

Impact Assessment Statement
St. Helena Sand Mine
Conditional Use Modification
LDCU-2024-39
For
I-4 Sand Company LLC.

An Impact Assessment Statement is required for all Level 3 and Level 4 Reviews, with the exception of text amendment requests. The purpose of an Impact Assessment Statement is to provide information on the effects a proposed development or land use action will have on the existing neighborhood and general area; on the transportation facilities; on the environment and natural resources of the County; on the public facilities for water, sewer, solid waste disposal, fire, police, public education, parks, recreation, and other utilities; and any other aspect with an identified impact of the development and deemed appropriate for concern.

A sufficient Impact Assessment Statement must address all of the following (*Note: N/A is an insufficient comment, if N/A an explanation must be included*):

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 location of the previously approved St Helena Sand Mine and associated parcels are depicted on attached Figure 1. I-4 Sand Company, LLC is requesting a modification of LDCU-2024-39 to revise the approved site plan. The modification is necessary to reflect the proposed abandonment of right of way for JL Massey Road, resulting in the addition of 3 acres to the site plan and unification of the western side of the project. Also, additional dedication of right of way by I-4 Sand to the County, along St. Helena Road, results in adjustments to the approved site plan. No other changes to the existing approval are proposed. The St Helena Sand Mine area is a suitable location for non-phosphate mining for various reasons, which are listed below:

A. The St. Helena Sand Mine contains the high-quality critical sand resource used for commercial construction aggregates, concrete, asphalt, clean fill material, FDOT and other critical regional infrastructure projects. The primary resource on this site is coarse-grained sand, which is a strategic resource that is only located and available for extraction in specific locations throughout the region. Though most of Polk County is covered with fine-grained sandy materials, few areas contain the coarse sand that meets commercial and FDOT Specifications.

B. The Polk County Comprehensive Plan states the specialized use of non-phosphate mining is authorized in all land use locations per Policy 2.125-A2 and more specifically is listed as one of the allowable uses in the A/RR district.

The subject property is located in the Agricultural Residential Rural (A/RR) land use district and the Rural Development Area. In addition, there are no utilities (water/sewer) from the City of Lake Wales currently available or planned for expansion in the area in the immediate future to support elevated residential densities.

C. The request is compatible with the surrounding area as the Rural Development (RDA) does not support dense residential or non-residential development. Therefore, the non-phosphate mining will not adversely affect the citizens of the immediate surrounding area. Non-phosphate mining is a Specialized Use which is allowed in all future land use classifications in accordance with Section 2.125 of the Comprehensive Plan so long as the project meets the compatibility and development requirements of the Land Development Code. Also, The site is also included as part of the Mineral Resource Protection Area”.

D. The St. Helena Sand Mine is strategically located in an area of the County and region that allows for the efficient and optimal use of existing transportation corridors for delivery of the product to the local and regional markets. The location of the site, off of Masterpiece Road, will allow for quick and easy access to US Highway 27 and State Road 60, all of which represent large and appropriate roadways for delivery of the product to the regional markets. Logistics is a critical factor in selecting a location for a sand mine, for economic and environmental reasons. The minimization of transport distance yields economic and environmental benefits to the County and to the applicant by reducing trip length, road usage, vehicle maintenance, vehicle fuel, and reducing air pollution via reduction of carbon footprints. Based on the Traffic Impact Assessment (TIA) included with this application, the surrounding roadway network, which has adequately served the existing, adjacent non-phosphate mining facilities, will continue to do so without causing any failures in service.

E. The St. Helena Sand Mine consists almost entirely of active and inactive citrus groves and road right of way. There are no wetlands situated on the site. Mining is carried out via an environmentally friendly methodology known as closed-loop hydraulic dredging, which does not require dewatering and therefore results in no negative effects to the either on-site, adjacent, or nearby wetland areas.

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

As previously stated, the Polk County Comprehensive Plan states the specialized use of non-phosphate mining is authorized in all land use locations per Policy 2.125-A2 and more specifically is listed as one of the allowable uses in the A/RR district. Also, all of the immediate land use around this property is A/RR, and the request is for a modification to Conditional Use Permit 07-12 for the existing and operating non-phosphate mining operation, which was previously deemed consistent with the Comprehensive Plan and compatible with the surrounding area. Further, the request to expand is compatible with the surrounding area as the Rural Development (RDA) does not support dense residential or non-residential development. Therefore, there are no issues related to incompatibility and no special efforts are needed to minimize any differences in the proposed use with adjacent uses.

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 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.**

There are no changes to the approved vehicle trips. The traffic from the St Helena Sand Mine is not anticipated to significantly impact the surrounding classified transportation network. Per the Polk County Traffic Impact Study Methodology and Procedures guidelines, a Minor Traffic Study is required.

The TIA provides the number of vehicle trips to be generated daily and the PM peak hour based on the latest Institute of Traffic Engineers (ITE), including detailed methodology and calculations.

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

No changes to traffic is proposed. Based on the previously approved traffic impact analysis, the existing roadway configuration is sufficient to support project traffic conditions at maximum operating capacity. Turn lanes into the site are not warranted along Masterpiece Road at St Helena Road due to the minimal projected ingress traffic volumes during the peak hours. Therefore, no additional improvements on Masterpiece Road are proposed at the intersection with St. Helena Road. St Helena Road is currently utilized as an access point for the existing St Helena Sand Mine activities which have similar traffic generations to the proposed project.

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

Section 708 of the Land Development Code requires 1 parking space per employee, plus 5 visitor spaces. The sand mine will average 7 to 10 employees, therefore the total amount of parking spaces required will be (15) fifteen. (15) fifteen parking spots will be designated within the graded areas adjacent to the office trailer. See attached Figures which show the approximate location of the office and processing area.

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

Access to the site is via St Helena Road to Masterpiece Road, which allows for quick and easy access to US Highway 27 and State Road 60. See attached Figure 1.

NOTE: Applications for projects attributing 50 or fewer Average Annual Daily Trips (AADT) according to the latest Institute of Transportation Engineers (ITE) manual may provide a written explanation and justification of why impacts will not be significant in lieu of the required information for “Infrastructure Impacts” items 3 through 9 above.

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.F of the LDC).**

Approximately 200 GPD of sewage is be generated per day.

- 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?**

Although the site falls within the City of Lake Wales Utility Service Area, the necessary infrastructure for providing off site treatment to the site has not been established to date. Sewage is to be treated by way of an on-site septic tank.

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

Although the site falls within the City of Lake Wales Utility Service Area and East Region Service Area, the necessary infrastructure for providing off site treatment to the site has not been established to date. Sewage will be treated by way of an on-site septic tank.

- 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).**

Although the site falls within the City of Lake Wales Utility Service Area and East Region Service Area, the necessary infrastructure for providing off site treatment to the site has not been established to date. Sewage will be treated by way of an on-site septic tank. The nearest sewer line is along US Mountain Lake Cut-Off Road, approximately 3 miles south of the site. Sewage will be treated in an on-site septic tank. There is no service provider that can serve the site.

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

Although the site falls within the City of Lake Wales Utility Service Area and East Region Service Area, the necessary infrastructure for providing off site treatment to the site has not been established to date. Sewage will be treated in an on-site septic tank. There is no service provider that can serve the site and there are no planned improvements by the County in the vicinity of the parcels.

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

Although the site falls within the City of Lake Wales Utility Service Area and East Region Service Area, the necessary infrastructure for providing off site treatment to the site has not been established to date.

This site is located in a Rural Development area and under the Polk County Comprehensive Plan county utilities services will not be extended to provide potable water and/or wastewater services. Sewage will be treated in an on-site septic tank as there are no plans for the City to extend utilities to this area in the immediate future. There is no service provider that can serve the site.

7. **What improvements to the providers system are necessary to support the proposed request (e.g., lift stations, line extensions/expansions, interconnects, etc.)?**

Although the site falls within the City of Lake Wales Utility Service Area and East Region Service Area, the necessary infrastructure for providing off site treatment to the site has not been established to date. Sewage is treated by way of an on-site septic tank. However, Improvements would at a minimum include significant line extensions to be available in the vicinity of the project site.

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 and/or who is the service provider?**

Although the site falls within the City of Lake Wales Utility Service Area and East Region Service Area, Potable water is supplied from on-site wells which will be permitted for the appropriate use with SWFWMD and the Polk County Health Department. Process water for use in sand processing will be withdrawn from the mine lake and a Floridan aquifer production well. All process water will be recycled as part of the closed loop system.

2. **What is the estimated volume of consumption in gallons per day (GPD)? (*Response may be based on Section 703 of the LDC*)**

Water consumption is in the form of water retained in the product hauled off site and potable water use. The moisture content of the sand product is generally less than six (6) percent by weight. At approximately four (4) percent moisture by weight, each ton of product contains +/- 80 pounds, or approximately +/- 10 gallons, of water.

Typically, water use with exported product is approximately +/- 10 gallons per ton of product.

The water removed from the recirculation system in the product is replenished through inflow of water to the mine lake through the surficial aquifer. Assuming 1,000,000 tons of product is hauled off site per year, the quantity of water use withdrawn from the surficial aquifer is less than +/- 30,000 gallons per day.

Potable water for sanitary purposes will be obtained from the upper Floridan aquifer and is expected to be on the order of 4,000 gallons per day.

The mining activities will have no measurable impact on the normal supply of ground water and surface water. As mining progresses, the existing irrigation wells will be permanently abandoned and those irrigation uses will be permanently eliminated.

Currently the groves are permitted for over 444,600 gpd gallons per day for irrigation and mining. Elimination of the irrigation demands, as mining progresses, will have an overall long term positive impact on the normal supply of ground water.

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

Although the site falls within the City of Lake Wales Utility Service Area and East Region Service Area, the necessary infrastructure for providing water and reclaimed water to the site has not been established to date.

4. **Who is the service provider?**

Although the site falls within the City of Lake Wales Utility Service Area and East Region Service Area, the necessary infrastructure for providing water to the site has not been established to date.

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

Although the site falls within the City of Lake Wales Utility Service Area and East Region Service Area, the necessary infrastructure for providing water to the site has not been established to date. as there are no plans for the City to extend utilities to this area in the immediate future (NOT SURE IF YOU ARE COMFORTABLE WITH THIS).

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

Although the site falls within the City of Lake Wales Utility Service Area and East Region Service Area, the necessary infrastructure for providing water to the site has not been established to date, the necessary infrastructure for providing water to the site has not been established to date.

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

Yes, see below:

Yes What type? Agricultural (16 wells)
Permit Capacity 444,600 gpd

No

Location: Groves

Water Use Permit #: 20 021139.002

Constructed prior to Water Management District Permitting: Yes No

Type of Use: Ag Public Industrial or

Commercial Recreation or Aesthetic Mining

Permitted Daily Capacity: 444,600 gpd

Average Peak Monthly Withdrawal Rate: 2,495,800 gpd

Location: Groves (16 wells)

Casing Diameter: 6,8,10 & 12 inch

Mainline Diameter: NA

Note that as mining progresses, irrigation quantities will decrease eventually to zero because groves will be removed.

Surface Water Management and Drainage

Determine the impact of drainage on the groundwater 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 areas proposed to be mined consist entirely of uplands and there are no wetlands or surface water features on the property.

The soils within the uplands are sandy with high infiltration rates meaning that there is little surface runoff to offsite properties or surface waters and wetlands. When runoff occurs, the surface drainage varies and is from the topographic high in the uplands to the topographic lows within the property.

The property lies within the Catfish Creek Basin. Surface water runoff is generally southwest and northeast.

The overall property occupies +/- 554 acres of the 42,880 acres (67 square miles) in the Catfish Creek Drainage Basin. The property occupies a very small area within the drainage basin, the surface water flow in these basins will not be measurably impacted.

The entirety of the property is situated within the Zone X flood zone. Zone X is the area determined to be outside the 500-year flood.

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

A portion of the uplands will be removed by the mining operations. Post development conditions will include lakes where the mining has occurred.

The underlying sand is highly permeable. Because little surface runoff presently occurs from the sandy uplands, the presence of mine lakes will not measurably impact runoff to wetlands. As mentioned above, the property lies within the Catfish Creek Basin

The property occupies approximately 554 acres of the thousands of acres in the Catfish Creek Drainage Basin.

The St Helena Sand Mine mining and processing operations are carried out entirely within upland areas, which have been previously impacted by non-phosphate mining and citrus operations.

All water will be retained on site and after reclamation the project will retain rainfall events less than the 100-year, 24-hour event in the reclaimed lakes.

After reclamation, the water in the open water lakes will consist of ground water and rainfall, because the reclaimed lakes will extend into the surficial aquifer, and rain that falls directly into the reclaimed lakes. The reclaimed lakes, therefore, will not significantly affect downstream receiving systems, other existing legal users, base flows, or hydration in offsite natural systems, lakes and wetlands.

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 in basic terms by identifying any significant features of the site and the surrounding properties.**

The environmental sensitivity of the site and adjacent properties is relatively low, almost entirely impacted by existing and historical agricultural activities. The project area was evaluated for the potential occurrence of Critical Habitat as defined by the Endangered Species Act of 1973, as amended and 50 CFR and other publicly protected lands. The FWS regulates the adverse modification of the biological or physical constituent elements essential to the conservation of the listed species within the Critical Habitat.

There are no lands designated as Critical Habitat within or adjacent to the site. The site was also evaluated for the potential occurrence of Protected Waters. No protected waters occur within or adjacent to the site, as defined by 62-302.700, F.A.C.

The site includes a topographic high, with elevations ranging between approximately 150 and 170 feet NGVD, which extends across the site from the northwest to the southeast. Generally, the land surface on the remainder of the site slopes gently downward to the northeast and southwest.

The Project is located in a rural setting consisting of primarily agricultural land uses, characterized by citrus groves, with several existing sand mines in the region.

Existing land use within the project area was determined using the 2020 SWFWMD FLUCCS data and field reconnaissance. The land use descriptions represent current conditions.

Upland Land Use Communities

Residential Low Density (Less Than Two Dwelling Units Per Acre) (FLUCFCS 110). This land use is located in the center of the study area.

The vegetation within this land use is dominated by lantana (*Lantana camara*), bahiagrass (*Paspalum notatum*), bermudagrass (*Cynodon dactylon*), cottonweed (*Froelichia floridana*), coastal sandbur (*Cenchrus spinifex*), switchgrass (*Panicum virgatum*), beggarticks (*Bidens alba*), American beautyberry (*Callicarpa americana*), and live oak (*Quercus virginiana*),

Extractive (FLUCFCS 160)

This land use category is located in the southwestern portion of the study area and encompasses the ongoing sand mine operations within I-4 Sand Company Project study area. Vegetation within this land use is dominated by bahiagrass, bermudagrass, coastal sandbur, and rose natalgrass (*Melinis repens*).

Tree Crops (FLUCFCS 220)

This land use category is comprised of the agricultural operations onsite consisting of citrus production. The vegetation within this land use is comprised of citrus, lantana, bahiagrass, bermudagrass, cottonweed, camphorweed (*Heterotheca subaxillaris*), paintedleaf (*Euphorbia cyathophora*), coastal sandbur, switchgrass, broomweed (*Sida* sp.), beggarticks, balsam apple (*Momordica charantia*), and cabbage palm (*Sabal palmetto*).

Live Oak (FLUCFCS 427)

This land use category is located in the southeastern portion of the study area and is dominated by live oak (*Quercus virginiana*).

Roads and Highways (FLUCFCS 814)

This is the primary FLUCCS code for paved roads, associated shoulders, medians, and the maintained right-of-way.

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

No wetlands were identified within the project area. All of the activities are proposed in Flood Zone X and therefore the proposed mining will not take place in any wetlands or floodplains.

Therefore, the proposed land use activity would not have a significant change on the wetlands and floodplain.

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

The nearest public well, the East Water System Timber Lake Well and Bert's Hideaway Well is approximately 0.6 miles and 0.7 miles from the site, respectively. There are no anticipated impacts to these wells.

Eight private wells are located on properties adjacent to the proposed mining property. Each well is completed in the upper Floridan aquifer. There are no anticipated impacts to these wells.

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

There are no airports within the vicinity of the mine area.

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

Based on the USDA/NRCS Soil Survey for Polk County (1990), four soil types are mapped within the I-4 Sand Company, St. Helena Sand Mine Project study area (Soil Map). None of the four soil types are considered hydric soils according to the *Hydric Soils of Florida Handbook*. Below is the soil types mapped for the site, their corresponding NRCS reference number for soils of Polk County, and a general description of their characteristics.

(3) Candler sand, 0 to 5 percent slopes – This unit consists of nearly level, to gently sloping, excessively drained soil, found in deep, sandy uplands. Slopes are nearly smooth to convex. Typically, the surface layer is very dark grayish brown fine sand about six inches thick. The underlying layers are fine sand to a depth of 82 inches or more. These excessively drained soils do not have thin bands of lamellae. According to the *Hydric Soils of Florida Handbook*, this is not a hydric soil.

(4) Candler sand, 5 to 8 percent slopes– This unit consists of sloping, excessively drained soil in small areas on sharp breaking slopes and in relatively large areas on long, narrow slopes. The deep, sandy soil is on uplands. Typically, the surface layer is grayish brown fine sand about five inches thick. The underlying layers are fine sand to a depth of 85 inches or more.

The lower part has thin lamellae of yellowish-brown loamy sand and some thin streaks of clean sand grains that are light gray in color. In this Candler soil, the available water capacity is low. Permeability is rapid. Natural fertility is low, and organic matter content is usually very low. According to the *Hydric Soils of Florida Handbook*, this is not a hydric soil.

(15) Tavares fine sand, 0 to 5 percent slopes– This unit consists of nearly level to gently sloping, and moderately well drained. It occurs on knolls and ridges throughout the county and on lower ridges in the uplands. Typically, the soil consists of fine sand throughout. The surface layer is dark grayish brown and three inches thick.

The upper part of underlying material, to a depth of 63 inches, is very pale brown. The water table is between depths of 40 and 72 inches for up to six months.

Permeability is rapid or very rapid. The available water capacity is very low. According to the *Hydric Soils of Florida Handbook*, this is not a hydric soil.

(74) Narcoossee sand– This unit consists of very deep, somewhat poorly drained soils that formed in thick sandy sediments of marine origin. These soils are on low knolls and ridges in the flatwoods areas of central and southern Peninsular Florida. Slopes range from zero to five percent. Permeability is moderately rapid.

Infrastructure Impact Information

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

1. Parks and Recreation;

The closest parks to the site are Lake Pierce Ranchette Urban Park and Lake Pierce Boat Ramp, 0.6 miles north and 1 mile east, respectively.

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

The closest education facilities are as follows:

+/-3 miles south

Lake Wales High School
32 1 Highlander Way
Lake Wales, FL 33853

+/-3.5 miles southwest

Janie Howard Wilson Elementary
306 Florida Ave
Lake Wales, FL 33853

+/-3.5 miles southwest

Vanguard School
22000 Hwy 27
Lake Wales, FL 33859

This proposed mining operation will not create additional demand on the Polk County education system and the resulting impact will be negligible.

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

Advent Health Lake Wales facility at 410 S 11th St Lake Wales, FL 33853.

4. Fire Protection;

Fire response and Emergency Services to this project will dispatch from the Thompson Nursery Station 44 located at 2041 Thompson Nursery Rd, Lake Wales, FL 33859.

5. Police Protection and Security;

The responding Polk County Sheriff's substation is located at Southeast District Office at 4011 Sgt Mary Campbell Way Lake Wales, FL 33859.

6. Emergency Medical Services (EMS);

The nearest EMS location is the Northridge Station 33 located at the Thompson Nursery Station 44 located at 2041 Thompson Nursery Rd, Lake Wales, FL 33859.

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

There will be a de minimus demand for solid waste collection services for the sand mine. The existing solid waste collection is through the Polk County Solid Waste Department.

8. How may this request contribute to neighborhood needs?

Commercial sand is a raw material used for the critical infrastructure needs for local and regional projects.

The proposed operation will also provide employment opportunities and contribute to the downstream job creation for third party vendors that will be required for construction, operation and maintenance of the site.

Maps

Maps shall be used to give the public agencies a clear graphic illustration and visual understanding of the proposed development and the potential positive and negative impacts resulting from the development. Maps shall be of sufficient type, size, and scale to facilitate complete understanding of the elements of the proposed development. Scale shall be clearly indicated on each map and the dates of preparation and revisions shall be included. The project boundaries shall be overlaid on all maps. The following **maps shall 8 1/2" x 11"** and accompany Impact Assessment Statements:

Map A: A location map (center the site on the map) showing the relationship of the development to cities, highways, and natural features;

See attached

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

See attached

Map C: A site plan consistent with *Site Plan Standards*² (multiple sheets may be used). In addition to the required number of copies please **include an 8½" x 11" copy**. Applications for district changes alone are not required but are encouraged to submit a Development Plan; and

See attached.

NOTE: Applications for text amendments are not required to submit a complete Impact Assessment Statement, however, all relevant information requested must be addressed. Use this form and the “Demonstration of Need” form as a guide for assessing the impact of a text amendment.

² See *Site Plan Standards* checklist form (GM LDD 11).