

WATERWORK NOTES

F.W.M.A. REGION	STATE	PROJECT	
5	OHIO		

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LAKE COUNTY
LAK-20-17.14

~~WHEN THE PRESSURE TEST HAS BEEN COMPLETED AND APPROVED, THE MAIN SHALL BE SHUT OFF AND LEFT CLOSED FOR A 24 HOUR PERIOD TO ALLOW FOR COMPLETE DISSOLVING OF THE DISINFECTANT MATERIAL. AT THE END OF THE DISINFECTING PERIOD, THE MAIN SHALL BE FLUSHED TO REMOVE ANY FOREIGN MATERIAL. AFTER THOROUGH FLUSHING, THE MAIN IS AGAIN TO BE SHUT OFF AND LEFT CLOSED FOR A 24 HOUR PERIOD. SAMPLES SHALL BE TAKEN AFTER 24 AND 48 HOURS TO BE TESTED AT THE PAINESVILLE CITY WATER PLANT LABORATORY FOR BACTERIAL QUALITY. IF BOTH SAMPLES PROVE TO BE FREE OF BACTERIA, THE MAIN SHALL BE APPROVED FOR SERVICE.~~

~~IF THE SAMPLES PROVE NOT TO BE FREE OF BACTERIA, FLUSHING, DISINFECTING AND SAMPLES SHALL BE REPEATED AS NECESSARY TO PROVIDE A BACTERIA-FREE RESULT.~~

~~THE CITY OF PAINESVILLE WILL FURNISH THE NECESSARY WATER FOR ONE TEST ONLY. ANY ADDITIONAL WATER REQUIRED TO FURNISH AND INSTALL MANUAL AIR RELEASE OUTLETS AND FILL INLETS WHERE SHOWN ON THE PLANS OR WHERE DIRECTED BY THE CITY ENGINEER AND THE SUPERINTENDENT OF THE WATER DEPARTMENT. FILL INLETS ARE TO BE PROVIDED IN ORDER TO FILL AND FLUSH MAIN. MAIN LINE VALVES BETWEEN NEW CONSTRUCTION AND THE APPROVED WATER SYSTEM WILL NOT BE OPENED UNTIL THE NEW MAIN IS PROVEN FREE OF BACTERIA AND CONTAMINATION.~~

~~ALL TESTS PERFORMED SHALL BE WITNESSED AND APPROVED BY THE CITY ENGINEER AND THE SUPERINTENDENT OF THE WATER DEPARTMENT OR THEIR APPOINTED REPRESENTATIVE.~~

EXCAVATION AND BACKFILL

EXCAVATION AND BACKFILL: ALL EXCAVATED MATERIAL AND CONSTRUCTION MATERIAL USED SHALL BE DEPOSITED SO AS NOT TO INTERFERE WITH TRAFFIC, PUBLIC WALKWAYS OR INTERFERE WITH NATURAL DRAINAGE COURSES.

NOISE AND DUST CONTROL: CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED SO AS TO ELIMINATE ALL UNNECESSARY NOISE, DUST AND ODORS IN RESIDENTIAL AREAS. OIL OR OTHER MATERIALS THAT MAY CAUSE TRACKING SHALL NOT BE PERMITTED FOR DUST CONTROL.

TRENCH DEPTH: THE CONTRACTOR SHALL EXCAVATE ALL TRENCHES TO A DEPTH SUFFICIENT TO PROVIDE COVER AS FOLLOWS, UNLESS OTHERWISE SPECIFIED BY THE CITY ENGINEER AND THE SUPERINTENDENT OF THE WATER DEPARTMENT:

12" PIPE AND SMALLER	4'9" FROM TOP OF PIPE
16 AND 20 INCH PIPE	4'6" FROM TOP OF PIPE
24 INCH PIPE AND LARGER	4'0" FROM TOP OF PIPE

TRENCH WIDTH: THE CONTRACTOR SHALL EXCAVATE ALL TRENCHES TO A MINIMUM WIDTH TO ACCOMMODATE THE PIPE AND FITTINGS. THE WIDTH SHALL BE MEASURED AT THE TOP OF THE PIPE AND SHALL CONFORM AS FOLLOWS UNLESS OTHERWISE SPECIFIED BY THE CITY ENGINEER AND THE SUPERINTENDENT OF THE WATER DEPARTMENT.

MINIMUM - DIAMETER OF PIPE BARREL PLUS 8 INCHES
MAXIMUM - DIAMETER OF PIPE BARREL PLUS 24 INCHES

BEDDING: THE MAIN SHALL BE INSTALLED SO THAT THE ENTIRE LENGTH OF PIPE SHALL REST ON EITHER STABLE, UNDISTURBED EARTH OR ON A GRANULAR BEDDING MATERIAL SPECIFIED BY THE CITY ENGINEER AND THE SUPERINTENDENT OF THE WATER DEPARTMENT.

FOR LAYING PIPE DIRECTLY ON STABLE, UNDISTURBED EARTH, THE TRENCH BOTTOM SHALL BE SHAPED TO THE CONTOUR OF THE LOWER QUADRANT OF THE PIPE. HOLES SHALL BE PROVIDED AT ALL PIPE JOINTS AND FITTINGS TO ALLOW FOR BELLS AND TO PERMIT PROPER JOINT ALIGNMENT.

FOR LAYING PIPE ON GRANULAR MATERIAL, THE DEPTH OF EXCAVATION SHALL BE A MINIMUM OF 2 INCHES BELOW INTENDED ELEVATION OF THE BOTTOM OF THE PIPE. GRANULAR BACKFILL SHALL BE PLACED IN LAYERS NOT TO EXCEED 4 INCHES AFTER COMPACTION. COMPACTED GRANULAR BACKFILL SHALL BE SHAPED TO FIT THE LOWER QUADRANT OF THE PIPE.

SHEETING: SHEETING IF REQUIRED IN THE OPINION OF THE CITY ENGINEER SHALL BE PROVIDED AND INSTALLED AT THE CONTRACTOR'S EXPENSE. CLOSED SHEET PILING OR WORK BOX SHALL BE USED AT THE CONTRACTOR'S EXPENSE, IF QUICKSAND OR UNSTABLE GROUND IS ENCOUNTERED.

ALL WOOD BLOCKING AND SHEETING SHALL BE REMOVED WHEN BACKFILLING IS HIGH ENOUGH TO PREVENT DAMAGE BY CAVING OR SETTING. NO WOOD BLOCKING IS PERMITTED TO REMAIN UNDER THE MAIN AFTER BACKFILLING.

VOIDS LEFT AFTER PULLING THE SHEETING SHALL BE REFILLED AND COMPACTED WITH GRANULAR MATERIAL BEFORE COMPLETION OR BACKFILLING.

DEWATERING: THE CONTRACTOR SHALL, AT THIS EXPENSE FURNISH ALL PUMPS AND LABOR TO DO ALL PUMPING, BAILING, DITCHING AND DRAINING NECESSARY TO KEEP THE EXCAVATION REASONABLY DRY. THE CONTRACTOR SHALL DISPOSE OF WATER TO A NATURAL DRAINAGE CHANNEL OR STORM SEWER WITHOUT CAUSING ANY PROPERTY DAMAGE.

THRUST BLOCKING: THRUST BLOCKING SHALL BE PROVIDED FOR ALL PLUGS, CAPS, TEES AND BENDS DEFLECTING 22 1/2 DEGREES OR MORE ON 8 INCH DIAMETER OR LARGER MAINS AND FOR THE BOWL AND HEEL OF EACH FIRE HYDRANT. UNLESS ANOTHER METHOD OF BLOCKING IS APPROVED BY THE CITY ENGINEER AND THE SUPERINTENDENT OF THE WATER DEPARTMENT, THE BLOCKING SHALL BE 3000 PSI CONCRETE POURED BETWEEN THE FITTINGS OR HYDRANT AND SOLID EARTH IN A MANNER AS TO PREVENT MOVEMENT OF THE FITTINGS OR HYDRANT.

CLEAN UP: AFTER A SECTION OF MAIN IS TESTED AND ACCEPTED, THE CONSTRUCTION AREA SHALL BE CLEARED OF ALL SURPLUS MATERIAL AND DEBRIS TO THE SATISFACTION OF THE CITY ENGINEER AND THE SUPERINTENDENT OF THE WATER DEPARTMENT.

MAINTENANCE: THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONDITION OF THE CONSTRUCTION AREA, MAINS AND APPURTENANCES FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ESTIMATE.

DUCTILE IRON MAINS

VALVES

BUTTERFLY VALVES:

THE VALVES SHALL CONFORM TO AWWA 504 CLASS 150B. DESIGNED FOR BUBBLE TIGHT SHUT OFF AGAINST WORKING PRESSURE OF 150 PSI AND TEST PRESSURES OF 300 PSI.

BODY:

VALVE BODIES AND APPURTENANCES SHALL BE CONSTRUCTED OF CAST IRON AND SHALL BE SUITABLE FOR BURIED SERVICE.

ENDS:

VALVES SHALL BE REQUIRED TO ACCOMMODATE THE PARTICULAR PIPE MATERIAL BEING SPECIFIED ON THE PLANS.

DISCS AND SEATS:

VALVES DISCS OF CAST STEEL, FABRICATED STEEL OR CAST BRONZE ARE NOT ACCEPTABLE.

SEATS BONDED ON THE DISCS ARE NOT ACCEPTABLE.

SHAFT SEATS:

SHAFT SEATS ARE TO BE DESIGNED TO PREVENT WATER AND GRIT FROM ENTERING.

SCALE _____
 MADE & R. DATE 3/85
 TRCD. DATE 3/85
 C.E.D. DATE 3/85

WOODRUFF, INC.
 CONSULTING ENGINEERS
 CLEVELAND OHIO