Village of Indiantown
Infrastructure and Water Resources
Data, Inventory and Analysis
This analysis does not establish new regulatory requirements or conditions of approval.

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INTRODUCTION

The purpose and intent of the Infrastructure and Water Resources Element is to describe how potable water, drainage, sanitary sewer, solid waste, and aquifer recharge protection are provided and maintained in the Village of Indiantown. As required in section 163.3177, Florida Statutes (F.S.), this element is correlated to principles and guidelines for future land use, indicating ways to provide for the Village's future needs. It addresses coordinating the extension of, increase in the capacity of, or upgrade in treatment of facilities to meet future needs, prioritizing advanced waste treatment while maximizing the use of existing facilities and discouraging urban sprawl, conserving resources, and protecting the functions of groundwater recharge areas and natural drainage features.

The Village's Infrastructure and Water Resources Element has five adopted goals, corresponding to the requirements of statute and local priorities for sustainability:

1. **Potable Water -** The Village of Indiantown seeks to achieve and sustain adequate and equitable access to safe and affordable drinking water for its residents and visitors.
2. **Groundwater Quality Protection –** The Village of Indiantown seeks to protect, maintain, and restore the Floridan (artesian) Aquifer in an effort to ensure the quality and availability of water for future generations.
3. **Wastewater, Stormwater and Sanitary Sewer Management** – The Village of Indiantown will coordinate with the private utility provider in its efforts to encourage the provision of cost-effective wastewater treatment and environmentally appropriate effluent disposal through central wastewater treatment systems.
4. **Build Resilient and Sustainable Infrastructure** - The Village of Indiantown shall promote the building of resilient infrastructure, inclusive and sustainable industrialization, and foster innovation for all the residents.
5. **Solid Waste** - The Village will provide for the clean, efficient, economical and environmentally sound management of solid waste.

STATUTORY REQUIREMENTS

Subparagraph 163.3177(6)(c), F.S., includes the following requirements for this Element:

- Consider the data and analyses of facilities that provide service within the Village's jurisdiction
- Describe the problems and needs and the general facilities that will be required to correct any existing facility deficiencies
- Consider the need for the extension of, increase in the capacity of, or upgrade in treatment of facilities to meet future needs
- Prioritize advanced waste treatment while maximizing the use of existing facilities and discouraging urban sprawl
- Conserve potable water resources
- Protect the functions of natural groundwater recharge areas
- Consider the feasibility of providing sanitary sewer services 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, within a 10-year planning horizon

This Element outlines the data and analysis for 10-year and 20-year planning horizons through 2040 and 2050. This DIA is intended to support evaluation of existing conditions, statutory consistency, and future policy discussions; it does not independently establish new development regulations, approval criteria, or review procedures.

COMMUNITY WORKSHOPPING AND PUBLIC PARTICIPATION

An important consideration during data collection for the Comprehensive Plan is public input. The Village hosted two public workshops to inform this Comprehensive Plan update. In recognition of the Village's diverse community, for many of whom Spanish is a first language, the Village facilitated one meeting in Spanish, held on October 30th, 2025, at Holy Cross Catholic Church; and one meeting in English (with certified interpreter available for any Spanish speaking attendees) on November 18th, 2025, at the Elisabeth Lahti Library.

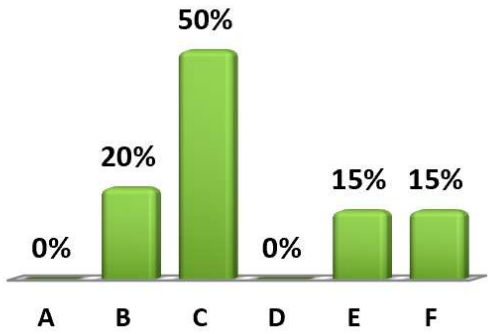
The Workshops included live polling of survey questions with real-time results. For anyone unable to attend a workshop, the Village website included links to online surveys comprised of the same questions posed at the live meetings, in English and Spanish. To provide even more opportunities to engage residents, businesses, and stakeholders throughout the update, the Village posted meeting dates, draft documents, and project updates on the Village's website and social media platforms.

Community participation was notably low, and staff observed that participation levels may have been affected by broader community concerns and other external factors during the outreach period. As a result, workshop and survey results should be interpreted as informative but not statistically representative of the Village as a whole.

Across both workshops and online surveys, over 60% of respondents self-identified as Village residents, and over 75% self-identified as customers of the Village water utility. As shown in the graphed results below, a plurality of respondents highlighted the need for more improvements to sewer and/or water service. However, a plurality of respondents believe the Village is properly prioritizing its infrastructure improvement planning, reflecting public understanding of the long-term nature of improvements.

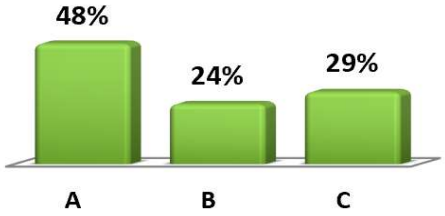
5) If I could change only one thing about Indiantown, it would be:

A	Less littering and/or pollution	0%
B	More economic development	20%
C	Improvements to the water and/or sewer service	50%
D	Less crime	0%
E	Safer roadways	15%
F	None or Other ***See below***	15%
		100%



18) I believe the Village is prioritizing its infrastructure improvements (roads, water, sewer, parks) the right way.

A	True	48%
B	False (if false, why?) ***See below***	24%
C	I'm not sure / no opinion	29%
		100%

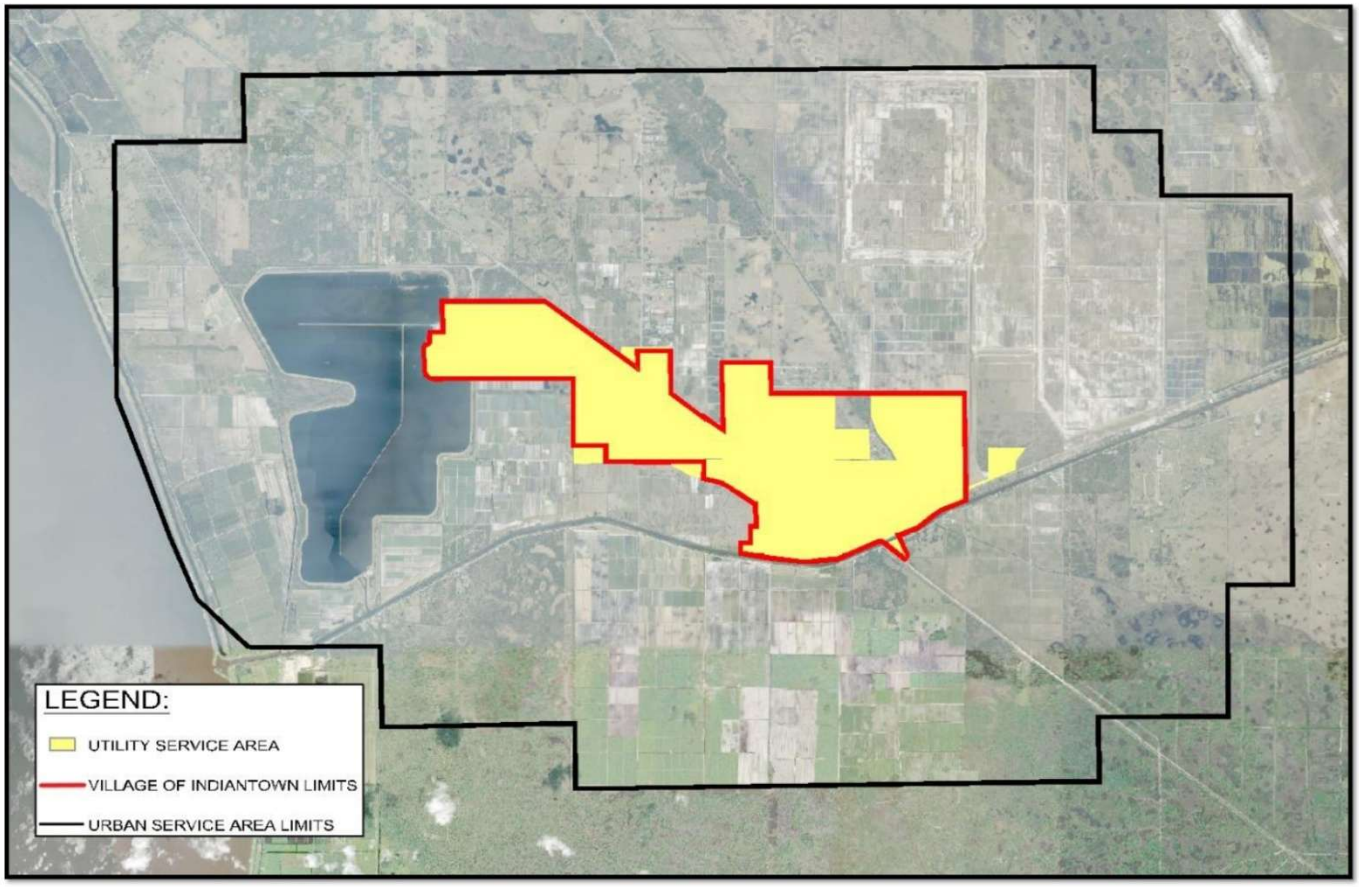


Don't see improvements.
Roads are terrible and water is dirty.
Roads are frequently too narrow and flood easily and impassably. Water is unsafe to drink.
We cannot afford what we have.

POTABLE WATER AND SANITARY SEWER

Upon incorporation, the Village of Indiantown was served by a private potable water and wastewater treatment facility. In 2020, the Village entered into an agreement to purchase the utility. The utility maintains service connections for water and sewer to most properties within the Urban Core area. However, some properties within the current utility service area, as well as a significant portion of the Village outside the Urban Core is served by individual private water and wastewater systems. The Village's overall utility service boundary area extends beyond the incorporated Village limits, as shown on Map 1. There are no neighboring public supply utilities in the vicinity; the nearest, Martin County Utilities, is roughly 12 miles away.

MAP IWR-1 VILLAGE UTILITY SERVICE AREA BOUNDARIES



Source: Village of Indiantown Wastewater and Reclaimed Water Utility Master Plan, April 2022
Note: The Village's incorporated municipal limits have since changed.

The utility covers an area of 9,761 acres, serving 1,932 existing residential connections and 266 non-residential Equivalent Residential Connections (ERCs), for a total of 2,198 ERCs throughout the general Village area. The Village's Comprehensive Plan refers to the utility as a private organization, as it was during the Village's incorporation. Comprehensive Plan language may be updated to reflect the utility's status as Village-owned.

POTABLE WATER LOS AND CONCURRENCY

The Village has adopted a potable water systems Level of Service (LOS) standard of 100 gallons per capita per day (gpcd), which is assumed to correspond to finished water. This standard is used for concurrency analysis during development review, to ensure that current and future users of the water system can be provided at least 100 gallons per day. Similar to concurrency review for wastewater or other public facilities, new development is evaluated for consistency with adopted concurrency requirements and the availability of sufficient water supply and treatment capacity to meet the LOS standard for the new development, assuming continued use for all existing users.

The Village's draft 2025 WSFWP proposes to add comprehensive LOS standards beyond finished water, to include existing supply, treatment capacity, and finished water storage metrics.

POTABLE WATER CAPACITY – CURRENT AND FUTURE CONDITIONS

According to the draft 2025 WSFWP, the Village utility operates under a Water Use Permit (WUP) No. 43-00041-W, which was most recently renewed on August 31, 2009, then transferred to the Village on November 20, 2020, and modified by letter on June 16, 2022. This permit will expire on August 18, 2029. The current recommended maximum raw water withdrawal is 42.84 million gallons per month (MGM) based on maximum month and 429 million gallons per year (MGY), which is approximately 1.17 million gallons per day (MGD). Water is withdrawn across eight permitted wells from the surficial aquifer.

The Village utility treats raw water through a single water treatment plant (WTP) with a total design capacity of 1.296 MGD. However, due to the WTP's age, condition, and lack of storage/redundancy, the effective treatment capacity is reduced to approximately 0.9 MGD. The Village has capital improvement plans in place to rehabilitate the existing WTP. The water treatment plant operates in an interconnected transmission and distribution system. Treatment of raw water at the plant utilizes aeration, disinfection via chloramines, filtration, storage and high service pumps for water distribution.

A primary component of the WSFWP is analyzing future potable water demand and providing for a work plan to ensure that demand can be met across a minimum 10-year planning horizon. Table IWR-1 below displays the anticipated water demand (including raw water withdrawals corresponding to the WUP allocation and finished water demand corresponding to the permitted WTP treatment capacity) through 2040 and 2050 horizons as required by statute. These projections assume the Village's LOS standard of 100 gpcd applied to anticipated population, increased significantly by approved and in-planning large-scale developments within the Village.

TABLE IWR-1 VILLAGE WATER DEMAND THROUGH 2040 AND 2050

Year	Projected Village Pop.[1]	Raw Water Demand[2] (gpcd)	Finished Water Demand[3] (gpcd)	AADF Raw Water Demand (MGD)	AADF Finished Water Demand (MGD)	Max. Daily Finished Water Demand[4] (MGD)
2025	8,031	104.167	100	0.837	0.803	1.084
2030	19,962	104.167	100	2.079	1.996	2.695
2035	20,763	104.167	100	2.163	2.076	2.803
2040	21,596	104.167	100	2.250	2.160	2.915
2045	22,463	104.167	100	2.340	2.246	3.033
2050	23,364[5]	104.167	100	2.434	2.336	3.154

Source: Village of Indiantown Draft 2025 WSFWP (September 2025), BCLA calculations

Notes: [1]Local projections include developments under construction or awaiting final site approval. [2]Assumes some water loss due to treatment and distribution. [3]Village adopted LOS standard. [4]Calculated as 135% AADF finished water demand. [5]Calculated using 0.79% annual growth rate after 2033 per Draft 2025 WSFWP methodology.

As demonstrated in Table IWR-1, there is currently insufficient WUP withdrawal allocation and insufficient WTP treatment capacity to serve anticipated populations at LOS standards beginning between 2025 and 2030 assuming no changes. The Village's 2025 WSFWP examines these projections and prioritizes a capital improvement plan programmatic response to ensure adequate infrastructure is available to serve development; this includes updating the WUP to include additional withdrawals from the Floridan Aquifer System as an alternative water supply and constructing a new reverse osmosis WTP with 1.8 MGD treatment capacity (upgradable to 3.0 MGD).

Because the WSFWP remains in draft form, the final adopted WSFWP and any associated permit approvals should be treated as the operative planning record in the event of discrepancies.

WATER CONSERVATION

As described in the Village's draft 2025 WSFWP, the Village maintains a variety of water conservation initiatives across specific programs, regulations and opportunities, including:

- **Public Education Program** – This includes updates to the Village website and social media outlets explaining conservation efforts and best practice recommendations. Due to village limitations, there will also be informational flyers available at Village Hall communicating the same information.
- **Ordinance Updates** – Exterior watering ordinance updates to reflect other efforts statewide and in Martin County specifically. These will be enforced during the development and new building review process.
- **Water Loss Reduction Program** – Currently, the Village is ongoing a system wide meter replacement program. Due to inaccurate data, determining accurate system loss has been difficult. Therefore, once the meter replacement program has been completed, the newly collected data will be reviewed and studied to determine where water loss measures would be most beneficial.
- **Water Conservation-Based Rate Structure** – The Village is planning to adopt a three-tiered water rate structure which also encourages water conservation through discounted rates depending on gallons used (Code of Ordinances Chapter 78, Section 78-1). Water rates are assessed bi-monthly and are based on 1) the land use of the property and 2) the amount of water consumed. Rates are further categorized by "inside Village" and "outside Village."
- **Florida Water Star Program** – The Village encourages new development to incorporate principles of the Florida Water Star program and promotes certification of new construction through this program.

The draft 2025 WSFWP highlights additional areas for conservation opportunities, including promoting the use of low flow fixtures, more widely used efficient irrigation systems, Florida-friendly plantings, and green building principles.

As the Village utility works with SFWMD to update its water use permit to accommodate future planned development, it will be bound by an associated Water Conservation Plan, outlining compliance requirements.

RECLAIMED WATER

The Village's existing wastewater treatment plant, further described in following sections, includes reuse storage, pumping and distribution infrastructure. However, according to the Village's most recent 2022 Wastewater Master Plan Report, the reclaimed water infrastructure has not been in use for several years. Previously, the Village

provided reclaimed water for use by a nearby industrial facility, but that customer has since closed operations. As such, all of the Village's treated wastewater is currently disposed of via the utility's permitted Rapid Infiltration Basins (RIBs), and the reuse infrastructure has not been maintained.

As discussed in the 2022 Master Plan and draft 2025 WSFWP, the Village is planning to rehabilitate and expand the reclaimed water system to provide public access to reclaimed water for the Terra Lago development, in addition to other potential customers. This will be required due to the limitations of the Village's RIB disposal sites to accommodate anticipated future wastewater flows, and it runs in line with the Village's Comprehensive Plan policies prioritizing the use of reclaimed water for irrigation and at public parks.

WATER SUPPLY FACILITIES WORK PLAN

Section 163.3177, Fla. Stat., requires that local government comprehensive plans incorporate a Water Supply Facilities Work Plan (WSFWP) in coordination with the applicable Water Management District Regional Water Supply Plan (RWSP), and to update the WSFWP within 18 months of an update to the RWSP.

As of this analysis, the Village is currently drafting its required WSFWP update in response to the 2021 SFWMD Upper East Coast (UEC) RWSP. The capacity and demand projection figures provided in this analysis are sourced from the latest draft data prepared for the WSFWP update, which will be reviewed in coordination with SFWMD prior to adoption by the Village Council. In case of any discrepancies, the projections in the final adopted WSFWP should be considered the projections of record, as they will inform the SFWMD WUP permit update.

SANITARY SEWER LOS AND CONCURRENCY

The Village has adopted a sanitary sewer LOS standard of 85 gallons per capita per day (gpcd). This standard is used for concurrency analysis during development review, to ensure that the sewer collection and treatment system can accommodate flows of at least 85 gallons of wastewater per person per day. Similar to concurrency review for potable water or other public facilities, new development is evaluated for consistency with adopted concurrency requirements and the availability of sufficient wastewater treatment capacity to meet the LOS standard for the new development, assuming continued flows for all existing users.

WASTEWATER CAPACITY – CURRENT AND FUTURE CONDITIONS

The Village's utility provides wastewater collection and treatment service. The wastewater treatment facility is permitted (FLA029939) by the Department of Environmental Protection (DEP) to treat 1.2 MGD AADF. According to permit information, the system comprises a 4-stage biological nutrient removal process. Treated effluent after basic disinfection is transported to percolation ponds and ultimately to land application via a 0.499 MGD annual average daily flow permitted rapid infiltration basin system. As discussed previously, although the utility has an existing reclaimed water system, it has not been used in several years due to the loss of its industrial customer.

For the purposes of analyzing future wastewater flows against treatment capacity, the Village can utilize the population projections provided in the 2025 WSFWP alongside its adopted wastewater LOS standard.

TABLE IWR-2 VILLAGE WASTEWATER FLOWS THROUGH 2040 AND 2050

Year	Projected Village Pop.[1]	Per-Capita Wastewater Flow[2] (gpcd)	Total Wastewater AADF (MGD)	Max. Daily Wastewater Flow[3] (MGD)
2025	8,031	85	0.683	0.922
2030	19,962	85	1.697	2.291
2035	20,763	85	1.765	2.383
2040	21,596	85	1.836	2.478
2045	22,463	85	1.909	2.578
2050	23,364[4]	85	1.986	2.681

Source: Village of Indiantown Draft 2025 WSFWP (September 2025), BCLA Calculations

Notes: [1]Local projections include developments under construction or awaiting final site approval. [2]Village adopted LOS standard. [3]Calculated as 135% AADF. [4]Calculated using 0.79% annual growth rate after 2033 per Draft 2025 WSFWP methodology

As shown above in Table IWR-2, the Village can anticipate insufficient treatment capacity between 2025 and 2030 assuming no infrastructure upgrades. Additionally, the Village's current permitted disposal capacity via its RIBs is insufficient. As outlined in the Village's 2022 Wastewater and Reclaimed Water Master Plan report, with additional discussion in the 2025 WSFWP, the Village is currently in the planning process to upgrade its wastewater treatment facility, its collection system of gravity- and force mains, and its reuse water system, in order to accommodate this anticipated growth as well as to reduce contamination via pipe breaks.

SEPTIC TANK UTILIZATION AND NEW REGULATIONS

As with potable water service, large areas within the Village outside the Urban Core are not connected to the Village utility and instead manage wastewater through onsite sewage treatment and disposal systems (OSTDS), which are regulated and permitted by DOH and DEP. However, the Village does maintain Comprehensive Plan policies reinforcing the minimum sewer hookup requirements of sections 381.0065 and 381.00655, F.S.

New Florida laws passed since Village incorporation establish additional requirements for OSTDS and sewer service area planning. House Bill 1379 created new requirements for sewer connections and OSTDS standards within Basin Management Action Plan areas, within which the entire Village is located. Under this law, effective July 1, 2023, where sewer is available to serve a property, connection to the sewer is required, and new OSTDS permits will not be issued. Where sewer is unavailable, only enhanced nutrient reducing OSTDS (statutorily defined as removing at least 65% of total nitrogen) may be permitted for new construction on lots 1 acre or less in size. These requirements under section 403.067, F.S., may be referenced in the Village's sewer hookup policy and associated Land Development Regulations.

Additionally, HB1379 included a new requirement for the infrastructure element of comprehensive plans under section 163.3177(6)(c)3, F.S. Local governments are now required to maintain an inventory of all developments of more than 50 residential lots with more than one OSTDS per acre and consider the feasibility of providing sewer service to those developments within 10 years. From the statute:

Statutory note: For any development of more than 50 residential lots, whether built or unbuilt, with more than one OSTDS per acre, the infrastructure element must consider the feasibility of providing sanitary sewer service within a 10-year planning horizon and identify the receiving wastewater facility, capacity, projected flows, and a construction timeline for connection.

The Village has prepared a study to comply with this requirement, which is included as an appendix to the Infrastructure and Water Resources Element DIA.

SOLID WASTE

SERVICE ENTITIES, FACILITIES AND CAPACITIES

A. *Collection.* The Village does not manage solid waste directly. Instead, residential solid waste materials in the Village are collected curbside as part of an exclusive franchise agreement between Martin County and Waste Management, a private organization. Garbage is collected twice per week, and recycling and yard waste are each collected once per week; days of collection are staggered through various areas of the Village. The current service agreement was entered into in 2020 with an initial 8-year term plus 3 renewal options for 2 years each (for a maximum 6 years of renewals). Non-single family residential waste collection must be contracted directly by the property owner with Waste Management and/or other waste haulers depending upon the type of solid waste. Per the County's franchise agreement, Waste Management has exclusive rights to haul certain types of solid waste depending upon the type of property.

   Residents and businesses may also self-haul to Martin County Waste Transfer Station in Palm City, disposing of general trash, vegetative yard waste, construction and demolition debris, and tires. The facility operates on a self-haul, self-unload model, and there is a fee for disposal.

B. *Level of Service (LOS).* The Village does not currently have an adopted LOS standard for solid waste, given the provision of service under Martin County's franchise agreement. Martin County's adopted LOS standards include ensuring at least 10 years of disposal capacity. The Village may evaluate establishing a solid waste LOS standard in its Comprehensive Plan for compliance with state law, incorporating a reference to Martin County's standard. This could provide for appropriate concurrency review to be codified in the Village's regulations.

C. *Disposal and Recycling.* Martin County maintains an agreement for solid waste management and disposal services with Okeechobee Landfill, Inc., entered into in 2002, for the operation of the County's Waste Transfer Station and the ultimate disposal of solid waste materials to a permitted landfill facility.

   As part of the County's curbside solid waste collection service, the single-stream recycling program collects certain types of plastic, glass, metal cans, cardboard and paper. The Village has adopted several Comprehensive Plan policies promoting recycling, supporting education efforts and seeking recycling bins for public spaces.

D. *Hazardous Waste.* Household hazardous waste may be brought to the County's Household Hazardous Waste Collection Center location in Palm City for free disposal. In addition, the Martin County HazMobile accepts household hazardous waste directly in the Village on the 4th Friday of each month at the Indiantown fire station. These free services, in addition to extensive educational programming by Martin County, are in place to reduce the likelihood of hazardous waste contamination.

E. *Funding.* Martin County levies an annual non-ad valorem special assessment for residential waste collection provided in the Municipal Service Benefit Unit (MSBU) that includes the Village.

DRAINAGE

Stormwater management is the practice of managing stormwater to avoid local water quantity and quality problems.

Natural drainage systems including wetlands, lakes, streams and rivers provide for the movement of stormwater in pre-development conditions. The development of land typically entails sitework including fill, grading and the addition of impervious land cover. Together, these activities disrupt the natural movement of water, including localized flooding and draining, exhibited in pre-development conditions. Unless properly managed, increased impervious cover and disruption of natural drainage features can lead to larger volumes and higher rates of stormwater runoff, which may pose a threat to the public health, safety, and welfare by flooding properties and transportation routes, eroding watercourses and channels, and polluting surface waters.

As shown on SWFMD basin maps, the Village is located within the C-44 (St. Lucie Canal) subwatershed basin. It is also located within the independent special Troup-Indiantown Water Control District (TIWCD). Generally, the Village area, like much of western Martin County, was originally a poorly-drained area prior to development. The creation of the C-44 and the local TIWCD ultimately provided for a man-made drainage system of the area. This means that stormwater that is not collected within local surface water bodies and/or does not percolate to groundwater, is instead generally drained into the C-44 canal via TIDD infrastructure, natural waterways and sheet flow, and is eventually connected to Lake Okeechobee and the St. Lucie River.

Since incorporation, the Village has assumed ownership of local roadways and associated drainage infrastructure. The Village programs drainage facility improvements in its Capital Improvements Plan (CIP). In its current 5-year CIP, the Village includes Seminole Drive, Lincoln Street, and the Uptown Area drainage projects.

The Village maintains drainage LOS standards as required by state law, outlined in **Policy IWR3.2.3**: “To ensure that the Village of Indiantown maintains sufficient stormwater runoff, the following level-of-service standard shall be utilized in determining the appropriate amount of runoff for a project: Peak flood stages less than the first (finished) floor elevation for a 100-year, 3-day flood event.”

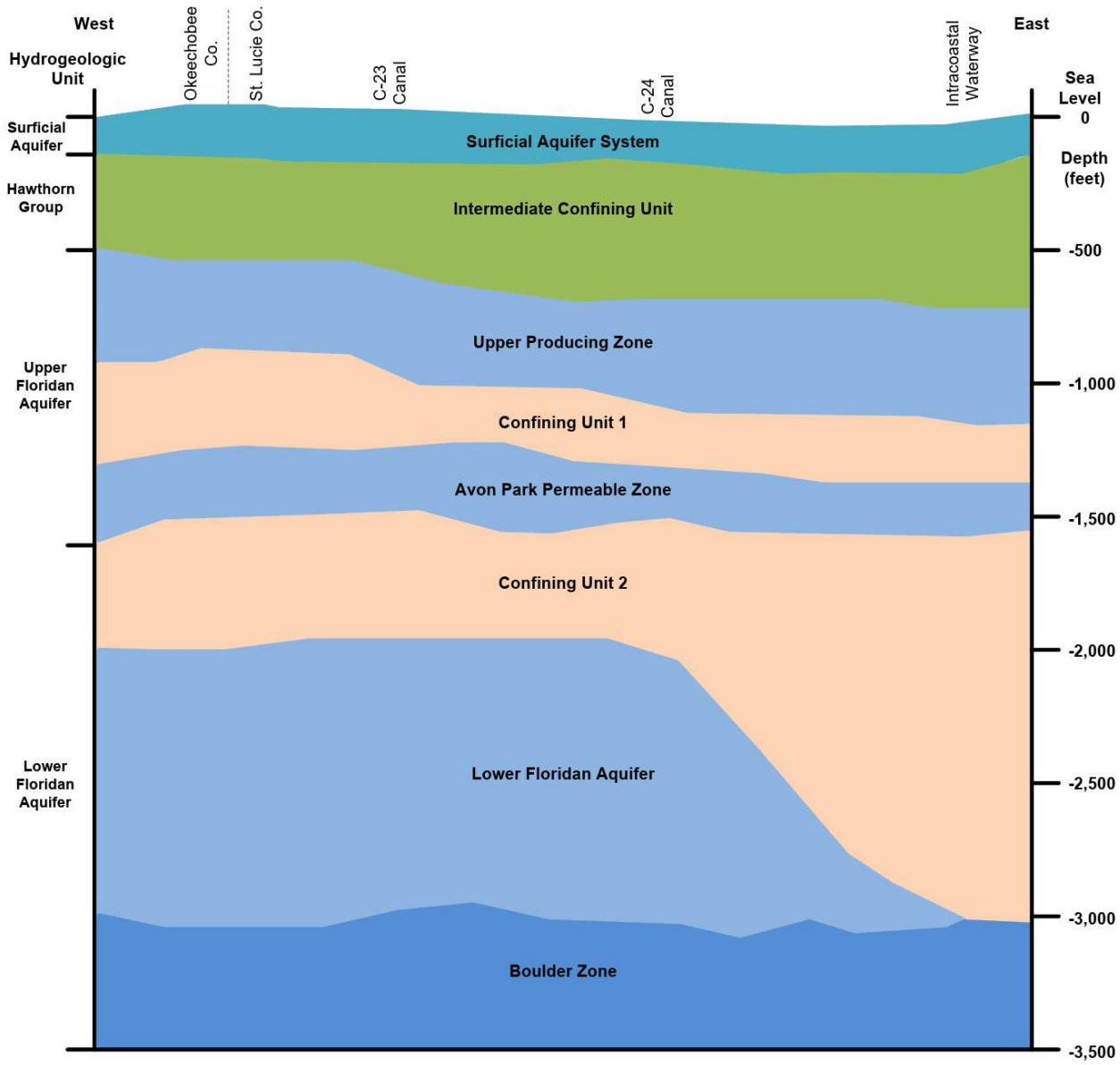
NATURAL GROUNDWATER RECHARGE

The purpose of this section is to identify and analyze natural groundwater recharge areas in the Village. Regulations and programs governing land use and development in groundwater recharge areas will be identified and assessed.

NATURAL GROUNDWATER AQUIFERS

According to the SFWMD 2021 UEC RWSP, two aquifer systems, the surficial aquifer system (SAS) and the Floridan aquifer system (FAS), lie beneath the UEC Planning Area, which includes the Village of Indiantown. Given its shallower profile and confinement from the larger FAS, groundwater inflows from outside the planning area contribute insignificant recharge to the SAS. Instead, the main source of recharge to the SAS is local rainfall. By contrast, the deeper FAS receives most of its recharge from central and northern Florida.

FIGURE IWR-1 GENERALIZED HYDROGEOLOGIC CROSS-SECTION OF THE SFWMD UEC PLANNING AREA



Source: SFWMD, "Physical Features and Water Resources of the SFWMD," December 2022

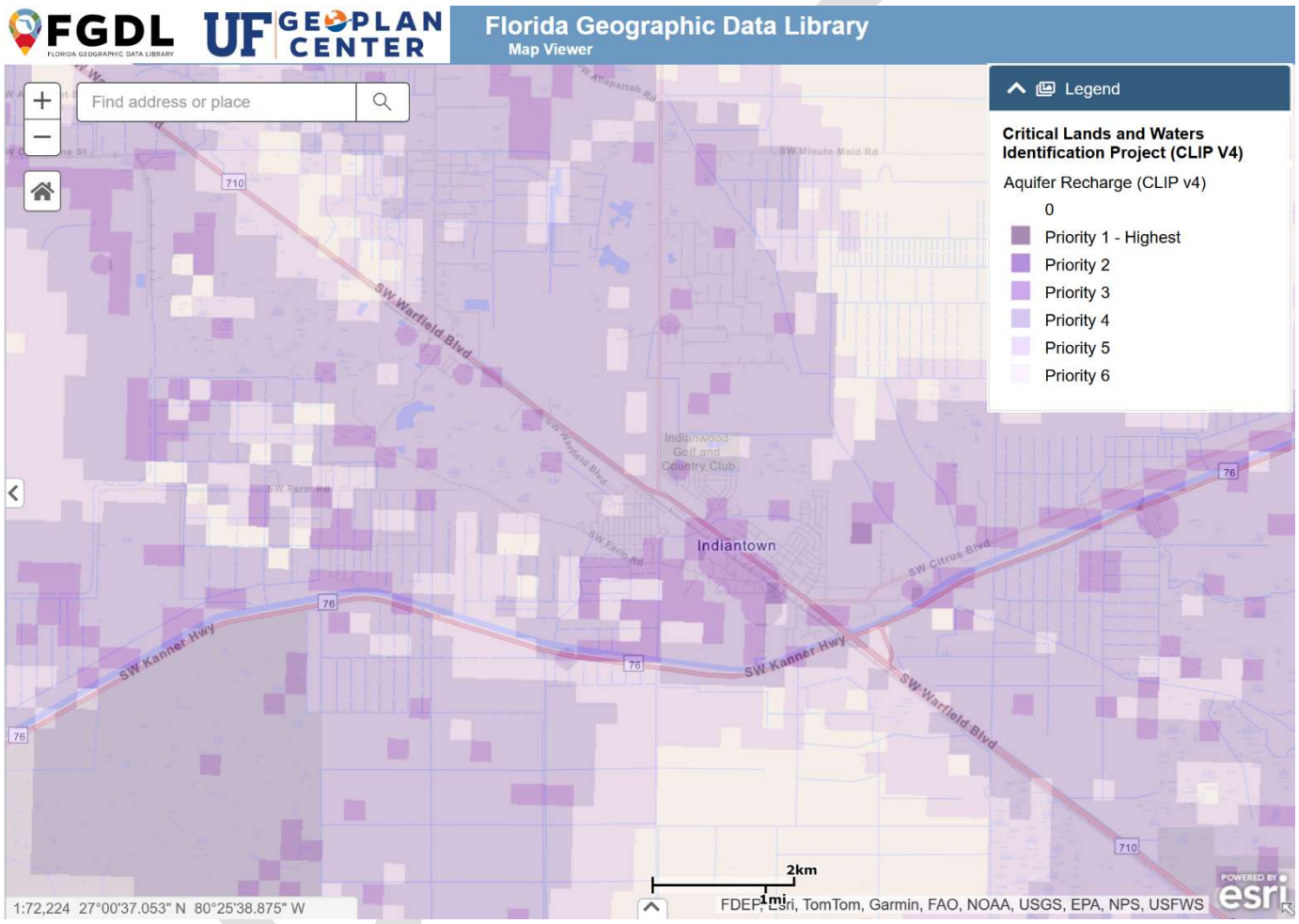
AQUIFER RECHARGE AREAS

In natural systems, most aquifers are recharged via percolation of rainfall through the soil strata. However, such source percolation may not occur locally for certain aquifer systems, such as for the FAS in the Village of Indiantown area. Not all soil and topography types are conducive to recharge, but for those areas that are, land development activities, primarily via impervious surface coverage, can negatively impact recharge. Therefore, the Village may continue to evaluate and identify areas of prime recharge capability for the SAS and consider policies and regulations to minimize impacts to recharge and likely sources of groundwater contamination in those areas.

The Critical Lands and Waters Identification Project (CLIP) v4 data, last updated in 2016, provided a range of aquifer recharge priority areas across the State originally to inform the Florida Forever environmental land acquisition program. For reference, priority was determined by potential for recharge to an underlying aquifer system, with increased prioritization of areas likely to recharge springs or public water supplies. Data inputs include soil hydraulic conductivity, proximity to karst features, depth to water, and overburden.

On a scale of 1 (highest) to 6 (lowest) priority, most of the Village area is Priority 4 (medium) with higher priority areas in the Urban Core and Booker Park neighborhoods, and along the St. Lucie Canal.

FIGURE IWR-2 VILLAGE AQUIFER RECHARGE PRIORITY AREAS



Source: UF FGDL CLIP v4 (2016) Aquifer Recharge

AQUIFER PROTECTION POLICIES AND REGULATIONS

The Village addresses the protection of natural groundwater recharge areas through Comprehensive Plan policies enabling land development regulations, including:

- **Policy IWR2.1.1**: The Village of Indiantown Land Development Regulations shall include requirements for land use which assist in the protection of groundwater aquifer recharge and protection of existing and future groundwater supplies. For example, hazardous waste treatment facilities should not be constructed above or near wellhead protection areas or highly effective aquifer recharge areas.
- **Policy IWR2.1.2:** The Village's Land Development Regulations (LDR) shall support and comply with the South Florida Water Management District's (SFWMD) regulations regarding high aquifer recharge areas. To ensure continued compliance with these, the Village of Indiantown will review the SFWMD regulations on an annual basis and update the LDRs as needed.
- **Policy IWR2.1.3:** The Village of Indiantown shall construct projects in a way that preserves the predevelopment conditions of the highly effective aquifer recharge with regard to soil type, drainage rates, and grade elevation, in order to minimize the reduction in the recharge of the surficial aquifer.
- **Policy IWR2.1.4:** The Village's Land Development Regulations shall require that development applications include a field analysis that delineates the area enveloped by the highly effective aquifer recharge area and demonstrate that the groundwater level, quality and fluctuations shall not be worse after construction than under predevelopment conditions.
- **Policy IWR2.2.3:** The Village of Indiantown shall establish wellfield protection areas. The intent of wellfield protection areas is to protect potable water wells from contamination, and to prevent the need for their replacement or restoration due to contamination. Land uses and construction within the wellfield protection zone shall not create a threat to groundwater quality resulting from contamination entering the ground. Use and activities within the wellfield protection areas shall be consistent with the requirements and prohibitions stipulated within the Ground Water Protection Measures in Wellhead Protection Areas section of the Land Development Regulations.

INFRASTRUCTURE AND WATER RESOURCES ELEMENT ANALYSIS

The following is a summary of the analysis of the Infrastructure and Water Resources Element:

- The Village owns and maintains a public utility providing potable water and sanitary sewer service to customers within the Village. The Village purchased the utility from its private owners in 2020. The utility's overall service boundary area includes properties outside the Village's municipal jurisdiction. However, only a portion of the Village, mostly around the Urban Core area, is currently connected to utility services.
- Comprehensive Plan policies currently reference the former private utility, and so may be updated to reflect the utility's status as Village-owned and public.
- The Village has adopted a potable water systems LOS standard of 100 gallons per capita per day. The Village's draft 2025 WSFWP proposes to add comprehensive LOS standards beyond finished water, to include existing supply, treatment capacity, and finished water storage metrics.
- The Village is currently permitted by SFWMD to withdraw 1.17 MGD from the surficial aquifer system. The Village's potable WTP has a total design capacity of 1.296 MGD but is reduced to approximately 0.9 MGD due to age and insufficiencies. Future anticipated demand due to development is demonstrated to exceed available withdrawal allocation and treatment capacity before the 2040 planning horizon, possibly between 2025 and 2030. As discussed in the Village's 2025 WSFWP, a capital improvement plan programmatic response may be needed to ensure adequate infrastructure is available to serve development; this includes updating the WUP to include additional withdrawals from the Floridan Aquifer System as an alternative water supply and constructing a new reverse osmosis WTP with up to 3.0 MGD capacity. Additional capacity will be addressed in future WSFWP reports.
- The Village has adopted a sanitary sewer LOS standard of 85 gpcd.
- The Village's wastewater treatment plant is permitted by FDEP to treat 1.2 MGD AADF. Although there is adequate capacity to serve current users, population projections through 2040 and 2050 would result in insufficiencies, likely between 2025 and 2030. The Village's 2022 Wastewater Master Plan provides for upgrades to increase treatment capacity and correct collection system faults to reduce contamination.
- Laws passed in 2023 provide new state requirements for sewer hookup and septic systems within BMAP areas, as well as additional planning requirements for local governments to extend sewer service to certain residential developments within a 10 year horizon. The Village's feasibility study to comply with the planning requirement is provided as an appendix to this DIA.
- Residential solid waste collection services are provided within the Village under a contract between Martin County and Waste Management, Inc. The Village is not a party to the agreement, but maintains a separate ILA with the County for service provision and the collection of non-ad valorem solid waste assessments. The Village does not currently maintain a solid waste LOS standard nor provide for solid waste analysis for concurrency in its land development regulations. The Village may evaluate establishing a solid waste LOS standard in its Comprehensive Plan for compliance with state law, incorporating a reference to Martin County's standard. This could provide for appropriate concurrency review to be codified in the Village's regulations.
- The Village is located within the C-44 (St. Lucie Canal) subwatershed basin and also falls within the independent special Troup-Indiantown Water Control District. The Village maintains a drainage LOS standard of peak flood stages less than the first (finished) floor elevation for a 100-year, 3-day flood event.
- The Village lies above the surficial aquifer system (SAS) and the Floridan aquifer system (FAS). The SAS is recharged locally by rainfall and surface water, while the FAS is recharged in northern and central Florida. The Village contains some medium-to-high priority aquifer recharge areas, based on soil type and proximity to public water supply wells. The Village maintains policies to protect the function of recharge areas and aquifer water quality.

GLOSSARY AND DEFINITIONS

Annual Average Daily Flow (AADF) - Average flow for the individual year or multi-year period of study. It is obtained by dividing the sum of all the individual daily flows by the number of daily flows recorded for the year.

Aquifer - An underground layer of water-bearing permeable rock, rock fractures or unconsolidated materials. Groundwater can be extracted using a water well.

Aquifer Recharge – The replenishment of groundwater in the aquifer through natural or active processes.

Basin Management Action Plan (BMAP) - A framework for water quality restoration that includes local and state commitments to reduce pollutant loading through current and future projects and strategies. BMAPs are adopted by Secretarial Order of the Florida Department of Environmental Protection and are legally enforceable.

Department of Environmental Protection (DEP) – State agency which regulates environmental issues, including surface and groundwater quality, BMAPs, and wastewater management including OSTDS.

Equivalent Residential Connections (ERCs) - A factor used to plan for the amount of service or facility demand generated by development. ERC-based calculations help consolidate demand planning across varying uses including single-family residential, multi-family residential, and non-residential.

Groundwater Quality - The condition including mineral and/or contaminant content of water sourced from aquifers.

Karst (topography) - Karst terrain is formed by dissolution of soluble bedrock like limestone, dolostone, marble, gypsum, and halite. In karst, spaces or conduits form in the subsurface that allow for rapid movement of groundwater. Water moves quickly from the earth's surface underground in these places.

Onsite Sewage Treatment and Disposal Systems (OSTDS) – Commonly referred to as septic systems or septic tanks, these systems typically provide wastewater management for individual properties. Wastewater flows to a centralized tank where solids settle out and are anaerobically digested, and the liquid portion flows into a specially designed drain field to leach into the soil.

Enhanced OSTDS – Specially-designed Onsite Sewage Treatment and Disposal Systems which achieve a measurable reduction in nitrogen. As currently defined in section 381.0065, F.S., enhanced OSTDS must achieve at least a 50% reduction in nitrogen before disposal of wastewater into the drain field, or at least a 65% total nitrogen reduction combined from the sewage tank(s) and drain field.

Potable Water - Water that passes minimum legal standards to be suitable for drinking.

Rapid Infiltration Basin (RIB) – Systems whereby wastewater is applied to shallow basins constructed in deep and permeable deposits of highly porous soils. Wastewater application can be by flooding, or occasionally by sprinklers. Treatment, including filtration, adsorption, ion exchange, precipitation, and microbial action, occurs as the wastewater moves through the soil matrix. Phosphorus and most metals are retained in the soil while toxic organics are degraded or adsorbed. As wastewater percolates through the soil, it can be collected, or it can flow to native surface water or groundwater aquifers.

Reclaimed Water – Wastewater that has been treated to minimum biological standards to be able to be reused. Depending on the level of treatment, reclaimed water may be used as a potable water source or for non-potable uses such as irrigation, industrial or commercial use, or aquifer recharge.

South Florida Water Management District (SFWMD) - Regional governmental agency that manages water resources in the southern portion of the state.

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VILLAGE OF INDIANTOWN EVALUATION AND APPRAISAL REPORT (EAR)
ENGINEERING ALTERNATIVES REVIEW – SEPTIC TO SEWER FEASIBILITY

BACKGROUND

Florida Statues Section 163.3177(6)(c) requires that the Village of Indiantown (VOI) include in its Comprehensive Plan Update the consideration of the feasibility of providing municipal sanitary sewer service for properties within jurisdiction, including evaluation of the wastewater treatment facility (WWTF) capacity, within a 10-year planning horizon for developments consisting of more than fifty (50) residential parcels with more than one septic system per one acre. This analysis must also evaluate the 20-year capacity of the Village's WWTF.

To accurately identify developments within the Village's jurisdiction with more than fifty (50) parcels and more than one (1) septic system per acre, the following evaluations and reviews were conducted:

- Evaluation of existing GIS data to identify parcels with known septic systems.
- Evaluation of historical wastewater treatment plant data and available capacity of the Village's current and proposed wastewater treatment plant.
- Identification of areas containing more than fifty (50) residential parcels with more than one septic system per acre.
- Projection of wastewater flows to be generated by these areas.
- Development of an opinion of probable cost for connecting each area the Village's municipal wastewater system.
- Determination of feasibility of connection to the VOI's wastewater collection system.

EXISTING CONDITIONS

All wastewater within the Village of Indiantown is treated at the Village's WWTF. This facility is located SW of the CSX Railroad and directly east of SW 168th Avenue and has a permitted capacity of 0.75 MGD on an annual average daily flow (AADF) basis as shown in **Table 1**. The Village is currently undertaking construction of a new WWTF expansion which will increase the treatment capacity. This treatment capacity is also included in **Table 1**.

Table 1. Summary of the Village of Indiantown's WWTF

Facility	Permit No.	Permitted Capacity (MGD AADF)	Estimated 2040 Flow (MGD, AADF)
Indiantown WWTF	FLA029939	0.75	1.78
New Indiantown WWTF (under construction)	FLA029939	1.2	1.78
Planned Future Expansion of WWTF	n/a	1.8	1.779

Discharge Monitoring Reports (DMRs) were compiled for 2023, 2024, and 2025 and report the annual average daily flows for the Village were developed.

Overall, VOI has treated up to 0.371 MGD of wastewater per year between January 2023 and December 2025. A summary of the annual average daily flow of treated wastewater is provided in **Table 2**. Therefore, we have used an Annual Average Daily Flow of 0.306 MGD for projections and calculations.

Table 2. Summary of Treated Wastewater Annual Average Daily Flow (past 3 years)

Year	MGD AADF (per year average)
2023	0.279
2024	0.371
2025	0.270

VOI has estimated the number of parcels within the existing jurisdiction that currently use Onsite Sewer Treatment and Disposal Systems (OSTDS or septic systems). Additionally, there are other "natural" (undeveloped or not containing a dwelling) parcels in areas that would typically be served by septic systems.

To calculate existing flow per capita, the non-contributing parcels need to be taken into consideration. Therefore, assuming 2.5 residents per parcel, existing non-wastewater contributing population can be estimated.

In addition, VOI has estimated wastewater septic systems inventory and corresponding population, which allows for the categorization of parcels within the Village by type of wastewater treatment utilized. A summary is provided below in **Table 3**.

Table 3. Summary of the Village of Indiantown's Wastewater Inventory

Wastewater Description	Number of Parcels	2025 Population
Natural / Currently Undeveloped	12	0
Septic (Residential)	139	348
Municipal Sewer	n/a	6,449*
Total	**n/a**	**6797**

***Residents contributing to wastewater flows**

Throughout the Village there are approximately 139 existing OSTDS and a total population that is designated as non-contributing residents. Based on the total current contributing population of 6,449 and the AADF of 306,000 gal per day, the average daily flow produced per contributing resident was found to be 50 gal per day per person.

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STUDY AREAS FOR SEPTIC TO SEWER CONVERSION

Utilizing the Village's existing septic system data along with Martin County/Village parcel information, areas were identified within the jurisdiction for the conversion from septic sewer to municipal wastewater system. For the purposes of this evaluation, developments have been defined as single-family residential neighborhoods within VOI's existing jurisdiction. All areas outside of the Village's existing jurisdiction have been deemed unfeasible and have not been included in this evaluation. The developments included in this evaluation identified are shown in **Figure 1 (see Attachment #1)**. Each area has one or more roadways that have been used to aid with the organization of the parcels that could be converted from septic sewer to wastewater collection.

Overall, 139 parcels with septic systems were identified within the Village's existing jurisdiction, as outlined in **Table 4**. Additionally, there were a total of 12 parcels in these septic to sewer areas where no dwelling or OSTDS exists but could be developed.

Table 4. Summary of Parcels for Sewer Extension

Septic to Sewer Area	Parcel Location: Approximate Street	Total Parcels with OSTDS	Total Parcels without OSTDS
1	SW Farm Rd	3	0
2	SW Pine View Ave	15	0
	SW Maple Ave	13	
	SW Palm Dr	7	
	SW Palm Oack	18	
	SW Fernwood Forest Rd	3	
3	SW American St & SW 146th Ct	12	2
4	SW Myrtle Dr	19	1
5	SW Citrus Blvd	18	9
	SW Sonora Ter	19	
	SW Canal Rd	12	
Total		**139**	**12**

The 151 (139 + 12) parcels were then evaluated to identify areas utilizing the criteria outlined in Florida Statues Section 163.3177(6)(c). Based on this evaluation 151 parcels were identified as being within an area for sewer extension. Currently, 139 of these parcels have existing OSTDS which will need to be converted.

Projected wastewater flow generation for the parcels identified as areas for sewer extension was estimated to utilize 200 gallons per day (gpd) per residential dwelling unit (EDU) based on the Village's municipal code. The projected wastewater flow that could be generated is presented in **Table 5**.

Table 5. Wastewater Generation Projections for Parces Identified as Areas for Sewer Extension

Septic to Sewer Area	Total Number of Parcels	Added Flow (gpd)
1	3	600
2	56	11,200
3	14	2800
4	20	4000
5	58	11,600
Total	**151**	**30,200**

Based on the added wastewater flow from the parcels above, coupled with the Village's anticipated growth, the New WWTF is expected to exceed the permitted capacity of 1.2 MGD AADF if all parcels identified for sewer extension were to be connected to VOI's wastewater collection system and population growth continues as anticipated. The Village is already planning on a future plant expansion from 1.2 MGD to 1.8 MGD to accommodate anticipated future population growth. Refer **to Table 6.**

Table 6. Population Growth Related to Estimated Flow

Wastewater Contributor	Residents	ERCs	Estimated Flow (MGD, AADF)
2025 Population	6,449	2580	516,000
Septic to Sewer	348	140	28,000
2025 to 2040 Added Population	15,436	6175	1,235,000
Total	**22,233**	**8895**	**1,779,000**

OPINION OF PROBABLE COST

Based on the septic to sewer parcels identified within the Village's jurisdiction for the WWTF, an opinion of probable cost (OPC) was developed to estimate the cost for VOI to provide municipal wastewater collection service to the right-of-way adjacent to the identified parcels. The OPCs were developed according to engineering judgement considering current project costs and cost trends observed in ongoing projects in Florida. In addition to the development of project costs, the OPC estimates also reflect costs associated with administration and project delivery.

Because Kimley-Horn does not control the cost of labor, materials, equipment, or services furnished by others, methods of determining prices, or competitive bidding or market conditions, any opinions rendered as to costs, including, but not limited to opinions as to the costs of construction and materials, shall be made on the basis of experience and represent its judgment as an experienced and qualified professional, familiar with the industry. Kimley-Horn cannot and does not guarantee that actual costs will not vary from its opinions of cost.

The opinion of cost is considered to be a Class 5 estimate, in accordance with the American Association of Cost Engineering (AACE) International Cost Estimate Classification System – As Applied in Engineering, Procurement, and Construction for the Process Industries. Class 5 estimates are typically applied to conceptual screening of alternatives. Class 5 estimates are generally based on very limited information and as a result have a wide range of accuracy ranges. Class 5 estimates are utilized for business planning purposes and assessment of initial viability. Typical accuracy ranges for Class 5 estimates are -50 percent on the low range and +100 percent on the high range. As such, the opinions are planning level only and include a 35 percent contingency factor to account for the limited detail available at this level of evaluation. The purpose of the order of magnitude OPC does, however, provide a good basis for evaluating the differences in costs between the alternatives.

Cost estimates were developed for each area of septic to sewer conversion. These costs were then combined to determine a total overall cost. A summary of the costs developed to serve the parcels identified within the existing wastewater service arranged by septic to sewer areas are shown in **Table 6**. All costs are based upon utilizing gravity sewer as the collection method with new lift stations and force mains to connect these areas to the existing municipal wastewater collection system.

Table 6. OPC for Identified Parcels within the Existing Wastewater Service Area

WWTF	Parcels to be Served (Existing Service Area)	Total Estimated Cost	Total Cost per Parcel
1	3	$255,000	$85,000
2	56	$1.96M	$35,000
3	14	$532,000	$38,000
4	20	$1.04M	$52,000
5	58	$3.19M	$55,000
Total	**151**	$6,977,000	$46,205

All sights have been assumed to be served but Low-Pressure Sewer Systems (LPSS) including force mains which will connect to the existing municipal sewer collection system. Based on the OPCs, the total estimated cost to provide wastewater collection services to the right-of-way adjacent to all 151 identified parcels is $6,977,000 or $46,205 per parcel.

FEASIBILITY AND CONCLUSIONS

Based upon the conversion of these parcels from septic to sewer to a municipal system, each parcel is able to be connected to the VOI wastewater collection system and the ongoing WWTF expansion coupled with the future plan to expand to 1.8 MGD treatment capacity in the future, demonstrates VOI's ability to serve not only the existing population, but also future population growth and conversion of the areas within the service area from septic to sewer collection and treatment.

ATTACHMENT #1 – FIGURE 1 – AREAS OF SEPTIC TO SEWER WITHING EXISTING SERVICE AREA

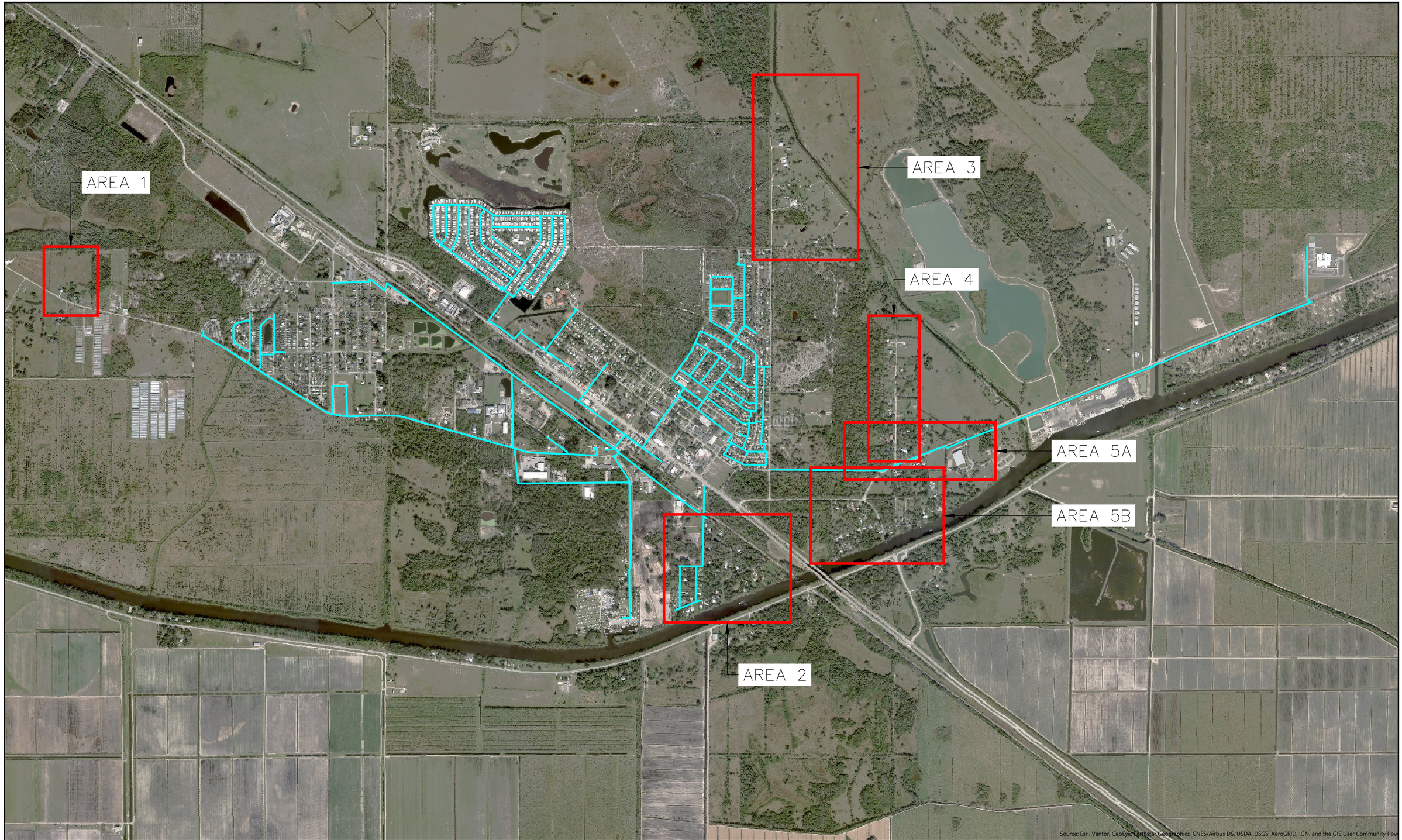

FIGURE 1
VILLAGE OF INDIANTOWN
AREAS OF SEPTIC TO SEWER WITHIN EXISTING SERVICE AREA

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