Sanitary Sewer Service Feasibility Analysis

The Honorable Donna Deegan, Mayor

R. Brett James, Director Planning & Development

JACKSONVILLE PLANNING AND DEVELOPMENT DEPARTMENT
214 N. Hogan Street, Suite 300, Jacksonville, Florida 32202

Contents

Introduction

Legislative Requirements

Pursuant to Chapter 2023-169, Laws of Florida, which amended Section 163.3177, Florida Statutes, local governments are now required to include a sewer service feasibility analysis in the Infrastructure Element.

The analysis must consider, for any development of more than 50 residential lots, whether built or unbuilt, with more than one onsite sewage treatment and disposal system per 1 acre, the feasibility of providing sanitary sewer services within a 10-year planning horizon.

The analysis shall include:

1. The name and location of the wastewater facility that could receive sanitary sewer flows after connection.
2. The capacity of the facility and any associated transmission facilities.
3. The projected wastewater flow at that facility for the next 20 years, including expected future new construction and connections of onsite sewage treatment and disposal systems to sanitary sewer.
4. A timeline for the construction of the sanitary sewer system.

An onsite sewage treatment and disposal system is presumed to exist on a parcel if sanitary sewer services are not available at or adjacent to the parcel boundary.

Each comprehensive plan must be updated to include this element, and as needed thereafter to account for future applicable developments.

In addition to these statutory requirements, Chapter 751, Municipal Code implements the Water / Wastewater System Improvement Program. This program identifies priority target areas for connections to central water and wastewater treatment systems and the elimination of on-site treatment and disposal systems.

City of Jacksonville Water / Wastewater System Improvement Program

Wastewater systems within the City of Jacksonville are owned, operated, and maintained by JEA. The City of Jacksonville has partnered with JEA to invest and implement a septic tank phase out program. Chapter 751 was modified in 2017 to incorporate a program to expand main lines from the JEA facilities, connect homes to those connection points, and abandon the septic tanks. The City and JEA developed a priority matrix based on the following priorities:

I. 70 Percent of Scoring:
    a. DOH Failure Areas
        i. Repair score based off the number of repair permits

ii. Score for size of lot
iii. Soil potential
iv. Seasonal high-water table
v. Threat to potable water
vi. Sanitary conditions (based on bacteria levels of nearby tributaries)
vii. Proximity to SJR
viii. Potential for flooding

b. Those sites within 150 meters of a waterway
c. Tributary exceedance factor

II. 30 Percent of Scoring:
a. If the neighborhood was developed prior to 1968
b. Median home value
c. If potable water was available
d. Elimination of proliferation score
e. Offsite economic development opportunities

Each neighborhood is ranked in accordance with their score. These scores are evaluated each year and adjustments are made for any change in ranking. Once funding is identified for the next priority neighborhood, work will begin, and that neighborhood is no longer actively scored. To date, Biltmore is complete with 212 connections; Beverly Hills is actively connecting with 479 connections to date; Christobel is currently under design; and Riverview community outreach will begin in the current quarter.

The Septic Tank matrix covers 35 neighborhoods originally identified by the Department of Health for a septic tank education program where there were concerns about septic tank failures. This list contains approximately 23,167 septic tanks and there are approximately 60,000 to 75,000 septic tanks in Duval County. The overall estimated cost of connecting these neighborhoods in today's (2024) dollars is approximately $1.5 billion. The 2 neighborhoods that are currently complete or actively connecting total $59 million. Christobel, while under design, is estimated to cost $34 million removing approximately 500 septic tanks. And, while very preliminary, project costs for Riverview are anticipated to exceed $100 million and will remove approximately 2,300 septic tanks. While the City has been phasing out septic tanks for over 20 years, the current Septic Tank Phase-Out program has been in operation for 7 years. In the next 20 years, we believe we may be able to complete five neighborhoods: Riverview, Champion Forest, Emerson, St. Nicholas, and Eggleston Heights if the ranking stays as is.

Figure 1 - Water/Wastewater System Improvement Program Septic Tank Matrix

Septic Tank Phase-Out Prioritization - June 2023

Environmental, Health & Welfare (Max. 70 points)

Area Designation	DCHD 2023 Score (60 pts)[D]	No. of Units* Within Area	No. of Units* Within 150M Buffer[A] (BMAP)	Factor For Lots Within The 150 M Buffer	Potential Annual Water Quality Benefit[B] (Metric Tons)	Impaired Tributary Exceedance Factor[C]	Environ, Health & Welfare Score Subtotal
Biltmore C		358	266		0.12		
Beverly Hills		749	314		0.25		
Christobel		511	123		0.06		
Riverview		2343	840		0.56		
Champion Forest	48.64	610	262	3	0.24	4.17	55.81
Emerson	48.66	751	437	3	0.4	4.77	56.43
St. Nicholas	48.69	623	343	3	0.31	4.79	56.48
Eggleston Heights	47.01	3416	1446	3	1.31	4.87	54.88
Julington Creek	58.03	2000	1282	4	1.16	2.33	64.36
Empire Point	45.08	342	212	4	0.19	3.72	52.80
Sub-Totals:		11703			4.6		

Community Considerations (Max. 30 points) / **Overall**

Area Designation	Development Prior to *1968* 10 pts	Median Home Value[H] 5 pts	Water 5 pts	Other Infrastructure (*FYI*) Drain.	Curb	S/W	Elimination of Future Proliferation[H] 5 pts	Offsite Economic Development Opportunities 5 pts	Community Considerations Score Subtotal	Total Score
Biltmore C				N	N	N				
Beverly Hills				N	N	N				
Christobel				N	N	P				
Riverview				N	N	N				
Champion Forest	10	4.32	3	N	N	N	4.51	1.0	22.83	78.64
Emerson	10	3.17	0	N	N	N	5.00	2.0	20.17	76.60
St. Nicholas	10	2.94	0	N	N	P	3.40	3.0	19.35	75.83
Eggleston Heights	10	3.39	0	Y	P	P	4.42	2.7	20.51	75.39
Julington Creek	0	2.73	2	P	P	P	3.90	1.0	9.62	73.98
Empire Point	10	2.76	0	P	P	N	0.89	1.5	15.15	67.95

Sewer Cost / **Water Cost**

Area Designation	Sewer Capacity Fee Available From JEA (%) of lots	Sewer Cost per Connected House (2022 $$)	Area Total Sewer Cost		Area Water Cost[F]
Biltmore C	76	$62,303	$14,578,971	J	$4,375,509
Beverly Hills	40	$68,215	$44,339,828	J	$0
Christobel	0	$66,538	$34,001,171		$1,236,844
Riverview	0	$66,538	$155,899,696	TOP TIER	$11,342,170
Champion Forest	0	$66,538	$40,588,482		$4,429,401
Emerson	0	$66,538	$49,970,410		$0
St. Nicholas	0	$66,538	$41,453,483		$0
Eggleston Heights	0	$66,538	$227,295,502		$0
Julington Creek	0	$66,538	$133,076,992		$9,681,750
Empire Point	0	$66,538	$22,756,166		$0
Sub-Totals:			$763,960,701		$31,065,673

DCHD Determining Criteria

Area Designation	1A 2023 Repair Score	1B Age of Septic Tank System	2 Average Lot Size	3 Soil Potential	4 Seasonal High Water Table	5 Threat to Potable Water	6 Sanitary Conditions	7 Proximity to St Johns River	8 Potential for Flooding	DCHD 2023 Score
Champion Forest	6		0	9.27	9.37	8	7	4	5	**48.64**
St. Nicholas	10		0	7.74	8.95	4	8	10	0	**48.69**
Emerson	10		6	6.13	7.53	4	8	7	0	**48.66**
Eggleston Heights	10		4	2.56	4.45	6	5	10	5	**47.01**
Julington Creek	10		2	7.06	7.97	6	5	10	10	**58.03**
Kinard	2		0	8.2	8.92	6	5	10	10	**50.12**
Westfield	6		6	10	10	0	3	10	10	**55.00**
Atlantic Highlands	0		0	8.85	9.31	10	3	10	0	**41.16**
Empire Point	10		4	3.42	5.66	6	6	10	0	**45.08**
Oak Lawn	10		6	4.49	6.62	4	6	10	0	**47.11**

Environmental, Health & Welfare Notes

[A] Potential to qualify for water quality benefit credits

[B] Per Septic Tank Phase Out Water Quality Prioritization (by consultant) dated May 11, 2016.

[C] Refers to fecal coliform impairment only and is the score provided by the COJ Environmental Quality Division.

[D] Maximum DCHD score allowable in matrix = 60.00.

* "Unit" - a parcel that is non-vacant or could potentially be non-vacant, i.e., a home or business that could occupy a buildable parcel. This unit counts as one, but could have multiple, habitable separate structures in its boundary or could have multi-family residential buildings.

Factor For Lots Within The 150 M Buffer

% Within Buffer	Factor
0	0
1 to 20	1
21 to 40	2
41 to 60	3
61 to 80	4
81 to 100	5

Community Considerations Notes

Home Value[H] Scoring: This score is computed by dividing the area's median home value by the highest area's median home value on the list. This value is then subtracted from 1. This is in turn subtracted from 5 (the maximum points in the category). = 5-(1 -([a...z]/Ω))

[H] Value source - Duval Co. Property Appraiser

Water Scoring:
5 = No existing water system in Area
4 = Existing water system in 20% of Area
3 = Existing water system in 40% of Area
2 = Existing water system in 60% of Area
1 = Existing water system in 80% of Area
0 = Existing water system in 100% of Area

Elimination of Proliferation Score: This score is computed by dividing the area's number of vacant parcels by the largest number of vacant parcels on the list. This value is then multiplied by 5 (the maximum points in the category). = 5*([a...z]/Ω)

[H] Vacant Parcels from Duval Co. Property Appraiser

Other Infrastructure:
'N' denotes infrastructure is not in-place
'P' denotes infrastructure is partially in-place
'Y' denotes infrastructure is fully in place

Legend

Yellow: Denotes columns to be scored.
Blue: Denotes updated May 2023

Standard Costs per Dwelling (Incl. Connection)[G]

Type	Unit Cost	Units	Per lot Sub-Total
Gravity Sewer Systems: Includes main, manholes, laterals, pump station, force main, tank abandonment, on-site construction, testing, restoration, and general conditions - lump sum per lot (Based on Biltmore, Beverly Hills bids)	$ 51,873	1	$ 51,873
Real Estate for PS	$ 60,000	serves 300 lots	$ 200
Capacity Fee & Main Ext. Fee[I] (Apr.2023)	$ 5,114	0.8	$ 4,091
Proj. Mgmt., Eng., CEI (20% +/-)	$ 10,375	1	$ 10,375
		Total	$ 66,538
Water Systems: Includes mains, hydrants, valves, fittings, services, and connections (No restoration or gen. conditions)	$ 9,105	1	$ 9,105
Connection & capacity fee[I] (Apr. 2023)	$ 1,470	0.8	$ 1,176
Proj. Mgmt., Eng., CEI (20% +/-)	$ 1,821	1	$ 1,821
		Total	$ 12,102

Cost Consideration Notes

[F] Area Water Cost=Standard Cost per dwelling x number of lots x the percent without existing water.

[G] Costs include restoring road and drainage to pre-construction condition. These costs updated June 2022 based on Biltmore and Beverly Hills construction bids.

[I] Assumes that 80% of lots will connect to the system.

[J] Based on bids or Actuals of completed project

Print Date: 6/12/2023

Septic Tank Phase-Out Prioritization

Area Designation	DCHD 2023 Score	No. of Units Within Failure Area	No. of Units Within 150M Buffer[A] (BMAP)	Factor For Lots Within The 150 M Buffer	Potential Annual Water Quality Benefit[B] (Metric Tons)	Impaired Tributary Exceedance Factor[C]	Environ, Health & Welfare Score Subtotal	Development Prior to 1968 10 pts	Median Home Value[H] 5 pts	Water 5 pts	Drain.	Curb	S/W	Elimination of Future Proliferation[H] 5 pts	Offsite Economic Development Opportunities 5 pts	Community Considerations Score Subtotal	Total Score	Sewer Capacity Fee Available From JEA (%) of lots	Sewer Cost per House (2022 $'s)	Area Total Sewer Cost	Area Water Cost[F]
	Environmental, Health & Welfare (Max. 70 Points)							Community Considerations (Max. 30 points)		Other Infrastructure	FYI						Overall	Sewer Cost			Water Cost
Champion Forest	48.64	610	262	3	0.24	4.17	55.81	10	4.32	3	N	N	N	4.51	1.0	22.83	78.64	0	$66,538	$40,588,482	$4,429,401
Emerson	48.66	751	437	3	0.40	4.77	56.43	10	3.17	0	N	N	N	5.00	2.0	20.17	76.60	0	$66,538	$49,970,410	$0
St. Nicholas	48.69	623	343	3	0.31	4.79	56.48	10	2.94	0	N	N	P	3.40	3.0	19.35	75.83	0	$66,538	$41,453,483	$0
Eggleston Heights	47.01	3416	1446	3	1.31	4.87	54.88	10	3.39	0	Y	P	P	4.42	2.7	20.51	75.39	0	$66,538	$227,295,502	$0
Julington Creek	58.03	2000	1282	4	1.16	2.33	64.36	0	2.73	2	P	P	P	3.90	1.0	9.62	73.98	0	$66,538	$133,076,992	$9,681,750
Empire Point	45.08	342	212	4	0.19	3.72	52.80	10	2.76	0	P	P	N	0.89	1.5	15.15	67.95	0	$66,538	$22,756,166	$0
Westfield	55.00	190	13	1	0.01	0.00	56.00	10	1.94	0	N	N	N	0.00	0.0	11.94	67.94	0	$66,538	$12,642,314	$0
Kinard	50.12	81	59	5	0.05	3.03	58.15	0	3.58	3	N	P	P	0.61	2.0	9.19	67.35	0	$66,538	$5,389,618	$588,166
Oak Lawn	47.11	230	220	5	0.20	2.74	54.85	10	2.12	0	Y	Y	Y	0.21	0.0	12.33	67.19	0	$66,538	$15,303,854	$0
Atlantic Highlands	41.16	102	54	5	0.05	2.74	48.90	10	3.90	3	N	N	P	0.77	0.0	17.66	66.56	0	$66,538	$6,786,927	$740,654
Sans Pereil	43.98	369	181	5	0.16	3.50	52.48	0	1.71	5	N	N	N	3.34	0.0	14.00	66.48	0	$66,538	$24,552,705	$4,465,707
Cedar River	42.82	386	263	4	0.24	3.95	50.77	10	3.27	0	P	P	P	0.80	0.5	14.57	65.34	0	$66,538	$25,683,859	$0
Lakeshore	45.99	1344	253	1	0.23	1.84	48.83	10	3.64	0	P	N	P	1.29	1.0	15.93	64.76	0	$66,538	$89,427,738	$0
Holly Oaks	41.56	282	171	4	0.16	4.67	50.23	10	3.03	1	P	P	P	0.21	0.2	14.44	64.67	0	$66,538	$18,763,856	$682,563
Spring Glen	41.13	485	348	4	0.32	3.72	48.85	10	2.76	0	P	P	P	1.99	1.0	15.76	64.61	0	$66,538	$32,271,170	$0
Mill Creek	41.26	435	141	2	0.13	4.02	47.28	10	3.47	1	Y	Y	P	0.80	0.9	16.16	63.45	0	$66,538	$28,944,246	$1,052,890
Inwood Terrace	41.00	95	52	4	0.05	4.77	49.77	10	3.62	0	Y	P	P	0.00	0.0	13.62	63.39	0	$66,538	$6,321,157	$0
Julington Hills	49.52	617	432	4	0.39	3.43	56.95	0	2.23	0	P	P	P	1.84	1.0	5.07	62.02	0	$66,538	$41,054,252	$0
Lone Star Park	39.33	321	127	2	0.12	4.67	46.00	10	3.24	0	Y	P	P	0.52	0.9	14.67	60.66	0	$66,538	$21,358,857	$0
Hood Landing II	47.64	509	410	5	0.37	3.43	56.07	0	2.54	0	Y	Y	Y	0.55	0.0	3.09	59.15	0	$66,538	$33,868,094	$0
Northlake	42.00	121	121	5	0.11	0.83	47.83	0	2.06	5	Y	N	N	0.40	3.0	10.46	58.29	0	$66,538	$8,051,158	$1,464,365
Point La Vista	40.70	830	143	1	0.13	3.91	45.61	10	0.00	0	Y	P	P	0.52	0.2	10.72	56.33	0	$66,538	$55,226,952	$0
Beauclerc Gardens	44.88	530	300	3	0.27	4.38	52.26	0	1.14	1	Y	P	P	0.58	0.0	2.72	54.98	0	$66,538	$35,265,403	$1,282,832
Ortega	39.84	167	31	2	0.03	1.84	43.68	10	0.05	0	Y	N	N	0.06	0.0	10.11	53.79	0	$66,538	$11,111,929	$0
Clifton	31.93	524	309	3	0.28	4.02	38.95	10	1.69	0	Y	P	P	1.07	1.9	14.67	53.62	0	$66,538	$34,866,172	$0
Oakhaven	30.91	790	500	4	0.45	3.72	38.63	10	2.69	0	P	P	N	1.47	0.5	14.66	53.29	0	$66,538	$52,565,412	$0
The Cape	39.64	40	35	5	0.03	0.00	44.64	0	2.81	5	Y	N	N	0.18	0.0	7.99	52.63	0	$66,538	$2,661,540	$484,087
Odessa	31.00	34	31	5	0.03	0.00	36.00	10	4.19	0	Y	N	N	0.09	0.1	14.38	50.38	0	$66,538	$2,262,309	$0
Southside Estates	20.94	2305	1780	4	1.61	4.67	29.61	10	3.36	0	P	N	P	4.02	1.0	18.38	47.98	0	$66,538	$153,371,233	$0
Pablo Point	39.31	238	133	3	0.12	2.74	45.05	0	0.99	0	Y	Y	N	0.06	0.6	1.65	46.70	0	$66,538	$15,836,162	$0
Mt. Pleasant	32.87	439	280	4	0.25	1.38	38.25	0	2.37	3	Y	P	P	0.37	0.0	5.74	43.98	0	$66,538	$29,210,400	$3,187,716
This page sub total:		19206			9.4														Total This Page	$1,277,938,352	$13,948,981
Totals:	Lots	23167		MT Removed:	10.39														Overall Total	$1,526,758,018	$45,014,654

Notes: 1. Other areas not yet identified as septic tank failure areas, will be entered on the above spreadsheet when assigned a DCHD score.
2. Offsite Economic Dev. Opportunity Scoring: Whole points are awarded for the potential to connect significant undeveloped/under-developed (SU/UD) parcels along the offsite route of new wastewater mains providing service. Whole points are awarded for the potential to connect exterior SU/UD parcels abutting the area. If the area is bi-sected by a major commercial highway, fractional points are awarded for the potential to connect interior SU/UD parcels on the highway.

Sanitary Sewer Feasibility Study Area/Feasibility Analysis

Appendix A, the JEA Septic Tank Analysis, evaluates 61 developments of 50 lots or more that are not included in the Water/ Wastewater System Improvement Program. JEA determined the nearest points of connection for each development, the total capacity of each development based on 200 GPD/home, the wastewater facility receiving flow, and the projected wastewater flow at that facility for the next 20 years. The JEA Septic Tank Analysis included an Opinion of Probable cost to give an idea for the cost of hook up for each of the 61 developments. See Opinion of Probably cost information below:

Opinion of Probable Cost

Using the Christobel STPO 10% submittal as a basis of cost, the following values were used in providing an Opinion of Probable cost for each of the Developments:

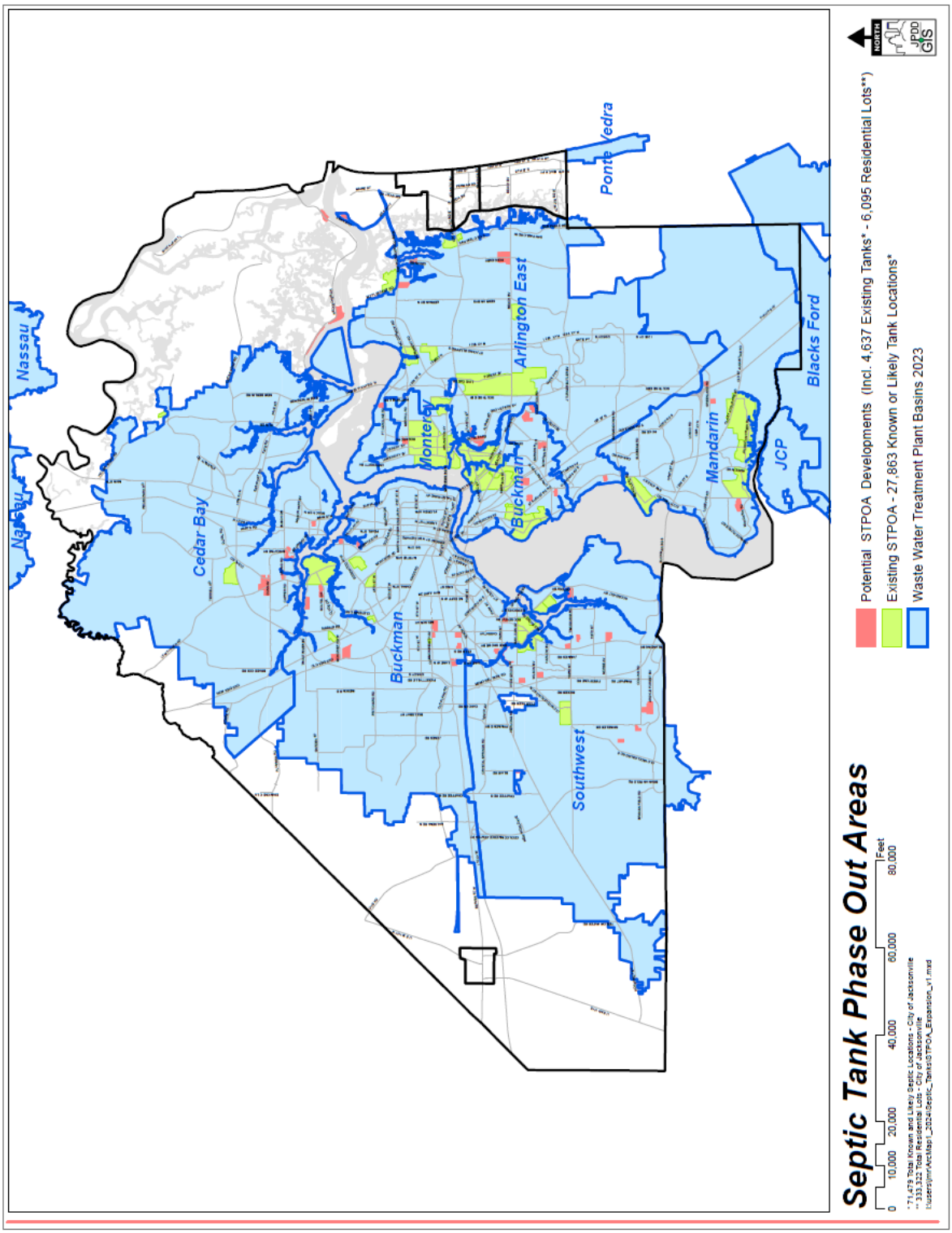
1. Force main extension: $75/in/ft
2. Pump Station: $2,000,000
3. Sewer Connection and septic tank abandonment: $10,000/home
4. Gravity sewer system: $52,000/home
5. Paving and Drainage improvements: $27,000/home

Within JEAs Septic Tank Analysis, the 61 areas were categorized on which Water Reclamation Facility (WRF) would receive the Development Discharge. In all cases, the receiving wastewater facility has sufficient capacity to serve the 61 identified areas. The total cost to phase out the 61 identified septic tank areas is $652,054,000 based on current dollars.

The Septic Tank Matrix, created to implement the Water / Wastewater System Improvement Program, covers 35 neighborhoods originally identified by the Department of Health for a septic tank education program where there were concerns about septic tank failures. This list contains approximately 23,167 septic tanks and there are approximately 60,000 to 75,000 septic tanks in Duval County. The overall estimated cost of connecting these neighborhoods in today's (2024) dollars is approximately $1.5 billion. The 2 neighborhoods that are currently complete or actively connecting total $59 million. Christobel, while under design, is estimated to cost $34 million removing approximately 500 septic tanks. And, while very preliminary, project costs for Riverview are anticipated to exceed $100 million and will remove approximately 2,300 septic tanks. While the City has been phasing out septic tanks for over 20 years, the current Septic Tank Phase-Out program has been in operation for 7 years. In the next 20 years, we believe we may be able to complete five neighborhoods: Riverview, Champion Forest, Emerson, St. Nicholas, and Eggleston Heights if the ranking stays as is.

The City will continue to prioritize septic tank phase out projects in accordance with the Water / Wastewater System Improvement Program and finds that phase out programs for five of the 35 target areas will take more than 20 years. Therefore, it is not feasible to phase out all septic tanks identified in this analysis within 10 years.

Map 1 – Septic Tank Phase Out Areas



APPENDIX A- JEA SEPTIC TANK ANALYSIS REPORT

Septic Tank Analysis for City of Jacksonville's Comprehensive Plan

MAY 21, 2024

Table of Contents

Introduction

Pursuant to Chapter 163.3177(6)(c)3, the City of Jacksonville (COJ) is required to provide a feasibility study that specifies any development of more than 50 residential lots with more than one onsite sewage treatment and disposal system, such as a septic tank, within a 10-year planning horizon to identify the names, locations, and future connections to a municipal wastewater facility. The COJ has reached out to JEA to aid in this study.

Septic Tank Locations

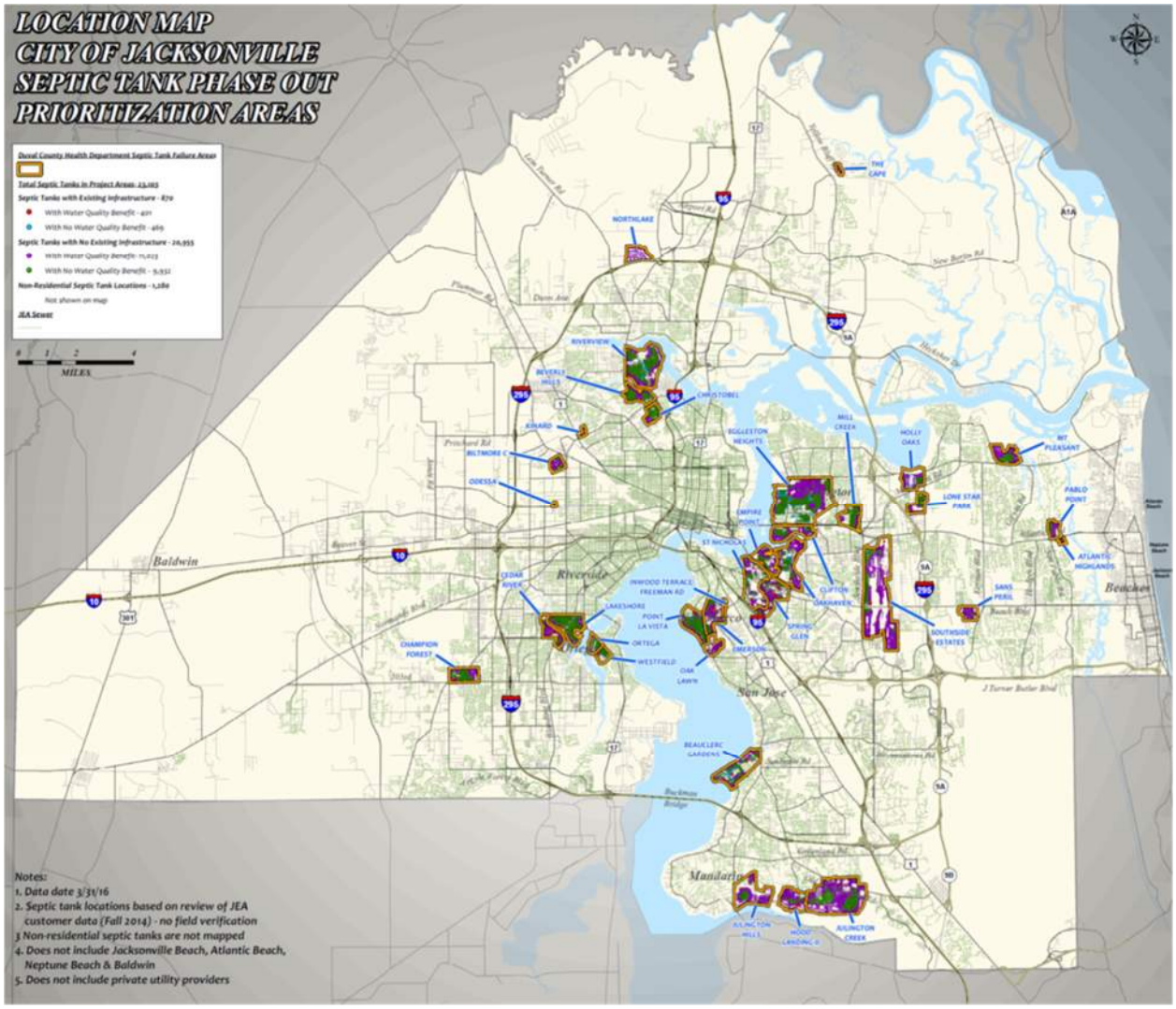
In February of 2024, the COJ completed their analysis of developments with 50 or more residential lots with more than one septic tank system per acre within the city's limits. The 61 developments and their lot counts were identified listed below:

SUBDESC	COUNT_RE
GOLFAIR TERRAC	225
WESTWOOD ESTATES	68
HYDE PARK ESTATES	58
SWEETWATER PARK ADDN NO 2	88
SWEETWATER PARK ADDN NO 3	64
GARDEN CITY NE 1/4 OF SE	96
GARDEN CITY SE 1/4 OF SE	64
GARDEN CITY SE 1/4 OF SE	76
JOHNSONS R/P LT 6 LEM TUR	72
HOLLYFORD ADDITION	59
LAKE FOREST MANOR	62
HOLMESDALE S/D	94
RIBAULT HILLS UNIT 03 R/P	123
EDMONDSONS BEVERLY HILL 3	97
HIGHLANDS UNIT 04	114
HIGHLANDS UNIT 04A	167
HIGHLANDS UNIT 05	172
PINEVIEW	78
HARVEY, S. ADDN TO JAX	273
EDGEWOOD PARK	97
EDGEWOOD ESTATES	65
MURRAY HILL GARDENS	103
EDGEFIELD	70
HYDE PARK CIRCLE	68
LYNNWOOD S/D	94
FORREST BROOK UNIT 02	65
EISENHOWER ACRES	73
TIMUQUANA MANOR	119
ORTEGA MANOR	70
LAKE LUCINA UNIT 08	202
ENGLEWOOD SEC C	118

SUBDESC	COUNT_RE
GLYNLEA PARK UNIT 01	218
GLYNLEA PARK UNIT 02	202
SILVER LAKE TERRACE	50
SHARPSBURG	99
FLEETWOOD	65
MONTCLAIR	58
FAIRMONT S/D	127
BRACKRIDGE	158
GREENFIELD MANOR	110
RIPPLING CREEK HOMESITS	62
MANDARIN MEADOWS R/P	102
HECKSCHER DR ESTATES 01	73
HECKSCHER DR ESTATES 02	71
HECKSCHER DR ESTATES 04	60
GOLDEN GLADES UNIT 01	143
GOLDEN GLADES UNIT 02	123
MAYPORT	132
JOHNSONS S/D PT BAT ISLND	58
WILSHIRE CONDOMINIUM	80
BLACKHAWK BLUFF	101
TIMBER CREEK UNIT 01	62
TIFFANY PINES	139
FALCON TRACE UNIT 02	55
ASHLEY OAKS	75
PLEASANT OAKS	54
GREENLAND OAKS MANDARN 03	54
SHELL BAY UNIT TWO	93
INDIAN TRAILS	164
HOME GARDEN ESTATES	191
ST JOHNS PARK	103

From this list, JEA determined the nearest points of connection for each development, the total capacity of each development based on 200 GPD/home, the wastewater facility receiving flow, and the projected wastewater flow at that facility for the next 20 years.

Prior to this change in statues, COJ and JEA partnered to create a Septic Tank Phase Out program, which was approved on August 23, 2016. Five (5) areas were prioritized based on community needs and environmental impacts to nearby waterways: Biltmore C, Beverly Hills East, Beverly Hills West, Christobel, and Riverview. The Septic Tank Phase Out prioritized areas designated by COJ/JEA are shown below. The additional 61 developments were in addition to these areas.



Opinion of Probable Cost

Using the Christobel STPO 10% submittal as a basis of cost, the following values were used in providing an Opinion of Probable cost for each of the Developments:

1. Force main extension: $75/in/ft
2. Pump Station: $2,000,000
3. Sewer Connection and septic tank abandonment: $10,000/home
4. Gravity sewer system: $52,000/home
5. Paving and Drainage improvements: $27,000/home

Summary Tables

The 61 areas provided by the COJ were categorized based on which Water Reclamation Facility (WRF) receives the development discharge. In all cases, the receiving wastewater facility has sufficient capacity to serve the identified areas. The total cost to phase out these identified septic tank areas is $652,054,000 based on current dollars. Summary tables of each of the developments, proposed flows, opinion of probable costs and a proposed construction timeline are listed below.

Wastewater Facility:	Southwest Wastewater Reclamation Facility
Location:	5420 118th St, Jacksonville, FL 32244
Current Capacity:	14 MGD
Future Capacity:	16 MGD (2025); 18 MGD (2040)

FID	SUB	No.	SUBDESC	COUNT_RE	ADF Flow (GPD)	Total Cost	Construction Year
2	132	1	HYDE PARK ESTATES	58	11,600	$9,388,600	> 2045
3	164	2	SWEETWATER PARK ADDN NO 2	88	17,600	$10,181,600	> 2045
4	165	3	SWEETWATER PARK ADDN NO 3	64	12,800	$7,404,800	> 2045
23	1157	4	HYDE PARK CIRCLE	68	13,600	$14,822,600	> 2045
24	1670	5	LYNNWOOD S/D	94	18,800	$10,875,800	> 2045
25	1680	6	FORREST BROOK UNIT 02	65	13,000	$10,510,500	> 2045
26	1683	7	EISENHOWER ACRES	73	14,600	$11,163,100	> 2045
27	1769	8	TIMUQUANA MANOR	119	23,800	$13,768,300	> 2045
28	1770	9	ORTEGA MANOR	70	14,000	$8,099,000	> 2045
51	3730	10	TIMBER CREEK UNIT 01	62	12,400	$10,163,400	> 2045
53	4091	11	FALCON TRACE UNIT 02	55	11,000	$9,353,500	> 2045
55	4292	12	PLEASANT OAKS	54	10,800	$9,237,800	> 2045
58	20025	13	INDIAN TRAILS	164	32,800	$22,744,800	> 2045
			Totals	1,034	206,800	147,713,800	

Wastewater Facility:	Monterey WRF
Location:	5802 Harris Avenue
Current Capacity:	3.6 MGD
Future Capacity:	No plans for expansion

FID	SUB	SUBDESC	COUNT_RE	ADF Flow (GPD)	Total Cost	Construction Year
29	2061	LAKE LUCINA UNIT 08	202	40,400	$26,049,400	> 2045

Wastewater Facility:	Mandarin WRF
Location:	10828 Hampton Road
Current Capacity:	8.75 MGD
Future Capacity:	No plans for expansion

FID	SUB	SUBDESC	COUNT_RE	ADF Flow (GPD)	Total Cost	Construction Year
40	1	RIPPLING CREEK HOMESITS	62	12,400	$10,046,400	> 2045
41	2	MANDARIN MEADOWS R/P	102	20,400	$15,571,400	> 2045
49	3	WILSHIRE CONDOMINIUM	80	16,000	$12,051,000	> 2045
56	4	GREENLAND OAKS MANDARN 03	54	10,800	$9,081,800	> 2045
		TOTALS	298	59,600	$46,750,600	

Wastewater Facility:	Buckman WRF			
Location:	2221 Buckman Street			
Current Capacity:	52.5 MGD			
Future Capacity:	No plans for expansion			

FID	SUB	SUBDESC	COUNT_RE	ADF Flow (GPD)	Total	Construction Year
0	1	GOLFAIR TERRAC	225	45,000	$31,557,500	> 2045
1	2	WESTWOOD ESTATES	68	13,600	$10,857,600	> 2045
10	3	LAKE FOREST MANOR	62	12,400	$11,411,400	> 2045
11	4	HOLMESDALE S/D	94	18,800	$13,943,800	> 2045
12	5	RIBAULT HILLS UNIT 03 R/P	123	24,600	$17,026,100	> 2045
13	6	EDMONDSONS BEVERLY HILL 3	97	19,400	$16,455,400	> 2045
18	7	HARVEY, S. ADDN TO JAX	273	54,600	$35,063,600	> 2045
19	8	EDGEWOOD PARK	97	19,400	$14,056,900	> 2045
20	9	EDGEWOOD ESTATES	65	13,000	$10,510,500	> 2045
21	10	MURRAY HILL GARDENS	103	20,600	$14,712,100	> 2045
22	11	EDGEFIELD	70	14,000	$11,089,000	> 2045
30	12	ENGLEWOOD SEC C	118	23,600	$16,447,600	> 2045
34	13	SHARPSBURG	99	19,800	$14,834,300	> 2045
35	14	FLEETWOOD	65	13,000	$10,705,500	> 2045
39	17	GREENFIELD MANOR	110	22,000	$15,912,000	> 2045
59	18	HOME GARDEN ESTATES	191	38,200	$28,793,700	> 2045
60	19	ST JOHNS PARK	103	20,600	$14,751,100	> 2045
		TOTALS	1963	392600	$288,128,100	

Wastewater Facility:	Arlington WRF			
Location:	1555 Millcoe Road			
Current Capacity:	25.0 MGD			
Future Capacity:	No plans for expansion			

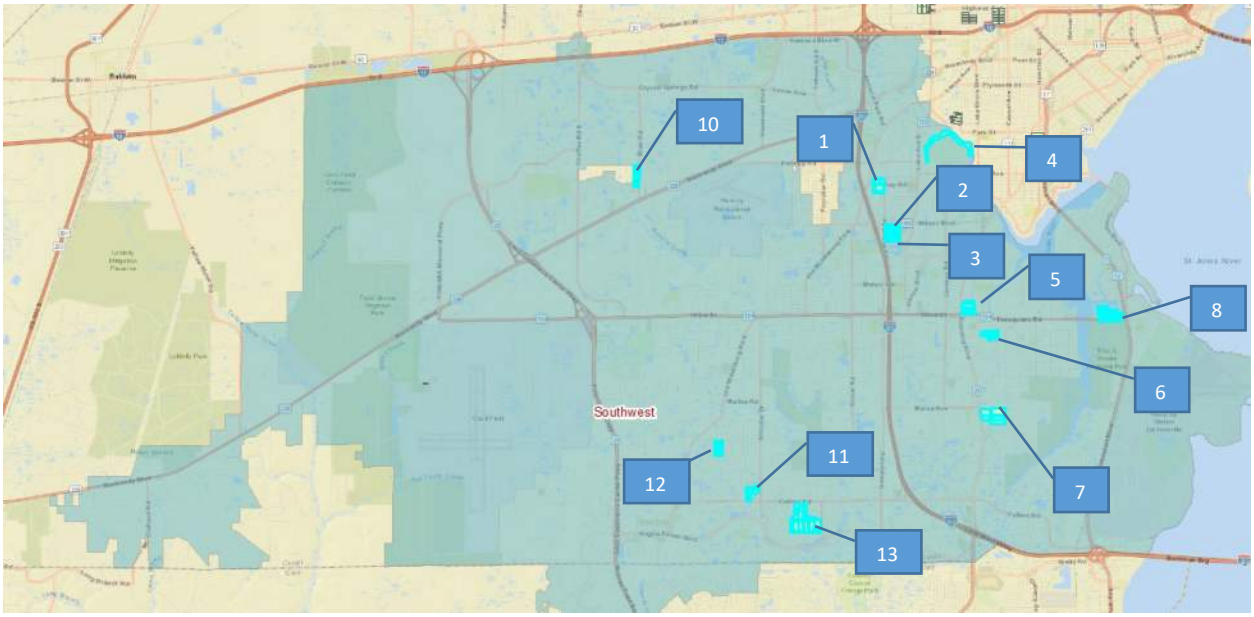
FID	SUB	SUBDESC	COUNT_RE	ADF Flo	Total	Construction Year
31	2562	GLYNLEA PARK UNIT 01	218	43,600	$28,407,600	> 2045
32	2564	GLYNLEA PARK UNIT 02	202	40,400	$26,380,900	> 2045
33	2656	SILVER LAKE TERRACE	50	10,000	$8,580,000	> 2045
36	2809	MONTCLAIR	58	11,600	$9,895,600	> 2045
37	2863	FAIRMONT S/D	127	25,400	$17,878,900	> 2045
38	2865	BRACKRIDGE	158	31,600	$21,933,600	> 2045
45	3047	GOLDEN GLADES UNIT 01	143	28,600	$17,130,100	> 2045
46	3048	GOLDEN GLADES UNIT 02	123	24,600	$17,416,100	> 2045
47	3080	MAYPORT	132	26,400	$15,272,400	> 2045
50	3485	BLACKHAWK BLUFF	101	20,200	$14,363,700	> 2045
52	4057	TIFFANY PINES	139	27,800	$19,462,300	> 2045
54	4175	ASHLEY OAKS	75	15,000	$11,667,500	> 2045
		TOTALS	1526	305,200	$208,388,700	

Wastewater Facility:		Cedar Bay WRF			
Location:		1840 Cedar Bay Rd			
Current Capacity:		10 MGD			
Future Capacity:		No plans for expansion			
FID	SUB	SUBDESC	COUNT_RE	ADF Flo	Total	Construction Year
5	237	GARDEN CITY NE 1/4 OF SE	96	19,200	$14,253,200	> 2045
6	238	GARDEN CITY SE 1/4 OF SE	64	12,800	$10,394,800	> 2045
7	239	GARDEN CITY SE 1/4 OF SE	76	15,200	$11,783,200	> 2045
8	250	JOHNSONS R/P LT 6 LEM TUR	72	14,400	$11,320,400	> 2045
9	260	HOLLYFORD ADDITION	59	11,800	$9,816,300	> 2045
14	687	HIGHLANDS UNIT 04	114	22,800	$16,569,800	> 2045
15	688	HIGHLANDS UNIT 04A	167	33,400	$22,311,900	> 2045
16	689	HIGHLANDS UNIT 05	172	34,400	$22,890,400	> 2045
17	705	PINEVIEW	78	15,600	$12,404,600	> 2045
		TOTALS	898	179600	$131,744,600	

Southwest

Southwest Water Reclamation Facility has a permitted capacity of 14.0 MGD AADF WRF providing advanced secondary treatment with nitrogen reduction. Southwest serves a region mostly built out around the facility. Construction is underway for expanding treatment capacity to 16 MGD expected to be completed in 2025, with a second expansion to 18 MGD planned in the future.

Thirteen (13) septic tank developments were identified by COJ that are within the Southwest Sewer Basin. Their connection points, flows and information are listed below.



No.	SUBDESC
1	HYDE PARK ESTATES
2	SWEETWATER PARK ADDN NO 2
3	SWEETWATER PARK ADDN NO 3
4	HYDE PARK CIRCLE
5	LYNNWOOD S/D
6	FORREST BROOK UNIT 02
7	EISENHOWER ACRES
8	TIMUQUANA MANOR
9	ORTEGA MANOR
10	TIMBER CREEK UNIT 01
11	FALCON TRACE UNIT 02
12	PLEASANT OAKS
13	INDIAN TRAILS

Southwest WRF Flow Summary (fiscal year average, mgd)

Historical	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
	8.92	8.22	9.12	9.58	10.73	10.67	10.54	11.09	12.04	11.19
2020	**2021**	**2022**	**2023**	**Projected**	**2024**	**2025**	**2030**	**2035**	**2040**	**2045**
11.72	12.37	12.29	11.81		12.76	13.04	13.91	15.02	16.05	16.99

Hyde Park Estates

Hyde Park Estates is located at the north of Wilson Boulevard, East of I-295, West of Firestone Road, and south of Hyde Grove Avenue. There is a total of 58 lots within this development, shown in the highlighted green polygons below.

The blue dots in the map above represent sewer customers that are already connected to municipal sewer (12 lots).

Gravity sewer and a minimum of one pump station would need to be installed to serve the remaining 46 lots and could potentially discharge to the existing force main on Firestone Road to the existing pump station at 2601 Hugh Edwards Drive. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
All			Al	Al								
SOUTHWEST	WEST	LS-001116	HUGH EDWARDS DR - 2601	78.5	304.2	± 20.1	726.1	± 42.7	945.9	± 33.7	76.8	± 6.2

Sweetwater Park Addition No 2 and 3

Sweetwater Park Addition No 2 and 3 are located south of Wilson Road, east of I-295, North of Moses Street and west of Goodrich Road. There is a total of 88 lots within Addition 2 and 64 lots within Addition 3, shown in the highlighted green polygons below.

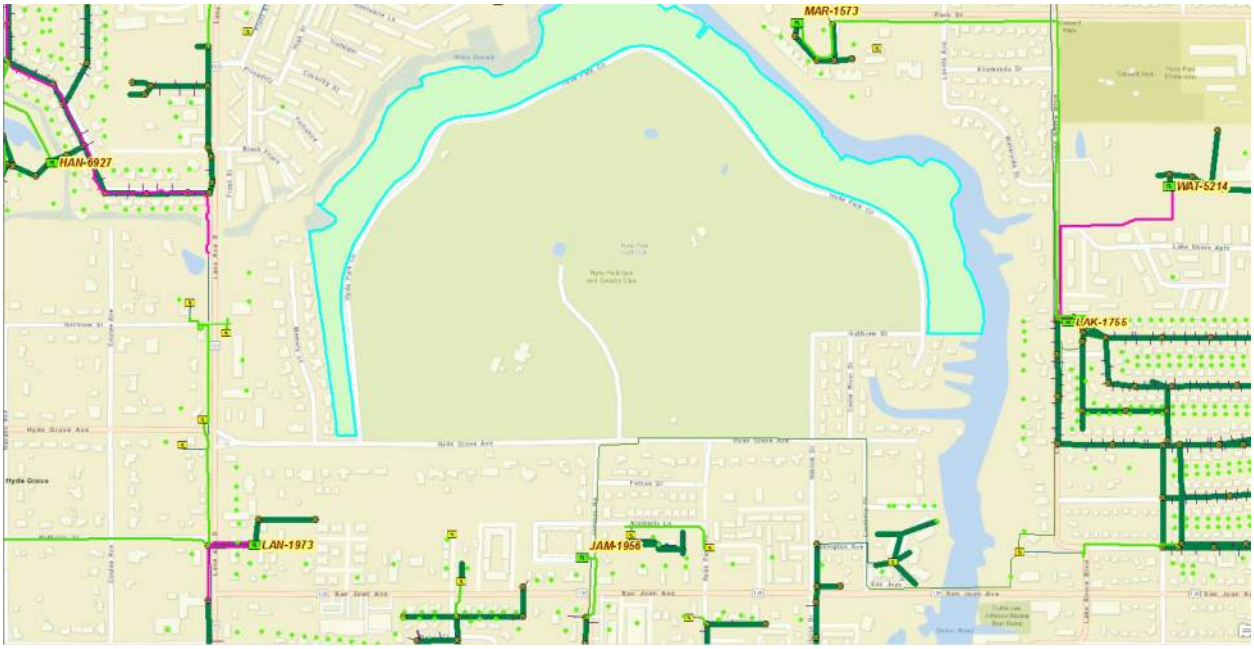
The blue dots in the map above represent sewer customers that are already connected to municipal sewer (26 in Addition 2 and 18 lots in Addition 3).

Gravity sewer would need to be installed to serve the remaining 108 lots and could potentially discharge to the existing 6217 Wilson Boulevard. Below is the Capacity Analysis Report for that pump station:

				Demographics				Capacity		
Basin	Grid	CMMS	Address	SFR (ERC)	MFR (Units)	CII (%)	ADF (kGPD)	PHF (gpm)	Capacity (gpm)	Utilization (%)
All			Al						All	All
SOUTHWEST	WEST	LS-002445	WILSON BV - 6217	4231	2095	24.5	1147	2305	2360	97.7

Hyde Park Circle

Hyde Park Circle is located south of Park Street, east of Lane Avenue S, North of Hyde Grove Avenue and west of Lake Shore Boulevard. There is a total of 68 lots within Hyde Park Circle, shown in the highlighted green polygons below.



Gravity sewer and at least one pump station would need to be installed to serve this development. This development could potentially discharge to the existing pump station at 1973 Lane Avenue. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
All			Al	Al								
SOUTHWEST	WEST	LS-001261	LANE AV S - 1973	12.6	5	± 1.2	15	± 3.5	76.9	± 10	19.6	± 3.4

Lynnwood S/D

Lynnwood S/D is located south of Dorminy Avenue, east of Blanding Blvd, North of 103rd Street and west of Wesconnett Boulevard. There is a total of 94 lots within the Lynnwood S/D, shown in the highlighted green polygons below.

Gravity sewer would need to be installed and could potentially discharge to the existing 5940 Swamp Fox Rd Pump Station. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
All			Al	Al								
SOUTHWEST	WEST	LS-002244	SWAMP FOX RD - 5940	80	71.9	± 15.9	194.1	± 40.2	464.9	± 80.1	41.7	± 3.7

Forrest Brook Unit 2

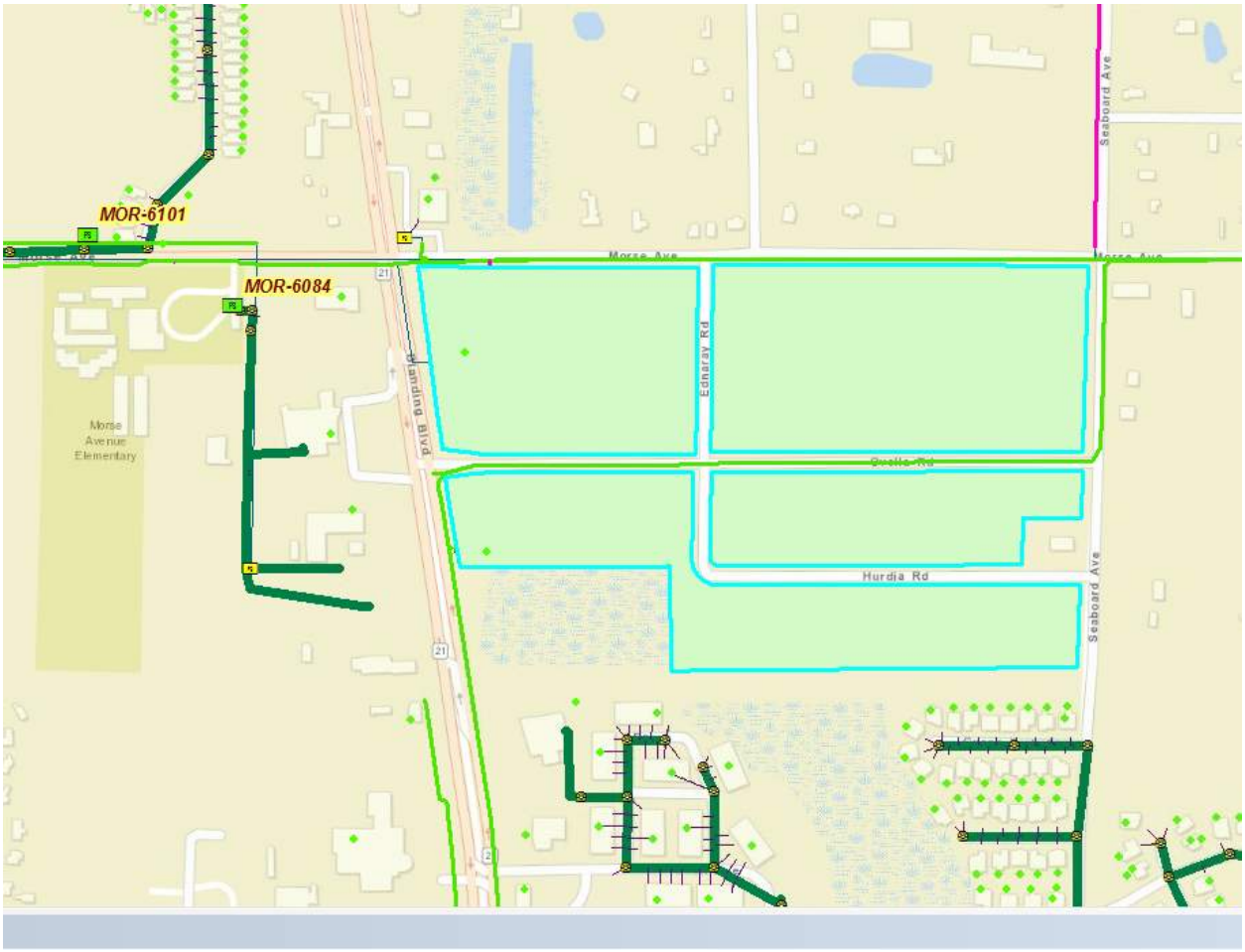
Forrest Brook Unit 2 is located south of 105th St, east of Wesconnett Boulevard, North of Fishing Creek and west of Seaboard Avenue. There is a total of 65 lots within the Forrest Brook Unit 2 development, shown in the highlighted green polygons below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge through the gravity system along Wesconnett and to the existing pump station at 5823 118th Street. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
All			Al	Al								
SOUTHWEST	WEST	LS-000047	118TH ST - 5823	50.3	135.7	± 8.7	349.7	± 20.4	387.3	± 7.6	90.3	± 5.9

Eisenhower Acres

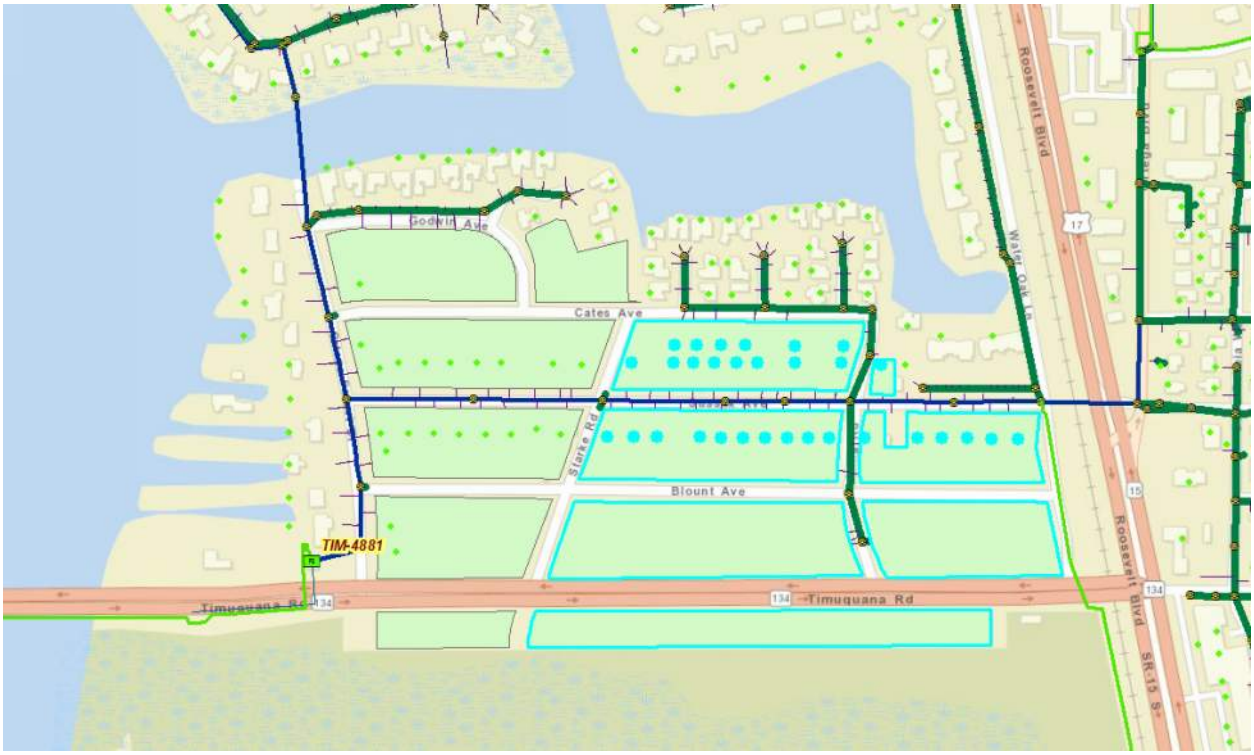
Eisenhower Acres is located south of Morse Ave, east of Blanding Boulevard, north of Skaff Ave and west of Seaboard Avenue. There is a total of 73 lots within the Eisenhower Acres Development, shown in the highlighted green polygons below.



Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge into the force main along Morse Avenue that leads directly to the Southwest WRF.

Timuquana Manor

Timuquana Manor is located south of Morse Ave, east of Blanding Boulevard, north of Skaff Ave and west of Seaboard Avenue. There is a total of 119 lots within the Eisenhower Acres Development, shown in the highlighted green polygons below.



The blue dots in the map above represent sewer customers that are already connected to municipal sewer (31 lots).

The remaining 88 lots could be served via gravity sewer. This sewer would then pump into the existing pump station at 4881 Timuquana Road. Below is the Capacity Analysis Report for that pump station:

				Demographics				Capacity		
Basin	Grid	CMMS	Address	SFR (ERC)	MFR (Units)	CII (%)	ADF (kGPD)	PHF (gpm)	Capacity (gpm)	Utilization (%)
All			All						All	All
SOUTHWEST	WEST	LS-002277	TIMUQUANA RD - 4881	2600	407	12.9	567	1258	2800	44.9

Ortega Manor

Ortega Manor is located south of Morse Ave, east of Blanding Boulevard, north of Skaff Ave and west of Seaboard Avenue. There is a total of 70 lots within the Ortega Manor Development, shown in the highlighted green polygons below.

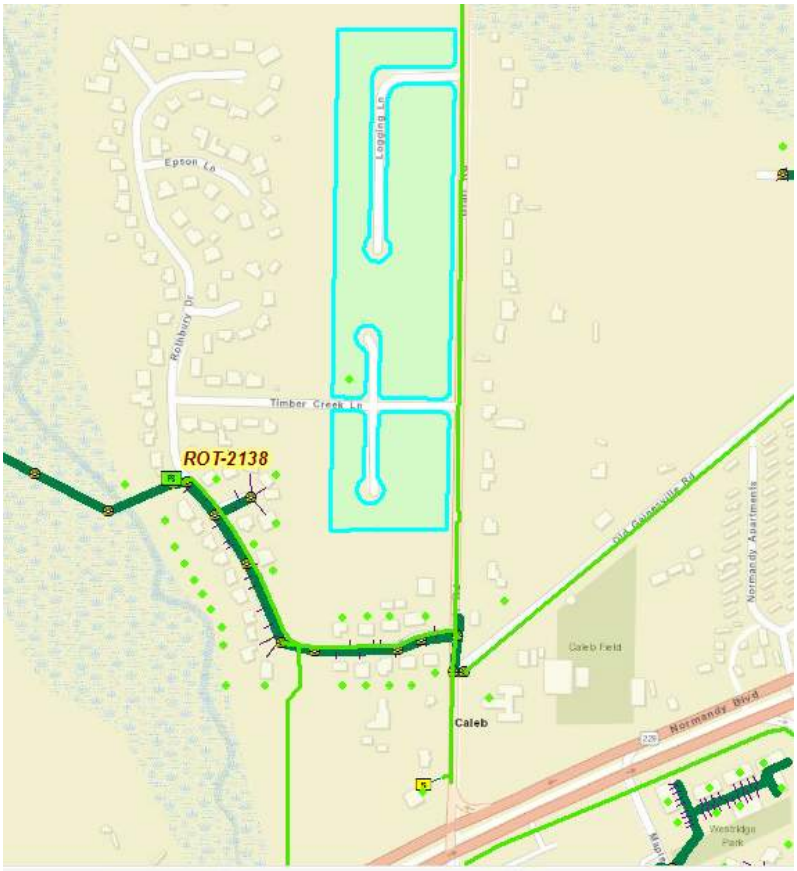
The blue dots in the map above represent sewer customers that are already connected to municipal sewer (21 lots).

The remaining 49 lots could be served via gravity sewer. This sewer would then pump into the existing pump station at 4881 Timuquana Road. Below is the Capacity Analysis Report for that pump station:

				Demographics				Capacity		
Basin	Grid	CMMS	Address	SFR (ERC)	MFR (Units)	CII (%)	ADF (kGPD)	PHF (gpm)	Capacity (gpm)	Utilization (%)
All			All						All	All
SOUTHWEST	WEST	LS-002277	TIMUQUANA RD - 4881	2600	407	12.9	567	1258	2800	44.9

Timber Creek Unit 01

Timber Creek Unit 01 is located south of Crystal Springs Road, east of McGirts Creek, north of Normandy Boulevard and west of Blair Road. There is a total of 62 lots within the Timber Creek Unit 01 Development, shown in the highlighted green polygons below.

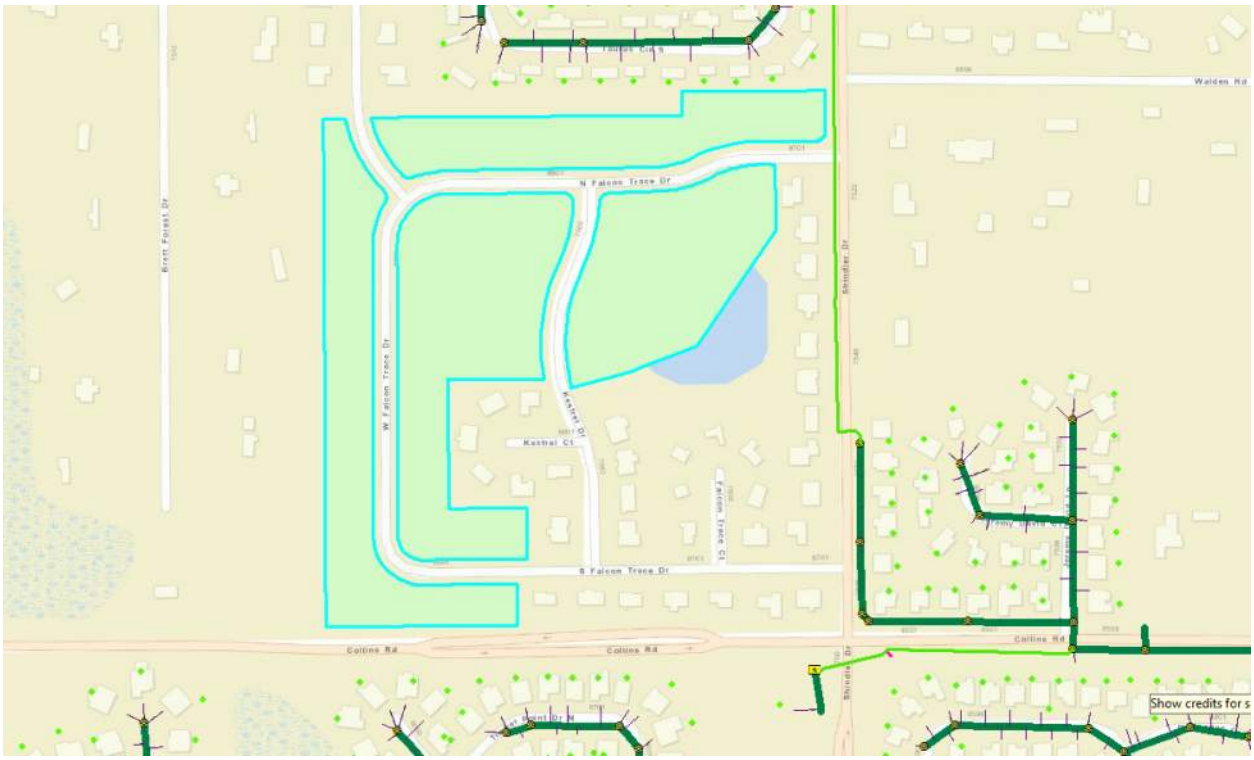


Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to the existing pump station at 2138 Rothbury Drive. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
All			Al	Al								
SOUTHWEST	WEST	LS-001922	ROTHBURY DR - 2138	78.5	87.4	± 19.2	232.9	± 47.5	319.3	± 70.9	73.8	± 17.4

Falcon Trace Unit 02

Falcon Trace Unit 02 is located south of Walden Road, east of Brent Forest Drive, north of Collins Road and west of Shindler Drive. There is a total of 55 lots within the Falcon Trace Unit 02 Development, shown in the highlighted green polygons below.



Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to the existing force main along Collins Road through the existing gravity system to the existing pump station at Collins Ridge Boulevard. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
All			Al	Al								
SOUTHWEST	WEST	LS-000609	COLLINS RIDGE BV N - 8529	28.3	35.6	± 9.2	100	± 24.5	224.1	± 64.1	45	± 7.4

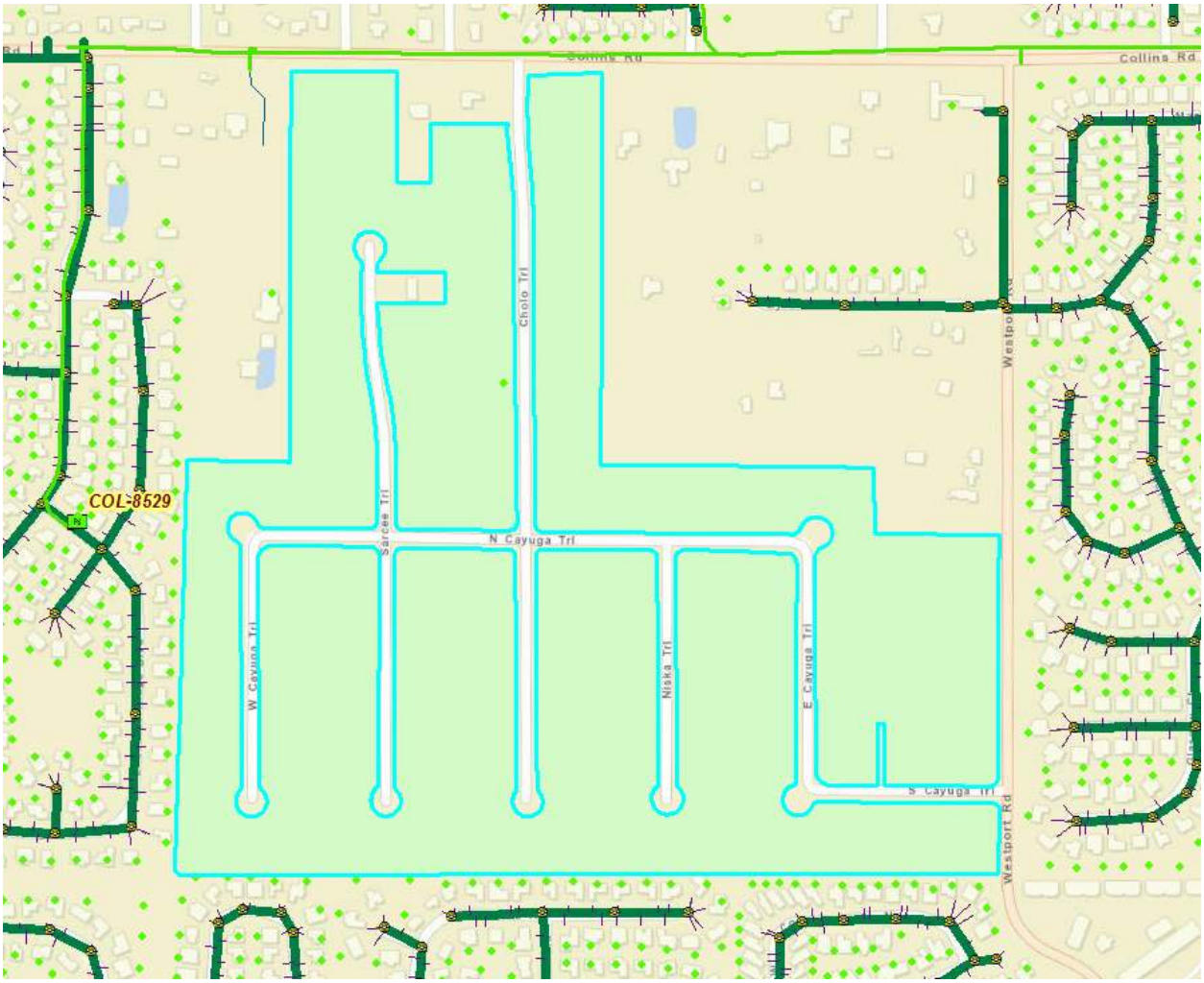
Pleasant Oaks

Pleasant Oaks is located south of Hipps Road, east of Exline Road, north of Jennifer Lane and west of Sun Lane. There is a total of 54 lots within the Pleasant Oaks Development, shown in the highlighted green polygons below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to the existing force main along Hipps Road that goes to the Southwest WRF.

Indian Trails

Indian Trails is located south of Collins Road, north of Crosswind Road, east of East Collins Ridge Boulevard, and West of Westport Road. There is a total of 164 lots within the Indian Trails development, shown in the highlighted green polygons below.



Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to the existing force main along Shindler Drive and to the existing gravity system along Collins Road to the existing pump station at 7663 Argyle Forest Boulevard. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
All			Al	Al								
SOUTHWEST	WEST	LS-000118	ARGYLE FOREST BV - 7663	113.1	270.6	± 29.8	654	± 64.3	1684.2	± 68.1	38.9	± 4.4

Monterey WRF

Monterey is an activated sludge 3.6 AADF facility providing service to a mostly residential population. This region is nearly built out.

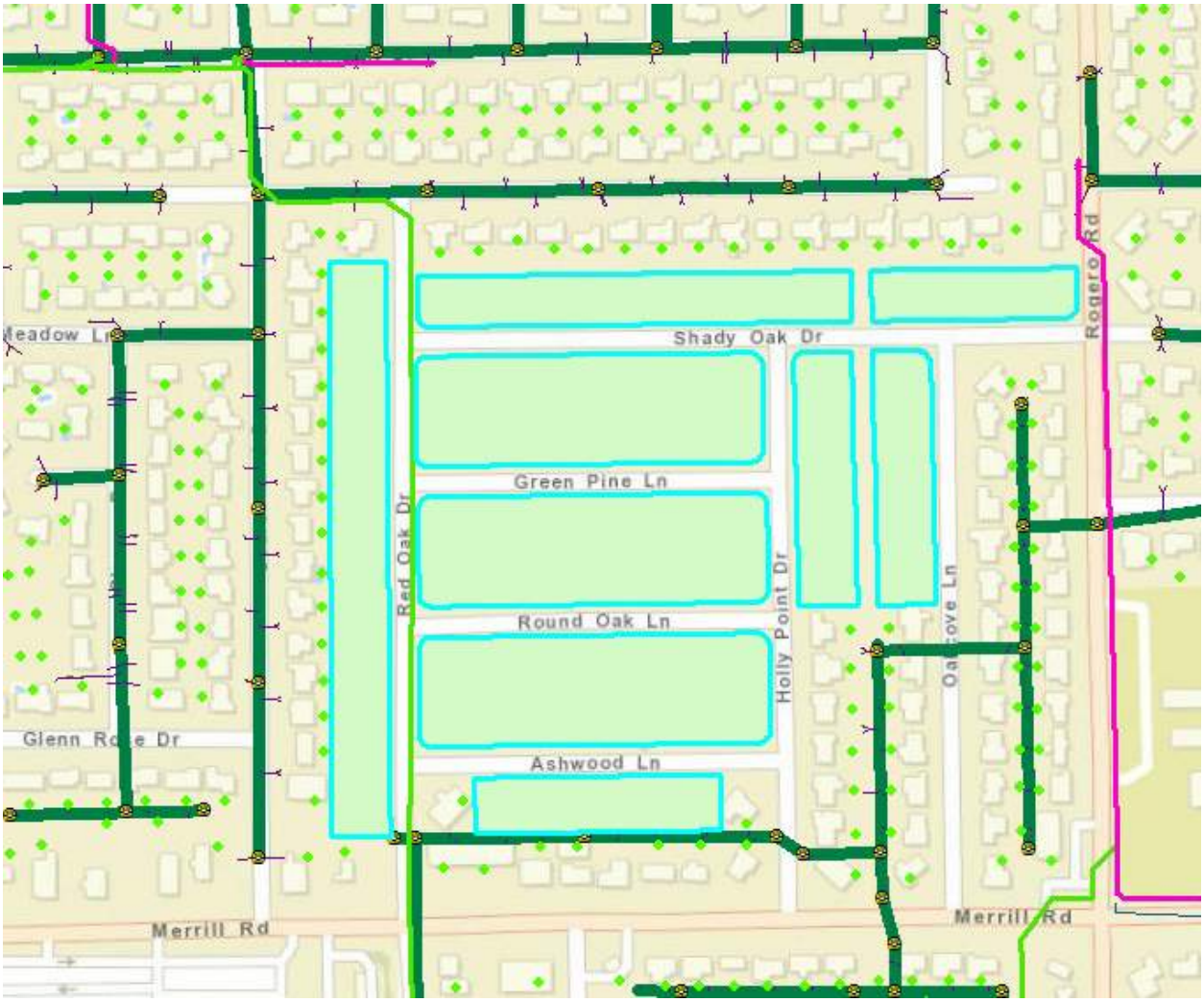
One septic tank development was identified by COJ that are within the Monterey Sewer Basin. It's connection points, flows and information are listed below.

Monterey WRF Flow Summary (fiscal year average, mgd)

Historical	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
	1.54	1.54	1.39	1.46	1.38	1.86	1.51	2.04	1.64	1.58
2020	**2021**	**2022**	**2023**	**Projected**	**2024**	**2025**	**2030**	**2035**	**2040**	**2045**
2.01	2.35	2.38	2.29		2.29	2.31	2.39	2.47	2.54	2.60

Lake Lucina Unit 08

Lake Lucina Unit 08 is located south of Anvil Road, North of Merrill Road, East of Searchwood Dr and West of Rogero Road. There is a total of 202 lots within the Lake Lucina Unit 08 Development, shown in the highlighted green polygons below.

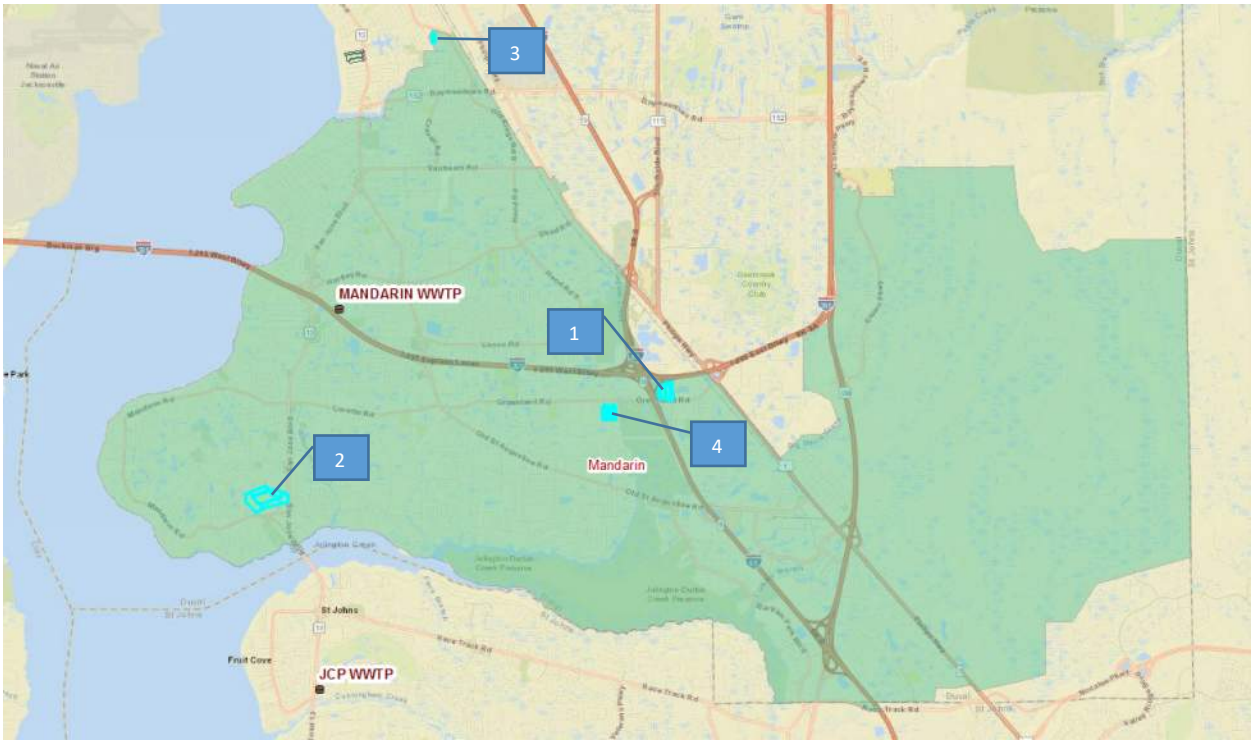


Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to the existing force main along Red Oak Drive that discharges directly to the Monterey WWTP.

Mandarin WRF

Mandarin WRF provides advanced secondary treatment for up to 8.75 mgd AADF of wastewater flow. Etown and a portion of US-1 currently flows to Mandarin WRF (region east of US-1)); when Greenland WRF goes into service, this area will be redirected to Greenland WRF from the Mandarin service area.

Four septic tank developments were identified by COJ that are within the Mandarin Sewer Basin. Their connection points, flows and information are listed below.



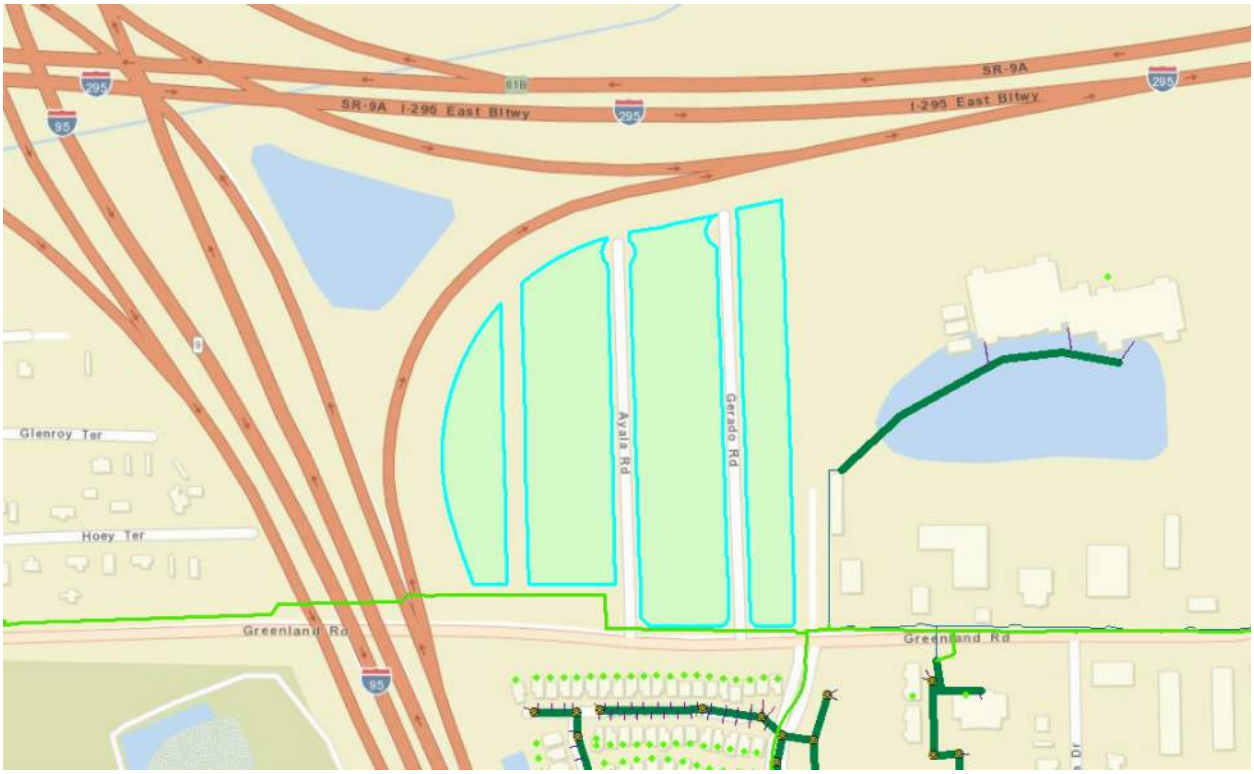
SUB	SUBDESC
1	RIPPLING CREEK HOMESITS
2	MANDARIN MEADOWS R/P
3	WILSHIRE CONDOMINIUM
4	GREENLAND OAKS MANDARN 03

Mandarin WRF Flow Summary (fiscal year average, mgd)

Historical	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
	6.72	6.80	7.41	7.61	7.61	7.92	7.71	7.98	7.59	6.76
2020	**2021**	**2022**	**2023**	**Projected**	**2024**	**2025**	**2030**	**2035**	**2040**	**2045**
6.99	7.68	7.10	7.16		7.98	6.85	7.14	7.14	7.14	7.14

Rippling Creek Homesites

Rippling Creek Homesites is located south of I-295, East of Gerado Drive, north of Greenland Road, and West of I-95. There is a total of 62 lots within the Rippling Creek Homesites, shown in the highlighted green polygons below.



Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to the existing force main along Greenland Road that discharges to the Oldfield booster station and directly to the Mandarin WRF. Below is the Capacity Analysis Report for that pump station:

				Demographics			Capacity			
Basin	Grid	CMMS	Address	SFR (ERC)	MFR (Units)	CII (%)	ADF (kGPD)	PHF (gpm)	Capacity (gpm)	Utilization (%)
Al			Al						All	All
MANDARIN	SOUTH	BPS-001645	OLDFIELD CROSSING - 4193	21157	1175	34.2	5236	8167	9370	87.2

Mandarin Meadows R/P

Mandarin Meadows R/P is located south of Flynn Road, East Brady Road, north of Westberry Road and West San Jose Boulevard. There is a total of 102 lots within the Mandarin Meadows R/P, shown in the highlighted green polygons below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to the existing force main along Brady Road or Mandarin Road. The force main then continues through to the existing Pump Station at 2520 Orange Picker Road. Below is the Capacity Analysis Report for that pump station:

				Demographics				Capacity		
Basin	Grid	CMMS	Address	SFR (ERC)	MFR (Units)	CII (%)	ADF (kGPD)	PHF (gpm)	Capacity (gpm)	Utilization (%)
Al			Al						All	All
MANDARIN	SOUTH	LS-001647	ORANGE PICKER RD - 2520	1685	0	22	434	994	1370	72.6

Wilshire Condominium

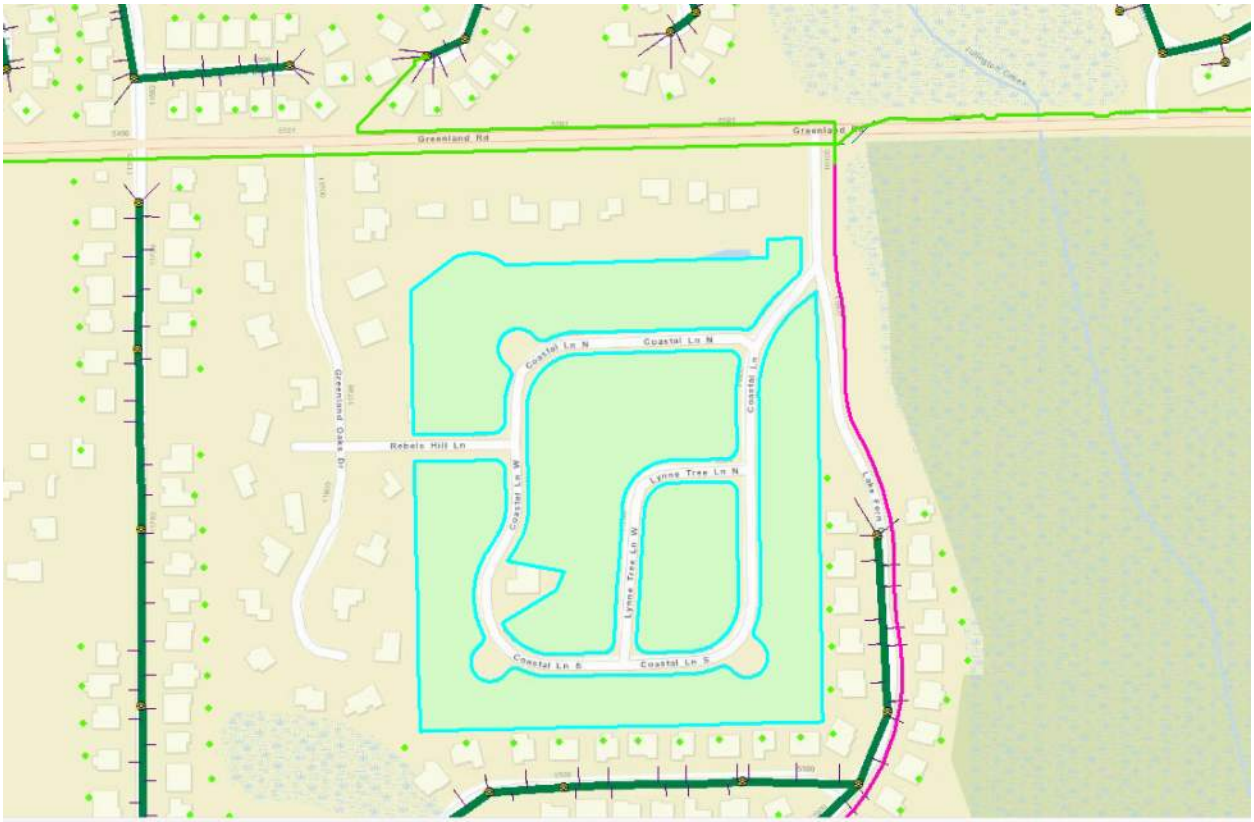
Wilshire Condominium is located south of Old Kings Road S, West of Oxford Forest Drive, North of San Clerc Road, and east of Plaza Gate Lane. There is a total of 80 lots within the Wilshire Condominium, shown in the highlighted green polygons below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to the existing gravity sewer system along Oxford Forest Drive. The force main then continues through to the existing Pump Station at 8198 Oxford Forest Drive. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
All			All	All								
MANDARIN	SOUTH	LS-001627	OXFORD FOREST DR - 8198	64	14.2	± 2	41.4	± 5.8	368.6	± 25.5	11.2	± 1.6

Greenland Oaks Mandarin 03

Greenland Oaks Mandarin 03 is located south of Greenland Road, West of Lake Fern Road, East of Greenland Oaks Drive, and north of Alden Bridge Drive. There is a total of 80 lots within the Wilshire Condominium, shown in the highlighted green polygons below.



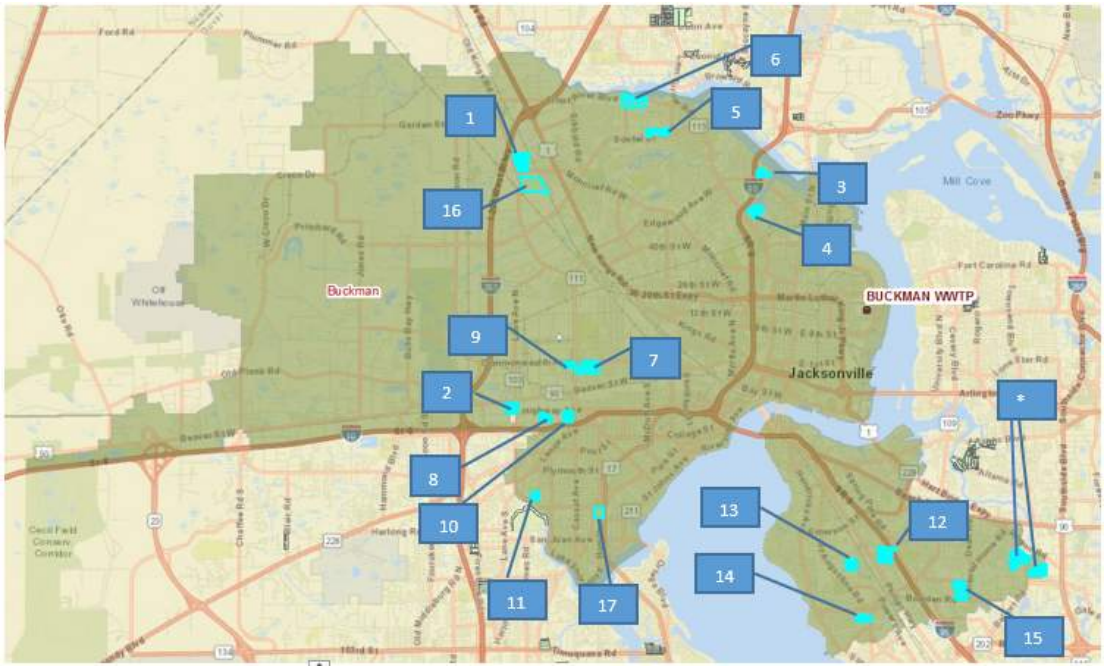
Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to the force main along Greenland Road that discharges to the Oldfield booster station and directly to the Mandarin WRF. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
Al			Al	Al								
MANDARIN	SOUTH	LS-001627	OXFORD FOREST DR - 8198	64	14.2	± 2	41.4	± 5.8	368.6	± 25.5	11.2	± 1.6

Buckman WRF

Buckman is a 52.5 mgd AADF activated sludge WRF that serves a region well established with commercial and residential customers, with a significant contribution from industrial customers. Buckman WRF receives the highest volume, on average, of industrial waste compared to all other JEA wastewater treatment facilities.

Seventeen (17) septic tank developments were identified by COJ that are within the Buckman Sewer Basin. Their connection points, flows and information are listed below.



SUB	SUBDESC
1	GOLFAIR TERRAC
2	WESTWOOD ESTATES
3	LAKE FOREST MANOR
4	HOLMESDALE S/D
5	RIBAULT HILLS UNIT 03 R/P
6	EDMONDSONS BEVERLY HILL 3
7	HARVEY, S. ADDN TO JAX
8	EDGEWOOD PARK
9	EDGEWOOD ESTATES
10	MURRAY HILL GARDENS
11	EDGEFIELD
12	ENGLEWOOD SEC C
13	SHARPSBURG
14	FLEETWOOD
15	GREENFIELD MANOR
16	HOME GARDEN ESTATES
17	ST JOHNS PARK

*Developments Brackridge and Fairmont are within Buckman Sewer Basin, however, the proposed discharge points are to the Arlington East WRF and are listed there.

Buckman WRF Flow Summary (fiscal year average, mgd)

Historical	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
	24.86	20.55	23.06	23.98	26.18	30.79	28.92	29.79	26.17	24.00
2020	**2021**	**2022**	**2023**	**Projected**	**2024**	**2025**	**2030**	**2035**	**2040**	**2045**
25.84	27.18	27.33	25.46		27.32	27.49	28.34	29.19	30.04	30.89

Golfair Terrace

Golfair Terrace is located south of Dallas Lane, East of Old Kings Road, North of Moncrief Road, and west of Harding Avenue. There is a total of 225 lots within the Golfair Terrace, shown in the highlighted green polygons below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to the force main along New Kings Road. The force main then continues through to the existing Pump Station at 5730 Kinlock Drive S. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
A			Al	Al								
BUCKMAN	NORTH	LS-001197	KINLOCK DR S - 5730	144	165.5	± 44.5	419.3	± 101.4	964.1	± 99.3	43.5	± 11.7

Westwood Estates

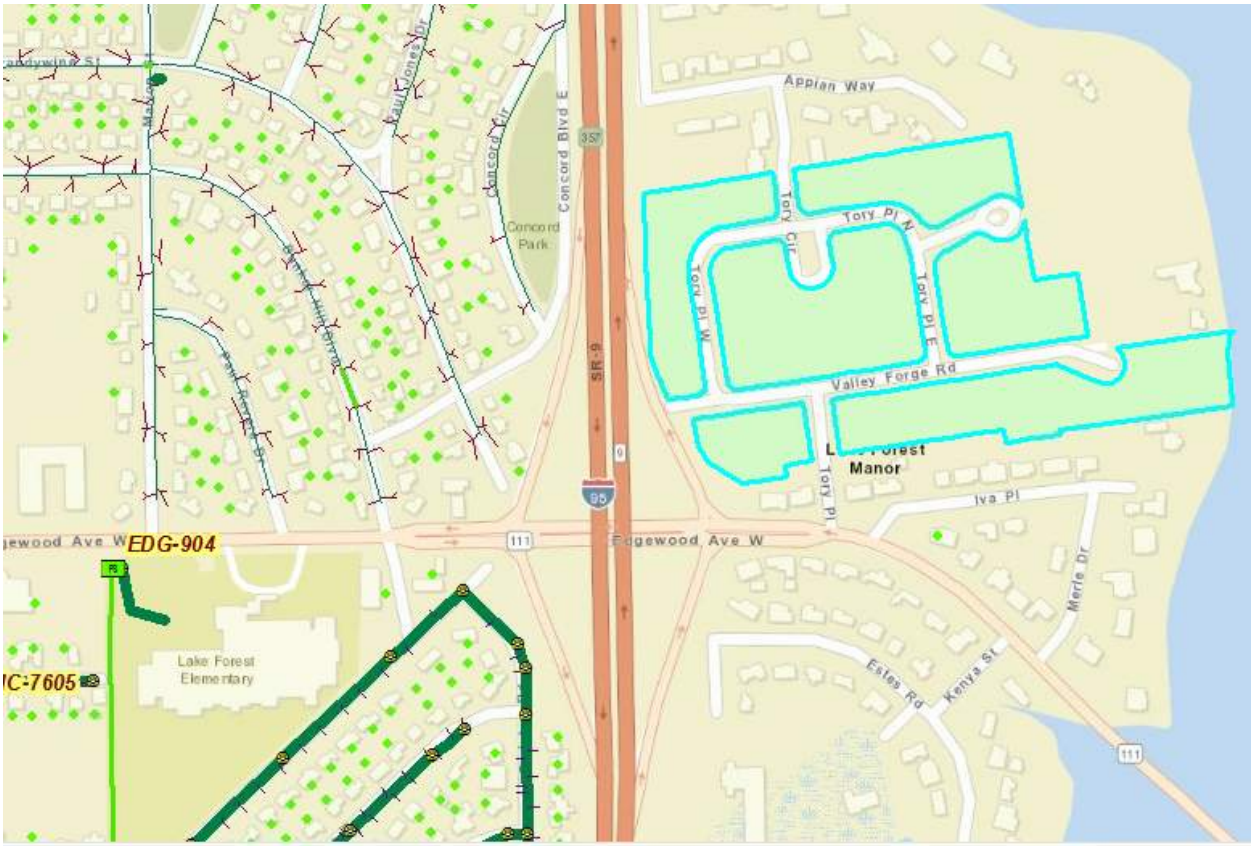
Westwood Estates is located south Beaver Street, East of St. Andrews Street, North of Highway Avenue, and west of Lane Avenue S. There is a total of 68 lots within the Westwood Estates, shown in the highlighted green polygons below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to the force main along Lane Avenue S. The force main then continues through to the existing Pump Station at 6630 Broadway Avenue. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
A			All	All								
BUCKMAN	WEST	LS-000476	BROADWAY AV - 6630	50.3	53.3	± 12.5	146.6	± 32.4	922.6	± 83.8	15.9	± 3.4

Lake Forest Manor

Lake Forest Manor is located south of Applan Way, North of Edgewood Avenue West, East of I-95, and west of Moncrief Creek. There is a total of 62 lots within the Lake Forest Manor, shown in the highlighted green polygons below.



Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to the force main along Edgewood Avenue W to an existing gravity sewer system to the existing pump station at 7605 Pickett Street. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
A			Al	Al								
BUCKMAN	NORTH	LS-001754	PICKETT ST - 7605	50.3	10.5	± 3.1	30.9	± 8.8	184.1	± 21.7	17	± 6.4

Holmesdale S/D

Holmesdale S/D is located west of the Moncrief Creek, North of Norwood Drive, and east of I-95. There is a total of 94 lots within the Holmesdale S/D, shown in the highlighted green polygons below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to the force main along Carrollton Road to an existing gravity sewer system to the existing pump station at 6947 Norwood Drive. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
A			Al	Al								
BUCKMAN	NORTH	LS-001607	NORWOOD AV - 6947	109	265.1	± 78.9	642	± 172.3	866.6	± 195.5	74.2	± 16

Ribault Hills Unit 03 R/P

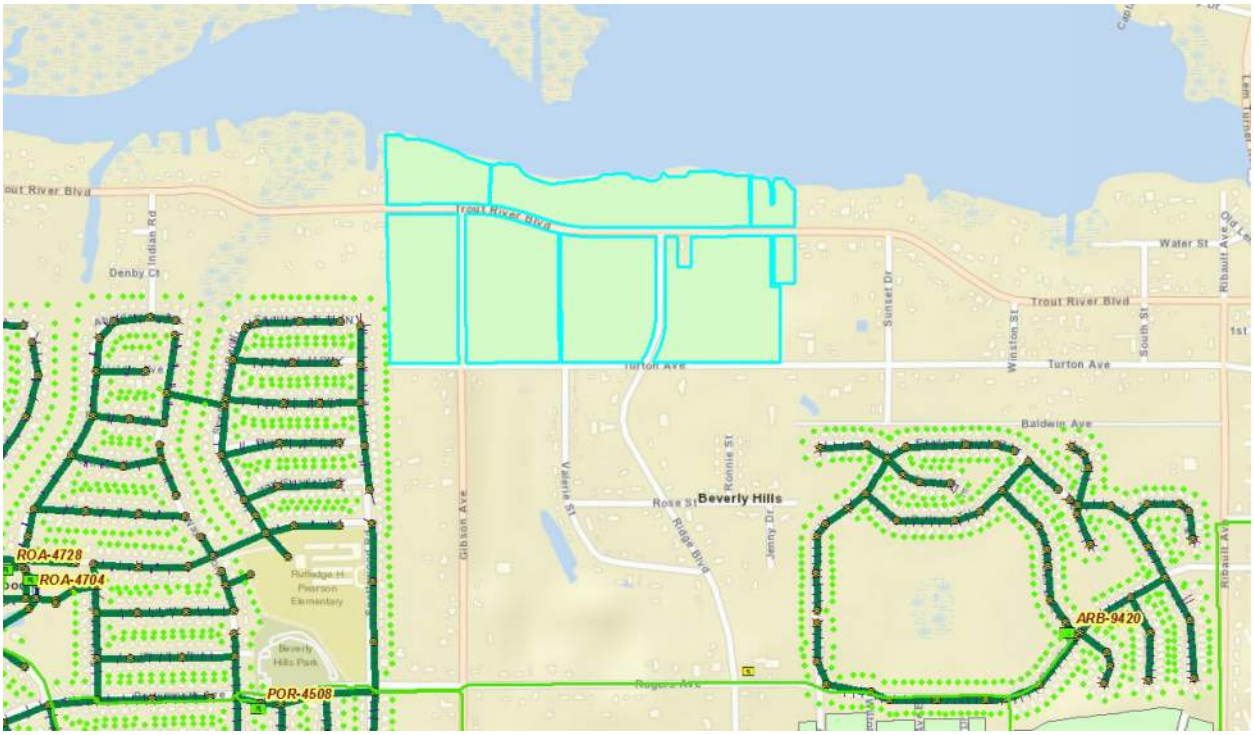
Ribault Hills Unit 03 R/P is located south of Rogers Avenue, North of Soutel Drive, East of Ridge Boulevard, and West of Ribault Avenue. There is a total of 123 lots within the Ribault Hills Unit 03 R/P, shown in the highlighted green polygons below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to the force main along Lansdell Drive to an existing gravity sewer system to the existing pump station at 2304 McMillan Street. Below is the Capacity Analysis Report for that pump station:

				Demographics				Capacity		
Basin	Grid	CMMS	Address	SFR (ERC)	MFR (Units)	CII (%)	ADF (kGPD)	PHF (gpm)	Capacity (gpm)	Utilization (%)
A			Al		/		/		All	All
BUCKMAN	NORTH	LS-001423	MCMILLAN ST - 2304	27411	3951	39.3	7092	10476	23500	44.6

Edmondsons Beverly Hill 3

Edmondsons Beverly Hill 3 is located south of Trout River, North of Turton Avenue, East of Indian Road, and West of Ribault Avenue. There is a total of 97 lots within the Edmondsons Beverly Hills 3, shown in the highlighted green polygons below.

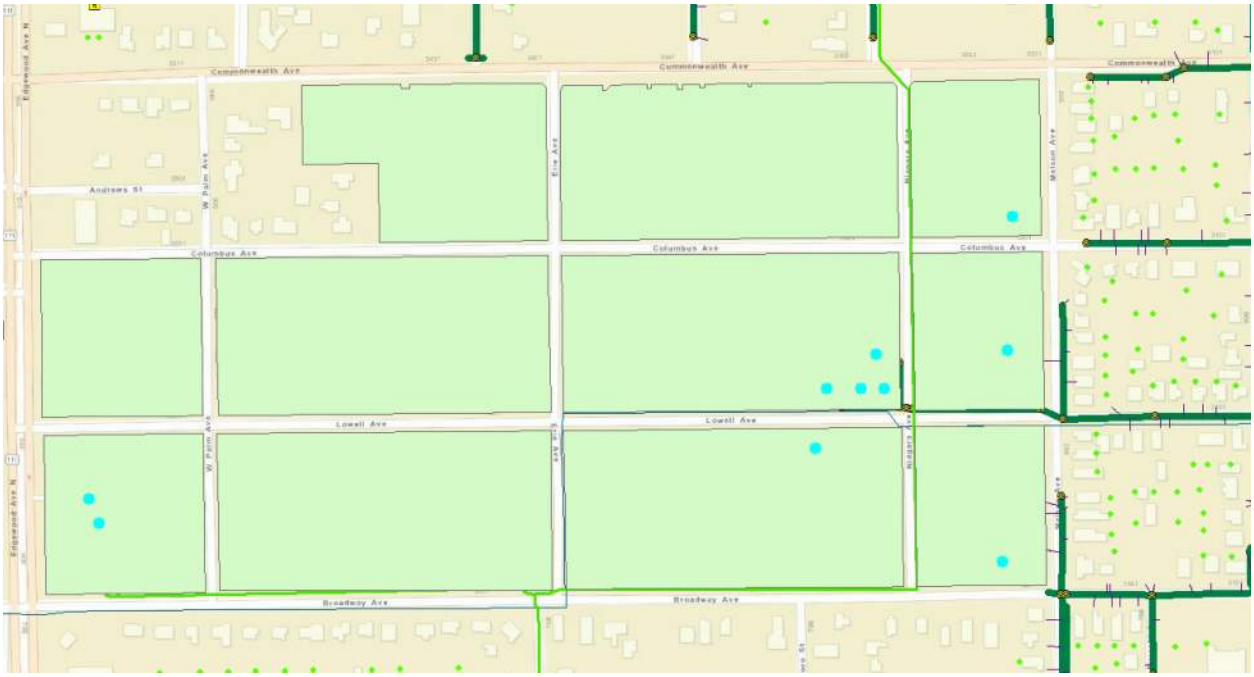


Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to a proposed force main down Gibson Avenue to an existing force main on Rogers Avenue to the existing pump station at 2304 McMillan Street. Below is the Capacity Analysis Report for that pump station:

				Demographics				Capacity		
Basin	Grid	CMMS	Address	SFR (ERC)	MFR (Units)	CII (%)	ADF (kGPD)	PHF (gpm)	Capacity (gpm)	Utilization (%)
A			Al		/		/		All	All
BUCKMAN	NORTH	LS-001423	MCMILLAN ST - 2304	27411	3951	39.3	7092	10476	23500	44.6

Harvey, S. Addn to Jax

Harvey, S Addn to Jax is located south of Commonwealth Avenue, North of Broadway Avenue, East of Edgewood Avenue North, and West of Melson Avenue. There is a total of 273 lots within the Harvey, S Addn to Jax, shown in the highlighted green polygons below.



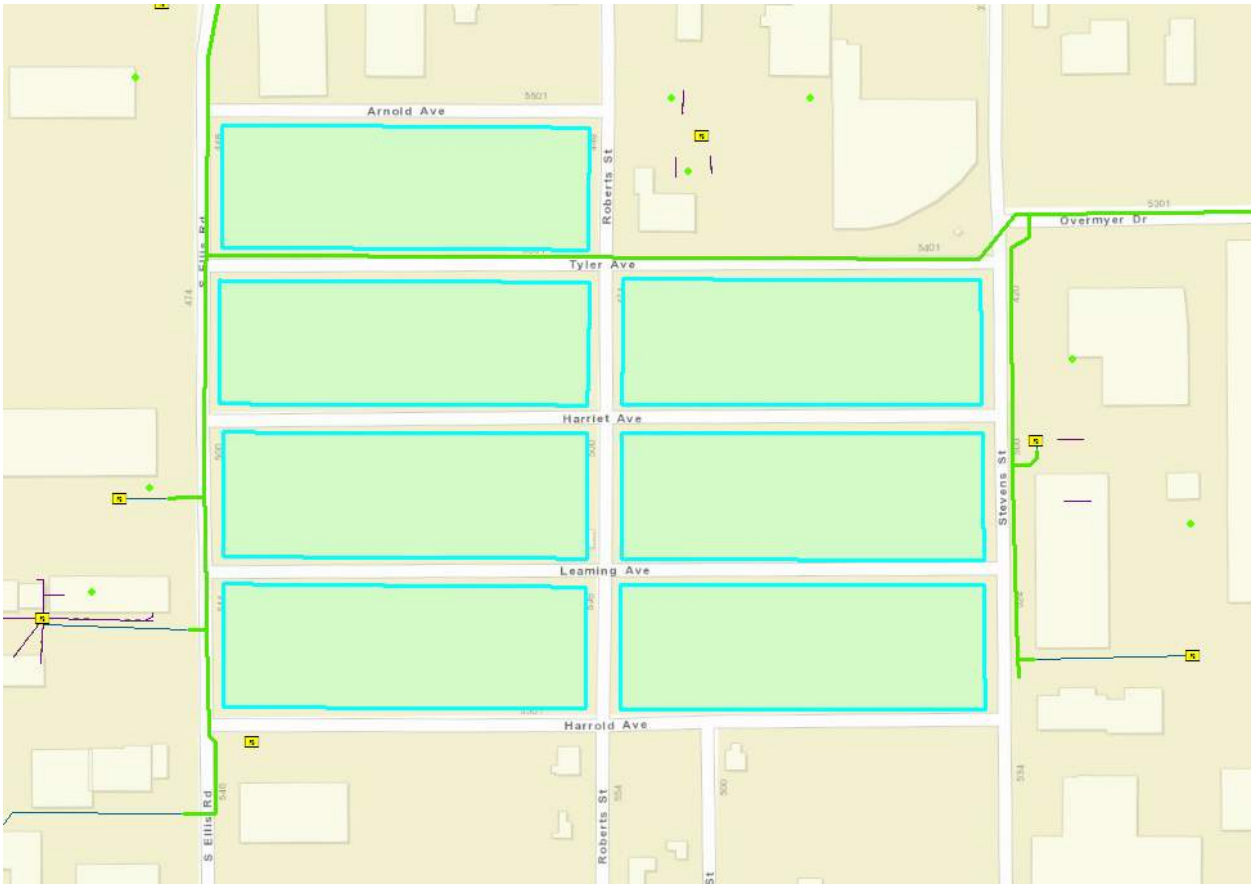
The blue dots in the map above represent sewer customers that are already connected to municipal sewer (13 lots).

Gravity sewer and at least one pump station would need to be installed to serve the remaining 260 lots and could potentially discharge to the existing force main along Niagara Avenue to the existing gravity sewer system to the existing pump station at 2304 McMillan Street. Below is the Capacity Analysis Report for that pump station:

				Demographics				Capacity		
Basin	Grid	CMMS	Address	SFR (ERC)	MFR (Units)	CII (%)	ADF (kGPD)	PHF (gpm)	Capacity (gpm)	Utilization (%)
A			Al		/		/		All	All
BUCKMAN	NORTH	LS-001423	MCMILLAN ST - 2304	27411	3951	39.3	7092	10476	23500	44.6

Edgewood Park

Edgewood Park is located south Arnold Avenue, North of Harrold Avenue, East of S. Ellis Road, and West of Stevens Street. There is a total of 97 lots within the Edgewood Park development, shown in the highlighted green polygons below.

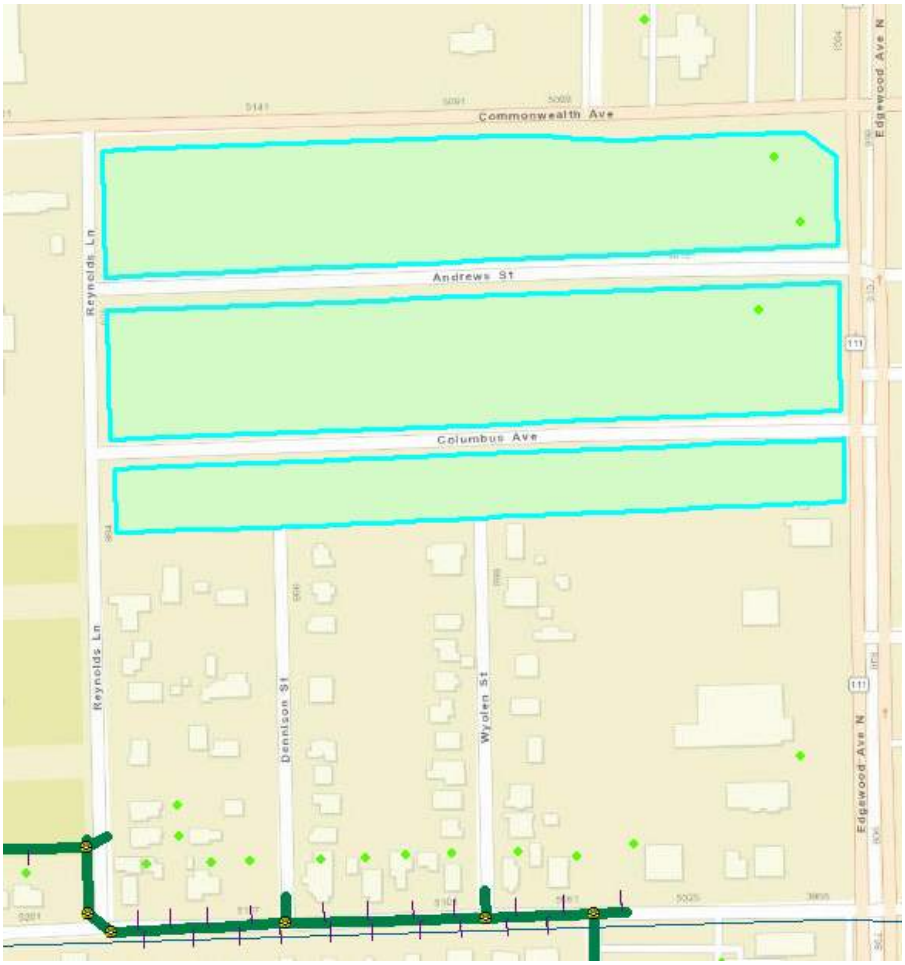


Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to a proposed force main along Tyler Avenue to an existing gravity sewer system along Ellis Road North to the existing pump station at 1060 Ellis Road N. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
A			Al	Al								
BUCKMAN	WEST	LS-000824	ELLIS RD N - 1060	28.3	68.7	± 34.8	186	± 88.7	222.1	± 39.1	83.6	± 36.8

Edgewood Estates

Edgewood Estates is located south of Commonwealth Avenue, North of Broadway Avenue, East of Reynolds Lane, and West of Edgewood Avenue N. There is a total of 65 lots within the Edgewood Estates development, shown in the highlighted green polygons below.



Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to a proposed force main down Reynolds Lane to an existing gravity sewer system to the existing pump station at 5180 Abel Lane. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
A			Al	Al								
BUCKMAN	WEST	LS-000058	ABEL LA - 5180	50.3	23.2	± 11.1	66.4	± 30.1	302.5	± 25.4	22.1	± 9.1

Murray Hill Gardens

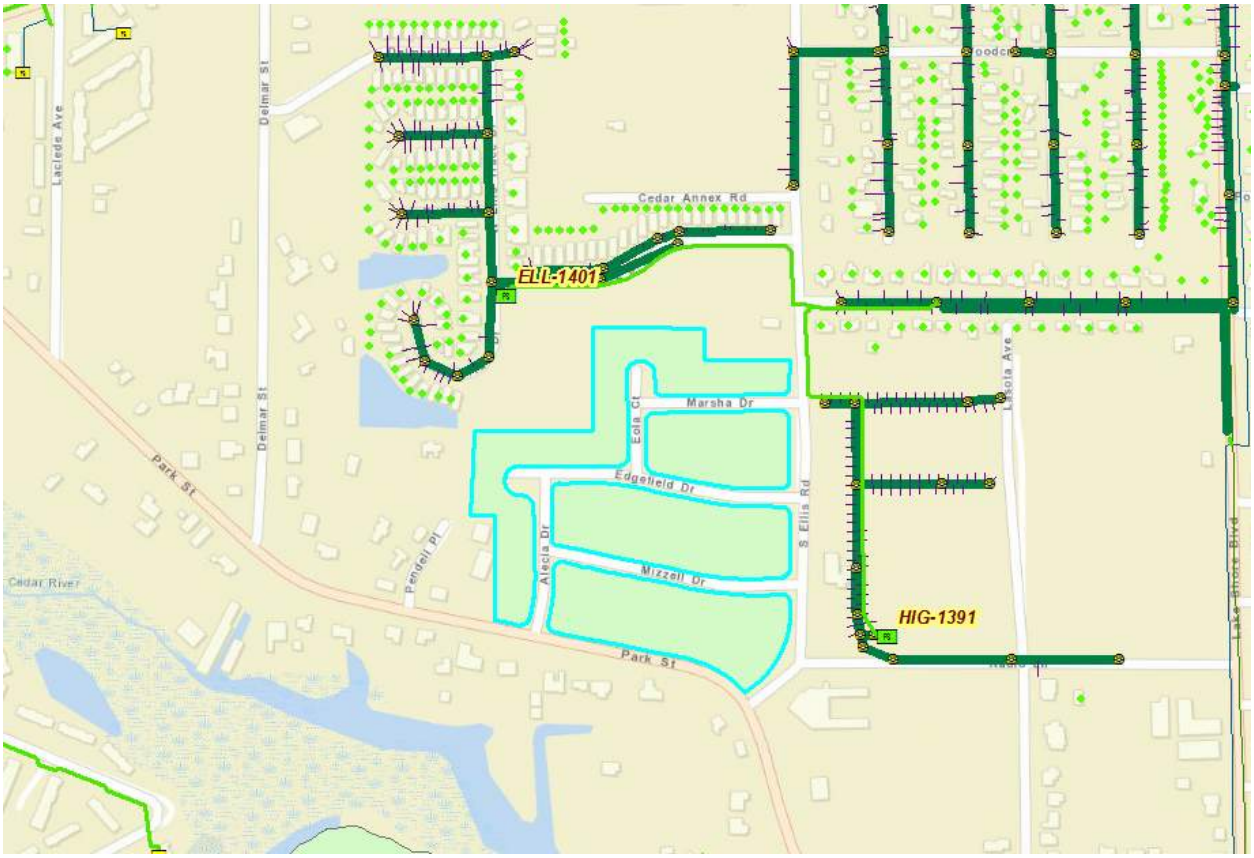
Murray Hill Gardens is located south of Highway Avenue, North of Hancock Road, East of Beautyrest Avenue, and West of Sumter Road. There is a total of 103 lots within the Murray Hill Gardens development, shown in the highlighted green polygons below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing pump station along Bragg Road to the existing pump station at 1060 Ellis Road N. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
A			Al	Al								
BUCKMAN	WEST	LS-000824	ELLIS RD N - 1060	28.3	68.7	± 34.8	186	± 88.7	222.1	± 39.1	83.6	± 36.8

Edgefield

Edgefield is located south Cedar Annex Road, North of Park Street, East of Delmar Street, and West of South Ellis Road. There is a total of 70 lots within the Edgefield development, shown in the highlighted green polygons below.

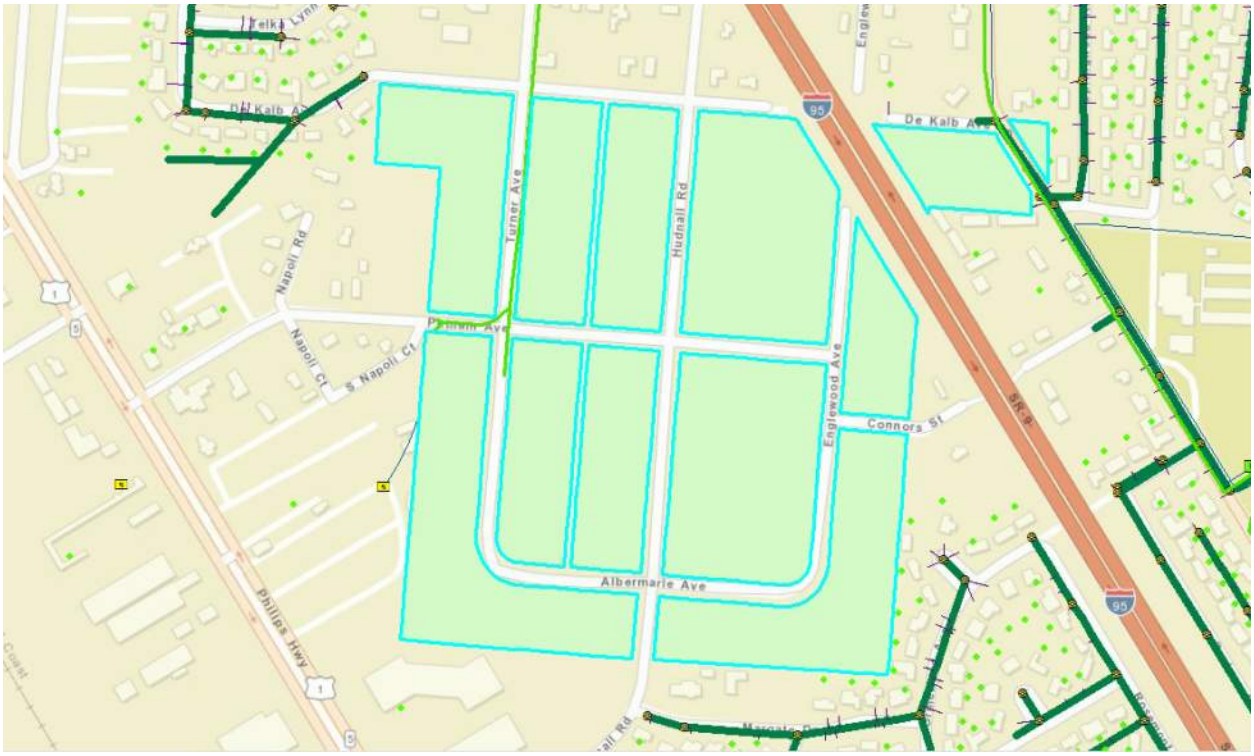


Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing force main on S Ellis Road to the existing pump station at 5219 Carder Street. Below is the Capacity Analysis Report for that pump station:

					Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
Basin	Grid	CMMS	Address	Wetwell (SF)	Avg	Range	Avg	Range	Avg	Range	Avg	Range
A			Al	Al								
BUCKMAN	WEST	LS-000517	CARDER ST - 5219	78.5	166.5	± 13.3	421.6	± 30.8	1024.3	± 14.6	41.2	± 3.3

Englewood Sec C

Englewood Sec C is located south of De Kalb Avenue, Northeast of Phillips Highway, and West of I-95. There is a total of 118 lots within the Englewood Sec C development, shown in the highlighted green polygons below.

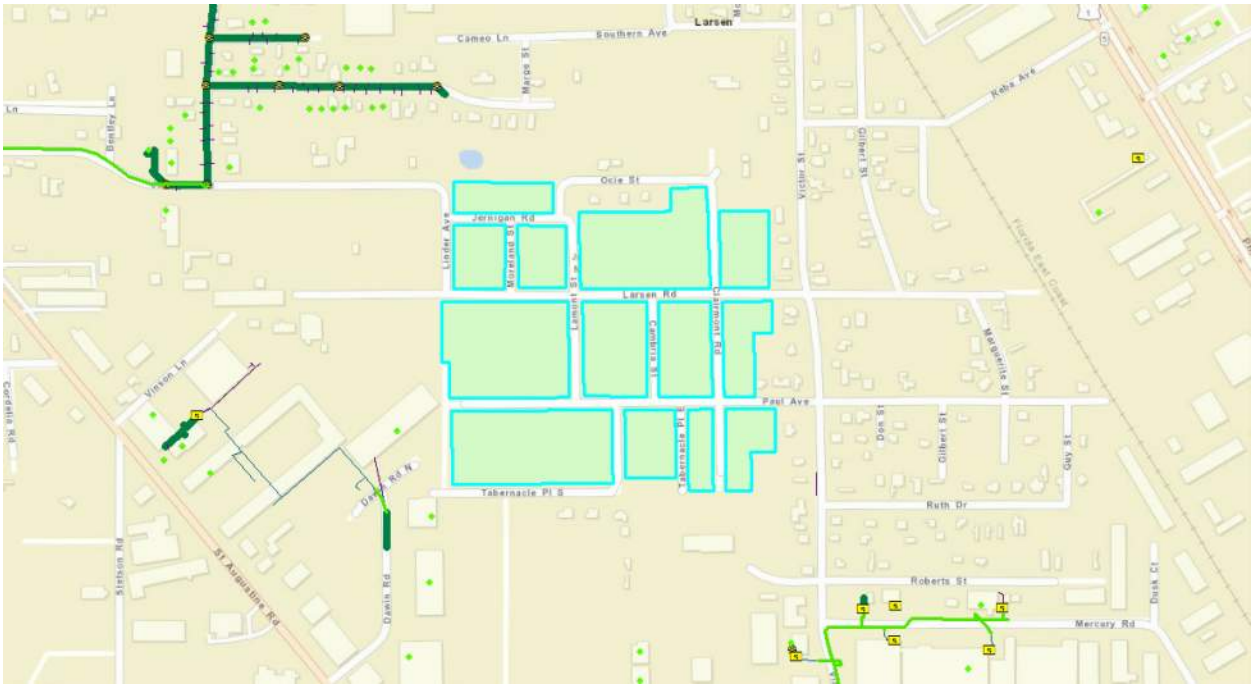


Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to the existing force main along Turner Avenue to the existing pump station at 4425 Clinton Avenue. Below is the Capacity Analysis Report for that pump station:

				Demographics				Capacity		
Basin	Grid	CMMS	Address	SFR (ERC)	MFR (Units)	CII (%)	ADF (kGPD)	PHF (gpm)	Capacity (gpm)	Utilization (%)
A			Al		/		/		All	All
BUCKMAN	NORTH	LS-001423	MCMILLAN ST - 2304	27411	3951	39.3	7092	10476	23500	44.6

Sharpsburg

Sharpsburg is located south of Southern Avenue, North of Tabernacle Place South, East of St Augustine Road, and West of Phillips Highway. There is a total of 99 lots within the Sharpsburg development, shown in the highlighted green polygons below.

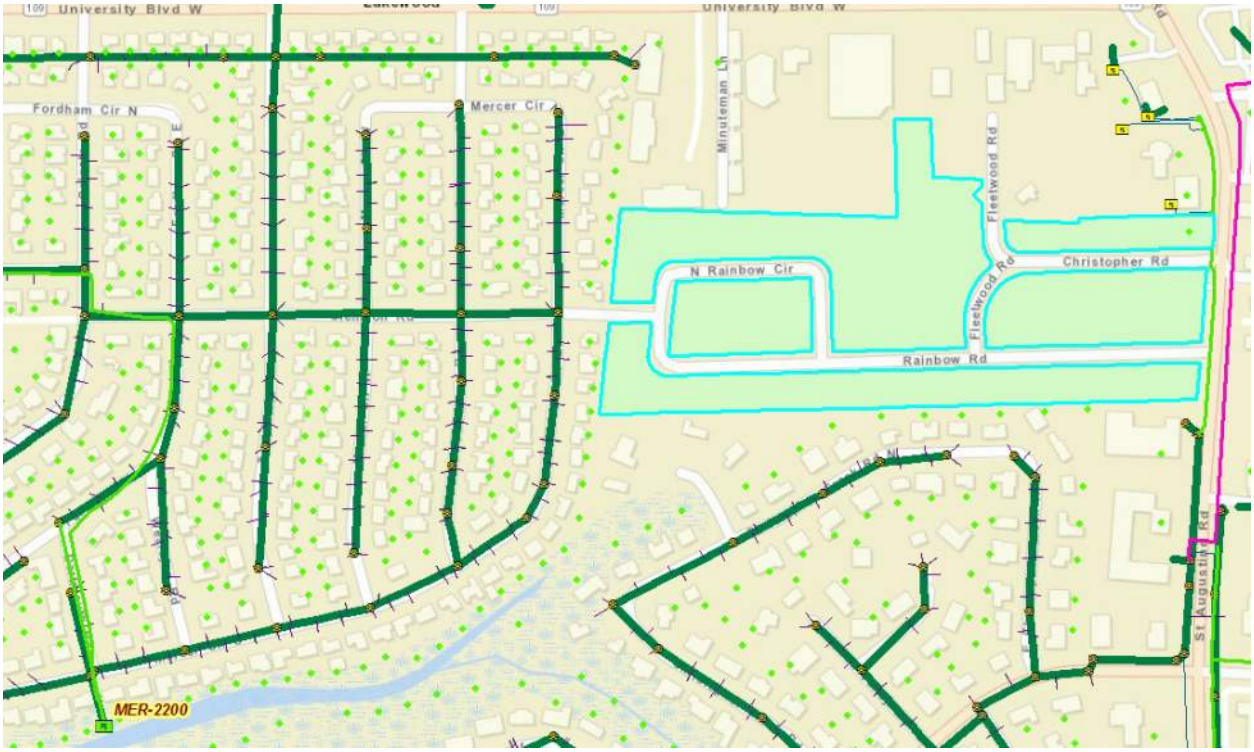


Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to a proposed force main down Linder Avenue to an existing gravity sewer system to the existing pump station at 3929 Grant Road. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
A			Al	Al								
BUCKMAN	EAST	LS-000977	GRANT RD - 3929	113.1	20.1	± 4.2	57.9	± 11.8	399.6	± 52.4	14.5	± 2.9

Fleetwood

Fleetwood is located south of University Blvd West, North of Dupont Avenue, East of Mercer Circle, and West of St. Augustine Road. There is a total of 65 lots within the Fleetwood development, shown in the highlighted green polygons below.



Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to a proposed force main to an existing gravity sewer system to an existing pump station at 2200 Mercer Cir S. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
A			Al	Al								
BUCKMAN	SOUTH	LS-001444	MERCER CR S - 2200	110	25.2	± 4.1	71.9	± 11.2	192.4	± 39.5	38.2	± 8.8

Greenfield Manor

Greenfield Manor is located south of Barnes Road South, North of Bowden Road, East of Victoria Park Road, and West of Parental Home Road. There is a total of 110 lots within the Greenfield Manor development, shown in the highlighted green polygons below.

The blue dot in the map above represents sewer customers that are already connected to municipal sewer (1 lot).

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to a proposed force main on Barnes Road South to the existing pump station at 4437 Barnes Road. Below is the Capacity Analysis Report for that pump station:

				Demographics				Capacity		
Basin	Grid	CMMS	Address	SFR (ERC)	MFR (Units)	CII (%)	ADF (kGPD)	PHF (gpm)	Capacity (gpm)	Utilization (%)
A			Al		/		/		All	All
BUCKMAN	EAST	LS-000230	BARNES RD - 4437	1064	1038	63.6	782	1661	2000	83

Home Garden Estates

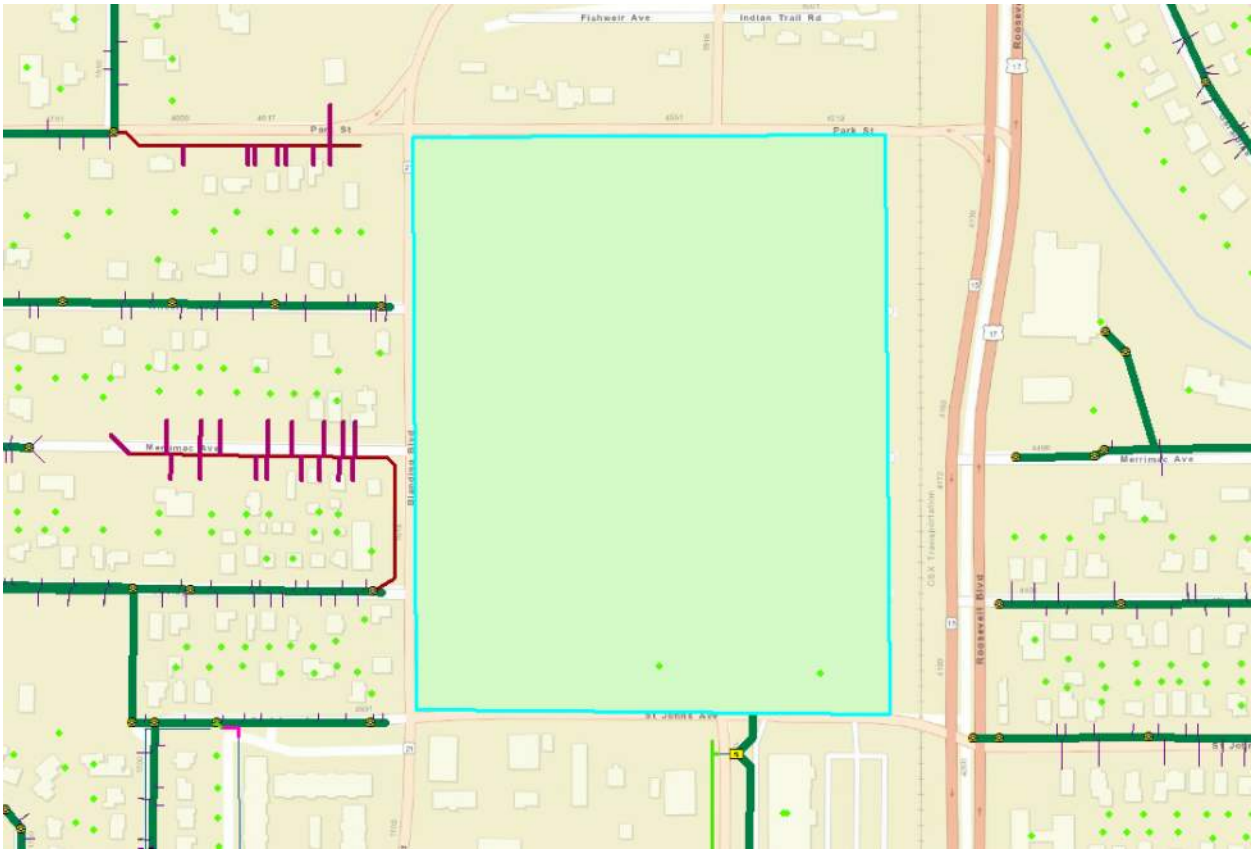
Home Garden Estates is located south of Moncrief Road W, North of Union Heights Road, East of Old Kings Road, and West of New Kings Road. There is a total of 191 lots within the Home Garden Estates development, shown in the highlighted green polygons below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to a proposed force main down Moncrief Road W to an existing force main on New Kings Road to the existing pump station at 5730 Kinlock Drive S. Below is the Capacity Analysis Report for that pump station:

				Demographics				Capacity		
Basin	Grid	CMMS	Address	SFR (ERC)	MFR (Units)	CII (%)	ADF (kGPD)	PHF (gpm)	Capacity (gpm)	Utilization (%)
A			Al		/		/		All	All
BUCKMAN	NORTH	LS-001197	KINLOCK DR S - 5730	1344	4	0.2	209	518	1450	0.4

St Johns Park

St Johns Park is located south of Park Street, North of St. Johns Avenue, East of Blanding Boulevard, and West of Roosevelt Boulevard. There is a total of 103 lots within the St Johns Park development, shown in the highlighted green polygon below.



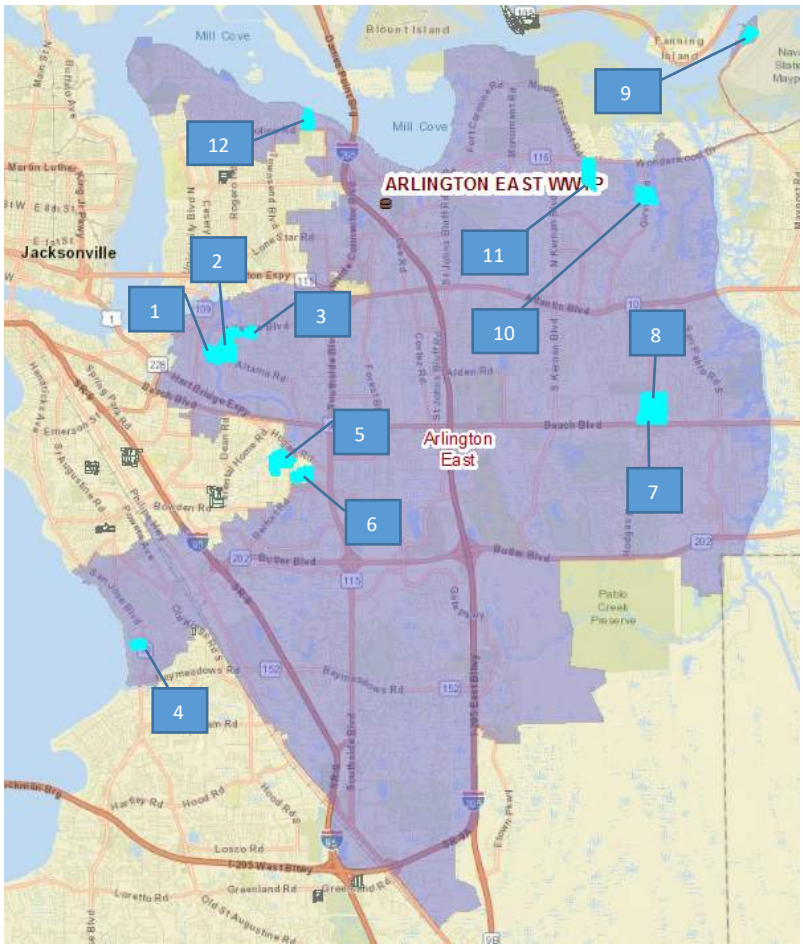
Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing gravity sewer system on Wheeler Avenue to the existing pump station at 4801 Wheeler Avenue. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
A			Al	Al								
BUCKMAN	WEST	LS-002419	WHEELER AV - 4801	50.3	38.4	± 6.6	107.5	± 17.4	364.3	± 37.6	29.6	± 5.2

Arlington East WRF

Arlington East is a complete mix activated sludge 25.0 mgd AADF facility providing service to commercial and residential customers. Population estimates show this service area is close to buildout.

Twelve (12) septic tank developments were identified by COJ that are within the Arlington East Basin. Their connection points, flows and information are listed below.



No.	SUBDESC	COUNT_RE
1	GLYNLEA PARK UNIT 01	218
2	GLYNLEA PARK UNIT 02	202
3	SILVER LAKE TERRACE	50
4	MONTCLAIR	58
5	FAIRMONT S/D	127
6	BRACKRIDGE	158
7	GOLDEN GLADES UNIT 01	143
8	GOLDEN GLADES UNIT 02	123
9	MAYPORT	132
10	BLACKHAWK BLUFF	101
11	TIFFANY PINES	139
12	ASHLEY OAKS	75

Arlington East WRF Flow Summary (fiscal year average, mgd)

Historical	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
	14.09	15.22	17.36	18.49	19.70	19.65	19.59	21.02	21.75	20.41
2020	**2021**	**2022**	**2023**	**Projected**	**2024**	**2025**	**2030**	**2035**	**2040**	**2045**
19.97	20.57	20.35	19.91		20.90	21.04	21.62	22.07	22.40	22.59

Glynlea Park Unit 01

Glynlea Park Unit 01 is located south of Atlantic Boulevard, Northeast of Pottsburg Creek, and West of Sapelo Road. There is a total of 218 lots within Glynlea Park Unit 01 development, shown in the highlighted green polygon below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing gravity sewer system on Bay Ridge Road to the existing pump station at 657 Glynlea Road. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
All			Al	Al								
ARLINGTON EAST	EAST	LS-000960	GLYNLEA RD - 657	50.3	55.1	± 5.8	151.2	± 15.1	908.6	± 16.9	16.6	± 1.6

Glynlea Park Unit 02

Glynlea Park Unit 02 is located south of Atlantic Boulevard, Northeast of Pottsburg Creek, and West of Arlington Road. There is a total of 202 lots within Glynlea Park Unit 01 development, shown in the highlighted green polygon below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing gravity sewer system on Sapelo Road to the existing pump station at 657 Glynlea Road. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
All			Al	Al								
ARLINGTON EAST	EAST	LS-000960	GLYNLEA RD - 657	50.3	55.1	± 5.8	151.2	± 15.1	908.6	± 16.9	16.6	± 1.6

Silver Lake Terrace

Silver Lake Terrace is located south of Atlantic Boulevard, North of Pottsburg Creek, East of Agnue Avenue, and West of S Arlington Road. There is a total of 50 lots within the Silver Lake Terrace development, shown in the highlighted green polygon below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing force main on Silver Lake Terrace to the existing pump station at 487 Grove Park Boulevard. Below is the Capacity Analysis Report for that pump station:

Asset			Capacity Analysis			
CMMS	Liftstation	Class	ADF (kGPD)	PHF (GPM)	Capacity (GPM)	Utilization (%)
LS-000997	GROVE PARK BV - 487	3	423 [1]	973	1,400 [3]	70%

Montclair

Montclair is located south of Point Pleasant Road, North of Hilliard Road, East of St Johns River, and West of San Jose Boulevard. There is a total of 58 lots within the Montclair development, shown in the highlighted green polygon below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to a proposed force main along San Jose Boulevard to an existing FM along San Clerc Road to the existing pump station at 4241 San Clerc Road. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
All			Al	Al								
ARLINGTON EAST	SOUTH	LS-001950	SAN CLERC RD - 4241	12.6	24.3	± 2.4	69.5	± 6.6	211.9	± 5	32.8	± 3

Fairmont S/D

Fairmont S/D is located south of Hogan Road, North of Hilsdale Road, East of Belfort Road, and West of Rex Drive. There is a total of 127 lots within the Fairmont S/D development, shown in the highlighted green polygon below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to the existing force main along Belfort Road to the existing pump station at 7200 AC Skinner Pkwy. Below is the Capacity Analysis Report for that pump station:

				Demographics				Capacity		
Basin	Grid	CMMS	Address	SFR (ERC)	MFR (Units)	CII (%)	ADF (kGPD)	PHF (gpm)	Capacity (gpm)	Utilization (%)
All			Al						All	All
ARLINGTON EAST	SOUTH	LS-000018	AC SKINNER PY - 7200	2053	1133	69.1	1284	2537	3770	67.3

Brackridge

Brackridge is located south of Newton Road, North of Touchton Road, East of Belfort Road, and West of Hogan Road. There is a total of 158 lots within the Brackridge development, shown in the highlighted green polygon below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to the existing force main along Belfort Road to the existing pump station at 7200 AC Skinner Pkwy. Below is the Capacity Analysis Report for that pump station:

				Demographics					Capacity	
Basin	Grid	CMMS	Address	SFR (ERC)	MFR (Units)	CII (%)	ADF (kGPD)	PHF (gpm)	Capacity (gpm)	Utilization (%)
All			Al						All	All
ARLINGTON EAST	SOUTH	LS-000018	AC SKINNER PY - 7200	2053	1133	69.1	1284	2537	3770	67.3

Golden Glades Unit 01

Golden Glades Unit 01 is located south of Otway Road North of Beach Boulevard, East of W. Gerona Drive, and West of Discovery Way. There is a total of 143 lots within the Golden Glades Unit 01 development, shown in the highlighted green polygon below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing force main on Beach Boulevard to the existing pump station at 2798 Huffman Boulevard. Below is the Capacity Analysis Report for that pump station:

Asset			Capacity Analysis			
CMMS	Liftstation	Class	ADF (kGPD)	PHF (GPM)	Capacity (GPM)	Utilization (%)
LS-001114	HUFFMAN BV - 2798	4	3,466 [1]	5,815	7,000 [2]	83%

Golden Glades Unit 02

Golden Glades Unit 02 is located south of Otway Road North of Beach Boulevard, East of W. Gerona Drive, and West of Discovery Way. There is a total of 123 lots within the Golden Glades Unit 02 development, shown in the highlighted green polygon below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing force main on Beach Boulevard to the existing pump station at 2798 Huffman Boulevard. Below is the Capacity Analysis Report for that pump station:

Asset			Capacity Analysis			
CMMS	Liftstation	Class	ADF (kGPD)	PHF (GPM)	Capacity (GPM)	Utilization (%)
LS-001114	HUFFMAN BV - 2798	4	3,466 [1]	5,815	7,000 [2]	83%

Mayport

Mayport is located south of Broad Street, North of Minorcan Way, East of the Intracoastal Waterway, and West Ribault Park Street. There is a total of 132 lots within the Mayport development, shown in the highlighted green polygon below.

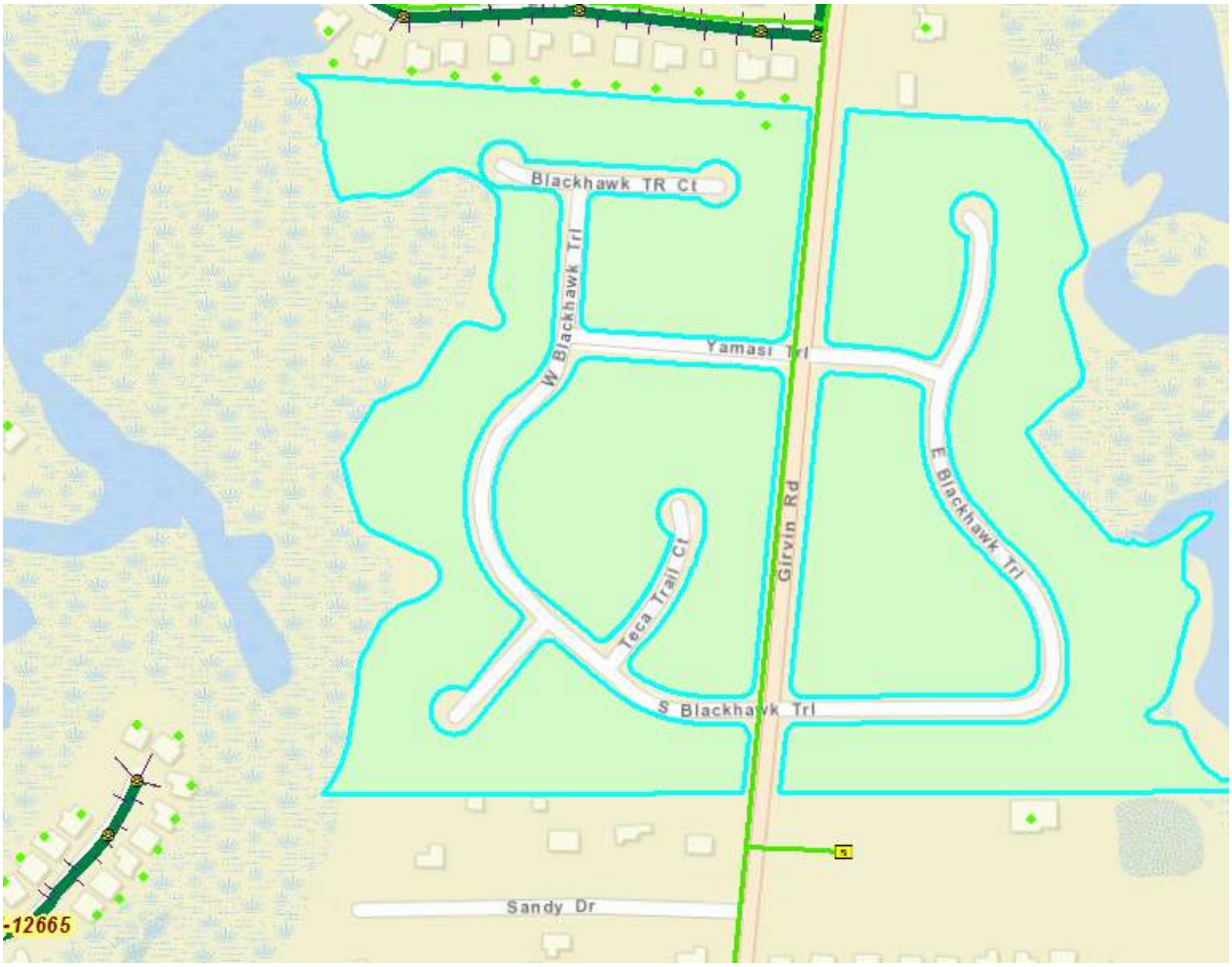
The blue dots in the map above represents sewer customers that are already connected to municipal sewer (8 lots).

Gravity sewer would need to be installed to serve this development. The gravity sewer system would discharge to the existing pump station at 1309 Roxie Street. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
All			All	Al								
ARLINGTON EAST	EAST	LS-001926	ROXIE ST - 1309	50.3	13.3	± 7.2	38.9	± 20.5	338.8	± 19.8	11.5	± 6.7

Blackhawk Bluff

Blackhawk Bluff is located along Girvin Road south of Ebbtide Court and North of Sandy Drive. There is a total of 101 lots within the Blackhawk Bluff development, shown in the highlighted green polygon below.



Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to a proposed force main along Girvin Road to the existing pump station at 1054 Wilderland Drive N. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
All			All	Al								
ARLINGTON EAST	EAST	LS-002427	WILDERLAND DR - 1054	28.3	15.8	± 4.5	45.9	± 12.8	82.6	± 20.5	55.7	± 5.9

Tiffany Pines

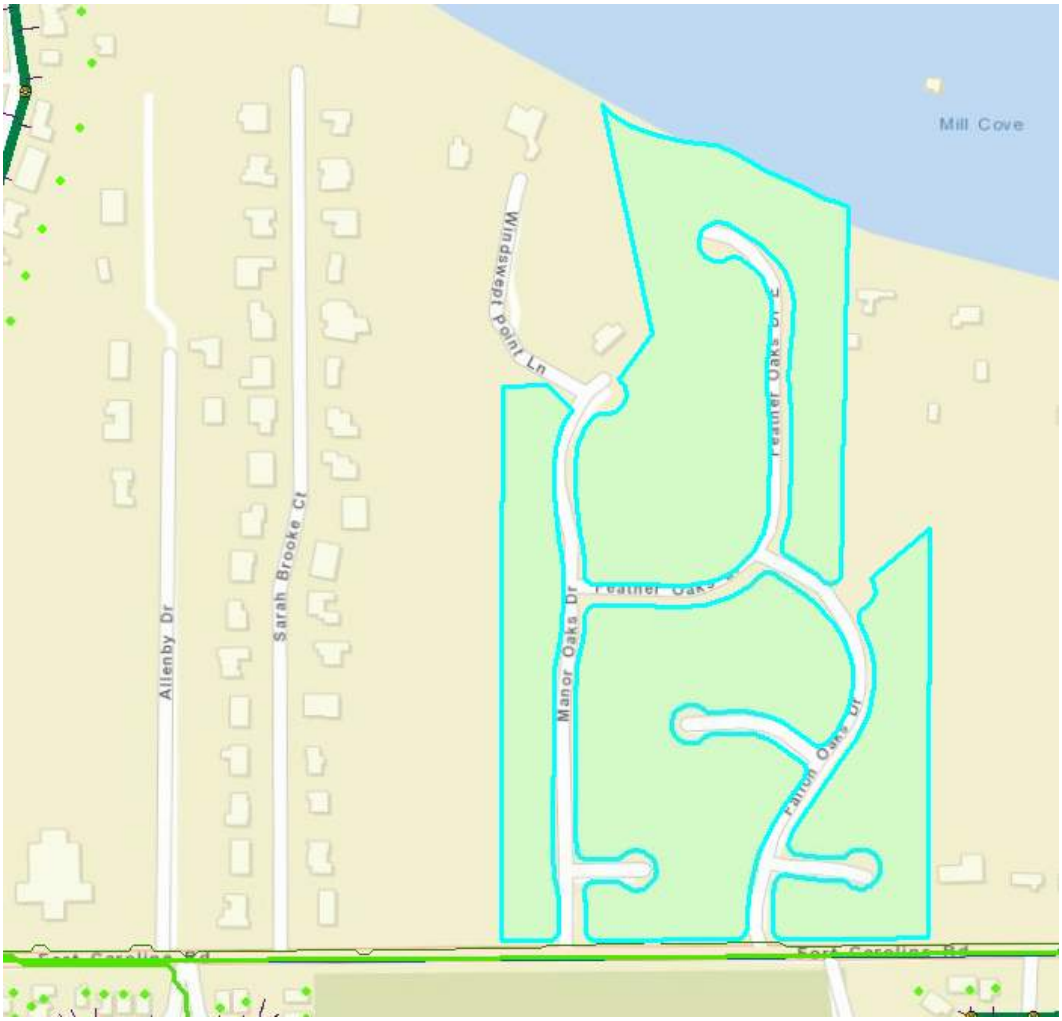
Tiffany Pines is located south of Mount Pleasant Road, North of Kernan Forest Boulevard, East of E. Chandelier Circle, and West of Gately Road. There is a total of 139 lots within the Tiffany Pines development, shown in the highlighted green polygon below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to a force main along Mount Pleasant Road to the existing pump station at 12733 Abess Boulevard. Below is the Capacity Analysis Report for that pump station:

				Demographics				Capacity		
Basin	Grid	CMMS	Address	SFR (ERC)	MFR (Units)	CII (%)	ADF (kGPD)	PHF (gpm)	Capacity (gpm)	Utilization (%)
All			Al		/		/		All	All
ARLINGTON EAST	EAST	LS-000060	ABESS BV - 12733	15119	3872	9.7	3500	5862	8000	73.3

Ashley Oaks

Ashley Oaks is located south of the St. Johns River, North of Fort Caroline Road, East of Sarah Brooks Ct, and West of Huguenot Landing Way. There is a total of 75 lots within the Ashley Oaks development, shown in the highlighted green polygon below.

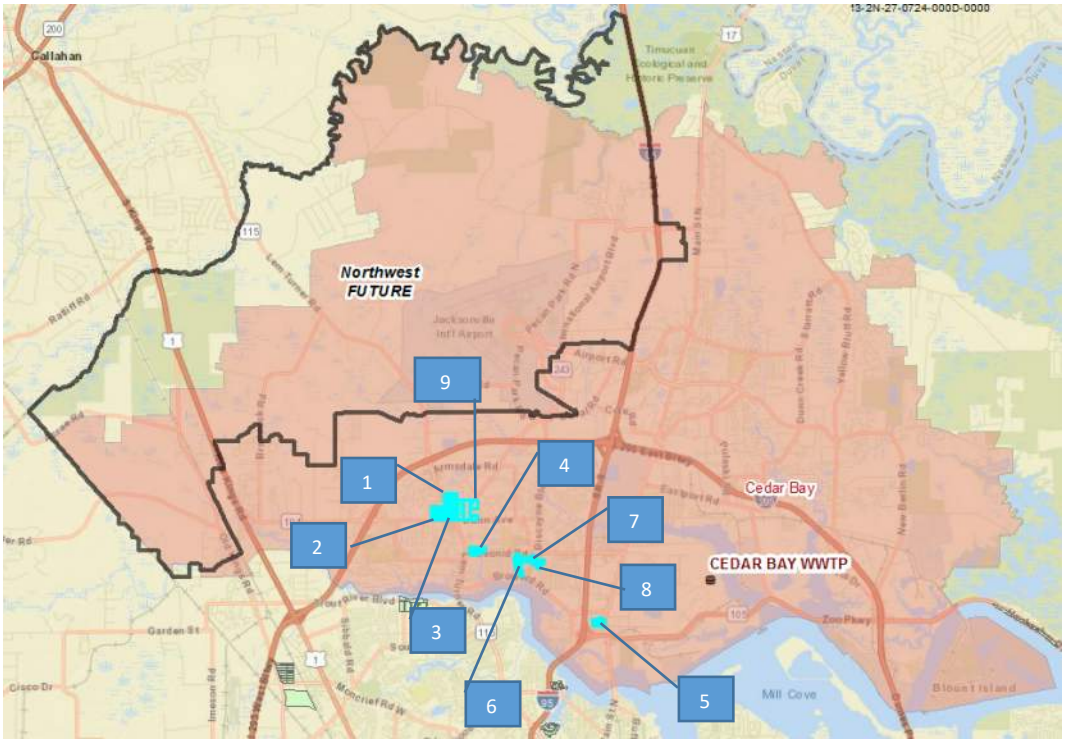


Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing force main along Fort Caroline that discharges directly to the Arlington East WRF.

Cedar Bay

District 2 (aka Cedar Bay) is a 10.0 mgd AADF WRF that provides advanced secondary treatment with nitrogen reduction. Residential and commercial development is still progressing at a moderate pace in the north and west regions of the service area. Northwest WRF is a future treatment facility planned to capture flows in the northwestern region of the Cedar Bay wastewater basin.

Nine (9) septic tank developments were identified by COJ that are within the Cedar Bay Basin. Their connection points, flows and information are listed below.



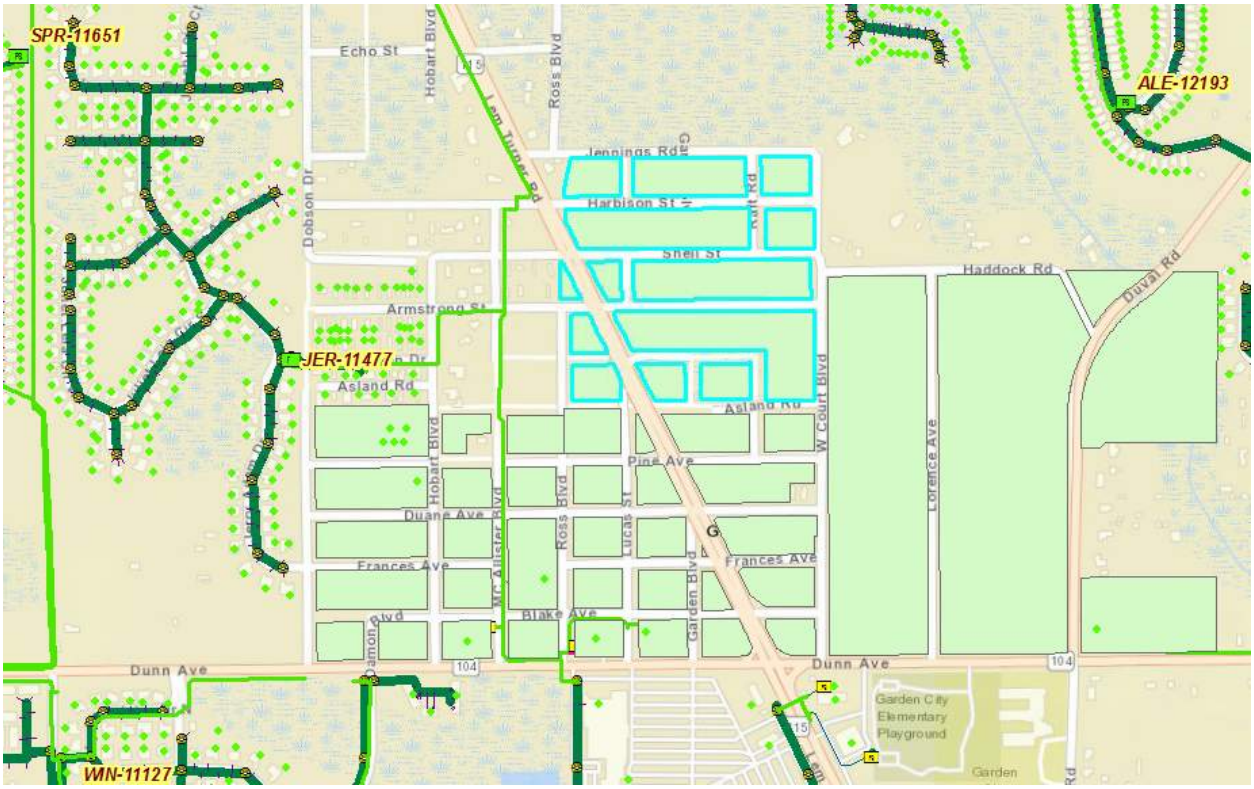
No.	SUBDESC	COUNT_RE
1	GARDEN CITY NE 1/4 OF SE	96
2	GARDEN CITY SE 1/4 OF SE	64
3	GARDEN CITY SE 1/4 OF SE	76
4	JOHNSONS R/P LT 6 LEM TUR	72
5	HOLLYFORD ADDITION	59
6	HIGHLANDS UNIT 04	114
7	HIGHLANDS UNIT 04A	167
8	HIGHLANDS UNIT 05	172
9	PINEVIEW	78

Cedar Bay (DII) WRF Flow Summary (fiscal year average, mgd)

Historical	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
	4.14	3.61	3.63	4.45	4.75	5.04	5.16	5.45	5.52	5.44
2020	**2021**	**2022**	**2023**	**Projected**	**2024**	**2025**	**2030**	**2035**	**2040**	**2045**
5.69	5.76	5.95	5.66		6.30	6.55	7.14	7.98	8.73	9.40

GARDEN CITY NE 1/4 OF SE (Area 1)

Garden City NE 1/4 of SE (Area 1) is located south of Jennings Road, North of Dunn Avenue, East of W Court Boulevard, and West of McAllister Boulevard. There is a total of 96 lots within the Garden City NE 1/4 of SE (Area 1) development, shown in the highlighted green polygon below.

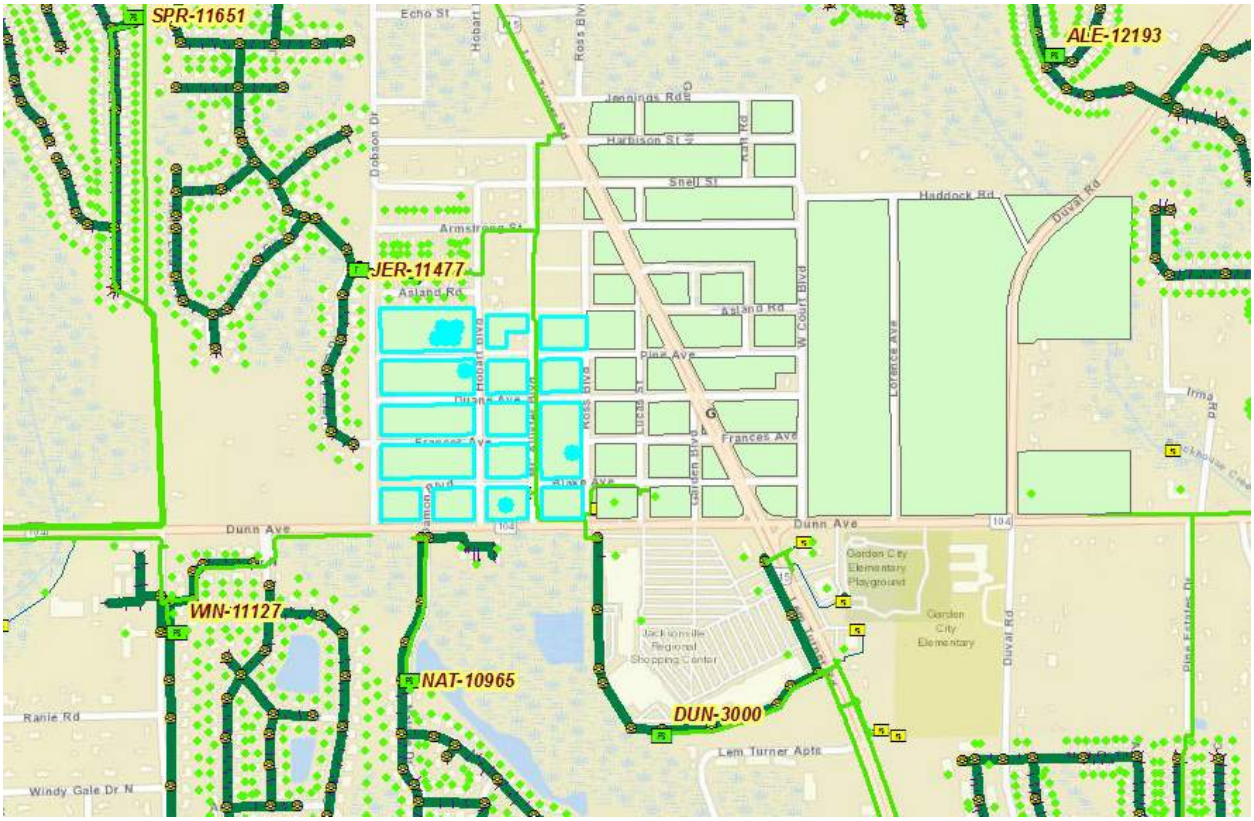


Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing force main along McCallister Boulevard to an existing gravity sewer system on Wheeler Avenue to the existing pump station at 3000 Dunn Avenue. Below is the Capacity Analysis Report for that pump station. The downstream station is approaching full capacity and growth will be monitored to determine when the station will need be upgraded to meet the growth in the area.

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
			Al	Al								
CEDAR BAY	NORTH	LS-000753	DUNN AV - 3000	78.5	174.2	± 42	439.3	± 95	479.9	± 164.1	101.7	± 70

GARDEN CITY NE 1/4 OF SE (Area 2)

Garden City NE 1/4 of SE (Area 2) is located south of Jennings Road, North of Dunn Avenue, East of W Court Boulevard, and West of McAllister Boulevard. There is a total of 64 lots within the Garden City NE 1/4 of SE (Area 2) development, shown in the highlighted green polygon below.



The blue dots in the map above represents sewer customers that are already connected to municipal sewer (6 lots).

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing force main along McCallister Boulevard to an existing gravity sewer system on Wheeler Avenue to the existing pump station at 3000 Dunn Avenue. Below is the Capacity Analysis Report for that pump station. The downstream station is approaching full capacity and growth will be monitored to determine when the station will need be upgraded to meet the growth in the area.

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
			Al	Al								
CEDAR BAY	NORTH	LS-000753	DUNN AV - 3000	78.5	174.2	± 42	439.3	± 95	479.9	± 164.1	101.7	± 70

Garden City NE 1/4 of SE (3)

Garden City NE 1/4 of SE (Area 3) is located south of Jennings Road, North of Dunn Avenue, East of W Court Boulevard, and West of McAllister Boulevard. There is a total of 76 lots within the Garden City NE 1/4 of SE (Area 3) development, shown in the highlighted green polygon below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing force main along McCallister Boulevard to an existing gravity sewer system on Wheeler Avenue to the existing pump station at 3000 Dunn Avenue. Below is the Capacity Analysis Report for that pump station. The downstream station is approaching full capacity and growth will be monitored to determine when the station will need be upgraded to meet the growth in the area.

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
			Al	Al								
CEDAR BAY	NORTH	LS-000753	DUNN AV - 3000	78.5	174.2	± 42	439.3	± 95	479.9	± 164.1	101.7	± 70

Johnsons R/P LT 6 Lem Turner

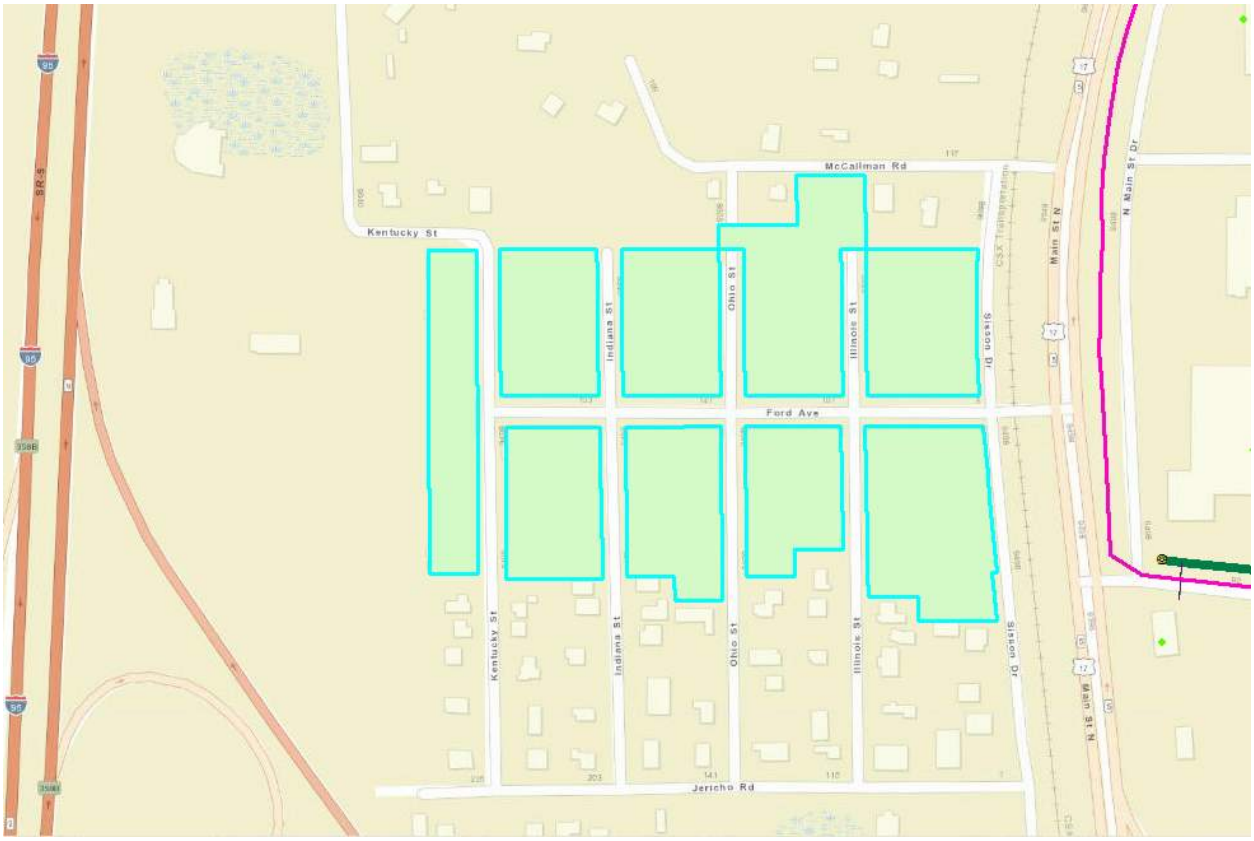
Johnsons R/P is located south of Carleon Road, North of Capper Road, East of Lem Turner Road, and West of Tulsa Road. There is a total of 72 lots within the Johnsons R/P development, shown in the highlighted green polygon below.

Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing force main on Leonid Road to the existing pump station at 2518 Broward Road. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
			Al	Al								
CEDAR BAY	NORTH	LS-000486	BROWARD RD - 2518	78.5	30.8	± 8.9	87.1	± 23.9	289.5	± 11	30	± 7.9

Hollyford Addition

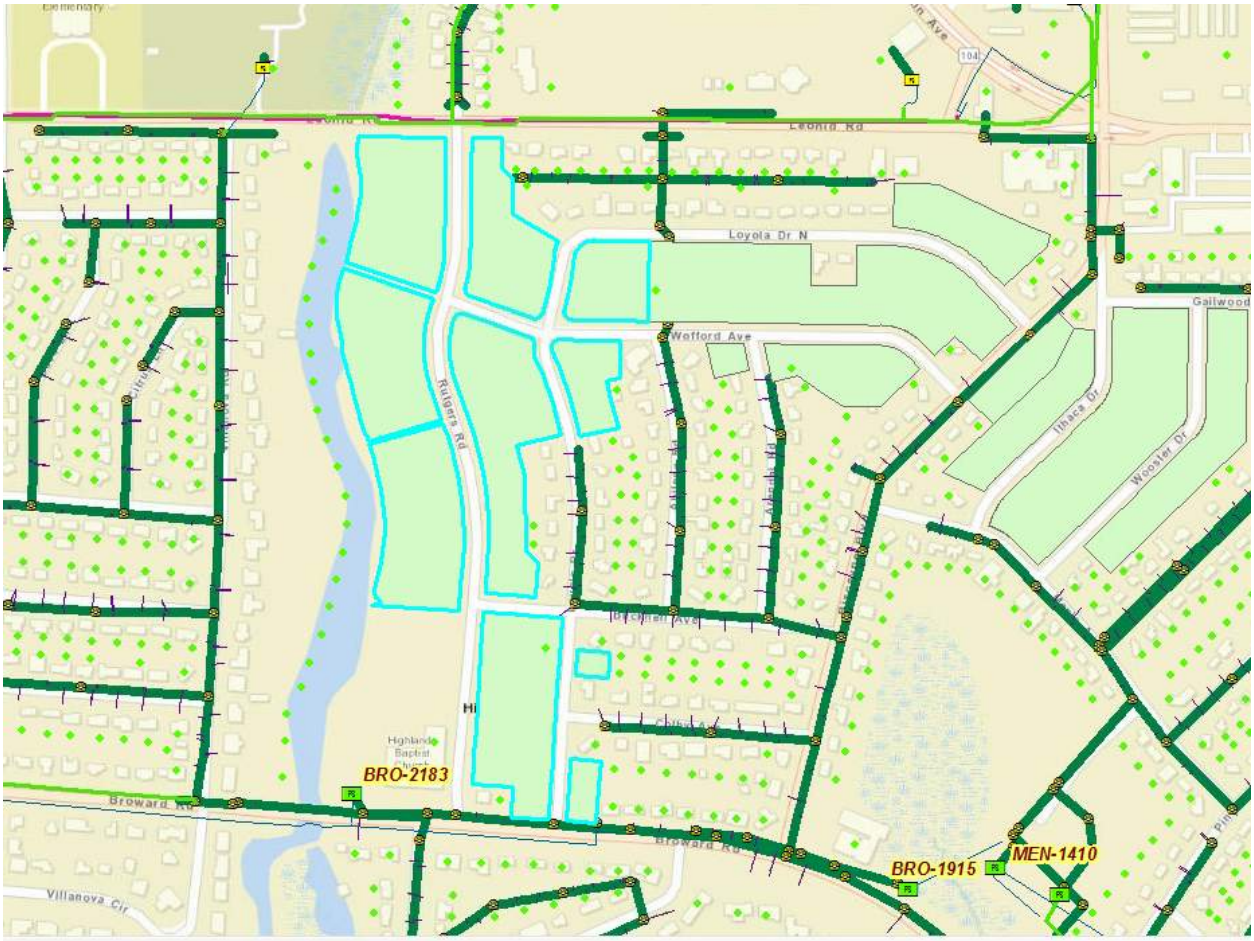
Hollyford Addition is located south of McCallman road, North of Jericho Road, East of I-95, and West of Main Street N. There is a total of 59 lots within the Holly Ford Addition development, shown in the highlighted green polygon below.



Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing force main along Main Street North that directly discharges to the Cedar Bay WRF.

Highlands Unit 04

Highlands Unit 04 is located south of Leonid Road, North of Broward Road, East of Biscayne Boulevard, and West of Villanova Road. There is a total of 114 lots within the Highland Unit 04 development, shown in the highlighted green polygon below.

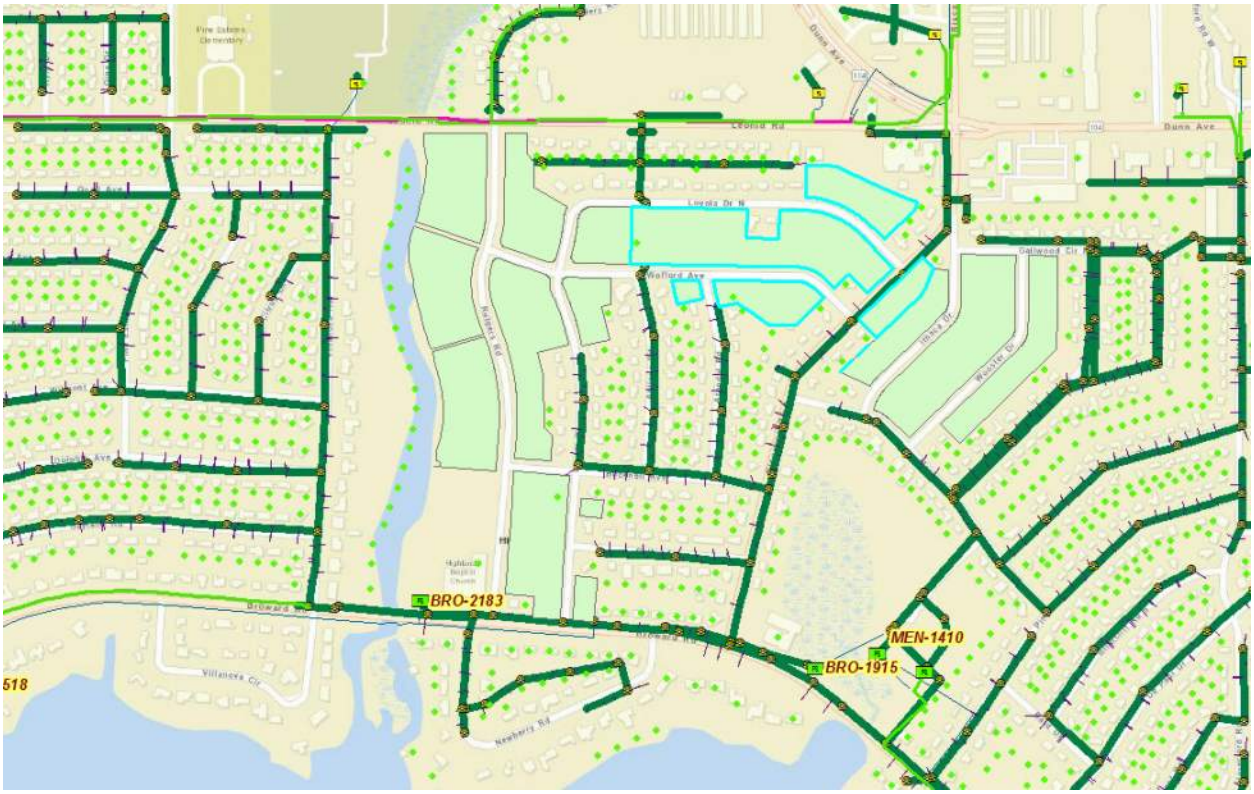


Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing gravity sewer system on Broward Road to the existing pump station at 1410 Menlo Avenue. Below is the Capacity Analysis Report for that pump station:

				Demographics				Capacity		
Basin	Grid	CMMS	Address	SFR (ERC)	MFR (Units)	CII (%)	ADF (kGPD)	PHF (gpm)	Capacity (gpm)	Utilization (%)
			Al						All	All
CEDAR BAY	NORTH	LS-001441	MENLO AV - 1410	1577	226	15.5	323	765	1490	51.4

Highlands Unit 04A

Highlands Unit 04A is located south of Leonid Road, North of Broward Road, East of Biscayne Boulevard, and West of Rutgers Road. There is a total of 167 lots within the Highland Unit 04A development, shown in the highlighted green polygon below.

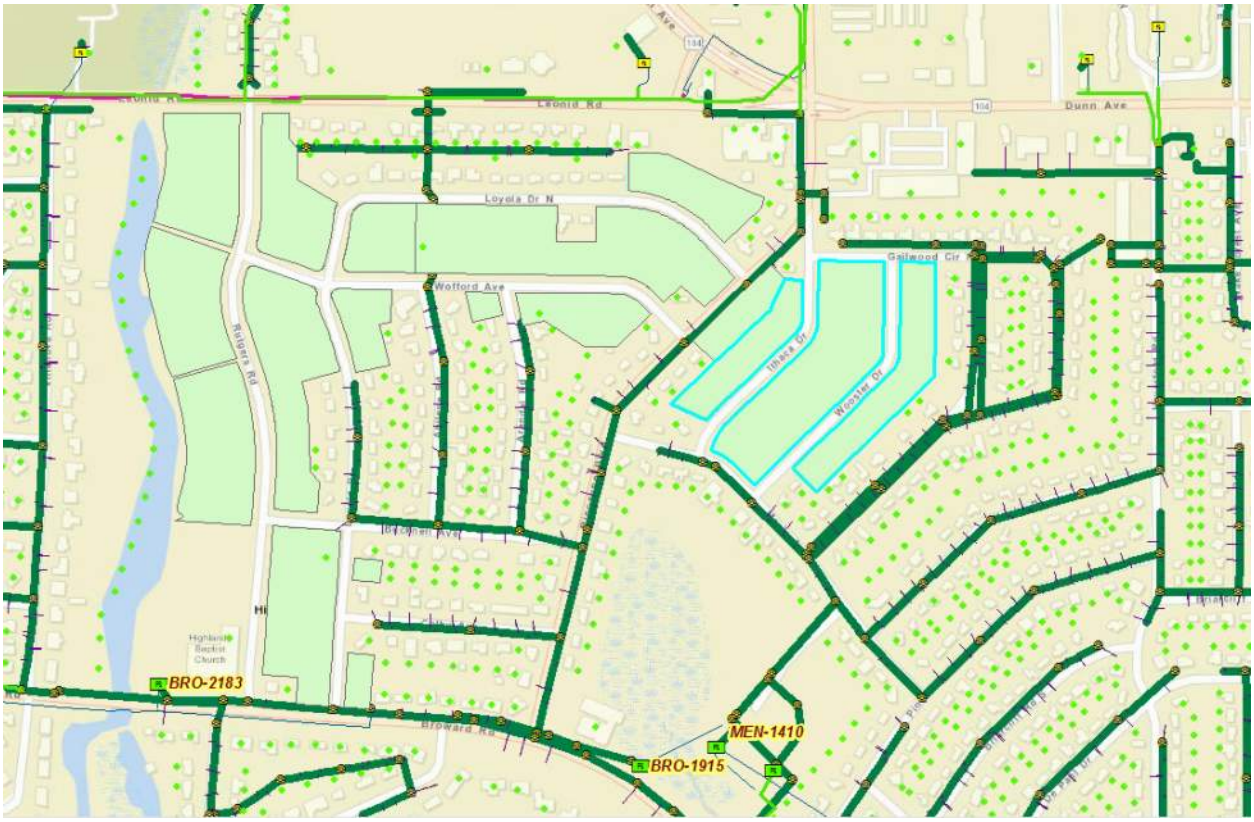


Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing gravity sewer system on Biscayne Boulevard to the existing pump station at 1410 Menlo Avenue. Below is the Capacity Analysis Report for that pump station:

				Demographics				Capacity		
Basin	Grid	CMMS	Address	SFR (ERC)	MFR (Units)	CII (%)	ADF (kGPD)	PHF (gpm)	Capacity (gpm)	Utilization (%)
			All						All	All
CEDAR BAY	NORTH	LS-001441	MENLO AV - 1410	1577	226	15.5	323	765	1490	51.4

Highlands Unit 05

Highlands Unit 05 is located south of Leonid Road, North of Broward Road, East of Biscayne Boulevard, and West of Haverford Road. There is a total of 172 lots within the Highland Unit 05 development, shown in the highlighted green polygon below.

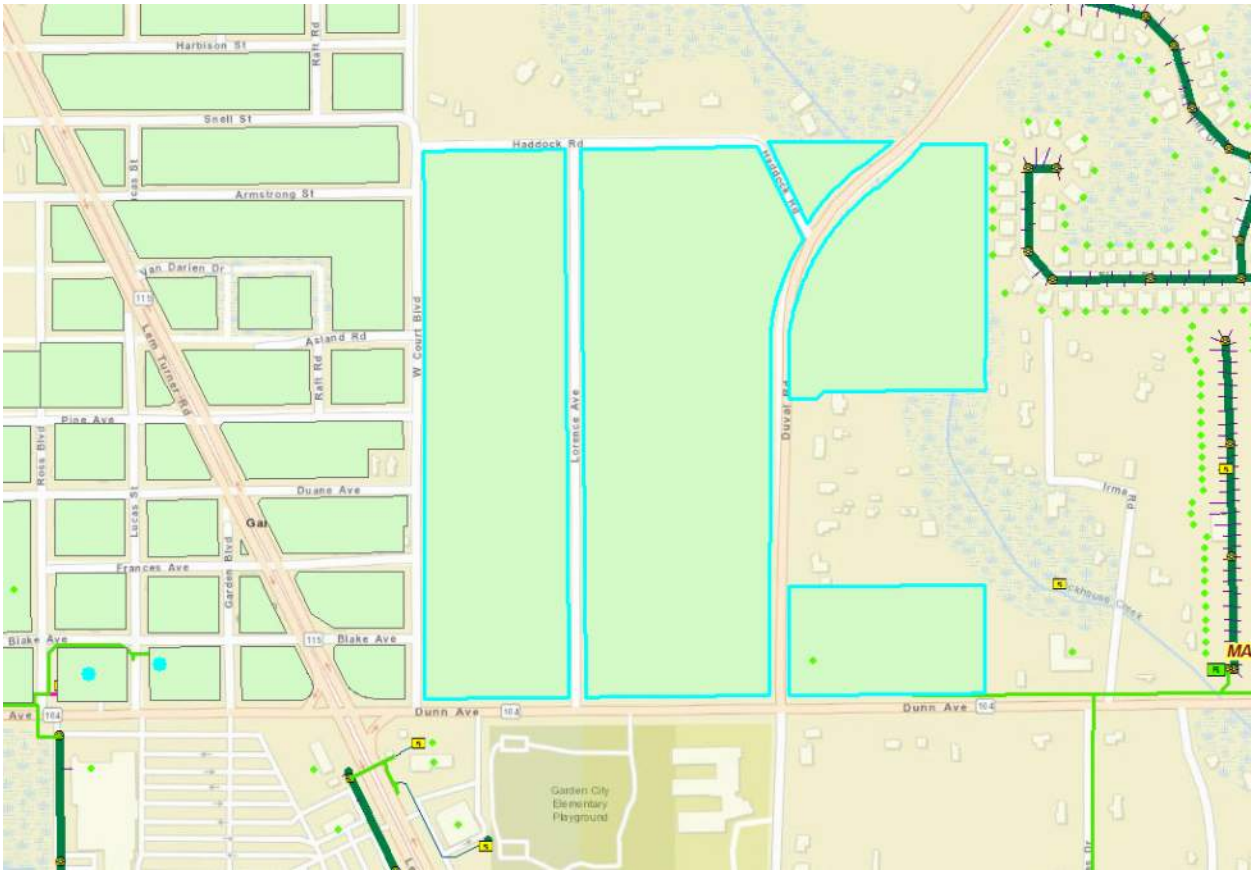


Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing gravity sewer system on Menlo Avenue to the existing pump station at 1410 Menlo Avenue. Below is the Capacity Analysis Report for that pump station:

				Demographics				Capacity		
Basin	Grid	CMMS	Address	SFR (ERC)	MFR (Units)	CII (%)	ADF (kGPD)	PHF (gpm)	Capacity (gpm)	Utilization (%)
			Al		/		/		All	All
CEDAR BAY	NORTH	LS-001441	MENLO AV - 1410	1577	226	15.5	323	765	1490	51.4

Pineview

Pineview is located south of Haddock Road, North of Dunn Avenue, East of W. Court Boulevard, and West of Irma Road. There is a total of 78 lots within the Pineview development, shown in the highlighted green polygon below.



Gravity sewer and at least one pump station would need to be installed to serve this development. The pump station would discharge to an existing force main on Dunn Avenue to the existing pump station at 1820 Ray Greene Drive. Below is the Capacity Analysis Report for that pump station:

Basin	Grid	CMMS	Address	Wetwell (SF)	Daily Flow (kGPD)		Peak Hour Flow (GPM)		Pump Flow (GPM)		Utilization (%)	
					Avg	Range	Avg	Range	Avg	Range	Avg	Range
			Al	Al								
CEDAR BAY	NORTH	LS-001846	RAY GREENE DR - 1820	78.5	208.7	± 29.2	517.6	± 65.2	1216.6	± 82.7	42.6	± 5.4