

Development Permit Requirements

Cities of Jefferson and Talmo

Effective January 1, 2019

*Note: A separate land disturbance permit application is also typically required.

Except as noted below, submit all required materials to the City of Jefferson-Talmo Department of Planning and Development, 147 Athens Street, Jefferson, GA 30549 (City Hall). Office hours are Monday-Friday 08:00 a.m. to 12:00 p.m. and 01:00 p.m. to 05:00 p.m. (closed from 12 to 1 for lunch). Any plans and hydrology studies must be printed and submitted to City Hall for review purposes.

- If the development is served by water and/or sewer from the Jackson County Water and Sewer Authority (JCWSA), also make application directly to that agency following their procedures.
- If the development is to be served by on-site sewage disposal system, also make application directly to the Jackson County (Environmental) Health Department following their procedures.
- If the development is on a state highway, also make application directly to the Georgia Department of Transportation following their procedures for driveway's and encroachments.
- If the development is on a county-maintained road or county road, also make application directly to the Jackson County Department of Public Development following that agency's procedures for driveway's and encroachments on county roads.

Development Permit Submission Requirements:

- ☐ Development Permit Application (attached)
- ☐ Development Review Fee Sheet (attached) and submission of fees. Make checks payable to City of Jefferson.
- ☐ Receipt of water and sewer and related development plan review fees (Department of Public Utilities)
- ☐ Eight (8) complete sets of plans must be submitted (including site plan, utility plan, grading plan, stormwater management plan and associated submissions, landscape plan, standard details, etc.); Note: if submitting for a land disturbance permit, soil erosion and sedimentation control plans are also included.
- ☐ 1 printed copy and 1 digital copy of hydrology report (unless submitted with land disturbance permit application.)
- ☐ 1 completed copy of the Stormwater Management Review Checklist (attached)
- ☐ 1 completed copy of the Water and Sewer System Construction Plan Checklist (City of Jefferson Water/Sewer only) (attached)
- ☐ 1 completed copy of the Drinking Water Project submittal form (City of Jefferson water only) (attached)
- ☐ 1 completed copy of Jefferson Sewer Capacity application (City of Jefferson sewer only) (attached)
- ☐ 1 completed copy of Sanitary Sewer Lift Station and Force Main Plan Checklist (if applicable) Jefferson sewer only) (attached)

Routing of Plans

When a complete application is made for a development permit and land disturbance permit, the department submits for review to internal/city agencies and the Georgia Soil and Water Conservation Commission. The plans are distributed by the department to the following:

Georgia Soil & Water (2 copies)	Stormwater consulting engineer
City Planner	Roads & Grounds
Fire Chief	Public Utilities (2 copies)

Up to three (3) weeks is required to complete all reviews. The city planner either assembles the reviews from city agencies and submits to the civil engineer or in some cases may submit comments individually as they are completed.

Development Permit Re-submission Requirements:

- ☐ Re-submittal Fee, after the first re-submission (i.e., for any second or subsequent re-submission);
- ☐ Eight (8) complete sets of revised plans must be submitted (must show date of revision);
- ☐ 1 printed copy and 1 digital copy of revised hydrology report (if necessary);
- ☐ Memorandum or revised checklists or other information summarizing changes made.



Development Permit Application

Cities of Jefferson and Talmo

Effective January 1, 2019



****Must be filled-out completely and all required submittals attached in order to be processed****

Project Information

Property/Site Address: _____ City: _____

Subdivision and Lot: _____

Tax Map/Parcel: _____ Zoning: _____ Proposed Use: _____

Total Project Acreage: _____ Total Disturbed Acreage: _____

Sewer: ☐ City ☐ County Septic: (provide copy of permit) ☐ Water: ☐ City ☐ County

Property Owner Information

Name: _____ Phone #: _____ Fax #: _____

Address: _____

City _____ State _____ Zip _____

Email: _____

Developer Information:

Name: _____ Phone #: _____ Fax #: _____

Address: _____

City _____ State _____ Zip _____

Contact: _____ Contact #: _____

Email: _____

Project Engineer

Business Name: _____ Phone #: _____ Fax #: _____

Address: _____

City _____ State _____ Zip _____

Contact: _____ Contact #: _____

Email: _____

- ☐ Check here if a separate application for a land disturbance permit has been filed or is being filed simultaneously
- ☐ Check here if a building permit application is being filed concurrent with this application

I hereby make application for a development permit to perform work as described above, and if the permit is granted I agree to comply with all applicable and pertinent governing regulations and ordinances, pertaining to and in accordance with any plans submitted. I understand failure to comply with these regulations could be grounds for revocation of the permit. I also agree to pay fees invoiced by the City of Jefferson for consulting engineer review if the amount is greater than the initial fees collected.

Applicant Signature: _____ **Date:** _____

City of Jefferson

Stormwater Management

Development Plans/Stormwater Management Report Review Checklist

Project Name: _____

Phase: _____ **Unit:** _____ **# of Lots:** _____

Development Type: _____ **Jefferson Project No.:** _____

(Residential, Commercial, Industrial, etc.)

Note: This checklist serves the designer and plan reviewer as a minimum guideline only. This document in no way represents all requirements of the City of Jefferson, Georgia Stormwater Management Manual, and Georgia Soil & Erosion Control requirements or sound design practices.

Note: It is the owner's/developer's responsibility to be in compliance with applicable National Pollution Discharge Elimination System (NPDES) Permit and Clean Water Act requirements and State EPD requirements.

Development Plans

1. Applicant information

- ☐ Name, legal address, and telephone number

2. Common address and legal description of site

- ☐ Site address and legal description of site

3. Vicinity map

- ☐ Site address and legal description of the site

4. Signature and stamp of registered engineer/landscape architect licensed in the State of Georgia and designer/owner certification

- ☐ Signature, stamp, and date on all sheets

5. Site/Grading Plan

- ☐ Existing and proposed mapping and plans recommend scale of 1 inch = 60 feet or greater detail
- ☐ Existing and proposed topography at a 2-foot contour interval or less
- ☐ Include source of topography and reference datum
- ☐ Provide graphic scale and north point or arrow indicating magnetic north
- ☐ Boundaries of existing predominant vegetation
- ☐ Proposed limits of disturbance
- ☐ Maximum slope for cut or fill is 2H:1V except earthen dam embankments and pond side slopes shall be maximum 3H:1V
- ☐ Location and grading of existing and proposed structural stormwater controls, roads, buildings, parking lots, and other impervious areas
- ☐ Location and boundaries of natural feature protection and conservation areas such as wetlands, lakes, ponds, and other setbacks (e.g. stream buffers, drinking water well setbacks, septic setbacks, etc.)
- ☐ Location of perennial and intermittent streams
- ☐ Buffers for perennial and intermittent streams:
 - Perennial Stream – Within 7 miles of water supply intake: 100 ft. each side and no impervious surface or septic tank 150 ft. each side. Outside 7 miles: 50 ft. each side and no impervious surface or septic tank 75 ft. each side
 - Intermittent Stream: 25 ft. each side
- ☐ Mapping of predominant soils from USDA soil surveys as well as the location of any site specific borehole investigations that may have been performed
- ☐ Location of existing and proposed utilities such as water, sewer, gas, underground cables, utility poles, guy wires, and easements

- ☐ Location of existing and proposed conveyance systems such as storm drain pipes, drainage structures, channels, swales
- ☐ Number all pipes and structures on plan
- ☐ Show grading of and number all open channels on plan
- ☐ Provide 100-year ponding elevation of all inlets on plan*
- ☐ Use reinforced concrete for stormwater structures under roadway*
- ☐ Outfall pipe in residential subdivisions shall extend a minimum from the street to 30 feet behind the front building setback or 100-year floodplain, whichever is less*
- ☐ Discharge pipe must be no closer to the site's property line than the greater of the distance necessary to construct any velocity protection or a distance equal to six (6) pipe diameters*
- ☐ Provide a drainage easement located a minimum of 20 ft. outside the 100-yr. ponding limits of the stormwater or detention pond*
- ☐ Label the 100-yr. ponding elevation of the stormwater/detention pond and show the corresponding contour on the grading and drainage plan*
- ☐ No stormwater/detention basin shall be constructed in a perennial stream or creek*
- ☐ Provide an access easement for maintenance to the pond from a public or private road. Maintenance access should be at least 12 ft. wide, have a maximum slope of 15%, be appropriately stabilized to withstand maintenance equipment and vehicles, and must extend to the forebay and outlet as per Section 3.2.1.5.G of the Georgia Stormwater Management Manual. Show grading on plans. The access easement shall be grassed or paved.
- ☐ Provide a forebay at each inlet into the pond
- ☐ Provide 5 ft. high fence around stormwater/detention pond with 12 ft. wide gate, and warning signs. Chain link fence material shall be vinyl coated.*
- ☐ Provide steps to access inside of the outlet control structure as per Section 3.2.1.5.G of the Georgia Stormwater Management Manual
- ☐ stormwater pond with a micropool or permanent pool must have a bottom drain pipe with an adjustable valve that can completely or partially drain the pond within 24 hours as per Section 3.2.1.5.E of the Georgia Stormwater Management Manual
- ☐ Label all structural stormwater control on plans. Ensure that this labeling on both the plans and in the stormwater management report is consistent with the Georgia Stormwater Management Manual labeling
- ☐ Minimum top width of all detention structural stormwater controls (i.e. pond) with an earthen dam shall be 10 ft.
- ☐ Minimum freeboard above 100-yr ponding elevation is 1 ft. for all detention structural stormwater controls and stormwater ponds
- ☐ Provide the location of each retaining wall and each stormwater/detention pond wall (dam) and specify top and bottom elevations of each wall on the grading plan*
- ☐ Show curb and gutter – curb 6 inches high, gutter 2 ft. face to back of curb
- ☐ Show drainage easement around pipes consistent with table below*

Easements for Storm Drain Pipes

Pipe Size (IN)	Maximum Pipe Invert Depth (FT)												
	Minimum Easement Width (FT)												
	4	5	6	7	8	9	10	11	12	13	14	15	16
18	20	20	20	20	20	25	25	30	30	30	35	35	40
24	20	20	20	20	20	25	25	30	30	30	35	35	40
30	20	20	20	20	25	25	25	30	30	35	35	35	40
36	20	20	20	20	25	25	25	30	30	35	35	35	40
42	NA	20	20	20	25	25	30	30	30	35	35	40	40
48	NA	20	20	20	25	25	30	30	30	35	35	40	40
54	NA	NA	20	25	25	25	30	30	35	35	35	40	40
60	NA	NA	NA	25	25	25	30	30	35	35	35	40	40
66	NA	NA	NA	25	25	30	30	30	35	35	40	40	40
72	NA	NA	NA	25	25	30	30	30	35	35	40	40	40

- ☐ Show regulatory and 100-yr. floodplain contour, elevation, and flood limits and indicate information source

- ☐ Indicate on plan the regulatory and the 100-yr. water surface elevation of the lake
- ☐ Provide stormwater note(s) indicated below in a notes section on grading and drainage plan
 - ☐ Select appropriate floodplain note(s). Either select note a or b and select notes c and d as applicable.
 - a. There is no floodplain on this property from a water course with a drainage area exceeding 100 acres or floodplain per FIRM panel _____ dated _____.
 - b. Floodplain on this property from all water courses with a drainage area exceeding 100 acres is shown.
 - c. Floodplain shown is from FIRM panel _____ dated _____.
 - d. Floodplain shown is from floodplain study titled _____ by _____ dated _____.
Study was done as part of project number _____.
 - ☐ Select appropriate wetlands note(s). Select either a or b, if wetlands are being disturbed on the site select note c.
 - a. There are no wetland being disturbed on this site.
 - b. All wetlands to be disturbed are delineated on this site.
 - c. The wetlands are being disturbed in accordance with permit _____.
 - ☐ Select the appropriate stormwater note.
 - a. Stormwater management for this project is provided on-site.
 - b. Stormwater management for this site is provided off-site in project named _____ with project number _____.
 - ☐ Select appropriate state waters note(s). Select either a or b, if a state waters buffer is being disturbed on the site note c.
 - a. There are no stream buffers on this property.
 - b. A 50 ft. undisturbed buffer and a 75 ft. impervious setback shall be maintained adjacent to all streams.
 - c. Stream buffer variance number _____ was obtained to work in buffer as shown.
 - ☐ Wetland Certification: The design professional, whose seal appears hereon, certifies the following;
 - 1. The National Wetland Inventory map has been consulted.
 - 2. The appropriate plan sheet ☐ does / ☐ does not indicate areas of United States Army Corps of Engineers jurisdictional wetlands as shown on the maps.
 - 3. If wetlands are indicated, the land owner or developer has been advised that land disturbance of protected wetlands shall not occur unless the appropriate federal wetlands alteration permit has been obtained.
 - ☐ Select appropriate easement note.
 - a. Residential: City of Jefferson assumes no responsibility for overflow or erosion of natural or artificial drains beyond the extent of the street right-of-way or for the extension of culverts beyond the point shown on the approved and recorded subdivision plat.
 - b. Commercial: City of Jefferson assumes no responsibility for overflow or erosion of natural or artificial drains beyond the extent of the street right-of-way or for the extension of culverts beyond the point shown on the approved and recorded plan. City of Jefferson does not assume the responsibility for the maintenance of pipes in drainage easements beyond the city right-of-way.
- ☐ Include note: Stormwater/detention pond, outlet control structures, and temporary sediment basin features are to be constructed and fully operational prior to any other construction or grading not associated with these facilities.*
- ☐ Include note: Developer is to clean out accumulated sediment in stormwater/detention pond at the end of construction once disturbed areas have been stabilized.*

6. Cross-section and profile drawings and details of structural stormwater controls and conveyances

- ☐ Provide pipe profiles. Show existing and proposed ground elevations, pipe lengths, slopes, invert elevations, top of drainage structure elevations, and applicable (25 yr./100 yr.) HGL on profiles.
- ☐ Provide details of structural control designs including outlet structures, earthen dams, spillways, grade control structures, conveyance channels, etc.
- ☐ Storm drain pipes shall not exceed 500 ft. in continuous length between drainage structures.
- ☐ Maximum hydraulic gradient shall not produce a velocity that exceeds 15 ft./s as per Section 4.2.8.3 of the Georgia Stormwater Management Manual.
- ☐ Ensure storm drain pipes have a velocity of 2.5 ft./s when they are flowing full.

- ☐ Minimum pipe slope shall be 0.50% as per Section 4.2.8.7 of the Georgia Stormwater Management Manual.
- ☐ Design year water surface elevation shall be at least 1 ft. below top of structure elevation or the gutter line, whichever is lower.*
- ☐ Culverts carrying stream/ditch flow under a street shall be sized so headwater height does not exceed curb or edge of pavement elevation during 100 yr. storm event. Provide calculations*
- ☐ Ensure frequency factor per Section 2.1.4.3 of the Georgia Stormwater Management Manual is utilized when determining maximum rate of runoff for storm drain pipe.
- ☐ Specify which pipe material type (aluminized steel Type 2 pipe, corrugated aluminum alloy pipe, smooth lined corrugated polyethylene pipe, or reinforced concrete pipe) is to be used.*
- ☐ Corrugated metal pipe shall not be used. Aluminized Steel Type 2 pipe or corrugated aluminum alloy pipe may be used in lieu of CMP.*
- ☐ Specify gage and corrugation for corrugated aluminum/aluminized steel pipes.
- ☐ Reinforced concrete shall be used for all pipes under roadways.*
- ☐ Show minimum ground cover of 1 ft. for pipe(s).
- ☐ Minimum storm drain pipe diameter is 18 inches.*
- ☐ Provide complete pipe chart indicating the following (including OCS discharge pipe):
 - ☐ Upstream/downstream structure type (DWCB,SWCB,DI,JB, etc.)
 - ☐ Pipe numbers/pipe structures
 - ☐ Pipe size
 - ☐ Pipe length
 - ☐ Pipe slope
 - ☐ Contributing drainage area
 - ☐ Design discharge (Q₂₅ for piped drainage not under roadway; Q₁₀₀ for piped drainage under roadway)*
 - ☐ Design storm frequency (25 yr. for piped drainage not under roadway, 100 yr. for piped drainage under roadway).*
 - ☐ Velocity (V₂₅ for piped drainage not under roadway; V₁₀₀ for piped drainage under roadway).*
 - ☐ Runoff coefficient (per future land use plan and assuming no detention)
 - ☐ Rainfall intensity
 - ☐ Pipe material/coating
 - ☐ Manning roughness coefficient
- ☐ Include note: Grates with bars shall be perpendicular to the road.
- ☐ Include note: The throat of the curb inlets shall not exceed 8 inches.
- ☐ If using HDPE pipe, add the following note to plans:
HDPE pipe shall conform to the requirements of AASHTO M-294 and AASHTO MP7, Type S and D. Connection shall use a rubber gasket, which conforms to ASTM F-477. Installation shall be in accordance with ASTM recommended practice D-2321, AASHTO Section 30, or with Section 550 of the Georgia Dept. of Transportation Standard Specifications Construction of Transportation Systems, latest edition.
- ☐ If using aluminum coated Type 2 steel pipe or aluminum alloy pipe, add the following note to plans:
All aluminum coated Type 2 steel pipe or aluminum alloy pipe, which will carry a live stream, shall have paved inverts in accordance with AASHTO M-190, type C, except that the pipe need not be fully coated. Installation shall be in accordance with Section 550 of the Georgia Dept. of Transportation Standard Specifications Construction of Transportation Systems, latest edition.
- ☐ If using RCP pipe, add the following note to plans:
All RCP pipe joints shall be bell & spigot types with a rubber gasket conforming to ASTM C-443. The pipe shall be manufactured in accordance with AASHTO M-170 and/or ASTM C-76. Class of pipe and wall thickness shall be in accordance with 1030-D. Georgia DOT specification Table no. 1. Installation shall be in accordance with Section 550 of the Georgia Dept. of Transportation Standard Specifications Construction of Transportation Systems, latest edition.
- ☐ Provide transition channel profiles from inlet and outlet ends of all pipes to natural drainage swales.
- ☐ Channel side slopes shall be designed in accordance with Section 4.4.3 of the Georgia Stormwater Management Manual
- ☐ Channels shall be designed to route the 100 yr. flow rate without overtopping and lined appropriately based on the 25 yr. flow velocity in accordance with Section 4.4 of the Georgia Stormwater Management Manual
- ☐ Provide a minimum 20 ft. drainage easement around channels. Ensure 100 yr. flow elevation of channel is within the drainage easement*
- ☐ Provide channel profiles. Show existing and proposed ground surface profiles, channel lengths, and 100 yr. normal flow elevation.

- ☐ Provide channel cross-section detail. Show bottom width, side slopes, 100 yr. normal flow depth, and overall depth.
- ☐ Include the following with the channel cross-section detail:
 - ☐ Open channel numbers
 - ☐ Contributing drainage area
 - ☐ Runoff coefficient (per future land use plan and assuming no detention)
 - ☐ Conveyance size
 - ☐ Lining material
 - ☐ Channel length
 - ☐ Channel slope
 - ☐ Velocity (V_{25} may not exceed non-erosive velocity – Maximum 4 ft./s for sod.)
 - ☐ Design storm frequency (100 year)
 - ☐ Design discharge (100 year)
 - ☐ Normal flow depth (100 year)
 - ☐ Manning roughness coefficient

7. Erosion and Sediment Control Plan

- ☐ Sediment storage maintenance indicators must be installed in sediment storage structures, indicating the 1/3 full volume.
- ☐ Approval of plans by Georgia Soil and Water Conservation Commission. Specifications shall follow the guidelines set forth in the Manual for Erosion and Sediment Control in Georgia.
- ☐ If using existing stormwater/detention pond as a sediment trap or basin, volume must be provided below the outlet control invert. Existing lakes that will not be modified under this permit may not be used as sediment trap or basin.
- ☐ All permittees shall ensure and demonstrate that their plan is in compliance with applicable state and local wastewater disposal, sanitary sewer, or septic system regulations.

8. Construction and Erosion Control Details

- ☐ Provide details of stormwater/detention pond outlet structure. Include external trash rack, perforated $\frac{1}{2}$ round on a concrete splash pad, or similar design to prevent clogging or orifices and weirs.
- ☐ Provide a forebay detail. Specify a stone berm for forebay.
- ☐ Provide details for all proposed drainage structures.
- ☐ Provide a detail of subgrade and bedding used in pipe installation.
- ☐ Provide a curb and gutter detail.
- ☐ Provide fence, gate, and warning sign detail.
- ☐ Show temporary construction exit pad detail and location. Specify pad size
- ☐ Provide all applicable erosion control detail(s)
- ☐ Provide energy dissipation details on plans and include a table similar to the following:

RIPRAP APRON SUMMARY

Headwall ID	Pipe Diameter (D_o)	Riprap Size (d_{50})	Apron Length (L_a)	Width of Apron ($W=D_o+L_a$)
A				
B				

- ☐ Provide structural construction details for each retaining wall and each stormwater/detention pond wall (dam) shown on the site grading plan that specify required materials, concrete design strength, 28-day design compressive strength of concrete, steel reinforcement (type/size, spacing, ASTM designation, yield strength), wall and footing dimensions, minimum required concrete cover for reinforcement, minimum required lap splice lengths, type of backfill material, slope of backfill at finished grade on both sides of wall, and drainage method for backfilled walls. The detail shall bear a seal and signature of a professional engineer registered in the state of Georgia.
- ☐ Provide applicable soil parameters utilized in the wall design including allowable soil bearing pressure, equivalent lateral fluid pressure (active and passive), surcharge load, internal angle of friction, coefficient of friction, and soil density for each stormwater/detention pond wall (dam) and each retaining wall in excess of 6 ft. in height.

- ☐ Include the following note on the plans for each stormwater/detention pond wall (dam) and for each retaining wall that exceeds 6 ft. in height (from top of footing to top of wall):
Prior to construction, soil design parameters stated on the construction wall details including but not limited to allowable soil bearing pressure, equivalent lateral fluid pressure (active and passive), internal angle of friction, coefficient of friction, and soil density shall be field-verified by a geotechnical firm. A corresponding written report with the seal and signature of a professional engineer registered in the state of Georgia and employed by the geotechnical firm field verifying the soil design parameters shall be submitted to the City of Jefferson Building Inspector prior to construction of the wall. If there is a discrepancy between the field-verified soil parameters and those specified on the construction plan, construction shall not proceed until applicable design modifications have been submitted by the wall design engineer of record and have been reviewed by the City of Jefferson.
- ☐ Provide a stormwater/detention pond wall tie-in detail

Stormwater Management Report

1. Applicant information

- ☐ Name, legal address, and telephone number

2. Common address and legal description of site

- ☐ Site address and legal description of site

3. Vicinity Map

- ☐ Site address and legal description of site

4. Signature and stamp of registered professional engineer licensed in the state of Georgia

- ☐ Signature, stamp, and date

5. Project description/Executive summary/Hydrograph analysis

- ☐ Description of project (i.e. existing conditions – wooded, grassed, channels, creeks, existing buildings, etc., adjacent properties – residential, commercial, etc., type of project, number of lots, amount of proposed impervious surface, amount of natural conservation area, amount of pervious surface, number of basins and location of stormwater entering and exiting the site for both pre and post developed conditions, including all off-site runoff draining onto site for each basin)
- ☐ The Rational Method shall not be used for stormwater/detention pond design
- ☐ Provide time of concentration calculations for all hydrographs. Sheet flow length shall not exceed 100 ft.*
- ☐ Provide curve number calculations for pre-developed and post-developed conditions for all hydrographs
- ☐ Use a composite pre-developed CN less than or equal to 60. Use a pre-developed curve number of 55 for wooded conditions*
- ☐ Post-developed flows at every location where runoff leaves the site (at the property line) must be less than or equal to pre-developed flows at the property line for the 2, 5, 10, 25, 50, and 100 year storms.
- ☐ Provide hydrograph data for the 2, 5, 10, 25, 50, and 100 year storms for all basins. All hydrographs shall be based on a 24-hour storm*
- ☐ Use the following 24-hour rainfall data in analysis:

Frequency	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
P (Inches)	3.60	4.80	5.28	6.24	7.20	7.68

- ☐ Provide flow summary for all basins similar to the table below:

Flow Summary								
Basin	Return Frequency	Pre-Developed Flow @ Property Line	Post-Developed Flow @ Property Line	Post-Developed Routed Flow	Post-Developed By-Pass Flow	Post-Developed Flow (routed + by-pass) @ Property Line	100-year Ponding Elevation	
A	2							
	5							
	10							
	25							
	50							
	100							

- ☐ Provide energy dissipater calculations for pipe outlets and stormwater/detention ponds. Ensure energy dissipater proposed corresponds with the Froude number range in the table below:

Energy Dissipater	Froude Number Range
Riprap Apron	Less than or equal to 2.5
Riprap Outlet Basins	Less than or equal to 2.5
Baffled Outlets	1 to 9

- ☐ Provide pre-developed and post-developed drainage area maps designing all on-site drainage areas, off-site drainage areas, and all pond by-pass areas utilized in hydrograph calculations, and other pertinent features including drainage structures and storm drain pipes, and site boundaries.
- ☐ Provide calculations showing outlet pipe for detention ponds will accommodate 125% of Q_{100} routed flow in no earthen embankment emergency spillway is proposed*
- ☐ The required storage volume for the channel protection may be provided above the water quality storage in stormwater ponds with appropriate hydraulic control structures for each storage requirement*
- ☐ Include on-site area only in the water quality volume structural stormwater control calculations
- ☐ Use equations 2.1.20 and 2.1.21 in the Georgia Stormwater Management Manual to calculate the water quality volume.

Use the following equation to size the water quality orifice:

$$A = (WQ_v/t) / [0.6 * (64.4 * H/2)^{0.5}]$$

where: $t = 86,400$ sec.

A = area of the orifice (ft^2)

H = height between 100% water quality volume elevation and centroid elevation of the water quality orifice

WQ_v = water quality volume

- ☐ Provide the Stormwater Quality Site Development Review Tool for all basins modeling on-site area only. Use a separate drainage area spreadsheet for each on-site basin.
- ☐ Provide a BMP Tracking Form for each stormwater control
- ☐ Include all off-site area in the channel protection volume draining into the structural stormwater control
- ☐ Use equation 2.1.6 in the Georgia Stormwater Management Manual in the calculation of the channel protection volume:

Use $P = 3.36$ inches

Use the following equations to determine the required channel protection volume:

$$V_s/V_r = 0.682 - 1.43 (q_o/q_i) + 1.64 (q_o/q_i)^2 - 0.804 (q_o/q_i)^3 \text{ (equation 2.2.9 in the GSMM)}$$

Figures 2.1.5-6 and 2.2.5-1 in the Georgia Stormwater Management Manual may be used to determine q_o/q_i

The required storage volume can then be calculated by:

$$CP_v = (V_s/V_r)(Q_d)(A)/12$$

Use the following equation to size the channel protection orifice:

$$A = (CP_v/t) / [0.6 * (64.4 * H/2)^{0.5}]$$

$t = 86,400$ sec

A = area of the orifice (ft^2)

H = height between 100% channel protection volume elevation and centroid elevation of the channel protection orifice

CP_v = channel protection volume

- ☐ Provide drainage structure area map designating areas used in storm drain pipe design
- ☐ Provide gutter spread calculations in accordance with Section 4.2 of the GSMM and summary table similar to below:

CB	Max. Spread (ft)
X-1	
X-2	

- ☐ Analyze downstream conditions and include hydrograph data for all storm events and a topographic map of area where project area is 10% of the total area in accordance with Section 2.1.9 of the GSMM
- ☐ Provide a detailed narrative describing downstream conditions noting any concerns*
- ☐ Provide a photograph looking downstream at each property line study point and at the 10% study point*
- ☐ Provide a map showing drainage areas considered in the downstream analysis

- ☐ Provide calculations determining the capacity of all existing pipes and channels within 500 ft. downstream of site boundary to carry the proposed discharges*
- 6. Operations and Maintenance Plan (submitted prior to CO or final plat)**
 - ☐ Name, legal address, signature(s), and phone number of responsible parties for maintenance activities
 - ☐ Description and schedule of maintenance task
 - ☐ Description of applicable easements
 - ☐ Description of funding source
 - ☐ Access and safety issues
 - ☐ Procedures for testing and disposal of sediments, if required
- 7. Evidence of acquisition of all applicable local and non-local permits – submit permits**
- 8. Waiver requests submitted**
- 9. Evidence of acquisition of all necessary legal agreements (e.g. easements, covenants, ;and trusts, etc) – submit copies**
- 10. Submit as-built stormwater management report and plan for all stormwater/detention ponds and as-built plan, profile, and pipe chart for all storm drain pipe and drainage structures for review and approval prior to issuance of CO or final plat**

*City of Jefferson's interpretation to meet or exceed the minimum guidelines of the Georgia Stormwater Management Manual



Water and Sewer System

Construction Plan Review Checklist

Effective August 2005



Project Name: _____

Phase: _____ **Unit:** _____ **# of Lots:** _____

Development Type: _____
(Residential, Commercial, Industrial, etc.)

General Information for Developers and Designers

1. All water and sewer line construction shall be in accordance with the City of Jefferson Standard Specifications and Details, latest edition.
2. The plans shall be suitable for the purposes of construction and technically adequate and competent.
3. All water and sewer facilities shall be installed by a licensed utility contractor in the State of Georgia.
4. Pre-design meetings with the City Water and/or Sewer Department(s) are recommended. These meetings are to be scheduled and initiated by the designer if desired.
5. City Sewer Department Phone: (706) 367-5124 – City Water Department Phone: (706) 367-5644
6. All and any submittals must be submitted directly to the Jefferson-Talmo Planning & Development Department. The review engineer cannot accept submittals directly from the developer or engineer.
7. The developer or engineer is required to provide for and conduct their own water pressure and flow tests required for design, including personnel and equipment. All testing shall be scheduled in advance with the water department and conducted in their presence.
8. In accordance with the Minimum Standards for Public Water Systems by the Drinking Water and Engineering Program of the Environmental Protection Division; the developer and the developer's engineer are solely responsible for all necessary water system extension designs, hydraulic calculations, and analysis which determine the availability of water supply on every project. Submission of waterline plans therefore indicate that the developer and the developer's engineer have indeed conducted the required hydraulic analysis, and the City and Engineering Management, Inc. (EMI) appropriately assume so. The City of Jefferson and its delegation review agent, EMI, may or may not request evidence and documentation of said design work on a case by case basis at their discretion. The city's decision not to request this documentation does not relieve the developer and the developer's engineer from their responsibility to perform all necessary water system extension design, hydraulic calculations, and analysis which determine the availability of water supply on every project.
9. Please refer to EMI's General Policies and Procedures for Review and Comment for information relating to the scope of plan review and comment.
10. This checklist serves the designer and plan reviewer as a minimum guideline only, highlighting the City of Jefferson's standards. This document in no way represents all requirements of Jefferson, Georgia Department of Natural Resources, or sound design practices. All and any necessary permits such as DOT, NPDES, Army Corps, etc., are the responsibility of the developer.
11. Plan review does not imply, grant or constitute sewer and/or water capacity by the City of Jefferson in any manner. It is the developer's responsibility to address capacity separately with the appropriate city representatives.

If the Water System Addition and Expansion Form (for water extensions only) and/or the Sanitary Sewer Extension Submittal Form (for sewer connections only) are not submitted with the development plans, the plans are declared as incomplete and ineligible for review until completed forms are received. The forms must be entirely completed for review.

Water System Design

- ☐ "Water System Addition and Expansion Form" must be completed and submitted with plans.
- ☐ Include plan of current and all future phases of the development, showing street, street names, and lot layout.
- ☐ Plans are stamped and signed by PE
- ☐ All water piping must be DIP, and adequately labeled as such.
- ☐ Minimum pipe size is 8 in., except on dead-end cul-de-sac lanes less than 1000 ft., 6 in. may be called for.
- ☐ 10 ft. wide utility easement adjacent to all existing and proposed right-of-way. Waterline to be installed in the center of the easement.
- ☐ Give the proposed size, location and material of water mains and service laterals.
- ☐ No other information should appear on the water plan layout sheet if such information tends to confuse or complicate plans.
- ☐ Show the location and size of vacuum and air release valves (to be installed at highest points in the system). **Note: for major developments only**
- ☐ Show and label every fire hydrant location (existing and proposed)
- ☐ Fire hydrants must be spaced no greater than 500 ft.
- ☐ Show and label every existing and proposed valve.
- ☐ At every intersection must be a valve in every direction (i.e. 3 valves and a three-way intersection, 4 at a four-way)
- ☐ In-line valves must be spaced no greater than 1000 ft.
- ☐ Show and label the location, material and sizes of existing pipe lines surrounding the proposed project.
- ☐ Specify methods and tie-in location with existing mains. (i.e. tapping sleeve and valve labeled with the size).
- ☐ Show the location of existing and proposed valves and other appurtenances.
- ☐ Contours in feet above MSL shall be shown on development plans. The contour interval shall not be greater than 10 ft.
- ☐ Maximum scale shall be 1' = 100'
- ☐ Show proposed water meter sizes and locations.
- ☐ Proposed meters to be set at back of 10 ft. easement for s/d.
- ☐ Long side service shall be called to be installed with 2" PVC sleeves under pavement.
- ☐ Water distribution and services shall be installed around perimeter of cul-de-sacs inside 10 ft. easement; that is, no piping installed under cul-de-sac pavement.
- ☐ Water mains under existing or proposed pavement must be called out to be in steel casing; the length of casing must be noted
- ☐ Clearly label all road right-of-ways (existing and proposed) and easements (existing and proposed).
- ☐ Clearly show and label existing and proposed topography and existing and proposed features pertinent to design and layout along pipeline route.
- ☐ Provide adequate dimensions, stations, and labels to clearly indicate proposed location of pipeline relative to features such as right-of-way, centerlines, edge of roads, coordinates, etc.
- ☐ Minor stream/creek crossings are adequately designed: cross these under or beyond culvert piping. These installations require restrained joints. Provide plan view and cross section of the crossing showing the existing ground, vegetative buffer, proposed ground and side slopes, depth of cover, the creek and culvert, elevations, the proposed pipeline and any fittings necessary. Additional easements may be necessary for this area.
- ☐ Aerial crossings not permitted.
- ☐ Show note: *all water and sewer line construction shall be in accordance with the City of Jefferson Standard Specifications and Details, latest edition.*
- ☐ Show note: *12-gauge, solid strand detection wire is required to be installed above all waterlines with waterproof connectors and connections at every valve and hydrant.*
- ☐ Show note: *All utility easements are property of the City of Jefferson unless otherwise noted.*
- ☐ Show note: *All water and sewer facilities shall be installed by a licensed utility contractor in the State of Georgia.*
- ☐ Show note: *Marking tape showing "caution buried water" shall be installed approximately 18 in. above all waterlines.*

- ☐ Show note: Contractor shall install type-C silt fence completely around each meter box for protection of meter and box during construction phase until final vegetation is established.
- ☐ Show note: All water and sewer construction is inspected and tested as per city standards prior to final acceptance by the city.
- ☐ Show note: As-built record drawings for this project must be submitted and approved prior to final acceptance by the city.
- ☐ Show note: The City of Jefferson Water Dept. shall be notified at a minimum of 48 business hours prior to commencing any work, testing, and prior to making any connections to existing waterlines.
- ☐ Show note: Cities are not required to locate water and sewer lines that were installed by a developer or other persons that have not yet been accepted into the city's ownership (acceptance of final plat). The person installing those lines is required to install and maintain visible, permanent markers (i.e. color coded wire flags, valve markers, service stub markers, etc.) in order to identify the water and sewer facilities at the time the lines are installed. Once the city has taken legal ownership of those water and sewer lines, the city is responsible for locating them when a request is received.

Water System Design – Commercial/Industrial Sites

- ☐ Clearly show and label proposed metering setup.
- ☐ All service connections shall be proposed with a meter and backflow preventer.
- ☐ Meter size and manufacturer shall be called out.
- ☐ Meter manufacturer shall only be Sensus or Neptune.
- ☐ Backflow preventer size and manufacturer shall be called out>
- ☐ Higher risk connections must specify a RPZ type backflow preventer (i.e. medical, process manufacturer, etc.).
- ☐ Specify methods and tie-in location with existing mains; (i.e. tapping sleeve and valve labeled with the size).
- ☐ Proposed meters to be set at back of right-of-way or 10 ft. easement.
- ☐ Proposed meters and backflow preventer shall be housed in concrete vaults, together or separately depending on size.
- ☐ All fire lines shall have a fire line meter.

Sanitary Sewer Design

- ☐ Plans are stamped and signed by PE
- ☐ Show all phases of the development. In the event the subdivision is developed in phases, the final construction plans for sewers may be submitted in phases or units. However, at the time the first phase is submitted, the engineer will need to submit one copy of the preliminary layout of the entire sewer system. This layout shall show all lines required to serve any lots to be developed and any surrounding property that may be served through the property. The site plan for each phase or unit shall contain a location drawing showing the relationship of the phase or unit to the total project and to the surrounding streets and sewer outfalls.
- ☐ Plans shall consist of a single master plan view of entire sewer line plan showing lots, lot numbers, laterals, manholes, and manhole numbers, etc.
- ☐ No other information should appear on the sewer plan layout sheet if such information tends to confuse or complicate plans.
- ☐ Show and label the location, material, and sizes of existing pipe lines surrounding the proposed project.
- ☐ Maximum plan view scale shall be 1' = 100'.
- ☐ Sewer lines crossing perpendicular under existing or proposed pavement (county or state) must be called out to be in steel casings; the size and length of the casing must be noted.
- ☐ The maximum allowable distance between manholes is 400 linear feet.
- ☐ Gravity lines must be in the middle of road for new subdivision streets.
- ☐ Minimum size = 8 in., minimum slope = 0.40%
- ☐ Clearly label all road right-of-ways (existing and proposed) and easements (existing and proposed).
- ☐ Clearly show and label existing and proposed topography and existing and proposed features pertinent to design and layout along pipeline route.
- ☐ Any sewer outside of road right-of-way must be in a 20 ft. easement.

- ☐ Provide adequate dimensions, stations, and labels to clearly indicate proposed location of pipeline relative to features such as right-of-way, centerlines, edge of roads, coordinates, etc.
- ☐ Aerial crossings not permitted unless there is no other alternative. Aerial line shall be above the 50 yr. flood line, and shown as such on the plans.
- ☐ Show size and location of all service laterals. Commercial and industrial services must discharge individually into a manhole.
- ☐ Show location and size of grease trap(s); min. size = 1500 gallons.
- ☐ No sewer lines shall be installed through detention ponds.
- ☐ Show size, location, and material of proposed force mains.
- ☐ Show size and location of vacuum and air release valves.
- ☐ Need to show 100 yr. flood plain in critical areas.
- ☐ Cleanouts on laterals are to be spaced no greater than 80' apart and at every bend.
- ☐ Sanitary Sewer Extension Submittal Form must be completed and submitted with plans.
- ☐ Show note: *all water and sewer line construction shall be in accordance with the City of Jefferson Standard Specifications and Details, latest edition.*
- ☐ Show note: *All utility easements are property of the City of Jefferson unless otherwise noted.*
- ☐ Show note: *All water and sewer facilities shall be installed by a licensed utility contractor in the State of Georgia.*
- ☐ Show note: *Marking tape showing "caution buried sewer line" shall be installed approximately 18 in. above all sewer lines.*
- ☐ Show note: *All water and sewer construction is inspected and tested as per city standards prior to final acceptance by the city.*
- ☐ Show note: *As-built record drawings for this project must be submitted and approved prior to final acceptance by the city.*
- ☐ Show note: *The City of Jefferson Sewer Dept. shall be notified at a minimum of 48 business hours prior to commencing any work, testing, and prior to making any connections to existing sewer lines or manholes.*
- ☐ Show note: *Cities are not required to locate water and sewer lines that were installed by a developer or other persons that have not yet been accepted into the city's ownership (acceptance of final plat). The person installing those lines is required to install and maintain visible, permanent markers (i.e. color coded wire flags, valve markers, service stub markers, etc.) in order to identify the water and sewer facilities at the time the lines are installed. Once the city has taken legal ownership of those water and sewer lines, the city is responsible for locating them when a request is received.*

Additional Information for Plan and Profiles

- ☐ Plan and profile sheets shall be provided for all sewers (except service laterals). Profiles shall have a horizontal scale of not more than 100 ft. to the inch and a vertical scale of not more than 20 ft. to the inch. The plan view shall be shown on the same sheet as the profile. Plan and profile views should have line designations, station numbers, manhole numbers, and any other indexing necessary to easily correlate the plan and profile views.
- ☐ Show and label the proposed size, location, and material of sewer lines on profiles.
- ☐ All off road manholes must be shown with rem elevation 2' above ground, unless located in landscaping or close to the edge of the roadway.
- ☐ Location and names of streets, sewers and drainage easements.
- ☐ Line of existing and proposed ground surface, the grade of the sewer between each two adjacent manholes, invert of sewer in and out of each manhole, surface elevation of each manhole, and length between.
- ☐ Sewer pipe may be PVC or DIP
- ☐ When out of pavement: any sewer greater than 15 ft. deep of cover must be DIP. Any sewer less than 4 ft. of cover must be DIP.
- ☐ Sewer must have minimum 3 ft. of cover.
- ☐ When under pavement: Any sewer greater than 15 ft. deep of cover must be DIP. Any sewer less than 7 ft. of cover must be DIP.
- ☐ All manholes shall be numbered on the plan and correspondingly numbered on the profile.
- ☐ The location and elevation of adjacent parallel streambeds and of adjacent lake/pond surfaces shall be shown on the plan and profile.

- ☐ Sizes, locations and inverts of all special features such as connections to existing sewers, concrete encasement, collar walls, elevated sewer piers, etc.
- ☐ All structures, both above and below ground, which might interfere with the proposed construction, particularly water mains, gas mains, storm drains, utility conduits, etc.
- ☐ All creek crossings, aerial or buried, shall be installed with carrier pipe inside steel casings with spacers, boots, etc. Specify size and length of steel casing on plan and profile.
- ☐ Minimum drop from invert-in to invert-out shall be 0.20 ft. Any drop from invert-in to invert-out equal to or greater than 2.0 ft. shall be constructed as an outside-drop manhole.



DRINKING WATER PROJECT SUBMITTAL FORM



Water System Name: City of Jefferson

WSID Number: 1034948

General Project Information

Project Name: _____

Project Description: _____

Project Location: _____

County: _____ Development Type: _____

Maximum Elevation in Development: _____ (Ft.)

Number of Service Connections Proposed: _____

Number of Fire Line Connections Proposed: _____

Number of Irrigation Line Connections Proposed: _____

Size(s) of Water Main in Project: _____ (In.)

Length of Water Main Installed: _____ (Ft.) Water Main Material: _____

Wastewater for this project will be handled by: ☐ Septic Tank or ☐ Sewer System

Pressure/Flow Information

a) Static Pressure (point of tie-in): _____ (psi) at _____ feet elevation

b) Elevation at the point of tie-in: _____ (Ft.)

c) Flow available: _____ (gpm) at _____ (psi) residual, at the point of tie-in.

d) Size of water main at point of tie-in to project: _____ (In.)

e) Include sketch depicting location of fire hydrants used for testing with distances from connection point.

f) Include 24-hr. pressure test results for projects connecting to existing systems.

Please note: all applicable approvals and/or permits relating to the construction of the project must be obtained prior to the start of any construction, as required.

To the best of my knowledge, the above named project conforms with all applicable state and local government requirements for the approval of public drinking water supply construction projects.

_____ Name	_____ Signature	_____ Title	_____ Date
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BUSINESS SEWER CAPACITY APPLICATION



Date of Application: _____ Fee: _____

Business Address: _____
Street City State Zip

Map/Parcel #: _____

Current Zoning: _____ Proposed Zoning: _____

Inside city limits? ☐ Yes ☐ No Existing Structure: ☐ Yes ☐ No

Is the existing structure to remain? ☐ Yes ☐ No If no, explain changes to be made: _____

Nature of existing business (if applicable): _____

Nature of proposed business: _____

Will a wastewater pre-treatment be necessary for the development? ☐ Yes ☐ No

If yes, provide engineered drawings of the facility and the name and license number of the operator, if known.

Note: Sanitary sewage discharges are to in compliance with the latest edition of the City of Jefferson Sewer Use Ordinance.

If the application is for **non-domestic** discharges, applicant is to provide **detailed** data indicating projected BOD₅, TSS, COD, pH, fats, oils, grease and any other pollutants that are to be discharged to the city's sewage system.

Discharge analysis attached?: ☐ Yes ☐ No Downstream analysis attached?: ☐ Yes ☐ No

If the downstream analysis indicates the need for system improvements describe how these improvements are to be achieved: _____

Note: Should the downstream analysis indicate the need for system improvements, all improvements are to be completed before a Certificate of Occupancy is issued.

Applicant's Affidavit:

As the applicant for the referenced development, I certify that, to the best of my knowledge, the information provided is correct and accurate at the time of the application. I further agree to notify the City of Jefferson Public Works Department when and if changes occur. I understand that by filing this application places no obligation on the City of Jefferson, its officers, employees, agents, and assigns, to issue any form of development or building permit, or any form of Certificate of Occupancy.

I further understand that any misrepresentations, failure to provide revised or updated information regarding the development will result in the revocation of any permit issued by the city.

I further acknowledge and agree to comply with all the terms and provisions of the City of Jefferson Sanitary Sewer Ordinance.

Applicant: _____

Address: _____

Email: _____

Contact #: _____ Fax #: _____

Owner's Affidavit:

I certify that I am the owner and developer of the referenced parcel and property. I attest to the accuracy of the information presented and understand and accept the conditions expressed under the application. I further acknowledge that no form of building or development permit will be issued until all necessary fees are paid in full and all other requirements have been met.

Owner's Signature: _____

Date: _____

FOR CITY OF JEFFERSON USE ONLY:

This application for sewage capacity allocation is hereby:

- ☐ Approved in the amount of _____ gallons
☐ Disapproved
☐ Conditionally approved in the amount of _____ Gallons, pending the following:

Public Works Director

Date



SANITARY SEWER LIFT STATION AND FORCEMAIN PLAN REVIEW CHECKLIST



Project Name: _____

Project Engineer: _____

Development Type: _____
(residential, commercial, industrial, etc.)

Note: This checklist serves the designer and plan reviewer as a minimum guideline only, highlighting the city's standards. This document in no way represents all requirements of Jefferson, the Georgia Department of Natural Resources, or sound design practices.

Designer shall design lift stations in accordance with the standard specifications and details for water and sewer main construction.

Site Plan (to scale of actual site):

- ☐ To scale showing existing and proposed contours, and all topographical features
- ☐ Minimum scale: 1" = 20' (thus, 1" = 30" not allowed)
- ☐ Site grading to provide for positive drainage and storm piping, if necessary
- ☐ Show all necessary site dimensions. Minimum site = 50' x 50'
- ☐ Show 100 yr. flood line, or state that there is none
- ☐ Show wetwell, underground piping (forcemain, gravity sewer), manholes, bypass pump connections, and generator
- ☐ Generator required
- ☐ Required items and structures shown and located with dimensions on site plan
- ☐ Show water supply arrangements
- ☐ Show fencing and gate with dimensions
- ☐ Finished site surface indicated
- ☐ Show access road, plan and profile
- ☐ Access road shall be paved or gravel
- ☐ Show note: *All water and sewer line construction shall be in accordance with the City of Jefferson Standard Specifications and Details, latest edition*
- ☐ Show note: *12-gauge, solid strand detection wire is required to be installed above all forcemains with waterproof connectors and connections at every valve*
- ☐ Show note: *All utility easements are property of the City of Jefferson unless otherwise noted*
- ☐ Show note: *All water and sewer facilities shall be installed by a licensed utility contractor in the State of Georgia*
- ☐ Show note: *Marking tape showing "Caution Sewer Line" shall be installed approximately 18 in. above all waterlines*
- ☐ Show note: *All water and sewer construction is inspected and tested as per city standards prior to final acceptance by the city*
- ☐ Show note: *As-built record drawings for this project must be submitted and approved prior to final acceptance by the city*
- ☐ Show note: *The City of Jefferson Water Department shall be notified at a minimum of 48 business hours prior to commencing any work, testing, and prior to making and connections to existing sewer*

- ☐ Show note: *Cities are not required to locate water and sewer lines that were installed by a developer or other persons that have not yet been accepted in to the city's ownership (acceptance of Final Plat). The person installing those lines is required to install and maintain visible, permanent markers (i.e. color coded wire flags, valve markers, service stub markers, etc.) in order to identify the water and sewer facilities at the time the lines are installed. Once the city has taken legal ownership of those water and sewer lines, the city is responsible for locating them when a request is received.*

Structural Piping Lift Station Plan (to scale plan view and cross-section of wetwell and site piping):

- ☐ Minimum of duplex
- ☐ Minimum 8' diameter wall
- ☐ Note: wetwell shall be coated as per the City Specification Section 02601
- ☐ Show plan view of wetwell to scale including piping, pumps, hatches, concrete, valves, fittings, any reinforcement; minimum scale: $\frac{1}{4}" = 1'$ (thus, $\frac{1}{8}" = 1'$ not allowed)
- ☐ Show section view of wetwell to scale including piping, pumps, hatches, concrete, valves, fittings, any reinforcement, elevations; minimum scale: $\frac{1}{4}" = 1'$ (thus, $\frac{1}{8}" = 1'$ not allowed)
- ☐ Note: all piping shall be DIP
- ☐ Note: wetwell shall be reinforced concrete, min. 3,000 psi, in accordance with ASTM C478
- ☐ Grout shown in wetwell bottom
- ☐ Show note: *Contractor/Developer shall submit shop drawings for pumps, associated lift station equipment, and generator to the design engineer for review and approval prior to submittal to the city engineers. The city must receive two copies of the approved shop drawings with the approval notation and signature of the design engineer. The city shall conduct a final review for compliance with city standards. No lift station installation shall be allowed until the shop drawing review is completed by the design engineer and the city.*

Force Main Plan and Profile:

- ☐ Any lines outside of road right-of-way must be in 20 ft. easement
- ☐ Plan and profile sheets shall be provided for force main. Profiles shall have a horizontal scale of not more than 100 ft. to the inch and a vertical scale of not more than 20 ft. to the inch. The plan view shall be shown on the same sheet as the profile with match-lines if necessary. Plan and profile views should have line designations, station numbers, manhole numbers, and any other indexing necessary to easily correlate the plan and profile views.
- ☐ Plan view: clearly show and label proposed pipeline, size, material, and location
- ☐ Plan view: clearly label all road right-of-ways (existing and proposed) and easements (existing and proposed)
- ☐ Plan view: clearly show and label existing and proposed topography and existing and proposed features pertinent to design and layout along pipeline route
- ☐ Plan view: Provide adequate dimensions, stations, and labels to clearly indicate proposed location of pipeline relative to features such as right-of-way, centerlines, edge of roads, coordinates, etc.
- ☐ All stream crossings with elevations of the streambed
- ☐ Stream/Creek Crossings: cross these under or outside of culvert piping. These installations require restrained joints. Provide plan view and cross section of the crossing showing the existing ground, proposed ground, and side slopes, the creek and culvert, elevations, the proposed pipeline and any fittings necessary. Additional easements may be necessary for this area.
- ☐ Aerial crossings not permitted
- ☐ All piping shall be DIP
- ☐ Show size and location of vacuum and air release valves
- ☐ Need to show 100 yr. floodplain in critical areas
- ☐ Show all items on plan and profile which may pose a conflict (i.e. other utilities, culverts, drains, roads, etc.)
- ☐ Paved road crossings require steel casing with restrained joints inside the casing as per the standards.
- ☐ Show note: *All water and sewer line construction shall be in accordance with the City of Jefferson Standard Specifications and Details, latest edition*

- ☐ Show note: *12-gauge, solid strand detection wire is required to be installed above all forcemains with waterproof connectors and connections at every valve*
- ☐ Show note: *All utility easements are property of the City of Jefferson unless otherwise noted*
- ☐ Show note: *All water and sewer facilities shall be installed by a licensed utility contractor in the State of Georgia*
- ☐ Show note: *Marking tape showing "Caution Sewer Line" shall be installed approximately 18 in. above all waterlines*
- ☐ Show note: *All water and sewer construction is inspected and tested as per city standards prior to final acceptance by the city*

Supporting Data/Calculations/Submittals:

- ☐ Stamped by PE
- ☐ Design flow determination 200 GPD per lot is minimum
- ☐ Peak flow determination
- ☐ Static head and TDH calculation
- ☐ Wetwell volume and cycle time calculation
- ☐ 1 hr. minimum storage
- ☐ Minimum velocity = 3.0 fps
- ☐ Pump passed 3 in. solid
- ☐ Plot of system head curve with selected pump curve
- ☐ Manufacturer's preliminary submittal on pumps and associated items
- ☐ 3-phase power only
- ☐ Buoyancy calculations
- ☐ Submit detail PS-1