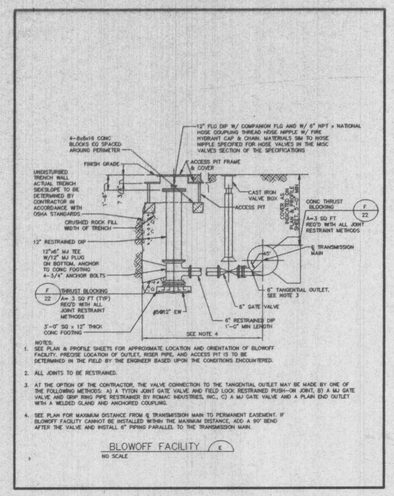
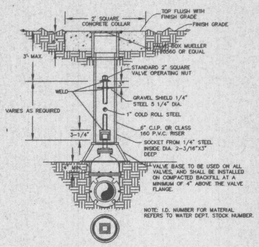
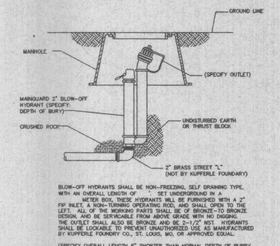


NOTES:
1. SEE PLAN & PROFILE SHEETS FOR APPROXIMATE LOCATION AND ORIENTATION OF BLOWOFF FACILITY. PRECISE LOCATION OF OUTLET, RISER PIPE, AND ACCESS PIT IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER BASED UPON THE CONDITIONS ENCOUNTERED.
2. ALL JOINTS TO BE RESTRAINED.
3. AT THE OPTION OF THE CONTRACTOR, THE VALVE CONNECTION TO THE TANGENTIAL OUTLET MAY BE MADE BY ONE OF THE FOLLOWING METHODS: A) A TYTON JOINT GATE VALVE AND FIELD LOCK RESTRAINED PUSH-ON JOINT, B) A MJ GATE VALVE AND DRIP RING PIPE RESTRAINED BY ROMAC INDUSTRIES, INC., C) A MJ GATE VALVE AND A PLAIN END OUTLET WITH A WELDED ELAND AND ANCHORED COUPLING.
4. SEE PLAN FOR MAXIMUM DISTANCE FROM ℄ TRANSMISSION MAIN TO PERMANENT EASEMENT. IF BLOWOFF FACILITY CANNOT BE INSTALLED WITHIN THE MAXIMUM DISTANCE, ADD A 90° BEND AFTER THE VALVE AND INSTALL 6" PIPING PARALLEL TO THE TRANSMISSION MAIN.

BLOWOFF FACILITY (℄)
NO SCALE



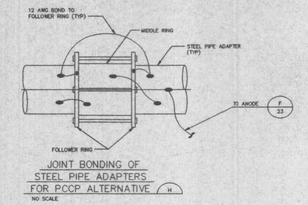
WATER VALVE DETAIL
NOT TO SCALE



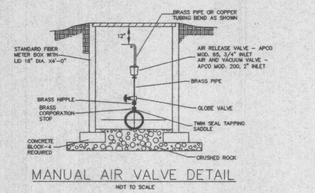
BLOW-OFF HYDRANTS SHALL BE NON-FREEZING, SELF DRAINING TYPE, WITH AN OVERALL LENGTH OF _____ SET UNDERGROUND IN A METER BOX. THESE HYDRANTS WILL BE FURNISHED WITH A 2" FIP INLET, A NON-TURNING OPERATING ROD, AND SHALL OPEN TO THE LEFT. ALL OF THE WORKING PARTS SHALL BE OF BRONZE-TO BRONZE THREADS, EASILY REMOVABLE FROM THE TOP, WITH NO DISASSEMBLING OF OUTLET SHALL BE REQUIRED. HANDLE AND BONNET NUTS OF HYDRANTS SHALL BE LOCKABLE TO PREVENT UNAUTHORIZED USE AS MANUFACTURED BY KUPFERLE FOUNDRY CO., ST. LOUIS, MO, OR APPROVED EQUAL.

(SPECIFY OVERALL LENGTH 6" SHORTER THAN NORMAL DEPTH OF BURRY. MINIMUM OPENING IN METER BOX SHOULD BE 10").

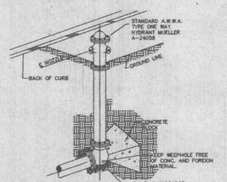
BLOW-OFF HYDRANT
NOT TO SCALE



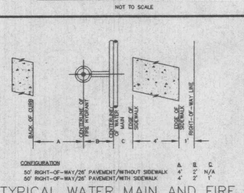
JOINT BONDING OF STEEL PIPE ADAPTERS FOR PCCP ALTERNATIVE
NO SCALE



MANUAL AIR VALVE DETAIL
NOT TO SCALE

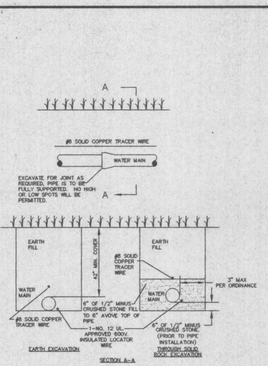


FLUSHING HYDRANT DETAIL
NOT TO SCALE

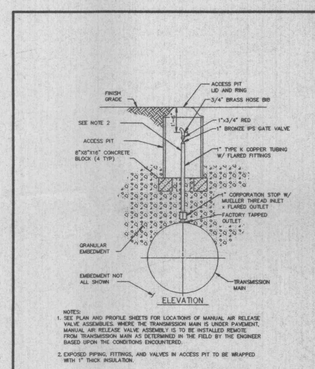


CONFIGURATION	A	B	C
50' RIGHT-OF-WAY/28' PAVEMENT/WITHOUT SIDEWALK	4'	3'	N/A
50' RIGHT-OF-WAY/28' PAVEMENT/WITH SIDEWALK	4'	3'	1'

TYPICAL WATER MAIN AND FIRE HYDRANT LOCATIONS
NOT TO SCALE



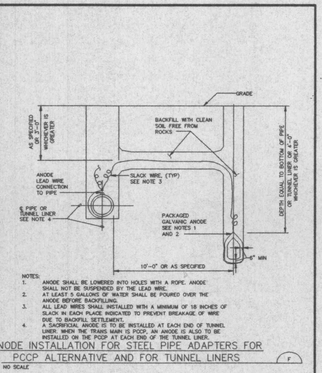
TYPICAL WATER MAIN INSTALLATION DETAILS
NOT TO SCALE



ELEVATION

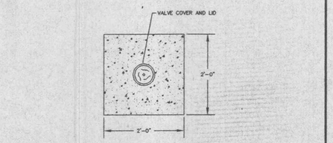
NOTES:
1. SEE PLAN AND PROFILE SHEETS FOR LOCATIONS OF MANUAL AIR RELEASE VALVE ASSEMBLIES. WHERE THE TRANSMISSION MAIN IS UNDER PAVEMENT, MANUAL AIR RELEASE VALVE ASSEMBLY IS TO BE INSTALLED REMOTE FROM TRANSMISSION MAIN AS DETERMINED IN THE FIELD BY THE ENGINEER BASED UPON THE CONDITIONS ENCOUNTERED.
2. EXPOSED PIPING, FITTINGS, AND VALVES IN ACCESS PIT TO BE WRAPPED WITH 1" THICK INSULATION.

MANUAL AIR RELEASE VALVE ASSEMBLY (℄)
NO SCALE

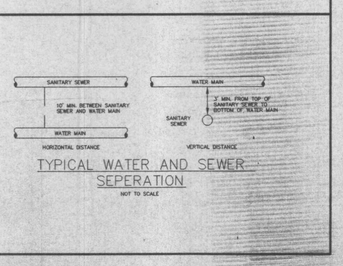


NOTES:
1. ANODE SHALL BE LOWERED INTO HOLES WITH A ROPE. ANODE SHALL NOT BE SUSPENDED BY THE LEAD WIRE.
2. ANODE SHALL BE BACKFILLED WITH WATER SHALL BE POURED OVER THE ANODE BEFORE BACKFILLING.
3. ALL LEAD WIRES SHALL INSTALLED WITH A MINIMUM OF 18 INCHES OF SLACK IN EACH PLACE INDICATED TO PREVENT BREAKAGE OF WIRE DUE TO BACKFILL SETTLEMENT.
4. A SACRIFICIAL ANODE IS TO BE INSTALLED AT EACH END OF TUNNEL LINER. WHEN THE TRANS MAIN IS PCCP, AN ANODE IS ALSO TO BE INSTALLED ON THE PCCP AT EACH END OF THE TUNNEL LINER.

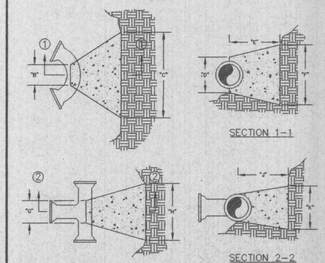
ANODE INSTALLATION FOR STEEL PIPE ADAPTERS FOR PCCP ALTERNATIVE AND FOR TUNNEL LINERS
NO SCALE



TOP VIEW CONCRETE COLLAR
NOT TO SCALE



TYPICAL WATER AND SEWER SEPERATION
NOT TO SCALE



BENDS	"B"	"C"	"D"	"E"	"F"
6"-11 1/4°	8"	15"	13"	24"	15"
6"-22 1/2°	8"	19"	20"	24"	18"
6"-45°	8"	30"	13"	24"	24"
6"-90°	8"	30"	13"	24"	27"
8"-11 1/4°	8"	20"	13"	24"	15"
8"-22 1/2°	8"	22"	13"	24"	18"
8"-45°	8"	30"	13"	24"	24"
8"-90°	8"	40"	13"	24"	36"
12"-11 1/4°	8"	30"	13"	24"	15"
12"-22 1/2°	8"	30"	13"	24"	18"
12"-45°	8"	40"	13"	24"	24"
12"-90°	8"	60"	13"	24"	36"

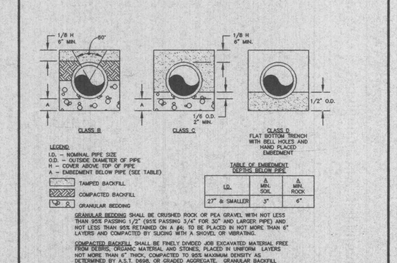
TEES	"A"	"B"	"C"	"D"
8"x8"x6"	12"	24"	24"	18"
8"x8"x8"	12"	24"	24"	18"
8"x8"x8"	12"	24"	24"	24"
12"x12"x6"	12"	24"	24"	24"
12"x12"x8"	12"	24"	24"	24"
12"x12"x12"	12"	24"	24"	30"

NOTES:
1. 2" & 4" FITTINGS EQUIVALENT TO 6" FITTINGS.
2. TAPPING SLEEVES TO HAVE BACKING BLOCKS SAME SIZE AS REQUIRED FOR TEES.

CUBIC FEET OF CONCRETE REQUIRED			
BEND	11 1/4°	22 1/2°	45° 90°
6"	1.1	2.1	3.0 4.5
8"	1.7	3.4	5.0 8.0
12"	3.7	5.9	9.7 17.5

TEE X	6"	8"	12"	PLUG
6"	40	–	–	4.0
8"	40	5.0	–	5.0
12"	40	8.5	10.5	10.5

BACKING BLOCKS
NOT TO SCALE



LEGEND
I.D. = NOMINAL PIPE SIZE
O.D. = OUTSIDE DIAMETER OF PIPE
H = COVER ABOVE TOP OF PIPE
A = EMBEDMENT BELOW PIPE (SEE TABLE)
TAMPED BACKFILL
COMPACTED BACKFILL
GRANULAR BEDDING

TABLE OF EMBEDMENT DEPTHS 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 BACKFILL 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. D698, OR GRADED AGGREGATE. GRANULAR BACKFILL MATERIAL MAY BE SUBSTITUTED FOR ALL OR PART OF COMPACTED BACKFILL.

TAMPED BACKFILL 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 BACKFILL MATERIAL MAY BE SUBSTITUTED FOR ALL OR PART OF TAMPED BACKFILL.

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

EMBEDMENT THE TYPE OF EMBEDMENT TO BE USED SHALL BE AS SPECIFIED IN THE PLANS AND SPECIFICATIONS.

TRACER WIRE REQUIRED ON ALL WATER MAINS

WATER MAIN EMBEDMENT
NOT TO SCALE

NOTE:
ALL WATERLINE WORK SHALL BE PER LOCAL STANDARDS.

CITY OF O'FALLON STANDARD WATERLINE INSTALLATION DETAILS

PICKETT RAY & SILVER
CIVIL ENGINEERS
PLANNERS
LAND SURVEYORS
333 Mid Rivers Mall Drive
St. Peters, MO 63376
Phone (636) 397-1211
Fax (636) 397-1104

IMPROVEMENT PLANS
A PROPOSED OFFICE/WAREHOUSE FOR A.C. TRUCKING, INC.

Prepared For:
A.C. TRUCKING, INC.
MR. CHRIS ATHANASIADIS
1701 N. 11TH STREET
ST. LOUIS, MISSOURI 63106
(314) 421-1770

REVISIONS

NO.	DATE	REV. PER CITY COMMENTS
1	12-20-01	

ENGINEERS AUTHENTICATION
The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after this date unless reauthenticated.

PICKETT, RAY & SILVER, INC
STATE OF MISSOURI
HAROLD J. BARTSCH
NUMBER E-17751
REGISTERED PROFESSIONAL ENGINEER

DRAWN STANDARTD DET.	DATE 11-30-01
CHECKED STANDARTD DET.	DATE 11-30-01
PROJECT # 88052.ACTR.OOC	
TASK #	FIELD BOOK

WATERLINE DETAIL SHEET
SHEET 6 OF 7

© Copyright 2001 by Pickett, Ray & Silver Inc.

\\tserver-prs\projects\88052\dwg\88052ES.dwg Thu Dec 20 08:31:28 2001 CLIFF MERCHANT