

SOUTHWEST LICKING COMMUNITY WATER & SEWER DISTRICT

GENERAL, WATER AND SANITARY SEWER NOTES



Revision Date:
March 23, 2017

SOUTHWEST LICKING COMMUNITY WATER & SEWER DISTRICT GENERAL NOTES

- G-1 **GENERAL:** The current Southwest Licking Community Water & Sewer District Construction and Material Specifications together with the O.D.O.T. Construction and Material Specifications including all supplements thereto in force on the date of contract, shall govern all materials, methods of construction and workmanship involved in the improvements shown on these plans, except as such specifications are modified by the following specifications or by the construction details set forth herein.
- G-2 **WORK LIMITS:** The Contractor shall confine his activities to the Project Site under development, existing rights-of-way, construction easements and permanent easements, and shall not trespass upon other private property without the written consent of the property owner.
- G-3 **MISCELLANEOUS WORK:** All items of work called for on the plans for which no specific method of payment is provided shall be performed by the Contractor and the cost of same shall be included in the price bid for the various related items.
- G-4 **FIELD TILE:** All field tile and other drainage tile broken during excavation shall be replaced to its original condition as directed by the District representative.
- G-5 **SURPLUS EXCAVATION:** The Contractor shall properly dispose of all surplus excavation.
- G-6 **EXISTING UTILITIES:** The information shown concerning existing utilities is not represented, warranted or guaranteed to be complete or accurate. It shall be the Contractor's responsibility to physically locate and verify in the field, all utility locations and elevations, whether shown on the plans or not, prior to the beginning of construction operations. The Contractor shall support, protect, and restore all existing utilities and associated items to the satisfaction of the utility owner.
- The Contractor shall notify all utility owners, in accordance with Section 153.64 of the Ohio Revised Code, at least forty-eight (48) hours prior to the beginning of any work, to request utility locations, to coordinate the work, and to keep the utility owners apprised of the construction schedule and requirements until all work is completed.
- Notice shall be given to the Ohio Utilities Protection Service (800-362-2764) for the member utilities.
- G-7 **SAFETY OF CONSTRUCTION:** Compliance with the Occupational Safety and Health Act of 1970, as amended, and applicable OSHA regulations is required of all contractors on the project. Each Contractor and Subcontractor is responsible to implement, maintain and supervise all safety requirements, precautions and programs in connection with the work.
- G-8 **NOTIFICATION:** The Contractor shall notify the District (740-927-0410) seventy-two (72) hours, excluding weekends and holidays, prior to the start of construction of water and/or sanitary sewer utilities. When construction is suspended for more than seven days, the Contractor shall notify the District seventy-two (72) hours, excluding weekends and holidays, prior to resuming construction. Construction shall not start prior to the required notice being given.

- G-9 CLEAN-UP: The tracking of mud, dirt or debris upon any public roadway is prohibited and any such occurrence shall be cleaned up immediately by the Contractor. The Contractor shall clean up all debris and materials resulting from the construction operation and restore all surfaces, structures, ditches, and property to its original condition and to the satisfaction of the District.
- G-10 PERMITS: The Contractor shall obtain any and all necessary permits prior to beginning construction. All work shall be performed in accordance with the applicable Federal, State and Local regulations and requirements.
- G-11 CROSSINGS: All water mains and services shall be constructed with at least 10 feet horizontal separation and at least an 18 inch vertical separation from all sanitary and storm sewers.
- G-12 TRAFFIC CONTROL: Where it is anticipated that the utility work will close a street, the Contractor shall inform the residents to be affected, County Sheriff's Office or local Police Department, Fire Department, the District, applicable School District, and other applicable entities as to the extent, nature, and time of the anticipated work.

Adequate lights, signs, and barricades shall be used, as required in the O.D.O.T. Construction and Material Specifications and OMUTCD, to safeguard the traveling public at all times. All trenches shall be backfilled or securely plated within the public right-of-way during non-working hours.

- G-13 CURB MARKINGS: The District requires that the letters "WV" for water main valve, "W" for water service line, "S" for sanitary sewer service line, and "MH" for sanitary sewer manhole be embedded in the concrete curb. For standard curbs, the letter is to be located in the center on the top flat portion of the curb. For rolled curbs, the top of the letter is to be located on the face of the curb within one and one-half (1-1/2) inches of the crest. The letter is to be at least two (2) inches wide, three (3) inches high and one quarter (1/4) inch deep. The letters "WV" and "MH" are to be located on the curb immediately adjacent to all water main valves and sanitary sewer manholes. The letters "W" and "S" are to be located directly over the house service lines.
- G-14 SEDIMENT AND EROSION CONTROL: The Contractor shall be solely responsible for providing necessary and adequate measures for proper control of erosion and sediment runoff from the site along with proper maintenance and inspection in compliance with the NPDES General Permit for Storm Water Discharge Associated with Construction Activity. All sediment and erosion control measures required in the plans, the District Construction and Material Specifications, and the Ohio EPA Storm Water Regulations and General Permit shall be in place and operational prior to construction beginning in the work area.
- G-15 PROHIBITED CONSTRUCTION ACTIVITIES: The following construction activities are prohibited on the project.
- Using any substance other than water to control dust.
 - Tracking of mud, dirt and debris onto any public roadway.
 - Open burning of project debris without a permit. The Contractor is responsible for obtaining the permit or disposing of the trees and stumps.
 - Pumping of sediment-laden water from trenches or other excavations into any surface waters, any stream corridors, any wetlands, or storm sewers.

- Discharging pollutants - such as chemicals, fuels, lubricants, bituminous materials, raw sewage - and other harmful waste into or alongside rivers, streams, and impoundments or into natural or man-made channels leading thereto.
- Storing construction equipment and vehicles and/or stockpiling construction materials on property, public or private, not previously specified for said purposes.
- Disposing of excess or unsuitable excavated material in wetlands or floodplains, even with the permission of the property owner.
- Indiscriminate, arbitrary, or capricious operation of equipment in any stream corridors, wetlands, surface waters, or outside the easement area.
- Permanent or unspecified alteration of the flow line of a stream.
- Removal of trees and bushes, or damaging vegetation outside the limits of the construction area.
- Disposal of trees, brush and other debris in any stream corridors, any wetlands, any surface waters or at unspecified locations.

G-16 AS-BUILTS: All bends, fittings, mainline valves, water service valves, fire hydrants, manholes, and sanitary sewer services must be GPS located and shown on the as-built drawings using the Ohio State Plane Coordinate System. Two (2) full size (2'x3') and two (2) half size (1'x1.5') sets of as-built construction drawings and a USB in AutoCAD and PDF format shall be provided to the Southwest Licking Community Water & Sewer District as soon as all public improvements are completed and prior to final acceptance.

G-17 SPECIFICATION DEVIATIONS: The Southwest Licking Community Water & Sewer District reserves the right to deviate from its' Construction Material Specifications on a case by case basis at the sole discretion of the District Administration. Deviations shall be in the best interest of the Districts' customers and/or provide a better means of operations and maintenance.

SOUTHWEST LICKING COMMUNITY WATER & SEWER DISTRICT WATERLINE NOTES

- W-1 **CONNECTING WATERLINES:** The connection of proposed waterlines to existing waterlines shall be done in a manner that will cause a minimum of inconvenience to those with affected services. Work concerning the disconnection and re-connection of existing waterlines shall be done between the hours of 10:00 p.m. and 5:00 a.m., or as directed by the District. No such work shall begin until the Fire Department, District, County Sheriff's Office and residents whose services will be affected are all notified at least seventy-two (72) hours prior to the connection, of the extent, nature and time of the anticipated work, nor until the method and schedule of such work has been approved by the District.
- W-2 **SERVICE LOCATIONS:** All water services shall be laid at least 10 feet horizontally from the sanitary sewer service and in a separate trench. A permit for each water service must be obtained from the District, prior to making any connection from the water main or water service box to any existing or proposed building.
- W-3 **CONFLICTS:** When conflicts in grade between waterlines and sewers are found during construction, the waterlines shall be lowered, unless directed otherwise by the District. A minimum vertical separation of 18 inches, measured from the outside of each pipe, shall be maintained.
- W-4 **MINIMUM DEPTH:** Water lines shall be laid with a minimum of four (4) feet of cover from the final proposed ground or pavement grade to the top of the waterline.
- W-5 **LINE CROSSINGS:** At all points of crossing of water mains and sewers, the backfill shall be granular material between the deeper and shallower pipe. The minimum horizontal separation between water mains and all sewers shall be ten (10) feet measured from the outside of each pipe. The minimum vertical separation at crossings of water mains and all sewers shall be 18 inches measured from the outside of each pipe.
- W-6 **DISINFECTION:** All water mains shall be cleaned and disinfected in accordance with the applicable sections of AWWA Specification C651. Special attention is directed to the requirements of flushing and chlorinating valves and fire hydrants. Results of the disinfection tests shall be furnished to the District prior to acceptance of the system. Testing for acceptance to be conducted after all other utilities located within the right-of-way are installed.
- W-7 **TESTING:** A hydrostatic test, as required in Section 7.3 of AWWA Specification C605 for PVC Pipe or Section 5.2 of AWWA Specification C600 for Ductile Iron Pipe as applicable, shall be applied to the water main. If there are indications of leaks under this pressure test, the Contractor shall locate and repair all leaks at the contractor's expense until the leakage is within the specified allowance. All bends, joint deflections and hydrants shall have concrete backing, and all valves shall have concrete supports, in accordance with the Standard Construction Drawings. Testing for acceptance to be conducted after all other utilities located within the right-of-way are installed.
- W-8 **FIRE HYDRANTS:** Fire hydrants shall be American Flow Control Model MK-73-5, Mueller Super Centurion 250 Model A-421 or Clow Medallion, as shown on Standard Drawing W-20, and be installed as per Standard Drawings W-21, W-22, W-23, W-24 and W-25. West Licking Fire Department requires all fire hydrants to have a "screw on" type storz fitting. Fire hydrants shall be painted Fire Protection Red from the manufacturer and the lids of watch valve boxes painted Fire Protection Red in the field. Fire hydrants on a private water system shall be painted Fire Protection Red with a Blue Bonnett. The District may require specific hydrants to match existing developments.

- W-9 CURB AND VALVE BOXES: Curb boxes shall be located 6 inches from the front property line or easement line, and within 10 feet of the side property line, unless otherwise shown on the plans. All curb box and valve box tops shall be adjusted to be 3" above final surface grades. The Contractor shall furnish and place, as directed, a stake made of 4" x 4" hardwood lumber at all curb boxes and valve boxes, extending a minimum of 3 feet above final surface grades with the top 2 feet of the 4"x4" being painted safety blue. All curb and valve box lids shall be painted safety blue.
- W-10 CURB BOX EXTENSION ROD: A Ford ROD-42 extension rod with centering ring shall be installed on all curb boxes.
- W-11 VALVE EXTENSION: If the top of the operating nut is lower than 36 inches below finished grade, an extension stem shall be furnished to bring the top of the operating nut to between 24 inches and 36 inches of finished grade elevation.
- W-12 INSTALLATION IN EMBANKMENT: Where water mains are to be installed in embankment areas, the embankment shall be placed and compacted in accordance with the specifications prior to the installation of the water main. The water main shall be installed with a minimum of four (4) feet of cover in all directions.
- W-13 VALVE OPERATION: Existing valves shall be operated by District personnel only.
- W-14 CONSTRUCTION AND MATERIAL SPECIFICATIONS: All materials and construction shall meet the requirements of the current Southwest Licking Community Water & Sewer District Construction and Material Specifications, including all supplements thereto (unless Township, City, and/or County standards are more stringent, in which case those standards shall be followed). Water main pipe shall be PVC Plastic Pipe, AWWA C900 DR 18. Ductile Iron Pipe Class 53, AWWA C151, Cement Lined AWWA C104, with joints conforming to AWWA C111 is an acceptable alternate water main pipe. All bends, joint deflections and fittings shall be backed with concrete. Blue metallic field locator tape of six (6) inch width shall be placed over all water mains, within 12 to 18 inches of finished grade. Ten (10) gauge solid tracer wire shall be laid in the pipe trench and extended into each valve opening. Tracer wire connections shall be made with copperhead snakebite waterproof direct bury lugs #3WB-01.
- Water main valves shall be AWWA C509, Resilient Wedge with 250 PSI working pressure, non-rising stem, left hand open valve with rubber "O" packing seals. All valve bonnet bolts shall to be stainless steel.
- Water service line pipe shall be AWWA C901, PE 4710, DR9, CTS ASTM D2737 and shall be installed with a cover of four (4) feet.
- W-15 WATER SYSTEM PRESSURE: All water mains including those not designed to provide fire protection, shall be sized after a hydraulic analysis based on flow demands and pressure requirements. The system shall be designed to maintain a minimum pressure of 20 psi (140 kPa) at ground level at all points in the distribution system under all conditions of flow. The normal working pressure in the distribution system shall be at least 35 psi (240 kPa) and should be approximately 60 to 80 psi (410 – 550 kPa) and not less than 35 psi (240 kPa).
- W-16 CURB STOP: Curb stop shall be equivalent to Mueller H-15209 with a box equivalent to Bingham and Taylor NO. 4901, size 94E.

W-17 CORPORATION STOP AND SADDLE: Corporation stops shall be Mueller H-15008 with a Ford style "FS" Series 313 Tapping Saddle or District pre-approved equal.

W-18 TAPPING SLEEVE: Tapping Sleeves shall be stainless steel and shall be equivalent to Mueller H-304 or Smith Blair 663.

W-19 BACKFLOW PREVENTERS: Backflow preventers shall be provided on all commercial connections and any residential connections where an auxiliary water supply is available. All backflow preventers shall have an approved expansion tank.

Reduced pressure backflow preventers shall be provided for all areas deemed by the District where there is a high potential health hazard from contamination. All reduced pressure backflow preventers shall meet AWWA C511 and be from the latest approved list of the OEPA.

Double check backflow preventers shall be provided for all areas deemed by the District where there is a low potential health hazard from contamination. All double check backflow preventers shall meet AWWA C510 and be from the latest approved list of the OEPA.

W-20 TOOLS AND SPARE PARTS: The following tools and spare parts shall be delivered to the District prior to Final Acceptance of the project: One (1) mainline wrench, one (1) probe (four feet), one (1) forty eight inch curb box wrench (Mueller H-10356), one (1) complete curb box, one (1) fire hydrant wrench, and one (1) straight stortz fitting.

SOUTHWEST LICKING COMMUNITY WATER & SEWER DISTRICT SANITARY SEWER NOTES

- SA-1 **TESTING:** An infiltration or exfiltration test shall be made in accordance with the District Specifications with maximum test sections of 400 feet. Leakage through joints shall not exceed 100 gallons per day per inch of sewer diameter per mile of pipe. Air testing is an acceptable alternate testing method for leakage and shall be made in accordance with District Specifications and ASTM F1417-92. Sanitary sewers shall be mandrel tested and leakage tested no sooner than 30 days after installation. All sanitary manholes shall be vacuum tested, in accordance with ASTM C1244-93. Existing structures that are disturbed shall be re-tested and corrected if needed per District specifications. All test reports shall be furnished to the District prior to acceptance of the system.
- SA-2 **WYE POLES:** The Contractor shall furnish and place, as directed, approved wye poles made of 4" x 4" hardwood lumber at all wye locations, ends of extended services, or at the end of each riser where risers are required, extending a minimum of 3 feet above final surface grades with the top 2 feet being painted green.
- SA-3 **RISERS:** Risers shall be placed on all wyes where the flow line depth is greater than 12 feet. Tops of risers are to be 10 feet below ground, plus or minus one foot, or as otherwise directed by the District.
- SA-4 **SERVICE CONNECTIONS:** Service or house connections shall not be connected to the lateral or main line sewers shown hereon until full approval of said lateral or main line sewer has been received and a permit for each sewer service obtained from the District.
- SA-5 **STORM WATER CONNECTIONS:** No foundation drains, roof drains, or other storm water drains of any kind shall be connected into the sanitary sewer system.
- SA-6 **TRENCH DAMS:** The contractor shall place a cut off trench dam of native clay or impervious soil across and along the trench upstream from the main line sewer connection to retard and resist the movement of groundwater through the trench granular bedding or backfill material. The trench dams shall be carefully compacted and shall be six (6) feet in thickness as measured along the service center line and shall be constructed against the undisturbed trench sides from the subgrade or bottom of the stone foundation, whichever is lower, to the limit of 36 inches over the top of the pipe, no more than ten (10) feet from the main line sanitary sewer. See District Standard Drawing Sa.S-7 for the six (6) inch Sanitary Sewer Service detail.
- SA-7 **MANHOLE SEALING:** Sanitary manhole frame sealing shall meet the following specifications:
- External chimney seal shall be manufactured by CCI Pipeline Systems (WrapidSeal) or a pre-approved equal. An internal epoxy chimney seal by Spectrashield or Spayroc Spraywall can be used in lieu of the external chimney if desired. All areas where the seal is to be attached must be free of any dirt, grease, rust, or any loose mortar.
- SA-8 **INFLOW PROTECTION DISH:** An inflow protection dish as manufactured by Parsons Environmental PMI-1S or equivalent shall be installed in each sanitary sewer manhole casting per Standard Drawing Sa.S.-2.

SA-9 **MANHOLE TOPS:** Where manholes are located within road grading limits, the tops shall be built to elevations shown on the approved plans or directed by the District. Elsewhere, manholes shall be built or subsequently adjusted to be not more than three (3) inches above final surface grades established for the development.

SA-10 **CONSTRUCTION AND MATERIAL SPECIFICATIONS:** All materials and construction shall meet the requirements of the current Southwest Licking Community Water & Sewer District Construction and Material Specifications including all supplements thereto (unless Township, City, and/or County standards are more stringent, in which case those standards shall be followed). All sewer pipe shall be laid with stone or gravel bedding as shown on Standard Drawing Sa.S-1. All gravity sewer pipe shall be PVC Plastic Pipe, SDR 35 cell classification 12454 B or C unless otherwise noted on the plans. Pipe for all house services shall be six (6) inches nominal diameter PVC Plastic Sewer Pipe, ASTM D3034, SDR 35. Services shall be subject to the infiltration and exfiltration tests. Air testing of sanitary sewers and service lines is acceptable. All service extensions shall be laid at a minimum grade of 1/4 inch per foot (2.08%).

Where the sanitary sewer crosses under a proposed storm sewer, the trench shall be backfilled to the bottom of the proposed storm sewer with compacted granular material meeting ODOT Item 304, ten (10) feet centered on the storm sewer. The cost of this work is to be included in the price bid for the various sewer items.

Where the sanitary sewer crosses a proposed street or road, the trench backfill shall be bedding material (ODOT 57 or 68) from the bottom of the trench to a plane six (6) inches above the pipe; from that point to a plane six (6) inches below the subgrade, low strength mortar backfill (ODOT 613) shall be installed. At the discretion of the District, Township, City or County, aggregate base (ODOT 304) may be used above the pipe. The limits of placement shall be from the right-of-way line to the right-of-way line. All other trench backfill shall be compacted Type C backfill, unless otherwise noted on the plans. The cost of backfill is to be included in the price bid for the various sewer items.

All manhole castings, frames, covers, and steps shall be in accordance with Standard Drawings SA.S.-2 and SA.S.-3.

Green metallic field locator tape of six (6) inch width shall be placed over all sanitary sewer and force main lines, within 12 to 18 inches of finished grade. Ten (10) gauge solid tracer wire shall also be installed on all sanitary force mains.

SA-11 **INTERCEPTORS:** The contractor shall install all oil and grease interceptors in accordance with the Southwest Licking Community Water & Sewer District Construction Material Specifications and the requirements of the Licking County Health Department. All interceptors shall be approved by the District prior to installation and inspected when installed.

SA-12 **CLEANING AND INSPECTION:** All sanitary sewers shall be cleaned and video inspected after all other utilities located within the right-of-way are installed. The District shall receive one (1) copy of the inspection report in PDF format and one (1) copy of the inspection video on a USB prior to the final acceptance.

SA-13 **TOOLS AND SPARE PARTS:** The following set of tools and spare parts shall be delivered to the District prior to final acceptance of the project: One (1) Wrapid Seal External Chimney Seal, one (1) inflow protection dish, one (1) manhole lifting hook, and one (1) complete manhole casting and an additional set per every ten (10) manholes.