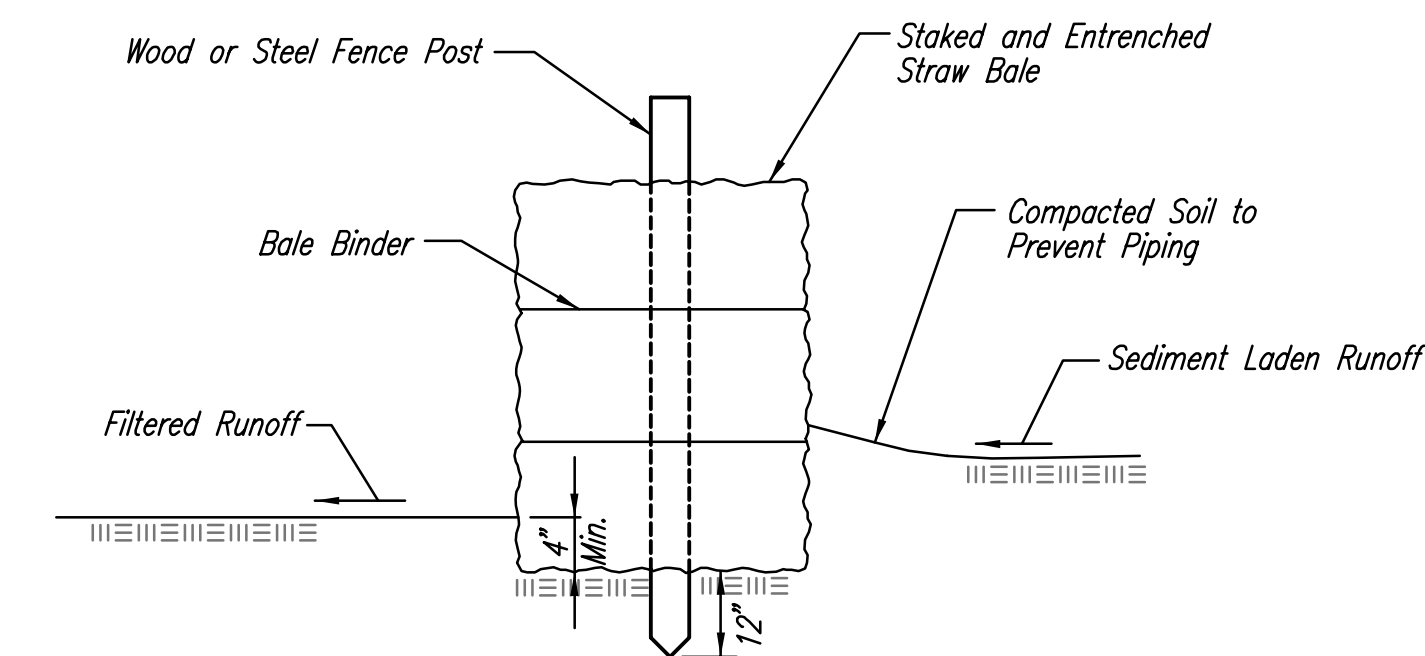
List of common placement installation mistakes to avoid:

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 and/or water damage?
- Does sediment need to be removed from behind the area inlet barrier?



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. Twine should be used to bind bales. The use of wire binding is prohibited because it does not biodegrade readily.

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 practical, 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.

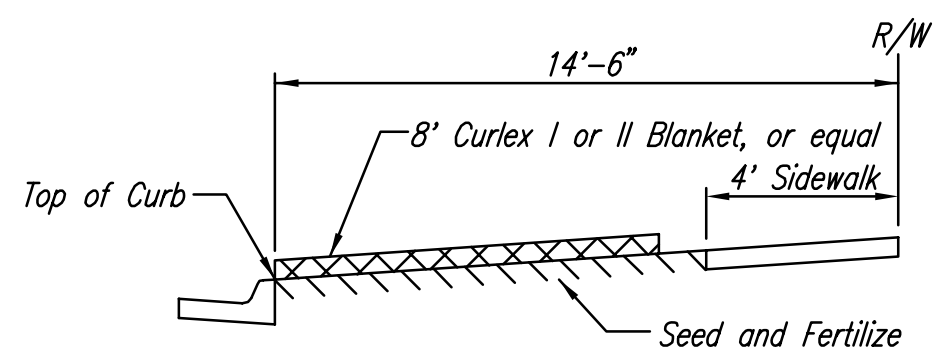
Bale slope barriers must be dug into the ground. Bales at ground level do not work because they allow water to flow under the barrier.

Inspection and Maintenance:

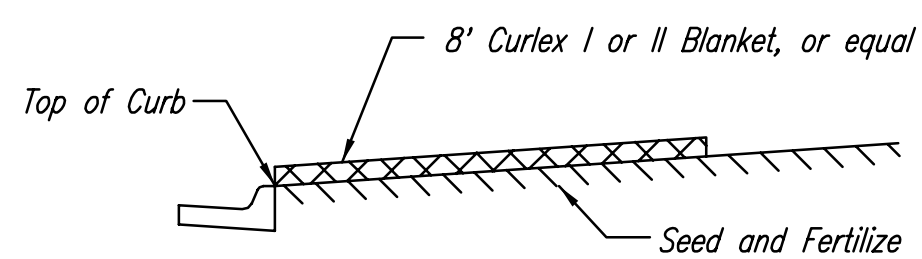
Bale slope barriers should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

- 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?

	<i>SOIL EROSION BMPs</i>	
	STRAW BALE DITCH CHECK AND BARRIER DETAILS	
	JIM ARMOUR, P.E. CITY ENGINEER	
	PROJECT NUMBER 448-89974	OCA NO. 735353
DATE JAN, 2007	SHEET 12 OF 13	

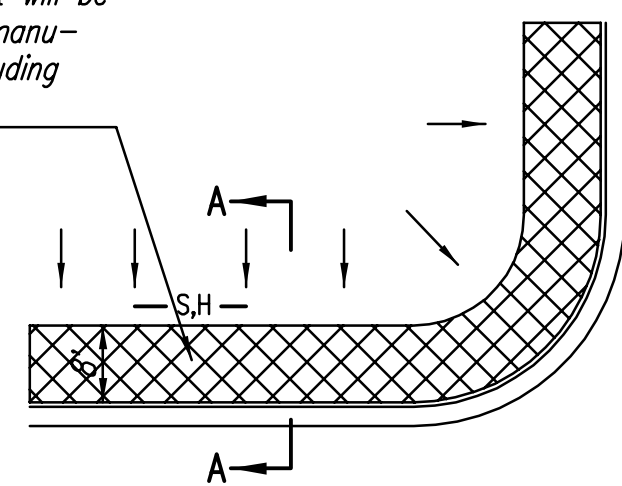


SECTION B-B

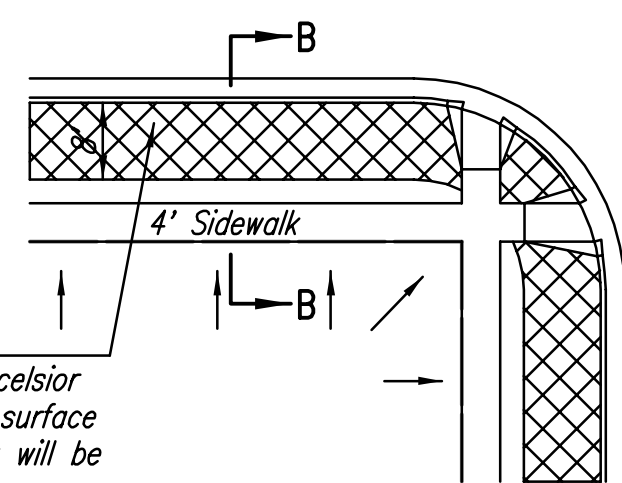


SECTION A-A

Install 8' wide Curlex I or II Excelsior Blanket, or equal, on prepared surface back of curb. Edge of blanket will be at back of curb. Install per manufacturer's recommendation, including staples. (See detail)



SOUTH STREET

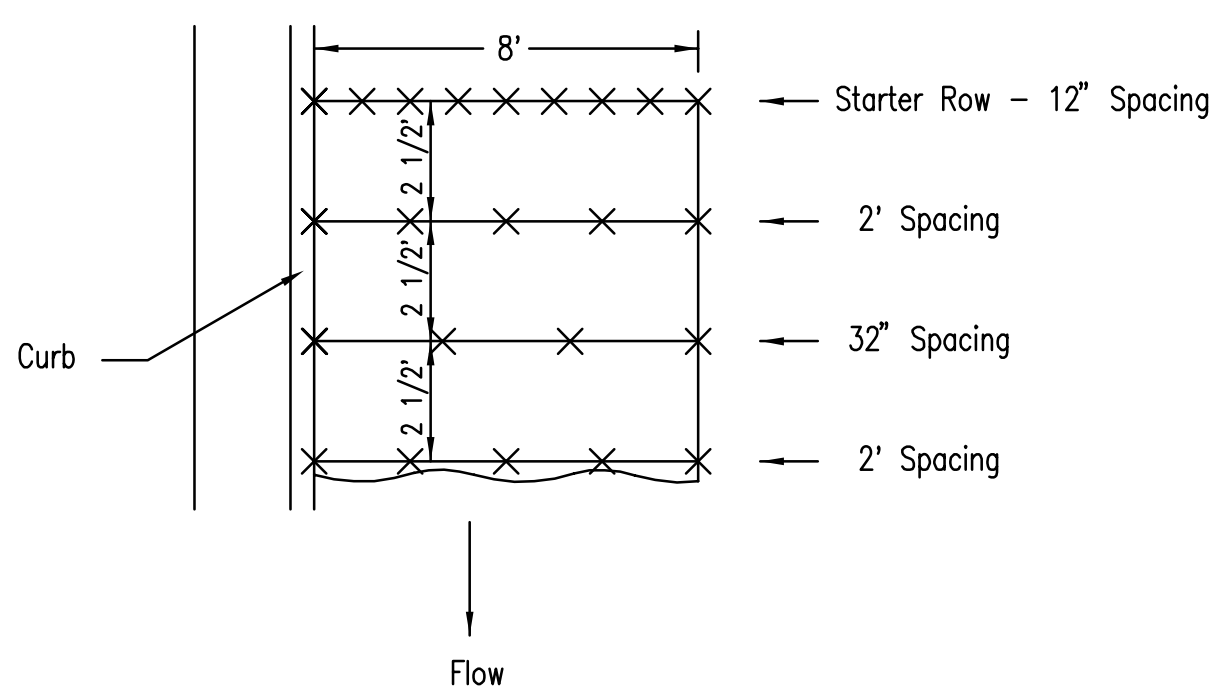


Install 8' wide Curlex I or II Excelsior Blanket, or equal, on prepared surface back of curb. Edge of blanket will be at back of curb. Install per manufacturer's recommendation, including staples. (See detail)

NOTES:

- EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
- EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE GUTTER, SUPPLEMENTAL EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS NEEDED, TO FIX THE PROBLEM.

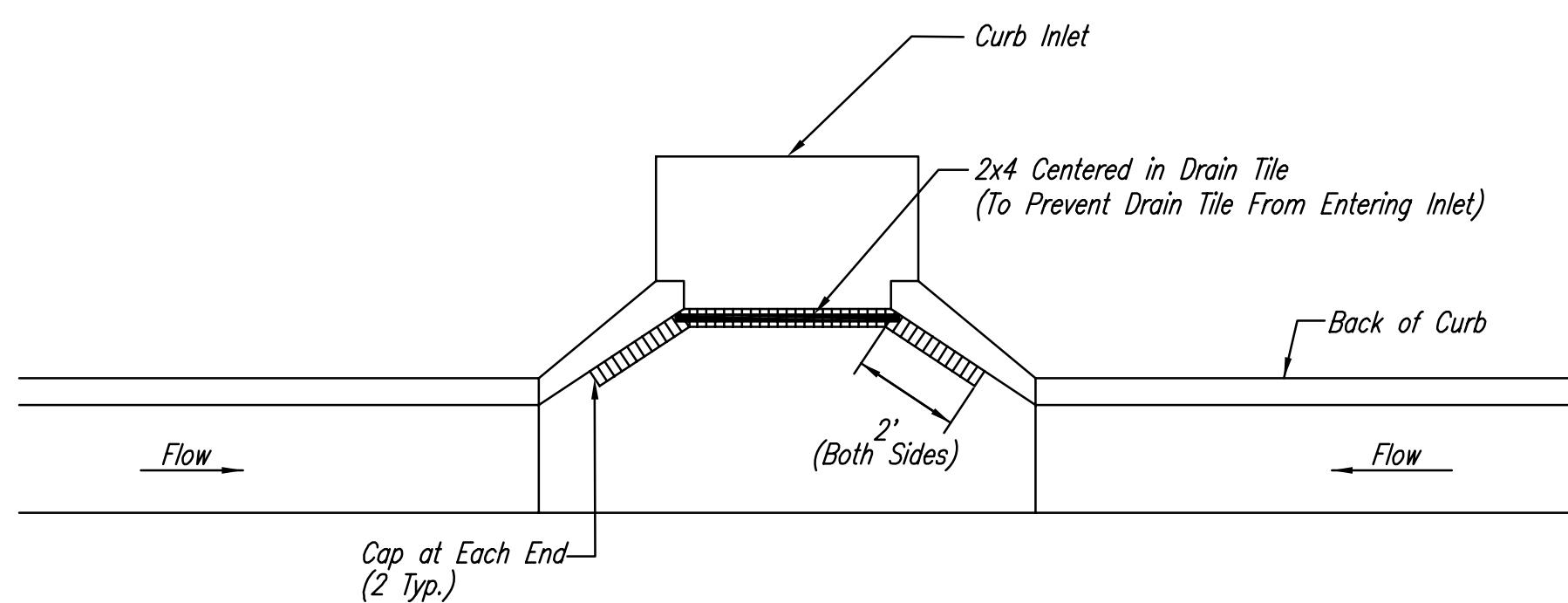
BACK OF CURB PROTECTION DETAIL



STAPLE PATTERN

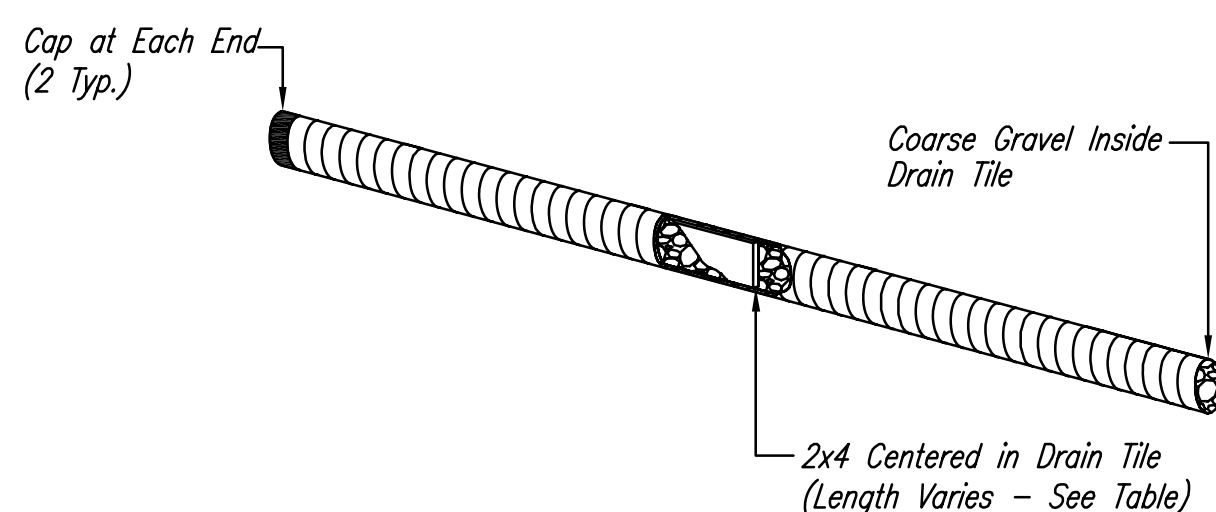
NOTES: Use 6" seam overlap

DETAILS FOR CURLEX I OR II BLANKETS

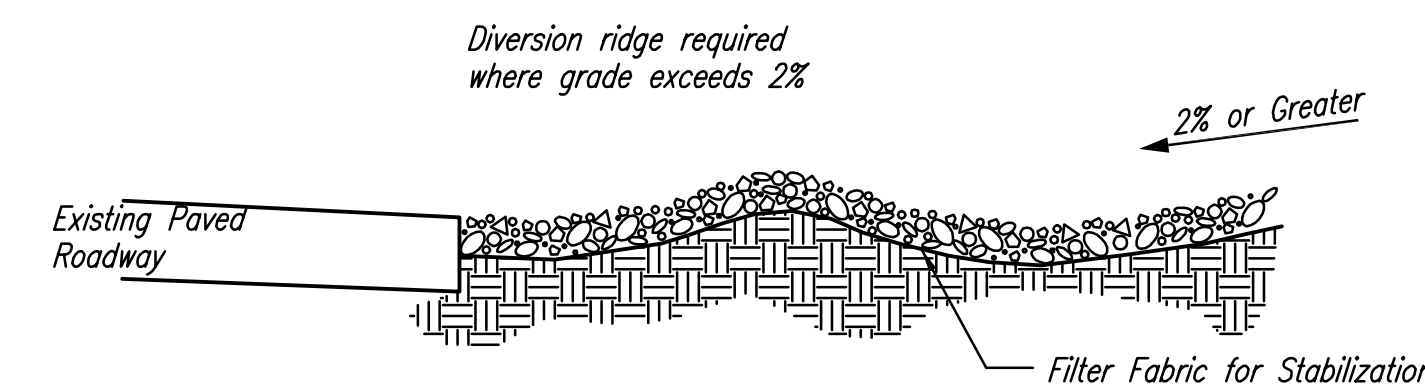


Note: Place 4" perforated PVC pipe, filled with 1/2"-1" dia. gravel, in front of curb inlet as shown.

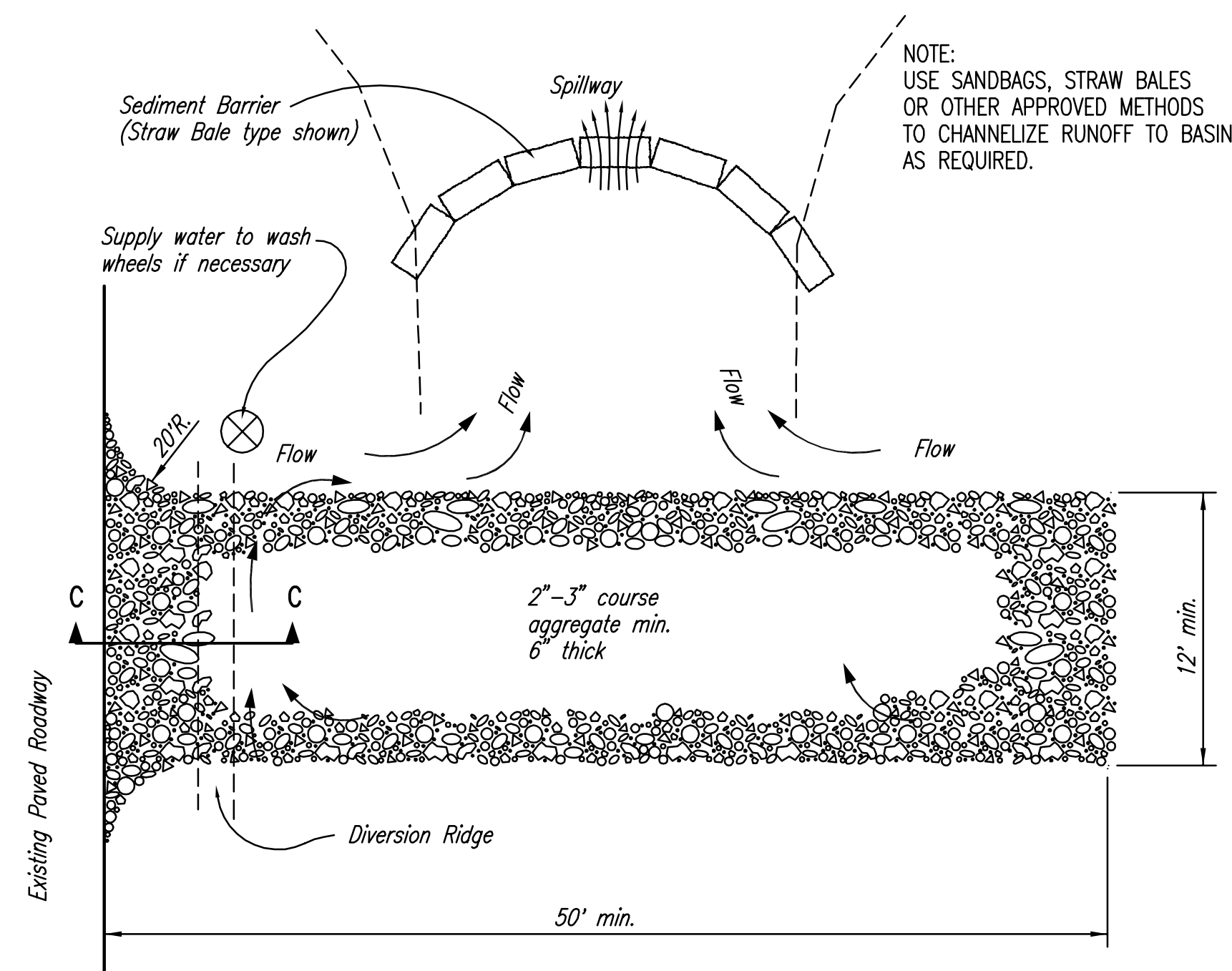
2X4 LENGTH	INLET TYPE	INLET OPENING
5'-6"	1-A	5'-0"
10'-6"	1-A	10'-0"
15'-6"	1-A	15'-0"



CURB INLET PROTECTION
4" PERFORATED PIPE W/ GRAVEL



SECTION C-C



STABILIZED CONSTRUCTION ENTRANCE

NOTES:

- 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.
- WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN, AS SHOWN ABOVE.
- 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.

	SOIL EROSION BMPs	
	BACK OF CURB PROTECTION, CURB INLET PROTECTION AND CONSTRUCTION ENTRANCE	
	JIM ARMOUR, P.E. CITY ENGINEER	
	PROJECT NUMBER 448-89974	OCA NO. 735353
DATE JAN. 2007	SHEET 13 OF 13	

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