

WARNER UNIVERSITY WWTF
REQUEST FOR CU APPROVAL
IMPACT ASSESSMENT STATEMENT

A. Land and Neighborhood Characteristics

Assess the compatibility of the requested land use with adjacent properties and evaluate the suitability of the site for development. At a minimum, address the following specific questions in your response:

- 1) How and why is the location suitable for the proposed uses?

The property has a FLU of INST-2X and is in the Southeast Village Center SAP. The area for the proposed facility site is generally on the west side of #27 and lies south of Lake Wales and north of Frostproof. The site is bounded by the existing university facilities on the east, with a largely rural and undeveloped area to the north, west, and south.

The existing plant has been in use for about 50 years and is in need of upgrading and enlarging. Unfortunately it is impractical to simply modify the existing plant, so a new plant is being proposed, with the old plant ultimately being properly abandoned. The existing plant is undersized for even the current uses, so obviously cannot handle future growth planned for the university facilities.

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

The rural nature of the surrounding properties minimizes incompatibility. However, the following illustrates the efforts to minimize any possible incompatibility:

- a. **Order Control: Odors associated with wastewater treatment facilities typically originate from sewage that is kept in anaerobic conditions for an extended period of time. This facility is not expected to generate any significant odors due to the relatively small size of the collection system, (which translates to a short travel time), and the nature of the proposed aerobic treatment process. Also, the flow equalization tank will be equipped with coarse bubble diffusers to mix and aerate its contents and minimize any potential odors.**

The large separation from the new WWTF to the property boundary will allow for the dissipation of any odors. Accordingly, an odor control system is not proposed as no odor complaints are anticipated because of this project.

- b. **Noise Control:** Noise complaints from wastewater treatment facilities are generally associated with positive displacement blowers, which provide air for the various processes. This facility will have several blowers; however, they will be equipped with noise attenuation enclosures to protect them from the elements and provide a significant level of noise reduction.

The distance between the facility and the property boundary will help reduce the noise level to nearby residents. Accordingly, noise generated by the facility is not expected to generate any complaints.

- c. **Lighting Effects:** New lighting will be installed only where required for plant access and safety reasons. Most lights will be controlled manually on an as-needed basis and will not be on during the entire night. Therefore, no detrimental effects from nighttime lighting is anticipated.

- 3) How will the requested district (if the request is a district change) influence future development patterns if the proposed change occurs?

Not a district change.

B. Access to Roads and Highways

Assess the impact of the proposed development on the existing, planned and programmed road system. At a minimum, address the following specific questions in your response.

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

The new WWTP will not generate any measurable new trips. Normal traffic anticipated for this facility would include a daily operator visit, bi-monthly liquid chlorine deliveries, and a monthly sludge hauler. This is similar to the existing plant.

- 2) What modifications to the present transportation system will be required because of the proposed development?

No modifications to the transportation system are needed or planned. Access to the new facility will be through existing roads within the University's campus.

- 3) What is the total number of parking spaces required pursuant to Section 708 of the Land Development Code?

The LDC lists 1 space for 260 SF of GFA for government facilities. However, no office space or administrative building is being proposed. No dedicated parking is needed or proposed.

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

Access to the new facility will be through existing roads within the University's campus.

C. Sewage

Determine the impact caused by sewage generated from the proposed development. At a minimum, address the following specific questions in your response:

- 1) What is the amount of sewage in gallons per day (GPD) expected to be generated by the proposed development? (Response may be based on Section 703 of the LDC or the Impact Fee Ordinance)

No new site development which would generate additional flows is being proposed with this CU. However, the existing plant is rated at 86,000 gpd, but in recent years has exceed that amount regularly.

- 2) What is the proposed method, level of treatment, and the method of effluent disposal for the proposed sewage treatment facilities if on-site treatment is proposed?

The new facility will provide Advanced Level Treatment with alternating aerobic and anoxic zones, followed by solids separation and basic disinfection. The proposed treatment process will meet the following effluent water quality limits: BOD 20 mg/L, TSS 20 mg/L, Total Nitrogen 6

mg/L, and Total Phosphorous 3 mg/L. Effluent disposal will be by rapid rate land application consisting of a Rapid Infiltration System with a capacity equivalent to the treatment plant capacity.

- 3) What is the relationship of the proposed sewage system to the service provider's plans and policies for sewage treatment systems (e.g., will it be integrated into a larger system)?

Both the existing and proposal systems are to be owned and operated by the university. Both the capital costs and ongoing maintenance will be paid by the university.

- 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*).

The nearest sewer is the county owned treatment facility at the College Park development, which is about one mile to the north.

- 5) Who is the service provider?

Polk County

- 6) What is the current provider's capacity?

We understand that the plant at College Park is over capacity

- 7) What is the anticipated date of connection?

No connection to the county system is anticipated.

D. Water Supply

Determine the amount of water to be used, how it will be distributed, and the impact on the surrounding area. At a minimum, address the following specific questions in your response:

- 1) What is the proposed source of water supply?

No additional water consumption is anticipated.

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

No additional.

- 3) Where is the nearest potable water connection and gray water connection, including the distance and size of the line?

N/A

- 4) Who is the service provider?

N/A

- 5) What is the current provider's capacity?

N/A

- 6) What is the anticipated date of connection?

No connection anticipated.

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

NA

E. Surface Water Management and Drainage

Determine the impact of drainage on the ground water and surface water quality and quantity caused by the proposed development. At a minimum, address the following specific questions in your response:

- 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 site slopes gradually from the northeast to the southwest. The elevations range from 138 to 130. The site design will provide customary

stormwater treatment meeting county and FDEP standards. (The FDEP will be the agency providing drainage review, rather than SWFWMD).

There is no floodplain located on the proposed facility site.

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

None is needed or proposed.

F. Environmental Analysis

Provide an analysis of the character of the subject property and surrounding properties, and further assess the site's suitability for the proposed land use classification based on soils, topography, and the presence of wetlands, floodplain, aquifer recharge areas, scrub or other threatened habitat, and historic resources, including, but not limited to:

- 1) Discuss the environmental sensitivity of the property and adjacent property by identifying any significant features of the site and the surrounding properties.

The site is part of the Lake Wales Ridge, and can be habitat for a number of threatened or endangered species. Further environmental studies to be conducted at level 2 approval.

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

N/A. No wetlands or floodplain onsite.

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

N/A. No wells onsite.

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

Project is not located in an Airport Buffer Zone.

G. Population (Response is only required for district changes and uses generating more than 750 AADT based on the methodology of Appendix C of the Land Development Code)

N/A

H. General Information

Determine if any special needs or problems will be created by the proposed development. At a minimum, address the following specific questions in your response:

1) What are the special features of the proposed development that contribute to neighborhood needs?

N/A

2) What is the nearest location (travel distance), provider, capacity or general response time, and estimated demand of the provision for the following services:

A. Parks and Recreation;

No impact to these facilities.

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

No impact to these facilities.

C. Health Care (e.g., emergency, hospital);

Minimal.

D. Fire Protection;

Minimal.

E. Police Protection and Security;

Minimal.

F. Electrical Power Supply;

Power for the facility will be provided by Duke Energy.

G. Emergency Medical Services (EMS); and

Emergency Medical Services are provided by Polk County. No excessive demands on EMS are expected due to the proposed development.

H. Solid Waste.

No impact to these facilities.