

WATER FACILITIES PLAN
For
EXPANSION OF THE CITY OF FELLSMERE WATER
TREATMENT FACILITY

June 2009



Prepared For:
Florida Department of Environmental Protection

Owner:
The City of Fellsmere
21 South Cypress Street
Fellsmere, Florida 32948

Prepared By:



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CITY OF FELLSMERE WATER FACILITIES PLAN

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Chapter 1.0 – Summary of Findings and Recommendations

This Water Facilities Plan was prepared by Masteller and Moler, Inc. on behalf of the City of Fellsmere, Florida, to meet the requirements of the State Revolving Fund (SRF) loan funding of drinking water systems. The water service area covered under this report is the City of Fellsmere, Florida located in Indian River County. The planning period extends through the year 2020.

The Fellsmere Water Treatment Plant is situated on 0.95 acres of land located east of Willow Street on the north side of 97th Street in Fellsmere, Florida. The site address is 12600 97th Street. A location map is shown as Exhibit “A” at the end of this report.

The existing plant is rated at 0.65 MGD. Average daily flow (ADF) is approximately 270,000 GPD. Current max day flows are approximately 1.4 times the ADF, or approximately at 380,000 GPD. Current projections suggest that the maximum daily flow at the current plant capacity is projected to be reached by early 2011. As such, it is recommended that the plant be expanded to provide water through the planning year. The target capacity for the plant is recommended to be 1.6 MGD. This would maximize the usage of the relatively small land parcel occupied by the plant, and is projected to provide for capacity well beyond the planning year.

Because of the exceptional quality of the raw water, only disinfection and color removal are needed to treat the water for consumption making the plant relatively simple in design and inexpensive to operate. Color removal is currently achieved using a small dose of free chlorine early in the treatment process. This is somewhat difficult to accomplish, as the free chlorine used to remove color must be dissipated prior to disinfection with chloramines. As such, it is also recommended that a more efficient alternative for color removal be implemented in the plant expansion.

Chapter 2.0 – Introduction

2.1 BACKGROUND:

The City of Fellsmere is a small agricultural community. At the time of the preparation of this report, there are 1198 existing water connections with 168 of those connections being commercial/industrial. Population trends are depicted in Exhibit “B” at the end of this report.

2.2 EXISTING FACILITIES:

The site is occupied by the current water treatment facility and related equipment, tanks, and parking. The remainder of the site is comprised of bahia grass and is regularly mowed. The Fellsmere Water Treatment Plant is currently permitted at 0.65 MGD and has been in service since 1993. A schematic of the existing plant is depicted as Exhibit “C” at the end of this report. The plant currently consists of four (4) supply wells. The existing water source is groundwater from the surficial aquifer. As stated above, the raw water supply is of exceptional quality. Only disinfection and color removal are needed to treat the water for consumption making the plant relatively simple in design and inexpensive to operate. The well pumps provide the finished water pumping capacity. The plant also consists of a 10,000 gallon disinfection contact tank, a 10,000 gallon hydropneumatic tank, an off-site 300,000 gallon elevated storage tank, related piping and valving, and an emergency generator capable of running the plant and all well pumps in the event of a power outage. Currently, ground water is pumped from the wells to the contact tank where disinfection occurs before the water is sent to the off-site elevated storage tank and distribution system. Current system pressures are between approximately 50-75 psi. The only

major renovation occurred in May 2007, when disinfection by chlorine was changed to disinfection using chloramines in response to rule changes regarding Total Trihalomethanes (TTHM's).

Visits to the site and research of the plant operator logs, have revealed that the plant is in good overall condition and has been operating in compliance with State requirements and the Safe Drinking Water Act since startup with the exception of a short amount of time when the plant was switching to disinfection by chloramines in response to the rule change for TTHM's. At this time the plant was operating above the Maximum Contaminant Level (MCL) for TTHM's until the chloramine system was cleared for operation. The plant has been operating well below the MCL for TTHM's since the switch to chloramines.

Due to the relatively small size of the parcel where the plant is located, and the limited availability of water from the surficial aquifer, it is not expected that this plant will be expanded beyond what is proposed in this report. However, due to the cost effectiveness of the plant's operations, it is expected that this plant will be in service far into the future.

There is no substantial unaccounted for water produced at the current plant.

2.3 NEED:

The existing plant has a capacity of 0.65 MGD. There are no health, sanitation, or security issues associated with the plant. All existing equipment is in good general shape and operating as designed. The existing raw water quality meets all primary and secondary drinking water standards with the exception of color, which typically ranges from 10 to 30 color units when pulling from all wells. The operator currently uses a small dose of pre-chlorine to help burn out the color, but it is difficult to balance the dosage necessary to reduce color and yet have no free chlorine left in the water by the time chlorine and ammonia are added for disinfection. In addition, the use of ammonia tends to increase the color somewhat. The plant is currently surrounded by a chain link security fence with a locked gate.

The service area (City of Fellsmere) at the time of the original plant construction was one (1) square mile or 640 acres. More than 25,600 acres has recently been annexed into the City, however it is estimated that only approximately 2,000 additional acres will be included within this plant's service area. Exhibit "E" at the end of this report shows areas annexed into the City and Exhibit "F" depicts the original and anticipated water service areas for this plant.

62-555.348 F.A.C. states when the total maximum-day quantity of finished water produced by all treatment plants connected to a water system, including water produced to meet any fire-flow demand but excluding water produced to meet any demand that the supplier of water documents to be highly unusual and nonrecurring, exceeds 75 percent of the total permitted maximum-day operating capacity of the plants, the supplier of water shall submit source/treatment/storage capacity analysis reports to the Department. As shown in Exhibit "D" at the end of this report, this is expected to be reached in late 2011. 62-555.348 goes on to state that if an initial or updated source/treatment/storage capacity analysis report indicates that maximum-day water demand (including fire-flow demand if fire protection is being provided) will exceed the total permitted maximum-day operating capacity of the water treatment plant(s) in less than five years or that finished-water storage need (including fire storage if fire protection is being provided) will exceed the existing total useful finished-water storage capacity in less than five years, documentation of timely design, permitting, and construction of recommended new or expanded source, treatment, or storage facilities shall be submitted with the report. Exhibit "D" depicts that

the Max Day Flow will reach the plant capacity by early 2014. It is the effective color removal, present city size, and the anticipated growth of water consumption that are the primary driving forces behind the proposed expansion.

2.4 SCOPE OF STUDY:

The Scope of this plan is as follows:

1. Inspect and describe existing facilities.
2. Identify needs for planning period.
3. Identify various alternatives to meet needs of planning period.
4. Examine Environmental Impacts
5. Recommend an alternative.
6. Detail the recommended alternative.
7. Establish an implementation schedule.
8. Identify financing source.

Chapter 3.0 – Environmental Impacts

3.1 DESCRIPTION OF PLANNING AREA:

The planning area and service area are the same (City of Fellsmere). The service area is depicted on Exhibit “F” at the end of this report.

3.11 CLIMATE :

Fellsmere, Florida, located in Indian River County, is generally warm and humid. According to the USDA-NRCS Soil Survey of Indian River County, the mean annual temperature is 74 degrees Fahrenheit. Temperatures vary from an annual daily minimum of 52 degrees Fahrenheit in January to an average daily maximum of 90 degrees Fahrenheit in July. Below freezing temperatures occur one (1) to three (3) times per season. Average annual rainfall is 52 inches.

3.12 AIR QUALITY:

The air quality in the City of Fellsmere is high due to a lack of significant industrial emissions. The existing water treatment plant is not located in a non-attainment or maintenance area and is not required to obtain or maintain state or federal air quality permits. The plant equipment currently uses and will continue to use electricity generated by Florida Power and Light. Therefore, the plant when operating under normal protocol, does not include processes that emit contaminants into the atmosphere. A standby diesel generator is used to power the facility during emergency situations when normal power is interrupted. The alternative chosen for expansion of the project as discussed later in this report will utilize an additional diesel generator under emergency power outages as well. These generator(s) do/will comply with state and federal standards for emissions and will be operated in a manner consistent with the operational protocols approved by the Florida Department of Environmental Protection (FDEP).

3.13 SOCIO-ECONOMIC / ENVIRONMENTAL JUSTICE

The proposed alternative chosen is an expansion of the existing water treatment plant to be located within the existing plant site. The areas adjacent to the site can be generally described as undeveloped natural and rural areas. In addition, there are single family homes located to the east and south-east of the site. Attachment “A” at the end of this report depicts the parcel.

Attachment “A” shows that the project is not located within a minority or low-income community or even within a developed area.

The project is proposed to be an integral part of the City’s infrastructure supporting the population within the service area. The plant will support existing and future communities without selectively favoring any particular social group within the service area.

There is no data indicating that the plant does, or will have, an adverse affect on the socio-economic conditions within the service area, and it is concluded that the project will not have a disproportionately high adverse effect on health or environmental conditions within the service area.

3.14 LANDUSE:

Landuse listed for the plant parcel is High Dense Residential. Zoning for the plant parcel is R-3, or Multi-family 11-20 dwelling units per acre.

3.2 PROJECT AREA:

As this project is proposed to be limited to the water treatment plant site, this portion of the study will relate to this parcel only.

3.21 TOPOGRAPHY AND DRAINAGE:

The site is relatively flat ranging from approximately 26.0 to 28.0 NGVD and is currently served by a stormwater management system permitted by the St. John’s River Water Management District.

3.22 SOILS:

According to the Indian River County NRCS Soil Conservation Survey, published by ISDA, soils located within the site are Wabasso Fine Sand and Pineada Fine Sand. Attachment “B” located at the end of this report depicts the soil survey. Wabasso Fine Sand (013) is described as nearly level, poorly drained soil typically associated with flatwoods. Water depth is at 10-40 inches for more than six (6) months and less than 10 inches for 1 to 2 months. Typical vegetation includes slash pine, cabbage palm, saw palmetto, wax myrtle, and native grasses. The soil type is not classified as hydric soil typically indicative of wetland communities. Pineada Fine Sand (016) is nearly level, poorly drained soil associated with low hammocks and broad, poorly defined sloughs. The water table is within a depth of 10 inches for one (1) to six (6) months and at 10 to 40 inches for more than six (6) months. Water may be above the surface for short periods of time after heavy rainfall. Typical vegetation includes cabbage palm, slash pine, saw palmetto, wax myrtle, and native grasses. This soil is also not classified as hydric soil indicative of wetland communities.

3.23 WETLANDS:

According to a survey of the site performed by Biological Research Associates (BRA), now a division of Entrix, Inc., the site does not include any jurisdictional wetlands and no nearby wetland features.

3.24 SURFACE WATERS:

There are no surface waters located on the site.

3.25 SOURCEWATER PROTECTION:

This groundwater source is not under the direct influence of surface water, and is not microbially contaminated, or susceptible to microbial contamination. There are no known significant sources of contamination for the water source serving the plant.

3.26 ENVIRONMENTALLY SENSITIVE LANDS

Attachment “C” located at the end of this report depicts photographs of the existing plant parcel. As presented in the photographs, there are no environmentally sensitive lands located on the parcel. The parcel is comprised of the existing plant and the remainder is regularly mowed bahia grass. The findings of the survey performed by Biological Research Associates has revealed that the expansion of the current facilities will not result in any direct or indirect environmental consequences to ecological resources within, or adjacent to, the site.

3.27 THREATENED OR ENDANGERED SPECIES

The survey performed by Biological Research Associates has revealed that no threatened or endangered wildlife species were observed on site. Due to the small size and ongoing plant operations and management activities, the site has limited potential for use by listed wildlife species. Letters have been sent to the USFWS and UFFWCC offices to confirm these findings. Copies of these letters are included in Attachment “D” at the end of this report. Examination of available State and Federal GIS databases revealed that there are no wading bird colonies, eagle nests, caracara, or scrub habitat vertebrate occurrences within the vicinity of the site. Attachment “E” at the end of this report depicts a bird map.

3.28 CULTURAL RESOURCES:

A copy of a letter sent to the State Historic Preservation Officer is included in Attachment “F” at the end of this report.

3.29 FLOOD PLAIN:

Per Flood Insurance Rate Map Panel 12061C0060 E, dated May 4, 1989, the treatment plant site is located in Flood Zone X, an area determined to be outside the 500 year flood plain. See Attachment “G” located at the end of this report.

3.3 WATER SUPPLY, TREATMENT, AND TRANSMISSION/DISTRIBUTION SYSTEM:

3.31 DESCRIPTION AND PERFORMANCE OF EXISTING WATER SYSTEM:

The City of Fellsmere Utilities serves the entire water service area. The water system was placed into service in the early 1990’s. The current service area is laid out in a grid format and consists of 121,260 linear feet of 4” to 12” diameter pipe. The existing distribution system is in good condition, and no major problems have occurred since its construction. There are four supply wells utilizing the surficial aquifer and the well pumps provide for the finished water pumping capacity. A 300,000 gallon elevated storage tank is located in the central city. The capacity of the wells (recent pumping test) is as follows:

All Wells Producing
 Well #1 155 GPM
 Well #2 137 GPM
 Well #3 130 GPM
 Well #4 147 GPM
 Total 569 GPM
 819360 GPD

Largest Well Out of Service
 Well #1 0 GPM
 Well #2 138 GPM
 Well #3 138 GPM
 Well #4 154 GPM
 Total 430 GPM
 619200 GPD

There currently is an interconnection with the Indian River County Utility System at the intersection of County Road 512 and Interstate 95. This however, is an emergency interconnection only, and is not part of normal operations.

3.32 HISTORICAL WATER USAGE AND WATER DEMAND PROJECTION:

Water usage trends are depicted on Exhibit "D" located at the end of this report.

Tabulation of water users by category is as follows:

<u>Meter Size</u>	<u>No. of Users</u>	<u>Avg. Gallons per Month</u>
<u>5/8" x 3/4"</u>		
Residential	839	6,574
Apt. Bldgs.	3	7,714
No. Rooms	74	313
Schools	1	2,000
Public Bldgs.	5	6,634
Retail Stores	7	6,612
Other	4	6,557
<u>Meter Size</u>		
<u>1"</u>		
Public Bldgs.	1	103,000
Service Stations	1	1,000
Restaurants	2	14,500
Other	4	6,000
<u>Meter Size</u>		
<u>1 1/2"</u>		
Restaurant	1	47,000
Other	1	82,000
<u>Meter Size</u>		
<u>2"</u>		
Apartments	1	31,000
Schools	1	89,000
<u>Other Size</u>		
3/4" x 3/4"	1	5,000
3"	1	90,000
4"	1	11,000
6"	160	3,488
8"	80	3,438

3.33 WATER CONSERVATION:

As shown above, all users are metered. Water users are informed regularly of water saving measures that can be utilized. In addition, the St. John's River Water Management District has imposed irrigation restrictions throughout the District to further conserve water.

3.34 SERVICE POPULATION AND FINISHED WATER PROJECTIONS:

Service population and water usage trends are depicted in Exhibits "B" and "D" at the end of this report.

3.35 PLANT WASTE:

Currently, there is no plant waste associated with the treatment process. Due to the exceptional quality of the raw water, only disinfection and color removal are required for treatment. Under the alternative for expansion chosen, two (2) activated carbon filters are proposed to be added to the treatment system to remove color. Occasional backwashing of the carbon filters will be routed to the stormwater management system, as the backwash will be composed of the same raw water that only needs disinfection for human consumption.

3.4 MANAGERIAL CAPACITY / OPERATION AND MAINTENANCE:

The City of Fellsmere is the sole authority responsible for building, operations, and maintenance of the water system. The City's Utility Department provides drinking water throughout the service area, and the water system staff consists of two (2) Class C state certified operators that provide the required one (1) hour per day plus one (1) weekend visit. Routine sampling is sent to a state certified laboratory for analysis. Any necessary repairs, maintenance, and grounds keeping are performed by the staff.

Chapter 4.0 – Development of Alternatives

4.1 GENERAL:

As the distribution system is in good overall condition, no improvements are necessary. The purpose of this section is to identify and examine alternatives for expansion of the water treatment plant's capacity for the growing population of the Fellsmere water service area as well as a more efficient means for color removal from the raw water.

Alternatives considered for expanding the treatment plant capacity are as follows:

1. No action.
2. Optimizing the current facilities with no construction.
3. Interconnecting with other existing facilities.
4. Expanding the existing plant using the same basic treatment process.
5. Developing small cluster or individual facilities.
6. Building new centralized facilities.

4.2 ALTERNATIVES CONSIDERED:

4.21 NO ACTION:

There would be no new facilities associated with this alternative, and therefore no environmental impacts, land requirements, or construction costs. However, as stated above, there is a need to expand water production for the growing population in the City of Fellsmere service area. Based on the Water Usage Trends depicted on Exhibit “D”, the maximum daily flow for the current plant will be reached in early 2014. As such, expansion of the water system is necessary and the “No Action” alternative would force the City to freeze population growth. In addition, the existing color removal operating procedure which is difficult and unpredictable would remain.

4.22 OPTIMIZING THE CURRENT FACILITIES WITH NO CONSTRUCTION:

With this option, there also would be no new facilities, environmental impacts, land requirements, or construction costs. Due to the simplicity of the plant design, it currently operates in an extremely efficient manner. Four (4) well pumps provide for the finished water pumping capacity. The quality of the raw water from the wells is such that disinfection is the only necessary treatment for consumption. However, a more efficient means of color removal is needed as well as increased production to accommodate the growing Fellsmere service area.

In addition, there currently is a 300,000 gallon elevated storage tank located in town. According to 62-555.320(19), F.A.C. the total useful finished-water storage capacity (excluding any storage capacity for fire protection) connected to a water system shall at least equal 25 percent of the system’s maximum-day water demand, excluding any design fire-flow demand. The target maximum daily flow design capacity for the system is 1.6 MGD. Fire flow is equal to 1,000 GPM for two hours.

Calculations for storage volume are as follows:

Design Capacity = 1,600,000 GPD
Fire Flow = 1000 GPM for 2 hours
Existing Elevated Storage Tank = 300,000 Gallons
Required Storage = (25%)(1,600,000 GPD) + (1000 GPM)(120 minutes) = 520,000 Gallons Total

As such, with only 300,000 gallons of storage currently available, expansion of the available storage is necessary in order to expand production.

4.23 INTERCONNECTION WITH OTHER EXISTING FACILITIES:

There currently is an emergency interconnection with the Indian River County Utility System along County Road 512. Utilizing this connection to supplement the current plant production would result in no new facilities, environmental impacts, land requirements, or construction costs since the line is in place. The City of Fellsmere however, is outside of the Indian River County water service area, and permanent supply of water to Fellsmere is not in the Indian River County Long Range Plan. In addition, the City of Fellsmere WTP uses choramines for disinfection while Indian River County uses chlorine. The FDEP requires that a blended system must use the same method of disinfection. Therefore, should the City use Indian River County water to supplement current plant production, either they or Indian River County would have to change disinfection methods to match the other. In addition, the City of Fellsmere is an independent political entity

and wishes to remain as such with respect to its utilities. Exhibit “G” located at the end of this report depicts a map of the existing interconnection with the Indian River County water system.

4.24 EXPAND THE EXISTING PLANT USING SAME BASIC TREATMENT PROCESS:

The original plant was funded by the FMHA Grant and Loan Program based on its simple effective design and operation. It is the central facility for the current service area and has been operating efficiently since its construction. Due to its simple and effective design, it was the only water treatment plant in the surrounding counties that did not have to issue boil water notices throughout the hurricanes of 2004 and 2005 as it remained on-line during the storms. The water quality available in the surficial aquifer is of such high quality that disinfection is the only treatment process necessary. Expanding the existing plant would include additional pumping facilities, activated carbon color removal system, and storage as mentioned earlier. Expanding the existing plant to 1.6 MGD would not require additional land acquisitions, however it would require the additional facilities mentioned above at a minimum.

The current site is occupied by the existing tanks and equipment with the remainder of the site being comprised of bahia grass and is regularly mowed. There are no significant land resources, historic sites, or endangered species/critical habitat associated with the site so expanding the plant at the current location would not have any adverse environmental impacts. A schematic layout of this alternative is depicted as Exhibit “H” at the end of this report. Advantages include efficient operation, low cost, no additional staffing necessary, and high quality water. Disadvantages include no more expansion at this facility beyond what is proposed without acquiring additional lands.

Construction costs for this alternative are estimated as follows:

Four (4) Supply Wells:	\$251,834
500,000 Gallon Storage Tank:	\$364,500
Booster Pump Station:	\$450,000
Color Removal Activated Carbon Filters:	\$445,000
Yard Piping:	\$192,000
Site Work:	\$106,930
Concrete:	\$ 46,489
Instrumentation/Controls:	\$ 35,000
Electrical:	<u>\$118,000</u>
Sub-Total:	\$2,009,753

Non-Construction costs are as follows:

Admin. and Legal Expenses (reimbursable):	\$ 9,955
Architectural and Engineering Fees	\$217,000
Inspection Fees:	\$ 62,500
Miscellaneous:	\$ 75,000
Contingencies:	<u>\$175,792</u>
Sub-Total:	\$540,247

Total Estimated Cost \$2,550,000

4.25 DEVELOPING SMALL CLUSTER OR INDIVIDUAL FACILITIES:

The development of small cluster or individual facilities would require additional land acquisitions. This in turn could lead to environmental impacts that would be unknown at this time. Additional facilities would be required as well and they would be based on the available water source. Since the scope of the design for small individual facilities is undefined based on available land and water sources, the associated costs are unknown, however it is of our professional opinion that the costs would far exceed expanding the current plant at the current site for the same outcome.

4.26 BUILDING NEW CENTRALIZED FACILITIES:

In order to obtain the desired 1.6 MGD system, a centralized plant rated at least 1MGD, along with the existing system, would be required. A new centralized facility would require additional land acquisition as well. It is expected that a new centralized facility would utilize deep wells for water supply from the Floridan Aquifer and treatment by reverse osmosis to remove chlorides and other contaminants from the raw water. Additional facilities that would be required are as follows:

- A minimum of three (3) deep wells capable of 0.5 MGD each.
- Micron filters.
- 1 MGD reverse osmosis train with PLC/controls.
- 1 MGD degasifier with odor control.
- Concentrate disposal system (ie. Deep well injection, wetland dilution system).
- High service pump system.
- Related piping, valving, and metering to tie into the existing system.
- Minimum 250,000 gallon storage tank.
- Paving, parking, and landscaping
- Building/Office
- Generator

A schematic layout of a reverse osmosis plant system is depicted as Exhibit "I" at the end of this report. Cost estimates for this alternative including the above infrastructure would be in the range of \$15 per gallon or approximately \$15,000,000 not including land acquisition. Non-construction costs would be approximately \$550,000. There is a possibility for environmental impacts depending on the land parcel acquired and the concentrate disposal system utilized. Advantages to this alternative include easy expansion, effective removal of almost all types of contaminants, and minimal maintenance. Disadvantages include storage and handling of harsh solutions such as acid, high construction costs, concentrate disposal, and additional land acquisition.

Chapter 5.0 – SELECTION OF AN ALTERNATIVE:

5.1 ALTERNATIVE CHOSEN:

Because of the exceptional quality of the raw water available in the surficial aquifer in the vicinity of the current plant, the cost effectiveness of treatment, lower construction costs, and the simplicity of design and operation, expanding the plant using the same process as the existing process is the best alternative. The goal of this project therefore is to maximize the water production at this facility by utilizing as much of the raw water from the surficial aquifer that consumptive use permitting from the St. John's River Water Management District will allow, as well as maximizing water treatment plant size on the existing parcel of land.

5.2 PROPOSED PROJECT:

5.21 IMPROVEMENTS:

The additional facilities to complete this expansion consist of the following:

Two (2) 11 foot diameter by 12.5 foot high carbon filters loaded with 500 cubic feet of granular activated carbon.

One (1) 55 foot diameter 500,000 gallon above ground storage tank.

One (1) package pump station building consisting of one (1) 30 HP jockey pump, three (3) 75 HP high service pumps, related controls, 150 kw generator, and flow meter.

Modifications to the disinfection system.

Related meters, valving, and piping.

Four (4) 10" 80 ft depth surficial water supply wells.

5.22 ACTIVATED CARBON FILTERS:

Two (2) 11 foot diameter by 12.5 foot high carbon filters loaded with 500 cubic feet of granular activated carbon are proposed to remove color from the raw water. Currently, maximum daily flow (MDF) is approximately 1.4 times the average daily flow (ADF). This trend is expected in the future, thence MDF for the proposed expansion is to be 1.6 MGD and ADF is to be 1.14 MGD. The treatment process for the expanded plant will be the same as the current process with the exception of the use of activated carbon filters to remove color instead of pre-chlorination. During September, 2007, pilot testing was performed using activated carbon for color removal from the raw water source. Multiple testing of untreated raw water from one of the existing wells revealed a color ranging from 10 to 20 PCU. After filtering raw water at a rate of 1 GPM per 1 cubic foot of activated carbon through a pilot carbon filter, the color was reduced to less than 1 PCU in all cases. We expect similar color reduction in the proposed system. Raw water from the well pumps will enter the carbon filters under pressure for color removal.

5.23 DISINFECTION:

After the filters, chlorine and ammonia will be injected into a static mixer in the raw water main for disinfection. Dosing will be regulated automatically by the use of a propeller meter on the main. The design dose of water treatment chemicals is as follows:

Estimated- These calculations represent the maximum dosage expected and will be refined during operation to minimize the chlorine used to provide an adequate residual throughout the distribution system.

Chlorine:

Chlorine Demand 4.4 PPM (Flowers Chemical Labs, Inc. report 11/08/07)

Desired Residual 1.5 PPM

Feed Rate 5.9 PPM

Average Day Demand- 1.14 MGD

$1.14 \text{ MGD} \times 5.9 \text{ PPM} \times 8.34 \text{ lb./MGD} = 56.1 \text{ PPD}$

Maximum Day Demand – 1.6 MGD (Proposed Permitted Capacity)

$1.6 \text{ MGD} \times 5.9 \text{ PPM} \times 8.34 \text{ lb./PPM} = 78.7 \text{ PPD}$

Peak Pumping Rate – 2400 GPM = 3.45 MGD (2 high service pumps)

$3.45 \text{ MGD} \times 5.9 \text{ PPM} \times 8.34 \text{ lb./PPM} = 170 \text{ PPD}$

Ammonia:

Maximum Ammonia Dosage = 33% of chlorine feed

Ammonia provided as Ammonium Sulfate 22% ammonia (NH₃)

Mix rate = 50 pounds per 30 gallons of water (20% mix ratio)

$50 / (30 \times 8.34) \times 0.22 = 0.044\%$ ammonia per pound

Average Day Demand-

$56.1 \times 0.33 / 0.044 = 420.75 / 8.34 = 50.45$ GPD / 24 = 2.10 GPH

Maximum Day Demand-

$78.7 \times 0.33 / 0.044 = 590.25 / 8.34 = 70.77$ GPD / 24 = 2.95 GPH

Peak Pumping Rate-

170 PPD $\times 0.33 / 0.044 = 1275 / 8.34 = 152.88$ GPD / 24 = 6.37 GPH

The existing chlorine feed system is set up using two (2) 150 lb gas chlorine cylinders, one in use and one on standby. We are proposing the addition of two (2) more chlorine cylinders with this application. Feed rate is flow proportion controlled with a continuous chlorine residual analyzer. The existing chlorine feed equipment will need to be modified as follows:

The rotometer is to be changed to 200 PPD

Auto valves are to be calibrated to 200 PPD

Ejector piping is to be rebuilt with new 200 PPD throats and nozzles

Proposed injector corp stops are to have ¾" injection diffusers

The existing Ammonium hydroxide feed equipment will need to be modified as follows:

Capacity of metering pumps is to be increased from 3.0 GPH to 7.0 GPH

5.24 500,000 GALLON ABOVE GROUND STORAGE TANK:

After disinfection, raw water will then enter a proposed 500,000 gallon above ground storage tank for storage and contact time. The useful capacity of the tank will be 429,313 gallons based on proposed high and low water levels in the tank. The tank will be located on site. The storage tank size is based on 62-555.320(19), F.A.C. which states the total useful finished-water storage capacity (excluding any storage capacity for fire protection) connected to a water system shall at least equal 25 percent of the system's maximum-day water demand, excluding any design fire-flow demand.

Calculations for storage tank sizing are as follows:

Design Capacity = 1,600,000 GPD

Fire Flow = 1000 GPM for 2 hours

Existing Offsite Elevated Storage Tank = 300,000 Gallons

Required Storage = (25%)(1,600,000 GPD) + (1000 GPM)(120 minutes) = 520,000 Gallons Total

520,000 Gallons – 300,000 Gallons = 220,000 Gallons Needed

Useful Tank Capacity = 429,313 gallons > 220,000 Gallons

Although a tank with a working capacity of 220,000 gallons would suffice as the bare minimum needed for expanding the plant to 1.6 MGD, there were several factors to consider when choosing the size of the proposed tank. Discussions with the proposed tank manufacturer have revealed

that the cost for installing a 500,000 gallon tank would be \$364,500 or \$0.73 per gallon. The cost for installing a 250,000 gallon tank was priced at \$283,000 or \$1.13 per gallon which is more than 1.5 times the per gallon cost. In addition, the City of Fellsmere wishes to maximize the usage of the one (1) acre project site in case the existing 300,000 gallon elevated storage tank located offsite should ever need to be taken off-line. Should the 300,000 offsite tank need to be taken out of service, the plant could still be rated at 1.2 MGD because of the 500,000 tank proposed as part of this project. If a 250,000 gallon tank were constructed at the site in lieu of a 500,000 gallon, and the existing 300,000 gallon tank taken off-line, the plant would only be able to carry a rating of 520,000 GPD without adding more storage. Since the site is small, there would be no more room for an additional tank. This would require that the City purchase additional land. As such, it is recommended to construct a 500,000 gallon tank.

The contact time based on one half tank volume is as follows:

Average Day Flow:

$$\begin{aligned} 1,140,000 \text{ GPD} &= 791.67 \text{ GPM} \\ 250,000 \text{ Gal} / 791.67 \text{ GPM} &= 315 \text{ minutes} \end{aligned}$$

Maximum Day Flow:

$$\begin{aligned} 1,600,000 \text{ GPD} &= 1111.11 \text{ GPM} \\ 250,000 \text{ Gal} / 1111.11 \text{ GPM} &= 225 \text{ minutes} \end{aligned}$$

5.25 PACKAGE PUMP STATION:

The project proposes a complete package pump station building that will draw treated water from the storage tank and send it to distribution as well as the existing 300,000 gallon off-site elevated storage tank. The pump station will include one (1) 30 horsepower variable speed jockey pump rated at 300 GPM at 200' TDH and three (3) 75 horsepower variable speed high service pumps rated at 1,200 GPM at 200' TDH each. Basis for design is to provide a pressure of 85 psi at the discharge point. The proposed pumping station will be equipped with a generator capable of powering one (1) 30 hp pump and one (1) 75 hp pump as well as the station HVAC, lighting, etc. This generator will be equipped with automatic switchgear and an automatic telephone dialing alarm system.

Additional chlorine and ammonia injection points are proposed in the suction line between the storage tank and the pump station. The water treatment plant is capable of running automatically 24 hours per day. The well pumps will operate by level controls in the proposed above ground storage tank. The high service pumps will operate on demand from either pressure switches in the distribution system or level controls in the existing 300,000-gallon elevated storage tank. There are no residuals proposed to be generated by this plant. Schematic layouts of the existing and proposed improvements are depicted in Exhibits "C" and "H" at the end of this report.

We have obtained an FDEP Permit to construct the proposed expansion and it is included as Attachment "H" at the end of this report.

5.3 ENVIRONMENTAL IMPACTS OF PROPOSED FACILITIES:

As mentioned previously, the parcel is comprised of the existing plant and the remainder is regularly mowed bahia grass. The findings of the survey performed by Biological Research Associates has revealed that the expansion of the current facilities will not result in any direct or indirect environmental consequences to ecological resources within, or adjacent to, the site. In addition, Biological Research Associates has revealed that no threatened or endangered wildlife species were observed on site. Due to the small size and ongoing plant operations and management activities, the site has limited potential for use by listed wildlife species.

5.4 COST TO CONSTRUCT:

The project will be bid as a “lump sum” project. The low bidder will provide an itemized breakdown schedule of values. Estimated total cost for the project is \$2,550,000.00. See 4.24 for a breakdown of projected costs.

Chapter 6.0 – Implementation and Compliance

6.1 PUBLIC HEARING/DEDICATED REVENUE HEARING:

A public hearing was held at the Fellsmere Council Chambers at 5:05 PM on June 30, 2009 after advertising in the Florida Today newspaper. An affidavit of publication is presented as Attachment “I” at the end of this report. Records of the hearing and public notice are available at the City Hall and a summary of the hearing is attached at the end of this report as Attachment “J”.

6.2 REGULATORY AGENCY REVIEW:

1. Florida Department of Environmental Protection
2. Florida Department of Health
3. St. John’s River Water Management District
4. U.S. Environmental Protection Agency
5. Treasure Coast Regional Planning Council
6. Florida State Clearinghouse

6.3 FINANCIAL PLANNING:

Funding for the expansion of the Fellsmere Water Treatment Plant expansion is expected to be provided by the Department of Environmental Protection’s State Revolving Fund (SRF). A Capital Financing Plan (CFP) has been prepared for the project and is located as Attachment “K” at the end of this report. The City of Fellsmere imposes an impact fee of \$1,240 per each water ERU. The City also adopted Resolution No. 07-Y on September 20, 2007, resulting in the following water rates:

DESCRIPTION	ERU FACTOR	CHARGE
--------------------	-------------------	---------------

BASE CHARGE

Single Family		
5/8"	1.00	\$ 11.41
3/4"	2.00	\$ 22.82
1.0"	3.00	\$ 33.31
1.5"	5.00	\$ 57.06
2.0"	8.00	\$ 91.30
Multi-Family	1.00	\$ 11.41
Commercial		
5/8"	1.00	\$ 11.41
3/4"	2.00	\$ 22.82
1.0"	3.00	\$ 33.31
1.5"	5.00	\$ 57.06
2.0"	8.00	\$ 91.30
3.0"	16.00	\$182.59
4.0"	25.00	\$285.30
6.0"	50.00	\$570.60
8.0"	80.00	\$912.97
10.0"	115.00	\$1,312.39

GALLONAGE CHARGE

Block 1 (0-5000 gallons)	\$ 3.70 per 1,000 gals
Block 2 (5001-10,000 gallons)	\$ 4.63 per 1,000 gals
Block 3 (10,001-15,000 gallons)	\$ 5.56 per 1,000 gals
Block 4 (15,001-20,000 gallons)	\$ 6.66 per 1,000 gals
Block 5 (20,001-+99,999 gallons)	\$ 8.40 per 1,000 gals

The City of Fellsmere follows The Public Service Commission Deflator Index which typically equates to an inflationary rate increase of 3% annually. No additional financial burden to users is expected, as the City is capable of repaying the loan amount under its current Water Fund. In addition, it is anticipated that DWSRF funding will be in grant form.

6.4 IMPLEMENTATION:

The City of Fellsmere is the sole authority responsible for implementing the recommended improvements.

6.5 IMPLEMENTATION SCHEDULE:

Please note, the proposed project has already been permitted by the FDEP District Office for construction. A copy of the permit is included as Attachment “H” at the end of this report.

June 2009 – Submit plans and specifications to FDEP. Hold public hearing on Water Facilities Plan and Capital Financing Plan. Submit facilities plan to FDEP and other agencies. Publication of the Department’s environmental information documents.

July 2009 – End of 30 day comment period.

July 2009 – Submit request for addition of project to the FDEP’s project priority list.

August 2009 – Hearing to add the project to the Fundable portion of the priority list.

August 2009– Sign SRF loan agreement and advertise for bids.

September 2009 – Open bid packages

October – Award contract.

6.6 COMPLIANCE:

Treated water from the selected alternative which is to expand the plant using the same basic treatment process with the addition of carbon filters to remove color, will be in compliance with FDEP drinking water standards. In addition, the project will meet the reliability requirements of Chapter 62-555, F.A.C. No adverse environmental effects associated with the project are expected. Lastly, the recommended alternative for expansion is consistent with the City of Fellsmere comprehensive plan.



FELLSMERE WATER
TREATMENT PLANT



EXHIBIT 'A' LOCATION MAP



MASTELLER & MOLER, INC.
CONSULTING ENGINEERS

CERTIFICATE OF AUTHORIZATION NUMBER 4204
1655 27th STREET, SUITE 2, VERO BEACH, FLORIDA 32960
(772) 567-5300 / FAX (772) 794-1106

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EARL H. MASTELLER, P.E. #26658

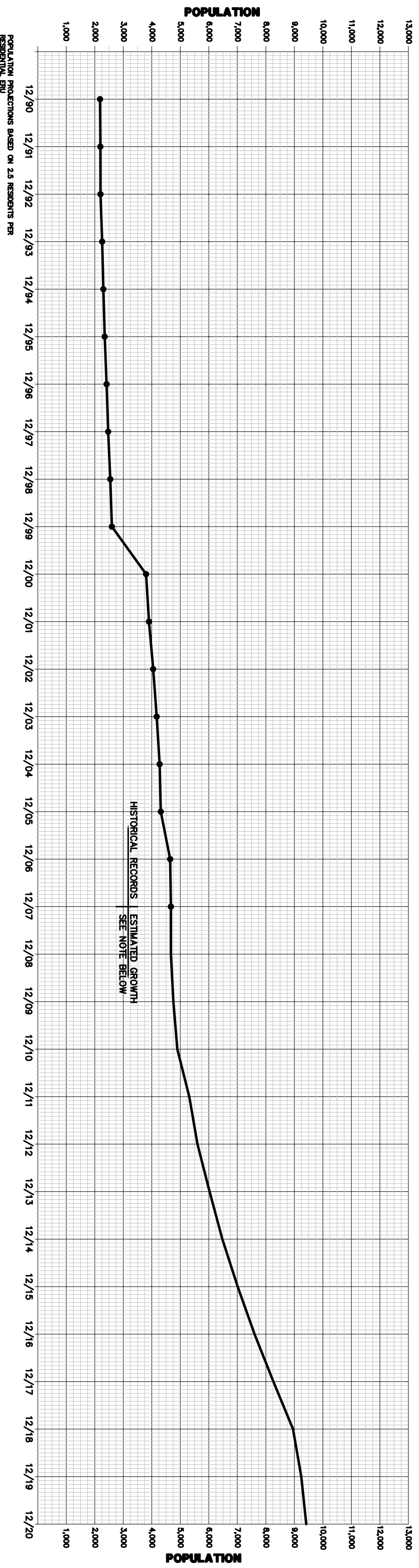


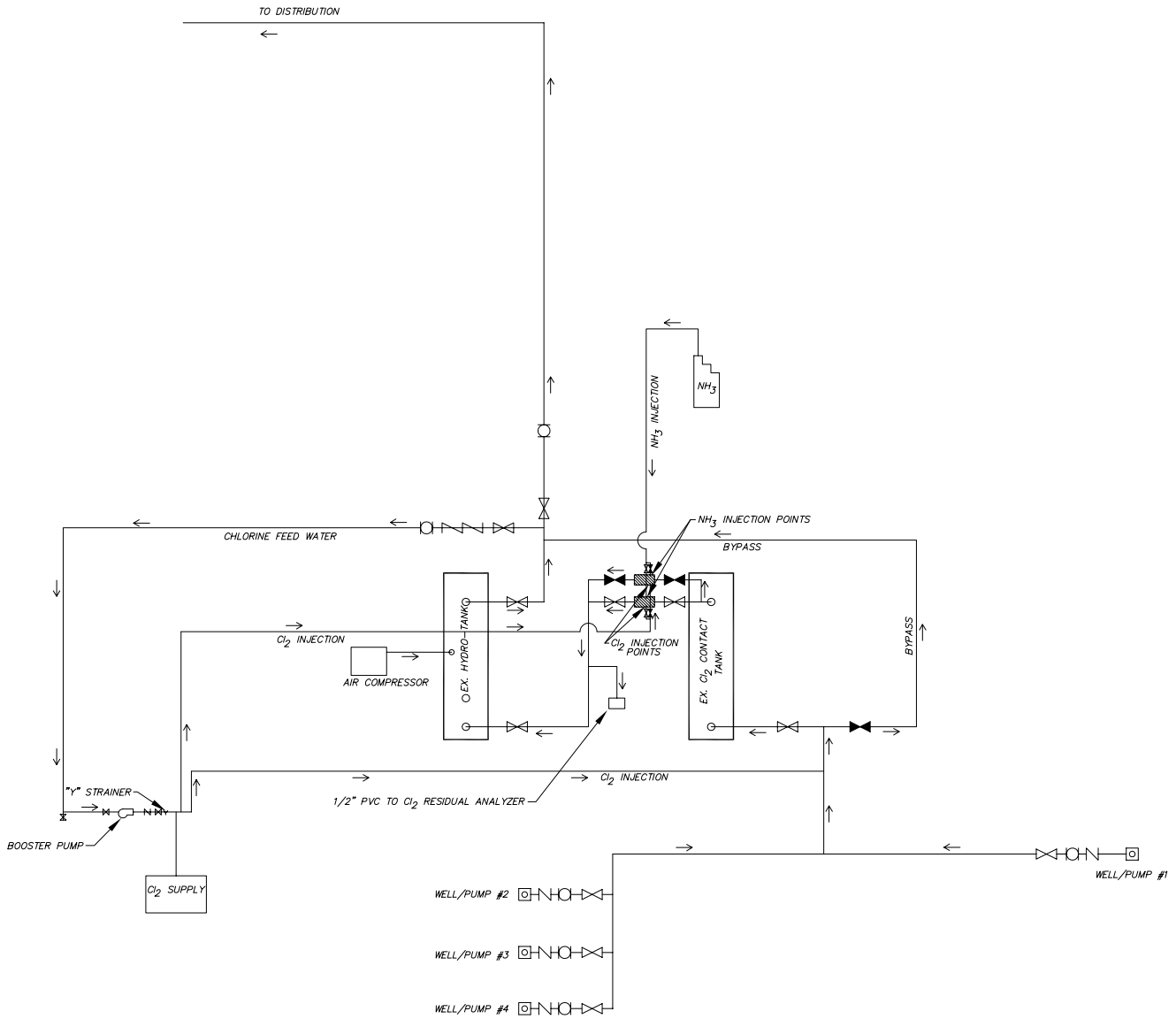
EXHIBIT 'B'

POPULATION/GROWTH TRENDS WITHIN WATER SERVICE AREA

for
THE CITY OF FELLSMERE, FLORIDA

MASTELLER & MOLER, INC.
CONSULTING ENGINEERS
CERTIFICATE OF AUTHORIZATION NUMBER 4204

EARL H. MASTELLER, P.E. #26658



**EXISTING PLANT
NORMAL OPERATIONS**

LEGEND	
	PROPOSED FLOW METER
	EXISTING FLOW METER
	EXISTING CHECK VALVE
	EXISTING BACKFLOW PREVENTER
	EXISTING VALVE IN "OPEN POSITION"
	EXISTING VALVE IN "CLOSED POSITION"
	PROPOSED VALVE IN "OPEN POSITION"
	PROPOSED VALVE IN "CLOSED POSITION"
	PROPOSED PRESSURE REDUCING VALVE
	PROPOSED REDUCER
	PROPOSED STATIC MIXER
	EXISTING STATIC MIXER
	EXISTING PIPING/EQUIPMENT
	PROPOSED PIPING/EQUIPMENT

EXHIBIT 'C' CURRENT PLANT SCHEMATIC



MASTELLER & MOLER, INC.
CONSULTING ENGINEERS

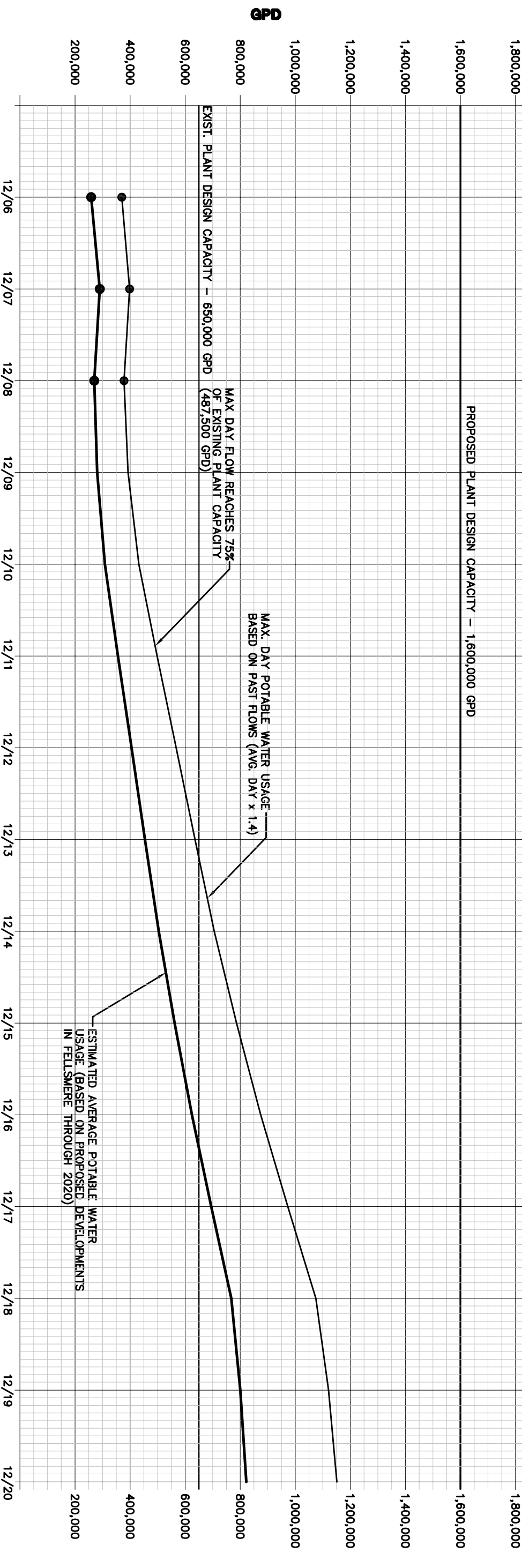
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(772) 567-5300 / FAX (772) 794-1106

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ESTIMATED POTABLE WATER USAGE AND PLANT TREATMENT CAPACITY



WATER USE PROJECTIONS BASED ON ERU'S DEPICTED IN TABLE "A" FOR EACH YEAR.

EXHIBIT 'D'



MASTELLER & MOLER, INC.

CONSULTING ENGINEERS

CERTIFICATE OF AUTHORIZATION NUMBER 4204

1655 27th STREET, SUITE 2
Vero Beach, Florida 32980

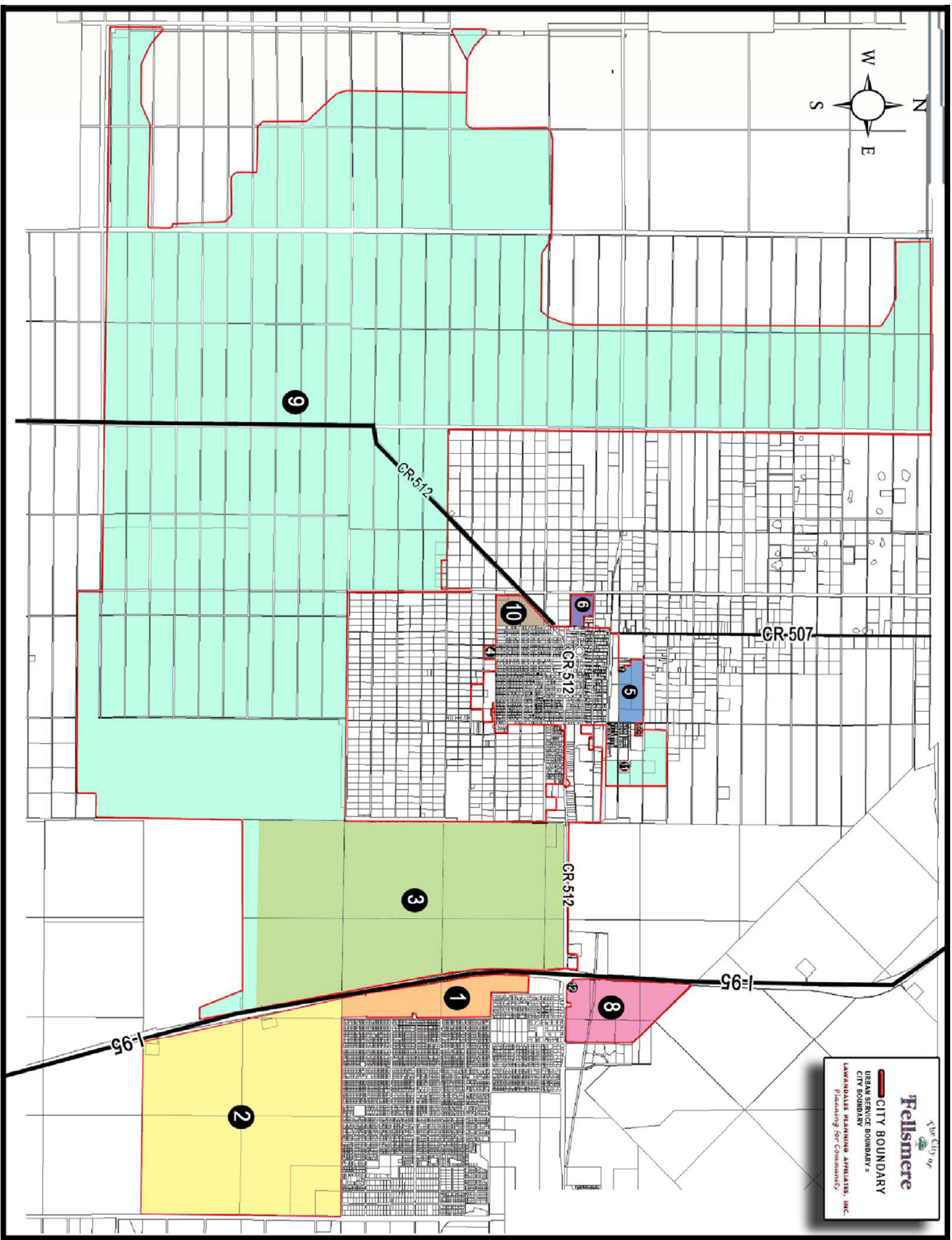
Ph. (772) 567-5300
Fax (772) 794-1106

WATER USAGE TRENDS

for

THE CITY OF FELLSMERE, FLORIDA

EARL H. MASTELLER, P.E. FL#26658



LEGEND

1	---300 ACRES
2	---2,592 ACRES
3	---3,480 ACRES
4	---8.95 ACRES
5	---91.32 ACRES
6	---41.35 ACRES
7	---1 ACRE
8	---392 ACRES
9	---18,675 ACRES
10	---78 ACRES
11	---19 ACRES
12	---4.37 ACRES

The City of Fellsmere
 CITY BOUNDARY
 URBAN SERVICE BOUNDARY
 CITY BOUNDARY
 LANDMARKS PLANNING APPLICATES, INC.
 Planning for Community

NO.	DATE	DESCRIPTION	DR/APP

M MASTELLER & MOLIER, INC.
 CONSULTING ENGINEERS
 CERTIFICATE OF AUTHORIZATION NUMBER 4204
 1655 27th STREET, SUITE 2, VERO BEACH, FLORIDA 32980
 (772) 567-5300 / FAX (772) 794-1106

ANNEXATIONS
 for
THE CITY OF FELLSMERE, FLORIDA

This is a preliminary map. It is not intended to be used for any legal purpose. It is subject to change without notice. The City of Fellsmere is not responsible for any errors or omissions on this map. ©2008, MASTELLER & MOLIER, INC.

EARL H. MASTELLER, P.E. #26658

DATE	SH
DESIGNED	SH
CHECKED	EM
DATE	04/08
SCALE	N/S
SHEET	1 of 1
DWG NO.	0728



LEGEND

- ORIGINAL WATER SERVICE AREA
- ANTICIPATED WATER SERVICE AREA

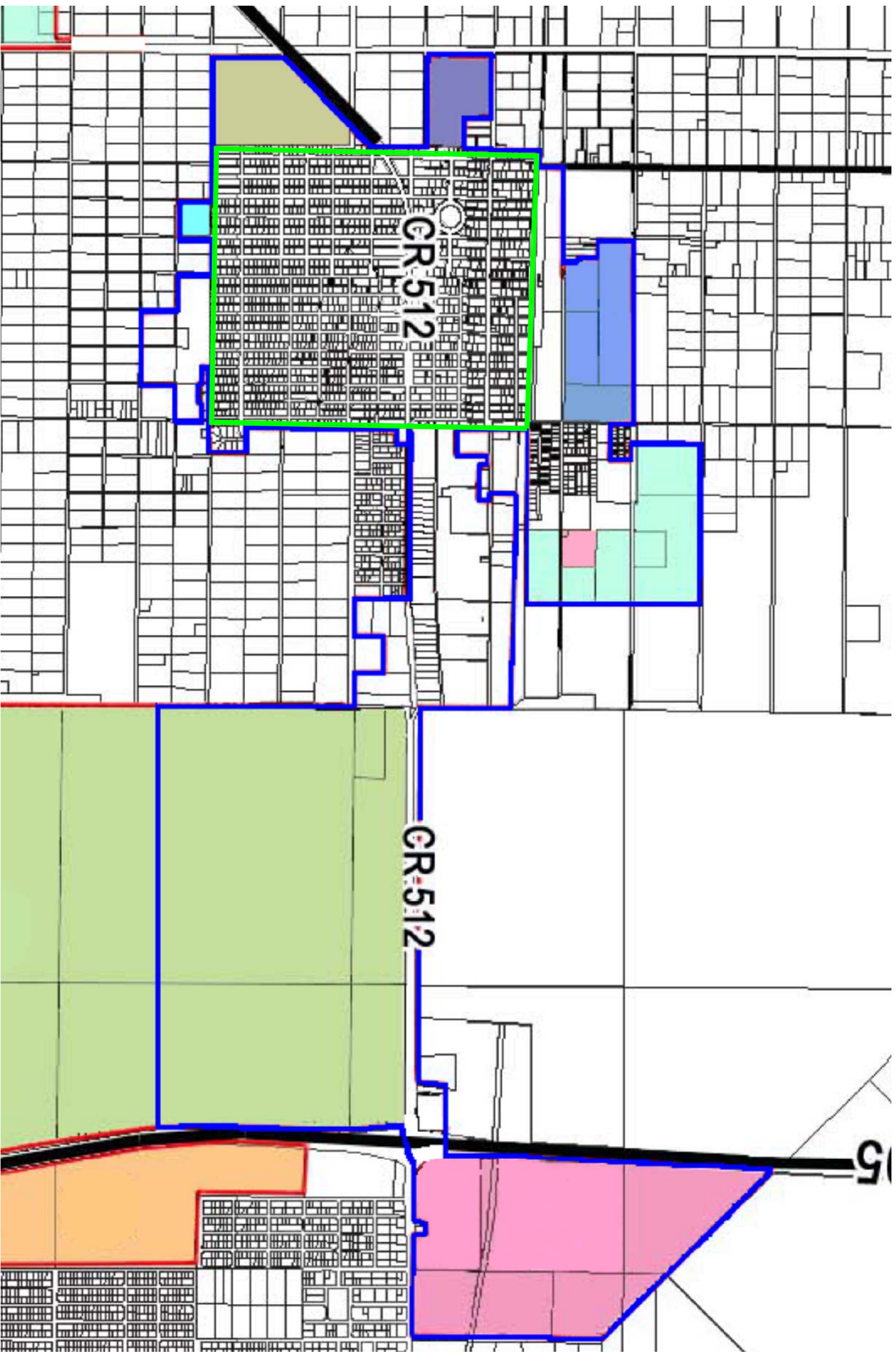


EXHIBIT 'F'

**WATER SERVICE AREA
for
THE CITY OF FELLSMERE, FLORIDA**

NO.	DATE	DESCRIPTION	DR/APP

M **MASTELLER & MOLIER, INC.**
CONSULTING ENGINEERS
CERTIFICATE OF AUTHORIZATION NUMBER 4204
1655 27th STREET, SUITE 2, VERO BEACH, FLORIDA 32960
(772) 567-5300 / FAX (772) 794-1106

This is a preliminary plan. It is not to be used for construction. It is subject to change without notice. The engineer's responsibility is limited to the design and calculation of the water service area. The engineer does not warrant the accuracy of the information provided. The engineer's liability is limited to the amount of the fee paid for the service. ©2008, MASTELLER & MOLIER, INC.

DESIGNED	SH
CHECKED	SH
DRAWN	EHM
DATE	04/08
SCALE	NTS
SHEET	1 OF 1
DWG NO.	0728

EARL H. MASTELLER, P.E. #26658



EXHIBIT 'G'

INTERCONNECTION W/ INDIAN RIVER COUNTY WATER SYSTEM



MASTELLER & MOLER, INC.
CONSULTING ENGINEERS

CERTIFICATE OF AUTHORIZATION NUMBER 4204
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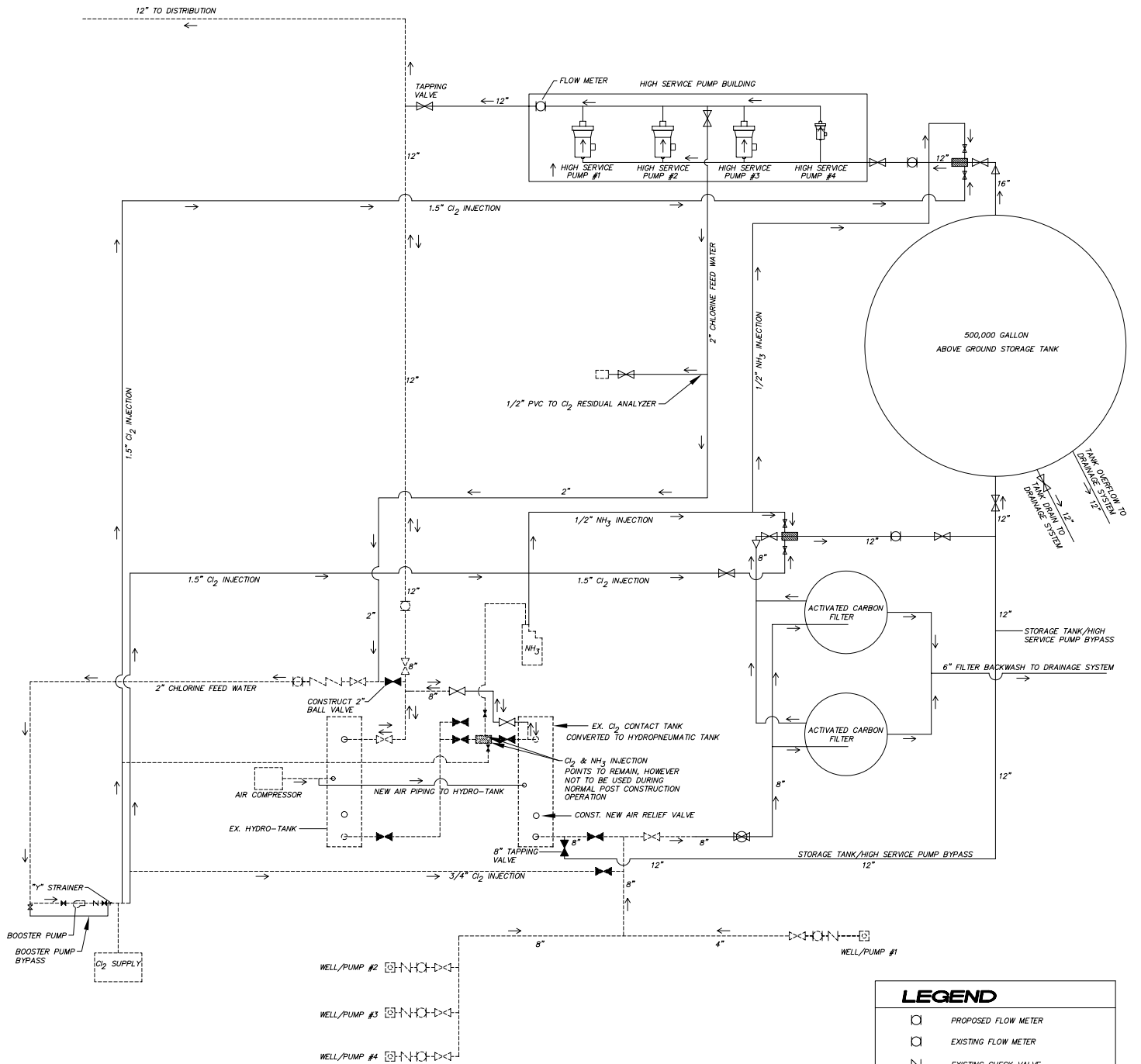


EXHIBIT 'H'

EXISTING PLANT EXPANSION SCHEMATIC

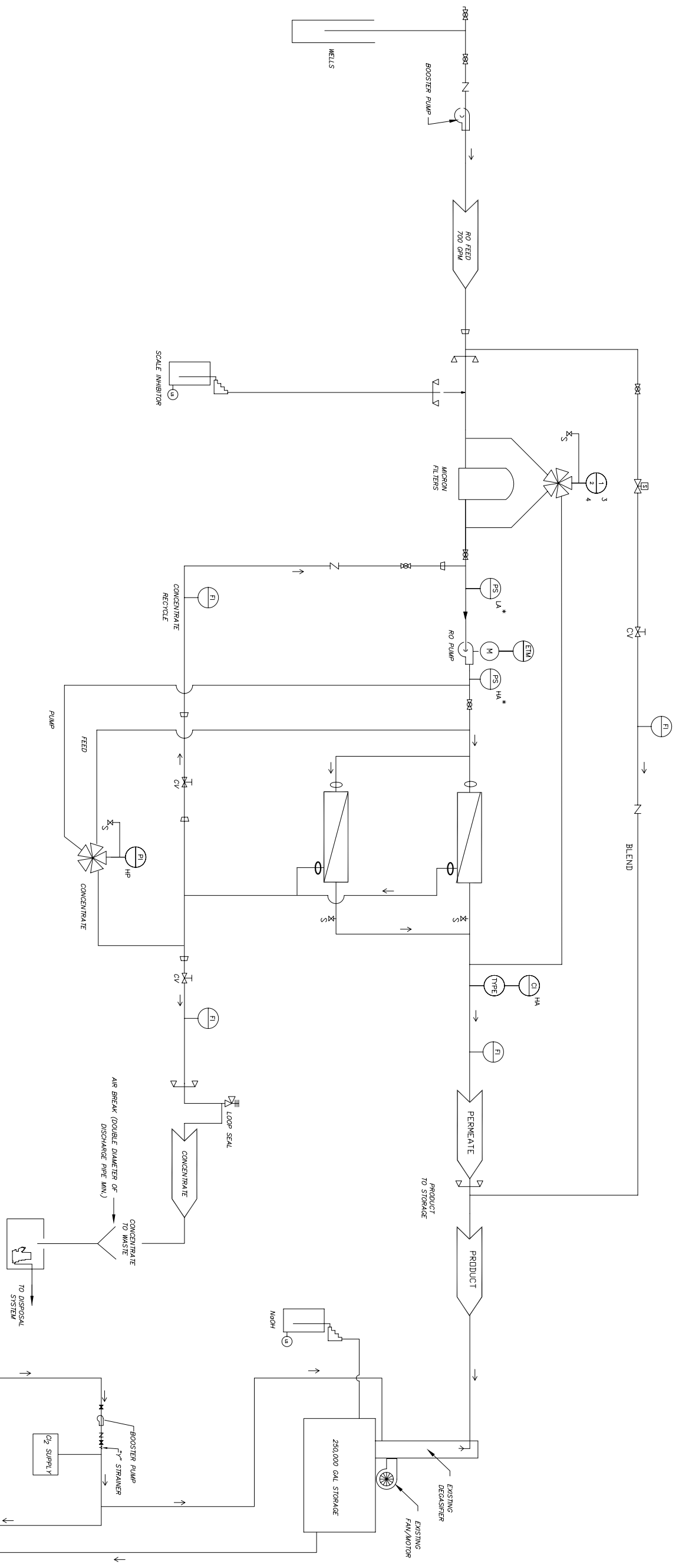
M M **MASTELLER & MOLER, INC.**
CONSULTING ENGINEERS

CERTIFICATE OF AUTHORIZATION NUMBER 4204
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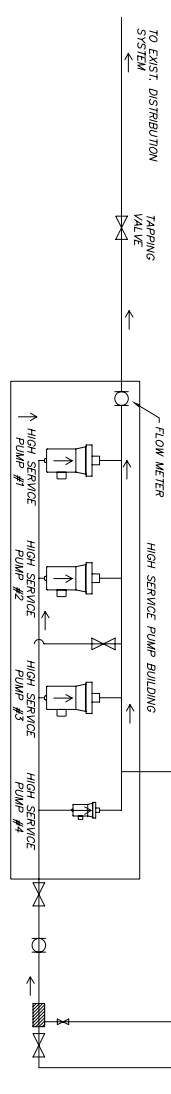
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EARL H. MASTELLER, P.E. #26658



- LEGEND**
- PI = PRESSURE GAUGE
 - PS = PRESSURE SWITCH
 - ETM = ELAPSED TIME METER
 - M = MOTOR
 - FI = FLOW INDICATOR
 - CI = CONDUCTIVITY INDICATOR
 - CE = CONDUCTIVITY ELEMENT
 - 5-way selector valve symbol = 5 WAY SELECTOR VALVE
 - Vacuum breaker symbol = VACUUM BREAKER
 - Reducer symbol = REDUCER
 - Skid limits symbol = SKID LIMITS
 - Vic coupling symbol = VIC COUPLING
 - Panel mount symbol = PANEL MOUNT
 - Ball valve symbol = BALL VALVE
 - Solenoid valve symbol = SOLENOID VALVE
 - Control (needle) valve symbol = CONTROL (NEEDLE) VALVE
 - Check valve symbol = CHECK VALVE
 - Sample valve symbol = SAMPLE VALVE

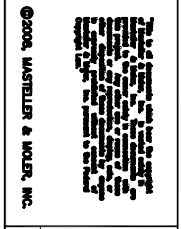


NO.	DATE	DESCRIPTION	DR/APP

MASTELLER & MOLIER, INC.
CONSULTING ENGINEERS
 CERTIFICATE OF AUTHORIZATION NUMBER 4204
 1655 27th STREET, SUITE 2, VERO BEACH, FLORIDA 32980
 (772) 567-5300 / FAX (772) 794-1106

**CENTRALIZED REVERSE OSMOSIS
 PLANT SCHEMATIC**

EXHIBIT 'A'



EARL H. MASTELLER, P.E. #26658

NO.	DATE	DESCRIPTION	DR/APP

ATTACHMENT “A”

ATTACHMENT 'A'



CITY OF FELLSMERE
FELLSMERE WATER PLANT EXPANSION
INDIAN RIVER COUNTY, FLORIDA

ATTACHMENT “B”



NRCS SOILS

013 – WABASSO FINE SAND

016 – PINEDA FINE SAND

ATTACHMENT 'B' (SOILS MAP)



MASTELLER & MOLER, INC.

CONSULTING ENGINEERS

CERTIFICATE OF AUTHORIZATION NUMBER 4204
1655 27th STREET, SUITE 2, VERO BEACH, FLORIDA 32960
(772) 567-5300 / FAX (772) 794-1106

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EARL H. MASTELLER, P.E. #26658

ATTACHMENT “C”



SITE PHOTOGRAPHS

ATTACHMENT “D”



Biological Research Associates

Environmental and Natural Resource Management Consultants

A Division of ENTRIX, Inc.

April 4, 2008

Ms. Irene Sadowsky
U.S. Army Corps of Engineers
400 High Point Drive, Suite 600
Cocoa, FL 32926

**RE: Rural Development/Rural Utilities Services
Grant Program Application**

Dear Ms. Sadowsky,

As per the Rural Development, Rural Utilities Services (RD/RUS) loan and grant program application preparation guidelines, Biological Research Associates (BRA) has prepared this letter to assist the City of Fellsmere in their pursuit funding for the Fellsmere Water Plant expansion project.

The City of Fellsmere is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Utilities Service in order that it may assess the environmental impacts of the City of Fellsmere Water Plant expansion project in Indian River County, Florida. This project is being proposed to provide additional water resource facilities for the City of Fellsmere. Enclosed is a copy of the environmental report prepared by BRA for the project.

Results of a site review of the proposed project area did not locate any federally jurisdictional wetlands. The City of Fellsmere requests the Corp's assistance in the confirmation of this data.

We would appreciate a response within 30 days. If you need any further information or require additional information, please feel free to contact our office at (772) 299-0147. We appreciate your assistance with this matter.

Sincerely,
BIOLOGICAL RESEARCH ASSOCIATES

Wendy M. Swindell
Senior Project Scientist/Vice President

WMS/ldm

Enclosure: Environmental Report



Biological Research Associates

Environmental and Natural Resource Management Consultants

A Division of ENTRIX, Inc.

April 4, 2008

Mr. Chuck Kelso
U. S. Fish & Wildlife Services
1339 20th Street
Vero Beach, FL 32960

**RE: Rural Development/Rural Utilities Services
Grant Program Application**

Dear Mr. Kelso,

As per the Rural Development, Rural Utilities Services (RD/RUS) loan and grant program application preparation guidelines, Biological Research Associates (BRA) has prepared this letter to assist the City of Fellsmere in their pursuit funding for the Fellsmere Water Plant expansion project.

The City of Fellsmere is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Utilities Service in order that it may assess the environmental impacts of the City of Fellsmere Water Plant expansion project in Indian River County, Florida. This project is being proposed to provide additional water resource facilities for the City of Fellsmere. Enclosed is a copy of the environmental report prepared by BRA for the project.

The proposed project does not represent a "major construction activity" as defined in 50 CFR 402.02. Our site review did not locate any listed species or critical habitat within the proposed project area. We request confirmation of this data from the USFWS.

We would appreciate a response within 30 days. If you need any further information or require additional information, please feel free to contact our office at (772) 299-0147. We appreciate your assistance with this matter.

Sincerely,
BIOLOGICAL RESEARCH ASSOCIATES

Wendy M. Swindell
Senior Project Scientist/Vice President

WMS/ldm

Enclosure: Environmental Report



Biological Research Associates

Environmental and Natural Resource Management Consultants

A Division of ENTRIX, Inc.

April 4, 2008

Florida Fish and Wildlife Conservation Commission
Farris Bryant Building
620 S. Meridian Street
Tallahassee, Fl. 32399-1600

**RE: Rural Development/Rural Utilities Services
Grant Program Application**

To Whom It May Concern:

As per the Rural Development, Rural Utilities Services (RD/RUS) loan and grant program application preparation guidelines, Biological Research Associates (BRA) has prepared this letter to assist the City of Fellsmere in their pursuit funding for the Fellsmere Water Plant expansion project.

The City of Fellsmere is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Utilities Service in order that it may assess the environmental impacts of the City of Fellsmere Water Plant expansion project in Indian River County, Florida. This project is being proposed to provide additional water resource facilities for the City of Fellsmere. Enclosed is a copy of the environmental report prepared by BRA for the project.

Results of the site review of the proposed project area indicate that the site does not appear to contain any State or Federally listed threatened or endangered species. We request the FFWCC's assistance in the confirmation of this data and/or any additional information that may be related to State natural resources that may occur in the project area.

We would appreciate a response within 30 days. If you need any further information or require additional information, please feel free to contact our office at (772) 299-0147. We appreciate your assistance with this matter.

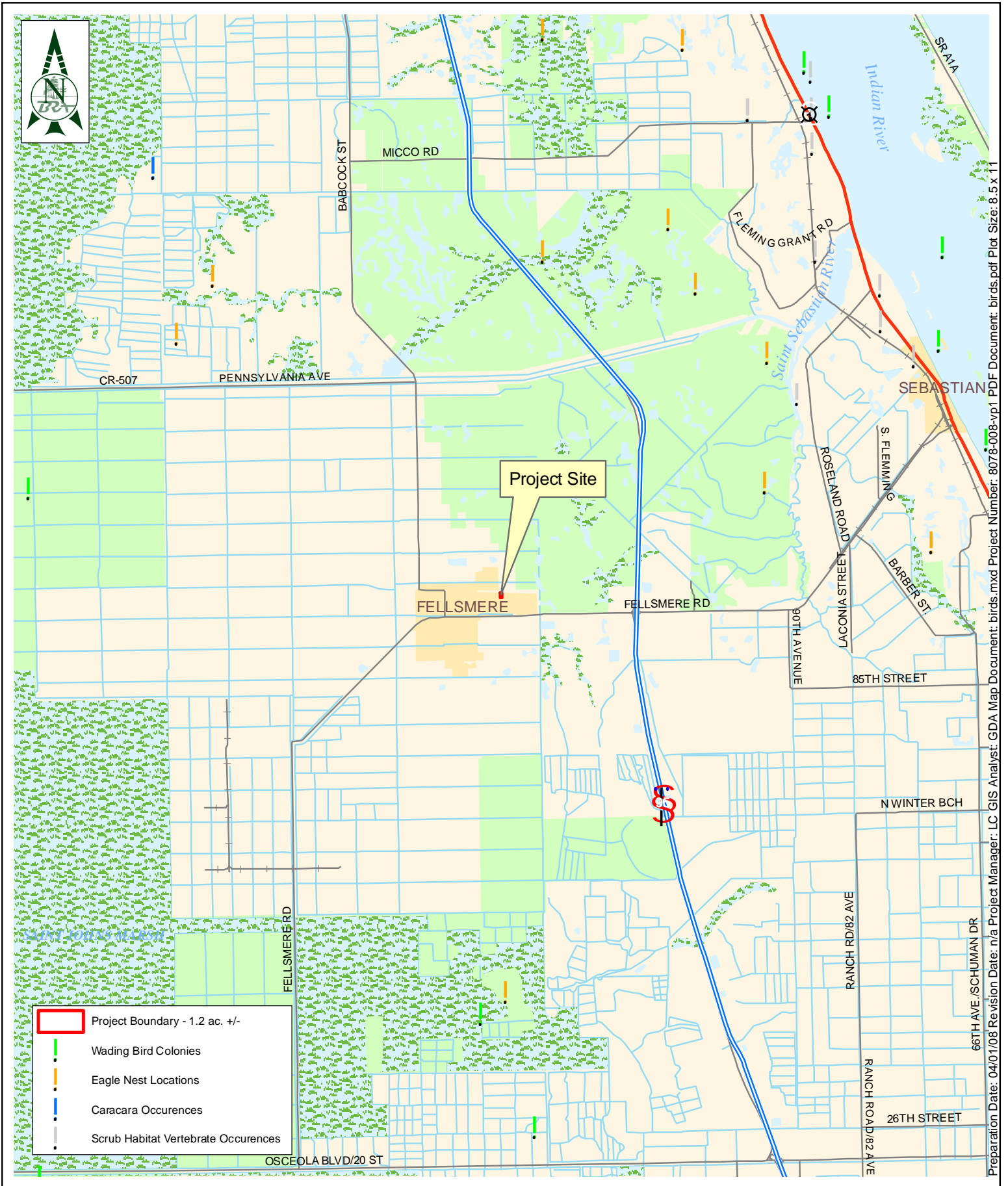
Sincerely,
BIOLOGICAL RESEARCH ASSOCIATES

Wendy M. Swindell
Senior Project Scientist/Vice President

WMS/lm

Enclosure: Environmental Report

ATTACHMENT “E”



Preparation Date: 04/01/08 Revision Date: n/a Project Manager: LC GIS Analyst: GDA Map Document: birds.mxd Project Number: 8078-008-yp1 PDF Document: birds.pdf Plot Size: 8.5 x 11

This map and all data contained within are supplied as is with no warranty. Biological Research Associates expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Birds Map

Fellsmere Water Plant Expansion

Indian River County, FL

Biological Research Associates
a division of ENTRIX

1906 12th Court
 Vero Beach, Florida 32960
 ph 772.299.0147 fx 772.299.4449
 www.biologicalresearch.com



ATTACHMENT “F”



Biological Research Associates

Environmental and Natural Resource Management Consultants

A Division of ENTRIX, Inc.

April 4, 2008

Ms. Laura Kammerer
State Historical Preservation Office
500 S. Bronough Street
Tallahassee, FL 32301

**RE: Rural Development/Rural Utilities Services
Grant Program Application**

Dear Ms. Kammerer;

As per the Rural Development, Rural Utilities Services (RD/RUS) loan and grant program application preparation guidelines, Biological Research Associates (BRA) has prepared this letter to assist the City of Fellsmere in their pursuit funding for the Fellsmere Water Plant expansion project.

The City of Fellsmere is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Utilities Service in order that it may assess the environmental impacts of the City of Fellsmere Water Plant expansion project in Indian River County, Florida. This project is being proposed to provide additional water resource facilities for the City of Fellsmere. Enclosed is a copy of the environmental report prepared by BRA for the project.

The City of Fellsmere requests the assistance of the State Historical Preservation Office in identifying historic properties that are listed or eligible for listing on the National Register of Historic Places and that may be affected by the project. Please provide any recommendations you may have to mitigate or avoid these impacts to properties that may be affected.

We would appreciate a response within 30 days. If you need any further information or require additional information, please feel free to contact our office at (772) 299-0147. We appreciate your assistance with this matter.

Sincerely,
BIOLOGICAL RESEARCH ASSOCIATES

Wendy M. Swindell
Senior Project Scientist/Vice President

WMS/ldm

Enclosure: Environmental Report

ATTACHMENT “G”

ATTACHMENT “H”



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

NOTICE OF PERMIT ISSUANCE

Larry Napier, Utility Director
21 Cypress Street
Fellsmere, Florida 32948

Indian River County - PW
Fellsmere Water Treatment Plant Expansion
PWS ID No. 3314280

Dear Mr. Napier:

Enclosed is Permit Number WC31-0080456-014 to reduce the concentration of disinfection by-products, issued pursuant to Section 403.861(9), *Florida Statutes*.

The Department's proposed agency action shall become final unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57 of the *Florida Statutes* before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57 of the *Florida Statutes*. The petition must contain the information set forth below and must be filed (received by the clerk) with:

Clerk of the Department of Environmental Protection
Office of General Counsel
3900 Commonwealth Boulevard, Mail Station 35
Tallahassee, Florida 32399-3000.

Petitions by the applicant or any of the parties listed below must be filed within fourteen days of receipt of this written notice. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3) of the *Florida Statutes* must be filed within fourteen days of publication of the notice or within fourteen days of receipt of the written notice, whichever occurs first.

Under Section 120.60(3) of the *Florida Statutes*, however, any person who has asked the Department for notice of agency action may file a petition within fourteen days of receipt of such notice, regardless of the date of publication.

The petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57 of the *Florida Statutes*. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the

presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the *Florida Administrative Code*.

A petition that disputes the material facts on which the Department's action is based must contain the following information:

- (a) The name, address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner's representative, if any; the Department permit identification number and the county in which the subject matter or activity is located;
- (b) A statement of how and when each petitioner received notice of the Department action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department action;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A statement of facts that the petitioner contends warrant reversal or modification of the Department action;
- (f) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take.

A petition that does not dispute the material facts on which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, *Florida Statutes*.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation under Section 120.573 of the *Florida Statutes* is not available for this proceeding. This action is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above. Upon the timely filing of a petition this order will not be effective until further order of the Department.

Any party to the order has the right to seek judicial review of the order under Section 120.68 of the *Florida Statutes*, by the filing of a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with:

Clerk of the Department of Environmental Protection
Office of General Counsel
Mail Station 35,
3900 Commonwealth Boulevard
Tallahassee, Florida, 32399-3000

and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days from the date when the final order is filed with the Clerk of the Department.



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

This permit is issued under the provisions of Chapter 403, *Florida Statutes*, and Rule 62-555, *Florida Administrative Code*, (F.A.C.). The above named permittee is hereby authorized to perform the work shown on the application and approved drawing, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

The plant is located east of Willow Street on the north side of 97th Street. The street address is 12600 97th Street in Fellsmere, Florida. The permitted capacity of this plant is currently established at 0.65 million gallons per day (mgd) with the well points the limiting factor. Eventually, the permitted capacity will be increased to 1.6 mgd when additional wells are brought on-line.

The project consists of the following components or approved equivalents:

1. one (1) 55 ft. diameter 500,000 gallon Crom ground storage tank;
2. two (2) 11 ft diameter x 12.5' activated carbon filters @ 500 ft³ Granulated Activated Carbon or GAC;
3. one (1) package pump station building consisting of:
 - a. one (1) 30 hp rated 300 gpm at 200 TDH jockey pump;
 - b. three (3) 75 hp variable speed high service pumps rated 1,200 gpm at 200 ft. TDH with respective controls;
4. one (1) 150 kw generator;
5. one (1) flow meter;
6. Provide for the following modifications to the ammonia feed system that include the following components:
 - a. replace the existing Neptune 515-S-N5 wet ends with 525-S-NS wet ends to provide for a flow rate of 7.0 gph;
 - b. Modify the metering pump discharge piping to provide independent feed to filter water static mixer and finish water static mixer;
 - c. Add injection point with back pressure sustaining valve and corporation stop injector for second feed point;
 - d. Provide for the following modifications to metering pump control panel:
 - i. Replace existing control panel, single input programmable controller with new dual input/dual output controller capable of providing independent scaled output to each drive;
 - ii. Provide selector switch to choose individual output to each drive or either selected output to both drives;

- iii. Provide input signal line surge protection for new flow input;
 - iv. Provide additional terminals as required for new inputs;
7. Provide for the following modifications to the chlorine system:
- a. Add one set Force Flow model 4D150-2 cylinder scales;
 - b. Add one set Superior CL-15 automatic switchover vacuum regulators;
 - c. Replace existing ejector piping with new Schedule 80 piping including 1.5" solenoid valves, 1.5" isolation valves, and 200 ppd ejector throat and nozzles;
 - d. Selector switch to choose individual input to each controller or selected input to both controllers with surge protection for both inputs.
 - e. Provide H/O/A switches for operation of each solenoid

This plant has been classified as Category III Class C. The certified operator requirements for this plant is staffing by Class C or higher operator: 3 hours per day for 5 days per week and one visit on each weekend day.

This permit expires five years after the date of issuance. It does not pertain to any wastewater, stormwater or dredge and fill aspects of the project.

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violations of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:
 - (a) Have access to and copy any records that must be kept under conditions of the permit;
 - (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
 - (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.Reasonable time may depend on the nature of the concern being investigated.
8. If, for any reason, the permittee does not comply with or will be unable to comply with any conditions or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - (a) A description of and cause of noncompliance; and
 - (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.
9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
11. This permit is transferable only upon Department approval in accordance with Rule 62-4.120 and 62-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. ~~This permit also constitutes:~~

- ~~() Determination of Best Available Control Technology (BACT)~~
- ~~() Determination of Prevention of Significant Deterioration (PSD)~~
- ~~() Certification of compliance with state Water Quality Standards (Section 401, PL 92-500)~~
- ~~() Compliance with New Source Performance Standards~~

14. The permittee shall comply with the following:

(a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

(b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date the sample, measurement, report, or application unless otherwise specified by Department rule.

(c) Records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;
2. the person responsible for performing the sampling or measurements;
3. the dates analyses were performed;
4. the person responsible for performing the analyses;
5. the analytical techniques or methods used;
6. the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

Clearance of the Project

1. A Clearance Letter must be issued by the DEP Central District Potable Water program before placement of this project into service. Failure to do so will result in enforcement action against the permittee. Please contact Kyle Kubanek regarding all clearance issues.
To obtain clearance letter, the engineer of record must submit the following:

- (1) completion of the form "Request for Letter of Release to Place Water Supply System into Service" [DEP Form 62-555.900(9), F.A.C.]; and
- (2) a copy of this permit; and
- (3) a copy of satisfactory bacteriological sample results taken on two consecutive days from the following locations: (1) discharge side of the Crom tank and (2) point of entry to the distribution system; and
- (4) A set of as-built construction plans;
- (5) The permittee shall contact Mr. Richard Lott at 407.893.3325 to set up a date and time to conduct a sanitary survey/inspection of the facility.

Clearance Required before Service

2. ***NOTE TO THE UTILITY: Pursuant to Rule 403.859(6), Florida Statutes, do not provide water service to this project (other than flushing/testing) until the Department of Environmental Protection has issued a letter of clearance or the utility, shall be subject to enforcement action.***

Sale or Transfer of Facility

3. The permittee will promptly notify the Department upon sale or legal transfer of the permitted facility. In accordance with General Condition #11 of this permit, this permit is transferable only upon Department approval. ***The new owner must apply, by letter, for a transfer of permit within 30 days following sale or transaction.***

Professional Engineer in Charge of Construction

4. The permittee shall retain a Florida-licensed professional engineer in accordance with subsection 62-555.530(3), F.A.C. to take responsible charge of inspecting construction of the project for the purpose of determining in general if the construction proceeds in compliance with the permit, including the approved preliminary design report or drawings and specifications, for the project.

Record Drawings

5. The permittee shall have complete record drawings produced for the project in accordance with Rule 62-555.530(4), F.A.C.

Permittee to Provide O&M Manual

6. The permittee shall provide an operation & maintenance manual for the new or altered treatment facilities to fulfill the requirements under Rule 62-555.350(13), F.A.C.

Permittee to Provide Records

7. The permittee shall keep:
 - A. Records documenting that their finished-drinking-water storage tanks, including conventional hydro-pneumatic tanks with an access manhole have been cleaned and inspected during the past five years in accordance with subsection 62-555.350(2), F.A.C.
 - B. Records documenting that their isolation valves are being exercised, and their water mains conveying finished drinking water are being flushed, in accordance with subsection 62-555.350(2), F.A.C.

Permittee to Provide Water Distribution System Map

8. The permittee shall keep an up-to-date map of the drinking water system and where appropriate, water distribution system. Such a map shall show the location and size of water mains if known; the location of valves and fire hydrants; and the location of any pressure zone boundaries, pumping facilities, storage tanks, and interconnections with other public water systems.

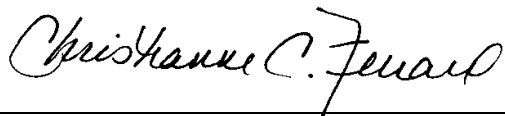
Permittee to Provide Emergency Preparedness/Response Plan

9. The permittee shall keep a written emergency preparedness/response plan in accordance with *Emergency Planning for Water Utilities*, AWWA Manual M19, as adopted in Rule 62-555.335, F.A.C., by no later than December 31, 2004, and shall update and implement the plan as necessary thereafter. Said suppliers of water shall coordinate with their Local Emergency Planning Committee and their Florida Department of Law Enforcement Regional Security Task Force when developing their emergency plan.

Water Distribution Operator

10. Distribution systems connected to a Class A, B, or C water treatment plant is classified as Level 3 (serving between 1,000 and 9,999 persons). Beginning May 1, 2011, the lead/chief operator must be a Level 3 or higher water distribution system operator or a Class C or higher water treatment plant operator. Additionally, beginning May 1, 2011, a Level 3 or higher water distribution system operator or a Class C or higher water treatment plant operator shall be in on-site charge of any water distribution system operation or maintenance activity that may affect water quality or quantity and that is listed in Footnote 1 below unless the activity is being performed by a licensed underground utility and excavation contractor or licensed plumbing contractor.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Christianne C. Ferraro, P.E.
Administrator, Water Resource Management

Date of Issuance: April 16, 2008

Date of Expiration: April 15, 2013

Copies furnished to:

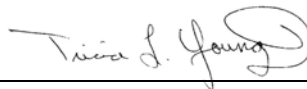
Kim Dodson; Kyle Kubanek; Paul Morrison;
Earl H. Masteller, P.E., Masteller & Moler, Inc.
mastmolr@bellsouth.net; utility_director@cityfellsmere.org;

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certified that this NOTICE OF PERMIT ISSUANCE and all copies were sent by E-Mail before the close of business on April 16, 2008 to the listed persons.

FILING AND ACKNOWLEDGMENT

FILED, on this date, under Section 120.52(7), *Florida Statutes*, with the designated Department Clerk, receipt of which is hereby acknowledged.



Clerk

April 16, 2008

Date

ATTACHMENT “I”



Published Daily

RECEIVED
JUN 26 2009
BY: _____

AD#138014.06/20/2009

**NOTICE OF PUBLIC HEARING
CITY OF FELLSMERE**

A public hearing will be held on June 30, 2009 at 5:05 pm at City of Fellsmere City Council Chambers located at 21 S. Cypress Street, Fellsmere, Florida. This hearing will allow the City to receive comments regarding the Water System Facility Plan which will be submitted in support of an application to receive a State Revolving Fund Loan for funding assistance for proposed Water System Capital Construction Project. Financial impacts on utility users will be discussed at the City Council public hearing, as well as economic and social effects of the location, design, and environmental impact of the water system improvements.

STATE OF FLORIDA
COUNTY OF BREVARD

Before the undersigned authority personally appeared **KATHY CICALA**, who on oath says that she is **LEGAL ADVERTISING SPECIALIST** of the **FLORIDA TODAY**, a newspaper published in Brevard County, Florida; that the attached copy of advertising being a

LEGAL NOTICE

Ad # (138014)	\$ 70.10	the matter of:
CITY OF FELLSMERE		
the	Court	LEGAL NOTICE
NOTICE OF PUBLIC MEETING JUNE 30, 2009		

as published in the **FLORIDA TODAY** in the issue(s) of:

June 20, 2009

Affiant further says that the said **FLORIDA TODAY** is a newspaper in said Brevard County, Florida, and that the said newspaper has heretofore been continuously published in said Brevard County, Florida, regularly as stated above, and has been entered as periodicals matter at the post office in **MELBOURNE** in said Brevard County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in said newspaper.

(Signature of Affiant)

20th day of June, 2009

(Signature of Notary Public)

S.H. Ward

(Name of Notary Typed, Printed or Stamped)

Sworn to and subscribed before this:



S. H. WARD
MY COMMISSION # DD 449451
EXPIRES: July 22, 2009
Bonded Thru Budget Notary Services

Personally Known X or Produced Identification _____
Type Identification Produced: _____

ATTACHMENT “J”

**SPECIAL CITY COUNCIL MEETING
JUNE 30, 2009 – 5:05 P.M.
MINUTES**

CALL TO ORDER

Mayor Adams called the meeting to order at 5:05 p.m.

ROLL CALL: *Present:* Council Member Fernando Herrera, Council Member Joel Tyson, Council Member Sara J. Savage, Council Member Daniel Naranjo, City Manager Jason R. Nunemaker, City Attorney Warren W. Dill and Mayor Susan P. Adams. *Absent:* None.

Staff Present: Larry W. Napler, C.G.F.O., Director of Finance and Accounting and Interim Utilities Director, Scott A. Melanson, Chief of Police and Deborah C. Krages, City Clerk.

Also Present: Steve Moler, P.E. of Masteller & Moler, Inc. and Scott Harmody of Masteller & Moler, Inc.

Mayor Adams asked everyone to stand for the pledge.

The pledge was recited.

PUBLIC HEARINGS:

1. **Application** for Funding from the United States Department of Agriculture for Expansion of the Municipal Water Treatment Plant and Facilities.

Mayor Adams announced the first item is a public hearing on the City's application for funding from the USDA for expansion of our Municipal Water Treatment Plant and Facilities.

City Manager Nunemaker thanked Council for holding the special meeting to consider the grant funding applications for our water plant expansion and advised that staff has been pursuing all stimulus funds that are beneficial to the City and he would request that Mr. Napler proceed.

Mr. Napier stated that he has worked very closely with Mr. Harmody of Masteller & Moler, Inc. and requested he address the application and respond to Council's questions or comments.

Steve Moler, P.E., Masteller & Moler, Inc. thanked Council for allowing them to assist the City with the funding and since Mr. Harmody is so familiar with the application he will provide Council with the background.

Mr. Harmody, Masteller & Moler, Inc., stated that first we are applying for a USDA Rural Development Grant/Loan with a maximum of forty five (45%) percent grant. The application process has taken between eight (8) and ten (10) month process and required approvals for the Engineering Agreements, Environmental Reports and Engineering Reports. The Environmental Report is open for review for thirty (30) days and to date there have been no comments and comments will be received until

July 10, 2009. The application addresses our current site which is approximately a one (1) acre site which entails the basic water treatment plant, parking lot and Bahia grass. Later in the meeting we will review the Water Facilities Plan application to FDEP in the amount of Two Million Five Hundred Fifty Thousand (\$2,550,000.00) Dollars, there funding is being granted in Three Million (\$3,000,000.00) Dollar blocks with eighty-five (85%) percent grant and if we are funded this application we will proceed with all grant funds.

City Manager Nunemaker reminded Council that we have been planning for this expansion and it is something that we need to do and there are two (2) potential grant fund sources. He continued that the FDEP, State Revolving Grant/Loan Program was previously awarded a Two Hundred Fifty Thousand (\$250,000.00) Dollar grant which was beneficial and these grants would be a tremendous benefit to the city and its residents.

A Council discussion ensued about the location and previous work performed at the plant and combining of improvements.

City Manager Nunemaker responded that the Improvements will be on and at our current water treatment site and that the previous improvements were required due to the increase in population threshold which required a change to chloramines and a disinfectant process.

Mr. Harmody assured Council that everything will remain the same like and these improvements fit like a hand in a glove. The improvements will meet the councils desire to improve the quality, color and taste of the water. There is no expansion on the site we will drill and install four (4) new wells in additional to the four (4) existing wells and add equipment and a one-half (1/2) million gallon storage tank, not elevated, to the site. The City will be able to produce 1.6 million gallons of water per day.

Mayor Adams opened the public hearing at 5:15 p.m. and asked that anyone wishing to speak come to the podium and to state their name and address for the record none Mayor Adams closed the public hearing. There being no comments from the public Mayor Adams closed the public hearing.

2. Application Expansion of the Municipal Water Treatment Plant Facilities Plan from the Florida Department of Environmental Protection State Revolving Fund/Loan Program.

Mayor Adams stated that this is the second public hearing on the Expansion of the Municipal Water Treatment Plant Facilities Plan submittal to the FDEP State Revolving Fund/Loan Program.

Mr. Harmody stated that the majority information on this grant was previously provided. This grant will add the needed improvement components and expansion of the plant. There are no environmental issues, no endangered birds, no plant species in the area and there are no impacts off site. There are no social impacts to the residents and it is good and necessary for the community. Historically the community uses the water, the City is the sole provider of potable water and there are no alternative uses. The City does have a Interlocal Agreement with Indian River County but only to provide emergency water at a connection location. The improvements will process water through filters to an above ground storage facility

and ready at a pump station. There are no additional costs to the users, no additional impacts to the users financially.

Mr. Napler added that this expansion is consistent with the City of Fellsmere Comprehensive Land Use Plan 2020 and the expansion will not result in a rate increase for the residents with or without the grant funding and at this time we are required to allow the public to speak.

Mayor Adams opened the public hearing at 5:21 p.m. and asked that anyone wishing to speak come to the podium and to state their name and address for the record, none Mayor Adams closed the public hearing, there being no comments Mayor Adams closed the public hearing.

NEW BUSINESS:

1. **Resolution 09-R/Authorizing and Providing for the Incurrence of Indebtedness for the purpose of Providing Portion of the Cost of Acquiring, Constructing, Enlarging, Improving, and/or Extending its Water Treatment Plant Facility to serve an area lawfully within the corporate limits of the City in the amount of Two Million Three Hundred Four Thousand One Hundred Sixty-Six (\$2,304,166.00) Dollars.**

Attorney Dill read Resolution 09-R, by title only.

MOTION by Council Member Council Member Savage, SECONDED by Council Member Naranjo, to adopt Resolution 09-R, authorizing and providing for the Incurrence of Indebtedness for the purpose of Providing Portion of the Costs of Acquiring, Constructing, Enlarging, Improving, an/or Extending its Water Treatment Plan Facility to serve an area lawfully within the corporate limits of the City in the amount of Two Million Three Hundred Four Thousand, One Hundred Sixty-Six (\$2,304,166.00) Dollars with the USDA Rural Development.

ALL AYES:

MOTION CARRIED. 5-0

2. **Resolution 09-S/Approving a Water System Facility Plan (2009) relating to the Florida Department of Environmental Protection State Revolving Fund Loan Program; Providing for the Implementation of Water System Projects including Water Supply, Storage and Treatment Improvement Projects.**

Attorney Dill read Resolution 09-S, by title only.

There was a brief discussion regarding the location of the business plan within the System Plan and the business Plan is located in Section K.

MOTION by Council Member Tyson, SECONDED by Council Member Herrera, to adopt Resolution 09-S, approving a Water System Facility Plan (2009) relating to the Florida Department of Environmental Protection State Revolving Fund Loan Program; Providing for the Implementation of Water System Projects including Water Supply, Storage and Treatment Improvement Project.

ALL AYES:

MOTION CARRIED. 5-0

3. **Resolution 09-T/Adopting a Water System Business Plan as required by the Florida Department of Environmental Protection.**

Attorney Dill read Resolution 09-T, by title only.

MOTION by Council Member Savage, SECONDED by Council Member Tyson to adopt a Water System Business Plan as required by the Florida Department of Environmental Protection.

ALL AYES:

MOTION CARRIED. 5-0

Mayor Adams reminded everyone about the Barbeque in Okeechobee at 10 a.m.

City Manager Nunemaker stated that he will be attending and there is room for three riders.

Council Member Tyson stated that he had spoken to Mr. Banack about a letter he had received from the Marion Fell Library and they sent Five Hundred (\$500.00) Dollars and his family would like to offer landscaping materials and asked if there were any objections.

Council agreed landscaping would be very nice for the site and Mr. Napier stated that the Council budgets Two Hundred Fifty (\$250.00) Dollars each year for the library but they have not requested the funds to date.

MOTION by Council Member Tyson, SECONDED by Council Member Herrera, to authorize staff to issue a check to the Marlon Fell Library in the amount of Two Hundred Fifty (\$250.00) Dollars allocated in this budget.

ALL AYES:

MOTION CARRIED. 5-0

ADJOURNMENT

There being no further business Mayor Adams closed the public hearing at 5:28 p.m.

These minutes were approved by the City Council of the City of Fellsmere during their meeting held on the ____ day of August, 2009.

CO_SP_090630MINUTES.DOC

I, Deborah C. Krages, City Clerk, of the City of Fellsmere, Indian River County, Florida, hereby certify the following as true and correct unapproved minutes of the June 30, 2009 Special Meeting of the City Council.


Deborah C. Krages, City Clerk



RESOLUTION

09-S

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF FELLSMERE, INDIAN RIVER COUNTY, FLORIDA, APPROVING A WATER SYSTEM FACILITY PLAN (2009) RELATING TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STATE REVOLVING FUND LOAN PROGRAM; PROVIDING FOR THE IMPLEMENTATION OF WATER SYSTEM PROJECTS INCLUDING WATER SUPPLY, STORAGE AND TREATMENT IMPROVEMENT PROJECTS AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, local government agencies are allowed under the general laws of Florida to apply for public loans through the State of Florida in order to finance the construction of water facilities; and

WHEREAS, the administrative regulation of the Florida Department of Environmental Protection ("FDEP"), the state agency that oversees the State Revolving Fund Loan Program, requires the City Council, as the local governing body of the City of Fellsmere, to formally approve a Water Facility Plan describing the necessary water supply, storage and treatment improvement projects in order to comply with the funding requirements of the State of Florida; and

WHEREAS, formal approval of a Water Facility Plan is required in order for the City of Fellsmere to participate in the State Revolving Loan Fund Program; and

WHEREAS, the City Council desires to formally approve the Water Facility Plan (2009), a copy being attached hereto and incorporated herein by reference and desires to make certain improvements to its water system as more fully described in the said plan; and

WHEREAS, the City Council concurs with the findings and summary of necessary improvements that are described in the Facility Plan for the purpose of improving water supply, storage, and treatment.

NOW, THEREFORE BE IT RESOLVED by the City Council of the City of Fellsmere, Indian River County, Florida, as follows:

SECTION 1. The foregoing recitals are incorporated herein by reference.

SECTION 2. The City Council of the City of Fellsmere, Indian River County, Florida, is authorized to approve, and does hereby approve, the Water Facility Plan (2009), a copy being attached hereto and incorporated herein by reference. The said Facility Plan is approved pursuant to the State Revolving Fund Loan Program for the purpose of making various improvements to the City's water facilities, including water supply, storage, and treatment improvement projects. A copy of the City's Facility Plan shall be maintained by the City Clerk.

SECTION 3. The Mayor and City Manager are hereby authorized and directed to execute the said Facility Plan, including any and all papers and documents necessary and incidental thereto.

SECTION 4. The City Manager is further designated to be the City's representative who is authorized to provide the assurance and commitments that will be required by the said Facility Plan; and to represent the City in carrying out the City's responsibilities under the said Facility Plan, including the authority to delegate responsibility to appropriate City staff members to carry out the various technical, financial, and administrative activities associated with implementing the said Facility Plan.

SECTION 5. All Resolutions or parts of Resolutions in conflict with any of the provision of this Resolution are hereby repealed to the extent of such conflict. If any section or portion of a section of this Resolution proves to be invalid, unlawful, or unconstitutional, it shall not be held to invalidate or impair the validity, force, or effect of any other section or part of this Resolution.

SECTION 6. This Resolution shall take effect immediately upon its adoption.

The foregoing Resolution was moved for adoption by Council Member Tyson. The motion was seconded by Council Member Herrera and, upon being put to a vote, the vote was as follows:

Mayor Susan P. Adams	<u>Yes</u>
Vice Mayor Joel Tyson	<u>Yes</u>
Councilman Fernando Herrera	<u>Yes</u>
Councilwoman Sara J. Savage	<u>Yes</u>
Councilman Daniel Naranjo	<u>Yes</u>

The Mayor there upon declared this Resolution duly passed and adopted this 30th day of June, 2009.

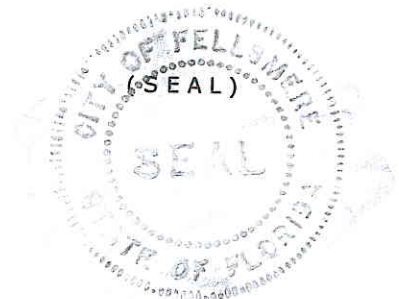
CITY OF FELLSMERE, FLORIDA

Susan P. Adams
Susan P. Adams, Mayor

ATTEST:

Deborah C. Krages
Deborah C. Krages, City Clerk

R-09-S.doc



RESOLUTION

09-T

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF FELLSMERE, INDIAN RIVER COUNTY, FLORIDA, ADOPTING A WATER SYSTEM BUSINESS PLAN AS REQUIRED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the City Council of the City of Fellsmere remains committed to the improvement of its water supply, storage, and treatment system to serve its present and future customers; and

WHEREAS, the City Council of the City of Fellsmere will submit applications to the Florida Department of Environmental Protection for the State Revolving Fund Loan Program for the construction of water supply, storage, and treatment improvement projects; and

WHEREAS, the Florida Department of Environmental Protection requires a public hearing in conjunction with the adoption of a Water System Business Plan ("Business Plan"); and

WHEREAS, the City Council of the City of Fellsmere has held such public hearings on June 30, 2009; and

WHEREAS, the City Council agrees with the findings contained in the Business Plan; and

WHEREAS, there does not appear to be significant public objection to the Business Plan as presented at the public hearing.

NOW, THEREFORE BE IT RESOLVED by the City Council of the City of Fellsmere, Indian River County, Florida, as follows:

SECTION 1. The foregoing recitals are incorporated herein by reference.

SECTION 2. The City Council hereby adopts the Water System Business Plan, dated June 30, 2009, which is attached hereto and incorporated herein by reference. A copy of the Water System Business Plan is on file in the City Clerk's Office.

SECTION 3. All Resolutions or parts of Resolutions in conflict with any of the provision of this Resolution are hereby repealed to the extent of such conflict. If any section or portion of a section of this Resolution proves to be invalid, unlawful, or unconstitutional, it shall not be held to invalidate or impair the validity, force, or effect of any other section or part of this Resolution.

SECTION 4. This Resolution shall take effect immediately upon its adoption.

The foregoing Resolution was moved for adoption by Council Member Savage. The motion was seconded by Council Member Tyson and, upon being put to a vote, the vote was as follows:

Mayor Susan P. Adams	<u>yes</u>
Vice Mayor Joel Tyson	<u>yes</u>
Councilman Fernando Herrera	<u>yes</u>
Councilwoman Sara J. Savage	<u>yes</u>
Councilman Daniel Naranjo	<u>yes</u>

The Mayor there upon declared this Resolution duly passed and adopted this 30th day of June, 2009.

CITY OF FELLSMERE, FLORIDA

Susan P. Adams
Susan P. Adams, Mayor

ATTEST:

Deborah C. Krages
Deborah C. Krages, City Clerk

R-09-T.doc



ATTACHMENT “K”

CAPITAL FINANCING PLAN WORKSHEETS

City of Fellsmere

Project Sponsoring Agency (DWSRF Project Sponsor)

Larry Napier, CGFO, Director of Finance and Accounting

Authorized Representative and Title

21 S. Cypress Street

Street Address or Other Mailing Address

Fellsmere, Florida 32948

City, State, and Zip Code

Larry Napier, CGFO, Director of Finance and Accounting (772) 571-1616

Capital Financing Plan Contact, Title, and Telephone Number

21 S. Cypress Street

Street Address or Other Mailing Address

Fellsmere, Florida 32948

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.

	Year 1	Year 2	Year 3	Year 4	Year 5
1. Fiscal Year	2008	2009	2010	2011	2012
2. Household income (\$/year)					
3. Household size (people/household)	2.5				
4. Number of households	1,868	1,896	1,951	2,079	2,234
5. Serviced population (people)	4,670	4,740	4,878	5,198	5,585

B. The revenues being dedicated to repayment of the DWSRF loan are:
 N/A (It is anticipated DWSRF funding will be grant)

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	10/09	251,834	12,592	37,775	50,367
2. Water treatment plant	10/09	1,201,419	24,130	420,497	444,627
3. Sites and easements					
4. Water transmission systems	10/09	192,000	3,840	67,200	71,040
5. Water storage facilities	10/09	364,500	18,225	54,675	72,930
6. Other (explain) <u>Admin, Legal, and Eng/Inspect</u>		540,247	10,250	122,100	132,350
7. Wastewater facilities					
Total		2,550,000	69,037	702,247	771,314

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

Description	Treatment, transmission and storage	Total Annual Costs for O/M&R	Total Annual Cost
Total Annualized Capital Costs	\$69,037	\$702,247	\$771,314
Total Capital Cost			\$2,550,000

D. Identify the DWSRF loan amount scheduled, or to be scheduled, on the project priority list, the interest rate established for the quarter preceding the submittal of the CFP, annual debt service, and expected pledged revenue coverage. Note that DWSRF repayments begin six months after the estimated construction completion. (It is recognized that the information provided is best estimates only.) N/A (It is anticipated DWSRF will be grant)

DWSRF Loan Amount \$ _____ interest rate _____ % annual debt service \$ _____
 loan repayment reserve \$ _____ pledged revenue coverage factor _____ semi-annual repayments begin 10/30/2010 (Date).

E. Identify other anticipated debt, which will be repaid from operations of the utility providing the dedicated revenues. N/A

Description/Fiscal Year	Debt Amount(\$)	Annual Interest Rate(%)	Revenue Coverage Rate(%)	Annual Debt Service(\$)				
		Rate(%)	Rate(%)	Year 1	Year 2	Year 3	Year 4	Year 5
1. _____	_____	_____	_____	_____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____	_____	_____	_____	_____

F. What is the existing debt for the utility providing the DWSRF dedicated revenues?

Description/Fiscal Year	Current Debt Amount(\$)	Annual Interest Rate(%)	Revenue Coverage Rate(%)	Annual Debt Service(\$)				
		Rate(%)	Rate(%)	Year 1	Year 2	Year 3	Year 4	Year 5
1. 1993 USDA Loan (40 yrs)	1,448,000	4.5	14%	100,160	99,585	99,965	100,255	100,455
2. 2000 Bank of Amer (15 yr)	133,929	4.88	18.7%	Paid Out				
3. _____	_____	_____	_____	_____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____	_____	_____	_____	_____
Totals (\$)	1,581,919			100,160	99,585	99,965	100,255	100,455

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

1. Existing facilities						
Fiscal Year	FY (08)	FY (09)	FY (10)	FY (11)	FY (12)	
OM&R (\$)	481,400	502,900	524,800	544,900	565,400	
Debt Service (\$)	100,160	99,585	99,965	100,255	100,455	
Other – describe						
Totals	581,560	602,485	624,765	645,155	665,855	
2. DWSRF proposed project(s) N/A						
Fiscal Year	FY ()	FY ()	FY ()	FY ()	FY ()	
OM&R (\$)						
Debt Service (\$)						
Other – describe						
Totals						
3. Non-DWSRF proposed project(s) (if any) N/A						
Fiscal Year	FY ()	FY ()	FY ()	FY ()	FY ()	
OM&R (\$)						
Debt Service (\$)						
Other – describe						
Totals						
4. All existing and planned facilities (sum of Items 1, 2, & 3, above)						
Fiscal Year	FY (08)	FY (09)	FY (10)	FY (11)	FY (12)	
OM&R (\$)	481,400	502,900	524,800	544,900	565,400	
Debt Service (\$)	100,160	99,585	99,965	100,255	100,455	
Other – describe						
Totals	581,560	602,485	624,765	645,155	665,855	

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 (08)	FY (09)	FY (10)	FY (11)	FY (12)
Operating (\$)	795,400	905,151	1,045,316	1,247,930	1,364,084
Non-operating (\$)					
Other – describe					
Totals	795,400	905,151	1,045,316	1,247,930	1,364,084

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 ()	FY ()	FY ()	FY ()	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 ()	FY ()	FY ()	FY ()	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 (08)	FY (09)	FY (10)	FY (11)	FY (12)
1. Water System data					
a. Total estimated annual water system costs	581,560	602,485	624,765	645,155	665,855
b. Non-residential share of total annual water system costs	69,787	72,298	74,972	77,419	79,903
c. Residential share of total annual water system costs	511,773	530,187	549,783	567,736	585,952
d. Number of households	1,868	1,896	1,951	2,079	2,234
e. Average residential system charge /per month/customer \$	24.00	24.72	25.46	26.22	27.01
2. Average connection fee per residential unit	404	404	404	404	404
3. Average impact fee per residential unit	\$1,240	\$1,240	\$1,240	\$1,240	\$1,240
4. Average special assessment per residential unit (identify basis below)					
5. Average capacity charge per residential unit (identify basis below)	11.68	11.68	11.68	11.68	11.68
6. Other (describe)					
7. DWSRF project capital cost per household (from Item C divide by Item K.1.d)	N/A Anticipated Grant Funding				
Describe basis for special assessments, such as cost per lot length					
	N/A				
Describe basis for capacity charge, such as cost per volume per day					
	N/A				

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

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

ATTACHMENT “L”

State of Florida
 Department of Environmental Protection
 Central District
SANITARY SURVEY REPORT

Plant Name CITY OF FELLSMERE County Indian River PWS ID # 3314280
 Plant Location 97th Street, Fellsmere, FL 32948 Phone 772-571-1616
 Owner Name City of Fellsmere Phone 772-571-1616
 Owner Address 21 S. Cypress Street, Fellsmere, FL 32948-6714
 Contact Person Jason Nunemaker Title City Manager Phone 772-571-1900
 This Survey Date 9/27/07 Last Survey Date 7/6/04 Last Compliance Inspection Date 3/24/03

PWS TYPE: Community

PLANT CATEGORY & CLASS: 5C

MAX-DAY DESIGN CAPACITY: 650,000 gpd

PWS STATUS: Approved

WC31-0080456-010 10/2/06

TREATMENT PROCESSES IN USE

Chloramination

SERVICE AREA CHARACTERISTICS

Municipality

Food Service: Yes No N/A

Number of Service Connections 1,178

Population Served 4,465 Basis X 3.79

OPERATION & MAINTENANCE LOG: Yes

Location Water treatment plant

Comments _____

CERTIFIED OPERATOR: Yes

Operator(s) & Certification Class-Number:

Pat Walsh C-5864

Hrs/day: Required N/A Actual 1

Days/wk: Required 5+1 Actual 5+2

Non-consecutive Days? Yes No N/A

Comments _____

MONTHLY OPERATION REPORTS (MORs)

MORs submitted regularly? Yes No N/A

Data missing from MORs? No Yes N/A

Average Day (from MORs) 305,335 gpd

Maximum Day (from MORs) 482,600 gpd 1/07

Comments _____

Flow Measuring Device Flow Meter

Meter Size & Type 4" Neptune

Date Last Calibrated 2007

RAW WATER SOURCE

GROUND; Number of Wells 4

PURCHASED from PWS ID # _____

Emergency Water Source _____

Emergency Water Capacity _____

STANDBY POWER SOURCE: Yes

Source Cummings Diesel

Capacity of Standby (kW) 50

Switchover: Automatic Manual

Hrs Operated Under Load 4 hrs/mo.

What equipment does it operate?

Well Pumps All

High Service Pumps _____

Treatment Equipment All

Satisfy avg. daily demand? Yes No Unknown

Audio-visual alarm? Yes No

Comments _____

PLANS AND MAPS

Coliform Sampling Plan Yes No N/A

D/DBP Monitoring Plan Yes No N/A

Lead and Copper Plan Yes No N/A

Distribution System Map Yes No N/A

Emergency Response Plan Yes No N/A

Comments _____

PREVENTIVE MAINTENANCE/O&M

Operation & Maintenance Manual Yes No

Preventive Maintenance Program Yes No

Flushing Program Yes No N/A

Records Yes No N/A

Isolation Valve Exercise Yes No N/A

Records Yes No N/A

Comments _____

CROSS CONNECTION CONTROL

BFPAs Unknown # Tested Unknown

WWTP RPZ Yes Date Tested Unknown

Written Plan _____ Date _____

Comments Provide information for "unknown" items.

GROUND WATER SOURCE

Well Number (Florida Unique Well ID #)	1 (AAF9007)	2 (AAF9010)	3 (AAF9009)	4 (AAF9008)
Year Drilled	1994	1993	1994	1993
Depth Drilled	85'	80'	80'	85'
Drilling Method	Rotary	Rotary	Rotary	Rotary
Type of Grout	Unknown	Unknown	Unknown	Unknown
Static Water Level	2'	3'	3'	3'
Pumping Water Level	16'	17'	11'	13'
Design Well Yield	150 gpm	150 gpm	150 gpm	150 gpm
Test Yield	298 gpm	296 gpm	311 gpm	298 gpm
Actual Yield (if different than rated capacity)	Unknown	Unknown	Unknown	Unknown
Strainer	Unknown	Unknown	Unknown	Unknown
Length (outside casing)	50'	50'	50'	50'
Diameter (outside casing)	10"	10"	10"	10"
Material (outside casing)	PVC	PVC	PVC	PVC
Well Contamination History	None	None	None	None
Is inundation of well possible?	No	No	No	No
6' X 6' X 4" Concrete Pad	Yes	*	Yes	Yes
SET BACKS	Septic Tank	N/A	N/A	N/A
	Reuse Water	N/A	N/A	N/A
	WW Plumbing	>100'	>100'	>100'
	Other Sanitary Hazard	None observed	None observed	None observed
PUMP	Type	Submersible	Submersible	Submersible
	Manufacturer Name	Goulds	Goulds	Goulds
	Model Number	150L10634	150L10634	150L10634
	Rated Capacity (gpm)	150	150	150
	Motor Horsepower	10	10	10
Well casing 12" above grade?	Yes	Yes	Yes	Yes
Well Casing Sanitary Seal	OK	OK	OK	OK
Raw Water Sampling Tap	Yes	**	Yes	Yes
Above Ground Check Valve	Yes	Yes	Yes	Yes
Security	Yes	Yes	Yes	Yes
Well Vent Protection	Yes	Yes	Yes	Yes

COMMENTS *The concrete pad on well #2 was covered with algae. **The raw water sample tap on well #2 was not smooth-nosed.

CHLORAMINATION (Disinfection)

Make Superior Capacity 100 ppd
 Chlorine Feed Rate 10 ppd
 Avg. Amount of Cl₂ gas used 12 ppd
 Chlorine Residuals: Plant 5.8 Remote 1.1
 Remote tap location MRT - Ballfield
 DPD Test Kit: On-site With operator
 None Not Used Daily

Injection Points Prior to hydropneumatic tanks.

Booster Pump Info 3 hp Grunfos

Comments (2) 1/2 hp Baldor feeding 40% ammonia solution at 14 gpd. Injected into H1 discharge piping. Using 3:1 chlorine to ammonia ratio. 3.23% ammonia solution. Chloramines installed under permit, WC31-0080456-010 dated 10/2/06 and cleared 5/24/07, as corrective action for disinfection byproduct maximum contaminant level violations.

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

STORAGE FACILITIES

(G) Ground (C) Clearwell (E) Elevated
 (B) Bladder (H) Hydropneumatic / flow-through

Tank Type/Number	H1	H2	E
Capacity (gal)	10,000	10,000	300,000
Material	Steel	Steel	Steel
Gravity Drain	Yes	Yes	Yes
By-Pass Piping	Yes	Yes	Yes
Protected Openings	Yes	Yes	Yes
Sight Glass or Level Indicator	Yes	Yes	Yes
PRV/ARV	PRV	PRV	None
Pressure Gauge	Yes	Yes	Yes
On/Off Pressure	55/70	55/70	16'/25'
Access Secured	Yes	Yes	Yes
Access Manhole	Yes	Yes	Yes
Tank Sample Tap Location	On tank	On tank	On tank
Date of Inspection	12/4/06	12/4/06	Unknown
Date of Cleaning	12/4/06	12/4/06	Unknown

Comments _____

HIGH SERVICE PUMPS

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

Comments _____

DEFICIENCIES:

1. **Failure to comply with the maximum contaminant levels (MCLs) for total trihalomethanes (TTHMs) and total haloacetic acids (five) (HAA5s).** The running annual average for TTHMs exceeded the MCL during the 1st-4th quarters of 2005 and 2006, and the 1st-3rd quarters of 2007. The running annual average for HAA5s exceeded the MCL during the 1st-4th quarters of 2005 and 2006, and the 1st-3rd quarters of 2007.

Chloramines were installed under permit WC31-0080456-010, dated 10/2/06 and cleared 5/24/07. Sample results for 6/18/07 and 7/17/07 were below the MCLs for TTHMs and HAA5s.

2. **Failure to maintain well #2.** The following were noted:
 - a) Threaded raw water sample tap.
 - b) Concrete well pad covered with algae.

Suppliers of water shall keep all necessary public water system components in operation and shall maintain such components in good operating condition so the components function as intended. [Rule 62-555.350(2), F.A.C.]

The discharge piping from each well pump shall include a smooth-nosed tap for sampling raw well water. All such sampling taps shall be located upstream of the check valve in the discharge piping if possible and upstream of all treatment facilities and chemical application points; shall be located at least 12 inches above the finished floor, pad, or ground surface below the tap; and shall be conveniently accessible and downward-opening. Raw well water sampling taps installed on or after August 28, 2003, except those installed under a construction permit for which the Department received a complete application before August 28, 2003, shall have no interior or exterior threads. [Rule 62-555.320(8)(b)2, F.A.C.]

2. **Failure to collect the required number of distribution samples for coliform bacteria monitoring during August 2007.** Only 4 samples were taken, 5 were required.

All public water systems shall analyze for coliform bacteria to determine compliance with subsection 62-550.310(5), F.A.C. Public water systems shall collect total coliform samples at sites that are representative of water throughout the distribution system. [Rule 62-550.518(1), F.A.C.]

COMMENTS/REMINDERS:

1. **Provide documentation of last cleaning and inspection for the elevated water storage tank.**

Accumulated sludge and bio-growths shall be cleaned routinely (i.e., at least annually) from all treatment facilities that are in contact with raw, partially treated, or finished drinking water and that are not specifically designed to collect sludge or support a bio-growth; and blistering, chipped, or cracked coatings and linings on treatment or storage facilities in contact with raw, partially treated, or finished drinking water shall be rehabilitated or repaired. [Rule 62-555.350(2), F.A.C.]

Finished-drinking-water storage tanks, including conventional hydropneumatic tanks with an access manhole but excluding bladder- or diaphragm-type hydropneumatic tanks without an access manhole, shall be checked at least annually to ensure that hatches are closed and screens are in place; shall be cleaned at least once every five years to remove biogrowths, calcium or iron/manganese deposits, and sludge from inside the tanks; and shall be inspected for structural and coating integrity at least once every five years by personnel under the responsible charge of a professional engineer licensed in Florida.

COMMENTS/REMINDERS (continued):

Ensure proper disinfection and bacteriological evaluation of public water system components in accordance with 62-555.340, F.A.C. Also, ensure proper disposal of heavily chlorinated water from the tank disinfection process.

2. Lead and copper tap sampling must be conducted during the July-December 2007 monitoring period.

For other chemical monitoring requirements, you are advised to call Marie Carrasquillo at (407) 894-7555, extension 2242, or Paul Morrison at (407) 893-3988.

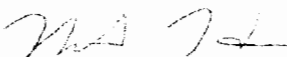
Early sampling is recommended. Results shall be submitted within the first ten days following the end of the required monitoring period, or the first ten days following the month in which the sample results were received, whichever time is shortest.

3. Suppliers of water shall submit written notification to the Department before beginning work or alterations to the public water system. Each notification shall be submitted to the appropriate Department of Environmental Protection District Office or Approved County Health Department and shall include the following: a description of the scope, purpose, and location of the work or alterations; and assurance that the work or alterations will comply with applicable requirements listed in Rule 62-555.330, F.A.C. Suppliers of water may begin such work or alterations 14 days after providing notification to the Department unless they are advised by the Department that the notification is incomplete or that a construction permit is required.
4. Suppliers of water shall telephone the SWP at 1-800-320-0519 immediately (i.e., within two hours) after discovery of any actual or suspected sabotage or security breach, or any suspicious incident, involving a public water system. [Rule 62-555.350(10)(a), F.A.C.]
5. Suppliers of water shall telephone, and speak directly to a person at, the appropriate DEP District Office as soon as possible, but never later than noon of the next business day, in the event of any of the following emergency or abnormal operating conditions:
 - The occurrence of any abnormal color, odor, or taste in a public water system's raw or finished water;
 - The failure of a public water system to comply with applicable disinfection requirements; or
 - The breakdown of any water treatment or pumping facilities, or the break of any water main, in a public water system if the breakdown or break is expected to adversely affect finished-water quality, interrupt water service to 150 or more service connections or 350 or more people, interrupt water service to any one service connection for more than eight hours, or necessitate the issuance of a precautionary "boil water" notice in accordance with the Department of Health's "Guidelines for the Issuance of Precautionary Boil Water Notices" as adopted in Rule 62-555.335, F.A.C. [Rule 62-555.350(10)(b), F.A.C.]
6. Suppliers of water shall notify the appropriate DEP District Office and affected water customers by no later than the previous business day before initiating any planned permanent or temporary conversion from free chlorine to chloramines or vice versa for disinfection. Notices to the appropriate DEP District Office shall be delivered by telephoning and speaking directly to a person at the DEP District Office, and notices to affected water customers shall be delivered in writing or via telephone, newspaper, radio, or television. A single notice may be provided to cover both a planned temporary conversion from chloramines to free chlorine and the planned subsequent conversion back to chloramines. Notification is not required before unplanned temporary conversions from chloramines to free chlorine to protect public health during emergency operating conditions caused by circumstances such as source water contamination, water main breaks, or backflow incidents. [Rule 62-555.350(10)(c), F.A.C.]

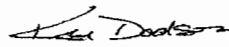
COMMENTS/REMINDERS (continued):

7. Suppliers of water shall notify affected water customers in writing or via telephone, newspaper, radio, or television; and telephone, and speak directly to a person at, the appropriate DEP District Office by no later than the previous business day before taking PWS components out of operation for planned maintenance or repair work if the work is expected to adversely affect finished-water quality, interrupt water service to 150 or more service connections or 350 or more people, interrupt water service to any one service connection for more than eight hours, or necessitate the issuance of a precautionary "boil water" notice in accordance with the Department of Health's "Guidelines for the Issuance of Precautionary Boil Water Notices" as adopted in Rule 62-555.335, F.A.C. [Rule 62-555.350(10)(d), F.A.C.]

8. Suppliers of water shall issue precautionary "boil water" notices as required or recommended in the Department of Health's "Guidelines for the Issuance of Precautionary Boil Water Notices" as adopted in Rule 62-555.335, F.A.C. [Rule 62-555.350(11), F.A.C.]

Inspector 

Title Environmental Specialist I Date 10/2/07

Approved by 

Title Environmental Manager Date 10/9/07