

# CITY OF LOGANVILLE SANITARY SEWER STANDARDS

## INTRODUCTION

The "Sanitary Sewer Standards" state current policy and procedure of the City of Loganville Water Quality Control . Included herein are design regulations, submittal policy, construction requirements, inspection and acceptance procedures, and other pertinent information. These Standards are issued and revised pursuant to the authority established by City code. Failure to comply with these Standards constitutes an infraction of the Code of Ordinances of City of Loganville and may result in penalties or prosecution.

**Specifications for pump stations may be obtained separately and are not included herein.**

Changes may be made to the Sanitary Sewer Standards at any time.

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## ARTICLE I DESIGN SUBMITTAL

### 1.1 GENERAL PROCEDURES

1.1.1 Plans will generally be submitted through the plan review process (Department of Planning and Development) to be routed to City of Loganville Water quality Control.

1.1.2 Each plat(s) or subdivision map(s) delivered to the City of Loganville, required by ordinance or policy will be delivered digitally. Final as-built plan(s) will meet these requirements as well.

#### 1. Digital Files:

- a. A completed digital drawing in one of the following formats:  
Preferred file formats:  
DXF: Drawing Exchange Format, popular with most CAD software  
DWG: Native AutoCAD file format  
SHAPE: Popular geographic file format
- b. An Adobe compatible PDF file of the drawing that will plot to scale must be submitted. A geoPDF is acceptable format as well.
- c. This data must be provided on standard transfer media or by electronic transfer (CD-ROM, USB drive, E-mail attachment or other suitable internet transfer "dropbox".) The submitted transfer media shall be labeled with the project name (subdivision name or accepted job name, etc.) filing date, registered land surveyor or professional engineer's name and any other established project identifier.

#### 2. Data Standards:

- a. All drawings will be constructed in the Georgia State Plane West Coordinate System in feet using the NAD83 Datum and vertical datum using NAVD88 Datum.
- b. All data shall be completed using standard graphics that require no "third party" software.
- c. Digital linework must be topologically clean. Lines must be geometrically continuous and boundaries must be geometrically closed with no "undershoots" or "dangles" where boundaries intersect. The digital linework must not include "sliver polygons" (gaps or overlaps between properties.) Essentially, the digital version of the map must be of a high precision so it can be easily converted to a GIS format.

1.1.3 All "off-site" sewer lines must be shown including plan and profile. Sewer lines internal to a development project may show profiles on a separate page from the plan view, provided the profiles are clearly drawn and labeled. On commercial projects the profile must include the 6" service line to the test manhole, where required.

1.1.4 Plans shall be stamped by a Georgia Registered Professional Engineer.

1.1.5 All design reviews and acceptance of sanitary sewerage systems will be administered by CITY OF LOGANVILLE.

1.1.6 Dry sewers are required for all new developments for which sewer service is not available at the time of application, but which is projected, by City of Loganville, to be serviced by sewer within *one (1)* year from date of application. *No connections to dry sewers will be permitted until sewers are connected to City system* For projects not requiring dry sewer installation, a sewer design with plan view and topolines but not profiles must be submitted and the final plat must show necessary easements. All projects shall be

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required to connect to sewer where sewer is available. "Available" shall be interpreted to mean within 2000 feet. This distance can be increased or decreased by the CITY OF LOGANVILLE WATER QUALITY CONTROL Director based upon actual field conditions, and the size of the project involved. Individual properties, when not part of a larger project, shall be required to connect to sewer when sewer is within 200 feet of the property.

- 1.1.7 All construction on State right-of-way or any roadways under the jurisdiction of Georgia Department of Transportation (DOT) requires a DOT permit or equivalent DOT approval. CITY OF LOGANVILLE WATER QUALITY CONTROL will process the necessary application during the plan review process. *All documents necessary for said application must be provided by the developer's engineer.*
  
- 1.1.8 The Director of CITY OF LOGANVILLE WATER QUALITY CONTROL is authorized to approve a variance for any significant deviation from the technical or procedural specifications of these Standards, either before or after installation. The issuance of a variance is a formal written procedure more fully described in section 4.14. Minor exceptions from these Standards may be approved by CITY OF LOGANVILLE WATER QUALITY CONTROL on a case by case basis. Before accepting any exception or approving any variance, CITY OF LOGANVILLE WATER QUALITY CONTROL must make a finding that such deviation involves no substantial decrease in safety, efficiency or reliability and does not negatively impact the CITY OF LOGANVILLE WATER QUALITY CONTROL or the public welfare.

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1.1.9 The Sanitary Sewer Installation Standards shall be published and made available to the public at a cost of twenty dollars (\$20.00) each for the "Installation Standards". The details and particular requirements of these Standards may be changed by CITY OF LOGANVILLE WATER QUALITY CONTROL at any time. |

1.1.10 *Prior to Final approval of the design drawings, the owner must enter a signed and notarized "Owner/Developer Agreement, "blank copies of which are provided by CITY OF LOGANVILLE WATER QUALITY CONTROL as part of the development review package.*

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## ARTICLE 2 DESIGN CRITERIA

### 2.1 EASEMENTS

- 2.1.1 A. "On-site" easements are those easements falling within the boundaries of the current phase of the project. For subdivisions, these are shown on the plat and are dedicated through the process of recording the final plat. If not dedicated by final plat, they must be dedicated by an easement document on Standard City easement form.
- b. "Off-site" easements are those easements falling outside the boundaries of the current phase of the project. Off-site easements which will be included in later phases of the same project and which cross property owned by and titled to the exact same entity as the one developing a subdivision may be dedicated by the final plat of the current phase of the project. All others must be dedicated by a separate easement document from each property owner on standard City easement form.
- c. Optional "Rights-of-entry "for off-site easements must be submitted to CITY OF LOGANVILLE WATER QUALITY CONTROL prior to issuance of off-site construction permits by City of Loganville. All easements, either off-site for all projects or on-site commercial projects, must be submitted and approved prior to final inspection.
- d. All easements must be in the approved format. Blank easement forms will be provided by CITY OF LOGANVILLE.
- e. Conditional easements or easements with special stipulations shall not be granted to or assigned to the City .
- f. Separate easement documents with plats and/or legal descriptions are required when obtaining easements from more than one land owner.
- g. Construction of off-site lines shall not begin until all off-site easements are acquired and submitted to CITY OF LOGANVILLE WATER QUALITY CONTROL. Construction of on-site lines, prior to acquiring off-site easements, is at the developer's own risk.
- h. Off-site easements are to be negotiated by the developer with the property owner. As a last resort, if the developer is unable to acquire necessary easements through negotiation, CITY OF LOGANVILLE WATER QUALITY CONTROL may request the Board of Commissioners' approval to assist acquisition through condemnation at the developer's expense. Final decision whether or not to condemn rests with the Board.
- The City can only condemn property for easements if the line to be installed is a gravity line eight inches in diameter or larger or a force main from a city pump station and is to be dedicated to the City.**
- 2.1.2 Sewer lines must be centered within the required permanent easement. Exceptions can be Approved by City of Loganville Water Quality Control, but will only be approved in special circumstances and when City of Loganville Water Quality Control determines that future repairs and maintenance can be accomplished without unreasonable difficulty.

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- 2.1.3 A minimum 20-foot wide permanent easement is required. Lines deeper than 16 feet require wider permanent easements as follows: 17' through 22' depths require 30 foot width; 23' through 28' depths require 35 foot width; 29' through 33' depths require 40 foot width.
- 2.1.4 For any easement that is acquired for less than \$10,000, a release from lien holders is not required. Entities having ownership must sign the easement as stated below:
- a. FOR CORPORATIONS, Georgia law requires that documents transferring interest in real property must be signed by the president or vice president of the corporation and be attested by the secretary or treasurer of the corporation or have the corporate seal affixed.  
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  - b. FOR LIMITED LIABILITY COMPANIES, Georgia law requires that documents must be signed by a member.
  - c. FOR LIMITED PARTNERSHIP, Georgia law requires that documents must be signed by the general partner. If the general partner is a corporation, set up the "by" signature blocks in accordance with laws for corporations.
  - d. FOR GENERAL PARTNERSHIP, Georgia law requires that documents must be signed by every partner.
  - e. FOR TRUSTS, Georgia law requires that documents must be signed by every trustee for the trust.
  - f. FOR INDIVIDUALS, Georgia law requires that documents must be signed by every individual holding title exactly as each took title.
  - g. Every signature on a document must be witnessed by an unofficial witness and notarized. Notary's seal must be affixed.
- 2.1.5 A plat (8-1/2" x 14" maximum) which shows the boundary of the easement area or a written legal description that can be followed on a submitted site plan must be attached to each easement document and labeled as ATTACHMENT "A".
- 2.1.6 Development projects on sewer are required to either provide an installed sewer main to the upgrade property line(s) for future use *or the final plat must show a 40' permanent sanitary sewer easement. All developments, including non-sewered projects, must include on the final plat a 20' permanent sanitary sewer easement and 40' construction easement for future use paralleling any stream or drainage way. The discretion of where sewer for uphill properties is required shall lie solely with **City of Loganville Water Quality Control**. Easements for future use shall comply with stream buffer and wetland requirements.*

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### 2.2 PARTICIPATION BY CITY

- 2.2.1 Development projects situated other than at the highest part of drainage basin may be Required to install a larger size sewer main to serve the entire basin. The extra cost associated with increasing the gravity main size beyond that required to serve the project shall be paid by the City under a "City Participation Agreement". The conditions relating to method of payment will be negotiated by the City of Loganville on a case-by-case basis during the development review process.
- 2.2.2 A development project situated in a sub-basin that drains to a Sewage Lift Station designed to serve the project may be required to install a larger pump station and/or force main to serve the entire sub-basin. The extra cost associated with increasing the gravity main size beyond that required to serve the project may be paid by the City under a "City Participation Agreement." The conditions relating the method of payment will be negotiated by the City of Loganville, in a case-by-case basis during the development review process.
- 2.2.3 Any proposed development that will discharge sewage to an existing pump station must Indicate which pump station is involved. If said pump station was installed by a developer, a revised pump station design analysis must be provided. Any modifications for upgrade's to the existing station must be performed as a part of the new project at the developer's expense.**

### 2.3 SANITARY SEWER LINES

#### 2.3.1 Location

- a. Shall be located in center line of street; where applicable (see Detail).
- b. Maximum distance between manholes for sewer lines less than 24 inches: 400 feet.
- c. Maximum distance between manholes on lines 24 inch to 36 inch: 400 feet.
- d. Maximum distance between manholes on lines over 36 inches: 800 feet.
- e. Under the Official Code of Georgia Annotated (Volume 10, Title 12, Georgia EROSION and Sedimentation Act, 12-7-6-16) any sewer line parallel to a creek or lake must be designed to leave a minimum 25-foot undisturbed buffer along the edge of the bank as measured from the top of the bank.

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### 2.3.2 Minimum Cover from Finished Grade

- A. Within paved area: 7 feet (cover less than 7 feet within paved area requires ductile iron pipe (DIP) and will only be approved when site conditions dictate).
- b. In non-paved area: 4 feet (cover less than 4 feet in non-paved areas requires ductile iron pipe (DIP) and will only be approved when site conditions dictate).
- C. **Sewer lines must avoid passing through a detention pond whenever possible. Any sewer line that passes under a detention pond must be ductile iron pipe and must have a minimum of 4 feet of cover. Any sewer line that passes under a detention pond and unavoidably has less than 4 feet of cover must be ductile iron pipe and have a concrete cap 6 feet wide and 6 inches thick poured above the pipe. Pipe shall not be located within the dam or outlet structure. All manholes must be located outside of the Detention pond.**
- d. Any sewer line parallel to a creek or stream shall be designed such that the top of the proposed pipe is 1 foot below the bottom of the creek bed. The elevation of the creek bed must be indicated on the plans. **Any sewer line adjacent to a creek or lake must indicate same on plans. Creek crossings shall be made only when absolutely necessary and should be nearly perpendicular. Creek crossings shall be stabilized with rip-rap and/or other stabilizing material upon completion as directed by City of Loganville Water quality Control. Sewer lines shall be designed to cause minimum impact to waters of the United States.**
- e. **All sewer designs must comply with U.S. Army Corp of Engineers regulations. Pertaining to construction in wetlands and nationwide permits. When applicable, plans must show jurisdictional wetland boundaries.**
- F. . . Sewer line location must maintain 10-foot separation from parallel Water mains, and 18-inch Vertical separation from any perpendicular crossing of Water mains.

### 2.3.3 Maximum Cover: As Per Standard Details

- a. For diameters greater than 16 inches, the maximum cover shall be as required by the City of Loganville.
- b. Depths of cover should not exceed 18 feet. CITY OF LOGANVILLE WATER QUALITY CONTROL may grant exceptions on a case-by-case basis if there are no reasonable alternatives.

### 2.3.4 Minimum Size Sewer Main: 8 inches.

### 2.3.5 Minimum Size Sewer Stub: 6 inches.

### 2.3.6 Slope Requirements

- a. Recommended minimum slopes can be submitted without design calculations.

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- b. Minimum: Recommended minimum slopes will be required if possible. Absolute Minimum slopes will be allowed only with design calculations showing a velocity of 2.0 feet per second.

### SLOPE REQUIREMENTS

<b>Pipe Diameter</b>	<b>Absolute Minimum</b>	<b>Recommended Minimum</b>
8-inch	0.4%	0.70%
10-inch	0.29%	0.50%
12-inch	0.22%	0.40%
15-inch	0.15%	0.30%
16-inch	0.15%	0.30%
18-inch	0.12%	0.24%
21-inch	0.10%	0.20%
24-inch	0.08%	0.16%
27-inch	0.07%	0.14%
30-inch	0.06%	0.12%
36-inch	0.05%	0.10%

- c. Maximum: 15.0%
- d. When approved by City of Loganville, DIP may be used with slopes of 15 % to 25 % with the addition of concrete anchors (deadman). Minimum size of concrete deadman shall be;
 

Height	3x pipe diameter
Length (along pipe)	3x pipe diameter
Width (perpendicular to pipe)	2x trench widths.
- e. Whenever possible, designs for jack and bore installations should include a drop in the upstream manhole of not less than 6 inches and should allow a slope through the bore three times as steep as the recommended minimum slope for that size pipe.

2.3.7 All lines (8 inches and above) shall terminate in a manhole.

### 2.3.8 Bedding and Trench Width

- a. Required bedding is dependent upon pipe type, trench width and depth of cover, and shall be as specified in the standard details.
- b. Bedding for pipe greater than 16 inches diameter shall be as specified by City of Loganville.
- c. For 8 inch diameter pipe, the pipe material and bedding class need not be shown on the plans unless DIP is required. For pipes larger than 8 inches in diameter, the pipe material, bedding class and the maximum trench width must be shown on the plans.

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- d. Trench **width** is defined as the actual width of the trench one foot above the top of the pipe.

2.3.9 Acceptable Pipe Materials for gravity sewers lines (all standards referred to shall be considered to mean the latest edition).

a. **Vitrified Clay Pipe (VC.P) – Not allowed**

- b. Poly Vinyl Chloride (PVC) - Up to 24 inches in diameter

(1) PVC pipe and fittings shall be made in conformance with ASTM D3034 SDR 35 for 4 inches through 24 inches.

- (2) Standard pipe lengths not greater than 20 feet shall be used on all work.  
(3) "WYE" or TEE" fittings shall be utilized. Saddles are prohibited.

Ductile Iron Pipe (DIP) - Up to 64 inches in diameter

- (1) DIP shall conform to the requirements of ANSI Standard Specification A21.51. Unless otherwise indicated, pipe shall be minimum pressure class 350 or thickness class 50 for 18 inch diameter pipes and smaller; higher class thickness pipe shall be utilized as per the depth of cover chart included herein.
- (2) Pipe exterior shall be coated with an approved bituminous seal coat in accordance with ANSI A21.4.
- (3) On any design utilizing DIP greater than 10-inch diameter and having slopes less than the "RECOMMENDED minimum", the design engineer must submit flow calculations. If, in the City 's opinion, the line is subject to hydrogen sulfide gas generation, such pipe shall be required to be lined with polyethylene polybond in accordance with ANSI A21.5.
- (4) For deep depths DIP shall be utilized according to the "maximum trench depth" charts included in the standard details. On installations of 8" diameter, DIP shall be required when depths of cover exceed 16 feet. On installations over 8" diameter, DIP shall be used according to the approved plans (including trench width) except that the inspector, based on actual trench widths observed in the field shall require DIP according to the "maximum trench depth" charts.
- (5) DIP shall be utilized for all installations that do not comply with minimum cover requirements. See section on minimum cover.
- (6) Pipe class for DIP greater than 18" diameter shall be determined by City of Loganville Water Quality Control.

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**d. PVC TRUSS – up to 12 inch**

- (1) Pipe and fittings shall be made in conformance with ASTM D2680.
- (2) Standard pipe lengths of 12'6" shall be used exclusively on all work.
- (3) 4" to 6" shall conform to ASTM D3034 SDR 35 sewer pipe.
- (4) WYE or TEE fittings shall be utilized. Saddles are prohibited.

**E. CONCRETE - Not allowed.**

**F. STEEL - (Casing and aerial)**

- (1) Steel Pipe shall be utilized for aerial spans and where otherwise specified.
- (2) Pipe shall conform to AWWA C 200.
- (3) The interior and exterior of the carrier pipe shall be coated with coal-tar enamel and the exterior shall be factory wrapped with bonded felt. Casing pipe may be uncoated and unlined.
- (4) Field welded joints of carrier pipe shall be field coated and wrapped.
- (5) Steel pipe shall be used for bored and jacked casing.
- (6) Minimum wall thickness for casing and carrier pipes shall be as follows;

<u>DIAMETER</u>	<u>THICKNESS (inches)</u>
6-inch	.375
8-inch	.375
10-inch	.375
12-inch	.375
15 or 16-inch	.375
18-inch	.375
20-inch	.375
24-inch and above	.500

- (7) Wall thickness for aerial spans exceeding 20 feet shall be as specified by City of Loganville

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- (8) There is no minimum required diameter for casing pipe.
- (9) RIBBED PLASTIC PIPE – NOT ALLOWED

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### 2.3.10 Acceptable Joint Material

#### a. Poly Vinyl Chloride (PVC)

- (1) PVC pipe shall be jointed with a rubber gasket and shall conform to ASTM F477. PVC pipe shall not be jointed by a solvent cement joint with which the pipe surfaces are fused together.

#### b. Ductile Iron Pipe (DIP)

- (1) DIP shall be of the bell and spigot type with push-on joints conforming to ANSI Specification A21.11, or mechanical joints.

#### C. P. V.C. Truss Pipe

- (1) Truss pipe shall be jointed with a rubber gasket in conformance with ASTM F477. P. V.C. Truss shall not be jointed by a solvent cement joint with which the pipe surfaces are fused together. Fittings may be solvent welded in the field so long as the work is performed prior to installation in the ditch.

d. All openings shall be closed with an approved type plug held securely in place. Dead ends of service lines shall be similarly plugged.

#### e. Joints between Sewer Pipes of Different Material.

- (1) Transition joints between pipes of different material in pipe sizes 12-inch Diameter or less shall be made with a water main type compression coupling, or Femco type coupling containing a stainless steel shear band, or by utilizing a short section cut from a PVC bell (see Detail).
- (2) Whenever connections are made between the bell end of a mechanical joint pipe or fittings and pipe of other materials, use of an approved type of transition gasket in the mechanical joint/sleeve is allowed.
- (3) Transition joints will not be allowed within 36 feet of a manhole when the end result would be 36 feet or less of plastic pipe adjacent to a manhole. (See section on Ductile Iron Pipe).
- (4) Transition joints from Ductile Iron Pipe to Truss Pipe may be made utilizing a coupling specifically designed for that purpose.

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### **2.3.11 Pipe Marking**

- a. Sanitary sewer pipe and fittings shall be marked in accordance with ASTM/ANSI designations.
- b. As a minimum, marking for pipe shall include manufacturer's name or trademark, nominal pipe size, specification designation and date of manufacture.
- c. Pipe markings shall appear at intervals of 5 feet or less on pipe barrel.

### **2.4 SEWER SERVICE STUBS - RESIDENTIAL & COMMERCIAL**

**2.4.1** During design, the developer shall be responsible for insuring all lots can be served. On any lot where the service stub cannot be found, the developer shall install or be responsible for the cost of the installation of a service stub. The developer may either install a complete wye or tee in the main or pay the City to install a tap. The developer shall not tap the main. The service stub shall be low enough to serve the ground level floor elevation and, where grades permit, low enough to serve the basement. The sewer stub becomes CITY OF LOGANVILLE WATER QUALITY CONTROL property and is maintained by CITY OF LOGANVILLE. The service stub must be installed as follows:

- A. Residential - 5 feet outside of right of way.
- b. Commercial - as determined by CITY OF LOGANVILLE.

**2.4.2** Minimum Size: 6-inches. A stub is defined to be that section of pipe going from the main to the edge of the right of way or easement.

**2.4.3** A separate and independent building sewer shall be provided for every building except where one building stands at the rear of another and sewer is not available or cannot be constructed to the rear building through an adjoining alley, courtyard or driveway, the building sewer from the front building may be extended to the rear building and the whole considered as one (1) building sewer.

**2.4.4** Service stubs can enter the system either at a manhole or at a "wye" or "tee". All stubs Entering a manhole must be cored and sealed with a rubber boot. A maximum of four stubs are allowed into a manhole without special approval of City of Loganville Water Quality Control.

**2.4.5** Maximum length of stubs in road right-of-ways shall not exceed 75 feet. Maximum length of stubs in easements shall not exceed 125 feet. Sewer systems should be designed with stubs not over 35 feet long. Longer stubs will not be allowed solely to avoid the cost of extending the main.

**2.4.6** Stub end locations shall be clearly marked by a minimum 6-foot length 4x4 post, painted safety day-glow green in conformance with OSHA Specifications 1910.144, (Ben Meadows Company #271127 or equivalent, see Detail).

### **2.4.7 Cover at Finished Grade**

- a. At curb: Minimum 5-1/2 feet.
- b. At end of stub: Minimum 4 feet.

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c. Cover less than 5-1/2 feet at the curb or under any pavement requires DIP and will only be approved when site topography dictates.

d. Maximum Cover. Stub shall not be deeper than is obviously necessary.

**2.4.8** One sewer service stub per building no connecting of two units or more to the same stub.

**2.4.9** Sewer service stubs shall have straight alignment. Whenever practical, sewer service stubs shall be installed perpendicular to the main. Whenever possible the main shall extend near enough to the last property served such that the service stub is no more than 30 degrees from perpendicular to either the main or the edge of the right of way.

**2.4.10** bedding for service stubs shall be the same as the main line.

**2.4.11** Sewer service lines shall be located at the property lines to avoid conflict with driveway construction. Water meters shall be placed on property lines opposite from sewer connections. All driveways must be a minimum of 3 ft. from property line. No taps or service lines will allowed to be under concrete or asphalt of driveways. Each sewer service line shall end at 11ft from backside of the curb-line, and shall terminate in an approved clean out, Must show all location of stubs on plans.

2.5 SEWER LATERAL LINES (pipe system from building to sewer service stub)

**2.5.1 The sewer lateral line located on private property shall remain in private ownership. Its maintenance shall be the responsibility of the owner.**

a. There is no maximum length limitation for privately maintained lateral lines.

**2.5.2 Residential**

a. Minimum Size: 4 inches, (per plumbing code table 714-1).

b. Minimum Slope (grade): 1/8 inch per foot, (per plumbing code table 714-1).

c. Cleanout locations:

(1) Minimum 4" cleanout outside building and within 10 feet of building, (per plumbing code sections 711-3, 710-2-2, 710-2-3).

(2) Minimum 4" cleanout will be placed at the tie in of the lateral to the City sewer system (usually 11 ft. behind street curb.)

d. Backflow Preventer: Required on every building regardless of the finished floor elevation. Backflow must be placed a minimum of 3ft from foundation and before clean out.

e. A maximum of one lateral system per building (per plumbing code section 701-2).

f. A 4" to 6" adapter gasket and Femco type coupling shall be used at connection to service stub (per plumbing code) (see Detail).

g. Damaged ends of 6" stub must be sawed square prior to connection of house service.

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### **2.5.3 Commercial**

- a. Minimum Size: 6 inches (a maximum of 10 feet of 4" is allowed out of building).

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- b. Minimum Slope (grade): 1/8 inch per foot (per plumbing code table 714-1).
- c. Test Manhole: must be located on lateral system *in non-paved area where possible* and must be on property (see section on test manholes).
- d. A maximum of one lateral system per building or unit (per plumbing code table 701-2). Required on every building regardless of the finished floor elevation. Backflow must be placed a minimum of 3ft from foundation and before clean out.

### 2.6 MANHOLES, BARREL, DOMES, FRAMES AND COVERS (see Detail)

#### 2.6.1 Location

- a. Shall have a minimum of 4 feet of clearance from drainage culverts and other underground utilities.
- b. Shall be along center line of sanitary sewer easements.

#### 2.6.2 Minimum inside diameter: 4 feet.

#### 2.6.3 Shall be precast reinforced concrete construction made in conformance with ANSI/ASTM C478 (5-inch wall thickness).

#### 2.6.4 New pipe entry shall be at no less than a 90 degree angle from direction of flow of existing manhole, unless the minimum inside drop is equal to the diameter of the lower pipe.

#### 2.6.5 All pipes entering a manhole must be sealed by a rubber boot such as A-Look, Z-Lok or Kor-n-Seal.

#### 2.6.6 Manholes may be installed with a stub for future use. Stub must be 3-feet long, DIP, with mechanical joint plug.

#### 2.6.7 Barrel joints shall be tongue and groove with Kent-seal type gaskets. Joints shall be grouted smooth with cement grout on inside.

#### 2.6.8 Drop Manholes (see Detail)

- a. An outside drop pipe shall be provided for any size sewer line (*including 6"*) entering a manhole at an elevation of more than 4.0 feet above manhole inverts.
- b. Outside drop manholes shall be indicated on the construction plans, profile section.
- c. The outside drop pipe shall be constructed of ductile iron materials.
- d. For all outside drops at least one joint (18 feet minimum) of DIP shall be used on the incoming line to reach a solid, undisturbed foundation.
- e. All outside 90 degree elbows shall have thrust block poured below the elbow.

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f. All inside drops greater than one foot require one joint (18 feet minimum) of DIP adjacent to the manhole, *including 6" stub*.

### 2.6.9 Doghouse Manholes (see Detail)

- a. New manholes on existing 8 and 10 inch lines shall be installed using a full base section, cored openings and transition couplings (see Detail).
- b. Invert of the new line must be higher than spring line of existing pipe if possible.
- c. Doghouse manholes are to be utilized on 12 inch or larger lines and may be authorized by City inspector on 8 and 10 inch lines for existing high flow conditions.
- d. For doghouse manholes, the existing pipe shall not be cut without authorization of the inspector.
- e. City inspector must be present when existing pipe is cut for doghouse or inserted manholes.

### 2.6.10 Manhole Coring

- a. The contractor shall be responsible for performing manhole coring.
- b. The coring must not be backfilled until approved by the City inspector.
- c. Failure, for any reason, to have the City inspector approve the coring will cause all work to be halted until the cored manhole is excavated and the rubber boot exposed.
- d. Cores for "future development" or "future tie-ons" are only allowed when installed with a rubber boot, 3 feet of DIP and a mechanical joint plug.

### 2.6.11 Inverts (Channels) and Tables

- a. Rowlock (brick) or precast inverts are required. Crushed stone filler may be utilized under the table. Earth filler will not be allowed (see Detail).
- b. Invert shall be constructed with the same radius as the outflow pipe.
- c. Invert walls shall be constructed to a height corresponding to the springline of the influent and effluent pipes with smooth rounded walls.
- d. Inverts shall be appropriately channeled for all stub connections to the manholes.
- e. The flow channel through manholes shall be made to conform in shape and slope to that of the sewers. Minimum drop across manhole invert shall be 0.2 feet to prevent solids deposition. Drops of 0.1 feet across inverts will only be permitted when site topography will not allow drops of 0.2 feet.

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- f. Tables are to be gently sloped and troweled smooth from manhole wall to invert wall height and constructed of aggregate-mix cement with smooth, veneer finish (see Detail).
- g. Inverts of test manholes may require special modifications (see section for test manholes).
- h. All inverts must be grouted 360 degrees around rubber boots.
- I. All new channels at tie-in manholes must meet existing invert channel in a manner that provides proper hydraulic flow.
- j. **Inverts formed with half pipe are not allowed.**

### 2.6.12 Precast Barrel

- a. All lift holes shall be fully sealed with grout and troweled smooth inside and out.

### 2.6.13 Steps

- a. Shall be equal to M.A. Ind. Inc. #PS-1 or #PS-I-PF.
- b. The uppermost step shall be built into the masonry not over 12 inches below the top of manhole dome/cone and these steps shall be continued in alignment downward along the interior vertical side of the manhole to a point no lower than the crown of the largest sewer.
- d. Spacing of steps shall not exceed 12 vertical inches.
- e. Steps shall not descend over any pipe connection into the manhole.

### 2.6.14 Frames and Covers

- a. The cast iron frame for the manhole cover shall be set at the required elevation and properly anchored to the masonry.
- b. Where manholes are constructed in paved areas, frames and covers are to be Vulcan VM-1357, US Foundry #USF-229, East Jordan Iron Works V1357 or approved equal. The top surface of the frame and cover shall conform to the crown and grade of the existing adjacent pavement. Adjustment to final grade in paved areas shall be provided by means of brick coursing not to exceed four (4) common brick (12 inches maximum) in height with Portland-type cement joints (see detail).

## CITY OF LOGANVILLE SANITARY SEWER STANDARDS

- c. Where manholes are constructed in non-pavement areas, frames and covers shall be U.S. Foundry & Mfg Corp. Model USF 275 Ring & RO Cover or East Jordan Iron Works "Revolution" ring and cover. The manholes should be installed with a ring and cover casting that allows the cover to rotate on a shaft recessed into the cast iron ring. Manholes in wooded or unmaintained areas shall be a minimum of 18 inches above ground level or if in flood plain area level will need to be approved based upon flood plain. The cast iron frame shall be factory cast into the concrete cone. Manholes in maintained grass areas may not be more than 12 inches above flush ground level and cannot be covered by any type landscape. *Manholes on sloped ground in unmaintained areas shall be a minimum of 18" inches above. Ground level on the uphill side of manhole.*
- d. For elevated manholes, particularly on sanitary sewer trunk lines and outfall lines, the manholes should be installed with a ring and cover casting that allows the cover to rotate on a shaft recessed into the cast iron ring. The cover shall be of water-tight and bolt down configuration equal to U.S. Foundry & Mfg Corp. Model USF 275 Ring & RO Cover or East Jordan Iron Works "Revolution" ring and cover. Both cover and frame shall be Class 35 B and meet the latest requirements of ASTM A48
- e. Top of cover shall be factory imprinted to read: "Sewer".

2.6.15 all manholes, wet wells and other structures shall have a minimum of 6 inches #57 stone bedding.

2.6.16 Eccentric manhole cones are required.

### 2.7 USE OF DUCTILE IRON PIPE

2.7.1 required where vertical distance between sewer line and underground utilities is less than 4 feet (for water pipe and drainage pipes see 2.7.2.)

2.7.2 For sewer mains (8" or greater), DIP is required at all crossings above water mains or Drainage pipes and for all crossings below water mains or drainage pipes unless sewer main is more than 4 feet below other pipe. DIP is not required when crossing water mains less than 2 inches in diameter.

2.7.3 Crossing of any open stream, bodies of water or retention ponds.

2.7.4 required when minimum or maximum cover limits have been exceeded (see section on minimum cover and details on maximum cover).

2.7.5 required inside of bored and jacked casing pipe.

2.7.6 DIP is required in the right-of-way of all state highways and is required in the right-of-way of commercial and industrial streets and certain City streets as specified by City of Loganville.

2.7.7 Whenever DIP is required and is within 36 linear feet of a manhole (such as for a storm drain crossing), it is required that DIP be extended to reach the manhole rather than utilizing a transition collar.

2.7.8 DIP may be used for aerial crossings with up to 40 foot spans by utilizing flanged end pipe specially fabricated for long spans, (see Details).

2.7.9 Required under the footing of any retaining wall. 2.7.10 at other locations as may be required by City of Loganville Water Quality Control.

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### STANDARDS 2.8 TEST MANHOLES

2.8.1 Shall be required for certain non-residential buildings and installed at locations to be approved by Loganville Water Quality Control.

- a. **Certain categories: (list is available upon request) of non-residential buildings may be exempted from the requirement of test manholes based upon the type of business of operation. Determination of such exemptions shall be made by variance request submitted through City of Loganville development review.**
- b. **Test manholes will be required at certain categories of business requiring grease traps, at all industrial and manufacturing locations, and at all locations where the flow from several businesses is combined prior to entering the city system, such as ".strip-type" retail centers.**

2.8.2 Test manholes shall generally be of the same design and construction as other manholes.

#### 2.8.3 Depths

- a. Minimum Depth: 4 feet, unless approved by City of Loganville Water Quality Control.
- b. Maximum Depth: 12 feet, unless approved by City of Loganville Water Quality Control.

#### 2.8.4 Location

- a. In non-traffic area approved by City of Loganville water Quality Control.  
**Location required being in non-paved area when possible**
- B. Within property limits of said building.

2.8.5 Test manhole covers shall be bolt-down style.

2.8.6 Inverts of test manholes for certain industrial users may require modification for flow measuring capability.

**2.8.7 Neither inside drops nor outside drops is permitted at test manholes.**

### 2.9 AERIAL LINES

2.9.1 Steel pipe or DIP shall be used for all installations (see Detail).

2.9.2 Piers shall be placed at every joint directly behind the bell or as directed by CITY OF LOGANVILLE WATER QUALITY CONTROL (see Detail). Whenever possible pipe joints shall not be exposed (see Details).

2.9.3 Provide aerial crossing detail drawings and pipe specifications on plans for review by CITY OF LOGANVILLE WATER QUALITY CONTROL (see Detail). Site conditions may dictate that designs be submitted utilizing more stringent requirements than indicated in the standard detail. Alternate designs, stamped by a



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Professional Engineer may be submitted. Aerial lines shall be designed to avoid Or minimize stream blockage during normal high water events. When requested, the Engineer shall delineate on the plans, the "two year" flood level as defined by the City of Loganville Department of Storm Water Division, for determination of the proposed elevations of the aerial span.

### 2.10 PUMP STATIONS/FORCE MAINS

2.10.1 **Lift Station and Force Main standards are available from the City separately. They are not a part of this document.**

### 2.14 • SPECIAL INTERCEPTORS (Grease Traps, Separators)

2.14.1 Grease interceptors shall be provided according to the current SBCCI plumbing code. On new installations including all restaurants, commercial kitchens, and; and whenever in the opinion of City of Loganville they are necessary must be installed on existing facilities if it is determined by inspection that problem exists, and/or as mandated in the City of Loganville "Sewer Use Ordinance.

2.14.2 All grease traps/interceptors shall be sized by City of Loganville as a gallon capacity requirement. All restaurants and commercial kitchens shall install one 1,500-gallon interceptor (see detail) if required capacity is less than or equal to 1,500-gallons. Any additional capacity shall be obtained or exceeded by installing additional 1,500-gallon interceptors in a series.

2.14.3 Mechanical grease separators (skimmers) may not be installed in lieu of trap/interceptor.

2.14.4 Oil and flammable liquid separators, and sand interceptors shall be provided according the current SBCCI plumbing code. Chapter 10, on new installations, including all car washes and automotive service centers, and; whenever in the opinion of City of Loganville they are necessary. They must be installed on existing facilities if it is determined by inspection that a problem exists, and/or as mandated in the City of Loganville "Sewer Use Ordinance.

2.14.5 Oil and flammable liquid separators, and sand interceptors shall be sized according to the current SBCCI plumbing code, Chapter 10.

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ARTICLE 3 CONSTRUCTION  
INSTALLATIONS

3.1 PRIOR TO CONSTRUCTION

- 3.1.1 At no time will any sewer construction commence prior to approval of all plans, submittal of required documents *including necessary easements*, issuance of permits and a pre-construction conference held with the City Inspector (24 hours advance notice required).
- 3.1.2 All sewer lines, manholes and other appurtenances to be governed by CITY OF LOGANVILLE WATER QUALITY CONTROL shall be installed according to approved plans and profiles. If a field change must occur, the redesigned area(s) must be submitted for approval prior to installation, in accordance with Georgia Environmental Protection Division's Rules and Regulations for Water Quality Control, Chapter 391-3-6-.02 (10). Contractor to have a set of approved plans on the project site at all times.
- 3.1.3 Contractor shall adhere to all Federal, State, City and local laws, ordinances and Regulations which in any manner affect the conduct of the work, including but not limited to initiating, maintaining and supervising all safety precautions and programs in connection with the work.
- 3.1.4 Sewer construction shall be done in open trenches and in a manner to protect lines, sewers or structures from unusual stresses.
- 3.1.5 The Contractor shall provide for the flow of all sewers, drains or creeks interrupted during the progress of the work and shall restore same to a pre-construction condition.
- 3.1.6 At the start of construction, the Contractor shall install a plug in the first pipe laid out of the entrance manhole and in the downgrade side of the first newly installed manhole. Said plugs shall remain in place until final inspection and approval is given by CITY OF LOGANVILLE WATER QUALITY CONTROL (see Detail) Contractor must exercise extreme caution to insure that plugs are not lost into the sewer system.
- 3.1.7 The contractor must comply with all requirements of the City of Loganville Soil and Erosion and Sediment Control Ordinance, the provisions of the 'Manual for Erosion and Sediment Control in Georgia, "and any special conditions required by the EPD associated with any variances issued by the same, and any special conditions required by the City inspector.

3.2 SANITARY SEWER LINES 3.2.1 Trench

Excavation

- a. In order to limit loads on the pipe, the maximum width of the trench shall not be more than 24 inches wider than the outside diameter of the pipe. This trench width restriction applies to that portion of the trench 4 inches below the bottom of the pipe to 12 inches above the top of the pipe. This trench width restriction shall not mandate the of backhoe buckets less than 36 inches wide.

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### 3.2.2 Bedding

- a. Bedding requirements specified herein shall apply to sanitary sewer lines only. They are to be considered minimum bedding requirements and as such, do not relieve the Engineer/Contractor of the responsibility to provide any additional bedding necessary for proper construction.
- b. Bedding shall be carefully placed along the full width of the trench so that the pipe is true to line and grade of the pipe barrel. As used herein "carefully placed" shall be construed to mean material that has been spaded or shovel-sliced so that the material fills and supports the haunch area and encases pipe to the limits specified herein.
- c. Bell holes shall be provided in all classes of bedding so as to relieve pipe bells of all loads, but small enough to insure that support is provided throughout the length of pipe barrel.
  - d. Crushed Stone Embedment Material shall conform to ASTM C 33, Gradation #57 (ASTM #57) varying in sizes 1/4" through 3/4". Bedding material shall be carried up the sides of the pipe to the heights shown for the various classes of bedding.
- e. Class B Bedding shall be installed by first undercutting the trench an adequate amount to provide bedding under the pipe bell, as indicated in the detail included herein. The trench shall then be brought to grade with compacted crushed stone, the pipe laid to line and grade and backfilled with compacted crushed stone placed the full width of the trench, as excavated, up to one-half the outside diameter of the pipe. The backfill shall then be completed with selected material, hand placed and tamped, to the limits denoted in the detail. A minimum Class B Bedding shall be used for PVC pipe.
- f. Class C Bedding shall be installed by first undercutting the trench an adequate amount to provide bedding under the pipe bell as indicated in the detail included herein. The trench shall then be brought to grade with compacted crushed stone, the pipe laid to line and grade and backfilled with compacted crushed stone placed the full width of the trench, as excavated, up to one-fourth the outside diameter of the pipe. The backfill shall then be completed with selected material, hand placed and tamped, to the limits denoted in the detail. A minimum Class C Bedding shall be used for DIP.
  - g. Flow Dams may be required under certain conditions. If, in the opinion of the Inspector there is a large volume of groundwater which might follow the crushed stone bedding downhill and due to the elevations involved, might build adequate pressure to create problems, flow dams will be required. Flow dams consist of red clay bedding typically about three feet long and spaced about 100 feet along pipeline.
- h. All excavations shall be adequately shored to insure worker safety. All pipe laying operations shall comply with OSHA requirements for trench safety.***

## CITY OF LOGANVILLE SANITARY SEWER STANDARDS

### 3.2.3 Pipe Handling and Distribution

- a. Pipe shall be carefully transported, stored and handled to prevent damage to the pipe or collar. Damaged pipe or collars or loose collars shall be cause for rejecting the pipe. Pipe shall be stored in such a manner as to keep the interior free of dirt and other foreign matter. P.V.C. pipe shall be stored in such a manner as to prevent bent or curved sections.

### 3.2.4 Pipe Laying

- a. Pipe shall be installed straight in alignment, true grade and exhibit a "full moon" configuration clearly visible between manholes.
- b. All pipes shall be thoroughly cleaned before being laid and shall be kept clean until final acceptance of the work.
- c. All trenches shall be kept free from water while pipe laying is in progress. Water shall not be allowed to rise to within 12 inches of the bottom of the pipe until jointing is completed.
- d. Pipe laying shall commence at the lowest manhole unless otherwise directed by The City Inspector and pipe shall be laid so that the spigot ends (if any) point in the direction of flow to prevent bedding material from entering the joint.
- e. Suitable means shall be used to force the spigot end of the pipe into the bell without damage to the pipe and its jointing materials and without disturbing the previously laid pipe and joints.
- f. Pipe Cutting: Whenever a pipe requires cutting to fit the line or bring it to the required location, the work shall be done in a satisfactory manner so as to leave a smooth end at right angles to the axis of the pipe. Jointing of field cut pipe shall be made in accordance with the manufacturer's instructions.
- g. The open end of uncompleted pipe lines shall be provided with a temporary stopper carefully fitted so as to keep dirt, animals, and other substances from entering. This stopper shall be maintained in position at all times when laying is not actually in progress.

### 3.2.5 Backfilling Trenches

- a. The initial backfill shall be placed continuously in layers not exceeding 6 inches in thickness and shall be carefully and thoroughly consolidated by tamping simultaneously on both sides of the pipe to a height of 12 inches above the top of the pipe.
- b. In all cases the bucket must be lowered so that the shock of the falling earth will not injure or misalign the pipe.

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- c. Only after the backfill has been placed to a level 12 inches above the top of the pipe, may the backfill material be pushed into the ditch. The remaining backfill must be carefully placed and compacted by tamping or rolling.

### 3.2.6 Trench Surface Finish

- a. Trenches cut in pavement on public roads or in areas that will become under pavement in proposed public roads (such as typical subdivision development) shall be compacted to 95 % Standard Proctor. Such compaction shall be verified by an independent soils laboratory. The number, depth and location of such compaction tests shall be as required by the City Inspector. Compaction tests will generally be required at approximately 400 foot intervals in existing roads and 800 foot intervals in proposed roads. Compaction tests shall be performed at the contractor's expense. Trenches in existing public roads shall require a 6-inch thick concrete base course poured over the compacted backfill. The concrete base course shall extend the full width of the trench cut plus a minimum of 9 inches on either side of the trench. The existing pavement shall be neatly sawed along both sides of the ditch. The concrete used shall be a minimum 3,000 psi high early strength concrete. Once the concrete base course has properly set, the concrete surface shall be cleaned and a minimum 2-inch thick bituminous concrete pavement (to match existing), shall be laid, matching the level of the adjacent pavement (see Detail).
- b. At any time that an existing City road is cut longitudinally for a distance greater than 100 feet, the concrete shall be poured flush and the street shall be resurfaced curb to curb with 1-1/2 inches of asphalt topping (to match existing).
- c. Trenches cut in driveways or private parking areas shall require a minimum 6-inch Thick, fully compacted crusher run base course. The existing pavement shall be neatly sawed along both sides of the ditch. Material of the same type and thickness shall be laid, matching the level of the adjacent drive surface. In restoring concrete drives, the base course shall be wetted prior to pouring new concrete. Concrete used shall be 3,000 psi high early strength.
- d. Trenches cut through curbs and sidewalks shall be restored in such a manner as to Conform in size, line, grade and materials with that adjoining. In restoring curbs and sidewalks, entire slabs or squares shall be removed and replaced. The subsoil and foundation material shall be well compacted. The sub-base shall be thoroughly rolled or tamped and shall be wet just before the concrete is placed, but shall show no pools of water.
- e. Should settlements, cracks or other indications of failure appear in adjoining? Pavements, drives, curbs or sidewalks, the adjoining surfaces shall be removed to the extent necessary to secure firm, undisturbed bearing and shall be re-laid in a satisfactory manner.
- f. Trenches cut in non-paved areas shall be thoroughly compacted to a level 4 inches Below ground surface. Natural topsoil at least 4 inches thick and of a good condition

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And tillable structure shall be placed atop the compacted trench backfill. Topsoil shall be free of large stones, plant stumps, large roots, objectionable litter or other substances potentially harmful to plant growth. Grass seed shall be of a properly proportioned mixture approved for use in Zone Two, as detailed in the Georgia Department of Transportation's Standard Specifications. Whenever possible, replace existing grassed areas with grass of similar characteristics and appearance meeting, as a minimum, the specification requirements included herein. All seeded areas shall be uniformly mulched immediately after seeding and within 10 days of construction work completion. The use of sediment control measures will be required to protect the area until a comprehensive vegetative cover is obtained.

- g. All easements shall be adequately regrassed to prevent soil erosion. 3.2.7 Jack

### and Bore/Steel Casing

- a. Working drawings shall show the size and location of jack and bore pits together with all sheeting and shoring to be used. In addition, such drawings shall include large scale plan and profile of the proposed installation and affected structures if requested by CITY OF LOGANVILLE WATER QUALITY CONTROL (see Detail).
- b. Where pipe is required to be installed under railroads, highways, streets or other facilities by jack and bore methods, all operations of the Contractor shall be subordinate to the free and unobstructed use of highway and structures, and shall not weaken the roadbed or structure.
- c. The Contractor shall proceed with the work in such a manner as will permit regular Transaction of business by the highway department and/or property owner without delay or danger to life or property and shall place necessary barricades, warning signs, signals, lights and, if necessary, watchmen for the protection of the public.
- d. Jacks for forcing the casing pipe through the roadbed shall have a jacking head Constructed in such a manner as to apply uniform pressure around the ring of the pipe. The pipe to be jacked shall be set on guides, braced together to properly support the section of the pipe and direct it to the proper line and grade. In general, roadbed material shall be excavated just ahead of the pipe. I
- e. Whenever possible, the pipe shall be jacked from the low or downstream end. At each end of the casing pipe, the void between the carrier pipe and casing shall be sealed with brick and mortar (see Detail).
- f. Excavated material will be placed near the top of the working pit and disposed of as required. Use of water or other fluids will be permitted only to the extent necessary for lubrication. Jetting will not be permitted.
- g. The diameter of the excavation shall conform to the outside diameter and circumference of the casing pipe as closely as feasible. Any voids which develop during the installation operation shall be pressure grouted.

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- h. After the steel casing pipe has been installed, the DIP carrier pipe shall be installed in the casing pipe. Care shall be exercised at all times to maintain tight, full-seated joints in the carrier pipe.
- I. When requested by City of Loganville Water Quality Control, either concrete shall be pumped between the earner pipe and steel casing, or sand shall be blown into the casing to fill all voids. Alternate methods must be submitted for approval.
  - j. Steel casing pipe shall have minimum yield strength of 5,000 psi and shall conform to the requirements of ASTM A139. The casing pipe diameter shall be sized as specified.
  - k. All sheeting placed for the jacking/augering must be completely removed by the Contractor.
    - 1. All jack and bore designs shall include a manhole at or near each end of the jacked section.
- m. When site conditions dictate, conventional tunneling techniques may be utilized as an alternate to jacking and boring.
- n. **When a new stub or main is to enter an existing manhole in an existing street such installation may be performed by open cut The City Inspector may, based on site conditions such as depth of cut or volume of traffic, require that the new pipe be installed by boring under all pavement and allowing either minimal or no road cut to make the connection at the manhole. If the road must be cut, a performance bond must be posted - with City of Loganville and the road cut must be inspected by City.**
- o. Wall thickness of steel casing pipe shall be the same as that required for steel carrier pipe.

### 3.3 SEWER SERVICE STUBS

#### 3.3.1 Stub Connection to Main

- a. Shall be installed at a minimum of 30 degrees above the horizontal axis of the sewer Line (see Detail).
- b. All proposed "taps" on existing mains shall be installed by City of Loganville. The Contractor shall uncover the existing main and notify City of Loganville Water Quality Control Sewer Division Office who will install a saddle and make the connection for a fee.

Such work will be charged to the Contractor and must be paid for in advance. In a new development, the Contractor may add a wye that was omitted by cutting out a section of the main and installing a full wye.
- c. Under no circumstances shall stub connections be made by knocking a hole in the main, Or manhole, inserting the lateral pipe and sealing with grout

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- d. Service stubs shall be appropriately plugged or sealed to keep dirt and debris out of the line and for low pressure air testing.

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### ARTICLE 4 PROJECT CONSTRUCTION APPROVAL

#### 4.1 CONTRACTOR'S RESPONSIBILITIES

4.1.1 It shall be the Contractor's responsibility to understand and comply with all CITY OF LOGANVILLE WATER QUALITY CONTROL specifications and requirements throughout the installation and inspection proceedings.

4.1.2 No Contractor shall be allowed to commence installation until an application for inclusion on the Approved Contractor's List has been received and approved by CITY OF LOGANVILLE WATER QUALITY CONTROL and the appropriate construction permit has been issued by City of Loganville.

4.1.3 During any phase of installation, the CITY OF LOGANVILLE WATER QUALITY CONTROL and/or Inspector has the authority to order the construction stopped, call for any type of inspection of installed work, call for a test dig or alter installation proceedings to insure proper construction requirements.

4.1.4 All projects shall be tested upon completion of installation and prior to paving.

4.1.5 Approval of a project will not be granted by CITY OF LOGANVILLE WATER QUALITY CONTROL until all inspections are conducted with no defects noted and all appropriate documents have been received and accepted by City of Loganville.

**4.1.6 Contractor must install continuous "Tree Save" fencing along both sides of easement when working in easement's acquired through condemnation. The contractor is solely responsible for any damage occurring outside of designated easement.**

#### 4.2 PRECONSTRUCTION CONFERENCE

4.2.1 Contractor must schedule an appointment with the City Inspector for a pre-construction conference, using approved plans (stamped by City of Loganville) only.

4.2.2 A set of approved plans, stamped by City of Loganville, must remain on job site at all times.

#### 4.3 VISUAL INSPECTIONS

4.3.1 Inspector will make periodic job site visitations without advance notice to the Contractor.

4.3.2 Inspector will visually inspect project for acceptable system installation, i.e. invert work, gravel, pipe type, etc.

#### 4.4 SEDIMENT CONTROL

4.4.1 All erosion control structures and/or appurtenances as shown on the approved plans or as required to comply with other ordinances shall be in place and operational, inspected and approved by the City inspector, prior to the beginning of construction and shall be maintained in operational condition until the phase or project has been completed.

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4.4.2 Temporary and permanent ground covers are required. Upon project completion, erosion Control devices and temporary siltation control devices shall be maintained in place while the individual lots are being developed, or until all disturbed areas are fully stabilized.

4.4.3 Erosion controls and siltation control devices shall be installed and maintained on each building lot, sanitary sewer easement, outfall line and pump station during building construction and site development, as required by the City of Loganville Soil Erosion and Sediment Control Ordinance and consistent with the provisions of the "Manual for Erosion and Sediment Control in Georgia".

**4.4.4 Where temporary construction roads cross a creek they shall be installed and removed so as to minimize impact to the stream wafer quality, in accordance with U.S. Army Corp of Engineer Regulations. Use of storm drain pipes, rip-rap and geo-textile fabric is typically required.**

**4.4.5 Where construction dewatering pumps discharge, the water must be filtered to minimize stream siltation. As a minimum, geo-textile, filters or stilling basins are require/l.**

**4.4.6 All contractors must utilize "Best Management Practices "to minimize siltation and erosion consistent with the provisions of the "Manual for Erosion & Sediment Control in Georgia".**

**4.4.7 Two rows of type C silt fence must he installed find maintained when working adjacent to an uphill from any stream buffer.**

### 4.5 WETLANDS

**4.5.1 The design and construction must comply with all U.S. Army Corp of Engineers regulations pertaining to construction in wetlands and nationwide permits**

### 4.6 RECORD DRAWING SUBMITTAL

4.6.1 Record drawing (as-built) must be submitted before a project can receive final approval and before connection of service laterals.

4.6.2 Copies must be sharp, clear, clean, legible and suitable for filing.

4.6.3 Drawings **must** include a site plan, plan and profile sheet and any supplemental and shop Drawings as required by **City of Loganville. Each as-built must show all permanent easements.** Each as-built must include a listing of the quantity, size and type of pipe, number of manholes, and **must he stamped by a professional engineer.**

**4.6.4 Two (2) sets must be submitted by the Engineer/Developer unless off-site sewer mains are involved, in which case three 3 sets must he submitted.**

### 4.7 CLEANING OF COLLECTION SYSTEMS

4.7.1 Any and all cleaning of a newly installed system must be done by the Contractor, prior to approval.

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- 4.7.2 Sections of line to be tested shall be thoroughly cleaned using a hydro-jet or similar sewer cleaning device, in a manner as not to impair or damage an existing tie-in system.
- 4.7.3 It is the Contractor's responsibility to maintain a clean system throughout all phases of testing.
- 4.7.4 **All plugs at tie-ins to existing mains must remain in place at all times, including during cleaning. Any accumulated water must be pumped out of the mains, and not be permitted to flow into the existing system.**

### 4.8 LOW-PRESSURE AIR TESTING

- 4.8.1 All sewers shall be tested for leakage using low pressure air testing, as specified herein.
- 4.8.2 The line segment between two manholes shall be temporarily plugged using plugs having air tight fittings through which low pressure air can be introduced.
- 4.8.3 All wyes, and/or stubs shall be plugged in a manner acceptable to the Inspector. The plugs shall be securely fastened to withstand internal test pressures. Plugs shall be readily removable to provide a suitable lateral house connection or extension.
- 4.8.4 The procedure for determining the amount of leakage by low pressure testing shall be stipulated by the Inspector.
- 4.8.5 Low pressure air will be introduced into the test pipe segment until the internal air pressure reaches 4.5 psig above ground water pressure, if any.
- 4.8.6 Where high ground water is known to exist, the height in feet of ground water above the invert of the sewer shall be divided by 2.31 to establish the pounds of pressure that will be added to the internal air pressure used for the test.
- 4.8.7 At least two minutes will be allowed for air temperature in the test segment to stabilize, while internal air pressure remains no less than 3.5 psig above ground water pressure.
- 4.8.8 Internal air pressure will be deflated to exactly 3.5 psig above ground water pressure.
- 4.8.9 The elapsed time for internal pressure to drop to 2.5 psig above ground water pressure will be accurately determined. If it is obvious to the inspector that no leakage is occurring, he may terminate the test early.
- 4.8.10 the air test is acceptable if elapsed time is no less than shown on the following table:

<u>PIPE. DIAMETER</u>	<u>ELASPED TTME MINUTES/100 FEET</u>
6-Inch	0.7
8-Inch	<b>1.2</b>

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10-Inch	1.5
12-Inch	1.8
15-16 Inch	2.1
18-Inch	2.4
20-21 Inch	3.0
24-Inch	3.6
27-Inch	4.2
30-Inch	4.8

4.8.11 if the installation fails to meet the requirements of this test, the Contractor shall determine the source of leakage. The Contractor shall repair or replace all defective materials and/or workmanship. The installation will then be retested for compliance with these specifications.

4.9 DEFLECTION TESTING (PVC Pipe)

4.9.1 If excessive deflection is noted during TV inspection, deflection tests shall be performed by TV inspections.

4.9.2 Maximum allowable deflection shall be 5% of the inside diameter when measured not less than 30 days after installation Testing shall be performed using a mandrel as a GO/NO GO gage.

4.9.3 All pipes failing to maintain the minimum deflection diameter shall be considered improperly installed and shall be reinstalled or replaced by the Contractor.

4.10 TV INSPECTION

4.10.1 Upon completion and approval of all listed inspections, the project will be scheduled for a TV Inspection. A project can be submitted for TV Inspection prior to receipt and approval of final record as-built.

4.10.2 The inspection will be videotaped by a private video inspector at the Contractor/Developer's expense and filed in City of Loganville records.

4.10.3 Any defective areas noted (such as sagging or dimpled pipe, broken pipes, joint separation, manhole defects, improper inverts, etc.) shall be corrected.

4.10.4 Internal grouting to repair new lines will not be allowed, nor will a "re-rounding" process to repair excessive deflection be allowed.

4.10.5 Following corrections of discrepancies, the line will be re-inspected and an additional fee as determined by the CITY OF LOGANVILLE WATER QUALITY CONTROL Director will be required.

4.10.6 The Contractor/Developer's shall schedule for TV Inspection. Any defects found afterwards *by the TV inspection must be corrected* immediately under the warranty agreement.

## CITY OF LOGANVILLE SANITARY SEWER STANDARDS

### 4.11 INFILTRATION

- 4.11.1 On newly installed sewers 16 inches or less in diameter, No infiltration or leaks will be allowed. Any infiltration flowing at the low point of a project must be eliminated prior to approval.
- 4.11.2 on large diameter mains (greater than 16-inch diameter), the allowable infiltration shall not exceed 75 gallons per day/inch diameter/mile. Visible or known leaks will not be allowed regardless of total infiltration.

### 4.12 RECORD DRAWING APPROVAL

- 4.12.1 All corrections must be completed prior to final approval.
- 4.12.2 Upon completion of all applicable inspections, the record drawings will be verified for accuracy and compliance to CITY OF LOGANVILLE WATER QUALITY CONTROL specifications.

### 4.13 FINAL APPROVAL

- 4.13.1 Upon approval of record drawings, easements and approved inspections, Developer/Engineer may request final inspection.
- 4.13.2 Upon field verification by the City Inspector, final plat signature may be obtained.
- 4.13.3 CITY OF LOGANVILLE WATER QUALITY CONTROL may "sign-off" on the final subdivision plat without off-site sewers being complete under the following conditions:
  - a. The developer has made reasonable and diligent effort to obtain easements and complete the sewers.
  - b. A hold shall be placed upon certificates of occupancy and/or building permits.
  - c. The developer must present a cash bond equal to the value of the uncompleted work or an *irrevocable letter of credit from a bank issued to the City of Loganville* equal to twice the value of the uncompleted work as determined by City of Loganville Water Quality Control.
  - d. All requirements for sewers "within" the project have been complied with. 4.14

### VARIANCE

- 4.14.1 Minor exceptions to these Standards may be granted by City of Loganville. Significant exceptions to these Standards may be granted in the form of a written variance by the CITY OF LOGANVILLE WATER QUALITY CONTROL Director when, in his opinion, undue hardship may result from strict compliance. Any such determination shall be based fundamentally on the fact that unusual topographical or other

## CITY OF LOGANVILLE SANITARY SEWER STANDARDS

Exceptional conditions require such variance and that the granting of the modification will not adversely affect the general public welfare or nullify the intent of these Standards.

4.14.2 Request for a variance from these Standards shall first be submitted by the developer in writing with supporting documents and shall explain in details the reasons and facts supporting the request. The request shall be submitted to the CITY OF LOGANVILLE PLANNING AND DEVELOPMENT Director who shall review the request. If administrative approval cannot be granted consistent with the requirements of these Standards, the variance shall be forwarded to the city of Loganville Council for final action in their normal course of business.

### 4.15 VIOLATION/PENALTIES

4.15.1 Any responsible party or other persons convicted by a court of competent jurisdiction of Violating any provision of these Standards shall be guilty of violating a duly adopted Sanitary Sewer Use Ordinance of City of Loganville and may be punished either by a fine or imprisonment, or both. The owner of any lands or parts thereof, where anything in violation of these Standards shall be placed or shall exist, and each responsible party or other person assisting in the commission of any such violation, shall be guilty of a separate offense.

4.15.2 The court shall have the power and authority to place any person found guilty of violating These Standards on probation and to suspend or modify any fine or sentence. As a condition of said suspension, the court may require payment of restitution or impose other punishment allowed by law. Each day a violation continues to exist shall constitute an independent and separate offense.

4.15.3 Any Contractor on the CITY OF LOGANVILLE WATER QUALITY CONTROL Approved Contractor's List discovered violating the provision(s) of these Standards shall be removed and subject to penalties imposed by the court.

**4154 Any Contractor found responsible for causing a sewerage overflow may be fined.**

**Any Contractor found negligent by creating a condition likely to result in a sewerage overflow may be fined. The careless release of a pipe plug into the sewer system shall be considered negligence. By-pass pumping without adequate standby pumps available shall be considered negligence.**

**4.15.5 The Contractor will be held fully liable for all state and federal Clean Water Act penalties nr fines and cost incurred by the City in the event of a sanitary sewer overflow caused by negligence on the Contractor's part, and may also be suspended the Approved Contractors List.**

### 4.16 WARRANTY

4.16.1 Every project shall be warranted by the developer and Contractor to be free of defects in material and workmanship for a period of one year from date of recording of final plat or issuance of certificates of occupancy, whichever occurs first. Any such defects shall be immediately repaired at no cost to the City Said warranty is more fully described in the "Owner/Developer Agreement".

# **CITY OF LOGANVILLE SANITARY SEWER STANDARDS**

## **ARTICLE 5**

### **SEWER PETITION POLICY**

#### **5.1 GENERAL**

5.1.1 The City may enact a sewer petition policy whereby the residents of an area may petition the City to install sewers.

The City Council may change the sewer petition policy, the assessment rate and the payment requirements at any time.

