

**WATER MAIN AND SANITARY SEWER GENERAL NOTES**

1. PROVIDE PRECONSTRUCTION DIGITAL VIDEO DISCS (DVDs) TO THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.
2. CONTACT THE FOLLOWING PERSON AT LEAST 72 HOURS PRIOR TO CONSTRUCTION:  
MR. ROBERT COLE, DIRECTOR OF PUBLIC WORKS FOR THE VILLAGE OF CARPENTERSVILLE AT (847) 836-2464, EXTENSION 1600.
3. WATER MAINS TO BE INSTALLED WITH A MINIMUM OF 5'-6" OF COVER UNLESS OTHERWISE SHOWN ON DRAWINGS.
4. THE LOCATIONS OF EXISTING UNDERGROUND FACILITIES SHOWN ON THE DRAWINGS ARE BASED ON INFORMATION PROVIDED BY OWNERS OF THE FACILITIES AND ARE NOT NECESSARILY COMPLETE OR ACCURATE.
  - A. CONTRACTOR SHALL HAVE UTILITY FACILITIES LOCATED, AND SHALL POTHOLE UTILITY CROSSINGS AND AN ADEQUATE NUMBER OF LONGITUDINAL LOCATES TO ELIMINATE ELEVATION/GRADE AND ALIGNMENT CONFLICTS WITH PROPOSED PIPE INSTALLATION.
  - B. CONTRACTOR SHALL CONTACT VILLAGE OF CARPENTERSVILLE, PRIOR TO CONSTRUCTION, FOR WATER SERVICE LINE LOCATIONS.
5. SIZES OF EXISTING WATER MAINS WERE DETERMINED FROM VILLAGE OF CARPENTERSVILLE WATER MAIN ATLASES AND PLANS, AND MAY NOT REPRESENT ACTUAL WATER MAINS SIZES. CONTRACTOR, INSERTION VALVE SUBCONTRACTOR, OR WATER MAIN TAPPING SUBCONTRACTOR SHALL HAVE AN ADEQUATE NUMBER OF FITTINGS, INSERTION VALVES, AND TAPPING SLEEVES AND TAPPING VALVES AVAILABLE TO COMPLETE WORK WITHOUT DELAYS DUE TO VARYING WATER MAIN PIPE SIZES.
6. PROTECT EXISTING UNDERGROUND UTILITIES AND SANITARY SEWER BUILDING SERVICE LINES FROM DAMAGE. MAKE EXPLORATIONS AS NECESSARY TO DETERMINE THE EXACT LOCATIONS OF EXISTING UTILITIES. EXERCISE CARE DURING THE PROGRESS OF WORK TO PREVENT DAMAGE TO EXISTING UNDERGROUND FACILITIES AND UTILITIES. SEE SPECIAL PROVISIONS FOR SANITARY SEWER TELEVISIONING AND SANITARY SEWER SERVICE LINE LOCATING WORK.
7. COORDINATE WITH UTILITY COMPANIES TO SUPPORT, PROTECT, OR REMOVE AND REPLACE ALL POLES OR POLE ANCHORS AFFECTED BY UNDERGROUND CONSTRUCTION, EVEN WHERE SUPPORT IS NOT INDICATED ON THE DRAWINGS. COST OF THIS WORK SHALL BE INCIDENTAL TO CONSTRUCTION.
8. OVEREXCAVATE UNSUITABLE SOIL ENCOUNTERED AT THE BOTTOM OF THE PIPE, MANHOLE OR VAULT EXCAVATION; AND REPLACE WITH GRANULAR MATERIAL AS DETERMINED BY THE ENGINEER.
9. REPLACE EXISTING DRAIN TILES DISTURBED BY CONSTRUCTION WITH SAME SIZE P.V.C. (SDR 26) PLASTIC PIPE AND NON-SHEAR, FLEXIBLE, STAINLESS STEEL BANDED COUPLINGS.
10. PROTECT ALL PAVED AREAS FROM DAMAGE.
11. DO NOT STORE MATERIALS, STRUCTURES, OR MACHINES WHERE THEY WILL OBSTRUCT STREET OR DRIVEWAY SIGHTLINES.
12. REESTABLISH EXISTING DRAINAGE PATTERNS IMMEDIATELY AFTER BACKFILLING AND DURING FINAL GRADING.
13. ALL DUCTILE IRON PIPE, FITTINGS, BURIED VALVES, FIRE HYDRANTS, VALVE BOXES AND SERVICE CONNECTIONS SHALL BE WRAPPED WITH POLYETHYLENE SHEETING OR TUBES.
14. COVER ALL NEW FIRE HYDRANTS WITH BLACK PLASTIC BAGS AFTER INSTALLATION AND UNTIL NEW WATER MAIN IS IN SERVICE.
15. ADJUST MANHOLE AND VAULT RIM ELEVATIONS TO FINAL GRADE AT THE TIME OF FINAL PAVING OR LANDSCAPING. COST OF FRAME ADJUSTMENTS TO FINAL GRADE SHALL BE INCLUDED IN THE COST OF THE PAY ITEM.
16. PROTECT AND TUNNEL EXISTING WATER MAINS AND WATER SERVICE LINES. IF WATER SERVICE LINES ARE DAMAGED, THEY SHALL BE REPLACED FROM THE WATER MAIN TO THE SERVICE BOX (SPICES ARE NOT ALLOWED). THE COST OF THIS WORK SHALL BE INCIDENTAL TO CONSTRUCTION.
17. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN PROPOSED WATER MAIN LOCATIONS AND EXISTING UTILITY FACILITIES AT LEAST 3 WORKING DAYS PRIOR TO THE INSTALLATION OF THE WATER MAINS.
18. CONTRACTOR TO NOTIFY RESIDENTS AND BUSINESS OWNERS AT LEAST 48 HOURS PRIOR TO ANY DISRUPTION OR SHUTDOWN OF WATER SERVICE.
19. FIRE HYDRANTS SHALL BE ROTATED SO PUMPER NOZZLE FACES THE ADJACENT ROADWAY.
20. DEFLECT WATER MAIN JOINTS WITH A MAXIMUM OF 60% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM JOINT DEFLECTION ANGLE TO OBTAIN ALIGNMENT ALONG CURVILINEAR STREETS OR CURVED ALIGNMENTS.
21. VERIFY ELEVATIONS, SIZES AND PIPE MATERIALS/THICKNESSES OF EXISTING SANITARY SEWER AND STORM SEWER PIPES PRIOR TO CONSTRUCTION AND INSTALLATION OF CASING PIPES. PROVIDE POTHOLING SERVICES AS REQUIRED TO VERIFY EXISTING PIPE INFORMATION.
22. EXISTING VALVES TO BE RESTRAINED OR BRACED AS REQUIRED PRIOR TO CLOSING VALVES FOR CONNECTION OF PROPOSED WATER MAINS TO EXISTING WATER MAINS OR FOR ABANDONMENT OF EXISTING WATER MAINS.
23. AT LOCATIONS WHERE WATER MAIN QUALITY PIPE IS USED TO REPLACE EXISTING SANITARY SEWER OR STORM SEWER PIPE, APPLY GREEN TAPE OVER PIPE SPECIFICATION LABELS ALONG THE ENTIRE LENGTH OF EACH SECTION OF REPLACEMENT SEWER PIPE.
24. INSTALL NEW WATER MAINS BENEATH EXISTING WATER MAINS, FIRE HYDRANT LEADER PIPES, AND WATER SERVICE PIPES AND LINES, UNLESS OTHERWISE NOTED ON DRAWINGS.
25. FOR HORIZONTAL DIRECTIONAL DRILLING (H.D.D.) METHODS AND LOCATIONS:
  - A. CONTRACTOR MAY SET UP AND STAGE FOR HORIZONTAL DRILLING OPERATIONS AT EITHER END OF A DRILLING LOCATION. DO NOT EXCEED JOINT DEFLECTION OF THE PIPE USED FOR H.D.D. WORK.
  - B. DRILLING RIG AND APPURTENANT EQUIPMENT AT EITHER END OF THE DRILLING LOCATION SHALL BE LOCATED TO ALLOW USE OF ADJACENT STREET INTERSECTION OR ADJACENT DRIVEWAYS).
  - C. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES DURING SETUP, DRILLING AND PULLBACK COMPLYING WITH THESE GENERAL NOTES, THE DRAWINGS AND THE PROJECT MANUAL.
26. CONTRACTOR MAY INSTALL PROPOSED WATER MAIN BY OPEN CUT TRENCH METHODS IN LIEU OF HORIZONTAL DIRECTIONAL DRILLING (H.D.D.) METHODS. OPEN CUT TRENCH METHODS SHALL INCLUDE COMPACTED TRENCH BACKFILL WHERE REQUIRED; ADEQUATE AND PROPER SUPPORT OF ALL UNDERGROUND AND POLE MOUNTED UTILITIES; REPAIRS TO DISTURBED/DAMAGED UTILITIES; SURFACE RESTORATION; TRAFFIC CONTROL; AND ANY OTHER ADDITIONAL MATERIALS AND WORK NECESSARY TO MATCH THE PROJECT INTENT AT NO ADDITIONAL COST TO THE CONTRACT.
27. CONTRACTOR MAY INSTALL PROPOSED WATER MAIN BY HORIZONTAL DIRECTIONAL DRILLING (H.D.D.) METHODS IN LIEU OF OPEN CUT TRENCH METHODS. THE H.D.D. WORK SHALL INCLUDE LOCATING AND POTHOLING UNDERGROUND UTILITIES; REPAIRS TO DISTURBED/DAMAGED UTILITIES; PROVIDING RESTRAINED JOINT PIPE; CUTTING WATER MAIN TO INSTALL FITTINGS; INCLUDING ANY NECESSARY SLEEVES; TRAFFIC CONTROL; AND ANY OTHER ADDITIONAL MATERIALS AND WORK NECESSARY TO MATCH THE PROJECT INTENT AT NO ADDITIONAL COST TO THE CONTRACT.
28. WATER MAIN PIPE SHALL BE:
  - A. OPEN-CUT TRENCHES:
    1. DUCTILE IRON PIPE COMPLYING WITH A.N.S.I. A21.51, THICKNESS CLASS 52; WITH JOINTS COMPLYING WITH A.N.S.I. A 21.11; AND WITH CEMENT LINING COMPLYING WITH A.N.S.I. A21.4/A.W.W.A. C104, STANDARD THICKNESS. PROVIDE RESTRAINED JOINTS WHERE CALLED FOR ON THE DRAWINGS.
  - B. HORIZONTAL DIRECTIONAL DRILLING (H.D.D.):
    1. DUCTILE IRON PIPE COMPLYING WITH A.N.S.I. A21.51, THICKNESS CLASS 52; WITH RESTRAINED JOINTS COMPLYING WITH A.N.S.I. A 21.11; AND WITH CEMENT LINING COMPLYING WITH A.N.S.I. A21.4/A.W.W.A. C104, STANDARD THICKNESS. ALL PIPE SHALL BE WRAPPED WITH POLYETHYLENE SHEETING OR TUBES IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
  - C. ALL DUCTILE IRON FITTINGS AND VALVES SHALL HAVE RESTRAINED JOINTS.
29. GRANULAR PIPE BEDDING AND COVERING MATERIAL SHALL CONFORM TO THE FOLLOWING:
  - A. PROVIDE WELL GRADED SAND, GRAVEL OR CRUSHED STONE FREE OF CLAY, LOAM, DIRT, CALCAREOUS OR OTHER FOREIGN MATTER CONFORMING TO I.D.O.T. "STANDARD SPECIFICATIONS" GRADATION CA-11 OR THE STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS, WITH THE FOLLOWING GRADATION:
 

SIEVE SIZE	PERCENT PASSING
1 INCH	100%
3/4 INCH	84-100%
1/2 INCH	30-60%
NO. 4	0-12%
NO. 16	0-6%
  - B. FOR RIGID PIPES COMPLY WITH A.S.T.M. C12, BEDDING CLASS B.
30. WATER SERVICES TO BE INSTALLED AFTER NEW WATER MAINS HAVE BEEN TESTED, DISINFECTED, AND FLUSHED AND ACCEPTED FOR USE BY THE VILLAGE OF CARPENTERSVILLE.
31. ABANDON EXISTING WATER MAINS, FIRE HYDRANTS, VALVES, VALVE VAULTS AND BOXES, AND SERVICE LINES AFTER ALL WATER SERVICES HAVE BEEN CONNECTED TO THE NEW WATER MAIN(S). FIRE HYDRANTS, VALVE BOXES, VALVE VAULT FRAMES AND COVERS REMOVED DURING WATER MAIN ABANDONMENT WORK SHALL BE DELIVERED TO THE VILLAGE OF CARPENTERSVILLE PUBLIC WORKS GARAGE.
32. CONTRACTOR SHALL COMPLY WITH INDUSTRY STANDARDS AND KANE COUNTY CONTINGENCY PLANS TO PREVENT AND TO RESPOND TO A "FRAC-OUT" EVENT.
33. WHERE AN INSERTION VALVE, PLUG/CAP AND CONCRETE THRUST BLOCK IS CALLED FOR ON THE PLANS, CONTRACTOR SHALL CUT A SHORT SECTION OF WATER MAIN OUT OF THE WATER MAIN TO BE ABANDONED AND INSTALL THE CONCRETE THRUST BLOCK AGAINST THE PLUG/CAP AND THE CUT END OF THE WATER MAIN TO BE ABANDONED.
34. WATER MAIN (AND WATER SERVICE LINES GREATER THAN 2" DIAMETER) INSTALLATIONS CROSSING MAPLE AVENUE SHALL BE COMPLETED SUCH THAT AT LEAST ONE LANE OF TRAFFIC IS MAINTAINED AT ALL TIMES. CONTRACTOR MAY INSTALL TEMPORARY PAVEMENT FOR RUNAROUND OF THE CONSTRUCTION AREA AS REQUIRED, OR CONTRACTOR MAY USE TRENCHLESS METHODS OF PIPE INSTALLATION WHERE EXISTING RIGHTS-OF-WAY PROVIDE ADEQUATE ROOM FOR EQUIPMENT AND OPERATIONS.
35. CONTRACTOR SHALL TELEVISION ALL SANITARY SEWERS ALONG MAPLE AVENUE TO SEND A LOCATING/TRANSMITTING SONDE UP INTO EACH SERVICE PIPE TO BE CROSSED WITH NEW WATER MAIN PIPE. THE OPERATIONS AND SYSTEM USED SHALL BE THE LATERAL LAUNCH SYSTEM, OR EQUAL, AND SHALL BE USED TO LOCATE ALL SANITARY SEWER SERVICES - BOTH HORIZONTALLY (LATERAL LAUNCH) AND VERTICALLY (POTHOLING)-FOR HDD WATER MAIN INSTALLATION. THE WORK SHALL BE DONE PRIOR TO CONSTRUCTION, AND CAN BE COMBINED WITH THE TELEVISIONING NEEDED FOR CIPP LINING WORK.
36. THE FOLLOWING SANITARY SEWERS ARE TO BE LINED WITH CURED-IN-PLACE PIPE LINING AFTER ALL SANITARY SEWER REPAIRS AND IMPROVEMENTS SHOWN ON THE PLANS ARE COMPLETED:
  - ALONG MAPLE AVENUE, BETWEEN LORD AVENUE AND BROOK STREET (FROM SAN MH 15D-51 TO SAN MH 15D-54).
  - ALONG MAPLE AVENUE, BETWEEN STA. 135+45 AND OAK RIDGE ROAD (FROM SAN MH 14C-3 TO SAN MH 15D-2); EXCEPT THE NEW SANITARY SEWER SECTION FROM SAN MH 14C-42 TO SAN MH 14C-43).
  - ALONG MAPLE AVENUE, BETWEEN OAK RIDGE ROAD AND L.W. BESINGER DRIVE (FROM SAN MH 14D-1 TO SAN MH 14D-3).
  - CROSSING MAPLE AVENUE FROM SAN MH 15D-2 TO SAN MH 15D-3 AT STA. 135+45.
  - CROSSING MAPLE AVENUE FROM SAN MH 14C-48 TO SAN MH 14C-49 AT STA. 143+20.
37. EXCAVATION OF EXISTING ASBESTOS CEMENT WATER MAINS TO ALLOW REPLACEMENT OF EXISTING WATER MAINS WITH NEW DUCTILE IRON WATER MAIN PIPE SHALL INCLUDE CRUSHING THE EXISTING ASBESTOS CEMENT PIPE IN PLACE AND LEAVING THE RESIDUAL CRUSHED PIPE IN THE BOTTOM OF THE TRENCH. COVER CRUSHED PIPE WITH BEDDING MATERIAL AS PART OF BEDDING AND COVERING OF NEW WATER MAIN PIPE.
38. INSTALL CONCRETE THRUST BLOCKS AT THE SPECIFIC FITTINGS CALLED FOR IN THE WATER MAIN APPURTENANCE TABLES. INSTALL CONCRETE THRUST BLOCKS AT ALL OTHER TEES AND BENDS GREATER THAN 1 1/4"; UNLESS DETERMINED OTHERWISE BY OWNER OR ENGINEER AT TIME OF CONSTRUCTION.

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**WATER MAIN AND SANITARY SEWER GENERAL NOTES**

SCALE: \_\_\_\_\_ STA. TO STA. \_\_\_\_\_

F.A.I.:	SECTION	COUNTY	TOTAL SHEETS
RTE. 4006	95-00049-00-PV	KANE	138 57
CONTRACT NO. 63745			