

CAROL CHADWICK, P.E.

Civil Engineer

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June 10, 2022

re: Washington Springs Fire Flow Report

ISO: $NFF = (C) (O) [1 + (X + P)] = 1200 * 0.85 [1 + (0 + 0)] = 1020 \rightarrow 1000 \text{ gpm}$

Where:

NFF = Needed Fire Flow

(C) = Construction factor, including effective area: $C = 1000$

(O) = Occupancy factor: $C-2 = 0.85$

(X + P) = Exposures and communication (openings) factor: 0

$C = 18F\sqrt{A} = 18 * 1.5 * \sqrt{1800} = 1145 \rightarrow 1200$

Where:

F = the coefficient related to the construction type = 1.5

A = the effective building area (assumed) = 1800 sf

NFPA: required flow 1500 gpm

Per the attached Water Flow Report dated 05/17/22, the water flow is 3444 gpm at 20 psi.

Please contact me at 307.680.1772 if you have any questions.

Respectfully,



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Carol Chadwick
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cn=Carol Chadwick
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Carol Chadwick, P.E.

City of Lake City

Water flow report

HYDRANT # & LOCATION: **1128 NE Washington Street** DATE: **5/17/2022**
TEST BY: **Al/Daniel** Day: **Tuesday** Time: **8.45** Minutes: **2**
WATER SUPPLIED BY: **Municipal**
PURPOSE OF TEST: **request**

DATA

FLOW HYDRANT(S)	A1	A2	A3
SIZE OPENING:	2.5	2.5	2.5
COEFFICIENT:	0.8		
PITOT READING:	40		
GPM:	943	0	0

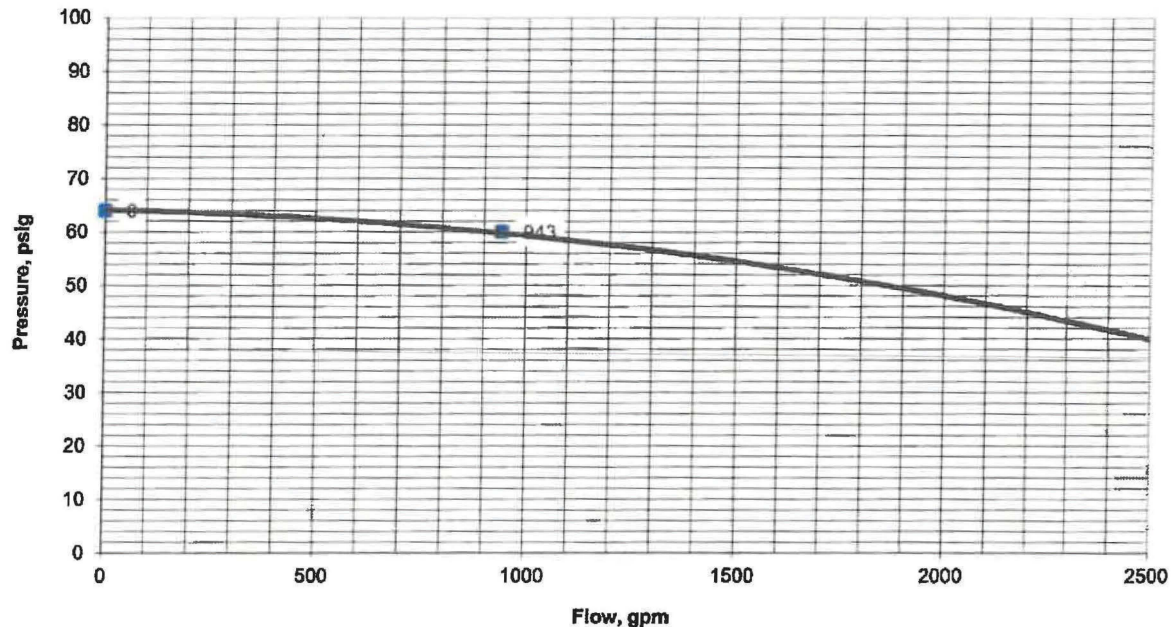
TOTAL FLOW DURING TEST: **943** GPM

STATIC READING: **64** PSI RESIDUAL: **60** PSI

RESULTS: AT 20 PSI RESIDUAL **3444** GPM AT 0 PSI **4216** GPM

ESTIMATED CONSUMPTION: **1887** GAL.

REMARKS:



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re: Washington Springs Concurrency Impact Analysis

The site is located in an area currently use for single family homes. Calculations were based on 3 bedroom homes.

Criteria for analyses:

- Trip generation was calculated per the ITE Trip Generation Manual, 9th edition, ITE code 210
- Potable Water Analysis per Chapter 64E-6.008 Florida Administrative Code, Table 1
- Sanitary Sewer Analysis Chapter 64E-6.008 Florida Administrative Code, Table 1
- Environmental Engineering: A Design Approach, Sincero and Sincero, 1996

Summary of analyses:

- Trip generation: 38.28 ADT & 4.04 Peak PM trips
- Potable Water: 4800 gallons per day
- Potable Water: 4800 gallons per day
- Solid Waste: 5.48 tons per year

See attached Concurrency Worksheet.

Please contact me at 307.680.1772 if you have any questions.

Respectfully,



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**REVISED CONCURRENCY
WORKSHEET**

Washington Springs
06/10/22

Trip Generation Analysis

ITE Code	ITE Use	ADT Multiplier	PM Peak Multiplier	Dwelling Units	Total ADT	Total PM Peak
210	Single Family Homes	9.57	1.01	4.00	38.28	4.04

Potable Water Analysis

Ch. 64E-6.008, F.A.C. Use	Ch. 64E-6.008, F.A.C. Gallons Per Day (GPD)	Ch. 64E-6.008, F.A.C. Multiplier*	Total (Gallons Per Day)
Single Family Homes	400.00	12.00	4800.00

* Multiplier is based upon Ch. 64E.6008, Florida Administrative Code and can vary from square footage, number of employees, number of seats, or etc. See Ch. 64E-6.008, F.A.C. to determine multiplier.

Sanitary Sewer Analysis

Ch. 64E-6.008, F.A.C. Use	Ch. 64E-6.008, F.A.C. Gallons Per Day (GPD)	Ch. 64E-6.008, F.A.C. Multiplier*	Total (Gallons Per Day)
Single Family Homes	400.00	12.00	4800.00

* Multiplier is based upon Ch. 64E.6008, F.A.C. and can vary from square footage, number of employees, number of seats, or etc. See Ch. 64E-6.008, F.A.C. to determine multiplier.

Solid Waste Analysis

Use	Tons Per Dwelling Unit**	Households	Total (Tons Per Year)
Single Family Homes	1.83	3.00	5.48

**0.73 tons per person per year x 2.5 person per household = 1.825 tons per dwelling unit

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June 10, 2022

re: Washington Springs Comprehensive Plan Consistency Analysis

Washington Springs is consistent with Lake City's Comprehensive Plan.

Future Land Use Element

GOAL 1 - IN RECOGNITION OF THE IMPORTANCE OF CONSERVING THE NATURAL RESOURCES AND ENHANCING THE QUALITY OF LIFE, THE CITY SHALL DIRECT DEVELOPMENT TO THOSE AREAS WHICH HAVE IN PLACE, OR HAVE AGREEMENTS TO PROVIDE, THE LAND AND WATER RESOURCES, FISCAL ABILITIES AND SERVICE CAPACITY TO ACCOMMODATE GROWTH IN AN ENVIRONMENTALLY ACCEPTABLE MANNER.

- Objective 1.1 The City shall continue to direct future population growth and associated urban development to urban development areas as established within this comprehensive plan.

Consistency: The site is located in an existing residential area.

- Policy 1.1.1 The City shall limit the location of higher density residential and high intensity commercial and industrial uses to areas adjacent to arterial or collector roads where public facilities are available to support such higher density or intensity. In addition, the City shall enable private subregional centralized potable water and sanitary sewer systems to connect to public regional facilities, in accordance with the objective and policies for the urban and rural areas within this future land use element of the comprehensive plan.

Consistency: The 4 proposed lots meet the requirements per the LDR's. The lots will utilize the City's sewer and water systems.

- Policy 1.1.2 The City's future land use plan map shall allocate amounts and mixes of land uses for residential, commercial, industrial, public and recreation to meet the needs of the existing and projected future populations and to locate urban land uses in a manner where public facilities may be provided to serve such urban land uses. Urban land uses shall be herein defined as residential, commercial and industrial land use categories.

Consistency: The site is located in an existing residential area.

- Policy 1.1.3 The City's future land use plan map shall base the designation of residential, commercial and industrial lands depicted on the future land use plan map upon acreage which can be reasonable expected to develop by the year 2023.

Consistency: The subdivision of the land will be complete prior to 2023.

- Policy 1.1.4 The City shall continue to maintain standards for the coordination and siting of

proposed urban development near agricultural or forested areas, or environmentally sensitive areas (including but not limited to wetlands and floodplain areas) to avoid adverse impact upon existing land uses.

Consistency: The proposed use of the subject property is consistent with other residential uses in the area and will not have any adverse environmental impacts on the existing land uses.

- Policy I.1.5 The City shall continue to regulate and govern future urban development within designated urban development areas in conformance with the land topography and soil conditions, and within an area which is or will be served by public facilities and services.

Consistency: The site is located in an existing residential area.

- Policy I.1.6 The City's land development regulations shall be based on and be consistent with the following land use classifications and corresponding standards for densities and intensities within the designated urban development areas of the City. For the purpose of this policy and comprehensive plan, the phrase "other similar uses compatible with" shall mean land uses that can co-exist in relative proximity to other uses in a stable fashion over time such that no other uses within the same land use classification are negatively impacted directly or indirectly by the use.

Consistency: The proposed lots are compatible with the adjacent residential lots.

Please contact me at 307.680.1772 if you have any questions.

Respectfully,



Digitally signed
by Carol
Chadwick
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