

RESOLUTION 15-13

A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF FORT MYERS BEACH, FLORIDA, ADOPTING THE TOWN OF FORT MYERS BEACH WATER FACILITIES MANAGEMENT PLAN; A COPY OF THE PLAN IS ATTACHED HERETO AND INCORPORATED HEREIN; PROVIDING AN EFFECTIVE DATE.

WHEREAS, the State of Florida provides low interest loans to municipalities for high-priority water quality needs through the State Revolving Fund ("SRF") Loan program administered by the Florida Department of Environmental Protection (the "FDEP"); and

WHEREAS, Town Council directed Staff to seek SRF loan funding for the Town's water distribution projects;

WHEREAS, The Town has submitted Pre-construction and Construction Requests for inclusion to FDEP for SRF funds; and

WHEREAS, pursuant to Chapter 62-503, Florida Administrative Code, completion of the SRF loan application requires formal adoption of a facilities planning document by Town Council to receive loan funding

WHEREAS, Tetra Tech Inc. in consultation with Town staff has developed the Town of Fort Myers Beach Water Facilities Plan ("The Plan") detailing proposed improvements, environmental effects and benefits; and financial feasibility of the plan.

WHEREAS, the Town has submitted the Plan to FDEP for review; and

WHEREAS, the Town Council desires to adopt the Plan and thereby establish a commitment to implementing the planning recommendations contained therein; and

WHEREAS, the Town Council finds that approval of the Plan is in the best interest of the Town.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF FORT MYERS BEACH, FLORIDA AS FOLLOWS:

Section 1. **Recitals.** The above recitals are true and correct and are incorporated herein by this reference.

Section 2. **Approval of Plan.** The Plan prepared by Tetra Tech, Inc. dated April 2015, subject to any changes directed by Town Council and as may be required by the FDEP and/or State Clearinghouse attached hereto as Exhibit "A" is approved.

Section 3. **Authorization of Town Officials.** The Town Manager and or his designee are authorized to take all actions necessary to implement the recommendations of the Plan and are authorized to execute any documents required and to take any such necessary actions to secure the SRF application.

Section 4 **Effective Date.** This resolution shall become effective immediately upon its adoption.

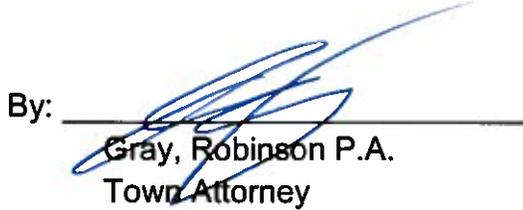
The foregoing Resolution was adopted by the Town Council upon a motion by Vice Mayor Andre and seconded by Council Member Mandel and upon being put to a vote, the result was as follows:

Anita Cereceda, Mayor	aye	Dan Andre, Vice Mayor	aye
Rexann Hosafros	aye	Alan Mandel	aye
Summer Stockton	aye		

DULY PASSED AND ADOPTED THIS 15th day of JUNE, 2015.

By: 
Anita Cereceda, Mayor

Approved as to legal sufficiency:

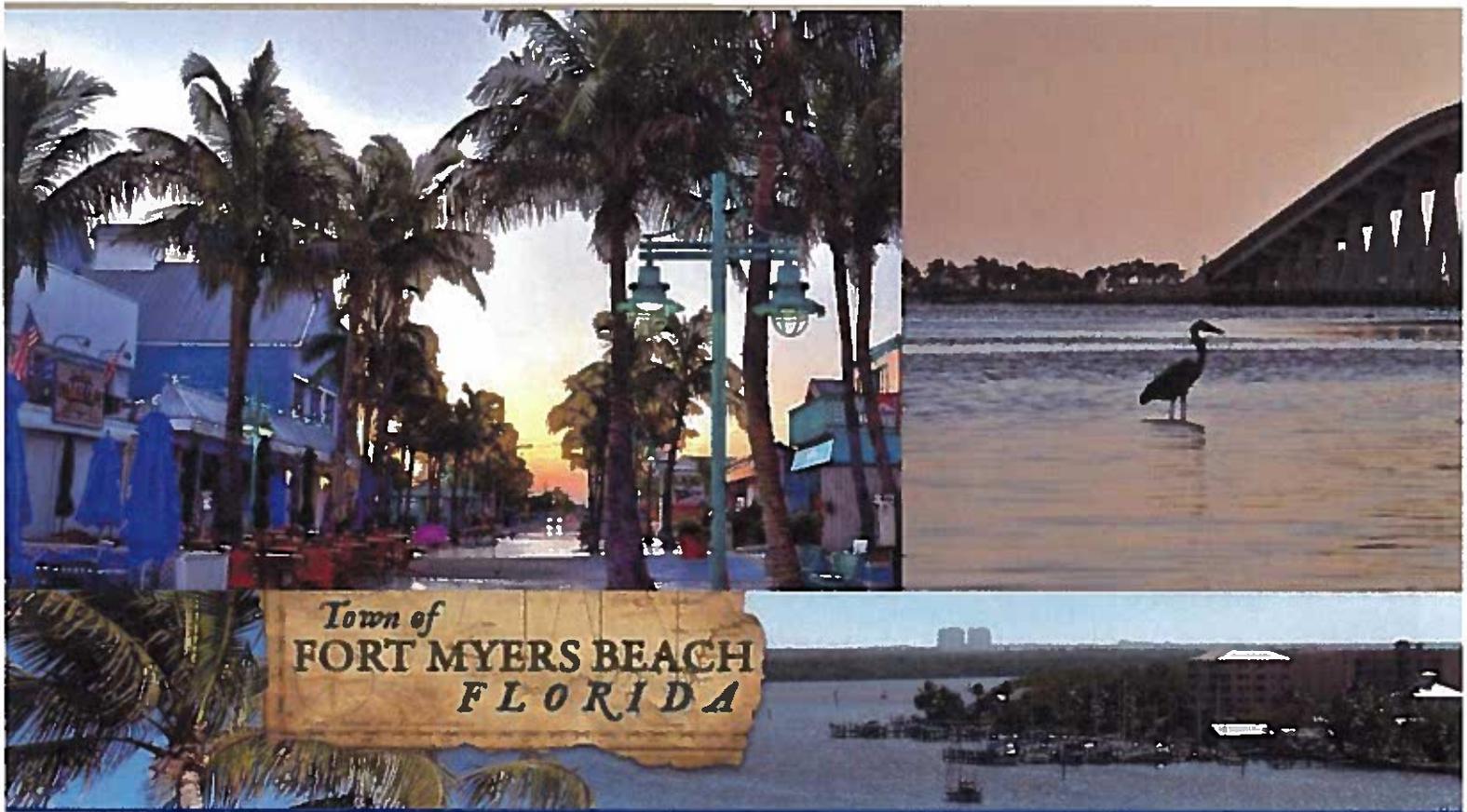
By: 
Gray, Robinson P.A.
Town Attorney

ATTEST:

By: 
Michelle Mayher
Town Clerk



WATER FACILITIES PLAN



Water Facilities Plan

#200-74765-15002

April 23, 2015

FOR

Town of Ft. Myers Beach

2523 Estero Blvd
Fort Myers Beach, FL

PREPARED BY

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1.0 SUMMARY OF FINDINGS AND RECOMMENDATIONS

This facilities plan was prepared by Tetra Tech, Inc. to meet the requirements of the State Revolving Fund (SRF) loan funding for drinking water systems. The area considered in preparing this plan includes the Town of Fort Myers Beach (Town) located in Lee County. The planning period extends through the year 2045 and addresses the need of the planning area in the year 2015. The recommendations resulting from this study are consistent with both the Town's and the County's Local Comprehensive Plans.

Presently, the existing potable water distribution system is deemed inadequate. The average age of the water system in the Town is over 35 years and is in need of repair. There are several problems associated with the aging potable water distribution system. Currently, the Town has addressed low pressure and aging infrastructure problems within the system by upgrading deficient areas on a case by case basis. However, the current construction projects only address a small portion of the overall distribution system's problems. Additionally, the system is deficient with regards to the current Fort Myers Beach Public Works Services (FMBPWS) Operations Manual standards and the Town's Land Development Code. The Town's fire protection system is also lacking in both fire hydrants and the recommended fire flow requirements.

The existing system includes approximately 81,000 linear feet of various size Asbestos Cement (AC) and Ductile Iron (DI) pipe and 27,500 linear feet of 2- and 3-inch galvanized steel distribution lines which need to be replaced. The improvements proposed involve upgrading the distribution system by installing new transmission and distribution mains in a "loop" system throughout several phases over the next 5 years. Per the 2010 US census, the permanent population in the Town is 6,277 residents with seasonal peak population reaching approximately 25,000 residents and visitors from December to April.

The distribution system is to be upgraded by installing new PVC pipe and lateral service connections to replace the outdated infrastructure. New fire hydrants will be installed to meet local spacing and fire flow requirements.

As outlined in this report the Town will install new 8-, 10- and 16-inch PVC water distribution mains in a "loop system" by open cut construction methods to replace the existing infrastructure. The project cost of the proposed facilities is estimated at approximately \$26,700,000. The details of capital costs are shown in Appendix A.

2.0 INTRODUCTION

2.1 BACKGROUND

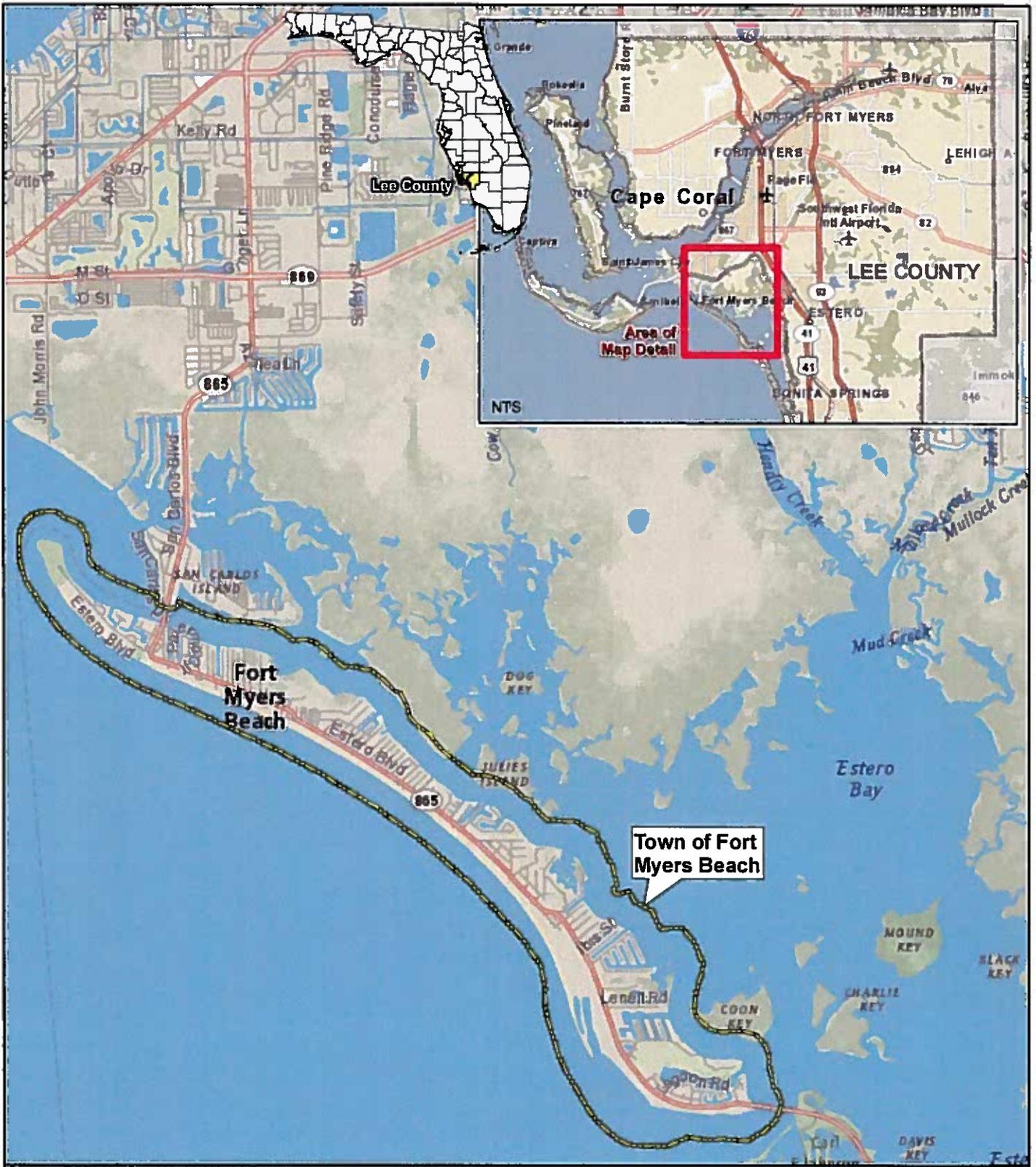
The Town of Fort Myers Beach is located along the west coast of Lee County, approximately 13 miles south of the Town of Fort Myers along the Gulf of Mexico. The Town was incorporated in 1995, following a referendum supported by the citizens of Estero Island for incorporation. Long before incorporation, Estero Island was inhabited by Calusa Indians (dating back to over 2,000 years ago); The Island was used as a fishing village by Cuban fisherman; and later developed as an American settlement in part as a result of the Homestead Act of 1862. Since incorporation, the Town has developed into an island community consisting of full and part-time residents and is recognized as a popular tourist destination.

The Town provides a comprehensive range of municipal services including general government, public safety, community development, public works, planning, utilities, and parks and recreation.

The Town owns and maintains the water transmission and distribution piping throughout the Town's service area. The primary water transmission mains are located within the Estero Boulevard Right-of-Way (ROW), which is owned by Lee County. The water distribution system on Fort Myers Beach is supplied by two main water supply lines from Lee County Utilities on the mainland with one connection from San Carlos Blvd at the northwest end of the island and one at the southeast end along Estero Boulevard. From there, 2-, 3-, 8-, 12- and 16-inch lines provide the Town with potable water.

Lee County is in the planning stages for improvements to Estero Boulevard across its entire length (less portions previously improved) and currently is in the design phase for the initial project area, which will extend from Lovers Lane on the east to Crescent Street on the west, a distance of approximately 5,600 linear feet (1.1 miles). The Town is working in conjunction with the County to not only make life easier for residents on Fort Myers Beach by affecting traffic patterns and daily life for only one joint project rather than two separate projects, but to save on rehabilitation costs as well.

The planning area is shown in Figure 1 and includes the entire Town of Fort Myers Beach.



Source: ESRI NatGeo World, World Street

LEGEND

 Town of Fort Myers Beach

 **TETRA TECH**

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Miles

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(Batch mxd, 3/20/2019)

TOWN OF FORT MYERS BEACH
FACILITIES PLAN

PLANNING AREA LOCATION MAP

FIGURE 1

2.2 NEED

The existing distribution system is in need of improvements over the next five years to meet current Standards for Water Works and current FMBPWSI Operation Manual Standards. In 2008, Boyle Engineering Corp., now AECOM, completed a hydraulic model for the Town and suggested recommendations for improvements based on the findings in the model. The modeling efforts identified areas that experienced low pressures throughout the system. The model results were confirmed by customer complaints and through fire hydrant tests conducted by the Fire Control District. Some of these areas are currently being addressed and are under construction. Furthermore, widespread areas were identified as being deficient in fire protection as well. Many distribution lines serving the side streets off of Estero Boulevard within the residential areas were constructed with 6-inch lines connected to fire hydrants. Due to residential demands, these fire hydrants are unable to provide the minimum 1,000 gpm fire flow that was determined necessary by Boyle Engineering in 2008. The installation of a larger and more up to date loop system is necessary to bring the water distribution infrastructure up to fire flow requirements.

The hydraulic study also revealed a need to upgrade the pipes to currently accepted materials. The Town identified existing pipes that were constructed of AC, deteriorating DIP and galvanized steel which are not approved materials. AC pipes are known to be a health hazard while the galvanized pipes have had to be abandoned in some areas due to scaling and deterioration. The 2- and 3-inch galvanized steel pipes are to be replaced with 10-inch PVC and the DI and AC pipes are to be abandoned and replaced with 16-inch PVC.

2.3 SCOPE OF STUDY

The scope of the facilities plan is described below:

1. Inventory of existing water facilities, service area characteristics, and environmental conditions.
2. Establish design needs for the planning period.
3. Identify and evaluate water system alternatives to satisfy the planning year needs.
4. Recommend the most cost-effective, environmentally sound facilities to meet the planning needs.
5. Describe, in detail, the recommended facilities and their cost.
6. Present a schedule of implementation of the recommended facilities.
7. Identify any adverse environmental impacts and propose mitigating measures.

3.0 ENVIRONMENTAL IMPACTS

3.1 DESCRIPTION OF PLANNING AREA

3.1.1 Planning/Service/Project Area

The planning and service area for Ft. Myers Beach is bounded by the extent of the island in which the Town resides, Estero Island. The surface features include mangrove forests, canals, sandy beaches broken up by lagoons and tide pools, and developed land along Estero Boulevard which runs through the central area of the island.

3.1.2 Climate

Due to its proximity to the Gulf Coast, the area is humid with warm temperatures most of the year. According to the Soil Survey of the area provided by the USDA Soil Conservation Service, the average temperature in winter is approximately 65°F with an average summer temperature of 81° F. During brief periods extending from the month of June through the month of August, daytime temperatures often exceed 90° F. Winters are generally short and mild although rare cold spells can drop temperatures to as low as 26° F.

The average annual rainfall is approximately 54 inches. Rainfall is commonly high through June to September. Rainfalls of more than eight inches may occur during hurricane events.

3.1.3 Topography and Drainage

The planning area is characterized by flat terrain and bordered by water on all sides. The average elevations in the service area range from 0 to 5 feet above mean sea level. Soils in the area are classified mostly in the Hydro Soils Groups C and D. These soils have a slow or very slow infiltration rate when thoroughly wet, or a slow rate of water transmission. The D soils have the highest runoff potential. Soils have been mapped using the USDA NRCS Soils Survey for Lee County, FL in Figure 2.

3.1.4 Geology, Soils, and Physiography

The narrow island consists of mostly sandy soils and beaches and are characteristic of the geologic formation in the planning area.



LEGEND	Town of Fort Myers Beach	Soils Survey 4. Canaveral, C 48. St. Augustine, C 2. Canaveral, C 25. St. Augustine, C	Hydro Soils Group B/D 5. Captiva, B/D Hydro Soils Group D 22. Beaches, D	23. Wulfert, D 24. Kesson, D Other 59. Urban land 99. Water.
	TOWN OF FORT MYERS BEACH FACILITIES PLAN SOILS MAP TETRA TECH			

FIGURE 2

3.1.5 Environmentally Sensitive Areas or Features

3.1.5.1 Wetlands

According to the South Florida Water Management District's LULC map, the only wetlands that are found throughout the planning area are mangroves and non-vegetated wetlands. These are shown in Figure 3. These areas will be unaffected by the water main installation.

3.1.5.2 Environmentally Sensitive Lands

According to the USDA Natural Resources Conservation Service, there are no prime or unique farmlands in the planning area.

3.1.5.3 Plant and Animal Communities (Endangered Species)

The dominant types of natural vegetation are mangrove trees and coconut palms. There are no rare, endangered or threatened species of vegetation. Raccoons can be found in the planning area and its environs. Amphibian and reptiles include various species of turtles, lizards, and snakes. A wide variety of water and land birds are present in the area. There is one (1) bald eagle located on the island, however it lies outside of the planning area and will be unaffected by the water main installation. There are no rare, endangered or threatened species of animals that would be affected within the project area.

Sea turtle season ranges from May to October on the island. Although sea turtles are not located within the work zone, construction activities will be in the vicinity of their nesting areas along the beach. Any work to be completed at night will be required to use light shields to keep light directed away from the beach as well as be under the supervision and approval of the Town's biologist. The Contractor will have to go through a sea turtle awareness course from the Town's resident biologist prior to commencement of construction activities.

3.1.5.4 Archaeological and Historical Sites

The proposed work will upgrade existing utilities within the existing ROW. Therefore, there will be no disturbance of untouched archeological or historical sites.

3.1.6 Flood Plain

Flood zones for the Town are designated on the Flood Insurance Rate Map (FIRM) in Appendix G. The entire island is marked as a flood zone. The areas in which the proposed infrastructure improvements are to be constructed are located in Zones AE and VE. FIRM defines these zones as special flood hazard areas that are subject to inundation by the 1% annual chance flood.

3.2 SOCIO-ECONOMIC CONDITIONS

3.2.1 Population

As previously mentioned, the permanent population is 6,277. The seasonal peak population is approximately 25,000 people for a duration of 5 months from December to April.

Given that Estero Island is built-out, the planning area does not expect to see an increase in population. The facilities to be implemented are to replace the existing infrastructure and will be designed to handle the current flow conditions as dictated by the model provided by the Town.

3.2.2 Land Use and Development

Estero Island is diverse in its land use, ranging from single family homes to hi-rise condominiums and beaches to shopping centers. The Town does not expect any further development. Figure 4 illustrates the varying land uses throughout the planning area.

3.3 WATER DISTRIBUTION SYSTEM

3.3.1 Description of the Existing Water System

The FMBPWS serves the entire island. No other private or public utility provides water in the planning area. Lee County Utilities maintains the storm water and wastewater service within the Estero Boulevard ROW.

The water distribution system is comprised of AC, PVC, DIP, and galvanized steel pipe, three booster pump stations, and two ground storage tanks. Water is provided to the system from the mainland through an interconnect with Lee County Utilities (LCU).

The existing water transmission lines enter the Town at the northwest end of the island near the causeway and at the southeast end near Lover's Key Pass. This southeastern connection is used as an emergency interconnect only. Due to the shape of the island there are two main transmission lines that primarily flow from north to south down the main road, Estero Boulevard. However, there is a portion of the transmission line that flows to the north from the interconnect location. This area has been previously replaced and will not need to be upgraded as a part of this project. As the two AC pipes run from north to south, there are side street connections at each residential block that supply water to the various residential and commercial buildings. The main transmission lines along Estero Boulevard are supplemented by three pump stations and ground storage tanks. One pump station is located downstream of the supply line nearest to the inlet of the water distribution system. As the water enters the island this pump maintains pressure at or above 50 psi.

Additionally, there are north and south pumping stations which maintain pressure at the each end of the island at or above 50 psi. The north pumping station also includes a 0.5-MG Ground Storage Tank while the south pumping station includes a 1.0-MG Ground Storage Tank.



LEGEND	<p>Town of Fort Myers Beach</p> <p>Detailed Land Cover 2008 (Land Cover Level B1)</p> <ul style="list-style-type: none"> Med Density Single Family High Density Mobile Homes High Density Low Rise High Density High Rise 	<ul style="list-style-type: none"> Commercial and Services Retail Sales and Services Shopping Centers Institutional Educational Facilities Swimming Beach 	<ul style="list-style-type: none"> Golf Course Marinas and Fish Camps Parks and Zoos Upland Shrub and Brushland Channelized Waterways Reservoirs 	<ul style="list-style-type: none"> Embellments open to Gulf or Ocean Enclosed salt water ponds Gulf of Mexico Mangrove Swamp Tidal Flats
	<p>TOWN OF FORT MYERS BEACH FACILITIES PLAN</p> <p>LAND COVER MAP</p> <p> TETRA TECH</p> <p>FIGURE 4</p>			

3.3.2 Performance of Existing Water System

The distribution system does not comply with current standards due primarily to materials of construction and lack of fire flow. Currently fire hydrants are connected to 6-inch lines which only supply 75% of the recommended fire flow demand when combined with demands imposed by residential service connections. Furthermore, there are areas with 2- and 3-inch galvanized pipes which are deteriorating and are also undersized for the system.

3.3.3 Water Demand Projection

Given that Estero Island is built-out, the planning area does not expect to see an increase in demands. The facilities to be implemented are to replace the existing infrastructure and will be designed to handle the current flows based on the existing model provided by the Town.

3.3.4 Service Population and Finished Water Projections

As previously mentioned, the service population is expected to remain the same. Therefore, the planning area does not anticipate an increase in future population, land use pattern changes, or economic growth.

3.4 MANAGERIAL CAPATOWN

The Town of Ft. Myers Beach has the sole responsibility and authority to operate and maintain the water system. With proper right-of-way permitting and coordination of work, the Town has the authority to build and/or make improvements to the water system. An inter-local agreement with Lee County and the Town of Bonita Springs are currently in place. The Town currently receives all of its potable water from Lee County. An interconnect with the Town of Bonita Springs is located at the south end of the island and only in place in case of emergency situations such as a water shortage or hurricane. This interconnect has never needed to be used.

3.4.1 Operation and Maintenance Program

The Utility staff are responsible for maintaining and operating the water system. Repairs/rehabilitation of the water mains due to broken pipes and joints are periodically made on an as needed basis by Town personnel.

4.0 DEVELOPMENT OF ALTERNATIVES

4.1 GENERAL

The existing infrastructure is non-compliant with standards due to its age and size and requires the upgrade of existing facilities to be deemed adequate. The Town is currently built out and does not require any additional infrastructure. Improvements to the existing system are to be implemented to service the Town for the next 30 plus years.

After evaluation of the existing system, it was determined that the distribution main improvements needed include the replacement of the current various size pipe along Estero Boulevard and side streets where improvements have yet to be implemented. The proposed project location is depicted in Figure 5. Much of the distribution piping along the side streets consists of deteriorated small diameter galvanized pipe that will be replaced with 8-inch PVC pipe to satisfy fire flow requirements.

Three (3) installation methods were analyzed to determine the most feasible option to install the main transmission and distribution line along Estero Boulevard based on cost and constructability as well as environmental effectiveness:

1. Pipe Bursting
2. Directional Bore
3. Open Cut

4.2 POTABLE WATER TRANSMISSION SYSTEM IMPROVEMENT OPTIONS

4.2.1 No Action

Under this alternative, the existing practice will continue and the inadequate capacity of the transmission system will remain. The system will not convey the required water to meet the demand and require periodic repair in highly congested areas. This alternative is not viable and hence was rejected.

4.2.2 Pipe Bursting Installation Method

This alternative involves employing trenchless technology to install a new 10- and 16-inch distribution main utilizing the existing mains as a host pipe. The existing AC main will not cause any adverse impacts on the environment. It would, however, require approvals from FDEP and Lee County under multiple permits.

Due to the Town's concerns with leaving the existing broken AC host pipe in the ground, as well as the amount of service connections that would need to be made in an overly crowded ROW, the pipe bursting installation method was deemed unfeasible. Additionally, it was estimated that installation of the main along Estero Boulevard by the pipe bursting method would cost approximately \$20,470,000. In addition, open cut installation of 8-inch PVC distribution mains along the side streets would cost an additional \$8,603,000.

4.2.3 Directional Drill Installation Method

This alternative also involves employing trenchless technology to install a new 12- and 18-inch distribution main utilizing by directional drilling. This method would allow the existing roadway to be impacted minimally as well as stay underneath the existing utilities that fill the small ROW corridor.



Source: Esri World Imagery

Legend:

- Town of Fort Myers Beach
- Project Location

TOWN OF FORT MYERS BEACH
FACILITIES PLAN

PROJECT LOCATION MAP


FIGURE 5

Tetra Tech made contact with multiple contractors within the area to discuss the possibility of directional drilling. Due to the size of the drills and existing soil conditions within the area, local drillers felt the depth of the pipe would need to be installed at 40 to 50 feet below ground level. This would make tie-ins for service laterals virtually impossible. This was deemed to be the most expensive option. Based on driller's estimates, installing the improvements along Estero Boulevard by directional drill would cost approximately \$28,890,000. Open cut installation of 8-inch PVC distribution mains along the side streets would cost an additional \$8,603,000.

4.2.4 Open Cut Installation Method

The last method reviewed for the water main improvements is to install the pipe utilizing traditional open cut methods. Even though this will result in the highest cost of road rehabilitation, as well as maintenance of traffic concerns, this will allow contractors to install the pipe at elevations easy for the Town to maintain as well as utilize the County's joint road project to mitigate repair costs.

Due to the overcrowded ROW, the pipe along Estero Boulevard will need to be installed under the existing roadway in many areas. To save on costs, the two (2) distribution mains will be installed parallel under one (1) travel lane. This method will take high levels of coordination with the County and residents. Thus, the Town has provided the County with up to date design documents throughout the process and incorporated all input throughout the Phase 1 design. Additionally, the Town has hired a consultant to handle all public relation (PR) concerns and complaints so that residents can stay informed throughout the entire process.

The open cut method is estimated to be the cheapest installation alternative to install the main along Estero Boulevard at approximately \$18,100,000, bringing the total infrastructure installation cost to approximately \$26,700,000

5.0 THE SELECTED PLAN

5.1 DESCRIPTION OF PROPOSED FACILITIES

The proposed facilities include the replacement of the existing water transmission and distribution mains along Estero Boulevard with new PVC pipe. In addition, this includes the distribution mains along the majority of the side streets shown previously in Figure 5. As previously discussed, it was determined that open cut installation using PVC pipe is the most cost-effective option. It was also determined to have no adverse environmental impacts within the project limits.

5.1.1 Potable Water Transmission Main

The potable water will be conveyed through the upgraded transmission and distribution mains. The water will have been treated prior to its distribution in the planning area.

5.1.2 Distribution System

The entire planning area is served by transmission main along Estero Boulevard and distribution mains along the side streets, which will consist of 8-, 10- and 16-inch diameter pipes totaling approximately 90,000 linear feet.

5.2 ENVIRONMENTAL IMPACTS OF PROPOSED FACILITIES

The short-term impacts during construction include increased noise levels, increased airborne particulates and surface run-off during rainfall on the site. Control measures will be implemented to minimize these temporary effects. The long-term impacts of the project are beneficial. The Town will have adequate uninterrupted water supply.

The proposed project will not have significant adverse effects on wild and scenic rivers or on flora, fauna, threatened or endangered plant or animal species, prime agricultural lands, wetlands, undisturbed natural areas, or the socio-economic character of the area. The State Historic Preservation Officer has indicated that no archeological, historical or cultural sites are recorded in the area of construction.

5.3 COST TO CONSTRUCT FACILITIES

The details of construction costs for the project are presented in Appendix A. The following tabulation presents the total project cost inclusive of the non-construction items.

Construction (including contingency)	\$26,700,000
Engineering and inspection @ 15%	\$4,000,000
Legal, fiscal, and administrative @ 5%	\$1,335,000
Total Project Cost	\$32,035,000

5.4 CONSISTENCY WITH THE COMPREHENSIVE PLAN

The recommendation resulting from this study are consistent with both the Town's and the County's local comprehensive plans.

6.0 IMPLEMENTATION AND COMPLIANCE

6.1 PUBLIC HEARING/DEDICATED REVENUE HEARING

The implementation of the facilities will be done on a phase-by-phase basis. A public hearing/dedicated revenue hearing will be held for each phase once the construction dates are set and the contractor has been established.

6.2 REGULATORY AGENCY REVIEW

To qualify for a subsidized loan from the SRF, various governmental agencies must be satisfied with the way that Fort Myers Beach's water system problem is to be solved. Copies of the facilities plan adopted by the Town Commission are to be sent to the following government agencies for review and comments.

1. Florida Department of Environmental Protection
2. Florida Department of Health
3. Southwest Florida Water Management District
4. U.S. Environmental Protection Agency

6.3 FINANCIAL PLANNING

The Department of Environmental Protection's State Revolving Fund is expected to be the financing source for the project. A rate study will be conducted by the Town to determine the amount of increase to the end users water bills to cover the cost of the project.

6.4 IMPLEMENTATION

Once FDEP and Lee County have approved requests for constructing the proposed facilities, the Town of Ft. Myers Beach will have the responsibility and authority to implement the recommended proposed facilities.

6.5 IMPLEMENTATION SCHEDULE

Construction of the first segment of the facility implementation is expected to begin in May to June of 2015 and continue for the duration of nine (9) months. The remaining portions of the transmission and distribution main replacement project will begin once funding is secured.

6.6 COMPLIANCE

1. The treated water from the selected alternative will be in compliance with the FDEP drinking water standards.
2. The selected alternatives will meet the reliability requirements as per chapter 62-555, F.A.C.
3. The environmental aspects of the proposed facilities are satisfactory.
4. The recommended facilities are consistent with both Ft. Myers Beach and Lee County's comprehensive facilities plans.

APPENDIX A COST INFORMATION OF THE SELECTED ALTERNATIVE

Town of Fort Myers Beach Water Main Improvements Project

Opinion of Probable Construction Cost					
Item #	Item Description	Unit	Quantity	Price*	
				Per Unit	Extended
1	General Conditions/Mobilization/Insurance	LS	1	\$2,000,000	\$2,000,000
2	8-inch PVC C-900 DR-14 and Appurtenances	LF	27,000	\$140	\$3,780,000
3	10-inch PVC C-900 DR-14 and Appurtenances	LF	31,500	\$155	\$4,882,500
4	16-inch PVC C-900 DR-14 and Appurtenances	LF	31,500	\$215	\$6,772,500
5	Connection to Existing Water Main	EA	60	\$5,000	\$300,000
6	Transfer Service Connection (with Corp. Stop) ¹	EA	120	\$2,000	\$240,000
7	Water Service (Short) with Meter	EA	420	\$850	\$357,000
8	Water Service (Long) with Meter	EA	420	\$1,700	\$714,000
9	Grout and Abandon Existing 2 inch Water Main	LF	27,000	\$4	\$108,000
10	Grout and Abandon Existing 3 inch Water Main	LF	3,000	\$7	\$21,000
11	Grout and Abandon Existing 8 inch Water Main	LF	34,000	\$10	\$340,000
12	Grout and Abandon Existing 12 inch Water Main	LF	20,000	\$12	\$240,000
13	Grout and Abandon Existing 18 inch Water Main	LF	23,000	\$15	\$345,000
14	Air Release Valve Assembly	EA	15	\$1,500	\$22,500
15	Fire Hydrant Assembly	EA	150	\$4,500	\$675,000
16	Permanent Bacteriological Sampling Point	EA	40	\$1,500	\$60,000
17	Driveway Restoration and Repair	EA	800	\$1,500	\$1,200,000
18	Pavement Replacement and Restoration	yd ²	36,500	\$25.00	\$912,500
19	Traffic Control ²	LS	1	\$250,000	\$250,000
				Subtotal	\$23,220,000
				Contingency (15%)	\$3,483,000
				Total	\$26,703,000

¹ Actual number of connections to be confirmed at a later date

² Assume two active construction crews.

**APPENDIX B SUMMARY OF PUBLIC/DEDICATED REVENUE HEARING
(TO BE INCLUDED AT A LATER DATE)**

APPENDIX C CAPITAL FINANCING PLAN (TO BE COMPLETED BY TOWN)

CAPITAL FINANCING PLAN WORKSHEETS

Project Sponsoring Agency (DWSRF Project Sponsor)

Authorized Representative and Title

Street Address or Other Mailing Address

City, State, and Zip Code

Capital Financing Plan Contact, Title, and Telephone Number

Street Address or Other Mailing Address

City, State, and Zip Code

The Department needs to know about the financial capabilities of potential Drinking Water State Revolving Fund (DWSRF) loan applicants. Therefore, a financial capability demonstration (and certification) is required well before the evaluation of the actual loan application. Please see Rule 62-552(5) in Chapter 62-552, F.A.C. for further details.

It is expected that the revenues to be dedicated to repaying the loan will be generated either from water and sewer utility operations or from water utility operations alone. If the source of revenues will not be from such enterprises, this set of worksheets alone will not satisfy the Department's needs. (Please contact the Department for further guidance if dedicated revenues will be generated externally to such utilities.)

This form solicits information for the next five years. Ordinarily, the five-year time frame will cover the period of interest to the Department, but, it will be necessary to provide additional yearly information until the reported data includes at least one full year of DWSRF project operation and one annual DWSRF repayment to the Department. Accordingly, attachments may be made to these worksheets. Please use the format established herein when preparing attachments. The worksheets have been developed to identify the minimum information needed. The completed worksheets should be used in disclosing DWSRF project financing to the public during the required dedicated revenue hearing. The worksheets can serve to identify the impacts of the SRF project on residential users and how the project fits into the project sponsor's overall capital improvement program for the water and sewer utility (or water utility, as appropriate). Supplemental capital financing documentation may be submitted with these worksheets and may be presented at the required dedicated revenue hearing.

A. Household median annual income, average size, number in the utility service area, and population to be served. (Population to be served is determined by the number of households multiplied by the household size. This data is to be consistent with facilities planning projections.) If the data vary by district or zone, report the data according to district or zone on an attachment.

Note: Indicate the actual fiscal years for Year 1 - Year 5 wherever they appear in the worksheets.

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
1. Fiscal Year	_____	_____	_____	_____	_____
2. Household income (\$/year)	_____	_____	_____	_____	_____
3. Household size (people/household)	_____	_____	_____	_____	_____
4. Number of households	_____	_____	_____	_____	_____
5. Serviced population (people)	_____	_____	_____	_____	_____

B. The revenues being dedicated to repayment of the DWSRF loan are:
 Water user fees _____

C. What projects (including the DWSRF project) will be financed from the operation of the utility generating the revenues to be dedicated to repaying the DWSRF loan? Total annual cost is the sum of annualized capital costs plus the annual operation, maintenance, and replacement (O/M & R) costs. Note that wastewater facilities information is to be identified only if the dedicated revenues will be generated from operations of a water and sewer utility.

Facilities Description	Construction Start Dates (Month/Year)	Capital Costs (\$)	Annualized Capital Costs (\$)	Annual Cost to Operate, Maintain, and Replace (\$)	Total Annual Costs (\$)
1. Water supply well	_____	_____	_____	_____	_____
2. Water treatment plant	_____	_____	_____	_____	_____
3. Sites and easements	_____	_____	_____	_____	_____
4. Water transmission systems	_____	_____	_____	_____	_____
5. Water storage facilities	_____	_____	_____	_____	_____
6. Other (explain) _____	_____	_____	_____	_____	_____
7. Wastewater facilities	_____	_____	_____	_____	_____
Total	_____	_____	_____	_____	_____

Identify which of the above water facilities are to be financed with the DWSRF loan and combine (as appropriate) the associated costs:

Description _____	Total Capital Cost _____
Total Annualized Capital Costs _____	Total Annual Costs for O/M&R _____
	Total Annual Cost _____

G. Identify the projected annual expenses for the utility providing DWSRF dedicated revenues.

1. Existing facilities

Fiscal Year		FY ()				
OM&R (\$)		_____	_____	_____	_____	_____
Debt Service (\$)		_____	_____	_____	_____	_____
Other – describe		_____	_____	_____	_____	_____
Totals	(\$)	_____	_____	_____	_____	_____

2. DWSRF proposed project(s)

Fiscal Year		FY ()				
OM&R (\$)		_____	_____	_____	_____	_____
Debt Service (\$) (includes 15% coverage)		_____	_____	_____	_____	_____
Other – describe		_____	_____	_____	_____	_____
Totals	(\$)	_____	_____	_____	_____	_____

3. Non-DWSRF proposed project(s) (if any) N/A

Fiscal Year		FY ()				
OM&R (\$)		_____	_____	_____	_____	_____
Debt Service (\$)		_____	_____	_____	_____	_____
Other – describe		_____	_____	_____	_____	_____
Totals	(\$)	_____	_____	_____	_____	_____

4. All existing and planned facilities (sum of Items 1, 2, & 3, above)

Fiscal Year		FY ()				
OM&R (\$)		_____	_____	_____	_____	_____
Debt Service (\$)		_____	_____	_____	_____	_____
Other – describe		_____	_____	_____	_____	_____
Totals	(\$)	_____	_____	_____	_____	_____

H. Identify the projected annual utility revenues assuming all the planned projects are constructed according to the schedule reported in Item C, above. Compare revenues to expenses identified in Sub-item G 4, above, and explain (on an attachment) how any net loss is covered to keep the utility financially self-sufficient in each deficit year.

Fiscal Year		FY ()				
Operating (\$)		_____	_____	_____	_____	_____
Non-operating (\$)		_____	_____	_____	_____	_____
Other – describe		_____	_____	_____	_____	_____
Totals	(\$)	_____	_____	_____	_____	_____

I. Identify the projected annual expenses for the water system, assuming all planned water facilities will be constructed. These entries may be skipped if a water utility alone is providing the DWSRF dedicated revenues since the information already will have been presented in Subitem G 4, above.

Fiscal Year		FY ()				
OM&R (\$)		_____	_____	_____	_____	_____
Debt Service (\$)		_____	_____	_____	_____	_____
Other – describe		_____	_____	_____	_____	_____
Totals	(\$)	_____	_____	_____	_____	_____

J. Identify the projected annual revenues for the water system, assuming all planned water facilities will be constructed. Compare revenues to expenses identified in Item I, above, and explain (on an attachment) how any net loss is covered to keep the water system financially self-sufficient in each deficit year. These entries may be skipped if a water utility alone is providing the DWSRF dedicated revenues since the information already will have been presented in Item H, above.

Fiscal Year		FY ()				
Operating (\$)		_____	_____	_____	_____	_____
Non-operating (\$)		_____	_____	_____	_____	_____
Other – describe		_____	_____	_____	_____	_____
Totals	(\$)	_____	_____	_____	_____	_____

K. Identify the average water system charge, fees, and assessments. If the utility service area encompasses districts or zones which will be subject to different service charges, fees, etc. attributable to the DWSRF project, it will be necessary to provide the relevant data below separately for the district(s) or zone(s). Difference in charges, fees, etc. should be explained on the attachment used to present the water system data.

Description

Fiscal Year/Description	FY ()				
1. Water System data					
a. Total estimated annual water system costs					
b. Non-residential share of total annual water system costs					
c. Residential share of total annual water system costs					
d. Number of households					
e. Average residential system charge /per month/customer \$					
2. Average connection fee per residential unit					
3. Average impact fee per residential unit					
4. Average special assessment per residential unit (identify basis below)					
5. Average capacity charge per residential unit (identify basis below)					
6. Other (describe)					
7. DWSRF project capital cost per household (from Item C divided by Item K.1 d) \$					

Describe basis for special assessments, such as cost per lot length _____

Describe basis for capacity charge, such as cost per volume per day _____

L. Which, if any, of the following activities must be undertaken to implement the DWSRF project?

1. Acquire privately held land?	YES	_____	NO	_____
2. Acquire land held by another public water system entity?	YES	_____	NO	_____
3. Enter into inter-local or inter-project sponsoring agency's agreements?	YES	_____	NO	_____
4. Hold an election or public referendum?	YES	_____	NO	_____
5. Comply with special assessment or similar procedural requirements?	YES	_____	NO	_____

M. Attach a certification by the project sponsor's chief financial officer or by an official authorized to commit to the SRF funding that the project sponsor has the financial capability to ensure adequate construction, operation, and maintenance of the water system.

Certification

I _____, certify that I have reviewed the information included in the above
Chief Financial Officer or Authorized Representative (please print)

capital financing plan worksheets, and to the best of my knowledge, this information accurately reflects the financial capability of

_____. I further certify that _____
Sponsor Sponsor

has the financial capability to ensure adequate construction, operation, and maintenance of the water system. This certification is made with full consideration given to other planned projects that will be financed from the revenues to be dedicated to repaying the Drinking Water State Revolving Fund loan.

Signature

Date

FINANCIAL BURDEN RATIO

The financial burden ratio is required to determine eligibility for construction grant funding. An example is shown below. The Capital Financing Plan should be completed as if the project was being funded with a 100% loan. Use the results in the calculations below. If it is determined that the sponsor is eligible for a construction grant the Capital Financing Plan should be completed again using the appropriate loan percentage as determined below (15% or 35%).

Actual Median Household Income (MHI): \$
 Source:

Actual Annual User Charge: \$
 Source:

Debt Service: \$
 Source:

Project Operating Revenues: \$
 Source: .

FINANCIAL BURDEN RATIO (FBR) – User Charge Method

$(\text{Debt Service}/\text{Operating Revenues}) * (\text{User Charge}/\text{MHI}) =$

FINANCIAL BURDEN RATIO (FBR) – EDU Method

Monthly Demand Data:

Residential Accounts:	Flow:	kgal
Commercial Accounts:	Flow:	kgal
Totals:		kgal

$\text{EDU Calculation} = (\text{Total Flow}) * (\text{Res Accts}/\text{Res Flow}) =$

$\text{FBR} = (\text{Debt Service}/\text{EDU}) / (\text{MHI}) =$

Median Household Income	FBR Criteria	Grant Funding (%)
< 27,483	>= 1%	65%
>= 21,986	>= 1%	65%
< 21,986	< 0.5%	65%
< 21,986	>= 0.5%	85%

State Median Household Income: \$
 (State MHI)*80%: \$
 Ft. Myers Beach MHI: \$ (source:)

**APPENDIX D USER RATE SYSTEM AND DRAFT RATE ORDINANCE
(TO BE COMPLETED AT LATER DATE)**

APPENDIX E FLOOD INSURANCE RATE MAP



<p>Town of Fort Myers Beach</p> <p>Coastal Barrier Resources System Area</p>	<p>Zone AE 1% Annual Chance Flood Hazard</p> <p>Zone VE 1% Annual Chance Flood Hazard Coastal flood zone with velocity hazard (wave action)</p>	<p>TOWN OF FORT MYERS BEACH FACILITIES PLAN</p> <p>FLOOD HAZARD ZONES</p> <p>Tt TETRA TECH</p> <p>APPENDIX E</p>
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APPENDIX F SANITARY SURVEY REPORT

State of Florida
Department of Environmental Protection
_____ District

SANITARY SURVEY REPORT

Plant Name _____ County _____ PWS ID # _____
Plant Location _____ Phone _____
Owner Name _____ Phone _____
Owner Address _____
Contact Person _____ Title _____ Phone _____
This Survey Date _____ Last Survey Date _____ Last C.I. Date _____

PWS TYPE & CLASS

- Community
 Non-transient Non-community
 Non-Community

COMET: SITE ID _____ PROJECT ID _____

PWS STATUS

- Approved system with approval number & date

 Unapproved system

SERVICE AREA CHARACTERISTICS

Food Service: Yes No N/A

OPERATION & MAINTENANCE

Certified Operator: Yes No Not required
Operator(s) & Certification Class-Number

O & M Log: Yes No Not required

Operator Visitation Frequency

Hrs/day: Required _____ Actual _____

Days/wk: Required _____ Actual _____

Non-consecutive Days? Yes No N/A

MORs submitted regularly? Yes No N/A

Data missing from MORs? No Yes N/A

Number of Service Connections _____

Population Served _____ Basis _____

Average Day (from MORs) _____ gpd

Max. Day (from MORs) _____ gpd

Max-day Design Capacity _____ gpd

Comments _____

RAW WATER SOURCE

- GROUND; Number of Wells _____
- SURFACE/UDI; Source _____
- PURCHASED from PWS ID # _____
- Emergency Water Source _____
Emergency Water Capacity _____

AUXILIARY POWER SOURCE

- Yes None Not Required
- Source _____
- Capacity of Standby (kW) _____
- Switchover: Automatic Manual
- Standby Plan: Yes No
- Hrs Operated Under Load _____
- What equipment does it operate?
 - Well pumps _____
 - High Service Pumps _____
 - Treatment Equipment _____
- Satisfy 1/2 max-day demand? Yes No Unk
- Comments _____

TREATMENT PROCESSES IN USE

What additional treatment is needed? _____

For control of what deficiencies? _____

DISTRIBUTION SYSTEM

- Flow Measuring Device _____ Not Required
- Meter Size & Type _____
- Backflow Prevention Devices: Yes No
- Cross-connections _____
- Written Cross-connection Control Program: _____ N/A
- Coliform Sampling Plan: Yes No N/A
- Comments _____

PWS ID # _____
 Date _____

GROUND WATER SOURCE

Well Number					
Year Drilled					
Depth Drilled					
Drilling Method					
Type of Grout					
Static Water Level					
Pumping Water Level					
Design Well Yield					
Test Yield					
Actual Yield (if different than rated capacity)					
Strainer					
Length (outside casing)					
Diameter (outside casing)					
Material (outside casing)					
Well Contamination History					
Is inundation of well possible?					
6' X 6' X 4" Concrete Pad					
SET BACKS	Septic Tank				
	Reuse Water				
	WW Plumbing				
	Other Sanitary Hazard				
PUMP	Type				
	Manufacturer Name				
	Model Number				
	Rated Capacity (gpm)				
	Motor Horsepower				
Well casing 12" above grade?					
Well Casing Sanitary Seal					
Raw Water Sampling Tap					
Above Ground Check Valve					
Fence/Housing					
Well Vent Protection					

COMMENTS _____

PWS ID # _____
Date _____

CHLORINATION (Disinfection)

Type: Gas Hypo
 Make _____ Capacity _____ gpd
 Chlorine Feed Rate _____
 Avg. Amount of Cl₂ gas used _____ N/A
 Chlorine Residuals: Plant _____ Remote _____
 Remote tap location _____
 DPD Test Kit: On-site With operator
 None Not Used Daily
 Injection Points _____
 Booster Pump Info _____
 Comments _____

STORAGE FACILITIES

(G) Ground (H) Hydropneumatic (E) Elevated
 (B) Bladder (C) Clearwell

Tank Type/Number			
Capacity (gal)			
Material			
Gravity Drain			
By-pass Piping			
Pressure Gauge			
Sight Glass or Level Indicator			
Fittings for Sight Glass			
Protected Openings			
PRV/ARV			
On/Off Pressure			
Access Padlocked			
Height to Bottom of Elevated Tank			
Height to Max. Water Level			

Comments _____

Chlorine Gas Use Requirements	YES	NO	Comments
Dual System	<input type="checkbox"/>	<input type="checkbox"/>	
Auto-switchover	<input type="checkbox"/>	<input type="checkbox"/>	
Alarms:			
Loss of Cl ₂ capability	<input type="checkbox"/>	<input type="checkbox"/>	
Loss of Cl ₂ residual	<input type="checkbox"/>	<input type="checkbox"/>	
Cl ₂ leak detection	<input type="checkbox"/>	<input type="checkbox"/>	
Scale	<input type="checkbox"/>	<input type="checkbox"/>	
Chained Cylinders	<input type="checkbox"/>	<input type="checkbox"/>	
Reserve Supply	<input type="checkbox"/>	<input type="checkbox"/>	
Adequate Air-pak	<input type="checkbox"/>	<input type="checkbox"/>	
Sign of Leaks	<input type="checkbox"/>	<input type="checkbox"/>	
Fresh Ammonia	<input type="checkbox"/>	<input type="checkbox"/>	
Ventilation	<input type="checkbox"/>	<input type="checkbox"/>	
Room Lighting	<input type="checkbox"/>	<input type="checkbox"/>	
Warning Signs	<input type="checkbox"/>	<input type="checkbox"/>	
Repair Kits	<input type="checkbox"/>	<input type="checkbox"/>	
Fitted Wrench	<input type="checkbox"/>	<input type="checkbox"/>	
Housing/Protection	<input type="checkbox"/>	<input type="checkbox"/>	

AERATION (Gases, Fe, & Mn Removal)

Type _____ Capacity _____
 Aerator Condition _____
 Bloodworm Presence _____
 Visible Algae Growth _____
 Protective Screen Condition _____
 Comments _____

HIGH SERVICE PUMPS

Pump Number			
Type			
Make			
Model			
Capacity (gpm)			
Motor HP			
Date Installed			
Maintenance			

Comments _____



TETRA TECH

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