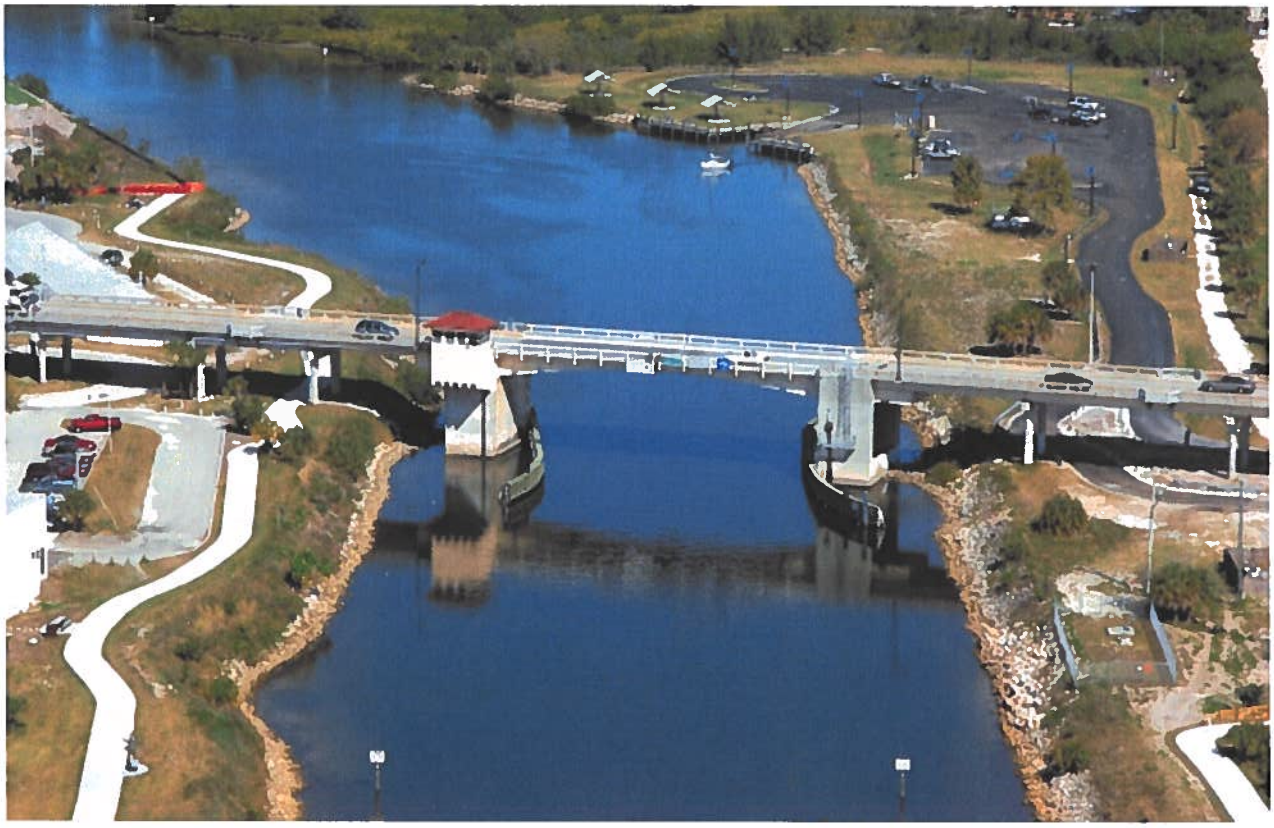
Hazen and Sawyer
7334 Delainey Court
Sarasota, FL 34240



City of Venice Clean Water Facilities Plan 2022

Final Draft
May 2022

JULIE L. KARLESKINT
LICENSE
No 42238
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
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Abbreviation	Definition
°F	Degrees Fahrenheit
3-MADF	3-Month Average Daily Flow
AADF	Average annual daily flow
CIP	Capital Improvement Plan
City	City of Venice
DIP	Ductile iron pipe
ERD	Energy recovery device
EWRF	Eastside Water Reclamation Facility

Abbreviation	Definition
FAC	Florida Administrative Code
FAS	Floridan Aquifer System
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FGS	Florida Geological Survey
FIRM	Flood Insurance Rate Map
FLAQS	Florida Air Quality System
FM	Force Main
FP	Facility Plan
ft	Feet
gpcd	Gallon per capita day
gpd	Gallons per day
HDD	Horizontal Directional Drill
HDPE	High density polyethylene
I/I	Infiltration and Inflow
IAS	Intermediate Aquifer System
ICWW	Intracoastal Waterway
in	Inch
JPA/ILSBA	Joint Planning Area/Interlocal Service Boundary Agreement Areas
kW	Kilowatt
LF	Linear feet
LOS	Level of service
MGD	Million Gallons per Day
MOT	Maintenance of traffic
NPDES	National Pollutant Discharge Elimination System
O&M	Operation & Maintenance
Plan	Facilities Plan
PFD	Process Flow Diagram
ppb	part per billion
PSARs	Public Supply Annual Reports
PVC	polyvinyl chloride
RO	Reverse Osmosis
SAS	Surficial Aquifer System
SRF	State Revolving Fund

Abbreviation	Definition
SWFWMD	Southwest Florida Water Management District
TDS	Total dissolved solids
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VCP	Vitrified clay pipe
WHPAs	Wellhead Protection Areas
WRF	Water Reclamation Facility
WSMP	Water Supply Master Plan
WTP	Water Treatment Plant
WUP	Water Use Permit
WWMP	Wastewater Master Plan

CHAPTER 1.0 EXECUTIVE SUMMARY

This Facility Plan (Plan) was prepared for the City of Venice and the Florida Department of Environmental Protection (FDEP) by Hazen and Sawyer to meet the requirements of the State Revolving Fund (SRF) loan funding program for the City of Venice's (City) clean water projects. This document addresses construction of two new force mains (FM) that are currently under design which will provide the necessary redundancy and capacity needed to ensure the delivery of wastewater to the City's Eastside Water Reclamation Facility.

The projects that have been identified for implementation within the next year include:

- Parallel FM under Interstate 75 (I-75)
- Parallel FM under Intracoastal Waterway (ICWW)

A cost benefit analysis was performed for the various options for crossing I-75, this included jack and bore, horizontal directional drilling and microtunneling based on the analysis, it was determined that the most cost effective and environmentally sound option would be to construct a 24" FM south of the existing FM using microtunnel process under the interstate highway, I-75 to reduce the required depth of the new FM which would minimize environmental impacts and provide a less costly connection to the existing influent FM as it enters the headworks coming into the plant.

The other project include is to replace the 10" cast iron (CI) FM under the ICWW, which is a manmade waterway separating the island of Venice from the mainland, with a 12" FM to provide backup to the existing 14" HDPE FM under the ICWW. This project would also include replacing the 10" CI FM along Venice Ave and replace with 12" FM to discharge to sanitary sewer manhole and providing a 24" gravity main to provide additional capacity in the collection system to provide additional storage for maintenance and minimize the potential for sanitary sewer overflows.

The total estimated cost for both projects is currently projected to be $10,400,000 which includes 6,000,0000 for the parallel FM under I-75 that would be performed using a microtunnel and $4,300,000 for the ICWW FM. These total estimated construction cost includes a 10% contingency, 15% allowance for engineering services during construction and resident project engineering services and 5% project administration cost.

The FM under I-75 is anticipated to have design complete and permits in hand prior to the August Priority Meeting and it is anticipated the ICWW FM will be ready to bid prior to the February 2023 Priority Meeting.

CHAPTER 2.0 INTRODUCTION

2.1 Background

The City of Venice Utilities Department is responsible for the planning and implementation of the service area infrastructure needs. The City is located in southwest Sarasota County on the west coast of Florida. **Figure 2-1** shows the planning area for City of Venice, which includes the existing service area and future annexation areas that are part of the Joint Planning Area/Interlocal Service Boundary Agreement Areas (JPA/ILSBA) from the Water Supply Master Plan. The annexation areas have been identified by the City for future water service.

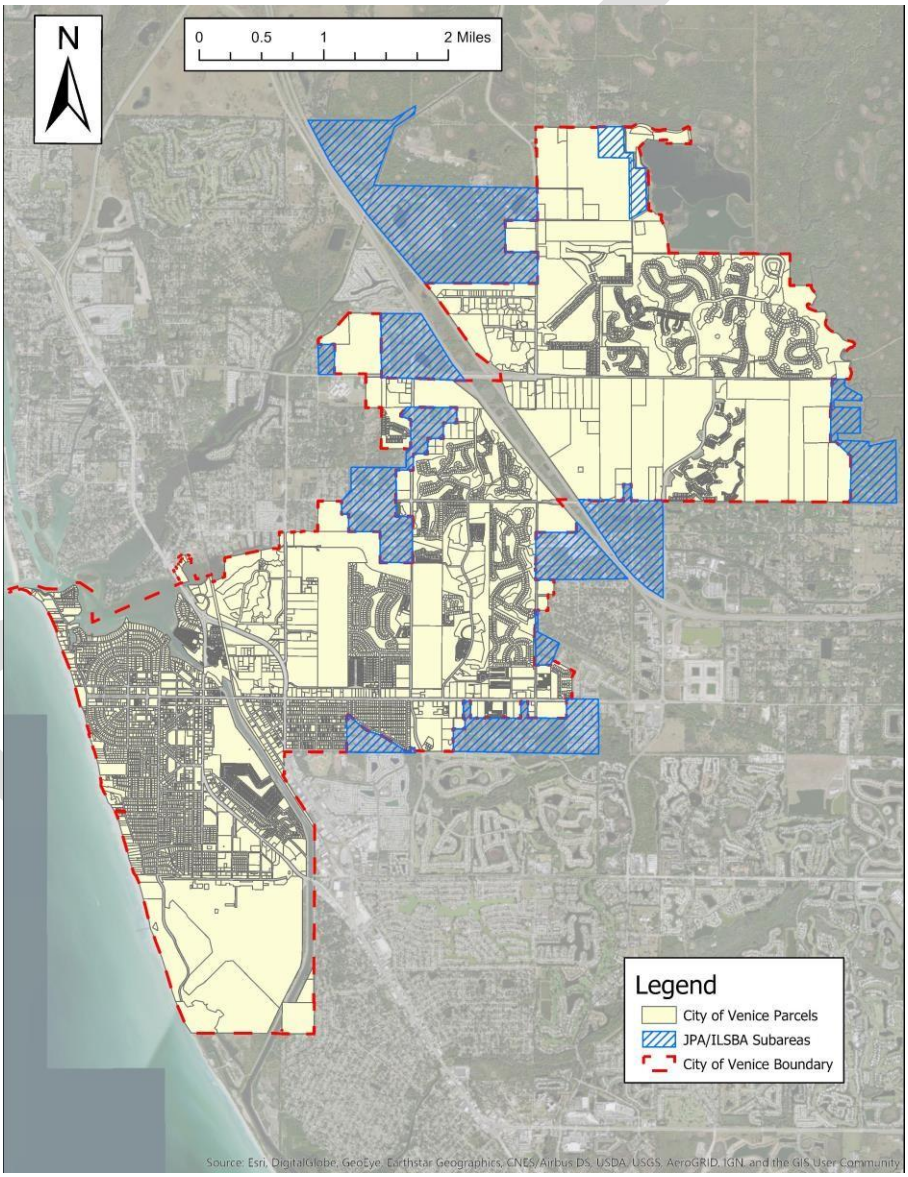

Figure 2-1: City of Venice & JPA/ILSBA Planning Area

The City's drinking water supply system consists of fifteen wells (fourteen operational, one additional permitted), which pump water from two brackish raw water well fields, one reverse osmosis (RO) water treatment plant (WTP), one booster pump station, two elevated storage tanks and approximately 190 miles of distribution piping. The RO WTP was constructed in the 1970s and the distribution system was constructed between the early 1900s to the present. The RO WTP has a maximum treatment capacity of 4.66 million gallons per day (MGD) and the wellfields are limited to an average daily permitted withdrawal of 6.86 MGD and a peak monthly withdrawal of 8.24 MGD.

Using gravity sanitary sewer mains, lift stations, and FMs, the City's wastewater flow is received and treated at the Eastside Water Reclamation Facility (EWRF). The EWRF (Facility ID FL0041441) is currently permitted to treat 8.0 MGD based on a three-month average daily flow (3 - MADF). Of the total 8.0 MGD capacity, Sarasota County owns 3.0 MGD of capacity and sends flow to the plant on an as-needed basis. The interconnection between Sarasota County and the City is located just upstream of the EWRF entrance road at the intersection of Laurel Road and Knights Trail Road.

As of December 2021, the EWRF 3- month average daily flow was 3.3 MGD. The City reuses the treated wastewater to provide irrigation water to commercial users, residential users, and golf courses to meet their needs and reduce the use of precious groundwater resources. In addition to irrigation, the City also has other disposal options for treated effluent when reclaimed water demands are low; these options include two permitted surface water discharge locations and interconnect with Sarasota County, which discharges to a deep injection well. This diversification of disposal methods allows the City reliable disposal capacity under varying conditions. In December 2021, approximately 2.83 MGD AADF of treated effluent was reused, with the remainder .54 MGD AADF sent to Sarasota County Master Reuse System.

2.2 Need

The transmission of wastewater is essential to assure that it is properly treated prior to disposal via reuse, surface water discharge or deep injection well. The proposed projects will provide additional redundancy to assure the conveyance of wastewater flow to the wastewater treatment plant should one of the pipelines fail. The Eastside Water Reclamation Facility (WRF) is located east of the City and treats all the City's wastewater flow in addition to flow from Sarasota County. **Figure 2.2** shows the location of the WRF and the proposed crossing locations. Currently, there is only one 20" FM that transmits flow under I-75 to the WRF, should this pipe segment fail and/or require maintenance of any kind, a majority of the total wastewater to the Eastside WRF would be cut off. The Master Plan recommended that a 24-inch FM be installed parallel to the existing 20-inch FM crossing I-75. A 24-inch FM was selected to maintain lower peak velocities in the FM relative to the existing 20-inch FM.

There is also a 14" HDPE constructed in 2012 and 10" cast iron pipe under the Intercoastal Waterway that transfer all the flow off the Island, the cast iron FM is believed to have been constructed in 1959 and is beyond its serviceable life and requires replacement. Therefore, should either of these mains fail, a significant discharge of untreated wastewater could result which could cause damage to the environment. As a result, the City is planning to construct a redundant FM across these environmentally sensitive areas to minimize potential impacts to the environment.

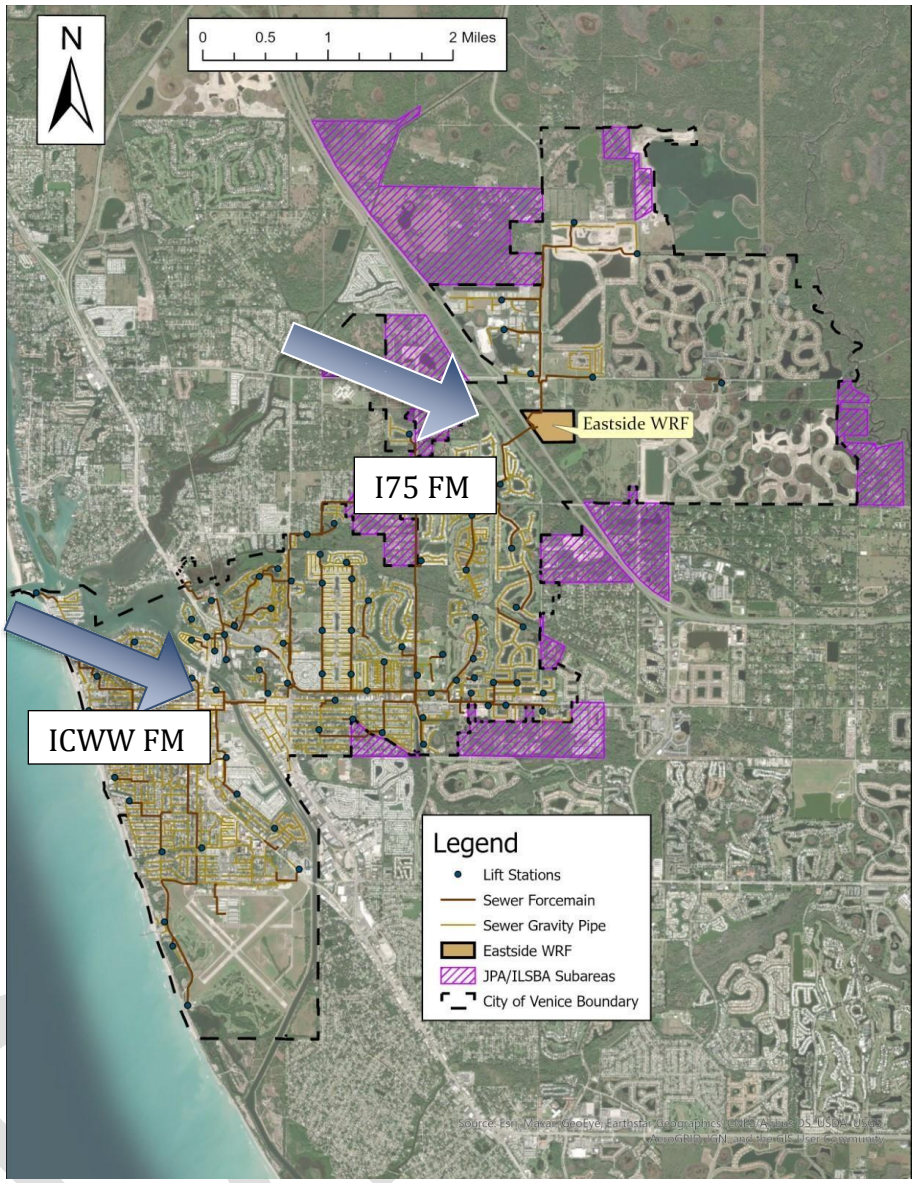

Figure 2-2: City of Venice Wastewater Collection System Force Main Locations

2.3 Scope of Study

This Plan includes the information noted in Clean Water SRF Planning Requirements based on Section 62-503.700(2) FAC. This information is incorporated in the following sections, outlined below:

- Executive Summary – Summary of recommended projects and estimated cost.
- Introduction – Background of projects and associated need with location map

- Existing Conditions – Review of existing conditions including description of planning area, socio-economic conditions, and wastewater utility.
- Development of Alternatives and Cost Comparison – Summary of various alternatives and cost for projects proposed for funding.
- Description of Selected Alternatives and Environmental Effects and Benefits – Cost comparison of at least two alternatives for all selected projects.
- Implementation and Compliance with Funding Requirements – Review of public participation process, financial feasibility, schedule and adopting resolution.

CHAPTER 3.0 EXISTING CONDITIONS

3.1 Description of Planning Area

3.1.1 Planning Area

The City of Venice is located in southwest Sarasota County on the Gulf of Mexico. The planning area includes the City water service area and areas that are anticipated to be served by future annexation in accordance with the JPA/ILSBA shown in Figure 2-1.

3.1.2 Climate

Like most coastal communities in south Florida, the climate is oceanic and subtropical, characterized by high relative humidity, short mild winters, long warm summers, and rainfall that is abundant, but heaviest from June through September. According to the Soil Survey of the area provided by the United States Department of Agriculture (USDA) Soil Conservation Service, the average annual temperature is approximately 76º Fahrenheit (F). During the summer, the average temperature is 83ºF and the average daily maximum is 96 ºF. Winters are generally short and mild, with average daily temperature of 71° F with the average daily minimum of 51° F. The average annual rainfall is approximately 49 inches with 76 percent of rainfall seen between the months of April through September.

3.1.3 Topography and Drainage

The topography of the City is flat, typical of a coastal community on the southwest coast of Florida. Elevations range from mean sea level, along the gulf coast, to approximately 15 feet above mean sea level. Most of the area is poorly drained with the water table at or near the land surface. Natural drainage systems have been channelized and there are also many ditches to improve drainage. Soils are primarily sandy soils.

3.1.4 Geology, Soils and Physiography

The service area is located along the coast, with the dominant soil types being sandy soils. According to the USDA, Soil Conservation Service, nearly all of Sarasota County is in the Gulf Coastal Lowlands. The City is within the Coastal Area drainage basin, which is the low-lying coastal area between the Myakka River and Alafia river drainage basins. An important drainage feature is the manmade Intracoastal Waterway, that was completed in 1966. This waterway is open to the Gulf of Mexico and under tidal influence. Many of the sloughs in the area were connected by canal and drained to the Gulf of Mexico so that the rich muck lands and adjacent areas could be farmed. Sediments primarily consist of quartz sand, consolidated and unconsolidated shell beds, clay, limestone and dolomite. These sediments range in age from Oligocene (38 to 22.5 million years ago) to Holocene (10,000 years ago to the present).

3.1.5 Surface and Ground Water Hydrology

Surface waters are designated Class III waters, suitable for recreation and for propagation of fish and wildlife. The Sarasota Bay Estuarine System stretches into parts of north Venice Island and is designated as a special outstanding Florida water. The planning area is located on the gulf coast of Florida in the Dona and Roberts Bay Watershed.

The city includes an area called "Venice Island", a portion of the mainland that is accessed via bridges over the artificially created Intracoastal Waterway (ICWW). The ICWW was constructed by the Army Corp of Engineers in the 1960s by connecting Hatchett Creek to the North and Alligator Creek to the south as shown in **Figure 3-1.**

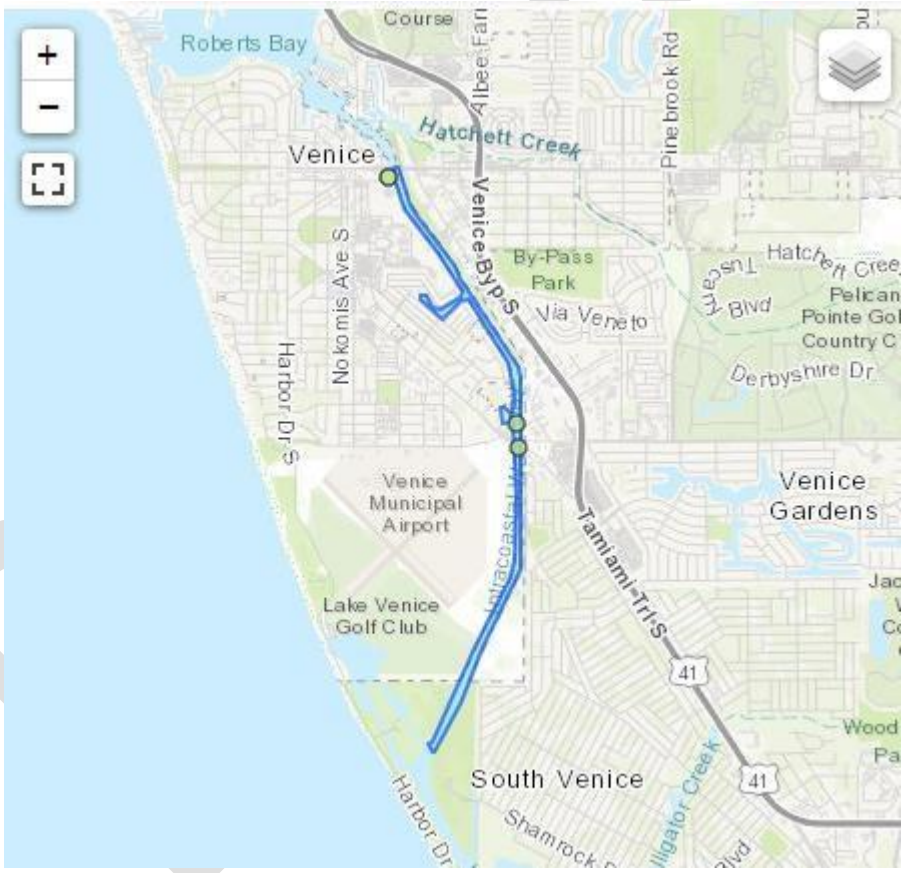

Figure 3-1: Intracoastal Waterway

The geologic and hydrogeologic conditions of Sarasota County have been described in numerous publications over the past century. Initially, the US Geological Survey (USGS) defined the geologic conditions of the region based on various classification schemes for sedimentary rocks. With recent emphasis on groundwater resources, research throughout the 1990s by the Florida Geological Survey (FGS), SWFWMD, and the USGS has shifted toward re-defining the geology of the area into hydro-stratigraphic units. In general, the hydrogeology of Sarasota County is represented by three regional

aquifer systems: the Surficial Aquifer System (SAS), the Intermediate Aquifer System (IAS), and the Floridan Aquifer System (FAS). These aquifer systems are separated by regional aquitards, or semi-confining units. Each aquifer system generally contains one or more water producing zones separated by less permeable units which provide confined or semi-confined conditions and upward hydraulic gradients.

3.1.6 Environmentally Sensitive Areas or Features

The proposed projects are located in previously developed areas and not anticipated to have any significant impacts any wetlands, prime agricultural lands, environmentally sensitive lands, endangered species, or any archeological and historical sites. However, environmental permitting will be required for both projects to address any environmental impacts that may be associated with the construction including wetlands.

The US Fish and Wildlife Service provides an online species report of threatened and endangered species that are known or are believed to occur in specific areas. A review of this data for Sarasota County is provided in **Table 3-1**. A site visit was made to the proposed project sites and none of the listed species were observed at that time.

Of the species listed, the most likely species to be encountered include the Gopher tortoise, Eastern indigo snake, and Florida scrub jay although none of these species were observed when investigating the project sites. Should any evidence of these protected species be observed during construction, it will be brought to the attention of the City with the possible impacts noted and construction plans modified as necessary to accommodate the listed species. The nesting sites for Bald Eagles in Sarasota County were also investigated and none of the proposed project sites were within 660 ft of any active eagle nest as shown by the 660 ft radius shown below of the proposed location as shown in **Figure 3-2**, below.

Figure 3-2: Bald Eagle Nest

Table 3-1: Threatened and Endangered Species in Sarasota County

Group	Name	Status
Birds	Whooping crane (*Grus americana*)	Federal Non-Essential Experimental Population
Birds	Wood stork (*Mycteria americana*)	Federally designated Threatened
Birds	Audubon's crested caracara (*Polyborus plancus audubonii*)	Federally designated Threatened
Birds	Piping plover (*Charadrius melodus*)	Federally designated Threatened
Birds	Florida scrub-jay (*Aphelocoma coerulescens*)	Federally designated Threatened
Birds	Rufa red knot (*Calidris canutus rufa*)	Federally designated Threatened
Fishes	Gulf sturgeon (*Acipenser oxyrinchus [=oxyhynchus] desotoi*)	Federally designated Threatened
Flowering Plants	Aboriginal prickly-apple (*Harrisia (=Cereus) aboriginum (=gracilis)*)	Federally Endangered
Flowering Plants	Florida bonamia (*Bonamia grandiflora*)	Federally Threatened
Flowering Plants	Pygmy fringe-tree (*Chionanthus pygmaeus*)	Federally Endangered
Mammals	Florida manatee (*Trichechus manatus latirostris*)	Federally designated Threatened
Mammals	Florida panther (*Puma [=Felis] concolor coryi*)	Federally designated Endangered
Reptiles	American alligator (*Alligator mississippiensis*)	Federally designated Threatened due to Similarity of Appearance
Reptiles	Hawksbill sea turtle (*Eretmochelys imbricata*)	Federally designated Endangered
Reptiles	Leatherback sea turtle (*Dermochelys coriacea*)	Federally designated Endangered
Reptiles	Green sea turtle (*Chelonia mydas*)	Federally designated Threatened
Reptiles	Loggerhead sea turtle (*Caretta caretta*)	Federally designated Threatened
Reptiles	Eastern indigo snake (*Drymarchon corais couperi*)	Federally designated Threatened
Reptiles	Gopher tortoise (*Gopherus polyphemus*)	State-designated Threatened

3.1.7 Floodplain

Flood zones for the City were evaluated utilizing the Flood Insurance Rate Map (FIRM) for the City. Since the City is located on the Gulf coast of Florida much of the City's area was designated to be in areas labeled as AE, which has a one percent annual chance of flooding. Since the FMs well below ground level, there will be not impact to the floodplain.

3.1.8 Socio-economic Conditions

Based on recent census data, the City has an annual income per capita of $42,494 and household income of $55,568 with median family income of $75,200. The unemployment rate is relatively low at 4.5% with a sales tax rate of 7.0%.

3.1.9 Population

According to the City's 2019 Water Supply Master Plan (WSMP) the City currently has 26,500 potable water customers. Most of the customers are permanent residents with an estimated 4,200 seasonal customer (2017 Florida Bureau of Economic Business and Research study). Per Florida Administrative Code (FAC) and SWFWMD guidelines, future planning for the City must be based on the combination of the permanent and seasonal populations, known as the functional population. Based on maximum allowable density, the City's population could reach 43,246 at buildout; however, a functional population of only 29,600 is expected by 2025 and 32,000 is expected by 2035. Projections suggest that approximately 35% of the population will reside within the JPA/ILSBA areas. **Table 3-2** summarizes the functional population projections.

Table 3-2: Future Land Use Map and JPA/ILSBA Combined Functional Population Projections*

Year	Functional Population
2025	29,600
2030	30,900
2035	32,000
2040	32,800
2045	33,500

*Black & Veatch Population and Demand Projections Report, 2018

3.1.10 Land Use and Development

Areas along the Intracoastal Waterway are predominantly planning areas, with some regions designated to government use and industrial use. Much of the island to the west is also high-density residential, with some commercial regions. The airport and surrounding open space lie to the southwest. The eastern regions of the City were anticipated to be a blend of low to medium-density residential, commercial, and recreational areas, and government property. However, recent development has shown it to be higher density instead. The region Northeast of I-75 is largely undeveloped and within planning areas, except for the residential use area to the east. in **Figure 3-3.** shows a map of the future land use designations for the City of Venice.

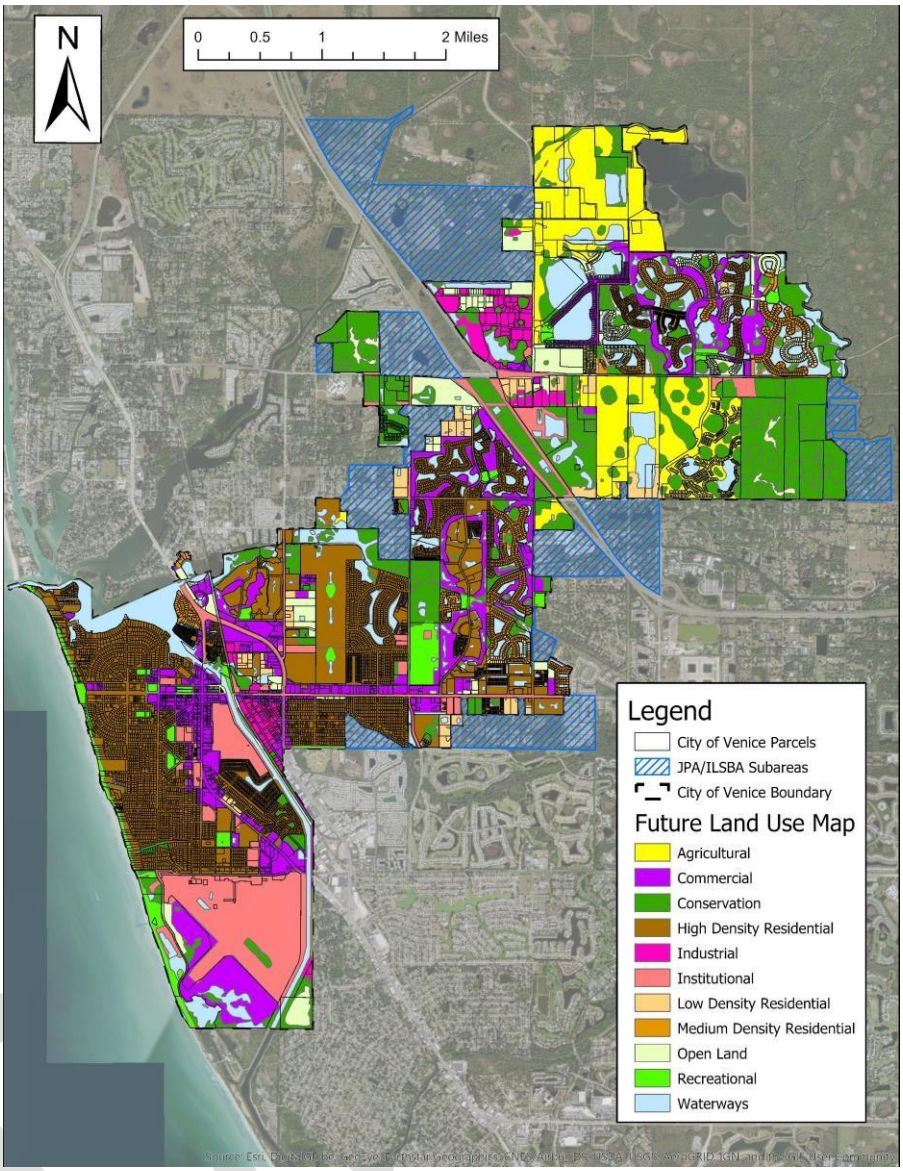

Figure 3-3: City of Venice Future Land Use Map

3.2 Wastewater Collection, Treatment and Effluent Disposal

3.2.1 Wastewater Collection System

There are approximately 500,291 linear feet (LF) of gravity sewer mains, not including any lines less than or equal to 6 inches in diameter. The total length of pressurized FM within the City limits is approximately 192,323 LF and the City operates 88 lift stations. This system records operational data such as the number of pump starts and pump run time. The collection system contains some cast iron piping installed as far back as the 1950's. These components make up a collection system that transports

wastewater to the northeastern part of the City to be treated at the Eastside WRF. A map of the existing collection system is provided in **Figure 3-4.**

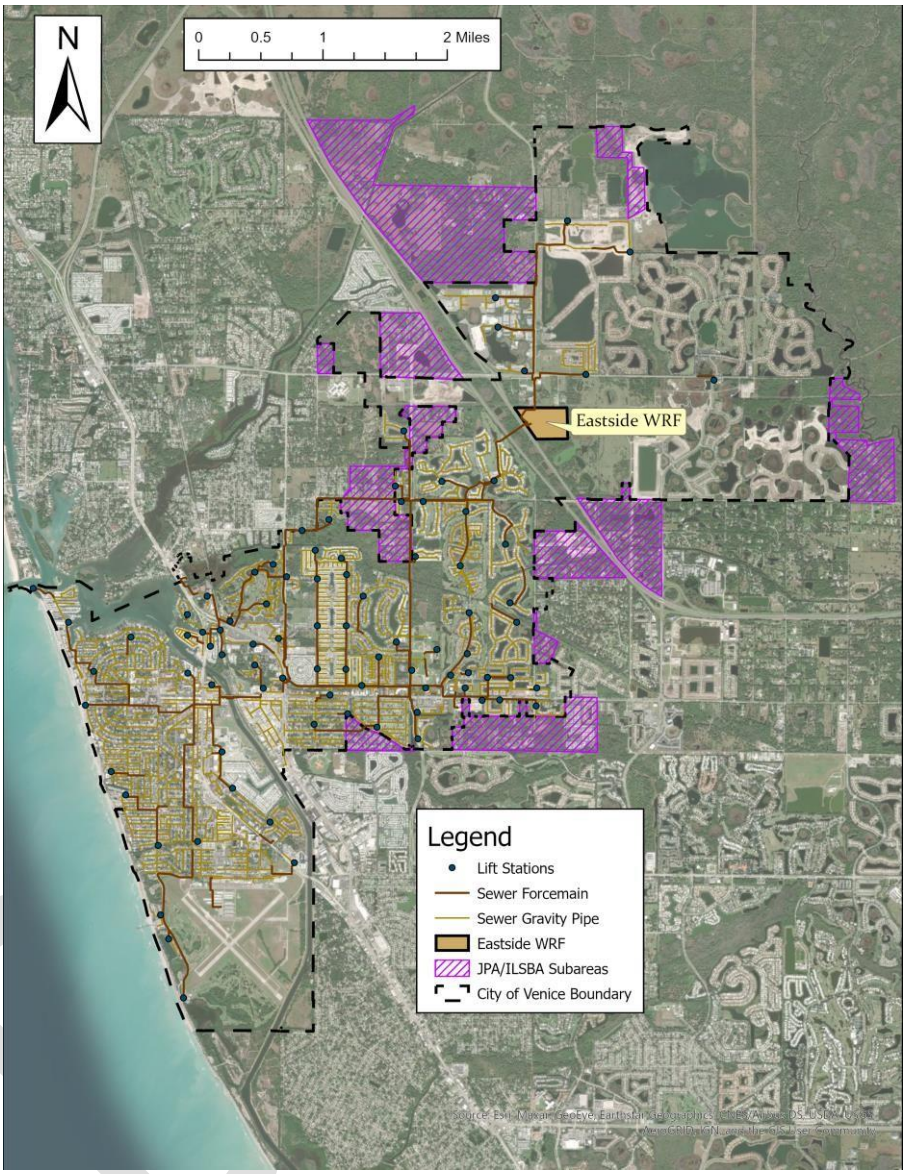

Figure 3-4: City of Venice Wastewater Collection System

CHAPTER 4.0 DEVELOPMENT OF ALTERNATIVES

4.1 Parallel FM Crossing I-75

In order to determine the best option for constructing another FM under I-75, several alternatives were evaluated, in addition a meeting was held with the Florida Department of Transportation to verify that the recommended alternatives would be acceptable for going under the state highway. The options identified included the following:

- Option 1: Microtunnel under I-75.
- Option 2: Jack and Bore (J&B) under I-75
- Option 3: Horizontal Directional Drill (HDD) under I-75

Option 1– Microtunnel New 24-in FM under I-75
Microtunneling is a shaft-to-shaft method of tunnel construction in which a Microtunnel Boring Machine (MTBM) is advanced utilizing a jacking frame pushing on jacking pipe connected to the rear of the machine. Slurry lubrication is utilized to mix with excavated spoils for transport to the surface in addition to providing lubrication around the jacking pipe during tunnel advancement. MTBM does not require personnel entry for normal operations and provides a closed-face system of excavation. Microtunneling is recommended as an appropriate method for this project due to the following factors:

- Face Stability and Groundwater Inflow – Unlike J&B, MTBM uses a slurry to pressurize and balance the earth and groundwater pressures at the head of the tunnel as it advances though the soil. This is referred to as "closed-face" which prevents inflow and infiltration as the equipment advances through the soil. This would allow MTBM methods to be utilized going through the more shallow, loose sandy soils under groundwater pressure; such as those seen at the depths from ground surface to approximately 16-20 feet below ground surface at the installation locations for this project.
- Drive Length – Microtunneling is steerable and uses survey level line of sight laser guidance and can provide constant lubrication throughout the drive. Therefore, drive lengths of 400 – 500 linear feet are considered manageable at the 42-inch casing diameter for this method.
- Dewatering – MTBM would also require dewatering like J&B at the launch and reception shafts, but since it would be employed in shallower ground the dewatering equipment could be smaller (and also less noisy), as well as it would be employed for a shorter duration.

Option 2– Jack and Bore New 24-in FM under I-75
Jack and Bore (J&B), commonly referred to as Horizontal Auger Boring, is a shaft-to-shaft method of tunnel construction in which an auger boring machine is advanced utilizing a jacking frame pushing on jacking pipe connected to the rear of the machine. As the machine is propelled forward the auger removes the spoils through the casing pipe back to the construction shaft. Factors that must be taken into consideration for a jack and bore include the following:

- Face Stability and Groundwater Inflow – While subsurface conditions are mostly loose sandy soils with flowing water, at approximately 16-20 feet below surface, ground conditions change to a confined layer of limestone rock, which would allow for stable ground conditions and low permeability. J&B is an "open-face method", which means groundwater can flow into the core hole as the equipment advances. The confined layer of limestone will help prevent considerable inflow and infiltration into the core hole as the equipment advances.

- Drive Length – J&B is not steerable or laser guided without additional supporting trenchless methods including boring machine attachments or pilot tube guided boring equipment. For drives longer than 100 linear feet, circumferential lubrication is needed. Although this is a pressure application where line and grade accuracy are not essential, without steerability and guidance, in soft ground, significant line and grade variances may occur which can dramatically increase friction or otherwise bring the alignment outside of design requirements. At approximately 200 linear feet, J&B methods are not recommended in soft soils due to lack of steerability and high frictional resistance without the additional methods and equipment described above. For these site conditions, J&B should only be utilized at depths penetrating through the confined limestone layer.

- Dewatering – Due to the high groundwater table and the significant depth, the J&B method would require a dewatering system (with adequately sized pumps) to be put into place weeks before excavation for the J&B shafts begins in order to draw the water table down. This dewatering would only be required at the launch and reception shafts.

Option 3– Horizontal Directional Drill New 24-in FM under I-75

For HDD underneath pavement, FDOT requires the bore depth to be equal to ten times the bored diameter or greater as measured from the top of pavement to the top of the bore. For the proposed FM, the minimum required depth would be approximately 30 feet below the road. To achieve a depth of 30 feet below the travel lanes, the drill rig requires a setback distance of approximately 400 feet from the edge of pavement at a typical drill entry angle of 10 degrees, and the same setback distance at the opposite end of the drill where pipe is pulled through the borehole. **Figure 4-1** shows an HDD alignment that crosses both north and southbound I-75 travel lanes with 400 feet of setback from the outer edges of pavement. As demonstrated in the Figure, there is inadequate laydown and setup space for a drill rig or pipe pullback operation.

If the north and southbound lanes of I-75 were to be crossed with separate HDD bores, this condition still exists, as the 400-foot setback requirements shown on the west and east sides of I-75 remain the same. Given the inadequate laydown and setup space, HDD is not a viable option for the proposed FM.

Figure 4-1: Horizontal Directional Drill

In evaluating the various options, an evaluation of various cost was performed followed by a present value analysis. It was also noted based on the geotechnical observations that the jack and bore option would need to be considerably deeper than the microtunnel option as shown in **Figure 4-2.** Which was considered as part of the cost evaluation.

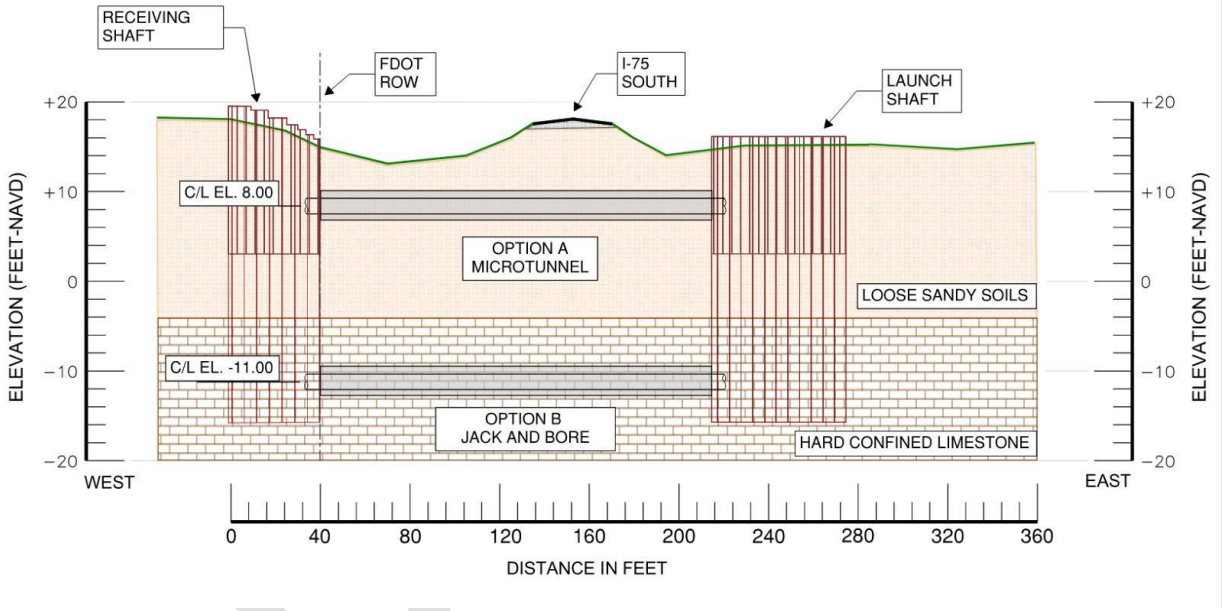

Figure 4-2: Bore Options

A cost estimate was developed for the microtunnel and jack and bore option, the horizontal directional drill was not estimated since it was not considered as a feasible option. A summary of the estimated construction cost for the two viable options is shown in **Table 4-1**.

Table 4-1: Microtunnel Construction Costs

Item No.	Description	Est. Qty.	Unit	Unit Price ($)	Extended Price ($)
Option 1 - Microtunnel Under I-75					
1	Earthwork	1	LS	955,000	955,000
2	Exterior Improvements	1	LS	290,000	290,000
3	Landscaping	1	LS	350,000	20,000
4	Process Interconnections	1	LS	3,000,000	3,000,000
TOTAL ESTIMATED CONSTRUCTION COST					**4,595,000**

Table 4-2: Jack and Bore Construction Cost

Item No.	Description	Est. Qty.	Unit	Unit Price ($)	Extended Price ($)
Option 2 - Jack and Bore Under I-75					
1	Earthwork	1	LS	1,255,000	1,255,000
2	Exterior Improvements	1	LS	290,000	290,000
3	Utilities	1	LS	350,000	20,000
4	Process Interconnections	1	LS	3,100,000	3,100,000
TOTAL ESTIMATED CONSTRUCTION COST					4,895,000

The cost of the microtunnel was anticipated to be more since the shaft would have to be considerably deeper as shown in **Figure 4-2**. A present value analysis was also performed of the two options which is demonstrated below. The analysis was based on an interest rate of 3% over a 20-year period with a salvage. The operations cost for the jack and bore was deemed to be twice the cost associated with the microtunnel since the FM would be considerably deeper and additional flushing may be required due to the depth of the main.

Table 4-3: Present Value Analysis for I-75 FMs

Item	Option 1: Microtunnel	Option 2: Jack and Bore	Option 3: HDD (not viable)
Estimated Capital Construction Cost	**$4,595,000**	**$4,895,000**	**$NA**
Operations and Maintenance Cost	$2,000	$4,000	$0
Salvage Value	$1,527,000	$1,627,000	NA
Net Present Cost	**$3,098,000**	**$3,328,000**	**$NA**

Selected Alternative
In reviewing the various alternatives, it was determined that Option 1, Microtunneling under I-75 was the most cost effective and environmentally beneficial alternative for the City. This option would also minimize the environmental impact to the area by reducing the depth of the insertion tunnel thereby reducing the size of the shafts.

4.2 Parallel FM Crossing ICWW

This project includes replacing the 10" cast iron main with the construction of a new HDPE wastewater FM under the Intracoastal Waterway via directional drill for an approximate distance of 800 ft. It would also include replacing the cast iron FM along Venice Avenue and extending the FM to the gravity collection system and replacing an 8" sewer with a 24" sewer to assure adequate capacity. The new FM will provide redundancy to assure the transfer of wastewater flow from the Island to the Water Reclamation Facility. Should the existing 14-inch FM fail and/or require maintenance, the wastewater flow from the island to the Eastside WRF would be impacted and potentially causing major wastewater overflows into the ICWW and/or Gulf of Mexico. Besides system reliability, the new FM would lower the peak velocities in the wastewater transmission system which would improve the overall operation of the system.

In order to minimize environmental impacts and the bridge not being fixed span HDD under the ICWW was determined to be the only viable option to install the new main. Although options for PVC and HDPE piper were evaluated, it was determined that due to the necessary bending radius and site restrictions the best option was HDPE. Other options that were evaluated was the connection point to the City's existing system and to provide the ability to take the existing 24" sewer main out-of-service to televise, inspect, & perform maintenance, etc.

- **Option 1:** Remove/Replace the ex. 8-inch sewer main with a 24-inch sewer main (372 LF). This will provide an additional +/- 8,800 gallons of extra "storage capacity" in the sewer main.
- **Option 2:** Install a new 24-inch sewer main (200 LF) and remove/replace the ex. 8-inch sewer main with a 24-inch sewer main (145 LF). This will provide an additional +/- 9,300 gallons of extra "storage capacity" in the sewer main.
- **Option 3:** Remove/Replace the ex. 8-inch sewer main with a 24-inch sewer main (372 LF). Install a new 24-inch sewer main (200 LF). This will provide an additional +/- 14,000 gallons of extra "storage capacity" in the sewer main.

Construction cost estimates were developed which are provided in **Table 4-4,** for the various options assuming the 12" FM crossing under the ICWW would be installed via HDD.

Table 4-4: Capital Construction Costs Associated with Options

FM Crossing ICWW

Item No.	Description	Est. Qty.	Unit	Unit Price ($)	Extended Price ($)
		OPTION 1			
1	12" ICWW (HDD)	1,200	LF	1000	1,200,000
2	12" FM (HDD)	1200	EA	1,200	1,440,000
3	12" FM (Open Cut)	250	EA	500	125,000
	24" Gravity Main	372	LF	800	297,600
	Fittings/Valves	1	LS	100,000	100,000
OPTION 1: TOTAL ESTIMATED CONSTRUCTION COST					***3,162,600***
		OPTION 2			
1	12" ICWW (HDD)	1,200	LF	1000	1,200,000
2	12" FM (HDD)	1200	EA	1,200	1,440,000
3	12" FM (Open Cut)	250	EA	500	125,000
	24" Gravity Main	345	EA	800	276,000
	Fittings/Valves	1	LS	100,000	100,000
OPTION 2: TOTAL ESTIMATED CONSTRUCTION COST					***3,141,000***
		OPTION 3			
1	12" ICWW (HDD)	1,200	LF	1000	1,200,000
2	12" FM (HDD)	1200	EA	1,200	1,440,000
3	12" FM (Open Cut)	250	EA	500	125,000
	24" Gravity Main	572	EA	800	457,600
	Fittings/Valves	1	LS	100,000	100,000
OPTION 3: TOTAL ESTIMATED CONSTRUCTION COST					***3,322,600***

A present value analysis was also performed, as part of the analysis it was assumed that Options A and B would have higher operational cost since less storage would be available in the system and therefore wastewater flow would have to be transported downstream of the area to minimize the potential for sanitary sewer overflows. There the operational cost was based on the additional trucking cost that would be required due to the lesser volumes in options 1 and 2. The analysis was based on an interest rate of 3% over a 20-year period with a salvage value assuming a depreciation rate of 6% per year. The operations and maintenance cost were based on estimated hauling cost that would be required without the additional storage as shown in **Table 4-5**. Based on this analysis, it was determined the best option would be Option 3 which would also provide the city with greater control, additional storage, easier maintenance, and increased flexibility.

Table 4-5: Present Value Analysis of Various Options for ICWW FM

Item	Option 1: Route 1	Option 2: Route 2	Option 3: Route 3
Estimated Capital Construction Cost	**$3,162,600**	**$3,141,000**	**$3,372,600**
Operations and Maintenance Cost	$10,400	$9,4000	$0
Salvage Value	$1,051,000	$1,044,000	$$1,104,000
Net Present Cost	**$2,267,000**	**$2,237,000**	**$2,219,000**

As noted above, the best option would provide the most benefit and additional storage in the collection system allowing additional time for tv and cleaning and performing maintenance on the collection system and minimizing the occurrence of sanitary sewer spills which could have a detrimental effect on the ICWW.

4.3 Proposed Alternatives

The total cost of the final selected alternatives are summarized below in **Table 4-6** and **Table 4-7.** These costs include a 10% contingency, a 15% allowance for engineering services during construction including having a Resident Project Representative on site and an allowance of 5% for administrative services associated with the cost meeting the State Revolving Loan requirements.

Table 4-6: I-75 FM Microtunnel Total Estimated Cost

Item No.	Item	Quantity	Unit	Unit Price ($)	Extended Price ($)
1	Earthwork	1	LS	955,000	955,000
2	Exterior Improvements	1	LS	290,000	290,000
3	Landscaping	1	LS	350,000	350,000
4	Process Interconnections	1	LS	3,000,000	3,000,000
ESTIMATED CONSTRUCTION COST					**4,595,000**
Contingency (10%)					459,500
Engineering (15%)					689,250
Project Administration (5%)					229,750
TOTAL ESTIMATED CONSTRUCTION COST					**5,973,500**

Table 4-7: ICWW 12" FM Total Estimated Cost

Item No.	Item	Quantity	Unit	Unit Price ($)	Extended Price ($)
1	12" ICWW (HDD)	1200	LF	1000	1,200,000
2	12" FM (HDD)	1200	EA	1200	1,440,000
3	12" FM (Open Cut)	250	EA	500	125,000
4	24" Gravity Main	572	EA	800	457,600
	Fittings/Valves	1	LS	100000	100,000
ESTIMATED CONSTRUCTION COST					**3,322,600**
Contingency (10%)					332,260
Engineering Services During Construction and RPR (15%)					498,390
Project Administration (5%)					166,130
TOTAL ESTIMATED CONSTRUCTION COST					**4,319,380**

CHAPTER 5.0 ENVIRONMENTAL IMPACTS

The short-term impacts during construction of the proposed projects include increased noise levels, increased airborne particulates and surface runoff during rainfall. Control measures will be implemented to minimize these temporary effects including any potential impacts to wetlands and possible frac-out associated with the HDD process. Environmental permits have been or well be obtained for both projects and all requirements by regulatory agencies will be met.

The long-term impacts of the projects are beneficial with providing redundancy in the collection system thereby reducing the potential for wastewater overflows, minimizing potential impacts to wastewater overflows into the ICWW and increased Consistency with the Comprehensive Plan

These projects are also consistent with the City's Comprehensive Plan; especially those policies pertaining to Infrastructure Replacement and Improvement and Level of Service and are all located within previously developed areas.

Environmental permits will be required as part of these projects and both projects are located in areas that have similar FMs previously in the same vicinity. Efforts will also be taken to minimize any temporary environmental impacts including the potential of frac-out associated with the HDD under the ICWW shown in **Figure 5-1** below.

Figure 5-1: ICWW - Horizontal Directional Drill Location

CHAPTER 6.0 IMPLEMENTATION AND COMPLIANCE

6.1 Public Meeting

A public meeting will be held during the June 14, 2022 City Council Meeting to request public comments regarding this Facilities Planning Document. The meeting will be noticed and published on the City's website, 14 days before the prior to meeting. Upon hearing all comments from the public, the Council will be given the opportunity to discuss and vote on the Resolution 2022-14 which adopts the City of Venice Clean Water Facilities Plan 2022 and designates the authorized representatives for the City. Once the Resolution is adopted, an addendum to this document will be provided the includes the resolution, meeting minutes and documentation of public notice.

6.2 Regulatory Agency Review

To qualify for a subsidized loan from the SRF, various governmental agencies were contacted to verify that they are satisfied with the proposed improvements that are being recommended by the City for solving future potable and clean water issues. Copies of the plan were sent to the following government agencies for review and comments.

- Florida Department of Environmental Protection
- Florida Department of Health
- Southwest Florida Water Management District
- US Environmental Protection Agency
- Southwest Florida Regional Planning Council
- Department of Community Affairs, State Clearinghouse.
- US Fish and Wildlife Service

If additional information and certifications are requested by regulatory agencies through the regulatory agency review during review, this information will be provided via Addendum in addition to any other documents required by FDEP prior to award. This includes the fiscal sustainability, cost and effectiveness certification and water/energy certification required by the Water Resources and Development Act of 2014; Project Sponsor's Professional Services Procurement Certification.

6.3 Financial Planning

The FDEP SRF loan program is expected to be the financing source for these projects. A capital financing plan for the wastewater projects and business plan for the drinking water projects has been prepared by the City to show the public and state agencies what the financial impact on the users. It is anticipated that the City's Utilities Department, which serves approximately 26,500 customers, will pay the cost for the improvements under the existing rates that are now in service. This plan is provided in **Appendix A.**

6.4 Implementation

The City of Venice Utilities Department has the sole responsibility and authority to implement the recommended improvements. There are no interlocal agreements necessary for the City to provide wastewater services throughout the planning area.

6.5 Implementation Schedule

The following schedule is shown in **Table 6-1** which has been developed for the implementation of the proposed improvements; these schedules are subject to various projects and schedules being met and may change.

Table 6-1: Proposed Implementation Schedule for City of Venice FM Project

Date	Task
April 2022	Submit draft FP to FDEP/Clearinghouse (CH) for review
June 2022	Hold public hearing on FP and Capital Financing Plan
June 2022	FP resolution and meeting minute to FDEP
June 2022	FDEP/CH approval of FP
June 2022	Publication of EID in Florida Administrative Weekly
June 2022	Biddable plans, specifications and permits (I75) submitted
July 2022	Environmental Clearance Received
August 2022	Hearing to place projects on priority list
September 2022	Application Complete
November 2022	Loan Agreement Received
December 2022	I75 FM Contract Award
December 2022	Biddable plans, specifications and permits (ICWW) submitted
February 2023	Hearing to place ICWW FM on priority list
July 2023	ICWW Contract Award

Appendix A: Capital Financing Plan

CAPITAL FINANCING PLAN

City of Venice
(Project Sponsor)
Ron Feinsod, Mayor
(Authorized Representative and Title)
Venice, FL 34285
(City, State, and Zip Code)

Linda Senne, Finance Director
(Capital Financing Plan Contact, Title and Telephone Number)
401 West Venice Ave
(Mailing Address)
Venice, FL 34285
(City, State, and Zip Code)

The Department needs to know about the financial capabilities of potential State Revolving Fund (SRF) loan applicants. Therefore, a financial capability demonstration (and certification) is required well before the evaluation of the actual loan application.

The sources of revenues being dedicated to repayment of the SRF loan are Water/Sewer Net Operating Revenues

(Note: Projects pledging utility operating revenues should attach a copy of the existing/proposed rate ordinance)

Estimate of Proposed SRF Loan Debt Service

Capital Cost*	**9,501,120**
Loan Service Fee (2% of capital cost)	**192,398**
Subtotal	**9,693,518**
Capitalized Interest**	**118,764**
Total Cost to be Amortized	**9,812,282**
Interest Rate***	**1%**
Annual Debt Service	**543,751**
Annual Debt Service Including Coverage Factor****	**625,314**

* Capital Cost = Allowance + Construction Cost (including a 10% contingency) + Technical Services after Bid Opening.
** Estimated Capitalized Interest = Subtotal times Interest Rate times construction time in years divided by two.
***20 GO Bond Rate times Affordability Index divided by 200.
**** Coverage Factor is generally 15%. However, it may be higher if other than utility operating revenues are pledged.

SCHEDULE OF PRIOR AND PARITY LIENS

List annual debt service beginning two years before the anticipated loan agreement date and continuing at least fifteen fiscal years. Use additional pages as necessary.

IDENTIFY EACH OBLIGATION

#1 2013 PNC (SRF) Refunding Loan $4,157,000 **Coverage % 115** **Insured (Yes/No) no**	**#2Refunding Bond, Series 2020 $17,750,000** **Coverage % 115** **Insured (Yes/No) no**	**#3 Series 2015 $15,355,000** **Coverage % 115** **Insured (Yes/No) no**
#4 SRF DW580430 $6,410,536 **Coverage % 115** **Insured (Yes/No) no**	**#5 SRFWW580440 $575,627** **Coverage % 115** **Insured (Yes/No) no**	**#6 SRF DW580480 $17,501,365** **Coverage % 115** **Insured (Yes/No) no**

Fiscal Year	Annual Debt Service (Principal + Interest)						Total Non-SRF Debt Service w/coverage	Total SRF Debt Service w/coverage
	#1	#2	#3	#4	#5	#6		
2020	**430,740**	**1,158,950**	**1,100,450**		**28,854**		**3,093,661**	**33,182**
2021	**431,033**	**974,165**	**1,096,575**	**236,194**	**28,854**		**2,877,039**	**304,805**
2022	**430,210**	**1,021,221**	**1,096,325**	**364,251**	**28,854**		**2,929,920**	**452,071**
2023	**431,280**	**1,024,539**	**1,099,375**	**364,251**	**28,854**		**2,938,474**	**452,071**
2024		**1,021,956**	**1,096,300**	**364,251**	**28,854**	**456,400**	**2,435,995**	**976,931**
2025		**1,022,872**	**1,097,175**	**364,251**	**28,854**	**912,800**	**2,438,054**	**1,501,791**
2026		**1,022,422**	**1,101,175**	**364,251**	**28,854**	**912,800**	**2,442,137**	**1,501,791**
2027		**1,020,622**	**1,098,300**	**364,251**	**28,854**	**912,800**	**2,436,760**	**1,501,791**
2028		**1,022,063**	**1,096,850**	**364,251**	**28,854**	**912,800**	**2,436,750**	**1,501,791**
2029		**1,021,687**	**1,098,775**	**364,251**	**28,854**	**912,800**	**2,438,532**	**1,501,791**
2030		**1,019,934**	**1,100,650**	**364,251**	**28,854**	**912,800**	**2,438,671**	**1,501,791**
2031		**1,022,228**	**1,099,725**	**364,251**	**28,854**	**912,800**	**2,440,245**	**1,501,791**
2032		**1,023,307**	**1,096,159**	**364,251**	**28,854**	**912,800**	**2,437,386**	**1,501,791**
2033		**1,018,267**	**1,100,469**	**364,251**	**28,854**	**912,800**	**2,436,546**	**1,501,791**
2034		**1,022,219**	**1,098,131**	**364,251**	**28,854**	**912,800**	**2,438,402**	**1,501,791**
2035		**1,025,076**	**1,099,084**	**364,251**	**28,854**	**912,800**	**2,442,784**	**1,501,791**
2036		**1,021,857**	**1,098,225**	**364,251**	**28,854**	**912,800**	**2,438,094**	**1,501.791**
2037		**1,026,035**		**364,251**	**28,854**	**912,800**	**1,179,940**	**1,501,791**
2038		**1,022,926**		**364,251**	**14,427**	**912,800**	**1,176,365**	**1,485,200**
2039		**1,024,223**		**364,251**		**912,800**	**1,177,857**	**1,468,609**
2040		**1,019,926**		**364,251**		**912,800**	**1,172,915**	**1,592,966**
2041		**1,020,035**		**182,125**		**912,800**	**1,173,040**	**1,259,164**
2042		**1,019,483**				**912,800**	**1,172,405**	**1,049,720**
2043		**1,018,271**				**456,400**	**1,171,012**	**524,860**
2044							**0**	**0**
2045							**0**	**0**
2046							**0**	**0**

SCHEDULE OF ACTUAL REVENUES AND DEBT COVERAGE FOR PLEDGED REVENUE

(Provide information for the two fiscal years preceding the anticipated date of the SRF loan agreement)

		FY2020	FY2021
(a)	Operating Revenues (Identify)		
	Water/Sewer/Reclaimed Service	27,214,709	25,952,960
	Impact/Plant Capacity Fees restricted for Capital expenditures as of Fy2021	0	4,241,879
(b)	Interest Income	477,459	43,804
(c)	Other Incomes or Revenues (Identify)		
(d)	Total Revenues	**27,692,168**	**30,238,643**
(e)	Operating Expenses (excluding interest on debt, depreciation, and other non-cash items)	13,030,579	12,804,377
(f)	**Net Revenues (f = d – e)**	**14,661,589**	**17,434,266**
(g)	Debt Service (including coverage) Excluding SRF Loans	3,093,661	2,877,039
(h)	Debt Service (including coverage) for Outstanding SRF Loans	33,182	304,805
(i)	**Net Revenues After Debt Service (i = f – g – h)**	**11,534,746**	**14,252,422**

Source: 2020 & 2021 CAFR

Notes: Fixed Income Investments were reduced in FY21 due to COVID and the economy. Other Revenues: In 2020 the City's Impact/Plant Capacity Fees were included in the Utilities Operating Revenues, but in 2021 the City's Impact/Plant Capacity Fees were moved to Capital Contributions and restricted for only Utilities Capital projects.

SCHEDULE OF PROJECTED REVENUES AND DEBT COVERAGE
FOR PLEDGED REVENUE
(Begin with the fiscal year preceding first anticipated semiannual loan payment)

		FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
(a)	Operating Revenues (Identify)					
	Water/Sewer/Reclaimed	26,332,095	26,858,736	27,395,911	27,943,829	28,502,706
	Impact/Plant Capacity Fee	2,150,000	2,150,000	2,150,000	2,150,000	2,150,000
(b)	Interest Income	44,680	45,574	46,485	47,415	48,363
(c)	Other Incomes or Revenues (Identify) tower rents/auction/scrapt/Ins	139,925	142,724	145,578	148,490	151,459
(d)	Total Revenues	**28,666,700**	**29,197,034**	**29,767,974**	**30,289,734**	**30,852,528**
(e)	Operating Expenses[1]	13,060,465	13,321,674	13,588,107	13,589,869	14,137,067
(f)	**Net Revenues (f = d - e)**	**15,606,235**	**15,876,360**	**16,149,867**	**16,439,864**	**16,715,462**
(g)	Existing Debt Service on Non-SRF Projects (including coverage)	2,929,920	2,938,474	2,435,995	2,438,054	2,442,137
(h)	Existing SRF Loan Debt Service (including coverage)	452,071	452,071	976,931	1,501,791	1,501,791
(i)	**Total Existing Debt Service (i = g + h)**	**3,381,991**	**3,390,544**	**3,412,926**	**3,939,844**	**3,943,923**
(j)	Projected Debt Service on Non-SRF Future Projects (including coverage)					
(k)	Projected SRF Loan Debt Service (including coverage)			625,314	625,314	625,314
(l)	**Total Debt Service (Existing and Projected) (l = i + j + k)**	**3,381,991**	**3,390,544**	**4,038,239**	**4,565,158**	**4,569,241**
(m)	**Net Revenues After Debt Service (m = f – l)**	**12,224,245**	**12,484,816**	**12,111,628**	**11,864,706**	**12,146,220**

Source: CAFR 2021

Notes: (i.e. rate increases, explanations, etc.)
1. For existing and proposed facilities, excluding interest on debt, depreciation, and other non-cash items.
Water/Sewer Net Operating Revenues
CAFR 2021 and projected 2% increase in operating expenses along with 2% increase in Operating Revenues. In 2021, the City moved the Impact/Plant Capacity Fees from Operating Revenues to Capital Contributions. Those funds can only be used for Utilities Capital Projects. In 2021 the Impact/Plant Capacity Fees were $4,241,879; however the City wanted to use a conservative number $2,150,000 for future years.

CERTIFICATION

I, Linda Senne , certify that I have reviewed the information
Chief Financial Officer (please print)

included in the preceding capital financing plan worksheets, and to the best of my knowledge, this information accurately reflects the financial capability of City of Venice
Project Sponsor

I further certify that City of Venice has the financial capability to ensure
Project Sponsor

adequate construction, operation, and maintenance of the system, including this SRF project.

Linda Senne

Signature

5/18/2022

Date

Project Cost Worksheet

City of Venice

Cleanwater Projects (Utilities) - I-75 Force main and Interacoastal Force main

Item	%	Amount
Construction		7,917,600
Eligible Land		0
Other (Contingency Eligible)		0
Contingency Percentage/Amount	10%	791,760
Technical Services	10%	791,760
Special Studies		
Total		**9,501,120**
		-
Years to Construct		2.5
Anticipated Interest Rate		1.00%
Anticipated Capitalized Interest		118,764
TOTAL		**9,619,884**
Fees	2%	192,398
Total for Amortization		**9,812,282**

Interest Rate:	2
Fair Labor Standards- Davis Bacon Rate Reduction	-0.75
American-Iron-Steel Rate Reduction	-0.25
"Green" rate reduction	0
	1

Draft Interest Amortization

Loan Amount (**pv**)[1]	$9,812,282
Interest Rate (**rate**)	1.00%
Total # of Periods (**Nper**)	20

Payment per Period	**$543,750.68**
Total Interest Paid	**$ 1,062,731.90**

543,751.00
15%
81,562.65
625,313.65

Period	Payment Amount	Interest	Cumulative Interest	Principal	Principal Paid	Balance
						$ 9,812,281.68
1	543,750.68	98,122.82	98,122.82	445,627.86	445,627.86	9,366,653.82
2	543,750.68	93,666.54	191,789.35	450,084.14	895,712.00	8,916,569.68
3	543,750.68	89,165.70	280,955.05	454,584.98	1,350,296.99	8,461,984.69
4	543,750.68	84,619.85	365,574.90	459,130.83	1,809,427.82	8,002,853.86
5	543,750.68	80,028.54	445,603.44	463,722.14	2,273,149.96	7,539,131.72
6	543,750.68	75,391.32	520,994.75	468,359.36	2,741,509.32	7,070,772.36
7	543,750.68	70,707.72	591,702.48	473,042.96	3,214,552.28	6,597,729.40
8	543,750.68	65,977.29	657,679.77	477,773.39	3,692,325.66	6,119,956.02
9	543,750.68	61,199.56	718,879.33	482,551.12	4,174,876.78	5,637,404.90
10	543,750.68	56,374.05	775,253.38	487,376.63	4,662,253.41	5,150,028.27
11	543,750.68	51,500.28	826,753.66	492,250.40	5,154,503.81	4,657,777.87
12	543,750.68	46,577.78	873,331.44	497,172.90	5,651,676.71	4,160,604.97
13	543,750.68	41,606.05	914,937.49	502,144.63	6,153,821.34	3,658,460.34
14	543,750.68	36,584.60	951,522.10	507,166.08	6,660,987.41	3,151,294.27
15	543,750.68	31,512.94	983,035.04	512,237.74	7,173,225.15	2,639,056.53
16	543,750.68	26,390.57	1,009,425.60	517,360.11	7,690,585.26	2,121,696.42
17	543,750.68	21,216.96	1,030,642.57	522,533.71	8,213,118.98	1,599,162.70
18	543,750.68	15,991.63	1,046,634.20	527,759.05	8,740,878.03	1,071,403.65
19	543,750.68	10,714.04	1,057,348.23	533,036.64	9,273,914.67	538,367.01
20	543,750.68	5,383.67	1,062,731.90	538,367.01	9,812,281.68	0.00

Projection Worksheet

	CAFR	CAFR	CAFR	CAFR	2% Yearly Increase								
Revenues	FY2018	FY2019	FY2020	FY2021	FY2022		FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029
Charges for Service Water/Sewer/Reclaimed	22,743,950	22,976,129	24,032,839	25,815,779	26,332,095	2%	26,858,736	27,395,911	27,943,829	28,502,706	29,072,760	29,654,215	30,247,300
Miscellaneous													
343.65-70 WTR PC Fees-Int 55%			142		-		-						
343.65-71 WTR PC Fees Prin 45%	1,078,435	708,090	2,240,242			0%							
343.65-73 Sewer PC Fees Prin 45%	635,695	303,970	814,507			0%							
362.10-01 Rev Cell Tower Rents	83,730	81,285	82,742	85,764	87,479	2%	89,229	91,014	92,834	94,691	96,584	98,516	100,486
362.10-00 Surplus Proceeds/Auction Misc	2,400		28		-		-	-	-	-	-	-	-
365.11-00 Scrap-Pollut CTRL	993	3,423	3,388	2,150	2,193	2%	2,237	2,282	2,327	2,374	2,421	2,470	2,519
369.00-00 Rev-Other Miscellaneous	5,771	(3,216)	17,704	3,750	3,825	2%	3,901	3,979	4,059	4,140	4,223	4,307	4,393
369.30-00 Insurance settlement	17,550	1,516	23,115	45,517	46,428	2%	47,356	48,304	49,270	50,255	51,260	52,285	53,331
369.90-26Sales Tax Coll Allow and adjustments	14,387		1		-		-	-	-	-	-	-	-
Miscellaneous Total CAFR	1,838,960	1,095,067	3,181,870	137,181	139,925		142,724	145,578	148,490	151,459	154,489	157,578	160,730
Impact/Plant Capacity Fees restricted for Capital Utilities Projects				4,241,879	2,150,000		2,150,000	2,150,000	2,150,000	2,150,000	2,150,000	2,150,000	2,150,000
Interest Earnings	554,172	866,237	477,459	43,804	44,680	0	45,574	46,485	47,415	48,363	49,330	50,317	51,323
TTL Operating Rev	**25,137,082**	**24,937,434**	**27,692,167**	**25,996,764**	**28,666,700**		**29,197,034**	**29,737,974**	**30,289,734**	**30,852,528**	**31,426,579**	**32,012,111**	**32,609,353**
Operating Expense	FY2018	FY2019	FY2020	FY2021	FY2022		FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029
Personal Services	5,381,497	5,807,923	6,124,876	5,611,537	5,723,768	2%	5,838,243	5,955,008	6,074,108	6,195,590	6,319,502	6,445,892	6,574,810
Insurance	366,108	343,284	353,736	378,866	386,443	2%	394,172	402,056	410,097	418,299	426,665	435,198	443,902
Professional/Cont Svc	1,548,113	1,844,682	1,579,408	1,365,193	1,392,497	2%	1,420,347	1,448,754	1,477,729	1,507,283	1,537,429	1,568,178	1,599,541
Repair & Maintenance	2,059,087	1,824,444	2,246,746	2,647,059	2,700,000	2%	2,754,000	2,809,080	2,865,262	2,922,567	2,981,018	3,040,639	3,101,452
Utilities	848,731	815,512	809,089	820,617	837,029	2%	853,770	870,845	888,262	906,027	924,148	942,631	961,484
Other Svc and Charges	1,857,435	2,021,992	1,916,724	1,981,105	2,020,727	2%	2,061,142	2,102,364	2,144,412	2,187,300	2,231,046	2,275,667	2,321,180
Depreciation (not included in SRF Calculat													
Total Expenses	12,060,971	12,657,837	13,030,579	12,804,377	13,060,465		13,321,674	13,588,107	13,859,869	14,137,067	14,419,808	14,708,204	15,002,368
Net	**13,076,111**	**12,279,597**	**14,661,588**	**13,192,387**	**15,606,235**		**15,875,360**	**16,149,867**	**16,429,864**	**16,715,462**	**17,006,771**	**17,303,906**	**17,606,984**

Appendix B: Resolution, Meeting Minutes and Proof of Advertising