

CITY OF WARRENVILLE - WATER MAIN GENERAL NOTES

BILL OF MATERIALS

GENERAL

1. THE CITY OF WARRENVILLE PUBLIC WORKS DEPARTMENT, 630-393-9050, MUST BE NOTIFIED 48 HOURS PRIOR TO COMMENCEMENT OF WORK AND 24 HOURS PRIOR TO EACH INSPECTION.
2. CONNECTION TO EXISTING WATER LINES SHALL BE ACCOMPLISHED WITHOUT INTERRUPTION OF SERVICE UNLESS OTHERWISE APPROVED BY THE CITY ENGINEERING DEPARTMENT. TEMPORARY SHUT-OFFS, IF APPROVED COULD BE ACCOMPLISHED BY CLOSING ADJACENT VALVES OR INSERTING A LINE STOP AND CUT-IN TEE.
3. THE 10" WATER LINE SOUTH ON IL RT 59 IS THE ONLY WATER SERVICE SOUTH OF IL RT 56 AND CANNOT BE TAKEN OUT OF SERVICE.
4. ALL WATERLINES ARE TO BE PRESSURE TESTED AND CHLORINATED PER THE REQUIREMENTS OF THE CITY. ALL TESTING AND CHLORINATION SHALL BE INCLUDED IN THE COST OF THE WATER MAIN AND WILL NOT BE PAID FOR SEPARATELY.
5. THE CONTRACTOR IS TO PROVIDE THE CITY WITH "AS-BUILT DRAWINGS" OF ALL UTILITIES WITHIN TEN DAYS (10) DAYS AFTER CONSTRUCTION SHOWING LOCATIONS OF ALL MAIN, SERVICES AND STRUCTURES.
6. THE COST OF REMOVING WATER MAIN AND VALVES AND ABANDONING AND CAPPING EXISTING WATER MAIN SHALL BE INCLUDED IN THE COST OF THE PROPOSED WATER MAIN PAY ITEMS.
7. THE COST OF ALL WATER MAIN FITTINGS, TRANSITIONS BETWEEN DIP AND PVC, BEND AND TEES SHALL BE INCLUDED IN THE COST OF THE PROPOSED WATER MAIN PAY ITEMS.

WATER MAIN

1. DUCTILE IRON WATER MAIN - THE MATERIAL FOR "DUCTILE IRON WATER MAIN 10" AND 12" " SHALL BE CLASS 55 DUCTILE IRON CONFORMING TO AWWA C-151 AND ANSI A21.51 WITH CEMENT MORTAR LINING CONFORMING TO AWWA C-104 JOINTS SHALL BE PUSH-ON JOINT CONFORMING TO AWWA C-111.
2. WATER MAIN - THE MATERIAL FOR "WATER MAIN 10" AND 12" " SHALL BE PVC WATER MAIN PIPING MEETING THE REQUIREMENTS OF AWWA STANDARD C-900 AND SHALL HAVE A DIMENSION RATIO (DR) OF 18 OR LESS. A #10 COPPER STRANDED WIRE MUST BE INSTALLED WITH THE PVC WATER MAIN FROM VALVE VAULT TO VALVE VAULT WITH THE WIRE MOUNTED TO THE FRAME OF THE VALVE VAULT ON EACH END.
3. FITTINGS SHALL BE DUCTILE IRON, 250 PSI PRESSURE RATING, CEMENT MORTAR LINED WITH RESTRAINED PUSH-ON JOINT OR MECHANICAL JOINT WITH MEGALUG RETAINER GLANDS, OR APPROVED EQUAL.
4. WATER MAIN BOLTS SHALL BE STAINLESS STEEL ASTM 304.
5. RESTRAINED JOINTS - ALL FITTINGS SHALL HAVE RESTRAINED JOINTS. ALL WATER MAIN PIPING IN CASING SHALL HAVE RESTRAINED JOINTS. RESTRAINED JOINTS SHALL BE PUSH JOINT WITH A FIELD LOCK GASKET OR A MECHANICAL JOINT WITH MEGALUG RETAINER GLANDS, OR APPROVED EQUAL. ALL BENDS, TEES, AND DEAD END PIPING MUST BE RESTRAINED A MINIMUM OF 24' IN BOTH DIRECTIONS OF THE FITTING. THRUST CEMENT BLOCKING OF ALL FITTINGS, HYDRANTS, AND DEAD END PIPING IS REQUIRED.
6. PRESSURE CONNECTIONS - PRESSURE TAPPING SLEEVES SHALL BE ALL STAINLESS STEEL.
7. ALL VALVES SHALL BE RESILIENT WEDGE GATE VALVES INSTALLED IN A PRECAST CONCRETE VAULT. VALVES SHALL BE MUELLER, WATEROUS, OR CLOW MANUFACTURE. ALL BOLTS SHALL BE STAINLESS STEEL.
8. ALL LINE STOPS SHALL BE HYDRO-STOP BULLET LINE STOPS OR APPROVED EQUAL AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURE'S REQUIREMENT.
9. ALL INSERTION VALVES SHALL BE EZ VALVE PERMANENT VALVE INSERTION SYSTEM MANUFACTURED BY RESOURCE MECHANICAL SERVICES CO. OR APPROVED EQUAL AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURE'S REQUIREMENT.
10. VALVE VAULTS SHALL BE PRE-CAST CONCRETE UNITS. FOR WATER MAINS 8-INCH DIAMETER OR LESS, THE VAULT SHALL BE 48-INCH INSIDE DIAMETER. FOR WATER MAINS 10-INCH DIAMETER AND GREATER, THE VAULT SHALL BE 60-INCH INSIDE DIAMETER.
11. FRAMES AND LIDS SHALL CONFORM TO NEENAH FOUNDRY R-1712 OR APPROVED EQUAL AND THE WORD "WATER" SHALL BE CAST IN THE COVER.
12. CASING - SPACERS ALL JOINTS WITHIN THE CASING SHALL BE RESTRAINED. SPACERS SHALL BE INSTALLED ON ALL PIPE IN CASING. SPACERS SHALL BE BOLT ON STYLE WITH A SHELL MADE IN TWO SECTIONS OF HEAVY T-304 STAINLESS STEEL. CASING SHALL BE FILLED WITH PEA GRAVEL OR SAND AND SEALED AT BOTH ENDS.
13. ALL DUCTILE IRON PIPES AND FITTINGS ARE REQUIRED TO BE ENCASED IN 8-MIL POLYETHYLENE CONFORMING TO AWWA C-105.
14. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN AND SUPPLY CERTIFICATION FOR ALL MATERIALS. SHOP DRAWINGS SHALL BE SUBMITTED TO AND APPROVED BY THE CITY BEFORE INSTALLATION.

15. DEPTH OF BURY FOR WATER MAIN TO BE 5'-6" (MINIMUM).
16. INSTALLATION SHALL CONFORM TO "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS" LATEST EDITION.
17. THE INSTALLATION OF THE WATER MAIN IN THE CASING PIPES SHALL BE INCLUDED IN THE UNIT PRICE FOR WATER MAINS.

FIRE HYDRANTS

1. HYDRANT SHALL BE FM APPROVED AND UL LISTED, SHALL CONFORM TO AWWA C-502, AND SHALL HAVE BREAKAWAY SAFETY FLANGES.
2. HYDRANTS SHALL BE MUELLER CENTURION, WATEROUS WB67-250, OR CLOW MEDALLION.
3. ALL BOLTS SHALL BE STAINLESS STEEL FROM AND INCLUDING THE BREAKAWAY FLANGE TO THE INLET ON THE HYDRANT SHOE.
4. ALL HYDRANTS SHALL HAVE A BRONZE CROSS ARM / TOP PLATE.
5. CONNECTING PIPING SHALL BE SIX-INCH (6") DIAMETER.
6. MAIN VALVE OPENING SHALL BE FIVE AND ONE QUARTER INCH (5-1/4") IN DIAMETER, COMPRESSION TYPE, WITH A BRASS DRAIN VALVE.
7. NOZZLES SHALL HAVE THREADED MALE ENDS CONFORMING TO "AMERICAN NATIONAL STANDARD FIRE HOSE CONNECTION SCREW THREADS. THE HYDRANT SHALL HAVE TWO NOZZLES OF 63 MM WHICH ARE 2-1/2" AND ONE PUMPER NOZZLE OF 114 MM (4-1/2") WITH CAPS AND CHAINS.
8. HYDRANTS SHALL HAVE A MINIMUM WORKING PRESSURE OF 175 PSI.
9. HYDRANTS SHALL OPEN IN A COUNTER-CLOCKWISE DIRECTION, AS INDICATED BY AN ARROW AND THE WORD "OPEN" ON THE DOME.
10. HYDRANTS SHALL BE PAINTED A HIGH VISIBILITY RED, FACTORY APPLIED PAINT. HYDRANTS SHALL HAVE A SIX-INCH (6") AUXILIARY VALVE WITH BOX ON THE INLET PIPING. VALVE SHALL MEET WATER MAIN PIPING SPECIFICATIONS FOR THE CITY OF WARRENVILLE. AUXILIARY VALVE ATTACHED TO HYDRANT SHALL HAVE STAINLESS STEEL BOLTS AT THE FLANGE INLET.
11. CONNECTION OF SIX-INCH (6") PIPING SHALL BE RESTRAINED JOINTS FROM THE TEE AT THE WATER MAIN TO THE INLET OF THE HYDRANT WITH FIELD LOCK GASKETS FOR PUSH JOINT AND MEGALUG RETAINER GLANDS, OR APPROVED EQUAL FOR MECHANICAL JOINT.

ITEM	UNIT	TOTAL QUANTITY
TRENCH BACKFILL	CU YD	100
WATER MAIN, 10"	FOOT	180
WATER MAIN, 12"	FOOT	290
DUCTILE IRON WATER MAIN, 10"	FOOT	35
* DUCTILE IRON WATER MAIN, 12"	FOOT	775
WATER VALVES, 12"	EACH	3
INSERTION VALVES, 10"	EACH	1
FIRE HYDRANTS	EACH	1
VALVE VAULTS, TYPE A, 5'-DIAMETER, TYPE 1 FRAME CLOSED LID	EACH	7
FILLING VALVE VAULTS	EACH	1
PRESSURE CONNECTION 10" X 10"	EACH	2
PRESSURE CONNECTION 12" X 12"	EACH	1
STEEL CASINGS 20"	FOOT	160
STEEL CASINGS JACKED IN PLACE, 20"	FOOT	125
LINE STOPS, 10"	EACH	2

\* INCLUDES 30' OF WATER MAIN AT STORM SEWER / WATER MAIN CROSSING AT STA. 176+00, LT. WATER MAIN WILL NEED ADJUSTMENT DUE TO CONFLICT WITH PROPOSED STORM SEWER.

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 PLOT DATE = 12/31/2010  
 PLOT SCALE = 20.000' / 1"



DESIGNED - S.J.P.	REVISED -
DRAWN - B.K.	REVISED -
CHECKED - M.P.	REVISED -
DATE - DECEMBER 3, 2010	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

CITY OF WARRENVILLE  
 WATERMAIN GENERAL NOTES & BILL OF MATERIALS

F.A.P. RTE. 365	SECTION (58&59) WRS-3	COUNTY DuPAGE	TOTAL SHEETS 466	SHEET NO. 315
SCALE: NONE			SHEET NO. 1 OF 5 SHEETS	
STA. TO STA.			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT	
CONTRACT NO. 62420				