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* Board Certified State and Fed. Govt. & Admin. Practice

** Board Certified City, County and Local Government Law

Reply to: *Venice*

January 17, 2014

Edward Lavalley, City Manager
City of Venice
401 West Venice Avenue
Venice, Florida 34285

RE: Water connection for 1001 Avenida del Circo (Colonial House GP
a/k/a Boone law firm)

Dear Ed:

Pursuant to your request, I have reviewed the history, documents related to water connection and researched the water line and meter requirements of the Florida Plumbing and Building Code for the commercial property located at 1001 Avenida del Circo (referred to herein as "Colonial House"). I have also met with Mr. E. G. Boone and others, owners of the property. The question asked of me is whether there was a prior agreement between the owners of Colonial House and the City regarding the size of the water line and meter to be installed and, if so, what is the effect of that agreement. I offer the following:

FACTS

In the early 2000's the City annexed multiple properties to remove then existing enclaves within the City. The Colonial House was voluntarily annexed. In a form letter sent by the City in March 2001, the costs of annexation were explained as follows: "The total cost of annexation will be \$2,985, which consists of plant capacity fees (\$2,660), connection fees (\$200) and a security deposit

Lakewood Ranch
6853 Energy Court
Lakewood Ranch, Florida 34240

Venice
217 Nassau Street S.
Venice, Florida 34285

Edward Lavallee, City Manager
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(\$125)....These fees are based on a 3/4 x 5/8 inch meter. Some commercial properties may require a larger meter.” (The letter is attached as Exhibit 1.)

In August, 2001, Colonial House paid the City \$2,985.00 for annexation costs that included capacity fees. (See Exhibit 2) By comparison, in 2001 the total capacity fee for water and sewer for a 1½ inch meter was \$13,300.00. The \$2,985 payment was accepted by the City.

A memo dated September 19, 2001, from Dan Boone to Marty Black memorialized a discussion between the two of them as follows: “This memo contains some of the things we discussed this morning:...Total paid by us to annex is \$2,985.00. This has been paid....This is based on a 3/4 inch by 5/8 inch meter. This is the size meter that will serve our property. We will not be required to pay additional charges when actually hooking up to the City of Venice sewer and water.” (See Exhibit 3) Notice was provided to Colonial House on October 14, 2003, to connect to water and sewer service within 365 days. Subsequently an agreement was reached to allow Colonial House to delay connecting to the City utilities until November 13, 2011, in order to amortize a new well and reverse osmosis water treatment system that the property owners had recently installed. (See Exhibit 4)

For commercial properties with the number and types of fixtures within Colonial House, the Florida Plumbing Code then and today requires a 2 inch line with a 1½ inch meter. A 3/4 inch line with a 5/8 inch meter is not allowed for fixtures with flush valves. (See Exhibit 5, letter from Vince LaPorta, Building Official, to Mr. E. G. Boone, dated January 31, 2012.) Section 603.1 “Size of Water Service Pipe” says “... Water services shall be sized in accordance with Table 603.1 or other approved methods.” Table 603.1 “Minimum Water Service Size” says that for the number of water fixtures at Colonial House, the minimum water line is 2 inches and the “recommended” meter size is 1½ inches. This is a Recommended Meter Size based on note d in column which states, “All secondary submeters and backflow assemblies shall be at least the same size as the line in which they are installed.” Finally, the definition under the Plumbing Code of “Approved” is “Acceptable to the code official or other authority having jurisdiction.” (See composite Exhibit 6)

To try to put this into context, a 3/4 inch line with a 5/8 inch meter provides on average 20 gallons of water per minute, whereas a 2 inch line with a 1½ inch meter provides 5 times more water or 100 gallons per minute. A 5/8 inch meter is the smallest the City provides for any property. Today the monthly readiness-to-serve cost of a 5/8 inch meter is \$40.11 (\$18.94 water; \$21.17 sewer) and the monthly readiness-to-serve cost of a 1½ inch meter is \$200.54 (\$94.71 water; \$105.83 sewer).

Mr. E. G. Boone informs me that a hydraulic engineer studied the water usage of Colonial House and he asked questions of a City expert to determine the actual water usage of the property. It was determined that on average it was 1800 gallons per month which is similar to the common

Edward Lavalley, City Manager

January 17, 2014

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usage for the smallest water line and meter. (The average 5/8 meter customer uses approximately 4,000 gallons a month. The average 1½ meter customer uses 20,000 gallons a month. A commercial customer using 1,800 gallons with a 5/8ths meter would pay approximately \$736.85 per year, but would pay \$2,662.01 with a 1½ meter.)

Colonial House has a 1½ inch water line servicing the property from the existing well. The building has a 500 gallon holding tank which receives the water supply. It appears that Colonial House was designed, permitted and constructed with a 1½ inch water line. The Utility Department and the Building Official, based on requirements of the Florida Plumbing Code, are certain that the ¾ inch line and 5/8 inch meter will not provide the building and its plumbing fixtures with sufficient water flow. Mr. Boone disagrees, noting that he believes that water flow would be an issue, if at all, only if all fixtures in the building were used at the same time.

ANALYSIS

Was there an agreement in 2001 between Colonial House and the City as to the size of the water line and meter to be connected to the property?

While the City's notice regarding annexation costs clearly stated that the figures were for residential property and that some commercial property would require a larger meter, Colonial House paid, and the City accepted payment, based upon a 5/8 inch line and ¾ inch meter. E. G. Boone's memo of September 19, 2001, corroborates this payment and acceptance. There is no evidence that I am able to find in the City records that refutes this acceptance or suggests that it was conditional. Therefore, by acceptance of the lower payment, I believe that members of the then City staff did agree that the size of the water line will be ¾ inches and the meter would be 5/8 inches.

There is no written evidence, however, that the Building Official was involved with, knew about or agreed to this arrangement. The Plumbing Code comes under the Florida Building Code and the Building Official is the only official under state law empowered to make interpretations of the Building Code. Courts give great weight to the determination of the individual who, day after day, month after month, year after year, interprets highly technical codes and requirements. Without the Building Official's approval, the City is without legal authority to grant the reduced size line and meter.

During my discussion with Mr. Boone and others from his firm, they believe that the Building Official was involved throughout the discussions regarding use of the smallest water line and meter for their commercial building. They believe that Mr. Black and others at the City at that time would testify to support this involvement.

Edward Lavallee, City Manager

January 17, 2014

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Because of the Florida Plumbing Code requirements and the demands for water service for a commercial property with the number and type of fixtures of Colonial House, the Building Official is unable to accept the smallest water line and meter allowed by the City when a water line of 2 inches is required and a 1½ inch meter is recommended under the Plumbing Code. It is not an "approved method" by the Building Official under the Plumbing Code.

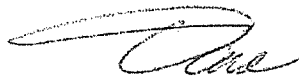
Section 90-56 of the City Code provides for powers for the Construction Board of Adjustment and Appeals. The Board is empowered to hear appeals whenever one of the following conditions are claimed to exist: (1) The Building Official rejected or refused to approve the mode or manner of construction proposed to be followed or materials to be used in the installation or alteration of a building, structure or service system; (2) The provisions of this chapter do not apply to this specific case; (3) An equally good or more desirable form of installation can be employed in any specific case; or (4) The true intent and meaning of this chapter or any of the regulations thereunder have been misconstrued or incorrectly interpreted.

RECOMMENDATION

The Building Official has refused to issue a permit for the connection of a 3/4 inch line with a 5/8 inch meter. I recommend that if the owners of Colonial House wish to seek relief, that you grant them a reasonable amount of time to appeal the determination of the Building Official to the Construction Board of Adjustment and Appeals and that board determine whether, under the totality of these facts, the Building Official's determination should be overruled and the City allowed to issue a permit to install a 3/4 inch line with a 5/8 inch meter. Failing to either connect to a 2 inch line with a 1 ½ inch meter or to be granted an appeal, I recommend that the city require connection in the same manner as we have with other non-connected properties.

I will be pleased to answer any questions that you might have.

Respectfully,

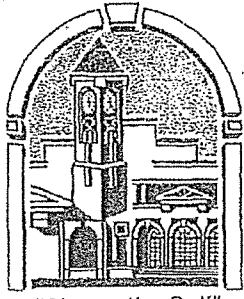


David P. Persson

DPP/dgb

Attachments

cc: E. G. Boone, Esq.
Jeffery A. Boone, Esq.
Vince LaPorta, Building Official
Lennox Bramble, Utility Director
Andrew H. Cohen, Esquire



"City on the Gulf"

CITY OF VENICE

401 W. Venice Avenue Venice, FL 34285

(941) 486-2626 Fax (941) 480-3031
Suncom: 516-4382

March 14, 2001

re: 1001 Avenida del Circo

Dear Property Owner:

Over the past year you have received correspondence from my office explaining the "Welcome to Venice in 2000" program. This program was extremely successful with over 100 enclave properties annexed during that period, leaving just under 200 remaining. City Council is committed to eliminating the enclave situation in Venice. Council approved a resolution extending this program for another six months, effective from March 14 to September 30, 2001. In that commitment Council has also directed staff to begin negotiations with Sarasota County to develop an interlocal agreement pursuant to Florida Statutes. The remaining enclaves will be annexed according to the timetable in the interlocal agreement. It is unknown at this time what the annexation fee will be under the interlocal agreement; however, it will not be lower than the offer currently being presented to you and may be higher.

In the event you did not retain my previous correspondence, allow me to once again provide the cost information contained therein. The total cost of annexation will be \$2,985, which consists of plant capacity fees (\$2,660), connection fees (\$200) and a security deposit (\$125). This is a total reduction of \$4,692 from the previous fee of \$7,677. These fees are based on a 3/4 x 5/8" meter. Some commercial properties may require a larger meter.

With the city's financing plan, you may annex at an initial cost of \$591 and finance the balance at 6.3% for a 9-year period, with the option of paying nine annual installments or 108 monthly installments. The monthly installments would appear on your utility bill.

In order to annex, the city requires an updated ownership and encumbrance report, i.e. current title policy or certificate of ownership from a title company or attorney. That cost is paid directly by you to the company preparing the documents. You would also need to hire a plumber to connect the utility services from the meter to your home. Babe's Plumbing is the city's plumber of record. If you use Babe's, the plumbing fees may also be financed with the same rates described above.

I hope that you will consider annexing into the City of Venice during this extended period. If you have any questions concerning annexation, please call Linda Depew or myself at 486-2626, Ext. 2010, for further information or to obtain the necessary paperwork to get started.

Sincerely,

Lori Stelzer, CMC
City Clerk

Handwritten note: 2,985

Exhibit 1

RECEIVED
MAR 16 2001
LAW OFFICES

Annexation Fee Schedule

As of January 1, 2000
 Cost of an Annexation
 Single Family Residence

City of Venice, Florida
 401 West Venice Avenue
 Venice, Florida 34285
 (941) 486-2626 Ext. 2010

Fees and Charges	Water	Sewer	Misc.	Total	Time Payment
Plant Capacity Fee An amount held in escrow to be used only to increase capacity of plant or lines	\$1,210.00	\$1,450.00		\$2,660.00	\$266.00
Connection Fee The cost of extending the tap from main line to your lot line; it is your responsibility from lot line to house	\$150.00	\$50.00		\$200.00	\$200.00
Security Deposit Refunded at end of two years or if property is sold			\$125.00	\$125.00	\$125.00
Current (last 90 days) Certificate of Ownership and Encumbrance (Title Policy) At time of annexation; purchased through a title company or attorney			\$75-150		
Permits, Building Dept. To cover inspections; to be paid when permit is paid for	\$30.00	\$30.00	\$60.00		
Totals	\$1,390.00	\$1,530.00		\$2,985.00	\$591.00

If financed: a lien will be placed on the property. Requires \$591 up front, finance amount is \$2,394 (principle (\$266) plus interest) annually over 10 years @ 6.3% or may be paid monthly on utility bill @ \$26.94 per month.

Fees for water and sewer extension and annexation fee are waived as of January 1, 2000 a savings of \$4,692.00

If property is not contiguous, the annexation fees are the same. No Ownership and Encumbrance Report is required, but we will need a copy of the warranty deed. They remain county property but with city water and sewer and they pay a 25% surcharge on the utility bill.

CITY OF VENICE
City Clerk's Office

*Annexation over
1 acre
1025.0*

TO: Cashier/Account Receivables

FROM: Deputy City Clerk

SUBJECT: Annexation - Annexation Agreement - Fees Listed

DATE: 8-27-01 DATE TO BE ANNEXED: _____

Customer Name: Cosmial House Fl. C.P. (Bennett Law Firm) Phone No.: 488-6716

Legal Description: Water & Bonds Parcel No.: 0430-09-0004

Street Address: 1001 Avenida del Cielo, Venice Fl.

Mailing Address: 1001 Avenida del Cielo, Venice Fl. 34285-P.O. Box 1546 Venice

Use Plumber of Record : Yes No — Vacant Property Existing Home Duplex

		Total Amount	Total Paid
55% Water Plant Cap. Interest	#421-0000-343.65-70	\$ _____	\$ <u>665.50</u>
Accounts Receivable	_____	_____	_____
Installment Payment	_____	_____	_____
45% Water Plant Cap. Principal	#421-0000-343-65-71	\$ _____	\$ <u>544.50</u>
Accounts Receivable	_____	_____	_____
Installment Payment	_____	_____	_____
55% Sewer Plant Cap. Interest	#421-0000-343-65-72	\$ _____	\$ <u>797.50</u>
Accounts Receivable	_____	_____	_____
Installment Payment	_____	_____	_____
45% Sewer Plant Cap. Principal	#421-0000-343-65-73	\$ _____	\$ <u>652.50</u>
Accounts Receivable	_____	_____	_____
Installment Payment	_____	_____	_____
Sub-Total:		\$ _____	\$ <u>2660.00</u>
Plumber of Record Contract	#421-1202-536.31-02	\$ _____	\$ _____
Accounts Receivable	_____	_____	_____
Installment Payment	_____	_____	_____
Sewer Tap Fee	#421-0000-343.51-23	\$ _____	\$ <u>50.00</u>
Water Tap Fee	#421-0000-343.31-23	\$ _____	\$ <u>150.00</u>
Water Meter Deposit	#421-0000-220.00-00	\$ _____	\$ <u>125.00</u>
Total:		\$ _____	\$ <u>2985.00</u>

PAID
AUG 27 2001

Customer Check # 32526 Bank Name: Wortham Trust

LAW OFFICES
BOONE, BOONE, BOONE, HINES & KODA, P.A.

P. O. BOX 1596
VENICE, FLORIDA 34284

ESTABLISHED 1956

E.G. (DAN) BOONE
JEFFERY A. BOONE
STEPHEN K. BOONE
CHARLES D. HINES
JOHN S. KODA
PEGGY S. FROOK

STREET ADDRESS:
1001 AVENIDA DEL CIRCO 34285
TELEPHONE (941) 488-6716
FAX (941) 488-7079
e-mail: adm@boone-law.com

MEMORANDUM

TO: MARTY BLACK
FROM: E.G. BOONE, ESQUIRE *Ray*
DATE: SEPTEMBER 19, 2001
RE: BOONE LAW FIRM PROPERTY ANNEXATION

This memo contains some of the things we discussed this morning:

1. No additional storm water requirements upon annexation.
2. Solid waste \$7.18 per month and recycling charge of \$5.47 per month.
3. Water and sewer demand. No charge until actually in service.
4. Total paid by us to annex is \$2,985.00. This has been paid. It consists of plant capacity fees \$2,666.00; connection fee \$200.00; security deposit \$125.00. This is based on a 3/4" by 5/8" meter. This is the size meter that will serve our property. We will not be required to pay additional charges when actually hooking up to City of Venice sewer or water.
5. The storm water cost will be calculated by the City Engineer and we will need to review this figure before we complete the annexation.
6. Our property totals 1.69 acres (73,756 square feet).

F:\gent\mmb919

Exhibit 3



LAW OFFICES
BOONE, BOONE, BOONE, KODA & FROOK, P.A.

P. O. BOX 1596
VENICE, FLORIDA 34284

ESTABLISHED 1956

E.G. (DAN) BOONE
JEFFERY A. BOONE
STEPHEN K. BOONE
JOHN S. KODA
MARGARET (PEGGY) S. FROOK

JAMES T. COLLINS, LAND PLANNER
(NOT A MEMBER OF THE FLORIDA BAR)

STREET ADDRESS:
1001 AVENIDA DEL CIRCO 34285
TELEPHONE (941) 488-6716
FAX (941) 488-7079
e-mail: adm@boone-law.com

August 11, 2011

Lenox E. (Len) Bramble, P.E.
City of Venice
Utilities Department
200 North Warfield Avenue
Venice, FL 34285

Re: Boone Law Firm Annexation

Dear Len:

This will confirm our conversation yesterday afternoon.

Under our agreement with the City of Venice, the law firm is to hook up to city water and city sewer by November 13, 2011.

In the event you need any further information please give me a call.

Best regards.

Very truly yours,

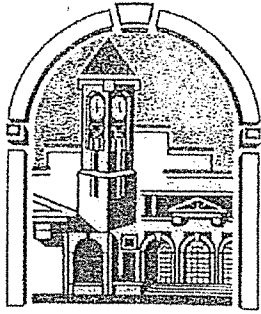
E. G. Boone

EGB/jb
u:\bramble

2011 AUG 12 P 2:59

RECEIVED
CITY OF VENICE
UTILITIES DEPT.-D/C

Exhibit 4



"City on the Gulf"

CITY OF VENICE

401 W. Venice Avenue Venice, FL. 34285

(941) 486-2626 Fax (941) 480-3031

Building Department

January 31, 2018

Mr. E.G. Boone, Esquire
1001 Avenida Del Circo
Venice, Florida 34285

2018 FEB 02 A 8

RECEIVED
CITY OF VENICE
UTILITIES DEPT.

Dear Mr. Boone

On my visit to your office this past Thursday, I verified the number and type of plumbing fixtures located within the building. Based on my findings, there are twenty two fixtures with six fixture types. In accordance with the requirements of the 2007 Florida Plumbing Code, fixture unit values are assigned to each fixture type as shown in the following table.

	<u>1st Floor</u>	<u>2nd Floor</u>	<u>Fixture Units</u>	<u>Totals</u>
Water cooler	1	1	.25	.50
Water Closet (FV) (with flush valves)	3	3	10	60
Urinals (FV)	1	1	5	10
Sinks	4	5	2	18
Dishwasher	0	1	1.4	1.4
Mop Sink	1	1	3	6
			Total Fixture Units	<u>95.9</u>

The total calculated value within your building is 95.9 fixture units. Based on that calculation, the diameter of the water pipe will need to be 2 inches with a 1- 1/2 inch water meter.

For your reference, I've provided the following breakdown showing different water pipe and meter sizes based on the maximum number of fixture units:

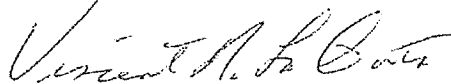
A 3/4 inch water meter is not allowed for fixture units with flush valves. A 1 inch water meter can only supply up the 20 fixture units. The 1-1/2 inch water pipe and water meter

can supply up to 77 fixture units. A 2 inch water pipe and a 1-1/2 inch water meter are required for 78 thru 175 fixture units.

In reviewing the 1997 Standard Plumbing Code which was the code in effect at the time of the annexation of property, the water meter calculation would have never allowed a 3/4 inch water meter. It may have even required a larger size than what the code allows today because of friction loss. Which is a factor in the calculation, but is not a requirement in today's code.

Please let me know if I can be of further assistance. You may contact me at 941-486-2626 ext. 22001.

Sincerely,



Vince LaPorta, CBO
Building and Code Enforcement Director

Attachments

Cc: John Holic, Mayor
City Council
Lori Stelzer, City Clerk
Len Bramble, Utilities Director
Jeffery Snyder, Finance Director

CHAPTER 6

WATER SUPPLY AND DISTRIBUTION

SECTION 601 GENERAL

601.1 Scope. This chapter shall govern the materials, design and installation of water supply systems, both hot and cold, for utilization in connection with human occupancy and habitation and shall govern the installation of individual water supply systems.

601.2 Solar energy utilization. Solar energy systems used for heating potable water or using an independent medium for heating potable water shall comply with the applicable requirements of this code. The use of solar energy shall not compromise the requirements for cross connection or protection of the potable water supply system required by this code.

601.3 Existing piping used for grounding. Existing metallic water service piping used for electrical grounding shall not be replaced with nonmetallic pipe or tubing until other approved means of grounding is provided.

601.4 Tests. The potable water distribution system shall be tested in accordance with Section 312.5.

SECTION 602 WATER REQUIRED

602.1 General. Every structure equipped with plumbing fixtures and utilized for human occupancy or habitation shall be provided with a potable supply of water in the amounts and at the pressures specified in this chapter.

602.2 Potable water required. Only potable water shall be supplied to plumbing fixtures that provide water for drinking, bathing or culinary purposes, or for the processing of food, medical or pharmaceutical products. Unless otherwise provided in this code, potable water shall be supplied to all plumbing fixtures.

602.3 Individual water supply. Where a potable public water supply is not available, individual sources of potable water supply meeting the requirements of *Florida Statute 373* shall be utilized.

602.3.1 Sources. Dependent on geological and soil conditions and the amount of rainfall, individual water supplies are of the following types: drilled well, driven well, dug well, bored well, spring, stream or cistern. Surface bodies of water and land cisterns shall not be sources of individual

water supply unless properly treated by approved means to prevent contamination.

602.3.2 Minimum quantity. The combined capacity of the source and storage in an individual water supply system shall supply the fixtures with water at rates and pressures as required by this chapter.

602.3.3 Water quality. Water from an individual water supply shall be approved as potable by the authority having jurisdiction prior to connection to the plumbing system.

602.3.4 Disinfection of system. After construction or major repair, the individual water supply system shall be purged of deleterious matter and disinfected in accordance with Section 610.

602.3.5 Pumps. Pumps shall be rated for the transport of potable water. Pumps in an individual water supply system shall be constructed and installed so as to prevent contamination from entering a potable water supply through the pump units. Pumps shall be sealed to the well casing or covered with a water-tight seal. Pumps shall be designed to maintain a prime and installed such that ready access is provided to the pump parts of the entire assembly for repairs.

602.3.5.1 Pump enclosure. The pump room or enclosure around a well pump shall be drained and protected from freezing by heating or other approved means. Where pumps are installed in basements, such pumps shall be mounted on a block or shelf not less than 18 inches (457 mm) above the basement floor. Well pits shall be prohibited.

602.4 Reclaimed water. Reclaimed water shall be permitted to be used for flushing water closets and urinals and other fixtures which do not require potable water in accordance with Florida Department of Environmental Protection (DEP) Chapter 62-610, F.A.C. Reuse of reclaimed water activities shall comply with the requirements of DEP Chapter 62-610, F.A.C.

SECTION 603 WATER SERVICE

603.1 Size of water service pipe. The water service pipe shall be sized to supply water to the structure in the quantities and at the pressures required in this code. The minimum diameter of water service pipe shall be $\frac{3}{4}$ inch (19.1 mm). Water services shall be sized in accordance with Table 603.1 or other approved methods.

TABLE 603.1
MINIMUM WATER SERVICE SIZE^a

NO. OF FIXTURE UNITS FLUSH TANK WC ^b	DIAMETER OF WATER PIPE ^c	RECOMMENDED METER SIZE (inches) ^d	APPROX. PRESSURE LOSS METER + 100' PIPE (psi) ^e	NO. OF FIXTURE UNITS FLUSH VALVE WC ^b
18	3/4	5/8	30	—
19-55	1	1	30	—
—	1	1	30	9
56-58	1 1/4	1	30	—
—	1 1/4	1	30	10-20
86-225	1 1/2	1 1/2	30	—
—	1 1/2	1 1/2	30	21-77
226-350	2	1 1/2	30	—
—	2	1 1/2	30	78-175
351-550	2	2	30	—
—	2	2	30	176-315
551-640	2 1/2	2	30	—
—	2 1/2	2	30	316-392
641-1340	3	3	22	—
—	3	3	22	393-940

- a. Table is applicable for both copper and plastic water piping.
- b. See Table 709.1 for fixture unit values.
- c. Minimum water service shall be 3/4 inch to control valve.
- d. All secondary submeters and backflow assemblies shall be at least the same size as the line in which they are installed.
- e. Table based on minimum water main pressure of 50 psi.

603.2 Separation of water service and building sewer. Water service pipe and the building sewer shall be separated by 5 feet (1524 mm) of undisturbed or compacted earth.

Exceptions:

1. The required separation distance shall not apply where the bottom of the water service pipe within 5 feet (1524 mm) of the sewer is a minimum of 12 inches (305 mm) above the top of the highest point of the sewer and the pipe materials conform to Table 702.3.
2. Water service pipe is permitted to be located in the same trench with a building sewer, provided such sewer is constructed of materials listed in Table 702.2.
3. The required separation distance shall not apply where a water service pipe crosses a sewer pipe, provided the water service pipe is sleeved to at least 5 feet (1524 mm) horizontally from the sewer pipe centerline on both sides of such crossing with pipe materials listed in Table 605.3, 702.2 or 702.3.

603.2.1 Water service near sources of pollution. Potable water service pipes shall not be located in, under or above cesspools, septic tanks, septic tank drainage fields or seepage pits (see Section 605.1 for soil and groundwater conditions).

SECTION 604
DESIGN OF BUILDING WATER
DISTRIBUTION SYSTEM

604.1 General. The design of the water distribution system shall conform to accepted engineering practice. Methods utilized to determine pipe sizes shall be approved. Table 603.1 shall be permitted to be used to size the water distribution system.

604.2 System interconnection. At the points of interconnection between the hot and cold water supply piping systems and the individual fixtures, appliances or devices, provisions shall be made to prevent flow between such piping systems.

604.3 Water distribution system design criteria. The water distribution system shall be designed, and pipe sizes shall be selected such that under conditions of peak demand, the capacities at the fixture supply pipe outlets shall not be less than shown in Table 604.3. The minimum flow rate and flow pressure provided to fixtures and appliances not listed in Table 604.3 shall be in accordance with the manufacturer's installation instructions.

TABLE 604.3
WATER DISTRIBUTION SYSTEM DESIGN CRITERIA
REQUIRED CAPACITY AT FIXTURE SUPPLY PIPE OUTLETS

FIXTURE SUPPLY OUTLET SERVING	FLOW RATE ^a (gpm)	FLOW PRESSURE (psi)
Bathtub	4	8
Bidet	2	4
Combination fixture	4	8
Dishwasher, residential	2.75	8
Drinking fountain	0.75	8
Laundry tray	4	8
Lavatory	2	8
Shower	3	8
Shower, temperature controlled	3	20
Sillcock, hose bibb	5	8
Sink, residential	2.5	8
Sink, service	3	8
Urinal, valve	15	15
Water closet, blow out, flushometer valve	35	25
Water closet, flushometer tank	1.6	15
Water closet, siphonic, flushometer valve	25	15
Water closet, tank, close coupled	3	8
Water closet, tank, one piece	6	20

For SI: 1 pound per square inch = 6.895 kPa, 1 gallon per minute = 3.785 L/m.

a. For additional requirements for flow rates and quantities, see Section 604.4.

604.4 Maximum flow and water consumption. The maximum water consumption flow rates and quantities for all plumbing fixtures and fixture fittings shall be in accordance with Table 604.4.

CHAPTER 6

WATER SUPPLY AND DISTRIBUTION

SECTION 601 GENERAL

601.1 Scope. This chapter shall govern the materials, design and installation of water supply systems, both hot and cold, for utilization in connection with human occupancy and habitation and shall govern the installation of individual water supply systems.

601.2 Solar energy utilization. Solar energy systems used for heating potable water or using an independent medium for heating potable water shall comply with the applicable requirements of this code. The use of solar energy shall not compromise the requirements for cross connection or protection of the potable water supply system required by this code.

601.3 Existing piping used for grounding. Existing metallic water service piping used for electrical grounding shall not be replaced with nonmetallic pipe or tubing until other *approved* means of grounding is provided.

601.4 Tests. The potable water distribution system shall be tested in accordance with Section 312.5.

SECTION 602 WATER REQUIRED

602.1 General. Every structure equipped with plumbing fixtures and utilized for human occupancy or habitation shall be provided with a potable supply of water in the amounts and at the pressures specified in this chapter.

602.2 Potable water required. Only potable water shall be supplied to plumbing fixtures that provide water for drinking, bathing or culinary purposes, or for the processing of food, medical or pharmaceutical products. Unless otherwise provided in this code, potable water shall be supplied to all plumbing fixtures.

602.3 Individual water supply. Where a potable public water supply is not available, individual sources of potable water supply meeting the requirements of *Florida Statute 373* shall be utilized.

602.3.1 Sources. Dependent on geological and soil conditions and the amount of rainfall, individual water supplies are of the following types: drilled well, driven well, dug well, bored well, spring, stream or cistern. Surface bodies of water and land cisterns shall not be sources of individual water supply unless properly treated by *approved* means to prevent contamination.

602.3.2 Minimum quantity. The combined capacity of the source and storage in an individual water supply system shall supply the fixtures with water at rates and pressures as required by this chapter.

602.3.3 Water quality. Water from an individual water supply shall be *approved* as potable by the authority having jurisdiction prior to connection to the plumbing system.

602.3.4 Disinfection of system. After construction or major repair, the individual water supply system shall be purged of deleterious matter and disinfected in accordance with Section 610.

602.3.5 Pumps. Pumps shall be rated for the transport of potable water. Pumps in an individual water supply system shall be constructed and installed so as to prevent contamination from entering a potable water supply through the pump units. Pumps shall be sealed to the well casing or covered with a water-tight seal. Pumps shall be designed to maintain a prime and installed such that ready *access* is provided to the pump parts of the entire assembly for repairs.

602.3.5.1 Pump enclosure. The pump room or enclosure around a well pump shall be drained and protected from freezing by heating or other *approved* means. Where pumps are installed in basements, such pumps shall be mounted on a block or shelf not less than 18 inches (457 mm) above the basement floor. Well pits shall be prohibited.

602.4 Reclaimed water. Reclaimed water shall be permitted to be used for flushing water closets and urinals and other fixtures which do not require potable water in accordance with Florida Department of Environmental Protection (DEP) Chapter 62-610, *F.A.C.* Reuse of reclaimed water activities shall comply with the requirements of DEP Chapter 62-610, *F.A.C.*

SECTION 603 WATER SERVICE

603.1 Size of water service pipe. The water service pipe shall be sized to supply water to the structure in the quantities and at the pressures required in this code. The minimum diameter of water service pipe shall be $\frac{3}{4}$ inch (19.1 mm). Water services shall be sized in accordance with Table 603.1 or other approved methods.

603.2 Separation of water service and building sewer. Water service pipe and the *building sewer* shall be separated by 5 feet (1524 mm) of undisturbed or compacted earth.

Exceptions:

1. The required separation distance shall not apply where the bottom of the water service pipe within 5 feet (1524 mm) of the *sewer* is a minimum of 12 inches (305 mm) above the top of the highest point of the *sewer* and the pipe materials conform to Table 702.3.
2. Water service pipe is permitted to be located in the same trench with a *building sewer*, provided such *sewer* is constructed of materials listed in Table 702.2.
3. The required separation distance shall not apply where a water service pipe crosses a *sewer* pipe, pro-

CHAPTER 2

DEFINITIONS

SECTION 201 GENERAL

201.1 Scope. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings shown in this chapter.

201.2 Interchangeability. Words stated in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural the singular.

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the *Florida Building Code, Building, Florida Fire Prevention Code, Florida Building Code, Fuel Gas* or the *Florida Building Code, Mechanical*, such terms shall have the meanings ascribed to them as in those codes.

201.4 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have the meanings as defined in Webster's *Third New International Dictionary of the English Language Unabridged*.

SECTION 202 GENERAL DEFINITIONS

ACCEPTED ENGINEERING PRACTICE. That which conforms to accepted principles, tests or standards of nationally recognized technical or scientific authorities.

ACCESS (TO). That which enables a fixture, appliance or equipment to be reached by ready *access* or by a means that first requires the removal or movement of a panel, door or similar obstruction (see "Ready *access*").

ACCESS COVER. A removable plate, usually secured by bolts or screws, to permit *access* to a pipe or pipe fitting for the purposes of inspection, repair or cleaning.

ADAPTER FITTING. An *approved* connecting device that suitably and properly joins or adjusts pipes and fittings which do not otherwise fit together.

AIR ADMITTANCE VALVE. One-way valve designed to allow air to enter the plumbing drainage system when negative pressures develop in the piping system. The device shall close by gravity and seal the vent terminal at zero differential pressure (no flow conditions) and under positive internal pressures. The purpose of an air admittance valve is to provide a method of allowing air to enter the plumbing drainage system without the use of a vent extended to open air and to prevent *sewer* gases from escaping into a building.

AIR BREAK (Drainage System). A piping arrangement in which a drain from a fixture, appliance or device discharges indirectly into another fixture, receptacle or interceptor at a point below the *flood level rim* and above the trap seal.

AIR GAP (Drainage System). The unobstructed vertical distance through the free atmosphere between the outlet of the waste pipe and the *flood level rim* of the receptacle into which the waste pipe is discharging.

AIR GAP (Water Distribution System). The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture or other device and the *flood level rim* of the receptacle.

ALTERNATIVE ENGINEERED DESIGN. A plumbing system that performs in accordance with the intent of Chapters 3 through 12 and provides an equivalent level of performance for the protection of public health, safety and welfare. The system design is not specifically regulated by Chapters 3 through 12.

ANCHORS. See "Supports."

ANTISIPHON. A term applied to valves or mechanical devices that eliminate siphonage.

APPROVED. Acceptable to the code official or other authority having jurisdiction.

APPROVED AGENCY. An established and recognized agency approved by the code official and that is regularly engaged in conducting tests or furnishing inspection services.

AREA DRAIN. A receptacle designed to collect surface or storm water from an open area.

ASPIRATOR. A fitting or device supplied with water or other fluid under positive pressure that passes through an integral orifice or constriction, causing a vacuum. Aspirators are also referred to as suction apparatus, and are similar in operation to an ejector.

BACKFLOW. Pressure created by any means in the water distribution system, which by being in excess of the pressure in the water supply mains causes a potential backflow condition.

Backpressure, low head. A pressure less than or equal to 4.33 psi (29.88 kPa) or the pressure exerted by a 10-foot (3048 mm) column of water.

Backsiphonage. The backflow of potentially contaminated water into the potable water system as a result of the pressure in the potable water system falling below atmospheric pressure of the plumbing fixtures, pools, tanks or vats connected to the potable water distribution piping. ←

Drainage. A reversal of flow in the drainage system.

Water supply system. The flow of water or other liquids, mixtures or substances into the distribution pipes of a potable water supply from any source except the intended source.

BACKFLOW CONNECTION. Any arrangement whereby backflow is possible.

CONTAMINATION. An impairment of the quality of the potable water that creates an actual hazard to the public health through poisoning or through the spread of disease by sewage, industrial fluids or waste.

CRITICAL LEVEL (C-L). An elevation (height) reference point that determines the minimum height at which a backflow preventer or vacuum breaker is installed above the *flood level rim* of the fixture or receptor served by the device. The critical level is the elevation level below which there is a potential for backflow to occur. If the critical level marking is not indicated on the device, the bottom of the device shall constitute the critical level.

CROSS CONNECTION. Any physical connection or arrangement between two otherwise separate piping systems, one of which contains potable water and the other either water of unknown or questionable safety or steam, gas or chemical, whereby there exists the possibility for flow from one system to the other, with the direction of flow depending on the pressure differential between the two systems (see "Backflow").

DEAD END. A *branch* leading from a soil, waste or vent pipe; a *building drain*; or a *building sewer*, and terminating at a *developed length* of 2 feet (610 mm) or more by means of a plug, cap or other closed fitting.

DEPTH OF TRAP SEAL. The depth of liquid that would have to be removed from a full trap before air could pass through the trap.

DESIGN FLOOD ELEVATION. The elevation of the "design flood," including wave height, relative to the datum specified on the community's legally designated flood hazard map.

DEVELOPED LENGTH. The length of a pipeline measured along the centerline of the pipe and fittings.

DISCHARGE PIPE. A pipe that conveys the discharges from plumbing fixtures or appliances.

DRAIN. Any pipe that carries wastewater or water-borne wastes in a building drainage system.

DRAINAGE FITTINGS. Type of fitting or fittings utilized in the drainage system. Drainage fittings are similar to cast-iron fittings, except that instead of having a bell and spigot, drainage fittings are recessed and tapped to eliminate ridges on the inside of the installed pipe.

DRAINAGE FIXTURE UNIT

Drainage (dfu). A measure of the probable discharge into the drainage system by various types of plumbing fixtures. The drainage fixture-unit value for a particular fixture depends on its volume rate of drainage discharge, on the time duration of a single drainage operation and on the average time between successive operations.

DRAINAGE SYSTEM. Piping within a *public* or *private* premise that conveys sewage, rainwater or other liquid wastes to a point of disposal. A drainage system does not include the mains of a *public sewer* system or a private or public sewage treatment or disposal plant.

Building gravity. A drainage system that drains by gravity into the *building sewer*.

Sanitary. A drainage system that carries sewage and excludes storm, surface and ground water.

Storm. A drainage system that carries rainwater, surface water, subsurface water and similar liquid wastes.

EFFECTIVE OPENING. The minimum cross-sectional area at the point of water supply discharge, measured or expressed in terms of the diameter of a circle or, if the opening is not circular, the diameter of a circle of equivalent cross-sectional area. For faucets and similar fittings, the *effective opening* shall be measured at the smallest orifice in the fitting body or in the supply piping to the fitting.

EMERGENCY FLOOR DRAIN. A floor drain that does not receive the discharge of any drain or indirect waste pipe, and that protects against damage from accidental spills, fixture overflows and leakage.

ESSENTIALLY NONTOXIC TRANSFER FLUIDS. Fluids having a Gosselin rating of 1, including propylene glycol; mineral oil; polydimethylsiloxane; hydrochlorofluorocarbon, chlorofluorocarbon and carbon refrigerants; and FDA-approved boiler water additives for steam boilers.

ESSENTIALLY TOXIC TRANSFER FLUIDS. Soil, waste or gray water and fluids having a Gosselin rating of 2 or more including ethylene glycol, hydrocarbon oils, ammonia refrigerants and hydrazine.

EXISTING INSTALLATIONS. Any plumbing system regulated by this code that was legally installed prior to the effective date of this code, or for which a permit to install has been issued.

FAUCET. A valve end of a water pipe through which water is drawn from or held within the pipe.

FILL VALVE. A water supply valve, opened or closed by means of a float or similar device, utilized to supply water to a tank. An antisiphon fill valve contains an antisiphon device in the form of an *approved air gap* or vacuum breaker that is an integral part of the fill valve unit and that is positioned on the discharge side of the water supply control valve.

FIXTURE. See "Plumbing fixture."

FIXTURE BRANCH. A drain serving two or more fixtures that discharges to another drain or to a *stack*.

FIXTURE DRAIN. The drain from the trap of a fixture to a junction with any other drain pipe.

FIXTURE FITTING

Supply fitting. A fitting that controls the volume and/or directional flow of water and is either attached to or accessible from a fixture, or is used with an open or atmospheric discharge.

Waste fitting. A combination of components that conveys the sanitary waste from the outlet of a fixture to the connection to the sanitary drainage system.

FIXTURE SUPPLY. The water supply pipe connecting a fixture to a *branch* water supply pipe or directly to a main water supply pipe.

FLOOD HAZARD AREA. The greater of the following two areas:

MAIN. The principal pipe artery to which branches are connected.

MANIFOLD. See "Plumbing appurtenance."

MECHANICAL JOINT. A connection between pipes, fittings, or pipes and fittings that is not screwed, caulked, threaded, soldered, solvent cemented, brazed or welded. A joint in which compression is applied along the centerline of the pieces being joined. In some applications, the joint is part of a coupling, fitting or adapter.

MEDICAL GAS SYSTEM. The complete system to convey medical gases for direct patient application from central supply systems (bulk tanks, manifolds and medical air compressors), with pressure and operating controls, alarm warning systems, related components and piping networks extending to station outlet valves at patient use points.

MEDICAL VACUUM SYSTEMS. A system consisting of central-vacuum-producing equipment with pressure and operating controls, shutoff valves, alarm-warning systems, gauges and a network of piping extending to and terminating with suitable station inlets at locations where patient suction may be required.

NONPOTABLE WATER. Water not safe for drinking, personal or culinary utilization.

NUISANCE. Public nuisance as known in common law or in equity jurisprudence; whatever is dangerous to human life or detrimental to health; whatever structure or premises is not sufficiently ventilated, sewerd, drained, cleaned or lighted, with respect to its intended *occupancy*; and whatever renders the air, or human food, drink or water supply unwholesome.

OCCUPANCY. The purpose for which a building or portion thereof is utilized or occupied.

OFFSET. A combination of *approved* bends that makes two changes in direction bringing one section of the pipe out of line but into a line parallel with the other section.

OPEN AIR. Outside the structure.

PLUMBING. The practice, materials and fixtures utilized in the installation, maintenance, extension and alteration of all piping, fixtures, plumbing appliances and plumbing appurtenances, within or adjacent to any structure, in connection with sanitary drainage or storm drainage facilities; venting systems; and public or private water supply systems.

PLUMBING APPLIANCE. Any one of a special class of plumbing fixtures intended to perform a special function. Included are fixtures having the operation or control dependent on one or more energized components, such as motors, controls, heating elements, or pressure- or temperature-sensing elements.

Such fixtures are manually adjusted or controlled by the owner or operator, or are operated automatically through one or more of the following actions: a time cycle, a temperature range, a pressure range, a measured volume or weight.

PLUMBING APPURTENANCE. A manufactured device, prefabricated assembly or an on-the-job assembly of component parts that is an adjunct to the basic piping system and plumbing fixtures. An appurtenance demands no additional

water supply and does not add any discharge load to a fixture or to the drainage system.

PLUMBING FIXTURE. A receptacle or device that is either permanently or temporarily connected to the water distribution system of the premises and demands a supply of water therefrom; discharges wastewater, liquid-borne waste materials or sewage either directly or indirectly to the drainage system of the premises; or requires both a water supply connection and a discharge to the drainage system of the premises.

PLUMBING SYSTEM. Includes the water supply and distribution pipes; plumbing fixtures and traps; water-treating or water-using equipment; soil, waste and vent pipes; and sanitary and storm sewers and building drains; in addition to their respective connections, devices and appurtenances within a structure or premises.

POLLUTION. An impairment of the quality of the potable water to a degree that does not create a hazard to the public health but that does adversely and unreasonably affect the aesthetic qualities of such potable water for domestic use.

POTABLE WATER. Water free from impurities present in amounts sufficient to cause disease or harmful physiological effects and conforming to the bacteriological and chemical quality requirements of the Public Health Service Drinking Water Standards or the regulations of the public health authority having jurisdiction.

PRIVATE. In the classification of plumbing fixtures, "*private*" applies to fixtures in residences and apartments, and to fixtures in nonpublic toilet rooms of hotels and motels and similar installations in buildings where the plumbing fixtures are intended for utilization by a family or an individual.

PUBLIC OR PUBLIC UTILIZATION. In the classification of plumbing fixtures, "*public*" applies to fixtures in general toilet rooms of schools, gymnasiums, hotels, airports, bus and railroad stations, public buildings, bars, public comfort stations, office buildings, stadiums, stores, restaurants and other installations where a number of fixtures are installed so that their utilization is similarly unrestricted.

PUBLIC WATER MAIN. A water supply pipe for public utilization controlled by public authority.

QUICK-CLOSING VALVE. A valve or faucet that closes automatically when released manually or that is controlled by a mechanical means for fast-action closing.

READY ACCESS. That which enables a fixture, appliance or equipment to be directly reached without requiring the removal or movement of any panel, door or similar obstruction and without the use of a portable ladder, step stool or similar device.

RECLAIMED WATER. Water that has received treatment and is reused after flowing out of a domestic wastewater treatment facility.

REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER. A backflow prevention device consisting of two independently acting check valves, internally force-loaded to a normally closed position and separated by an intermediate chamber (or zone) in which there is an automatic relief means of venting to the atmosphere, internally loaded to a normally open position between two tightly closing shutoff valves and

SWIMMING POOL. Any structure, basin, chamber or tank containing an artificial body of water for swimming, diving or recreational bathing having a depth of 2 feet (610 mm) or more at any point.

TEMPERED WATER. Water having a temperature range between 85°F (29°C) and 110°F (43°C).

THIRD-PARTY CERTIFICATION AGENCY. An *approved* agency operating a product or material certification system that incorporates initial product testing, assessment and surveillance of a manufacturer's quality control system.

THIRD-PARTY CERTIFIED. Certification obtained by the manufacturer indicating that the function and performance characteristics of a product or material have been determined by testing and ongoing surveillance by an *approved third-party certification agency*. Assertion of certification is in the form of identification in accordance with the requirements of the *third-party certification agency*.

THIRD-PARTY TESTED. Procedure by which an *approved* testing laboratory provides documentation that a product, material or system conforms to specified requirements.

TRAP. A fitting or device that provides a liquid seal to prevent the emission of *sewer* gases without materially affecting the flow of sewage or wastewater through the trap.

TRAP SEAL. The vertical distance between the weir and the top of the dip of the trap.

UNSTABLE GROUND. Earth that does not provide a uniform bearing for the barrel of the *sewer* pipe between the joints at the bottom of the pipe trench.

VACUUM. Any pressure less than that exerted by the atmosphere.

VACUUM BREAKER. A type of backflow preventer installed on openings subject to normal atmospheric pressure that prevents backflow by admitting atmospheric pressure through ports to the discharge side of the device.

VENT PIPE. See "Vent system."

VENT STACK. A vertical vent pipe installed primarily for the purpose of providing circulation of air to and from any part of the drainage system.

VENT SYSTEM. A pipe or pipes installed to provide a flow of air to or from a drainage system, or to provide a circulation of air within such system to protect trap seals from siphonage and backpressure.

VERTICAL PIPE. Any pipe or fitting that makes an angle of 45 degrees (0.79 rad) or more with the horizontal.

WALL-HUNG WATER CLOSET. A wall-mounted water closet installed in such a way that the fixture does not touch the floor.

WASTE. The discharge from any fixture, appliance, area or appurtenance that does not contain fecal matter.

WASTE PIPE. A pipe that conveys only waste.

WATER-HAMMER ARRESTOR. A device utilized to absorb the pressure surge (water hammer) that occurs when water flow is suddenly stopped in a water supply system.

WATER HEATER. Any heating appliance or equipment that heats potable water and supplies such water to the potable *hot water* distribution system.

WATER MAIN. A water supply pipe or system of pipes, installed and maintained by a city, township, county, public utility company or other public entity, on public property, in the street or in an *approved* dedicated easement of public or community use.

WATER OUTLET. A discharge opening through which water is supplied to a fixture, into the atmosphere (except into an open tank that is part of the water supply system), to a boiler or heating system, or to any devices or equipment requiring water to operate but which are not part of the plumbing system.

WATER PIPE

Riser. A water supply pipe that extends one full story or more to convey water to branches or to a group of fixtures.

Water distribution pipe. A pipe within the structure or on the premises that conveys water from the water service pipe, or from the meter when the meter is at the structure, to the points of utilization.

Water service pipe. The pipe from the water main or other source of potable water supply, or from the meter when the meter is at the public right of way, to the water distribution system of the building served.

WATER SUPPLY SYSTEM. The water service pipe, water distribution pipes, and the necessary connecting pipes, fittings, control valves and all appurtenances in or adjacent to the structure or premises.

WELL

Bored. A well constructed by boring a hole in the ground with an auger and installing a casing.

Drilled. A well constructed by making a hole in the ground with a drilling machine of any type and installing casing and screen.

Driven. A well constructed by driving a pipe in the ground. The drive pipe is usually fitted with a well point and screen.

Dug. A well constructed by excavating a large-diameter shaft and installing a casing.

WHIRLPOOL BATHTUB. A plumbing appliance consisting of a bathtub fixture that is equipped and fitted with a circulating piping system designed to accept, circulate and discharge bathtub water upon each use.

YOKE VENT. A pipe connecting upward from a soil or waste *stack* to a vent *stack* for the purpose of preventing pressure changes in the stacks.