



Residential Subdivision Design

Sanitary Sewer

- ❑ **Sewer capacity fees are due upon approval of construction plans. Fees are based on gallons of use per day. Residential use is 270 gallons per day. Commercial use is determined by land use. Please submit payment and executed agreement a minimum of one (1) week prior to sign off to allow time for review and approval by director.**
- ❑ Please fill out the attached Water Distribution / Sanitary Sewer Addition Submittal Form and submit with plans that are presented for review and approval
- ❑ The following certification shall be made by the Design Engineer and included with Sanitary Sewer System construction notes: *"I certify that the proposed sanitary sewer system has been designed in accordance with the FCDWS Specification document titled "Standard Specifications for Water Distribution Systems and Sanitary Sewer Systems", including all amendments.*
- ❑ Subdivisions must have Forsyth County Board of Commissioners approval to connect onto private sanitary sewer system as well as approval from the Georgia Environmental Protection Division
- ❑ Georgia Environmental Protection Division review and approval is required for:
 - Private sanitary sewer collection and treatment
 - Pump stations with capacities of 700 gpm and greater
 - Sanitary sewer lines that are 36 inches and greater in diameter
 - All sanitary sewer lines proposed within 2000 feet of Chattahoochee River.
- ❑ Topographic information must be provided at two foot contour intervals based on mean sea level datum.
- ❑ Describe and reference site benchmark
- ❑ Plan and profile views of all existing and proposed sanitary sewers. Storm drainage shall be also shown on the plan and profile views. Water mains should be shown in the profile views where crossing the sanitary sewer lines. Minimum separation is two feet vertically. State size, type, percent grade, and length of all pipe between manholes
- ❑ Minimum slopes for sanitary sewer pipes
 - 0.7% on 8" lines
 - 0.5% on 10" lines
 - 0.4% on 12" lines
 - 0.3% on 18" lines
 - 0.16% on 24" lines
 - 0.12% on 30" lines
 - Larger sizes: Maintain 2 feet/second at 2/3 pipe capacity. Provide calculations under engineer's seal and signature to demonstrate compliance
- ❑ All required easements must be dedicated to Forsyth County prior to release of Certificate of Occupancy or final plat (See final plat checklist for easement requirements)
- ❑ A minimum 20-foot wide permanent easement is required for all sanitary sewer lines. Lines deeper than 16 feet require wider permanent easements as follows: 17-foot through 22-foot depths require 25-foot width; 23-foot through 28-foot depth requires 30-foot width; 29-foot through 22-foot depths require 40-foot width
- ❑ Manhole inverts shall have a minimum 2/10 of a foot (0.2') drop across the manhole.
- ❑ D.I.P. sanitary sewer required if sanitary sewer line
 - Where cover is less than 4 feet
 - Where cover is greater than 16 feet
 - When the sewer crosses within 2 vertical feet of storm sewer
 - For all pipe placed within fill
 - When placing sewer crosses under a stream
- ❑ Minimum cover for sanitary sewers in paved areas is 7 feet. Cover less than 7 feet requires ductile iron pipe
- ❑ Maximum inside drop in manhole is 2 vertical feet. Outside drops must be constructed according to the requirements as shown on Forsyth County Standard Details.
- ❑ Interior angles must be shown at all manholes. Minimum angle between influent and effluent sanitary sewer lines at a manhole is 90°

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- Maximum distance between manholes is 400 feet
- Concrete collars are required when the slope is greater than 15% and pipe must be ductile iron
- Sanitary sewers installed above ground must be wrapped and coated if steel pipe is used
- Sanitary sewers and manholes must be situated outside of drainage ditches. In conditions where they must run parallel to storm drainage, a minimum 30-foot easement is required. The sanitary sewer must be located 10 feet from one side, and the centerline of drainage line 10 feet from the other side of the easement
- Laterals must be shown for each lot with a maximum length of 125 feet. Laterals flow by gravity to the sanitary sewer trunk line. Indicate lateral locations by station from nearest downstream manhole
- Extend sewer to serve adjacent properties for future development as per sewer regulations or dedicate a 50' temporary and 20' permanent sanitary sewer easement and provide sanitary sewer manhole in streets for future connection
- No more than 4 connections are allowed on sanitary sewer manholes
- All service lines connecting to existing sewer lines will be made with manholes
- Concrete collars required at ends of aerial sewer crossings
- Rip-rap and filter fabric shall be placed at all creek crossings
- All manholes outside of roadways shall be two feet above the ground. If a manhole is in a flood prone or high water area, water tight covers shall be clearly indicated and detailed
- Show bolt down covers on all manholes outside paved areas
- Profile existing sanitary sewer lines when new construction is proposed within easement
- If sanitary sewer is to be constructed adjacent to rivers and other waterways, location of waterway shall be verified and certified by a registered land surveyor. Offset distance from field line of creek shall be provided for all manholes. Manholes in flood plain shall be above 100-year elevation
- Label pipe types PVC SDR26 and DIP Class 50 on profiles
- Sanitary sewer shall be installed with top of pipe 3' minimum below adjacent creek bottoms. Show creek bottom on profiles, where applicable
- Inspection fee is based on linear feet of sewer in project. Fee scale is based on pipe diameter. Minimum fee is \$1500.00
- Review fee is \$750.00.
- Notes
 - Notify Forsyth County Water and Sewer Dept. 24 hours prior to any sewer construction at (770) 886-2790.
 - The contractor shall call the Utilities Protection Center "Call Before You Dig", telephone number 1-800-282-7411, **before** initiating excavation activities
 - All work and materials are to conform to current Forsyth County standards.
 - No deviations from approved drawings are allowed without approval from Forsyth County Department of Water and Sewer.
 - All manholes outside of pavement shall be 2' above grade with bolt-down watertight covers
 - Sewer laterals shall be of same material as sewer main (i.e. DIP, PVC).
 - Sewer laterals shall be installed with a 6" clean-out, stubbed up 5' above grade and capped.
 - No fences, structures, trees, or other obstructions are allowed on sanitary sewer easements.
 - Sewer lines are to be tested per County specifications prior to final plat.
 - The developer/contractor is responsible for maintenance of all infrastructure for a period of 18 months after the recording date of the final plat
 - No bury pits allowed within sanitary sewer easements.
 - No dumpster pads or pool drain allowed into sanitary sewer system.
 - 16' is max depth for PVC sewer, any pipe exceeding 16', whether or not shown on plans, must be installed as DIP.
 - All sewer lines to be T.V. inspected prior to Certificate of Occupancy.
 - Sewer lateral clean-outs to be located 1' behind R/W, or on SSE line.
 - Where sewer is installed in R/W, backfill must be compacted to 95% proctor.
 - Sewer lines shall be Class 50 DIP (or greater, depending on depth), or SDR-26 PVC.

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Water Distribution System

- The following certification shall be made by the Design Engineer and included with Water Distribution System construction notes: *"I certify that the proposed water distribution system has been designed in accordance with the FCDWS Specification document titled "Standard Specifications for Water Distribution Systems and Sanitary Sewer Systems", including all amendments.*
- Approval from the Georgia Environmental Protection Division is required for 15 or more homes on private water system
- Georgia D.O.T. utility permit is required. Submit detailed drawing of all water line work on r/w on 8½"x11" sheet. Show existing and proposed rights-of-way, distances both in both directions to nearest intersections, road names, pavement widths existing and proposed, location of existing water, distance off edge of pavement
- Fire hydrant spacing per manual and high points, first one= 500' within entrance; residential= 1,000'; multi-family= 500'; CBD= 300'; M-1= 400'; M-2= 300'
- Label fire flow information on existing road and label flow information at 20 residual PSI for all proposed fire hydrants. Submit fire flow report based on field flow test under engineer's seal and signature. Internal water lines must be sized to meet the required fire flow or irrigation flows of 20 gpm per lot (whichever is greater) any extensions or upgrades to water lines required by this development shall be done at owner's expense
- For all jack and bore situations, specify 2 neoprene casing straps and D.I.P. carrier pipe with "gripper gaskets". Steel casing size and length must also be specified
- Show water meters for each lot
- Show irrigation meter location for any entrances or greenspaces.
- If irrigation meters are desired, show locations. Service addresses must be assigned for these locations by the Forsyth County Planning Department
- Water must be designed to be on north and west side of streets
- Water mains installed along existing county roads shall be installed 4' below road grade. The water main must also be bored under all paved driveways, or in the case of existing gravel drives, the gravel must be replaced at a depth of 6" with a comparable grade of gravel.
- Notes
 - Water service is provided by the Forsyth County Department of Water and Sewer
 - The developer/contractor is responsible for maintenance of all infrastructure for a period of 18 months after the recording date of the final plat
 - All work and materials are to conform to current Forsyth County standards
 - The contractor shall call the Utilities Protection Center "Call Before You Dig", telephone number 1-800-282-7411, **before** initiating excavation activities
 - Notify Forsyth County Water and Sewer Dept. 24 hour prior to any water line construction at (770) 886-2790.
 - All water lines shall be Ductile Iron Pipe Class 50 or 350
 - Water lines shall be installed 5' back of curb
 - Water lines shall have at least 4 feet of cover or be 4 feet below road grade whichever is greater
 - Short side services shall be ¾" copper
 - Long side services shall be 1" copper in 2" PVC conduits with ¾" wyes at lot corners
 - Water meters are to be located immediately back of curb
 - Fire hydrants are to be 3-way 5-1/4" type, AVK Series 27
 - Fire hydrants must be flow tested prior to final plat to ensure adequate fire flows
 - Concrete valve markers are to be installed at all valves except at fire hydrants
 - Concrete blocking shall be placed at all bends, tees, and fittings
 - 300 PSI curb stops, corps, and wyes, required per Forsyth County standards
 - All valves shall be gate valves
 - Gate valves over 5' deep shall have stem extensions.
 - No deviations from approved drawings are allowed without approval from Forsyth County Department of Water and Sewer
 - Lines are to be pressure tested and disinfected per County specifications
- Show Forsyth County Water and Sewer details.
- Due to the number of comments, please resubmit for review prior to setting up a meeting to address comments. Also please provide an annotated response letter that shows where/how each comment was addressed.