

## **FAIRFIELD COUNTY GENERAL NOTES**

- G-1 **GENERAL:** The current Fairfield County Construction and Material Specifications (FCCMS), including all supplements thereto, with the requirements of Fairfield County 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. Any modification to the specifications or changes to the work as shown on these plans must have prior written approval of the County Sanitary Engineer.
- 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. Approval of these plans is contingent upon all easements required for construction of the work being secured or platted, and furnished to the County Sanitary Engineer.
- 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 or connected either to a curb sub-drain or a storm sewer system, as directed by the County Sanitary Engineer or his 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. The Contractor shall provide the County Sanitary Engineer with evidence of having notified the utility owners of the construction work and schedule prior to beginning any work.
- Notice shall be given to the Ohio Utilities Protection Service (800-362-2764) for the member utilities. The Fairfield County Utilities Department is a member utility for water and sanitary sewer utilities. The Fairfield County Engineer (740-652-2300) and local governmental entity responsible for storm sewers are not members of a registered underground protection service and must be contacted directly.
- 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 County Sanitary Engineer (614-322-5200) 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 County Sanitary Engineer 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 County Sanitary Engineer.
- 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 County 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. When the 10 foot or 18 inch clearance cannot be obtained, the sanitary or storm sewer shall be constructed of waterline materials as approved in the County's Construction and Material Specifications, and/or the waterline must be relocated or lowered as directed by the County Sanitary Engineer.
- G-12 **TRAFFIC CONTROL:** A subdivision street, unless it is also a County or State highway, may be closed to through traffic one (1) block at a time from 8:00 a.m. to 4:00 p.m. Monday through Friday. The Contractor shall submit a plan and schedule for detouring traffic ten (10) days prior to the closing of any street. Any temporary closing of a street does not relieve the Contractor of the responsibility to provide access to the property by emergency vehicles, mail/delivery vehicles and the owners.

Where it is anticipated that work will close a street, the Contractor shall inform the residents to be affected, County Sheriff's Office, Township Fire Department, County Sanitary Engineer, County Engineer, applicable School District, and other applicable City and Township entities as to the extent, nature, and time of the anticipated work. No street shall be closed until the schedule is approved by the County Engineer.

Adequate lights, signs, and barricades shall be used, as required in Item 614 of the ODOT 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 Fairfield County Utilities Department requires that the letters "V" for water main valve, "W" for water service line and "S" for sanitary sewer service line 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 letter "V" is to be located on the curb immediately adjacent to all water main valves. 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 Fairfield County 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, 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 RECORD DRAWINGS: One (1) set of record construction drawings and a computer disk in AutoCAD format and .tiff or .pdf format shall be provided to the Fairfield County Utilities Department as soon as all public improvements are completed and prior to final acceptance.

## **FAIRFIELD COUNTY 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 reconnection of existing waterlines shall be done between the hours of 10:00 p.m. and 5:00 a.m., or as directed by the County Sanitary Engineer. No such work shall begin until the Township Fire Department, County Sanitary Engineer, 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 County Sanitary Engineer.
- W-2 **SERVICE LOCATIONS:** All water services shall be located near the lot line unless otherwise noted, and 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 Fairfield County Utilities Department, 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 County Sanitary Engineer. 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 sanitary and storm 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 County Sanitary Engineer prior to acceptance of the system.
- 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. Final water pressures testing for acceptance to be conducted after all other utilities are installed in new development areas.
- W-8 **FIRE HYDRANTS:** Fire hydrants shall be American Flow Control Model MK-73 or Mueller Super Centurion 250 Model A-421, as shown on Standard Drawing W-20, and be installed as per Standard Drawings W-21, W-22, W-23 and W-24. Fire hydrants and lids of watch valve boxes shall be thoroughly cleaned and prepped, be primed with one coat Tnemec Uni-bond DF Series Gray and be painted with two coats Tnemec Enduratone Series 1028 Chilean Red for the top coats. Hydrants shall be of the same manufacturer as consistent within a subdivision or service

area.

- W-9 CURB AND VALVE BOXES: Curb boxes shall be located 12 inches from the property line or easement line for short services and 12 inches from the property line on long services, 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" treated hardwood lumber at all curb boxes and valve boxes, extending a minimum of 3 feet above final surface grades with the final 2 feet painted cove blue. All curb and valve box lids shall be thoroughly cleaned and prepped, be primed with one coat Tnemec Uni-bond DF Series Gray and be painted with two coats Tnemec Enduratone Series 1028 Cove Blue for the top coats.
- W-10 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-11 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-12 VALVE OPERATION: Existing valves shall be operated by Fairfield County Utilities personnel only.
- W-13 FITTING MARKERS: The contractor shall provide 3M Electronic marking system full range makers at every fitting bend or tee that does not have a valve or every 50' on a straight run. The markers shall be attached to the pipe with a plastic zip tie.
- W-14 CONSTRUCTION AND MATERIAL SPECIFICATIONS: All materials and construction shall meet the requirements of the current Fairfield County Construction and Material Specifications, including all supplements thereto. Water main pipe shall be PVC Plastic Pipe, AWWA C900 DR 14. 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. Copperhead 10 gauge tracer wire (1030 – HS, open trench, 1045-EHS directional drill) shall be laid with the pipe trench and extended into each valve opening.
- Water main valves shall be AWWA C509 or C515, Resilient Wedge with 250 PSI working pressure, non-rising stem, left hand open valve with rubber "O" packing seals. All bolts to be 304 stainless steel. Water main valves shall be of the same manufacturer as the hydrants in the subdivision or service area.
- Water service line pipe shall be Phillips DriscoPipe Polyethylene SDR 9, and shall be installed with a cover of four (4) feet. Service saddles to be all stainless steel with full rubber insert. See FCU acceptable service saddles and tapping saddle approved list.
- W-15 WATER SYSTEM PRESSURE: The normal working pressure in the water system will not be less than 35 psi. Individual booster pumps are not permitted for any individual service. If the static pressure in the water system at the work area is greater than 80 psi, then a pressure reducing valve shall be required for each house or building.
- W-16 TOOLS AND SPARE PARTS: The following tools and spare parts shall be delivered to the County prior to conditional acceptance of the project: One mainline wrench, one probe (six feet), 1 curb box wrench, 1 complete curb box, 1 fire hydrant wrench.

## **FAIRFIELD COUNTY SANITARY SEWER NOTES**

- SA-1 **TESTING:** An infiltration or exfiltration test shall be made in accordance with the Fairfield County 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 Fairfield County Specifications and ASTM F1417-92. Sanitary sewers shall be mandrel tested and leakage tested no sooner than 60 days after installation. After acceptable mandrel and leakage testing, all sanitary sewers shall be videotaped in DVD format. The DVD video shall clearly identify the location of the camera within the sewer, date and time of DVD video, and be of sufficient quality to determine the condition of the sewers. All sanitary manholes shall be vacuum tested, in accordance with ASTM C1244-93. All test reports and DVD video shall be furnished to the County Sanitary Engineer 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" treated 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. The wye poles shall be painted with Tnemec Enduratone Series 1028 Hunter 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 County Sanitary Engineer or his designated representative.
- 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.
- 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 Fairfield County Standard Drawing Sa.S-7 for the six (6) inch Sanitary Sewer Service detail.
- SA-7 **MANHOLE SEALING:** The manhole frame casting and the top of the manhole cone shall be externally sealed with CCI Pipeline Systems WrapidSeal manhole encapsulation system.
- SA-8 **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 County Sanitary Engineer. Elsewhere, manholes shall be built or subsequently adjusted to be three (3) to six (6) inches above final surface grades established for the development. Only one (1) precast grade ring up to 6" is allowed for adjustment. Any adjustment in excess of 6" requires a barrel change. All sanitary manholes shall be backfilled with granular material from base to top of cone.
- SA-9 **CONSTRUCTION AND MATERIAL SPECIFICATIONS:** All materials and construction shall meet the requirements of the current Fairfield County Construction and Material Specifications including all supplements thereto. All sewer pipes shall be laid with stone or gravel backing as shown on Standard Drawing Sa.S-1. All pipes shall be PVC Plastic Pipe, ASTM D3034, 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.

Where the sanitary sewer crosses a proposed street or road, the trench backfill shall be compacted granular material, ODOT Item 304, from the bottom of the trench to a plane six (6) inches below the subgrade. 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 manholes shall have Neenah R-1762 frames with self-sealing lids marked "Sanitary Sewer". Manholes located within 100 year flood plains, or where flooding could occur, shall have Neenah R-1915-H frame with bolt down sealed lids marked "Sanitary Sewer". All manholes shall have polypropylene steps to within one (1) foot of the top of the manhole. All manhole rings shall be concrete, sealed to precast chimney sections with sealer approved by the County Sanitary Engineer. Brick risers are not acceptable.

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. Fourteen gauge tracer wire shall also be installed on all sanitary force mains.

SA-10 TOOLS AND SPARE PARTS: The following tools and spare parts shall be delivered to the County prior to conditional acceptance of the project: One complete WrapidSeal Kit, one manhole lifting hook, 1 complete manhole casting.