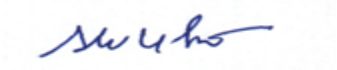
Public Works and Environmental Services Department
WATER AND WASTEWATER SERVICES - ENGINEERING
2555 West Copans Road • Pompano Beach, Florida 33369 • 954-831-0745 • FAX 954-831-0798/0925

GUIDELINE FOR PROVIDING WATER AND WASTEWATER SERVICE TO LAND DEVELOPMENT PROJECTS AND PUBLIC OR PRIVATE PROPERTIES

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This document approved by the Broward County Water & Wastewater Services Technical Standards Committee.



Steven W. Uhrick, P.E, Chair

The following was changed since the last issuance of this document:
Changed size of water service line for dual 5/8" meters from 1" to 2".
Changed size of water service line for single 1" meter from 1" to 2".

GENERAL

No guideline can completely cover all possible circumstances created by the combination of the individual characteristics of a land development project and the configuration of the existing utility system the project will connect to. The intent of this document is to provide information that covers most projects. Water and Wastewater Services (WWS) reserves the right to act in the best interests of its existing customers.

It is the Developer's responsibility to connect to the County's existing potable water, reclaimed water and wastewater system by making all required extensions to the existing system to provide the required potable water, reclaimed water and wastewater level of service to the project. It is WWS' responsibility to define "required level of service" as it applies to any particular project. See the separate document entitled "Guidelines for Determining Ability to Provide Potable Water and Wastewater Service".

Non fire protection connections to an existing County potable water main where the required water main tap is 2-inches or less can be initiated by calling customer service at 954-831-3250; connecting to an existing County gravity wastewater main where a "clean out" already exists for the property can be initiated by calling the same customer service phone number. All other connections to the County's potable water, reclaimed water and wastewater system require written approval from the County in the form of a Developer's Agreement or a Broward County Utility Connection Permit. Most other connections will be approved through the permit process. See the separate document entitled "Utility Connection Permit Process Overview". Service to a property is not guaranteed until the Developer receives a signed agreement or permit from WWS, has complied with the terms and conditions of that agreement or permit and has paid all required fees and charges.

DESIGNS AND DESIGN CRITERIA

WWS approval of potable water/ reclaimed water/ wastewater system designs is a part of the agreement/ permit process. The Developer and/or their engineer are strongly urged to meet with WWS staff to discuss the project at a conceptual level before detailed designs are started. These criteria apply:

A. General

1. A project is defined by the property it serves, which is in turn defined by a legal description that is incorporated into the agreement/ permit process.
2. In making connections to the County's system, the Developer will likely need to construct off-site potable water mains, wastewater gravity mains or force mains, sewage pumping stations and perhaps reclaimed water mains. WWS has minimum requirements for such facilities. The MINIMUM REQUIREMENTS OF THE DEVELOPMENT is the more stringent of the WWS minimum requirements or the requirements necessary to provide "adequate service".
3. The Developer is financially responsible for the MINIMUM REQUIREMENTS OF THE DEVELOPMENT, even if these requirements have capacity to or are positioned in a location to serve other properties. There are a few exceptions that are dependent on specific conditions of the project. Consult with WWS staff to see if an exception applies.
4. The Developer is responsible for the design, permitting and construction of the MINIMUM REQUIREMENTS OF THE DEVELOPMENT, plus any County requested upsizing or extensions of the potable water/ reclaimed water/ wastewater system.
5. WWS is the final determiner of the size of on-site and off-site piping and of the configuration of the potable water/ reclaimed water/ wastewater system necessary to provide adequate service to the project.

B. Private Piping

1. Determination of whether or not on-site piping will be private or will be maintained by the County will be determined by WWS. Private water systems are allowed only when all parts of the project property will be forever served by one water meter and possibly one irrigation meter, and it is not advantageous to the entire system to provide a "loop" through the project property.
2. The County will not serve multiple customers through private, shared or third-party facilities. Each customer must own, have control of and be responsible for the facilities between the County's point of service and the building or other usage location. This includes potable water service lines, reclaimed water service lines and wastewater service connections through other property.
3. Each customer will be individually metered for potable water and will not share the privately owned piping downstream of the meter with any other customer or potential customer.
4. Each customer will have its own wastewater collection system upstream of the County owned cleanout or maintenance access structure and will not share the privately owned piping with another customer or potential customer.
5. Each customer will be individually metered for reclaimed water and will not share the privately owned piping downstream of the meter with any other customer or potential customer.
6. If it is determined by WWS that the property's wastewater needs will be served by private on-site piping, then WWS may determine that all on-site potable water and reclaimed water piping will also be private.
7. All private potable water piping will be separated from the County system by either a County meter and/or a County approved backflow prevention device.
8. The force main from a private lift station will transition to a County owned and maintained force main at a point determined by WWS using the WWS standard detail.
9. In no case will private mainline wastewater sewers be greater than 400 feet in total length. Sewer layout will be configured to minimize private wastewater lateral length. In no case will a private wastewater lateral be greater than 250 feet in length.
10. Any project containing private wastewater sewers will have its approved drawings (both design and record) stamped with the wording:

    THIS PROJECT HAS BEEN APPROVED CONTAINING PRIVATE WASTEWATER SEWERS. PRIVATE SEWERS MAY SEVERELY LIMIT THE ABILITY TO SELL PORTIONS OF THIS PROPERTY IN THE FUTURE. ALL WATER METERS FOR THIS PROPERTY MUST BE IN THE NAME OF THE ONE ENTITY THAT IS RESPONSIBLE FOR MAINTAINING THE PRIVATE SEWERS.

    The same wording will appear in the Agreement or Permit.
11. Any project containing a single fire service for multiple units will have its approved drawings (both design and record) stamped with the wording:

THIS PROJECT HAS BEEN APPROVED CONTAINING A SINGLE FIRE SERVICE FOR MULTIPLE UNITS. THIS MAY SEVERELY LIMIT THE ABILITY TO SELL PORTIONS OF THIS PROPERTY IN THE FUTURE. ALL DOUBLE DETECTOR CHECKS AND BYPASS METERS MUST BE IN THE NAME OF THE ONE ENTITY THAT IS RESPONSIBLE FOR MAINTAINING THE FIRE SERVICE SYSTEM FOR THIS PROPERTY.

The same wording will appear in the Agreement or Permit.

12. Domestic potable water use or irrigation use cannot be supplied by the same private potable water piping used to supply fire protection.
13. All multi-structure residential development of any type will not be allowed to use private potable water, reclaimed water or wastewater systems.

C. On-site Piping

1. The Developer is financially responsible for all on-site potable water system piping, even if extra piping is required on-site to loop the potable water system.
2. The Developer is financially responsible for all on-site wastewater system piping, even if extra depth of gravity piping is required to provide service to other sites.
3. The Developer is financially responsible for all on-site reclaimed water system piping, even if extra piping is required on-site to loop the reclaimed water system.
4. The Developer is financially responsible for extending on-site piping in a manner as requested by WWS to position the County to provide service to other properties. WWS is the final determiner of the location and configuration (and depth in the case of gravity piping) of on-site piping in a manner that best serves the County.

D. Off-site Piping

1. The Developer is financially responsible for extending the potable water system to the full width of the project property (termed “abutting mains”) unless it is judged not necessary by WWS. For properties that abut multiple streets, this means extending the potable water system in multiple directions.
2. The Developer is financially responsible for extending the gravity wastewater system (and terminating the gravity sewer with a maintenance access structure) to the full width of the project property (termed “abutting mains”) at the depth requested by WWS unless it is judged not necessary by WWS. For properties that abut multiple streets, this means extending the wastewater system in multiple directions.
3. The Developer is financially responsible for extending the reclaimed water system to the full width of the project property (termed “abutting mains”) unless it is judged not necessary by WWS. For properties that abut multiple streets, this means extending the reclaimed water system in multiple directions.
4. The Developer is financially responsible for extending the potable water system and or wastewater system and/or reclaimed water system to the nearest point or points of connection to the existing system that can provide adequate service.

5. The Developer is financially responsible for “looping” the potable water system to the extent determined by WWS.
6. If the project or a portion of the project can be served by a gravity wastewater system connected to an existing gravity wastewater system, then the off-site piping must be gravity.
7. The Developer is financially responsible for “looping” the reclaimed water system to the extent determined by WWS.
8. Potable water service connections, reclaimed water service connections and wastewater private force main connections will not be allowed directly into water/force mains 16-inches and larger in size. These larger pipes are considered to be transmission mains. The Developer will be required to run mains to the nearest existing point of connection, or at WWS’ option, construct a new point of connection at a location selected by WWS.

E. Lift (Pump) Stations

1. It is a WWS goal to minimize the number of lift stations owned and maintained by the County and to minimize the number of private lift stations connected to County maintained force mains.

Lift Station Wetwell Diameter (feet)	Lift Station Estimated Capacity (ERU)
6	180
8	670
10	1400

2. See the Potential County Cost Sharing section for more information.

F. Potable Water Meters, Potable Water Service Connections, Reclaimed Water Meters, Reclaimed Water Service Connections and Laterals

1. Each structure must have its own potable water meter(s) and wastewater lateral(s). Structures cannot share a potable water meter or wastewater lateral. The exception to this is two structures where one structure is minor, like a maintenance shed.
2. The Customer is the entity being billed for potable water. The Customer is responsible for the private potable water service between the water meter and the structure, and responsible for the private onsite wastewater lateral between the WWS cleanout and the structure.
3. Meters in multiple entities’ names for a structure. The structure must be plumbed so that each potable water meter – wastewater lateral combination services the same part of the structure. In other words, different Customers can not share private piping.
4. Meter(s) in one entity’s name for a structure. WWS has no special requirement on how the structure is plumbed.
5. Private sub-metering of a structure. WWS allows private sub-metering downstream of its meter.

6. WWS is the final determiner of potable water and reclaimed water meter sizing, except that WWS will not override the Building Code.
7. In determining the size of potable water and reclaimed water meters, WWS will use the following table:

ERU Code	R03	C01-C18	I02-I03
Meter Size	Capacity In Number of Apartment/Condo ERU	Capacity In Number of Commercial ERU	Capacity in Number of Irrigation ERU
5/8 "	0-5	0-6	0-7
1"	0-12	0-14	8-17
1 ½"	13-24	15-29	18-35
2"	25-39	30-46	36-55

When using the table above, first round the ERU value to the nearest whole number. A minimum 1" meter will be used for buildings with urinals or toilets without tanks.

Meter Capacity

Meter Size	Design Flowrate (gpm)	Pressure Loss at Design Flowrate (psi)
5/8 "	16	6.1
1"	40	6.3
1 ½"	80	8.6
2"	128	6.5

Water Service Line Sizes

Meter	Service Line Size
Single 5/8 "	1"
Dual 5/8"	2"
Single 1"	2"
Dual 1"	2"
Single 1 ½"	2"
Dual 1 ½"	*
Single 2"	2"
Dual 2"	*

* Each meter must have its own individual service line.

G. Easements

1. Easements near property lines will be to the property line. Reserve strips will not be used to exclude service to adjacent properties. Easements will be of such widths as determined by WWS.
2. Easements dedicated to the County for the purpose of maintaining or extending potable water/ reclaimed water/ wastewater facilities must be free of obstructions that would preclude maintenance or extension of said facilities. To this end, project design drawings must show all existing and proposed above ground structures, asphalt, paving, landscaping, walls, fences, underground piping, underground structures, duct banks, transformers, poles, retention areas, pavers,

electric, cable, and other utility facilities within existing and proposed easement areas.

3. All facilities that will be owned by the County will be in public right-of-way, plat dedicated easements or easements specifically dedicated to the County for this purpose.
4. Private system facilities can not extend into or use public right-of-way or easements specifically dedicated to the County.
5. Private system facilities can not extend into plat dedicated easements without obtaining written permission to do so from WWS.

See the separate document “Minimum Drawing Requirements for Piping Projects” for additional information.

POTENTIAL COUNTY COST SHARING

A. General

1. The “agreed to amount” of cost sharing will be based upon three bids supplied by the Developer, and agreed to by WWS. The bids will be detailed in a manner satisfactory to WWS so that the “agreed to amount” of cost sharing can be calculated.
2. WWS will collect only the minimum plan review fee for those projects identified early on as potential cost sharing projects.
3. The County Commission has the final approval of any County cost sharing arrangement proposed by WWS where the “agreed to amount” of cost sharing exceeds the plan review fee plus capital recovery charges plus inspection fees for the project. Commission approval will be obtained via a signed developer’s agreement. The “agreed to amount” of cost sharing will be stipulated in the developer’s agreement. The developer’s agreement will also stipulate the amount of time the Developer has to start construction of the project and the amount of time the Developer has to complete construction once it is started, so that construction is completed in a reasonable time frame.
4. If the County is cost sharing for upsizing facilities, it only pays for the incremental construction cost of the upsizing.
5. The County does not cost share for engineering fees, permits fees, administrative fees, financing charges or any other fees or charges.
6. WWS will deduct the “agreed to amount” from any plan review, capital recovery and inspection fees owed by the Developer to minimize the Developer’s initial out of pocket costs.
7. WWS will make one payment to the Developer when all the terms of the developer’s agreement have been complied with.

8. Once a developer's agreement is signed by both parties or a connection permit is issued by WWS, the "agreed to amount" cannot be changed.

B. Piping

1. The County will cost share any on-site or off-site upsizing of pipes requested by WWS over and above the MINIMUM REQUIREMENTS OF THE DEVELOPMENT.
2. The County will cost share any off-site pipes requested by WWS over and above the MINIMUM REQUIREMENTS OF THE DEVELOPMENT.
3. WWS may require the Developer to construct off-site potable water services, reclaimed water services or wastewater laterals. If so, the County will cost share the potable water services/ reclaimed water services/ wastewater laterals per the Potential County Cost Sharing Section.

C. Lift Stations

1. The County will cost share on-site County owned lift stations if WWS has requested that the gravity piping connected to the lift station be designed to provide service to other properties. The County will share the cost based upon the number of ERU for the project and an estimated effective coverage of lift stations in general.

Lift Station Wetwell Diameter (feet)	Lift Station Estimated Coverage (ERU)
6	140
8	470
10	1000

   For example, if the development contains 120 ERU, the Developer would be financially responsible for 25.5% of an 8-foot diameter lift station's estimated construction cost and County would cost share 74.5%.
2. The effective coverage values for the on-site lift station stated above is a combination of the estimated average coverage of lift stations in the County system and the percentage of the lift station the County desires to cost share. Effective coverage is a financial tool and does not equal the actual capacity of a lift station.
3. WWS may want the lift station to be located remote of the project site. In this case the Developer will be required to provide the lift station site to the County at no cost to the County. The Developer will be required to construct the lift station, its force main and the connecting gravity wastewater sewer. However the County will cost share 100% of the estimated construction cost of these facilities. The project will be allowed to proceed with an on-site lift station if the Developer cannot secure an off-site location acceptable to WWS.
4. The County will cost share only one lift station per area (area will be defined by WWS on a case by case basis). The County will finalize its financial participation

with the developer that first complies with all prerequisites and delivers an acceptable signed developer's agreement or connection permit request to WWS.

INITIATING A PROJECT

The Developer and/or their engineer are strongly urged to meet with WWS staff to discuss the project at a conceptual level before detailed designs are started. All projects will be initiated by submitting to WWS a completed "Application for Plan Review". Once plans are approved, it is the Developer's responsibility to submit to WWS a completed "Application for Connection Construction". These two applications will be used by the Developer even if the end result will be a Developer's Agreement and not a Permit.

EQUIVALENT RESIDENTIAL UNITS AND CAPITAL RECOVERY CHARGES

WWS uses Equivalent Residential Units (ERU) to calculate Capital Recovery Charges. The separate document "Equivalent Residential Unit Factors" contains more information on how ERUs are calculated.

ERUs are tied to the project property and cannot be transferred to another property. ERU can be transferred to subsequent owners of the property via letter to WWS signed by the original Developer. Consult with WWS staff for specific requirements of the letter's content.

Unused ERU will not be refunded.

All ERU for the project must be paid for as part of the agreement/permit process, even if some of the project is "future development". The alternative to paying for future ERUs is to not include future development land in the project and not extend potable water and wastewater services to the future development. Once paid, Capital Recovery Charges are not subject to change by the County so long as neither the type of use nor the design capacity of the project property changes. If the type of use or design capacity changes, the Developer will be required to pay the difference per ERU between the charges per ERU originally paid and those prevailing at the time request or subsequent request for service is made, for the changed portions only.