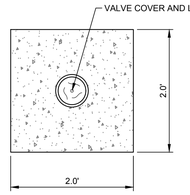
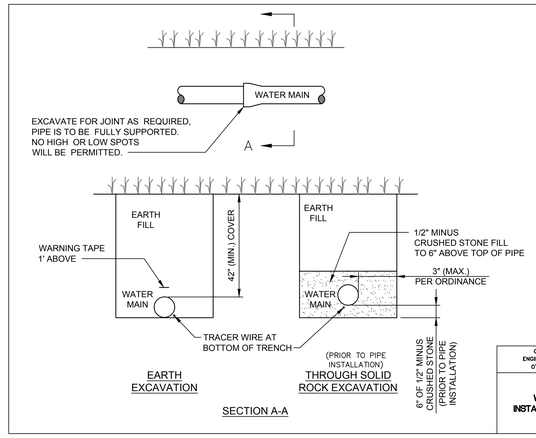


NOTE:
1. CONCRETE COLLAR JOINT PATEREN IS REQUIRED IN PAVED AREAS SUCH AS ROADWAYS, DRIVEWAYS, SIDEWALKS OR OTHER AREAS OF PAVED SURFACES.
2. CONCRETE COLLARS ARE OPTIONAL IN OTHER NON-PAVED AREAS.

CITY OF O'FALLON ENGINEERING DEPARTMENT O'FALLON, MISSOURI

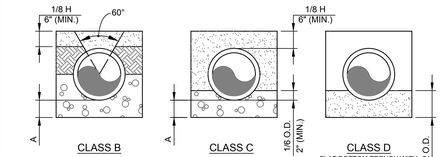
CONCRETE COLLAR DETAIL



SECTION A-A

CITY OF O'FALLON ENGINEERING DEPARTMENT O'FALLON, MISSOURI

WATER MAIN INSTALLATION DETAIL



LEGEND
I.D. - NOMINAL PIPE SIZE
O.D. - OUTSIDE DIAMETER OF PIPE
H - COVER ABOVE TOP OF PIPE A - EMBEDED BELOW PIPE (SEE TABLE)

- TAMPED BACK FILL
- COMPACTED BACK FILL
- GRANULAR BEDDING

TABLE OF EMBEDDED DEPTH BELOW PIPE		
I.D.	A MIN. SOIL	A MIN. ROCK
27" & SMALLER	3"	6"

GRANULAR BEDDING SHALL BE CRUSHED ROCK OR PEA GRAVEL WITH NOT LESS THAN 95% PASSING 1/2" (95% PASSING 3/4" FOR 30" AND LARGER PIPE) AND NOT LESS THAN 95% RETAINED ON A #4; TO BE PLACED IN NOT MORE THAN 6" LAYERS AND COMPACTED BY SLICING WITH A SHOVEL OR VIBRATING.

COMPACTED BACK FILL SHALL BE FINELY DIVIDED JOB EXCAVATED MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL AND STONES, PLACED IN UNIFORM LAYERS NOT MORE THAN 6" THICK, COMPACTED TO 95% MAXIMUM DENSITY AS DETERMINED BY A.S.T.M. D698, OR GRADED AGGREGATE. GRANULAR BACK FILL MATERIAL MAY BE SUBSTITUTED FOR ALL OR PART OF COMPACTED BACK FILL.

TAMPED BACK FILL SHALL BE FINELY DIVIDED JOB EXCAVATED MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL AND STONES, HAND PLACED IN UNIFORM LAYERS NOT MORE THAN 8" THICK AND TAMPED AROUND CONDUIT PIPE. GRANULAR BACK FILL MATERIAL MAY BE SUBSTITUTED FOR ALL OR PART OF TAMPED BACK FILL.

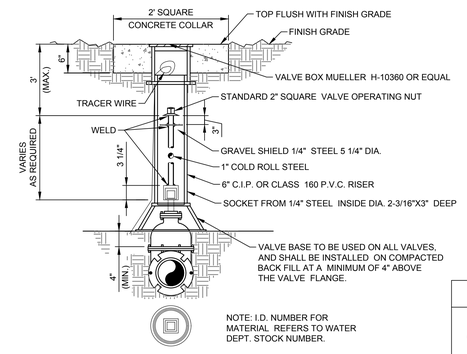
TRENCH BACK FILL SHALL BE AS REQUIRED IN THE "LAYING AND BACK FILL" SECTION OF THE DETAILED SPECIFICATIONS.

EMBEDDED THE TYPE OF EMBEDDED TO BE USED SHALL BE AS SPECIFIED IN THE PLANS AND SPECIFICATIONS. TRACER WIRE REQUIRED ON ALL WATER MAINS

CITY OF O'FALLON ENGINEERING DEPARTMENT O'FALLON, MISSOURI

WATER MAIN EMBEDED

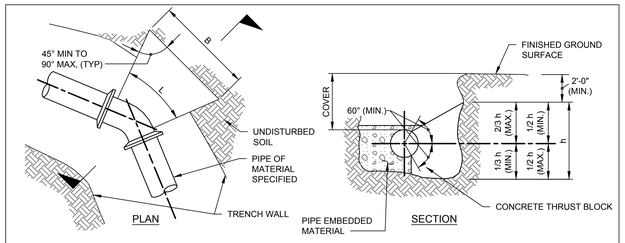
CONCRETE COLLAR WILL BE IN ACCORDANCE WILL THE CONCRETE COLLAR DETAIL.



NOTE: I.D. NUMBER FOR MATERIAL REFERS TO WATER DEPT. STOCK NUMBER.

CITY OF O'FALLON ENGINEERING DEPARTMENT O'FALLON, MISSOURI

WATER VALVE DETAIL

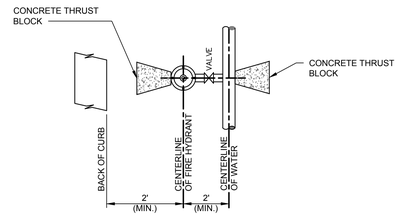


SIZE	BEND	THRUST AREA	B	h
16"	11 1/2° 22 1/2°	4 S.F.	2'	2'
16"	45°	8 S.F.	2.8'	2.8'

NOTES:
1. AREA OF BLOCK, A = Bxh. BLOCK AREAS ARE SHOWN ON GENERAL LAYOUT OR TABLE.
2. B = h = $\sqrt{A}$, EXCEPT WHERE TOP OF BLOCK IS WITHIN 2 FEET FROM GROUND SURFACE, THEN B = A/h.
3. MINIMUM BLOCK DIMENSION (B & h) SHALL BE AT LEAST OD OF PIPE OR 1 FOOT FOR PIPE OD 12" OR LESS.
4. THE BOTTOM OF THE BLOCK SHALL EXTEND AT LEAST TO THE BOTTOM OF THE TRENCH IN ALL CASES.
5. L=FITTING LENGTH MINUS CLEARANCE FOR BELLS.
6. DETAIL IS SHOWN FOR CAST IRON PIPE; DETAIL IS SIMILAR FOR OTHER TYPES OF PIPE. DIMENSIONS FOR THRUST BLOCKS FOR FIRE HYDRANT
7. ASSEMBLY ARE SHOWN FIRE HYDRANT ASSEMBLY DETAIL.

CITY OF O'FALLON ENGINEERING DEPARTMENT O'FALLON, MISSOURI

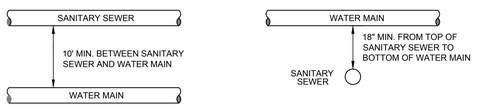
CONCRETE THRUST BLOCKING DETAILS



CONFIGURATION:
ALL FIRE HYDRANTS SHALL BE 3' OFF BACK OF CURB ALL WATER MAINS SHALL BE A MIN. OF 5' OFF BACK OF CURB

CITY OF O'FALLON ENGINEERING DEPARTMENT O'FALLON, MISSOURI

WATER MAIN FIRE HYDRANT DETAIL

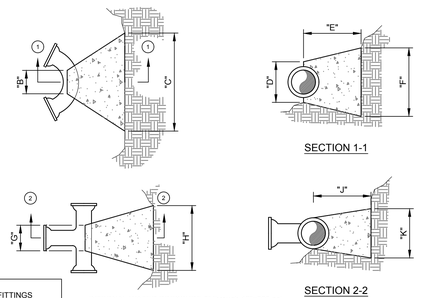


CITY OF O'FALLON ENGINEERING DEPARTMENT O'FALLON, MISSOURI

WATER AND SEWER SEPARATION DETAILS

BENDS	"B"	"C"	"D"	"E"	"F"
6"-11 1/4°	8"	15"	12"	24"	10"
6"-22 1/2°	8"	19"	12"	24"	13"
6"-45°	8"	30"	12"	24"	15"
6"-90° 8"-11	8"	30"	12"	24"	28"
1/4°	8"	20"	12"	24"	10"
8"-22 1/2°	8"	22"	12"	24"	18"
8"-45°	8"	31"	12"	24"	24"
8"-90°	8"	38"	12"	24"	36"
12"-11 1/4°	8"	30"	12"	24"	15"
12"-22 1/2°	8"	35"	12"	24"	25"
12"-45°	8"	40"	12"	24"	40"
12"-90°	8"	60"	12"	24"	52"
16"-11 1/4°	TL	28"	20"	24"	28"
16"-22 1/2°	TL	39"	20"	24"	39"
16"-45°	TL	55"	20"	24"	55"
16"-90°	TL	91"	20"	24"	60"
20"-11 1/4°	TL	34"	24"	26"	28"
20"-22 1/2°	TL	48"	24"	26"	39"
20"-45°	TL	74"	24"	26"	55"
20"-90°	TL	136"	24"	26"	60"
24"-11 1/4°	TL	40"	28"	28"	40"
24"-22 1/2°	TL	56"	28"	28"	56"
24"-45°	TL	101"	28"	28"	60"
24"-90°	TL	186"	28"	28"	60"
30"-11 1/4°	TL	49"	34"	30"	49"
30"-22 1/2°	TL	79"	34"	30"	60"
30"-45°	TL	154"	34"	30"	60"
30"-90°	TL	285"	34"	30"	60"

TEES	"G"	"H"	"J"	"K"
6"X6"X6"	12"	24"	24"	18"
8"X8"X6"	12"	24"	24"	18"
8"X8"X8"	12"	27"	24"	27"
12"X12"X6"	12"	24"	24"	18"
12"X12"X8"	12"	27"	27"	27"
12"X12"X12"	12"	38"	24"	38"
24"X24"X16"	16"	53"	28"	53"



NOTES:
1. 2"& 4" FITTINGS EQUIVALENT TO 6" FITTINGS.
2. TAPPING SLEEVES TO HAVE BACKING BLOCKS SAME SIZE AS REQUIRED FOR TEES.
3. "TL" = TOTAL LENGTH OF FITTING MINUS CLEARANCE FOR BELLS.

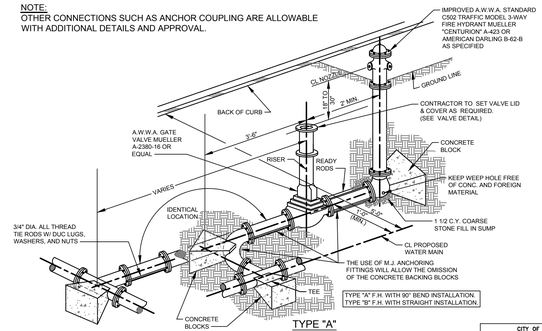
INTERNAL WATER PRESSURE 6" through 12"=200 psi
INTERNAL WATER PRESSURE 16" through 30"=210 psi
BEARING PRESSURE OF SOIL=2000 psi

BACKING BLOCKS
NOT TO SCALE

CITY OF O'FALLON ENGINEERING DEPARTMENT O'FALLON, MISSOURI

BACKING BLOCK DETAILS AND LOCATIONS

NOTE:
OTHER CONNECTIONS SUCH AS ANCHOR COUPLING ARE ALLOWABLE WITH ADDITIONAL DETAILS AND APPROVAL.



PROVIDE TRACER WIRE FROM MAIN TO VALVE

CITY OF O'FALLON ENGINEERING DEPARTMENT O'FALLON, MISSOURI

FIRE HYDRANT DETAILS

DUCTILE IRON PIPE INSTALLATION SHALL FOLLOW THE DUCTILE IRON RESEARCH ASSOCIATION (DIPRA) GUIDE LINE.

THE INSTALLATION OF PVC PIPE SHALL FOLLOW THE UNI-BELL PVC PIPE ASSOCIATION HANDBOOK OF PVC DESIGN AND CONSTRUCTION.

16 CITY OF OFALLON - WATER DETAILS
SCALE: N.T.S.

CITY OF O'FALLON STANDARD COMMERCIAL NOTES AND DETAILS - JUNE 2010

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PROFESSIONAL ENGINEER
8/14/17

CIVIC PARK IMPROVEMENTS
O'Fallon Parks and Rec
Civic Park, O'Fallon, Missouri

MARK	DATE	DESCRIPTION

SFS PROJECT NO: 16962
ISSUED FOR: CONSTRUCTION DOCUMENTS
ISSUE DATE: 07/27/2017
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CIVIL SITE DETAILS

C4-06