

DISINFECTION

A. DISINFECTION OR STERILIZATION OF NEW MAINS AND SERVICES, AS REQUIRED BY THE OEPA, SHALL BE COORDINATED THROUGH THE CITY ENGINEER OR CITY ENGINEER'S REPRESENTATIVE. THE CITY ENGINEER OR CITY ENGINEER'S REPRESENTATIVE RESERVES THE RIGHT TO REQUIRE STRICTER CHLORINE RESIDUAL REQUIREMENTS ON A CASE-BY-CASE BASIS.

B. MAINTAIN PIPES FREE OF DIRT AND FOREIGN MATTER DURING CONSTRUCTION BY DEWATERING TRENCH AND SEALING OPEN PIPE BARRELS. SWAB EACH LENGTH OF PIPE AS IT IS INSTALLED.

C. DISINFECTION TESTING SHALL BE PERFORMED PRIOR TO HYDROSTATIC TESTING. DISINFECTION SHALL BE COMPLETED IN ACCORDANCE WITH AWWA C-651. SAMPLE WATER AT EACH HYDRANT OR IF NO HYDRANT IS AVAILABLE, A SAMPLE TAP SHALL BE INSTALLED BY CONTRACTOR EVERY 1200 FT. ANALYZE SAMPLE USING ORTHOTOLIDINE REAGENT TO VERIFY FREE CHLORINE CONCENTRATION. MAINTAIN CONCENTRATION IN MAIN FOR 24 HOURS. SAMPLE HYDRANTS AT COMPLETION OF STERILIZATION VERIFYING MINIMUM CHLORINE RESIDUAL OF 20 MG PER LITER.

D. CONTRACTOR SHALL ACCOMMODATE FLUSHING AND SAMPLE LOCATIONS.

THE CONTRACTOR SHALL DISINFECT ALL WATER MAIN AND WATER SERVICE LINES IN ACCORDANCE WITH AWWA C-651, LATEST REVISION. THE DISINFECTION MAY BE PERFORMED BY USING EITHER THE CONTINUOUS FEED METHOD OR THE TABLET METHOD.

A. THE REQUIRED PROCEDURES FOR THE TWO APPROVED DISINFECTION METHODS ARE AS FOLLOWS. ANY REVISIONS TO THESE SEQUENCES OR DISINFECTION METHOD MUST BE IN ACCORDANCE WITH AWWA C-651 AND APPROVED BY THE CITY OF GREENVILLE.

CONTINUOUS FEED METHOD:

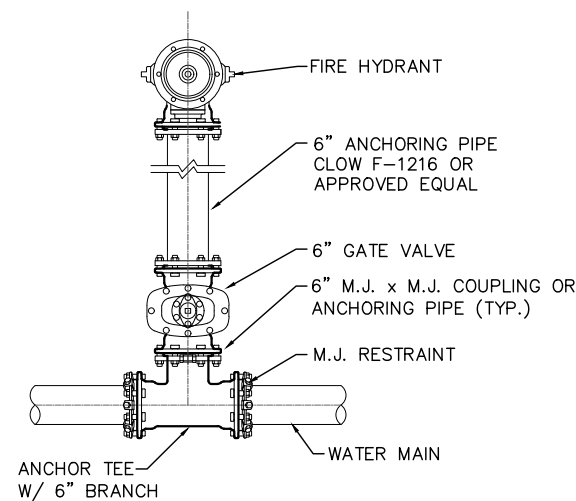
- 1) INSTALL WATER MAIN AND PERFORM ALL SERVICE CONNECTIONS.
- 2) FLUSH MAIN AT MINIMUM VELOCITY OF 3 FT/SEC. (BY CITY)
- 3) PERFORM HYDROSTATIC TEST ON WATER MAIN AND SERVICE LINES. (SEE HYDROSTATIC TESTING NOTES)
- 4) PERFORM DISINFECTION. WATER SHALL BE SUPPLIED, FROM EXISTING DISTRIBUTION SYSTEM OR OTHER APPROVED SOURCE, AT A CONSTANT, MEASURED RATE (NOT TO EXCEED 1 FT/SEC) TO THE NEW MAIN.

AT A POINT NOT MORE THAN TEN (10) FEET DOWNSTREAM FROM THE BEGINNING OF THE NEW MAIN, WATER ENTERING THE MAIN SHALL RECEIVE A DOSE OF CHLORINE FED AT A CONSTANT RATE SUCH THAT THE WATER WILL HAVE NOT LESS THAN 25 MG/L FREE CHLORINE, AS MEASURED IN REGULAR INTERVALS. CONTINUE CHLORINE APPLICATION UNTIL THE ENTIRE NEW MAIN IS FILLED WITH HEAVILY CHLORINATED WATER.

- 5) FLUSH MAIN AT MINIMUM VELOCITY OF 3 FT/SEC, TO LOWER CHLORINE LEVEL TO THE SYSTEM LEVEL. (BY CITY)
- 6) PERFORM BACTERIOLOGICAL TEST ON ALL MAIN AND WATER SERVICE LINES, IN ACCORDANCE WITH AWWA C-651. (BY CITY)
- 7) PERFORM FINAL WATER MAIN TIE-INS.
- 8) PERFORM FINAL FLUSH, AT MINIMUM VELOCITY OF 3 FT/SEC, TO REMOVE ANY EXCESS DEBRIS AND AIR FROM THE LINE. (BY CITY)
- 9) FOR REPLACEMENT PROJECTS, CONNECT ALL NEW WATER SERVICE BRANCHES TO EXISTING SERVICES. PRIOR TO CONNECTION, WATER SERVICES SHALL BE FLUSHED FOR 2-5 MINUTES TO REDUCE CHLORINE RESIDUAL TO SYSTEM LEVEL AND TO REMOVE EXCESS DEBRIS AND AIR.

TABLET METHOD:

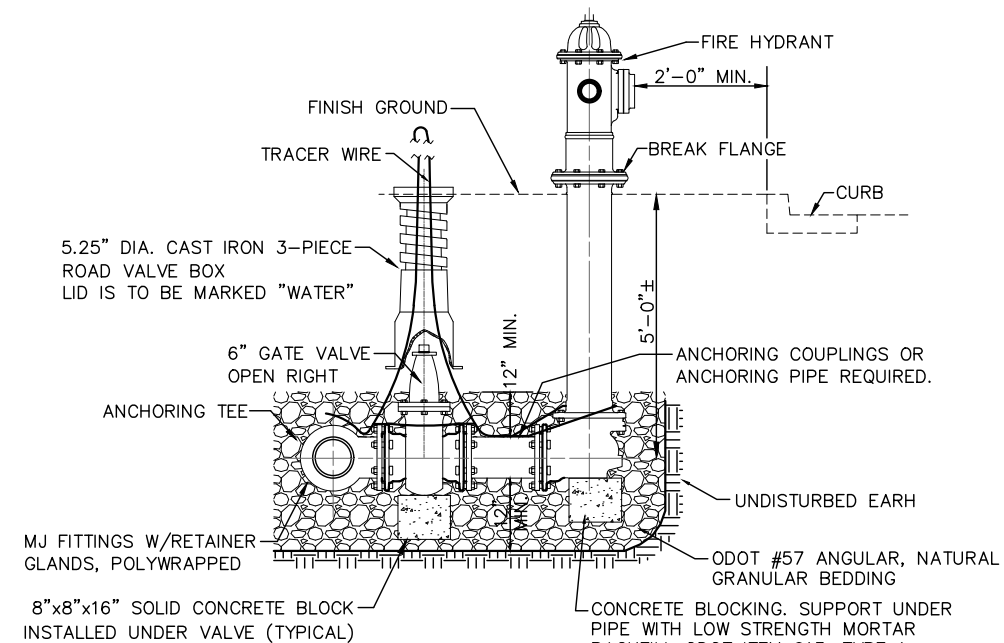
- 1) INSTALL WATER MAIN. DURING CONSTRUCTION, PLACE CALCIUM HYPOCHLORITE GRANULES AT UPSTREAM END OF FIRST SECTION OF PIPE, AT UPSTREAM END OF EACH BRANCH MAIN, AND AT 500 FT. INTERVALS. AMOUNT OF GRANULES TO BE PLACED SHALL BE IN ACCORDANCE WITH AWWA C-651. PLACE (1) 5-G CALCIUM HYPOCHLORITE TABLETS IN EACH SECTION OF PIPE, IN EACH HYDRANT AND EACH HYDRANT BRANCH.
- 2) PERFORM ALL SERVICE CONNECTIONS.
- 3) FILL AND FLUSH WATER MAIN AT VELOCITY OF NO MORE THAN 1 FT/SEC. (BY CITY)
- 4) FLUSH FOR A MINIMUM OF 24 HOURS. IF THE WATER TEMPERATURE IS BELOW 41°F, THE WATER SHALL REMAIN IN THE MAIN FOR A MINIMUM OF 48 HOURS. CHLORINE RESIDUAL LEVELS ARE TO BE MEASURED BY THE CITY AFTER THIS PERIOD PASSES. FLUSHING SHALL CONTINUE UNTIL AN ACCEPTABLE CHLORINE LEVEL IS OBTAINED.
- 5) PERFORM HYDROSTATIC TEST ON WATER MAIN AND SERVICE LINES. (SEE HYDROSTATIC TESTING NOTES)
- 6) FLUSH MAIN AT MINIMUM VELOCITY OF 3 FT/SEC, TO LOWER CHLORINE LEVEL TO THE SYSTEM LEVEL. (BY CITY)
- 7) PERFORM BACTERIOLOGICAL TEST ON ALL MAIN AND WATER SERVICE LINES, IN ACCORDANCE WITH AWWA C-651. (BY CITY)
- 8) PERFORM FINAL WATER MAIN TIE-INS.
- 9) PERFORM FINAL FLUSH, AT MINIMUM VELOCITY OF 3 FT/SEC, TO REMOVE ANY EXCESS DEBRIS AND AIR FROM THE LINE. (BY CITY)
- 10) FOR REPLACEMENT PROJECTS, CONNECT ALL NEW WATER SERVICE BRANCHES TO EXISTING SERVICES. PRIOR TO CONNECTION, WATER SERVICES SHALL BE FLUSHED FOR 2-5 MINUTES TO REDUCE CHLORINE RESIDUAL TO SYSTEM LEVEL AND TO REMOVE EXCESS DEBRIS AND AIR.



PLAN

FIRE HYDRANT NOTES:

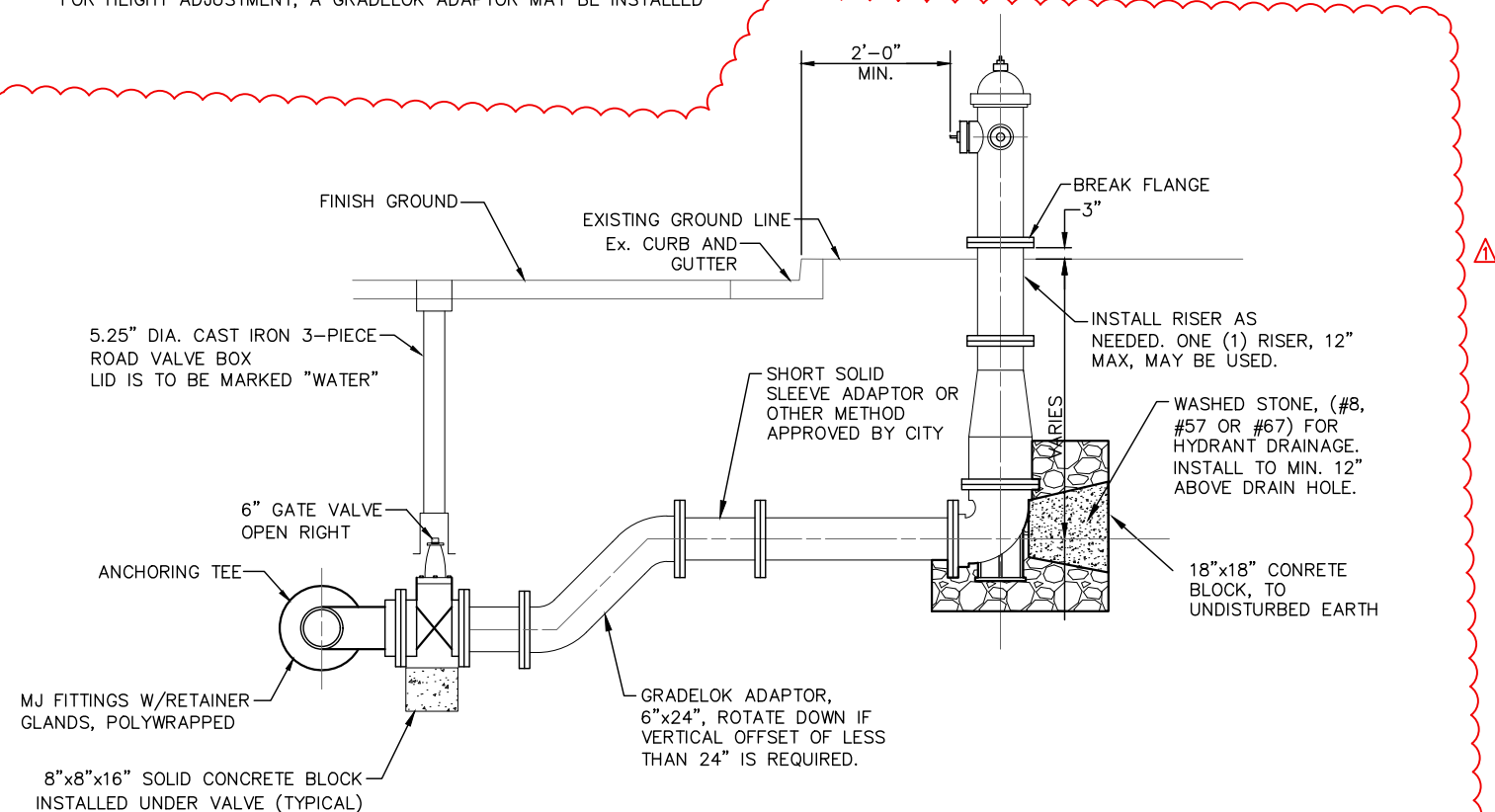
- A.** FIRE HYDRANTS SHALL BE AMERICAN-DARLING MODEL B-84-B-5, 5' MINIMUM BURY DEPTH.
- B.** HYDRANTS SHALL BE PAINTED SAFETY YELLOW AND OPEN RIGHT.
- C.** 5" INTEGRAL STORZ CONNECTION SHALL FACE THE STREET. A THREADED ADAPTOR FOR THE STORZ CONNECTION WILL NOT BE PERMITTED.
- D.** HOSE THREADS: 2.5": 3.25" x 6"
- E.** FIRE HYDRANT SHALL HAVE DRAIN PLUG INSTALLED AND WILL NOT BE SELF DRAINING.
- F.** FIRE HYDRANTS MUST BE INSTALLED AT THE PROPER GRADE. NO EXTENSIONS ARE PERMITTED TO OBTAIN PROPER GRADE. IF NEEDED FOR HEIGHT ADJUSTMENT, A GRADELOK ADAPTOR MAY BE INSTALLED



SECTION

AS THE LAST ITEM BEFORE THE HYDRANT RISER. THE ADAPTOR SHALL HAVE ANCHOR CONNECTIONS AT BOTH ENDS.

- G.** ALL COSTS ASSOCIATED WITH FURNISHING AND INSTALLING THE BRANCH PIPE FROM THE MAIN TO THE FIRE HYDRANT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE FIRE HYDRANT. THE TEE AND VALVE FOR THE BRANCH LINE SHALL BE ITEMIZED AND BID AS SEPARATE ITEMS.
- H.** ALL WATER LINE FITTINGS SHALL HAVE MEGA LUGS.
- I.** FIRE HYDRANT AND ACCESSORIES SHALL CONFORM TO LOCAL FIRE DEPARTMENT STANDARDS.
- J.** THE NEAREST JOINT IN THE WATER MAIN SHALL BE A MINIMUM OF 5' FROM THE HYDRANT TEE.



ADJUSTING HYDRANT BRANCH