

PRWC Southeast Water Treatment Plant and Water Well Network

In the wake of limitations discovered in the County's primary water source, the Upper Floridan Aquifer, the Polk Regional Water Cooperative (PRWC) was formed in 2017 to ensure the future of our precious water supply and responsibly meet the individual and regional water supply needs of our communities. PRWC's role is to proactively identify alternative water sources and projects that will protect and sustain our future regional water supply. PRWC will specifically identify sustainable groundwater sources, develop strategies to meet our future water demands, determine needed infrastructure for treatment and distribution, and establish consistent rules for fairly meeting all water supply needs across the County. Oversight of PRWC is solely in the hands of the elected officials from the sixteen Polk County member governments. In addition to Polk County, these include the cities of Auburndale, Bartow, Davenport, Dundee, Eagle Lake, Fort Meade, Frostproof, Haines City, Lake Alfred, Lake Hamilton, Lake Wales, Lakeland, Mulberry, Polk City, and Winter Haven.

The first project to advance this goal is the Southeast WPF and wellfield program. The goal of this project is to utilize the brackish, Lower Floridan Aquifer (LFA) in Southeast Polk County as a "non-traditional" water supply. The Southeast Wellfield is a permitted supply, and after treatment via reverse osmosis, will deliver up to 12.5 million gallons per day (MGD) of high-quality drinking water to the member governments. As master planned, this project will eventually deliver up to 30 MGD of high-quality potable water to member governments. The first phase of construction, expected to begin in late 2024, will consist of a 7.5 MGD reverse osmosis treatment facility, 5 raw water wells, and 61 miles of transmission pipeline.

The PRWC is requesting Level 3 approval of a potable water production facility and seven Lower Floridan Aquifer raw water wells for the following properties:

- The WPF, Parcel 293008000000033020
- Well Site 1, Parcel 293121000000041010
- Well Site 2, Parcel 293120000000021010
- Well Site 10, Parcel 293032993000000181
- Well Site 11, Parcel 293032000000032080
- Well Site 12, Parcels 29-30-29-992880-011010, 293029992880011020, 293029992880012010, 293029992880012020
- Future Well Site 9, portion of Parent Parcel 293105000000031140
- Future Wells Site 14, portions of Parent Parcel 293008000000042010

Onsite of the water production facility will be a deep injection well going below 8,000 feet of the surface to discharge the brine extracted through the reverse osmosis filtration process. There will also be two one-million gallon ground storage tanks onsite of the WTP.

Impact Assessment Statement

Land and Neighborhood Characteristics

1. *How and why is the location suitable for the proposed uses?*

Located in a rural area but able to access the Lower Floridan Aquifer without adversely impacting other environmental assets or people.

2. *What are, if any, the incompatibility and special efforts needed to minimize the differences in the proposed use with adjacent uses?*

Locating the treatment plant far from residential. The raw water wells will have low impacts.

3. *How will the request influence future development of the area?*

It will provide water to support growth in urban areas.

Access to Roads and Highways

1. *What is the number of vehicle trips to be generated daily and at the PM peak hour based on the latest Institute of Traffic Engineers (ITE)? Please provide a detailed methodology and calculations.*

Less than 50 AADT at the treatment site, 10 PM peak. Only an occasional trip to the raw water wells for maintenance and testing.

2. *What modifications to the present transportation system will be required as a result of the proposed development?*

Commercial driveway entrance.

3. *What is the total number of parking spaces required pursuant to Section 708 of the Land*

10-15 and storage of maintenance vehicles at the plant site.

4. *What are the proposed methods of access to existing public roads (e.g., direct frontage, intersecting streets, and frontage roads)?*

Direct frontage

Sewage

1. *What is the amount of sewage in gallons per day (GPD) expected to be generated by the proposed development?*

Not much more than 1 ERC at the plant site. None at the well sites.

2. *If on-site treatment is proposed, what are the proposed method, level of treatment, and the method of effluent disposal for the proposed sewage?*

Septic tank and drain field.

3. *If offsite treatment, who is the service provider?*

n/a

4. *Where is the nearest sewer line (in feet) to the proposed development (Sanitary sewer shall be considered available if a gravity line, force main, manhole, or lift station is located within an easement or right-of-way under certain conditions listed in Section 702E.3 of the Land Development Code)*

n/a

5. *What is the provider's general capacity at the time of application?*

n/a

6. *What is the anticipated date of connection?*

n/a

7. *What improvements to the providers system are necessary to support the proposed request*

n/a

Water Supply

1. *What is the proposed source of water supply and/or who is the service provider?*

Polk Regional Water Cooperative (PRWC). This facility.

2. *What is the estimated volume of consumption in gallons per day (GPD)?*

Not much more than 1 ERC at the plant site. None at the well sites.

3. *Where is the nearest potable water connection and re-claimed water connection, including the distance and size of the line?*

Onsite.

4. *Who is the service provider?*

Polk Regional Water Cooperative (PRWC).

5. *What is the anticipated date of connection?*

2026

6. *What is the provider's general capacity at the time of application?*

12.5 MGD to 30 MGD

7. *Is there an existing well on the property(ies)?*

Surface Water Management and Drainage

1. *Discuss the surface water features, including drainage patterns, basin characteristics, and flood hazards, (describe the drainage of the site and any flooding issues);*

The highest point on the WTP site is 141 MSL in the northwest corner, the lowest point is 110 MSL in the southeast corner. No flood hazard areas. Most of the site is Pomello Fine Sand, the rest is Astatula Sand. Pomello has a shallow water table. Astatula is well drained.

2. *What alterations to the site's natural drainage features, including wetlands, would be necessary to develop the project?*

There will be some site grading necessary to place all of the facilities.

Environmental Analysis

1. *Discuss the environmental sensitivity of the property and adjacent property in basic terms by identifying any significant features of the site and the surrounding properties.*

The PRWC has commissioned species studies of all the sites, water modeling studies, and conducted numerous soils and well testing and analysis.

2. *What are the wetland and floodplain conditions? Discuss the changes to these features which would result from development of the site.*

No wetlands or floodplains.

3. *Discuss location of potable water supplies, private wells, public well fields (discuss the location, address potential impacts), and;*

The project is nothing but wells.

4. *Discuss the location of Airport Buffer Zones (if any) (discuss the location and address, potential impacts).*

No impact. Most facilities will be at grade. The highest are the ground storage tanks that are less than 40 feet above average adjacent grade.

5. *Provide an analysis of soil types and percentage of coverage on site and what effect it will have on development.*

Most of the site is Pomello Fine Sand, the rest is Astatula Sand. Pomello has a shallow water table. Astatula is well drained.

Infrastructure Impact Information

1. *Parks and Recreation;*

Sumica Preserve is the closest environmental land. Closest parks are in Lake Wales.

2. *Educational Facilities (e.g., preschool, elementary, middle school, high school);*

Closest schools are in Lake Wales.

3. *Health Care (e.g., emergency, hospital);*

Lake Wales Hospital (Baycare)

4. *Fire Protection;*

A fire station will be built onsite (see site plan)

5. *Police Protection and Security;*

PCSO

6. *Emergency Medical Services (EMS);*

Onsite

7. *Solid Waste (collection and waste generation); and*

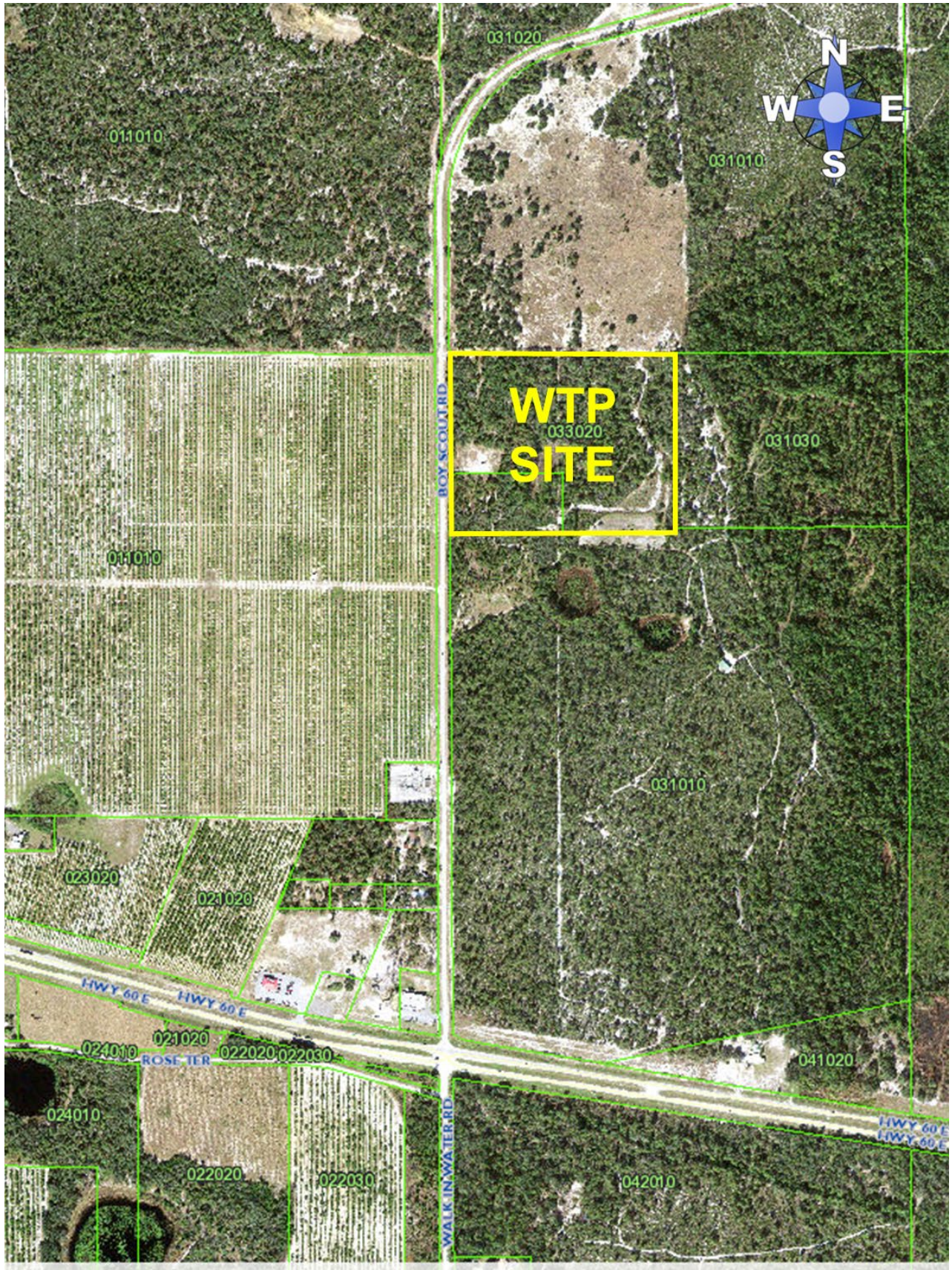
Not much. Brin is contained within the facility beneath the ground.

8. *How may this request contribute to neighborhood needs?*

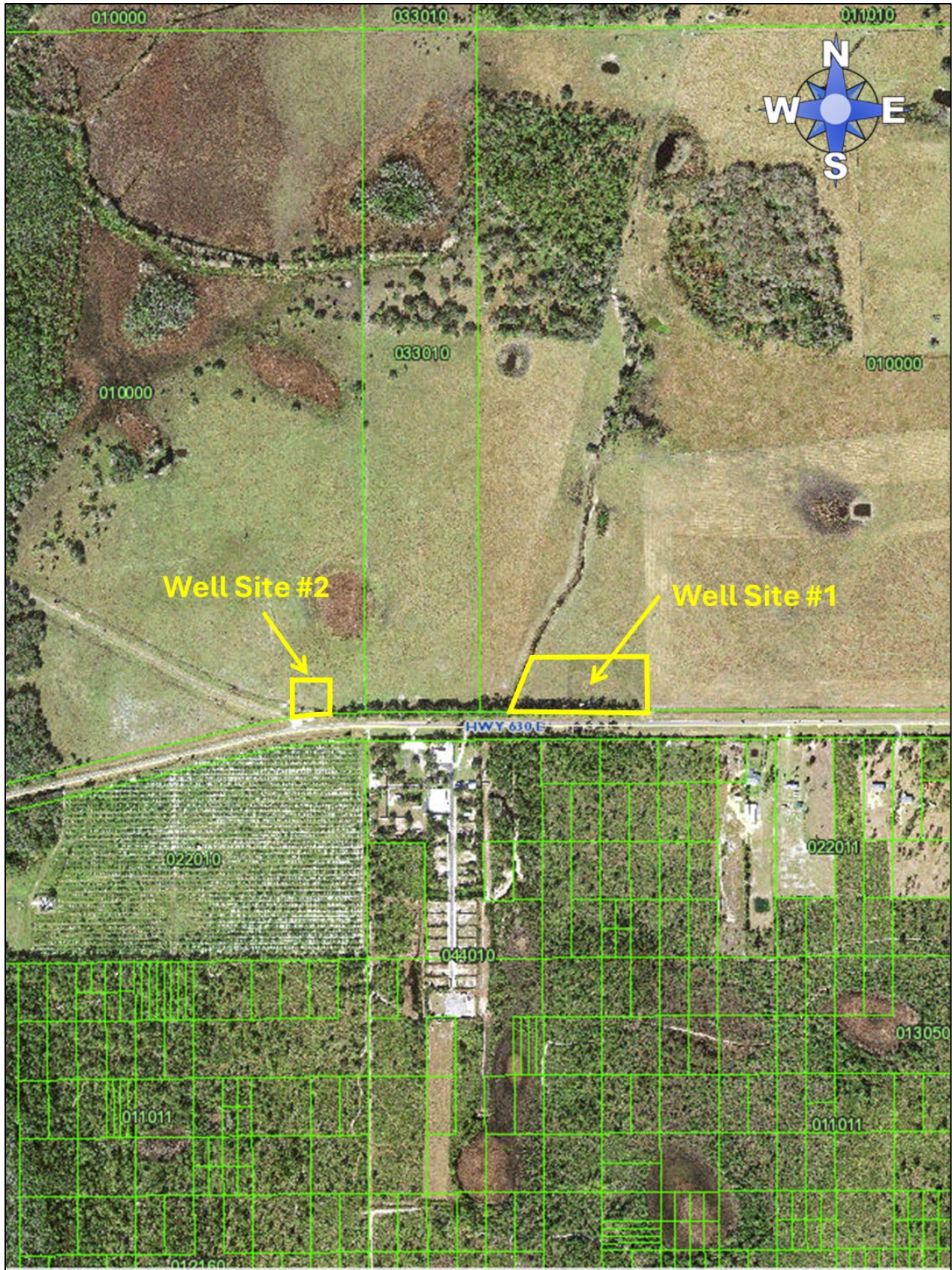
It will provide a future water supply.



Map A: Location Map



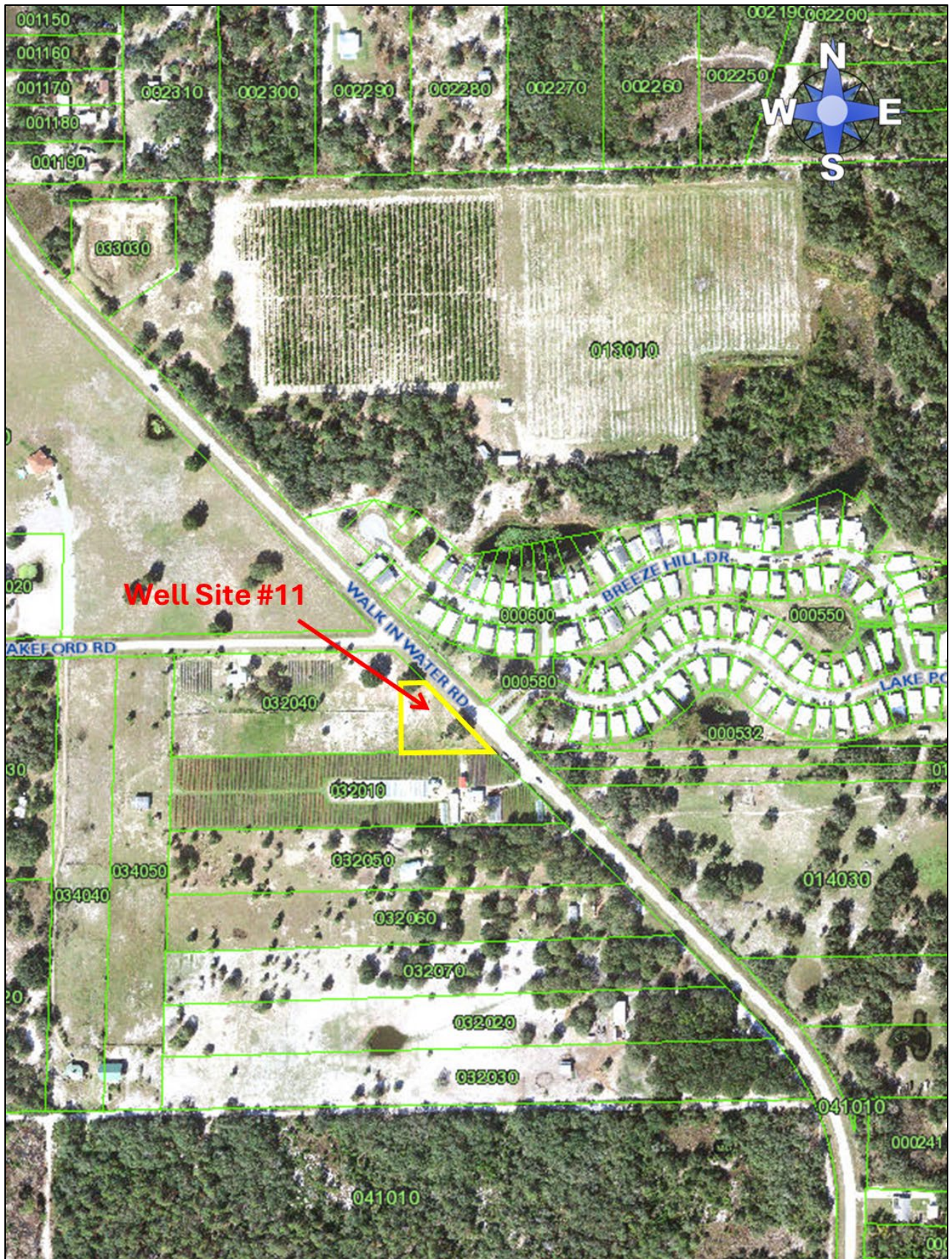
Map B: Map depicting the site boundary (properties included in the request)



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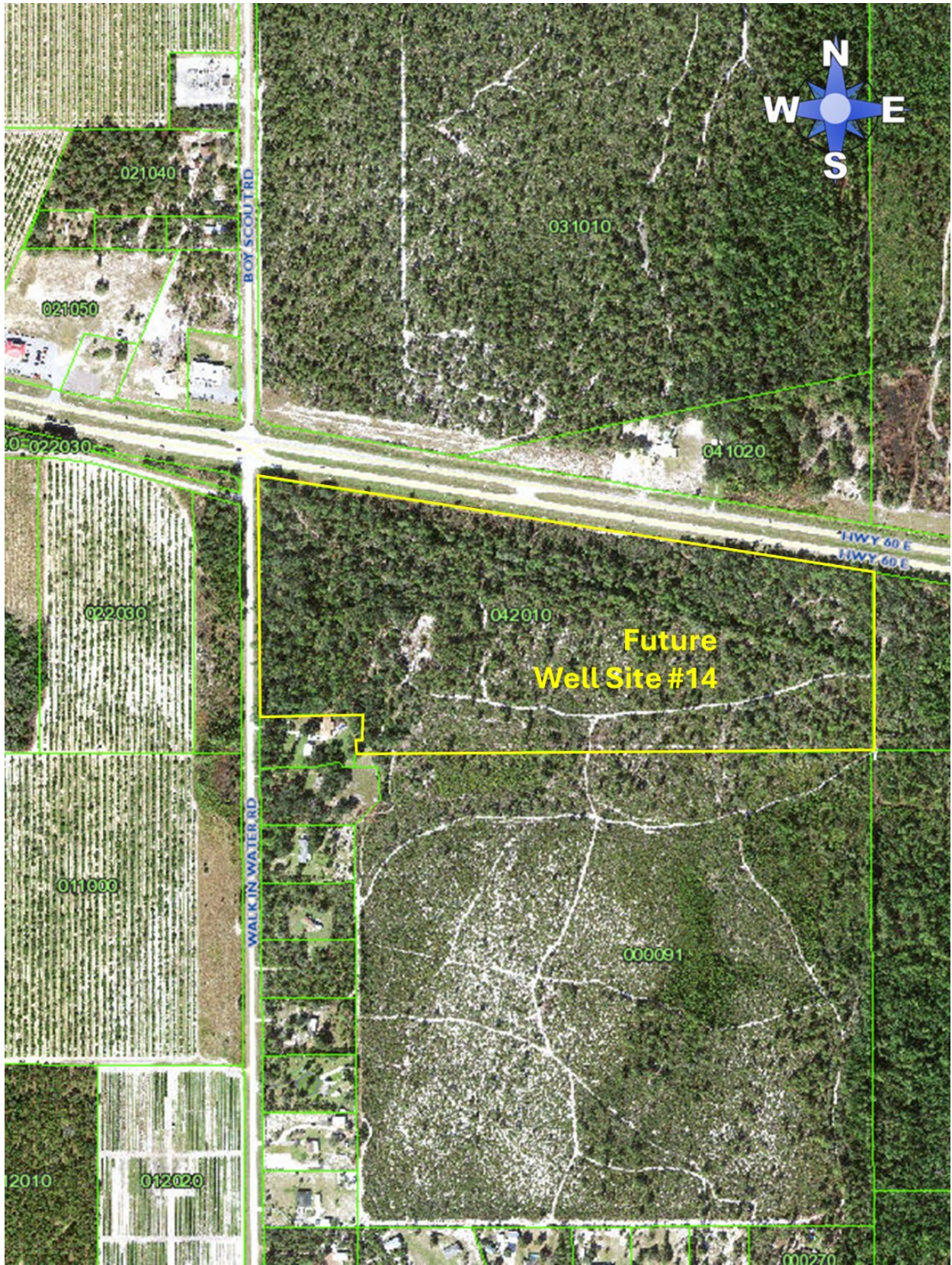
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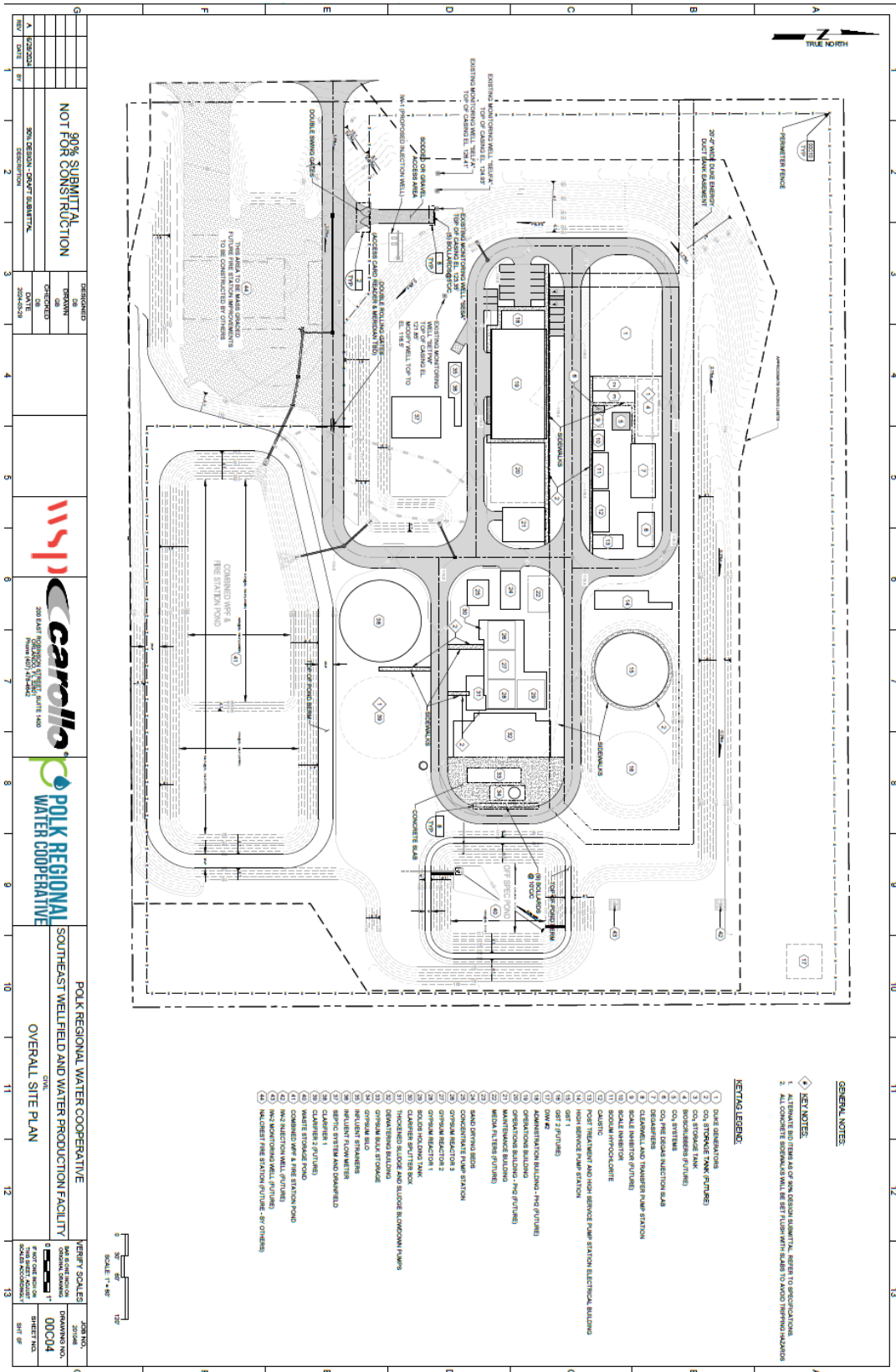
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Map C: A site plan