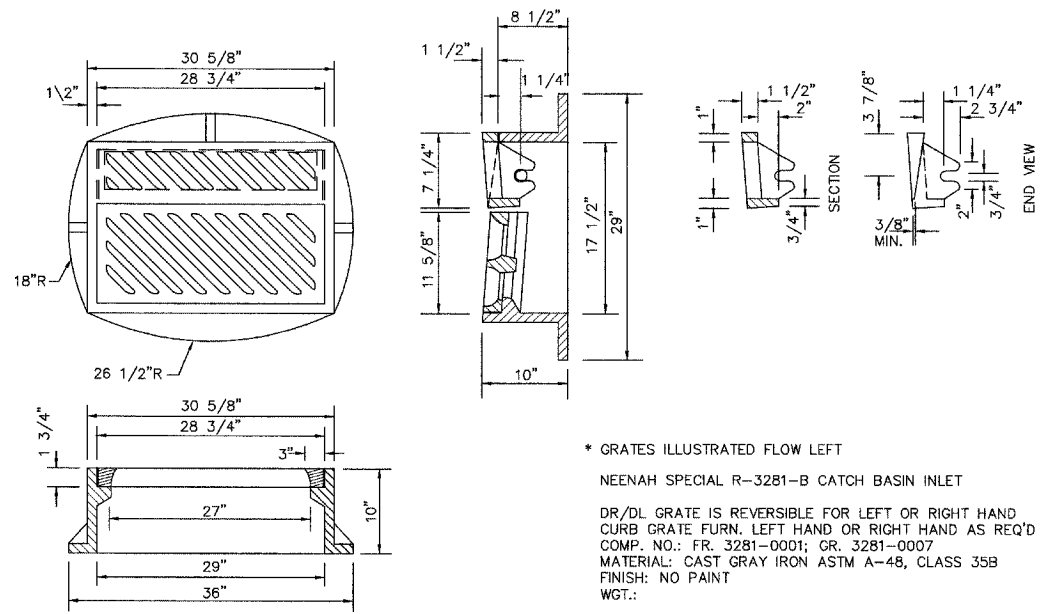


# CITY OF CRYSTAL LAKE WATER MAIN CHLORINATION SPECIFICATIONS

- DISINFECTION OF WATER MAINS SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION.
- THE CITY ENGINEERING AND WATER DEPARTMENTS SHALL BE NOTIFIED 48 HOURS IN ADVANCE FOR SCHEDULING OF ANY TESTING, CHLORINATING, FLUSHING, OR SAMPLING.
- ONLY CITY WATER DEPARTMENT PERSONNEL MAY OPERATE WATER VALVES ON LIVE MAINS.
- THE CITY WATER DEPARTMENT OPTS TO TAKE THEIR OWN SET OF SAMPLES SIMULTANEOUSLY WITH THE CHLORINATING CONTRACTOR. THEREFORE SAMPLING TIMES WILL BE SCHEDULED MONDAY THROUGH THURSDAY FROM 8:30-11:00 A.M. ONLY.
- A WATER VALVE JUMPER IS REQUIRED TO MAINTAIN PRESSURE ON THE CHLORINATED LINES DURING THE SAMPLING PROCEDURE. FOR PROPER INSTALLATION AND REQUIREMENTS SEE THE STANDARD WATER VALVE JUMPER DETAIL.
- WATER MAINS SHALL BE FLUSHED WITH A MINIMUM VELOCITY OF 2.5 FPS.
- THE INITIAL CHLORINE CONCENTRATION SHALL BE 50 mg/L WITH A MIN. 24 HOUR RESIDUAL OF 25 mg/L.
- THE METHOD OF CHLORINE APPLICATION SHALL BE APPROVED BY THE CITY ENGINEER.
  - LIQUID CHLORINE W/CHLORINATING DEVICE WITH BACKFLOW PREVENTER.
  - CHLORINE BEARING COMPOUNDS IN WATER.
  - TABLET DISINFECTION.
- ALL NEW VALVES AND HYDRANTS SHALL BE OPERATED WHILE LINE IS BEING CHLORINATED.
- THE CITY WATER DEPARTMENT SHALL DETERMINE LOCATION AND QUANTITY OF CORPORATION STOPS FOR FLUSHING AND CHLORINATING.
- THE FINAL FLUSHING RESIDUAL IN THE NEW CHLORINATED LINES SHALL BE BETWEEN 0.2 AND 1.1 mg/L.
- ALL WATER SAMPLES SHALL BE COLLECTED ON TWO (2) CONSECUTIVE DAYS AND PASS BACTERIOLOGICAL TEST RESULTS. IN THE EVENT THAT THE FIRST SET OF SAMPLES TAKEN TWO (2) CONSECUTIVE DAYS APART FAIL TO PASS, ANOTHER SET OF SAMPLES MAY BE TAKEN TWO (2) DAYS APART (PER STATE SPECIFICATIONS). IF THE SECOND SET FAILS TO PASS TESTING, THEN THE PROCEDURE MUST BE REPEATED WITH THE MAIN BEING RECHLORINATED, REFLUSHED, AND RESAMPLED.

F.A.U. ROUTE	SECTION	COUNTY	TOTAL SHEETS
120	60-00097-00-CH	MCHENRY	28
SPECIAL DETAILS			20
F.H.W.A. REG.5 ILLINOIS PROJECT NO. F-0305(023)			

83725



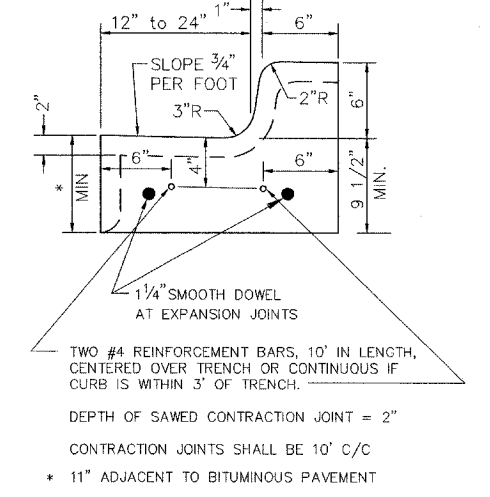
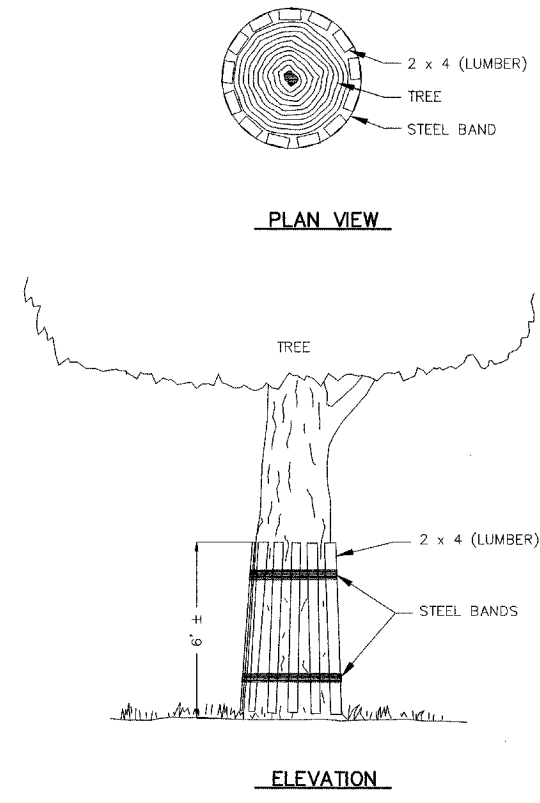
FRAME AND GRATE, TYPE II, SPECIAL

CHLORINE REQUIREMENTS TO PRODUCE 50 mg/L CONCENTRATION IN 100 FEET OF PIPE-BY DIAMETER

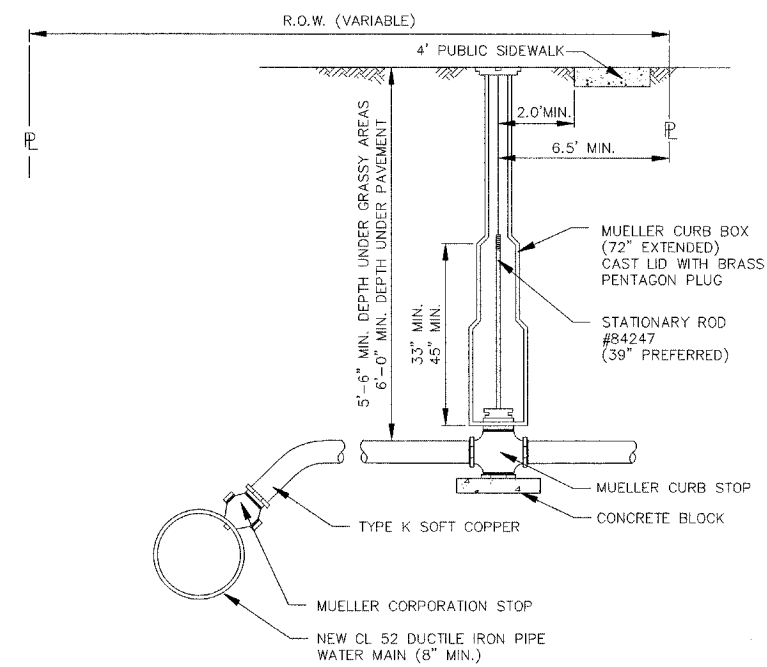
PIPE SIZE IN INCHES	100% CHLORINE, LB.	1% CHLORINE SOLUTION, GALS.
4	0.027	1.249
6	0.061	2.763
8	0.108	4.921
10	0.170	7.721
12	0.240	10.901

NUMBER OF 5-GRAIN HYPOCHLORITE TABLETS REQUIRED FOR A DOSAGE OF 50 mg/L PER LENGTH OF PIPE SECTION

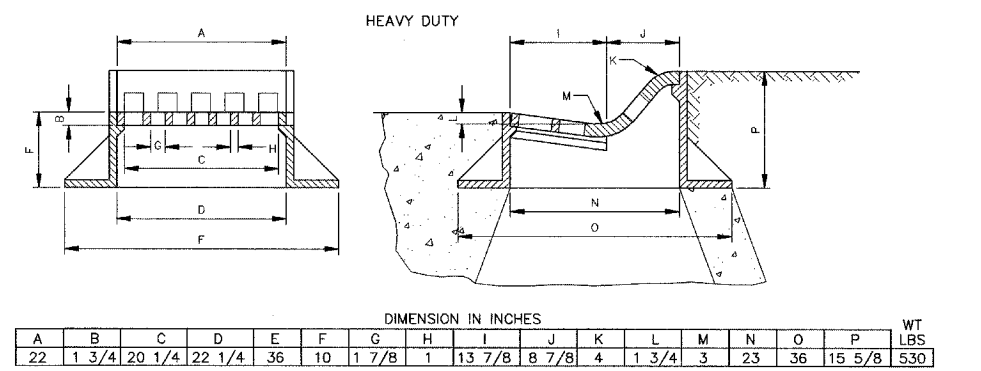
PIPE SIZE IN INCHES	LENGTH OF PIPE SECTION IN FEET				
	UP TO 4	5.5	6	9	12
50	1	1	1	1	1
100	1	1	2	2	2
150	2	2	3	3	4
200	2	3	5	5	6
250	3	5	7	7	9
300	5	6	10	10	14



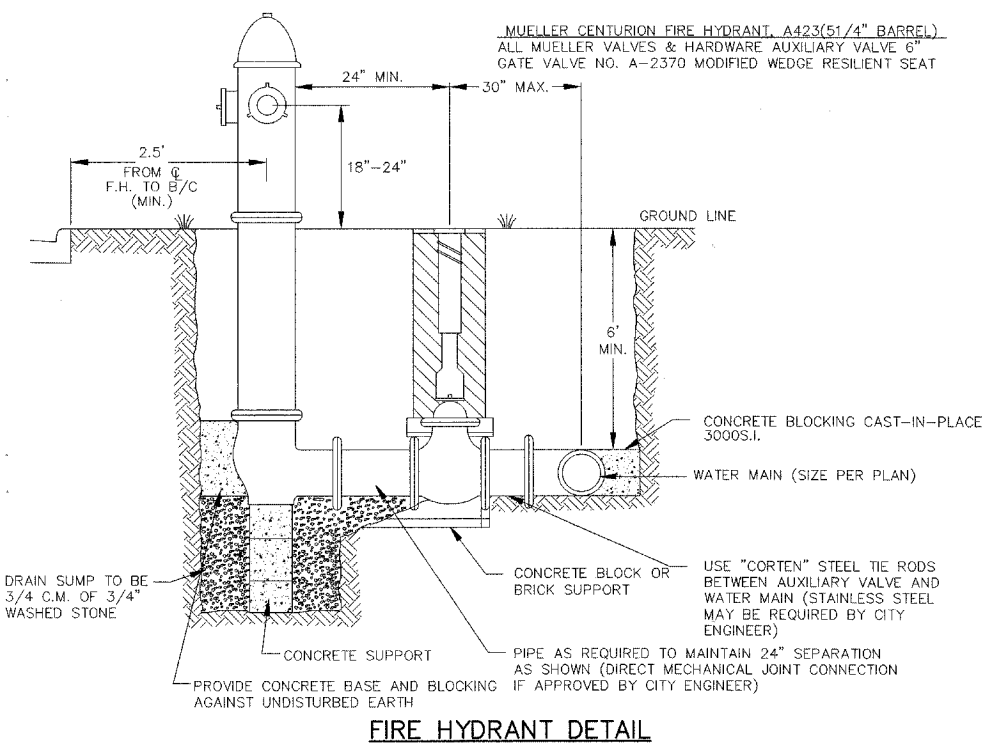
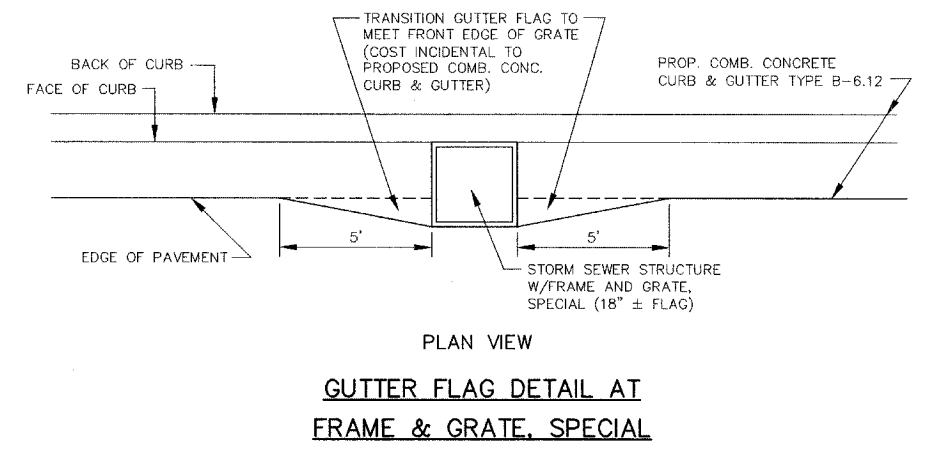
SAWED CONTRACTION JOINT DETAIL



NEENAH R-3502-A OR EQUAL



FRAME AND GRATE, SPECIAL



PART DESCRIPTION	MUELLER CAT. NO.	SERVICE SIZE	MAIN SIZE	INLET			OUTLET		
				AWWA TAPER	COMP	FLARE	AWWA TAPER	COMP	FLARE
CORP STOP	H-15000	3/4"-2"	6"+	X					X
	H-15008	3/4"-1"	8"+	X					X
DOUBLE STRAP BRASS SERVICE SADDLE	H-16123	1 1/2"-2"	4"				X		
	H-16126	1 1/4"-2"	6"				X		
	H-16130	1 1/4"-2"	8"				X		
	H-16134	1 1/2"-2"	10"				X		
CURB STOP	H-16137	1 1/4"-2"	12"				X		
	H-15150	3/4"-1"			X				X
	H-15154	1 1/4"-2"			X				X
CURB BOX	H-15155	3/4"-1"			X				X
	H-10300 H-10300-99002	3/4"-1 1/2" 2"							

WATER SERVICE INSTALLATION

- NOTES
- NO CORPORATION STOPS, COPPER SERVICE, OR CURB BOXES MAY BE LOCATED UNDER PAVED AREAS INCLUDING DRIVES AND SIDEWALKS.
  - ALL WATER MAIN HARDWARE SHALL BE MUELLER.
  - SERVICE TO BE CONTINUOUS WITHOUT JOINTS FROM CORPORATION STOP TO CURB STOP.
  - MULTIPLE TAPS INTO MAIN SHALL BE NO CLOSER THAN 2' APART.
  - TRENCH FROM MAIN TO BACK OF SIDEWALK TO BE COMPACTED TRENCH BACKFILL.