



**SEXTON ENGINEERING ASSOCIATES, INC.**

Consulting Engineers and Surveyors

# **WATER & SEWER DEMAND ANALYSIS**

*for*

**THE WELLINGTON NORTH**

**WELLINGTON, FLORIDA**

*Prepared by*

**SEXTON ENGINEERING ASSOCIATES, INC.**

**110 PONCE DE LEON STREET, SUITE 100**

**ROYAL PALM BEACH, FLORIDA 33411**

**TELEPHONE: (561) 792-3122**

**ENGINEERING BUSINESS: #7864**

**SEA PROJECT NO: 2242T15**

**December 6, 2023**



THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:

**Michael F Sexton**

Digitally signed by Michael F

Sexton

Date: 2023.12.06 15:00:25 -05'00'

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## WATER & SEWER DEMAND ANALYSIS

### *Introduction:*

The 59.43-acre property was formerly the Palm Beach Polo Stadium, has been redeveloped into the World Dressage Complex, also known as Equestrian Village, which includes equestrian arenas, a covered equestrian arena, parking areas, buildings, concrete vendor decks, and equestrian support facilities.

In addition, the adjoining 36.74-acre equestrian commercial recreation property has been added to this property to increase the project size to 96.17- acres. This 36.74-acre property is currently improved as polo fields.

### *Water Demand Analysis:*

The Village of Wellington currently provides potable water service to the property via an onsite 6" watermain. There is also an existing 8" watermain on the east side of South Shore Blvd. along the west side of the property and an existing 16" watermain on the north side of Pierson Road along the south side of the property.

The Comprehensive Plan Amendment proposes a residential development incorporating 96 residential units comprised of 49 single-family units, and 47 multi-family units. The project will also include a member's clubhouse, gym, pool decks with four pools, tennis, padel, and pickleball courts, a golf range, a golf clubhouse, a drive shack, and an open grass lawn. These amenities will serve the residential units on this project as well as 107 single-family residential units at the proposed Wellington South project, 50 multi-family units at the proposed Coach House project, and a maximum of 200 social members, honorary members, or similar seasonal members from outside the proposed development.

These uses will add the following water demand, per the attached Potable Water and Sanitary Sewer Request for Confirmation of Available Capacity letter to The Village of Wellington (the multiplier of 3.02 persons per house shall be utilized for the calculations of residents and members that will use the facilities at The Wellington North development):

**Water Demand Table**

Use	Units	Unit Average Daily Demand	Total Average Daily Demand
<b>Residential</b> Single & Multi-Family Dwellings)	96	988 gpd	42,536 gpd
<b>Country Club</b> (Residents)	290	130 gpd	37,700 gpd
<b>Country Club</b> (Members)	675	33 gpd	21,938 gpd
<b>Country Club</b> (Employees)	50	20 gpd	975 gpd
<b>Office Building</b> (Admin. Office)	61 (per 100 sq. ft.)	20 gpd	1,190 gpd

**Sewer Demand Analysis:**

The Village of Wellington currently provides sewer service to the property via an onsite 8" gravity sanitary sewer collection system and a private lift station.

The Comprehensive Plan Amendment proposes a residential development incorporating 96 residential units comprised of 49 single-family units, and 47 multi-family units. The project will also include a member's clubhouse, gym, pool decks with four pools, tennis, padel, and pickleball courts, a golf range, a golf clubhouse, a drive shack, and an open grass lawn. These amenities will serve the residential units on this project as well as 107 single-family residential units at the proposed Wellington South project, 50 multi-family units at the proposed Coach House project, and a maximum of 200 social members, honorary members, or similar seasonal members from outside the proposed development.

These uses will add the following sewer demand, per the attached Potable Water and Sanitary Sewer Request for Confirmation of Available Capacity letter from The Village of Wellington (the multiplier of 3.02 persons per house shall be utilized for the calculations of residents and members that will use the facilities at The Wellington North development):

**Sewer Demand Table**

<b>Use</b>	<b>Units</b>	<b>Unit Average Daily Demand</b>	<b>Total Average Daily Demand</b>
<b>Residential</b> (Single & Multi-Family Dwellings)	96	760 gpd	32,720 gpd
<b>Country Club (Residents)</b>	290	100 gpd	29,000 gpd
<b>Country Club (Members)</b>	675	25 gpd	16,875 gpd
<b>Country Club (Employees)</b>	50	15 gpd	750 gpd
<b>Office Building</b> (Admin. Office)	61 (per 100 sq. ft.)	15 gpd	915 gpd



## Potable Water and Sanitary Sewer Request for Confirmation of Available Capacity

**Date:** December 6, 2023

**To:** Anjuli K. Panse, P.E.  
Interim Utility Director  
Village of Wellington Utility Department  
12300 Forest Hill Blvd.  
Wellington, FL 33414

**From:** Sexton Engineering Associates, Inc.  
110 Ponce de Leon Street, Suite 100  
Royal Palm Beach, Florida 33411

**Project Address:** The Wellington North

**PCN:** See attached.

### Project Summary (Include all applicable land use, zoning, and density information)

### Demand Summary

(Submit Potable Water and Sanitary Sewer Average Day Projected Demand Table Worksheet as backup)

Average Day Water Demands (MGD) =	0.104	MGD
Peak Day Water Demands (MGD) =	0.146	MGD

Average Day Wastewater Demands (MGD) =	0.080	MGD
Peak Day wastewater Demands (MGD) =	0.112	MGD

By submittal of this document and backup information, the applicant requests that the Village of Wellington review the information provided in order to confirm that Wellington can meet the proposed demands for water and sewer service as noted above. The applicant is advised that no guarantee of available capacity is expressed or implied, until such a time that the Owner has reserved capacity through payment of all applicable fees and charges. The capacity letter shall be considered expired 90 days from the date of issuance.

Potable Water and Sanitary Sewer Average Day Projected Demand Table Worksheet- July 2022

TYPE OF ESTABLISHMENT	Number of Units	WW demand per unit (GPD)	Water demand per unit (GPD)	Avg WW Demand (GPD)	Avg Water Demand (GPD)
Complete Green Cells to Calculate Projected Average and Peak Demands					
Water to Wastewater average day Demand Factor (12 month rolling average) Updated October 1, 2018	1.30				
<b>COMMERCIAL:</b>					
Barber & beauty shops per service chair		75	98	0	0
Bowling alley bathroom waste only per lane		50	65	0	0
<b>Country Club</b>					
(a) Per resident	290	100	130	29000	37700
(b) Add Per member or patron	675	25	33	16875	21937.5
(c) Add Per employee per 8 hour shift	50	15	20	750	975
<b>Doctor and Dentist offices</b>					
(a) Per practitioner		250	325	0	0
(b) Add per employee per 8 hour shift		15	20	0	0
<b>Food operations</b>					
(a) Restaurant operating 16 hours or less per day per seat		40	52	0	0
(b) Restaurant operating more than 16 hours per day per seat		60	78	0	0
(c) Restaurant using single service articles only and operating 16 hour or less per day per seat		20	26	0	0
(d) Restaurant using single service articles only and operating more than 16 hours per day per seat		35	46	0	0
(e) Bar and cocktail lounge per seat		20	26	0	0
1. add per pool table or video game		15	20	0	0
(f) Drive - in restaurant per car space		50	65	0	0
(g) Carry out only, including caterers					
1. Per 100 square feet of floor space		50	65	0	0
2. Add per employee per 8 hour shift		15	20	0	0
(h) Institutions per meal		5	7	0	0
(i) Food Outlets excluding deli's, bakery, or meat department per 100 square feet of floor space		10	13	0	0
1. Add for deli per 100 square feet of deli floor space		40	52	0	0
2. Add for bakery per 100 square feet of bakery floor space		40	52	0	0
3. Add for meat department per 100 square feet of meat department floor space		75	98	0	0
4. Add per water closet		200	260	0	0
<b>Hotels</b>					
(a) Regular per room		100	130	0	0
(b) Resort hotels, camps, cottages per room		200	260	0	0
(c) Add for establishments with self-service laundry facilities per machine		750	975	0	0
<b>Office building</b>					
1. per employee per 8 hour shift or		15	20	0	0
2. per 100 square feet of floor space, whichever is greater	61	15	20	915	1189.5

TYPE OF ESTABLISHMENT	Number of Units	WW demand per unit (GPD)	Water demand per unit (GPD)	Avg WW Demand (GPD)	Avg Water Demand (GPD)
<b>Service stations per water closet</b>					
(a) Open 16 hours per day or less		250	325	0	0
(b) Open more than 16 hours per day		325	423	0	0
<b>Shopping centers without food or laundry per square foot of floor space</b>		0.1	0.13	0	0
<b>Stadiums, race tracks, ball park per seat</b>		4	5	0	0
<b>Stores per bathroom</b>		200	260	0	0
<b>Theatres and Auditoriums, per seat</b>		4	5	0	0
<b>Veterinary Clinic</b>					
(a) Per practitioner		250	325	0	0
(b) Add per employee per 8 hour shift		15	20	0	0
(c) Add per kennel, stall or cage		20	26	0	0
<b>Warehouse</b>					
(a) Add per employee per 8 hour shift		15	20	0	0
(b) Add per loading bay		100	130	0	0
(c) self-storage, per unit(up to 200 units)		1	1	0	0
1. Add 1 gallon for each 2 units or fraction thereof, for over 200 units, and shall be in addition to employees, offices or living quarters flow rates.		1	1	0	0
<b>INSTITUTIONAL:</b>					
<b>Churches per seat which includes kitchen wastewater flows unless meals prepared on a routine basis</b>		3	4	0	0
1. If meals served on a regular basis add per meal prepared		5	7	0	0
<b>Hospitals per bed which does not include kitchen wastewater flows</b>		200	260	0	0
1. add per meal prepared		5	7	0	0
<b>Nursing, rest homes, adult congregate living facilities per bed which does not include kitchen wastewater flows</b>		100	130	0	0
1. add per meal prepared		5	7	0	0
<b>Parks, public picnic</b>					
(a) With toilets only per person		4	5	0	0
(b) With bathhouse, shower & toilets per person		10	13	0	0
<b>Public Institutions other than schools and hospitals per person which does not include kitchen wastewater flows</b>		100	130	0	0
1. add per meal prepared		5	7	0	0
<b>Schools per student</b>					
(a) Day-type		10	13	0	0
(b) Add for shower		4	5	0	0
(c) Add for cafeteria		4	5	0	0
(d) Add for day school workers		15	20	0	0
(e) Boarding -type		75	98	0	0

TYPE OF ESTABLISHMENT	Number of Units	WW demand per unit (GPD)	Water demand per unit (GPD)	Avg WW Demand (GPD)	Avg Water Demand (GPD)
<b>RESIDENTIAL</b>					
(a) Single or multiple family per dwelling Unit					
1 Bedroom with 750 sq. ft. or less of building area		100	130	0	0
2 Bedroom with 751 - 1200 sq. ft. of building area		200	260	0	0
3 Bedroom with 1201 - 2250 sq. ft. of building area	76	300	390	22800	29640
4 Bedroom with 2251 - 3300 sq. ft. of building area	20	400	520	8000	10400
For each additional bedroom or each additional 750 square feet of building area or fraction thereof in a dwelling unit, system sizing shall be increase by 60 gallons per dwelling unit	32	60	78	1920	2496
(b) Other per occupant		50	65	0	0
OTHER CATEGORY NOT LISTED (ENGINEER TO PROVIDE BACKUP)				0	0
OTHER CATEGORY NOT LISTED (ENGINEER TO PROVIDE BACKUP)				0	0
OTHER CATEGORY NOT LISTED (ENGINEER TO PROVIDE BACKUP)				0	0
Summary of Average Day Wastewater and Water Demands (GPD) =				80260	104338
Summary of Average Day Wastewater and Water Demands (MGD) =				0.080	0.104

Summary of Peak Day Wastewater and Water Demands (MGD) = Average Daily Demand x 1.4 =	0.112 (WW)	0.146 (Water)
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[1] Systems serving high volume establishments, such as restaurants, convenience stores and service stations located near interstate type highways and similar high-traffic areas, require special sizing consideration due to expected above average volumes. The minimum estimated flows for these facilities shall be 3 times the volumes determined from the Demand Table Figures.

