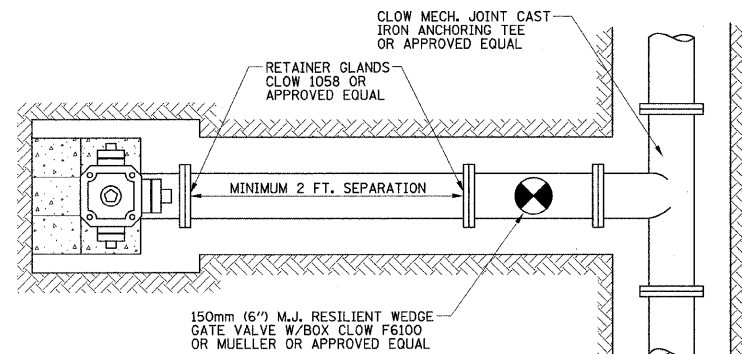
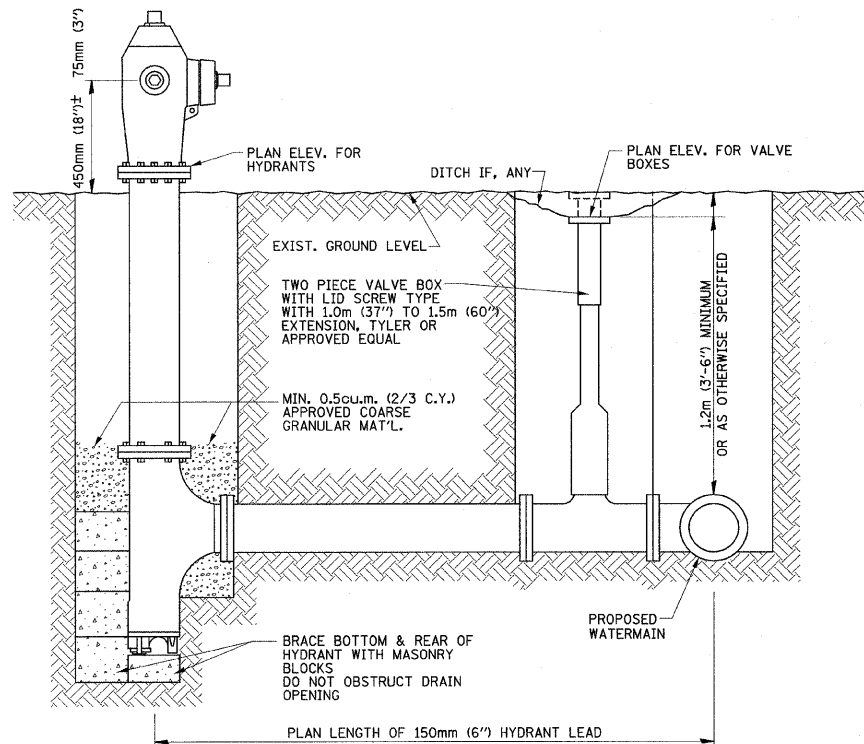


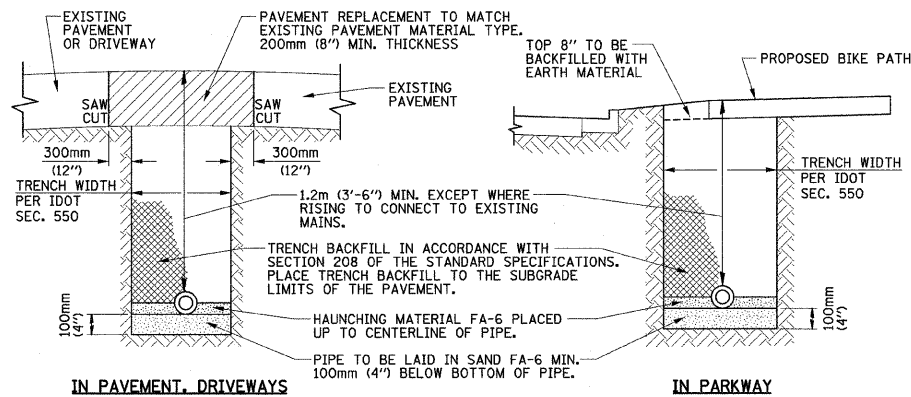
PARALLEL MOUNT HYDRANT INSTALLATION



TYPICAL HYDRANT INSTALLATION PLAN



TYPICAL HYDRANT INSTALLATION SECTION



PIPE COVER DETAILS

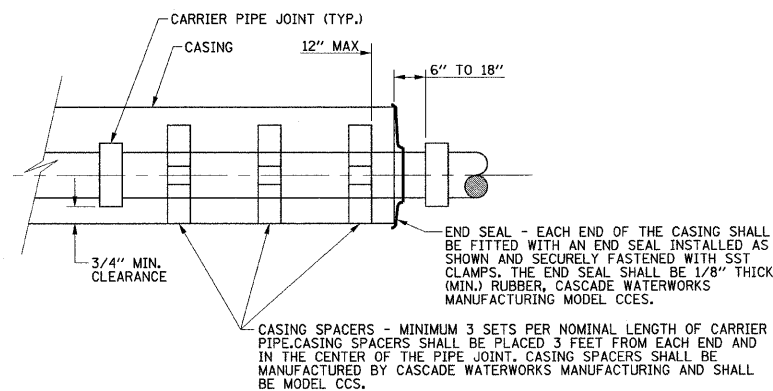
GENERAL NOTES:

1. THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", FIFTH EDITION, DATED MAY 1996 SHALL APPLY TO THIS WORK.
2. ALL WATERMAIN MATERIALS SHALL BE MANUFACTURED IN COUNTRIES SIGNATORY TO THE NORTH AMERICAN FREE TRADE AGREEMENT AND SHALL MEET OR EXCEED AWWA SPECIFICATIONS.
3. ALL FIRE HYDRANTS, VALVES, AND FITTINGS SHALL BE RESTRAINED.
4. A #12 THWN SINGLE STRAND ELECTRIC CABLE SUITABLE FOR DIRECT BURIAL SHALL BE INSTALLED ON ALL WATERMAIN. THE CABLE SHALL BE TAPED OR ATTACHED TO THE PIPE IN AN APPROVED MANNER DURING INSTALLATION AND PRIOR TO BACKFILLING. TWO FEET OF SLACK SHALL BE PROVIDED AT ALL VALVE BOXES AND FIRE HYDRANTS. THE SLACK SHALL BE WRAPPED AROUND THE VALVE BOX OR FIRE HYDRANT AT FINISHED GRADE.
5. ALL VERTICAL AND HORIZONTAL BENDS SHALL BE CONSTRUCTED WITH RESTRAINED JOINT PIPE.
6. TRENCH BACKFILL SHALL BE PLACED IN 8 INCH LIFTS, LOOSE MEASUREMENT AND COMPACTED BY MECHANICAL MEANS TO THE SATISFACTION OF THE ENGINEER.

CROSSING SPECIFICATIONS

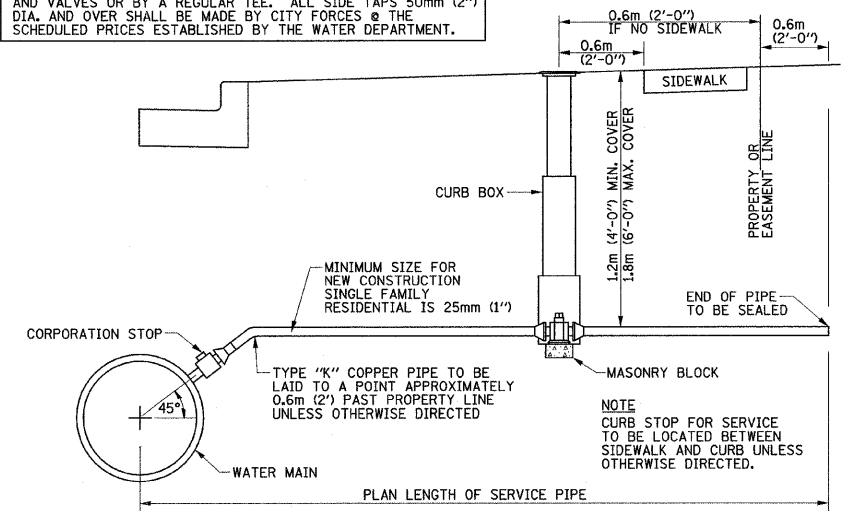
	CARRIER PIPE	CASING PIPE
CONTENTS TO BE HANDLED	WATER	CARRIER PIPE
PIPE MATERIAL	HDPE	STEEL
PIPE CLASS OR GRADE	DR 11	B
ACTUAL WORKING PRESSURE	100 PSI	NONE
TYPE OF JOINT	BUTTFUSE	WELDED OR PUSH-ON JOINT
METHOD OF INSTALLATION	---	---
LINING - INTERIOR	---	AWWA C203 COAL TAR
LINING - EXTERIOR	---	30 MIL HEAVY DUTY COAL TAR
NOMINAL INSIDE DIAMETER - PIPE	14"	18"
OUTSIDE DIAMETER - JOINT	15.3"	---
PIPE WALL THICKNESS	1.391"	0.5" MIN.

1. CASING PIPE SHALL CONFORM TO ASTM A139, GRADE B, WITH 60,000 PSI MINIMUM TENSILE STRENGTH AND BE OF LEAKPROOF CONSTRUCTION.



STEEL CASING PIPE DETAIL

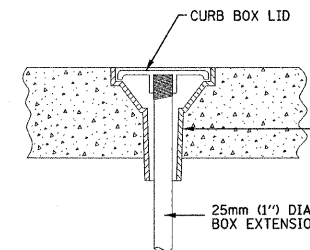
TAP SIZE	PERMITTED TAP SIZES	MINIMUM SIZE OF WATERMAIN TO BE TAPPED
19mm (3/4 ")		100mm (4" DIA.)
25mm (1")		200mm (8")
30mm (1 1/4")	A SPECIAL PERMIT IS NEEDED FROM THE WATER RESOURCES MANAGER	
50mm (2") AND OVER	MUST BE MADE BY SIDE TAP SLEEVES AND VALVES OR BY A REGULAR TEE. ALL SIDE TAPS 50mm (2") DIA. AND OVER SHALL BE MADE BY CITY FORCES @ THE SCHEDULED PRICES ESTABLISHED BY THE WATER DEPARTMENT.	



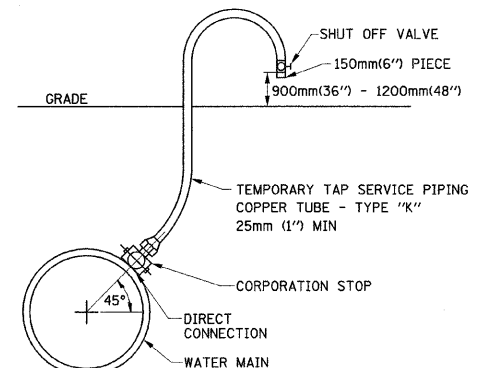
TYPICAL WATER SERVICE

SERVICE SIZE	* CORP. STOP	* CURB STOP	* CURB BOX
19mm (3/4 ") & 25mm (1")	MUELLER H-15200 or H-15000	MUELLER H-15200 or A.Y. McDONALD 4713	MUELLER H-10314 or A.Y. McDONALD 5601
30mm (1 1/4")	MUELLER H-15000	MUELLER H-15200 or A.Y. McDONALD 6100	A.Y. McDONALD 5603
35mm (1-1/2") & 50mm (2")	BALL VALVE; FORD, MUELLER OR A.Y. McDONALD	BALL VALVE; FORD, MUELLER OR A.Y. McDONALD	A.Y. McDONALD 5603

* OR APPROVED EQUAL

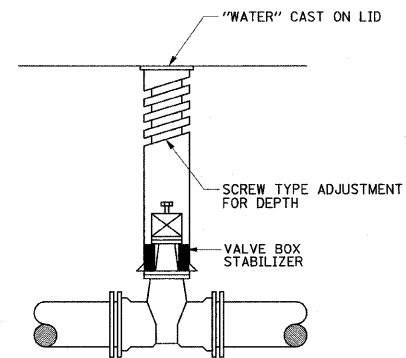


TYPICAL CURB BOX INSTALLATION IN SIDEWALK OR DRIVEWAY



NOTE
AT THE EXTREME ENDS OF THE PROPOSED NEW WATER MAIN OR AT LOCATIONS AS DIRECTED BY THE DIRECTOR OF ENGINEERING AND WATER, SAMPLING AND CHLORINATING TAPS SHALL BE INSTALLED BY THE CONTRACTOR. AFTER THE CHLORINATING, SAMPLING, AND TESTING IS APPROVED BY THE CITY OF BLOOMINGTON ENGINEERING AND WATER DEPARTMENT, THE CORPORATION STOP SHALL BE SHUT OFF AND THE PIPING REMOVED FROM THE CORPORATION STOP.

SAMPLING & CHLORINATION SERVICE PIPING TAP



NOTE
FULL LENGTHS OF RESTRAINED PIPE SHALL BE USED ON EACH SIDE OF ALL FITTINGS AND VALVES.

VALVE BOX INSTALLATION

ILLINOIS DEPARTMENT OF TRANSPORTATION

WATER MAIN DETAILS

DATE : 6-09
DRAWN BY : J.L.B.
CHECKED BY : R.L.H.
SCALE : NONE