CITY OF NORTH PORT

PROFESSIONAL ENGINEERING SERVICES FOR NPU
NO. 2020-58
THIS IS NOT AN ORDER

Date:	**9/7/2023**
Page:	**1 of 3**

CITY OF NORTH PORT
Utilities Department
6644 W. Price Blvd.
North Port, Florida 34291

Contact Person: Michael Acosta, P.E., Engineering Mgr.
Contact Phone: 941-240-8013
Contact Fax: 941-240-8022
Contact Email: macosta@northportfl.gov

Reply No Later Than: October 18, 2023 @ 2:00 p.m. (EST)

REQUEST FOR LETTERS OF INTEREST NO. 2024-02

CITY OF NORTH PORT WASTEWATER MASTER PLAN

The City of North Port Utilities Department (NPU) is currently accepting letters of interest from firms within Contract No. 2020-58, Category 1 for Professional Engineering Services for NPU. The Wastewater Master Plan is budgeted for fiscal year 2024.

INTENT: It is the intention of NPU to secure professional engineering services to update the Wastewater Master Plan NPU. The development of an interactive master plan in lieu of a document that sits on the shelf is anticipated.

BACKGROUND/SCOPE OF SERVICES:

BACKGROUND

NPU owns and operates the Pan American and the Southwest Water Reclamation Facilities, the PAWRF and SWWRF, respectively. The PAWRF has a capacity of 7.00 million gallon per day (MGD) based on a three-month average daily flow (TMADF). The SWWRF has a capacity of 2.0 MGD TMADF. Both facilities employ the Modified Ludzack-Ettinger treatment process. The SWWRF is planned to be expanded by the developer of Wellen Park to 4.0 MGD TMADF. The last master plan update was completed in 2015 by Wade Trim. NPU is currently updating the hydraulic model for part of the collection system using Innovyze InfoWater software. The collection system consists of 185 miles of gravity collection system, 93 miles of force main, 20 miles of reclaimed water main, and 125 lift stations. The City has applied for a renewal of the PAWRF operating permit and expects that permit to be issued anytime. NPU anticipates applying for a renewal of the SWWRF operating permit in the first quarter of 2024.

In 2019 Giffels-Webster Engineers finalized a plan to provide water and wastewater service to the platted lot areas of the City that are currently unserved. This plan, known as the Neighborhood Expansion program, has been initiated with the first phase of the first sewershed nearing design completion. This is a long-term project for the NPU. In addition to the Neighborhood Expansion program, NPU is nearing completion of water and force main extensions along Sumter and Toledo Blade Boulevards. These extensions are expected to spark development in these corridors with significant interest already expressed in the Toledo Blade Blvd./Interstate 75 area and Sarasota Memorial Hospital announcing that a new hospital will be constructed on Sumter Blvd. near I-75. The growth associated with these areas, Wellen Park, the Neighborhood Expansion program and other areas of the City will all needed to be addressed in this Master Plan.

SCOPE OF SERVICES

TASK 1- PROJECT MANAGEMENT AND COORDINATION

This task will include overall project management by the consultant and coordination with NPU, attendance at project meetings, assistance with any permitting coordination as needed. This task will include a project kickoff meeting with NPU staff to review the project, regulatory concerns, and any items pertinent to the progress of the project.

Additional data may be requested as needed. The firm will work with NPU staff to acquire the information. This may include phone calls, meetings, site visits and email communications with staff.

TASK 2 – CONDITION ASSESSMENT

Conduct condition assessment of wastewater system components such as treatment processes and lift stations. It is anticipated that 25 percent of the largest lift stations will be assessed. This assessment does not include the piping condition of the collection system.

TASK 3 – CUSTOMER AND USAGE PROJECTIONS

Projections shall be the basis for evaluating future wastewater system needs. Projections of the total number of customers and associated usage shall be developed for the wastewater system consistent with historical trends in the system. The projections will be split include the growth at Wellen Park to be met by the SWWRF located there and the balance of the growth by the PAWRF, and perhaps a future plant. Customer and usage projections shall also take into account planned wastewater system expansion including the Neighborhood Expansion program. The forecasted usage shall provide the guidance for scheduling necessary capital improvements.

TASK 4 – RENEWAL, REPLACEMENT AND CAPITAL IMPROVEMENT PROJECTS

Based on the condition assessment and customer usage projections, develop renewal and replacement and capital improvement projects to maintain current treatment capability and ensure that the demands of the system are met over the 10-year planning horizon.

TASK 5 – SECURITY

Evaluate overall facility and operational aspects of physical and cybersecurity of the wastewater reclamation facilities and the collection system in accordance with the latest available requirements from the Department of Environmental Protection, the Department of Homeland Security, the Water Environment Federation (WEF) and the National Institute of Standards and Technology (NIST) Framework for Improving Critical Infrastructure Cybersecurity including storm surge (disaster plan) and resiliency. Security portions of the master plan shall be treated as sensitive information/data and shall not be transmitted via e-mail with any final report items on this portion separated from the final report.

TASK 6 – DRAFT AND FINAL REPORT

The format of the draft and final reports will be developed by the firm and approved by NPU in advance of the draft report being issued. The Wastewater Master Plan and all other written material will be provided electronically in Microsoft Word format for review, final reports will be signed and sealed and provided in portable document format. Upon contract completion, all documents and reports will become property of NPU and the City of North Port.

DELIVERABLES

The deliverables to be provided for this project include the following:

- Kickoff meeting agenda and meeting notes
- Data request list
- Monthly status reports
- Draft report, including an interactive portion
- Final report, including interactive portion, incorporating any comments from NPU
- Two (2) sets of any Final Reports and data files

PROPOSAL REQUIREMENTS

Proposals shall include a project plan which specifies the firm's understanding of project and required deliverables; ability and relevant expertise/qualifications of the firm's personnel to be used in performing the service; availability of staff and ability to meet project schedule; the firm's proposed cost saving measures for the project, if any; and provide a schedule that will meet the timeline requirements of this project.

Firms are to provide references for at least three (3) similar projects within the last five (5) years. Name, title, email and phone numbers are required for appropriate contact for each reference.

Proposals are to include the names of all subconsultants/subcontractors to be used on this project.

ATTACHMENTS

1. Conflict of Interest Form
2. Disclosure for Consultant, Engineer, Architect
3. Statement of Non-Submittal
4. City of North Port Utilities Master Plan, September 2015, Wade Trim
5. City of North Port, 2004 Utility Master Plan, January 2005, Black and Veatch
6. Pan American Water Reclamation Facility Operating Permit
7. Southwest Water Reclamation Facility Operating Permit

Please Note: The Conflict of Interest Form and Disclosure for Consultant, Engineer, Architect ***must be submitted*** with proposals for consideration.

Any questions concerning this project must be submitted via email to both Michael Acosta and Brittany Kammerer at macosta@northportfl.gov and bkammerer@northportfl.gov, respectively no later than **October 11, 2023**.

All firms within Contract No. 2020-58, Category 1 are encouraged to submit a letter (not to exceed five single-sided pages) that provides the above information and adequately expresses why it would be in the City's best interest to select the submitting firm(s).

LETTERS OF INTEREST ARE TO BE DELIVERED TO THE UTILITIES DEPARTMENT ON OR BEFORE OCTOBER 18, 2023 AT 2:00 P.M. (EST) VIA EMAIL TO:

MICHAEL ACOSTA: MACOSTA@NORTHPORTFL.GOV

AND

BRITTANY KAMMERER: BKAMMERER@NORTHPORTFL.GOV

STATEMENT OF NON-SUBMITTAL

If you **do not** intend to submit a bid on this service, please return this form (see information below) immediately.

We, the undersigned, have declined to submit a Letter of Interest for **RLI No. 2024-02 – CITY OF NORTH PORT WATER MASTER PLAN.**

- ☐ Insufficient time to respond to the Request for Bid.
- ☐ We do not offer this product/service.
- ☐ Unable to meet bond/insurance requirements.
- ☐ Specifications are unclear (explain below).
- ☐ OTHER (please specify below).

REMARKS: _____

_____

_____

COMPANY NAME: _____

ADDRESS: _____

CITY: _____ **STATE:** _____ **ZIP CODE:** _____

TELEPHONE: _____ **FAX:** _____

E-MAIL ADDRESS: _____

SIGNATURE: _____ **DATE:** _____

PRINT NAME: _____

Note: Please email "Statement of Non-Submittal" to:

MICHAEL ACOSTA: MACOSTA@NorthPortFL.gov
AND
Brittany Kammerer: BKammerer@NorthPortFL.gov

CONFLICT OF INTEREST FORM

F.S. §112.313 places limitations on public officers (including advisory board members) and employees' ability to contract with the City either directly or indirectly. Therefore, please indicate if the following applies:

PART I.

☐ I am an employee, public officer or advisory board member of the City _____ **(List Position or Board)**

☐ I am the spouse or child of an employee, public officer or advisory board member of the City
Name: _____

☐ An employee, public officer or advisory board member of the City, or their spouse or child, is an officer, partner, director, or proprietor of Respondent or has a material interest in Respondent. "Material interest" means direct or indirect ownership of more than 5 percent of the total assets or capital stock of any business entity. For the purposes of [§112.313], indirect ownership does not include ownership by a spouse or minor child.
Name: _____

☐ Respondent employs or contracts with an employee, public officer or advisory board member of the City
Name: _____

☐ None of The Above

PART II:

Are you going to request an advisory board member waiver?

☐ I will request an advisory board member waiver under §112.313(12)

☐ I will NOT request an advisory board member waiver under §112.313(12)

☒ N/A

The City shall review any relationships which may be prohibited under the Florida Ethics Code and will disqualify any vendors whose conflicts are not waived or exempt.

BUSINESS NAME: _____

NAME(PERSON AUTHORIZED TO BIND COMPANY): _____

SIGNATURE: _____

THIS PAGE MUST BE SUBMITTED WITH LETTER OF INTEREST

DISCLOSURE FORM FOR CONSULTANT/ENGINEER/ARCHITECT

Please select only one of the following three options:

Print Form Clear All Fields

☐ Our firm has no actual, potential, or reasonably perceived, **financial*** or **other interest**** in the outcome of the project.

☐ Our firm has a potential or reasonably perceived **financial*** or **other interest**** in the outcome of the project as described here:

_____.

Our firm proposes to mitigate the potential or perceived conflict according to the following plan:

_____.

☐ Our firm has an actual **financial*** or **other interest**** in the outcome of the project as described here:

_____.

***What does "financial interest" mean?**

If your firm, or employee(s) of your firm working on the project (or a member of the employee's household), will/may be perceived to receive or lose private income depending on the government business choices based on your firm's findings and recommendations, this must be listed as a financial interest. An example would be ownership in physical assets affected by the government business choices related to this project. The possibility of contracting for further consulting services is not included in this definition and is not prohibited.

****What does "other interest" mean?**

If your firm, or employee(s) of your firm working on the project (or a member of the employee's household), will/may be perceived to have political, legal or any other interests that will affect what goes into your firm's findings and recommendations, or will be/may be perceived to be affected by the government business choices related to this project, this must be listed as other interest.

BUSINESS NAME: _____

NAME (PERSON AUTHORIZED TO BIND THE COMPANY): _____

SIGNATURE: _____ **DATE:** _____

Scrutinized Company Certification Form

Company Name: _____

Authorized Representative Name and Title: _____

Address: _____ City: _____ State: _____ ZIP: _____

Phone Number: _____ Email Address: _____

A company is ineligible to, and may not, bid on, submit a proposal for, or enter into or renew a contract with the City of North Port for goods or services of any amount if, at the time of bidding on, submitting a proposal for, or entering into or renewing such contract, the company is on the Scrutinized Companies that Boycott Israel List, created pursuant to Florida Statutes, section 215.4725, or is engaged in a boycott of Israel.

A company is ineligible to, and may not, bid on, submit a proposal for, or enter into or renew a contract with the City of North Port for goods or services of $1 million or more if, at the time of bidding on, submitting a proposal for, or entering into or renewing such contract, the company is on the Scrutinized Companies with Activities in Sudan List, the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to Florida Statutes, section 215.473, or with companies engaged in business operations in Cuba or Syria.

CHOOSE ONE OF THE FOLLOWING

☐ This bid, proposal, contract or contract renewal is for goods or services of less than $1 million. As the person authorized to sign on behalf of the above-named company, and as required by Florida Statutes, section 287.135(5), I hereby certify that the above-named company is not participating in a boycott of Israel.

☐ This bid, proposal, contract or contract renewal is for goods or services of $1 million or more. As the person authorized to sign on behalf of the above-named company, and as required by Florida Statutes, section 287.135(5), I hereby certify that the above-named company is not participating in a boycott of Israel, is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, and it does not have business operations in Cuba or Syria.

I understand that pursuant to Florida Statutes, section 287.135, the submission of a false certification may result in the termination of the contract if one is entered into, and may subject the above-named company to civil penalties, attorney's fees and costs.

Certified By: _____
AUTHORIZED REPRESENTATIVE SIGNATURE

Print Name and Title: _____

Date Certified: _____

Solicitation/Contract/PO Number (Completed by Purchasing): _____

VENDOR'S CERTIFICATION FOR E-VERIFY SYSTEM

The undersigned Vendor/Consultant/Contractor (Vendor), certifies the following:

1. Vendor is a person or entity that has entered into or is attempting to enter into a contract with the City of North Port (City) to provide labor, supplies, or services to the City in exchange for salary, wages or other renumeration.

2. Vendor has registered with and will use the E-Verify System of the United States Department of Homeland Security to verify the employment eligibility of:

   a. All persons newly hired by the Vendor to perform employment duties within Florida during the term of the contract; and

   b. All persons, including subcontractors or subconsultants, assigned by the Vendor to perform work pursuant to the contract with the City.

3. If the Vendor becomes the successful Contractor who enters into a contract with the City, then the Vendor will comply with the requirements of Section 448.095, Fla. Stat. "Employment Eligibility", as amended from time to time.

4. Vendor will obtain an affidavit from all subcontractors attesting that the subcontractor does not employ, contract with, or subcontract with, an unauthorized alien as defined in 8 United States Code, Section 1324A(H)(3).

5. Vendor will maintain the original affidavit of all subcontractors for the duration of the contract.

6. Vendor affirms that failure to comply with the state law requirements can result in the City's termination of the contract and other penalties as provided by law.

7. Vendor understands that pursuant to Florida Statutes, section 448.095, the submission of a false certification may result in the termination of the contract if one is entered into, and may subject the Vendor named in this certification to civil penalties, attorney's fees and costs.

VENDOR: _____ (Vendor's Company Name)

Certified By: _____

AUTHORIZED REPRESENTATIVE SIGNATURE

Print Name and Title: _____

Date Certified: _____

CITY OF NORTH PORT

UTILITIES MASTER PLAN

CAPITAL IMPROVEMENT PROJECTS

PREPARED FOR:

CITY OF NORTH PORT
6644 PRICE BOULEVARD
NORTH PORT, FLORIDA 34291
(941) 240-8000; FAX (941) 240-8022

PREPARED BY:

WADE TRIM
8010 WOODLAND CENTER BOULEVARD
SUITE #1200
TAMPA, FL 33614
(813) 882-4373; FAX (813) 888-7215

SEPTEMBER 2015
NPC2002.01L

TABLE OF CONTENTS

LIST OF FIGURES, TABLES & APPENDICES

Figures

Tables

Appendices

1.0 EXECUTIVE SUMMARY

1.1 Introduction

The City of North Port Utilities Department currently provides utility services to approximately 19,000 water connections and nearly 14,500 wastewater connections. The City's potable water system extends to approximately 30% of the Urban Service Area and the wastewater system extends to approximately 25% of the Urban Service Area. Ten years ago, the City was anticipating a period of rapid growth from several large developments including the Thomas Ranch, now known as the West Villages Improvement District (WVID), in the western part of the City; and, the Kelse Ranch and Panacea in the northeastern part of the City. As a prudent method to plan for the eventual growth of the utility system to service these areas, the City prepared a series of master planning documents that included the identification of various capital improvement projects (CIPs). These documents include the following:

Water System Planning Documents

- 2007 Water Utility Master Plan Update (Hazen & Sawyer, March 2008);
- 2008 Water Treatment Plant Enhancement Study (Carollo, July 2008);
- 2010 US 41 Corridor Utility Master Plan Executive Summary and Study Update (Watermark Engineering, January 2010).

Wastewater System Planning Documents

- 2004 Utility Master Plan – Wastewater Sections (Black & Veatch, January 2005);
- 2007 Existing Wastewater Treatment Facility Upgrades and Expansion (Brown & Caldwell, January 2007);
- 2010 US 41 Corridor Utility Master Plan Executive Summary (Watermark Engineering, January 2010).

Reuse System Planning Documents

- 2008 Water Reuse Master Plan (Brown & Caldwell, March 2008);

The City has completed many of the projects described in these documents, but others have not yet been pursued by the City because the key driver for the projects has not occurred. Development that was expected within these planning documents has not yet occurred, which has delayed the need for many projects. Prior to undertaking preparation of updated comprehensive Master Plans for the water, wastewater, and reuse utility systems, this document was prepared for the following purpose:

1. Review the status of the previous utility system planning documents;
2. Conduct planning level assessments of the Myakkahatchee Creek Water Treatment Plant and Wastewater Treatment Plant for the purpose of reviewing the status of upgrade projects and determining the need for any other improvements;
3. Assess the existing and near future water demands and wastewater flows for the system;
4. Develop a simplified hydraulic model of the potable water distribution system and the wastewater collection system to identify any performance issues with these systems for the existing and near future conditions;
4. Document the City's plans and priorities for the rehabilitation of selected sanitary lift stations; and,
5. Compile a listing of engineering projects that could be used as a basis for future budgetary planning or as a starting point for future utility capital improvement project planning.

1.2 Previous Water System Master Plans

The following is a brief summary of the water system planning documents that have been reviewed for this report.

2007 Water Utility Master Plan Update

The 2007 Water Utility Master Plan Update was completed by Hazen & Sawyer in March 2008. The report evaluates the City's potable water treatment and major transmission pipelines needed to support population growth within the City. A series of fifteen (15) recommended water system improvements estimated to be $87.5 million dollars (in 2007 dollars) was presented in the report for the purpose of increasing capacity (plants and distribution system) and to improve treatment. Of the projects identified, seven projects have been completed, two projects are in progress, one project has been eliminated, and five projects are remaining to be implemented. The most significant projects outlined in the 2007 Water Utility Master Plan Update to be implemented include the West Villages Improvement District Water Treatment Plant Design/Construction Project (estimated project cost of $38 million in 2007 dollars), Northeast Water Treatment Plant Design/Construction Project (estimated project cost of $25 million in 2007 dollars), and a 16-inch water main extension servicing the West Villages Improvement (estimated project cost of $968,000 in 2007 dollars).

Among the projects envisioned in the 2007 Water Utility Master Plan Update are the design/construction of two water treatment facilities in areas where significant growth and development was expected. For example, the report described the West Villages Improvement District (WVID) as projected to generate a maximum day water demand of 1.4 million gallons per day (MGD) from 5,600 ERCs. However, the current maximum day water demand from the WVID area is only approximately 92,000 gallons per day (gpd). The current water demand from the WVID area can be met using the existing infrastructure servicing the area, including the Southwest Booster Pump Station and its 1.0 million gallon (MG) capacity ground storage tank. If further development within the WVID area occurs, then additional water system improvements to service the area will be needed.

The City also anticipated the need for additional water treatment plant capacity in the northeast to meet the anticipated future demands in that area of the city. The 2007 Water Utility Master Plan Update projected that development in the Northeast Quadrant of the City would generate a maximum day water demand of 8.9 MGD from 26,500 ERCs. The current water demands in this portion of the City are being met using the PRMRWSA interconnect along with the Northeast Booster Pump Station. Until such time that the future developments anticipated in the northeast quadrant begin, the drivers for the construction of the Northeast Water Treatment Plant have not yet occurred.

Additional information regarding the 2007 Water Utility Master Plan Update is described in **Section 2.4.1** of this report.

2008 Water Treatment Plant Enhancement Study

The 2008 Water Treatment Plant Enhancement Study was completed by Carollo Engineers in July 2008. The report presents an evaluation of treatment enhancements to increase the reliable production and quality of potable water from the Myakkahatchee Creek Water Treatment Plant (MCWTP) including improvements to the existing conventional treatment process as well as the addition of a new treatment process. Prior to 2012, the MCWTP relied solely on withdrawing surface water from either the Myakkahatchee Creek or Cocoplum Canal as the water source. Both of these water sources experience considerable seasonal water quality and flow variations resulting in significant challenges

for the conventional water treatment process. During the dry season, the surface waters are difficult to treat due to elevated and highly variable total dissolved solids (TDS), sulfates, and hardness. At the time of the 2008 report, the MCWTP was challenged in consistently meeting the secondary maximum contaminant levels (SMCLs) for sulfates and TDS within the finished water.

The 2008 Water Treatment Plant Enhancement Study presented a series of eighteen (18) recommendations for improvements to the conventional water treatment process. Of these projects, eight have been completed, eight are on-going or are being completed, one project is being monitored, and one project may be completed in the future.

The 2008 report proposed the design and construction of a 1.5 MGD reverse osmosis (RO) treatment system at the MCWTP with an estimated project cost of $13.6 million dollars (in 2008 dollars). This recommendation was made based upon an approach to blend finished water from the RO system with the conventional water treatment process to resolve the SMCL issues. The recommendation originally included the use of River Bank Filtration (RBF) for pre-treatment of Cocoplum Canal surface water being used as the water source for the RO treatment system. RBF was determined to be not feasible and the RO treatment facility was ultimately constructed, being placed into service in 2012, using six Floridan aquifer groundwater wells as the water source for the RO treatment system.

Additional information regarding the 2008 Water Treatment Plant Enhancement Study is described in **Section 2.4.2** of this report.

1.3 Previous Wastewater System Master Plans

The following is a brief summary of the wastewater system planning documents that have been reviewed for this report.

2004 Utility Master Plan – Wastewater Sections

The 2004 Utility Master Plan was completed by Black & Veatch in 2005. The 2004 report presents the utility master plan for water, wastewater, and reclaimed water. For the purpose of this report, only the wastewater sections of the 2004 report were reviewed.

The report presents a series of eighteen (18) wastewater projects totaling $67.4 million dollars (in 2004 dollars) to increase the wastewater system capacity (plant and collection system) and to improve treatment. Of the wastewater system projects recommended in the 2004 Utility Master Plan, eight projects have been completed, one project is on-going, one project is in progress, and eight projects remain to be implemented. The most significant projects to be implemented include the Panacea Wastewater Treatment Plant Construction Project (estimated project cost of $14.95 million in 2004 dollars), the Thomas Ranch/West Villages Improvement District WWTP Construction Project (estimated project cost of $14.95 million in 2004 dollars), the Toledo Blade/Price Primary Lift Station Construction Project (estimated project cost of $2.1 million in 2004 dollars), the North Toledo Blade Forcemain Construction Project (estimated project cost of $1.2 million in 2004 dollars), the East Price Blvd Forcemain Construction Project (estimated project cost of $2.7 million in 2004 dollars), and three wastewater collection system expansion projects into neighborhoods (estimated project cost totaling $16.4 million in 2004 dollars).

The wastewater system projects contained within the 2004 Utility Master Plan that have yet to be completed can be categorized into two types: 1) infrastructure to support new large developments and 2) expansion of wastewater collection into select neighborhoods. The 2004 Master Plan identified that

additional treatment plant capacity would be needed to support the growth of large scale development using the approach to locate these plants within the developments they are serving rather than continuing to expand the existing centrally located WWTP. The report suggests this approach was selected based upon the intent of minimizing future pumping and forcemain construction costs. The Toledo Blade/Price Primary Lift Station and North Toledo Blade Forcemain was intended to serve the Kelse Ranch development by connecting the initial phases of the development to the existing wastewater system until such time as the East Price Blvd Forcemain project was completed and able to convey flows to the proposed Panacea WWTP. The driver for this series of improvements is the development of the Kelse Ranch and Panacea area that has not occurred to date.

The driver for the Thomas Ranch WWTP project is the development within the West Villages Improvement District area. Currently, the wastewater flows from this area are under 100,000 gpd and are being treated using the capacity available at the existing WWTP. If the level of development within this area continues, then a WWTP serving this area will become necessary in the future.

The 2004 Utility Master Plan contains an evaluation for the expansion of utilities into existing neighborhoods. Prioritization of neighborhood utility expansion was evaluated based upon several factors including: 1) current development density; 2) anticipated short-term future growth; and 3) support of comprehensive plan goals. Each neighborhood was scored and ranked for the purpose of establishing priorities. The neighborhoods with the highest priority were included to be implemented within the 2004 Master Plan. However, the Master Plan does recommend a financial analysis be performed for each neighborhood expansion project prior to implementation to confirm if the project is cost-effective. To date, none of the neighborhood wastewater system expansion projects listed in the 2004 Master Plan have been undertaken by the City.

Additional information regarding the 2004 Utility Master Plan Wastewater Sections is described in **Section 2.4.3** of this report.

<u>2007 Wastewater Treatment Facility Upgrades & Expansion Preliminary Engineering Report</u>

The 2007 Existing Wastewater Treatment Facility Upgrades & Expansion Preliminary Engineering Report was completed by Brown & Caldwell in 2007. This report presents proposed upgrades and expansion projects for the WWTP. The WWTP upgrade and expansion, including installation of a second deep injection well (DIW), was complete in 2012.

Two projects identified in the report have not been completed, including the following: 1) construct new deep injection well pump station; and, 2) install a new transmission main to the deep injection well. This series of projects was intended to allow the conveyance of the full rated capacity of the two DIW from the WWTP to the well site.

As of the date of this report, the City is currently undertaking an in-kind replacement of the DIW pump/motors within the constraints of the existing electrical system as the pumps are reaching the end of their useful service life and repair parts are becoming difficult to obtain. The City has elected to delay the planned capacity upgrade of the DIW pump station for at least 5 years. The cost of the new DIW pump station has been estimated to be approximately $1.1 million dollars based upon an updated analysis of the project scope in 2015. The cost of the transmission main was estimated to cost $4.5 million dollars in 2007. The driver for these projects is an increase in treated effluent disposal capacity using the DIW system. Until the wastewater flow increases to a level that additional disposal capacity is needed, this set of projects is being deferred.

Additional information regarding the 2007 Wastewater Treatment Facility Upgrades & Expansion Preliminary Engineer Report is described in **Section 2.4.4** of this report.

2010 US 41 Corridor Utility Master Plan Executive Summary and Study Update

The 2010 US 41 Corridor Utility Master Plan Executive Summary and Study Update was prepared by Watermark Engineering in January 2010. The report consists of an executive summary, a PowerPoint presentation, and a preliminary financing plan.

The purpose of the work was to develop a series of potable water and wastewater system improvements to plan for the eventual development of high intensity commercial and industrial uses along the US 41 corridor while maintaining service line dedications to the WVID. A series of four wastewater system projects were detailed totaling $1.82 million dollars (in 2010 dollars). To date, the commercial/industrial development along the US 41 corridor has not yet occurred and only one of the wastewater system projects described in the 2010 US 41 Corridor Utility Master Plan Executive Summary document has been undertaken.

A two phase potable water system project is also recommended in the US41 Corridor Utility Master Plan totaling $1.38 million dollars (in 2010 dollars). This project remains planned for future.

Additional information regarding the 2010 US 41 Corridor Utility Master Plan Executive Summary and Study Update is described in **Section 2.4.6** of this report.

1.4 Previous Reuse System Master Plan

The following is a brief summary of the reuse system planning document reviewed for this report.

2008 Water Reuse Master Plan

The 2008 Water Reuse Master Plan was completed by Brown & Caldwell in 2008. This report identifies opportunities for the City to maximize the beneficial use of reclaimed water for irrigation and other non-potable water uses. In 2008, the City had the ability to provide up to 1.9 MGD of reclaimed water from the existing WWTP to customers within the Reclaimed Water Service Area, including Sabal Trace development, Heron Creek development/golf course, North Port Skate Park, City Complex, and roadway medians along North Port Boulevard. At the time of the 2008 report, the City was in the process of expanding the capacity of the existing WWTP to 7.0 MGD and two (2) other facilities were being proposed to provide wastewater treatment in areas of the City as development occurred. The City's desire was for all wastewater treatment facilities to be designed such that the treated effluent from their facilities meets public access reuse standards and for the reclaimed water distribution system from all the facilities to be interconnected. The total reuse demand projected for 2028 was estimated to be 21.3 MGD.

The 2008 report presents a summary of eight primary projects and one optional project for a total cost of $34.9 million (in 2007 dollars) to meet the overall goals described in the Reuse Master Plan. To date, two projects have been completed, one project has been deemed to be not feasible, and all the others are planned for the future.

Additional information regarding the 2008 Water Reuse Master Plan is described in **Section 2.4.5** of this report.

1.5 Water Treatment and Distribution System Analysis

Wade Trim performed a site assessment of the Myakkahatchee Creek Water Treatment Plant and developed a simplified water distribution hydraulic model as an element of this project. The following is a brief summary of this work:

Water Treatment Plant Site Assessment

A site visit to the Myakkahatchee Creek Water Treatment Plant by Wade Trim staff was conducted on August 19, 2014 for the purpose of determining the general condition of the facility and to identifying master planning level type projects through input from City staff. Ten (10) projects were identified during the MCWTO site visit. Of the ten projects, the following projects have not yet been initiated.

Table 1-1. Water Treatment Plant Assessment Projects

PROJECT NUMBER	DESCRIPTION	ESTIMATED PROJECT COST(1,2)
W-1	Install Sun Protection Over Filters	$258,000
W-2	Replace Filter Control PLCs	$372,000
3	Evaluate the Need to Replace Filter Media	$1,116,000
TOTAL PROJECT COST (in 2015 Dollars)		**$1,746,000**

(1) Pricing is based on ENR Construction Cost Index = 10037 (July 2015). Costs were rounded up to the nearest thousand
(2) Estimates of probable costs are Class 4 order-of-magnitude estimates as defined by AACE and rounded to the nearest thousand dollars.

Water Distribution System Hydraulic Modeling

In order to determine the performance of the water distribution system to deliver existing and near future water demands within the City, a simplified hydraulic model of the water distribution system was developed.

A water distribution model was created in Bentley WaterGEMS V8i hydraulic modeling software. The steady-state hydraulic model is a “snapshot” of the system, calculating the flows, pressures and pump operations from the overall system demand. It does not simulate the varying system demands throughout the day (that a dynamic model simulates), where the number of operating pumps change throughout the day to maintain system pressures and flows. The model representation of the system was developed using City provided GIS data including water mains, valves, hydrants, and parcels. All water mains from the GIS data were imported in the model; however, the majority of water mains smaller than 8-inch were not used for the analysis. Selected small diameter water mains were included in the model to maintain connections between larger mains, to account for long runs of water main that are used as primary transmission mains, and to maintain existing loops in the system.

Two modeling conditions were simulated within the modeling framework. An Existing Max Day scenario represented by a maximum day water demand of 5.80 MGD and a Future Max Day scenario represented by a maximum day water demand of 6.37 MGD were modeled. The Future Max Day scenario included the water demand from 2,213 ERCs of future development equating to an additional water demand of 0.57 MGD from new development areas identified by the City’s Planning Department as expected to be occurring within the near future. The model results were evaluated on the basis of system pressure, pipe velocity, fire flow, treatment capacity, and high service pumping capacity. The

model results showed that the water distribution infrastructure meets all design criteria except for fire flow in select areas and pipe velocities. Although the model shows the majority of the system is capable of providing design fire flows, the model indicates select areas that do not appear to meet minimum fire flow criteria. It is recommended that field verification and more detailed evaluation be conducted for these areas.. The model also showed approximately 94% of the water mains within the model representation exhibit low pipe velocities of less than 1 foot per second for maximum day conditions. This can be attributed to the distribution system lines being sized for a future buildout type condition which is very common for most utility systems in areas where additional growth is expected. Low velocities are also to be expected within water mains that are designed to accommodate fire flow conditions but have low flow water demand. This would suggest the distribution system would be expected to exhibit common water quality problems such as long water age or low chlorine residuals.

The simplified water distribution system model determined the existing system is expected to performing satisfactory under a maximum day condition of up to 6.37 MGD with no additional water distribution system improvements needed to supply that capacity. The modeling work did identify the need to further evaluate those areas within the system that appear to not meet the fire flow criteria and to consider the development of an engineered Uni-Directional Flushing (UDF) program to improve water quality in those areas of the water distribution system where the modeling work are indicating low water velocity.

Additional information regarding the water distribution system modeling work is in **Section 3.5**.

1.6 Wastewater Treatment and Distribution System Analysis

Wade Trim performed a site assessment of the Wastewater Treatment Plant (WWTP) and developed a simplified wastewater forcemain hydraulic model as an element of this project. The following is a brief summary of this work:

Wastewater Treatment Plant Site Assessment

A site visit to the Wastewater Treatment Plant was conducted by Wade Trim staff on August 12, 2014 for the purpose of determining the general condition of the facility and to identify master planning level type projects through input from City staff. Ten (10) projects were identified during the site visit. Of the ten projects, the following projects have not been initiated:

Table 1-2. Wastewater Treatment Plant Assessment Projects

PROJECT NUMBER	DESCRIPTION	ESTIAMTED PROJECT COST (1,2)
WW-1	Replace Grit Classifier	$177,000
WW-2	Relocate West Influent Screen Control Panel	$55,000
WW-3	Replace Clarifier No. 3 Mechanism	$373,000
WW-4	Replace RAS Pump Motor Control Center	$331,000
WW-5	Install Sun Protection Over Filter Clear Well	$273,000
WW-6	Replace Sludge Blowers and Control Panels	$389,000
TOTAL PROJECT COSTS (in 2015 Dollars)		**$1,597,000**

(1) Pricing is based on ENR Construction Cost Index = 10037 (July 2015). Costs were rounded up to the nearest thousand
(2) Estimates of probable costs are Class 4 order-of-magnitude estimates as defined by AACE and rounded to the nearest thousand dollars.

Wastewater Forcemain Hydraulic Modeling

In order to determine the performance of the wastewater forcemain system under existing and near future wastewater flows, a simplified hydraulic model of the major sanitary forcemains was developed.

The steady-state wastewater forcemain system model was created using the Bentley SewerGEMS hydraulic modeling software. GIS data provided by the City (including force mains, lift station locations, etc.) were imported into the software to build a model representation of the City's forcemain system. The objective of the hydraulic model was to develop a simplified steady-state model of the system with the intent of analyzing the performance of the large diameter forcemains (10-inch diameter or larger) for a maximum day flow condition. To simplify the model representation of upstream areas, the model was developed by placing all upstream flows into the forcemain downstream of the last lift station to the WWTP. The estimated wastewater flows within each lift station tributary area were modeled as a steady state inflow to the forcemain system. The operation of the lift stations, including wet well geometry, pump operating curves, and pump operating wet well levels, were not incorporated into the modeling framework.

Two modeling conditions were simulated within the modeling framework. An Existing Max Day scenario represented by a maximum day flow of 6.07 MGD and a Future Max Day scenario represented by a maximum day flow of 6.47 MGD were modeled. The Future Max Day scenario included the wastewater generated by 1,783 ERCs of future development that equates to an additional wastewater flow of 0.40 MGD over existing conditions from the new development areas identified by the City as expected to be occurring within the near future.

The model results were evaluated on the basis of system pressure and pipe velocity. In both modeling scenarios, the forcemain system met the criteria for pressure, but exhibited low velocities. This type of steady-state model is a "snapshot" of the system which does not simulate the operation of lift station pumps and how system pressures and velocities are affected throughout the day in response to the typical diurnal flow pattern and pumps turning off/on. The modeling results indicate forcemain segments with velocities below the minimum velocity criteria of 2 feet per second for the steady-state maximum day flow condition modeled. This is not an uncommon problem since the size of the forcemains have been designed to accommodate future flow increases.

Upgrading the model representation of the system to a dynamic model can evaluate the forcemains and lift stations with more detail, such as the number of lift stations starting-up and shutting down as wastewater inflows vary throughout the day. Obtaining the proper information for all lift stations necessary to upgrade the model representation into a dynamic model may be a labor intensive task that is best performed by internal City resources. Wade Trim observed that the GIS and hardcopy data for several lift stations did not agree with field observations.

Additional information regarding the wastewater forcemain system modeling work can be found in **Section 4.4**.

1.7 Future Engineering Planning Reports and Studies

Based on Wade Trim's review of the previous Master Plans, the treatment plant site assessments, and the development of the two simplified hydraulic models, Wade Trim recommends the City undertake several engineering planning reports and studies as identified in **Table 1.3** below:

Table 1-3. Proposed Engineering Projects

PROJECT NUMBER	DESCRIPTION	ESTIMATED PROJECT COST
EN-1	Water Hydraulic Model	$123,000
EN-2	Wastewater Hydraulic Model	$123,000
EN-3	Reuse Hydraulic Model	$123,000
EN-4	SCADA Master Plan	$85,000
EN-5	SCADA Standards Development	$90,000
EN-6	Unidirectional Flushing (UDF) Program	$150,000
EN-7	Asset Management / CMMS Program Evaluation	$200,000
EN-8	Advanced Wastewater Treatment (AWT) Feasibility Study	$45,000
EN-9	Inflow & Infiltration Study – Phase 1	$50,000
EN-10	New WTP & WWTP Plant Expansion Projects Evaluation	$80,000
EN-11	Wastewater Facility Operating Permit Renewal Assistance	$55,000
EN-12	WTP Condition Assessment, Capacity Analysis, and Improvements Programing	$85,000
EN-13	WWTP Condition Assessment, Capacity Analysis, and Improvements Programing	$72,500

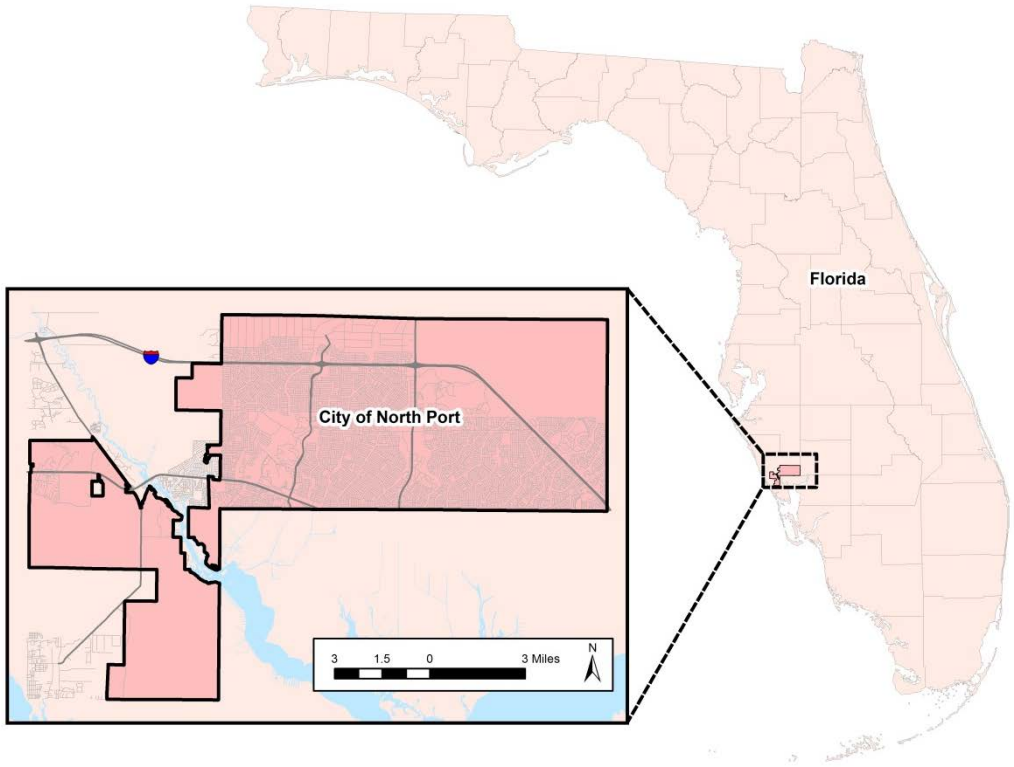
Additional information regarding the proposed engineering projects, included brief project descriptions, can be found in **Section 5.5**.

2.0 INTRODUCTION

2.1 Location

The City of North Port (City) is located in Southwest Florida in southern Sarasota County. The City's incorporated land area covers 104 square miles (per the City's website) with a population of 57,357 (2010 Census Bureau). Although experiencing rapid growth in the area from 2002 to 2005, the City's growth rate has since returned to a rate primarily based on past growth history and current developer agreements. **Figure 2-1** provides a location map for the City.

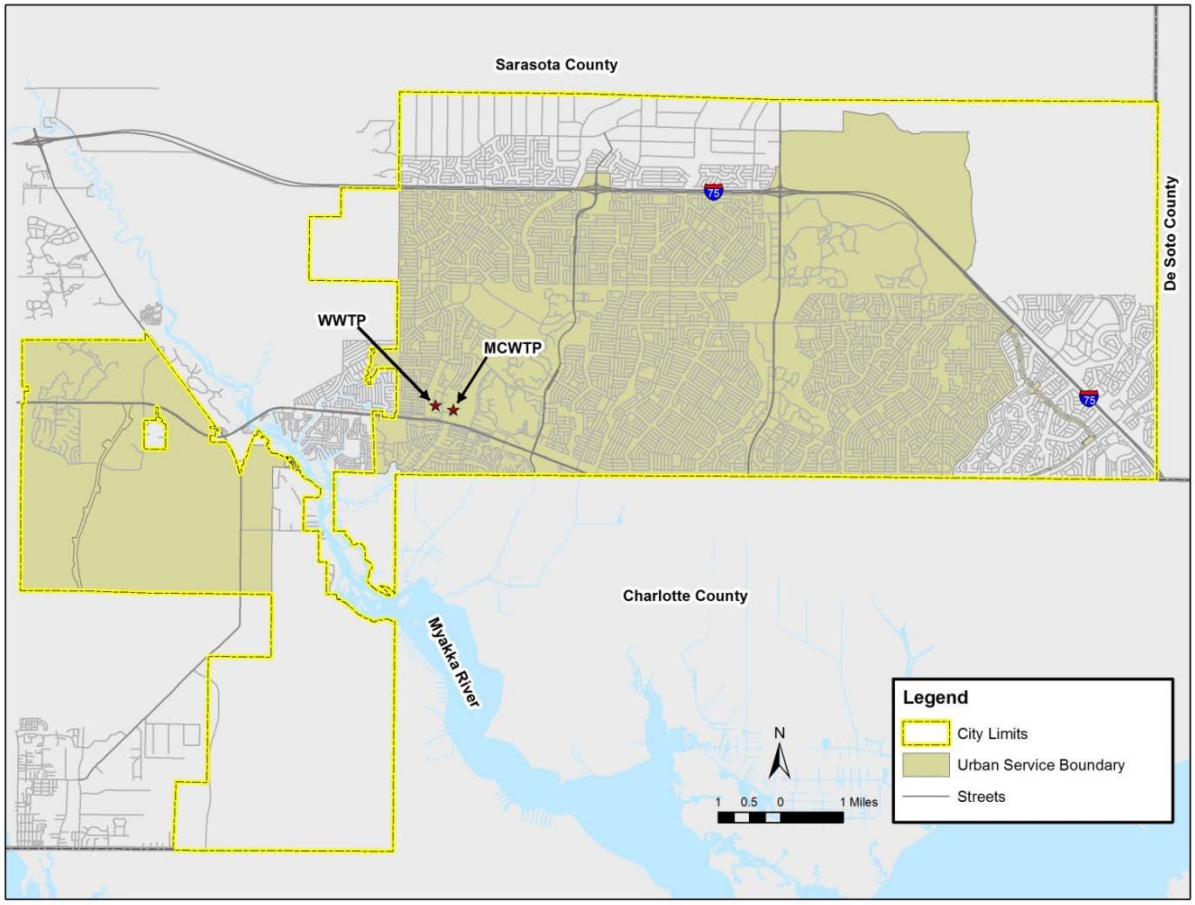
Figure 2-1. Location Map



2.2 Utility Service Area

The City owns and operates the water and wastewater systems within the utility service area which includes areas of incorporated North Port and also extends into unincorporated areas of Sarasota and Charlotte Counties. As of March 2015, the City of North Port provides service for approximately 19,000 water connections and nearly 14,500 wastewater connections. Within the City's utilities service area, also known as the Urban Service Area, there are 58,881 platted lots (i.e. developments excluded). Of note, the City's urban service area does not include the utilities service area that extends beyond the city limits. **Figure 2-2** provides a map of the Urban Service Boundary for the City.

Figure 2-2. Utility Service Area Map



2.3 Scope

This Utilities Master Plan has been prepared to reassess the City's previous planning documents and their respective capital improvement projects (CIPs) and to compile an updated project list.

Tasks involved in the preparation of the Utilities Master Plan include:

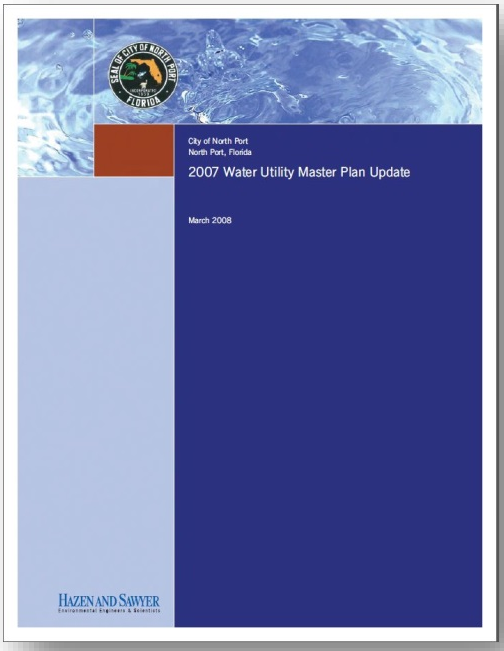
1. Review of the previous master plans and the projects identified in each.
   a. 2007 Water Utility Master Plan Update (Hazen & Sawyer, March 2008)
   b. 2008 Water Treatment Plant Enhancement Study (Carollo, July 2008)
   c. 2004 Utility Master Plan – Wastewater Sections (Black & Veatch, January 2005)
   d. 2007 Existing Wastewater Treatment Facility Upgrades and Expansion (Brown & Caldwell, January 2007)
   e. 2008 Water Reuse Master Plan (Brown & Caldwell, March 2008)
   f. 2010 US 41 Corridor Utility Master Plan Executive Summary and Study Update (Watermark Engineering, January 2010);
2. Assessment of the MCWTO, the WWTP, reclaimed water treatment facility, and water booster stations;
3. Assessment of existing water, wastewater and reuse demands and future demands of developments as provided by the City;

4. Documentation of the City's plans for rehabilitating select lift stations;
5. Preliminary hydraulic modeling of the water and wastewater systems. A model will not be developed for the reuse system; and
6. Comparison of the projects identified by Wade Trim and the projects identified in the previous master plans and planning documents.

2.4 Review of Previous Master Plans

2.4.1 2007 Water Utility Master Plan Update (Hazen & Sawyer, March 2008)

The 2007 Water Utility Master Plan Update is a partial update to the Utility Master Plan completed by Black & Veatch in January 2005. The 2007 report only addresses the potable water system. The 2007 report evaluates the City's potable water treatment and major transmission pipelines needed to support population growth within the City. The 2007 report summarizes the following:



1. Description of existing facilities;
2. Expansion of utility services into existing neighborhoods;
3. Listing of agreements for new developments;
4. Population projections within existing and annexed service areas from 2007 through 2027;
5. Projection of water demand and source of water supply from 2007 through 2027;
6. Recommendations for improvements to the water supply system;
7. Hydraulic model of existing water transmission system with proposed improvements; and
8. Recommendations for capital improvements for meeting future growth of the water system.

The 2007 report presents a series of recommended improvements to increase capacity (plants and distribution system) and to improve treatment. These improvements and the planning level project costs developed at that time (2007) can be found in **Table 2-1**. The costs presented in **Table 2-1** have *not* been escalated to present day 2015. This table indicates the status of the projects as of May 2015.

Table 2-1. WTP Improvements (2007 Water Utility Master Plan Update)

PROJECT [(1)(4)]	ESTIMATED PROJECT COST[(2)]	PROJECT STATUS[(3)]
Water Enhancement Study and Operational Improvements at MCWTP (Carollo Engineering)	$298,000	Completed
Phase 2 Regional Integrated Loop System (PRMRWSA) *Design of 20-in main loop and 16-in east-west mains in Northeast for Toledo Place/Toledo Village/Northport Gardens*	$267,000	Completed
Construct Sarasota County Interconnect to SWBPS	$113,000	Completed
Cocoplum Intake Structure at MCWTP	$1,000,000	Completed
Interconnect to PR/MRWSA and NEBPS *Construct emergency interconnect to 42-in PR/MRWAS line and connect to NEBPS with 24-in low pressure line.*	$1,500,000	Completed
US 41 Corridor Study	$75,000	Completed
Storage Tank at Hillsborough Booster Pump Station (HBPS).	$400,000	Determined Not Required[(6)]
Water Hydraulic Model Update	$100,000	In Progress
MCWTP Improvements	$19,100,000	In Progress
WVID Water Treatment Plant Design/Construction *Design/Construct 2.0 Million Gallon per Day (MGD) West Villages Improvement District WTP*	$38,000,000	Planned for Future
North Port Blvd. Transmission Improvements (North of Plant) *Extend 12-in line north from North Port Blvd and Appomattox along Waterway*	$499,000	Completed
Replace 10” Waterline and Meter Assembly with 24” Line and 16”Meter. *Replace line leaving MCWTP to 24-inch[(7)]*	$200,000	In Progress
Extend 16” Line serving WVID from Ortiz Blvd to MCWTP. *Extend 16-inch from WVID at Ortiz Blvd. to MCWTP*	$968,000	Planned for Future
NE WTP Design/ Construction *Design/Construct 2.0 MGD Regional Northeast Water Treatment Plant*	$25,000,000	Planned for Future
Plan to extend 20-in main loop east to NEWTP for Isles of Athena[(5)]	Not Provided	Planned for Future
TOTAL PROJECT COST (in 2007 dollars[(2)])	**$87,519,200**	

(1) Project titles and costs were obtained from Table 6-1 (Preliminary Schedule of Recommended Improvements) of the 2007 Water Utility Master Plan Update.
(2) Project costs were obtained from Table 6-1 (Preliminary Schedule of Recommended Improvements) of the 2007 Water Utility Master Plan Update. Costs were rounded to the nearest thousand.
(3) Project status as of May 2015.
(4) Text in italics added to further clarify project description.
(5) Project was referenced under Section 5.3.3 of the 2007 Water Utility Master Plan Update; however, was not provided in Table 6-1.
(6) Staff determined that sufficient pressures were present thus not requiring a need for the project.
(7) Project is currently programmed that new 24” water main will be aligned parallel to existing

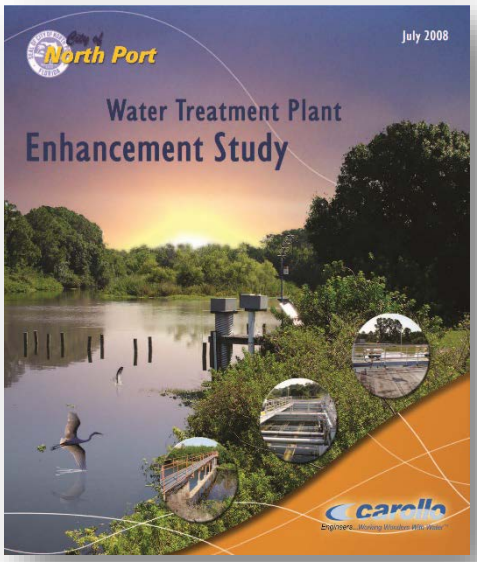
As presented in **Table 2-1**, with the exception of planned future expansions, nearly all of the projects identified in the 2007 Water Utility Master Plan Update have been completed and two projects are in progress.

The 2007 report also recommends performance of additional hydraulic modeling for additional analysis of fire flows and performing an extended period simulation on a field calibrated model. This type of model provides invaluable information including evaluation of areas of low pressure and possible low water quality. The 2007 report also recommends the City maintain an up to date hydraulic model for in-house use once a consultant has upgraded and calibrated the water system model.

2.4.2 2008 Water Treatment Plant Enhancement Study (Carollo, July 2008)

The 2008 Water Treatment Plant Enhancement Study was completed by Carollo Engineers in July 2008. The report presents an evaluation of treatment enhancements to increase the reliable production and quality of potable water from the MCWTP, including improvements to the existing conventional treatment process as well as the addition of a new treatment process. Major components of the report include:

1. Evaluation of existing raw water sources and finished water quality objectives;
2. Screening of treatment technologies for improving water quality;
3. Pilot testing of treatment technologies;
4. Assessment of the conventional treatment system; and
5. Recommendations for treatment enhancements with an opinion of probable capital costs.



In 2008, North Port faced several challenges with the conventional water treatment process. At that time, the MCWTP relied solely on surface water sources. Historically, the MCWTP traditional source had been the Myakkahatchee Creek. The current Water Use Permit (WUP) also includes the Cocoplum Canal as a source of supply on a rotational basis. Previously the Cocoplum Canal was only considered as an emergency supply. Both of these surface water sources experience considerable seasonal water quality and flow variations resulting in significant challenges for the conventional water treatment processes, particularly during the dry season. During the dry season, the surface waters are difficult to treat due to elevated and highly variable total dissolved solids (TDS), sulfates, and hardness. At the time of the 2008 report, the MCWTP was challenged in consistently meeting the secondary maximum contaminant levels (SMCLs) for sulfates and TDS levels in the finished water, which are regulatory required in Florida. In 2007, the City was granted a variance for sulfates and TDS through 2012, when additional treatment was scheduled to be in place. The 2008 report evaluates several treatment options for meeting the SMCLs for sulfates and TDS.

The 2008 report presents a series of recommended improvements for the conventional water treatment process to increase capacity and improve treatment. These improvements, the priorities assigned at that time (2008), and their ability to increase capacity, are summarized in **Table 2-2**. This table also indicates the status of the projects as of March 2015.

Table 2-2. MCWTP Improvements (2008 WTP Enhancement Study)

PROJECT NO	PROJECT	PRIORITY (3)	CAPACITY INCREASE (3)	PROJECT STATUS (4)
Repair and Replacement Projects (1)				
1	Replace Aluminum Sulfate Bulk Storage Tanks	High	Yes	Scheduled Completion 2015
2	Replace Caustic Bulk Storage Tanks	High	Yes	Scheduled Completion 2015
3	Replace Sulfuric Acid Day and Bulk Tank	High	Yes	Scheduled Completion 2015
4	Replace Existing Flocculators	High	Yes	Complete
5	Rehabilitate/Replace Leaking Plant Valves	High	No	On-Going
6	Replace Plant Service Water Line	High	No	Complete
7	Install a Hatch in the Clearwell	High	No	In Progress
8	Replace Existing Ammonia Piping	High	No	Completed
9	Replace Chemical Metering Pumps	Moderate	Yes	In Progress
10	Replace Intake Pump Station Discharge Valves	Moderate	No	Monitoring(5)
11	Replace Existing Save-All Pumps	Moderate	Yes	As Needed
12	HVAC Improvements	Moderate	No	Complete
13	Clarifier Repairs	Moderate(6)	Yes	In Progress
Process Improvement Projects (2)				
1	Filter Investigation/Evaluation and associated Improvements	High	Yes	In Planning
2	Addition of a Pump Mix System (rapid mix)	High	Yes	Addressed (7)
3	Interconnecting Settled Water Piping	High	Yes	Complete
4	Addition of Anthracite Media	High	Yes	As Needed
5	Retrofit VFDs on Transfer Pumps	Moderate	Yes	In Progress
6	Clarifier Center Cone Modifications	Moderate	Yes	Future(8)

(1) Projects were obtained from Table 4-4 (Prioritization of Recommended Repair and Replacement Improvements to Existing Conventional Treatment System at North Port WTP) of the 2008 Water Treatment Plant Enhancement Study.
(2) Projects were obtained from Table 4-5 (Prioritization of Recommended Process Improvements to Existing Conventional Treatment System at North Port WTP) of the 2008 Water Treatment Plant Enhancement Study.
(3) Priority and Capacity Increase as determined in 2008.
(4) Project Status as of March 2015.
(5) No issues noted by staff as of March 2015.
(6) As of January 2015, this project is High priority.
(7) Issue addressed by changing process to flash mixer zone.
(8) Water quality issues as a result of temperature stratification in tank are not apparent at this time.

As presented in **Table 2-2**, nearly all of the projects identified in the 2008 WTP Enhancement Study have been completed, are in progress as of March 2015, or are performed as needed. The following are monitored for future implementation:

1. *Repair & Replacement Project No. 10, Replace Intake Pump Station Discharge Valves* - As of March 2015, no issues with these valves have been noted by staff. The valves will be replaced if issues arise. Staff continues to monitor.

2. *Process Improvement Project No. 6, Clarifier Center Cone Modifications* - Water quality issues resulting from temperature stratification in the tank are not a significant concern at this time. Staff continues to monitor.

The 2008 report also presents the results of an investigation into River Bank Filtration (RBF) to be used as pre-treatment of Cocoplum Canal surface water. As such, the aquifer associated with the Cocoplum Canal would be used to supply a reverse osmosis (RO) treatment system. The ultimate approach was to blend the finished water from the RO system with the conventional water treatment process to meet the SMCLs for finished potable water from the MCWTP. The improvements recommended in the 2008 report for a new 1.5 MGD RO system with RBF pretreatment, using the aquifer associated with the Cocoplum Canal as the water source, are provided in **Table 2-3**. The costs presented in this table have *not* been escalated to present day 2015. This table indicates the status of the projects as of March 2015.

Table 2-3. Proposed 1.5 MGD RO Facility (2008 WTP Enhancement Study)

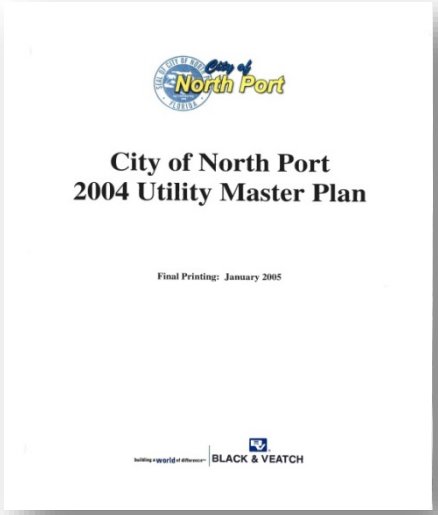
IMPROVEMENT PROJECT(1)	ESTIMATED PROJECT COST (1)	PROJECT STATUS(2)
Reverse Osmosis (RO)	$13,600,000	Completed
Riverbank Filtration (RBF) Pretreatment	~~$3,100,000~~	Not Feasible (3)
TOTAL PROJECT COST (in 2008 dollars(1))	**$13,600,000**	

(1) Projects and estimated costs were obtained from Table ES.2 (Cost Opinion for New 1.5 MGD RO Facility with RBF Pretreatment) of the 2008 WTP Enhancement Study.
(2) Project Status as of March 2015.
(3) Project determined not feasible.

As noted in **Table 2-3**, an RO system was installed at the MCWTP however, the RBF was not. The RBF was determined not feasible; therefore, six (6) groundwater wells were installed into the Floridan aquifer to serve as the water source for the new RO system.

2.4.3 2004 Utility Master Plan – *Wastewater* Sections (Black & Veatch, January 2005)

The 2004 Utility Master Plan was completed by Black & Veatch in 2005. The 2004 report presents the utility master plan for water, wastewater, and reclaimed water. For the purpose of this report, only the wastewater sections of the 2004 report were reviewed. There has not been a master plan update for wastewater system since the 2004 report. Water and reclaim water master plans were updated in 2007 and 2008, respectively.



With respect to the wastewater system, the 2004 report evaluates the City's wastewater collection and treatment systems needed to support the expected population growth within the City. The 2004 report summarizes the following:

1. Description and review of existing facilities;
2. Population projections and associated utility demands from 2000 through 2025;
3. Hydraulic model of existing wastewater collection system;
4. Recommendations for improvements to the wastewater collection and treatment system; and,
5. Recommendations for capital improvements for meeting future growth of the wastewater system.

The 2004 report presents a series of recommended improvements to increase capacity (plant and collection system) and to improve treatment. These improvements are summarized in **Table 2-4**. This table indicates the status of the projects as of March 2015. The costs presented have *not* been escalated to present day 2015.

Table 2-4. Wastewater System Improvements (2004 Utility Master Plan)

PROJECT [1]	ESTIMATED PROJECT COST[2]	PROJECT STATUS[3]
Collection System Infrastructure R&R Program *Implement ongoing repair and rehabilitation program for collection system to reduce amount of inflow and infiltration. Include the addition of SCADA at all lift stations.*	Not Provided	On-Going
Existing Deep Injection Well (DIW) Re-Rate *Re-rate the DWI to 5.94 MGD or increase its capacity to 7.75 MGD*	Not Provided	Completed
US-41 Forcemain and Primary Lift Station for Thomas Ranch Connection. *Construct a 12-in forcemain along US-41 from WWTP to Thomas Ranch and construct a 0.8 MGD primary lift station with 300,000 gallon equalization basin.*	NA[4]	Completed
Existing WWTP Expansion. *Construct a 1.9 MGD expansion of WWTP.*	$13,126,000	Completed

Table 2-4. Wastewater System Improvements (2004 Utility Master Plan)

PROJECT [1]	ESTIMATED PROJECT COST[2]	PROJECT STATUS[3]
Pan American Blvd Forcemain. Construct a *parallel forcemain along Pan American Blvd from Appomattox Drive to WWTP.* [5]	$658,000	Completed
Upgrade Pumps at Lift Station #51 (City Complex)[5]	$449,000	In Progress
Biosolids Treatment and Disposal Alternatives Study	$130,000	Completed
Upgrade Pumps at Lift Station #19 (Biscayne Plaza)	$229,000	Completed
West Price Blvd Forcemain *Construct a parallel forcemain along Pan American from Appomattox Dr. to WWTP.* [5]	$493,000	Completed
Pan American Blvd Forcemain *Construct a forcemain along West Price Blvd from Sumter Blvd to Spring Haven Drive.*		Completed
Toledo Blade/Price Primary Lift Station *Construct a 4.0 MGD primary lift station near Toledo Blade Blvd. and Price Blvd. intersection.*	$2,093,000	Planned for Future
North Toledo Blade Forcemain *Construct a 10-inch forcemain along North Toledo Blade Blvd to serve the Kelse Ranch development*.	$1,196,000	Planned for Future
Panacea WWTP (Phase I) *Implement a new WWTP on proposed utility site in the Panacea development with 2.0 MGD AADF (expandable to 5.0 MGD AADF) capacity with reuse disposal.*	$14,950,000	Design Initiated - Planned for Future
Thomas Ranch WWTP (Phase I) *Implement a new WWTP on proposed utility site in the Thomas Ranch development with 2.0 MGD AADF (expandable to 5.0 MGD AADF) capacity with reuse disposal.*	$14,950,000	Designed - Planned for Future
East Price Blvd Forcemain *Construct a forcemain along East Price Blvd and North Haberland Blvd from the proposed Toledo Blade/Price Primary Lift Station to the proposed Panacea WWTP.*	$2,691,000	Planned for Future
Sunburst Wastewater System Expansion *Install wastewater collection system within Sunburst neighborhood.*	$9,942,000	Future
Sumter Gardens Wastewater System Expansion *Install wastewater collection system within Sumter Gardens neighborhood.*	$3,335,000	Future
Blue Ridge-Salford Wastewater System Expansion *Install wastewater collection system within Blue Ridge-Salford neighborhood.*	$3,097,000	Future
TOTAL PROJECT COST (in 2004 dollars[2])	**$67,409,000**	

(1) Projects obtained from Table 12-1 (Summary of Recommended Actions and Improvements) of the 2004 Utility Master Plan
(2) Project costs in 2004 dollars obtained from Table 12-2 (Cost Summary for Recommended Projects) of the 2004 Utility Master Plan.
(3) Project Status as of March 2015.
(4) Table 12-2 foot note for this line item states that this project was expected to be designed, constructed and funded by a developer.
(5) Table 12-2 foot note for this line item states implementation of the Panacea WWTP project with a fast track delivery method could delay the need to implement these projects until late in the planning period of the 2004 Utility Master Plan report.

The outstanding projects noted in **Table 2-4** are primarily those projects dependent on growth. Those projects will be initiated when population growth in specific areas dictate the expansions.

2.4.4 2007 Existing Wastewater Treatment Facility Upgrades & Expansion (Brown & Caldwell, January 2007)

The 2007 Existing Wastewater Treatment Facility Upgrades & Expansion Preliminary Engineering Report was completed by Brown & Caldwell in 2007. This report presents proposed upgrades and expansion projects for the WWTP. The WWTP upgrade and expansion, including installation of a second deep injection well (DIW), was complete in 2012. Projects were detailed in the 2007 report as part of the expansion. **Table 2-5** summarizes notable projects that have not been completed as of February 2015.

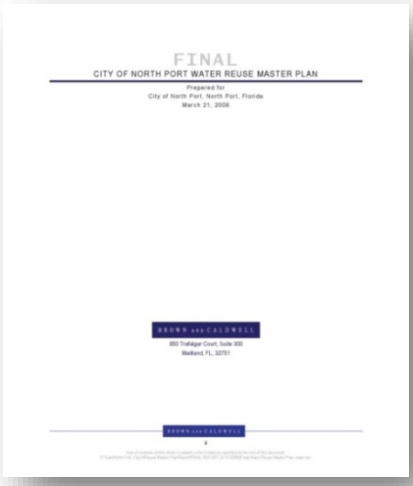
Table 2-5. WWTP Improvements (2007 Wastewater Facility Upgrades & Expansion)

PROJECT (1)	ESTIMATED PROJECT COST(2)	PROJECT STATUS(3)
New DIW Pump Station	$610,000	Planned for Future
New Transmission Main to DIW	$4,500,000	Planned for Future
Convert existing storage tank to sludge holding tank	$250,000	In progress

(1) Projects obtained from Table 8.2 (WWTP Upgrades Probable Opinion of Construction Cost) of the 2007 Existing Wastewater Treatment Facility Upgrades & Expansion.
(2) Estimated project costs in 2007 dollars obtained from Table 8.2 (WWTP Upgrades Probable Opinion of Construction Cost) of the 2007 Existing Wastewater Treatment Facility Upgrades & Expansion.
(3) Project Status as of March 2015.
(4) The existing DIW pumps/motors are being replaced in-kind at an estimated cost of $560,000 (2015). Based on an equivalent present cost analysis, increasing the pump capacity has been deferred until approximately 2020.

2.4.5 2008 Water Reuse Master Plan (Brown & Caldwell, March 2008)

The 2008 Water Reuse Master Plan was completed by Brown & Caldwell in 2008. This report identifies opportunities for the City to maximize the beneficial use of reclaimed water for irrigation and other non-potable water uses. In 2008, the City had the ability to provide up to 1.9 MGD of reclaimed water from the existing WWTP to customers within the Reclaimed Water Service Area, including Sabal Trace development, Heron Creek development/golf course, North Port Skate Park, City Complex, and roadway medians along North Port Boulevard.



At the time of the 2008 report, the City was in the process of expanding the capacity of the existing WWTP to 7.0 MGD and three (3) other facilities were being proposed to provide wastewater treatment in areas of the City as development occurred. The City's desire was and continues to be for all wastewater treatment facilities to be designed such that the treated effluent meets public access reuse standards and for the reclaimed water distribution system from all the facilities to be interconnected.

Based on the population and wastewater flow projections developed in 2008, the total reuse demand projected for 2028 was estimated to be 21.3 MGD. The 2008 report presents a summary of eight primary projects and one optional project for a total cost of $34.9 M (in 2007 dollars) to meet the overall goals described in the Reuse Master Plan including reducing water consumption, thereby reducing groundwater and surface water withdrawals, which in turn assists with managing the region's overall water resources.

Table 2-6 provides a summary listing of the projects, the planning level project costs developed at that time (2008), and the status of projects as of March 2015. The costs presented have *not* been escalated to present day 2015.

Table 2-6. Reuse Water Capital Improvement Program Projects (2008 Reuse Master Plan)

PROJECT NO	DESCRIPTION (1)	ESTIMATED PROJECT COST (1)	PROJECT STATUS (2)
1	Construct a 2.5 MG ground storage tank and upgrade the high service pump station by adding a 2,300 gpm pump.	$2,100,000	Completed
2	Investigate the river bank filtration technology to supplement the reuse system. If the pilot test results favorably, the City can incorporate this system into the recently expanded wastewater treatment plant, which should be finished by the end of year 2011.	$300,000	Not Feasible (3)
3	Extend the reuse water service line to the north from the Existing Central WWTP along Pan American Boulevard up to West Price Boulevard. Continue to go west on West Price Boulevard up to the intersection of West Price Boulevard and Sumter Boulevard. *Construct 6,000 LF of 18-in, 10,650 LF of 16-in, and 6,300 LF of 12-in Reuse Main north along Pan American Blvd to W Price Blvd and east along W Price Blvd to Sumter Blvd.(4)*	$3,890,000	Completed
4	Extend the service line from the intersection of Pan American Boulevard and Appomattox Drive along Appomattox Drive up to the intersection of North Port Boulevard and Appomattox Drive. Continue to extend the service line north from the intersection of North Port Boulevard and Appomattox Drive up to West Price Boulevard. *Construct 3,000 LF of 18-in and 5,500 LF of 16-in, Appomattox Dr from Pan American Blvd to North Port Blvd and north along the water way to W Price Blvd.*	$1,320,000	In Planning

Table 2-6. Reuse Water Capital Improvement Program Projects (2008 Reuse Master Plan)

PROJECT NO	DESCRIPTION [1]	ESTIMATED PROJECT COST [1]	PROJECT STATUS [2]
5	1) Extend parallel lines along Sumter Boulevard from the intersection of West Price Boulevard and Sumter Boulevard to City Center Boulevard and Sumter Boulevard. 2) Construction of a tank and booster pump station at City Center. 3) A branch reuse water line needs to be extended from the reuse water line along Sumter Boulevard to City Center Tank. 4) A reuse water line needs to be constructed from the City Center Tank to West Price Boulevard. *Construct 1,300 LF of 18-in and 5,700 LF of 12-in along Sumter Blvd from W Price Blvd to City Center Blvd. Construct Storage Tank and Booster Pump Station at the City Center. Construct Connection from City Center Tank to W Price Blvd*.	$3,050,000	Planned for Future
6	Extend the reuse water service from the intersection of Sumter Boulevard and West Price Boulevard to Haberland and East Price Boulevard and then continue north to Reuse Water Storage Tank for NEWWTP. The pipe needs to be extended east from the Haberland boulevard along Snover Waterway until it touches Newman Water way and go up north to the NEWWTP located at the Isles of Athena area. The pipe needs to be extended going north from the intersection of Toledo Blade Boulevard and West Price Boulevard to Toledo Blade Boulevard and Plantation Boulevard. The pipe when extended south from the intersection of Toledo Blade Boulevard and West Price Boulevard to the intersection of South Toledo Blade Boulevard and Bobcat Trail. Note: Make sure to tie into the reuse water line coming from the City Center Tank at West Price Boulevard. *Construct 12,500 LF of 10-in and 55,300 LF of 18-in along W Price Blvd from Sumter Blvd to Haberland then north to Proposed NEWWTP then east long Snover Waterway until Newman Waterway then North to Isles of Athena Area Future WWTP.*	$12,270,000	Planned for Future
7	Extend the reuse water service line from the existing Central WWTP along Tamiami Trail South to the SWWWTP. *Construct 30,000 LF of 20-in and 3,500 LF of 18-in along Tamiami Trail south from Central WWTP to SWWWTP.*	$7,590,000	Planned for Future
8	Extend a 12 inch line 2.8 miles east along US 41 from the intersection of US 41 and Venice East Blvd to the existing pond and 2.7 miles south from the pond to the WVID facilities. *Construct 14,800 LF of 12-in east along US 41 from Venice East Blvd to the Existing Pond. Construct 14,300 LF of 12-in south from Pond to WVID facilities.*	$3,200,000	Planned for Future

Table 2-6. Reuse Water Capital Improvement Program Projects (2008 Reuse Master Plan)

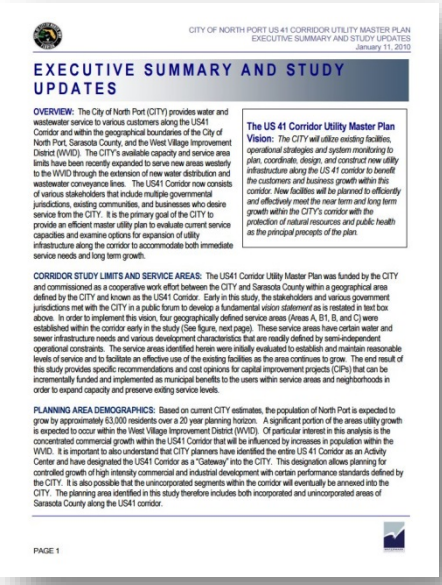
PROJECT NO	DESCRIPTION (1)	ESTIMATED PROJECT COST (1)	PROJECT STATUS (2)
	Additional Optional Project		
9	Extend parallel lines along Sumter Boulevard from the intersection of Sumter Boulevard and City Center Boulevard to Sumter Boulevard and Hansard Avenue. Extend the pipe to the east along Hansard Avenue until it touches North Salford Boulevard. *Construct 5,000 LF of 16-in along Sumter Blvd from City Center Blvd to Hansard Ave , Extend Line east along Hansard Ave to Salford Blvd.*	$880,000	Optional Project
TOTAL PROJECT COST (in 2008 dollars(1))		**$34,900,000**	

(1) Projects and estimated project costs were obtained from Table ES.2 (Conceptual Opinion of Probable Capital Cost) of the 2008 Reuse Master Plan.
(2) Project status as of March 2015.
(3) Project determined not feasible.
(4) Text in italics added to further clarify project description.

The City has been working with Southwest Florida Water Management District (SWFWMD) to obtain funding for moving forward with these beneficial projects. As of the date of this report, SWFWMD has provided funding for the 2008 Reuse Master Plan, project nos. 1 and 3; and, is processing approval funding for project no. 4.

2.4.6 2010 US 41 Corridor Utility Master Plan Executive Summary and Study Update (Watermark Engineering, January 2010)

The 2010 Corridor Utility Master Plan consists of an executive summary, a power point presentation, and a preliminary financing plan. A review of the executive summary states that in 2010, the City estimated a population growth of approximately 63,000 residents over a 20 year planning horizon especially in the West Village Improvement District (WVID). Though the executive summary states that at the time, there were no new major developments projected through 2010, nor accurate long term projections for economic recovery and growth, because the WVID and US41 Corridor were still considered primary areas for concentrated development, the executive summary recommended projects based on build out conditions.


CITY OF NORTH PORT US 41 CORRIDOR UTILITY MASTER PLAN
EXECUTIVE SUMMARY AND STUDY UPDATES
January 11, 2010

EXECUTIVE SUMMARY AND STUDY UPDATES

OVERVIEW: The City of North Port (CITY) provides water and wastewater service to various customers along the US41 Corridor and within the geographical boundaries of the City of North Port, Sarasota County, and the West Village Improvement District (WVID). The CITY's available capacity and service area limits have been recently expanded to serve new areas westerly to the WVID through the extension of new water distribution and wastewater conveyance lines. The US41 Corridor now consists of various stakeholders that include multiple governmental jurisdictions, existing communities, and businesses who desire service from the CITY. It is the primary goal of the CITY to provide an efficient master utility plan to evaluate current service capacities and examine options for expansion of utility infrastructure along the corridor to accommodate both immediate service needs and long term growth.

The US 41 Corridor Utility Master Plan Vision: *The CITY will utilize existing facilities, operational strategies and system monitoring to plan, coordinate, design, and construct new utility infrastructure along the US 41 corridor to benefit the customers and business growth within this corridor. New facilities will be planned to efficiently and effectively meet the near term and long term growth within the CITY's corridor with the protection of natural resources and public health as the principal precepts of the plan.*

CORRIDOR STUDY LIMITS AND SERVICE AREAS: The US41 Corridor Utility Master Plan was funded by the CITY and commissioned as a cooperative work effort between the CITY and Sarasota County within a geographical area defined by the CITY and known as the US41 Corridor. Early in this study, the stakeholders and various government jurisdictions met with the CITY in a public forum to develop a fundamental *vision statement* as is restated in text box above. In order to implement this vision, four geographically defined service areas (Areas A, B1, B, and C) were established within the corridor early in the study (See figure, next page). These service areas have certain water and sewer infrastructure needs and various development characteristics that are readily defined by semi-independent operational constraints. The service areas identified herein were initially evaluated to establish and maintain reasonable levels of service and to facilitate an effective use of the existing facilities as the area continues to grow. The end result of this study provides specific recommendations and cost opinions for capital improvement projects (CIPs) that can be incrementally funded and implemented as municipal benefits to the users within service areas and neighborhoods in order to expand capacity and preserve exiting service levels.

PLANNING AREA DEMOGRAPHICS: Based on current CITY estimates, the population of North Port is expected to grow by approximately 63,000 residents over a 20 year planning horizon. A significant portion of the areas utility growth is expected to occur within the West Village Improvement District (WVID). Of particular interest in this analysis is the concentrated commercial growth within the US41 Corridor that will be influenced by increases in population within the WVID. It is important to also understand that CITY planners have identified the entire US 41 Corridor as an Activity Center and have designated the US41 Corridor as a "Gateway" into the CITY. This designation allows planning for controlled growth of high intensity commercial and industrial development with certain performance standards defined by the CITY. It is also possible that the unincorporated segments within the corridor will eventually be annexed into the CITY. The planning area identified in this study therefore includes both incorporated and unincorporated areas of Sarasota County along the US41 corridor.

PAGE 1

Water and wastewater use projections at build out in the US 41 corridor service areas outside the WVID were estimated at 13,508 ERCs which corresponded to 3,532 gpm and 4,703 gpm, respectively, at projected peak flows. **Table 2-7** provides a summary listing of the capital improvement projects, planning level project costs, and

project status as of March 2015. The costs presented have not been escalated to present day 2015.

Table 2-7. Capital Improvement Program Projects (2010 Utility Master Plan Executive Summary)

PROJECT NO	DESCRIPTION (1)	ESTIMATED PROJECT COST (1)	ESTIMATED COMPLETION YEAR
1	Upgrade existing US41 force main from Pump Station (PS) 19 to US 41 including construction of cross connection adding parallel force main system from US 41 to WWTP	$318,602	Completed
2	Addition of new neighborhood PS at US 41 and River Road (Service Area A) and addition of neighborhood los pressure force main collection network to serve development within Service Area A.	$417,893	Planned for future.
3	Addition of new neighborhood PS for Area B1 including future development east and north of US 41 to Myakkahatchee creek.	$536,540	Planned for future.
4	Construction of neighborhood low pressure collection system and neighborhood pump station to serve Service Area B1 east of Myakkahatchee Creek to the limits of Service Area C.	$546,951	Planned for future.
5	16” parallel water main from WTP to US41 and on US41 from North Port Blvd. to Ortiz Blvd.	$1,377,328	Planned for future.
TOTAL PROJECT COST (in 2010 dollars(1))		**$3,197,314**	

(1) Projects and estimated project costs were obtained from CIP Tables of the 2010 US 41 Corridor Utility Master Plan Executive Summary

3.0 WATER TREATMENT & DISTRIBUTION SYSTEM

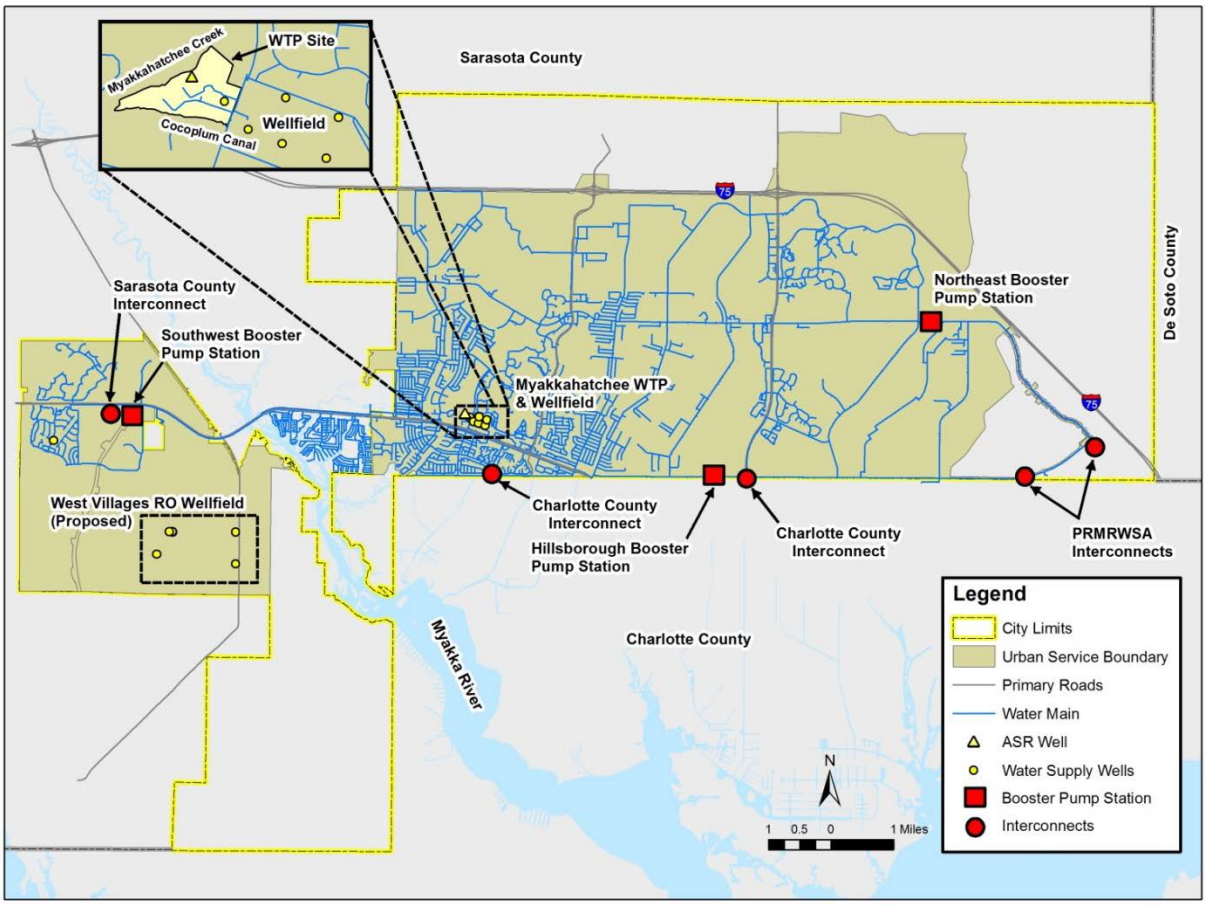
3.1 General

Construction of the water system started in the 1960s, and has grown as the area has developed. The City's potable water system has a total design (i.e. nameplate) plant capacity of 5.8 million gallons per day (MGD); 4.4 MGD permitted capacity for conventional (i.e. surface) water treatment process and 1.5 MGD permitted capacity for RO (i.e. brackish groundwater) treatment process. However, the combined surface water and groundwater withdrawals at the MCWTP are limited to 4.4 MGD on an annual average basis by the restrictions contained within the Southwest Florida Water Management District (SWFWMD) Water Use Permit (WUP).

The system is regulated by the Sarasota County Florida Department of Health under Public Water Supply (PWS) ID No. 658-0651. The volume of surface water and groundwater withdrawn is regulated by the SWFWMD under WUP No. 20 002923.013. A copy of the SWFWMD WUP has been provided in **Appendix A**.

Figure 3-1 provides an illustration of the City's water service area and the location of the primary infrastructure, including the MCWTP, wellfields (existing and proposed), booster pumps, water main, and interconnects with other entities. This infrastructure will be discussed in more detail throughout this section.

Figure 3-1. Water Service Area Map and Primary Infrastructure



3.2 Water Supply & Usage

3.2.1 Raw Water Sources

The City has four (4) permitted potable water supply sources authorized by the SWFWMD to meet potable water demands through 2030: Myakkahatchee Creek (ID No. 10), Cocoplum Canal (ID No. 11), the Myakkahatchee Creek RO wellfield (6 wells; ID Nos. VW-1 through VW-6), and the West Villages RO wellfield (4 wells; ID Nos. 92 through 95). Additionally, the City has interconnects with the Peace River Manasota Regional Water Supply Authority (PRMRWSA); Sarasota County; and, Charlotte County. A summary of the raw water supply source capacities is provided in **Table 3-1**.

Table 3-1. Raw Water Source Capacities

SOURCE	TYPE	ANNUAL AVERAGE (GPD)	PEAK MONTH (GPD)
Myakkahatchee Creek	Surface Water	4,400,000	6,000,000
Cocoplum Canal	Surface Water	2,400,000	4,000,000
Myakkahatchee Creek RO Wellfield (1)	Groundwater	2,000,000	2,000,000
Permitted Withdrawals at MCWTP(2)		4,400,000	6,000,000
West Villages RO Wellfield	Groundwater (Future)	2,700,000	2,700,000
Total Permitted Withdrawals(3)		**7,100,000**	**8,700,000**
PRMRWSA Interconnect	Finished Water	2,865,000	3,438,000

(1) The permit allows the City to offset surface water usage with up to 2,000,000 gpd of groundwater.
(2) The combined surface and groundwater withdrawals are limited to 4,400,000 gpd (AADF) and 6,000,000 gpd (PMF) regulated at the finished water meter (ID No. 20).
(3) The total permitted withdrawals includes the West Villages RO Wellfield.

The raw water annual withdrawal data for the Myakkahatchee Creek and RO wellfield for the twelve month period from September 2013 through August 2014 were obtained from monthly water withdraw reports submitted by the City to the SWFWMD and have been summarized in **Table 3-2**.

Table 3-2. Raw Water Withdrawals September 2013 – August 2014

SOURCE	ANNUAL AVERAGE (GPD)	PEAK MONTH (GPD) (1)
Myakkahatchee Creek	1,049,000	2,056,900
Myakkahatchee Creek RO Wellfield	835,000	901,323
TOTAL RAW WATER	**1,884,000**	**-**

(1) The peak month for surface water and groundwater withdrawals occurred in September 2013 and March 2014, respectively.

3.2.2 Finished Water

Once the raw water is treated at the MCWTP, the finished water is delivered to customers via the distribution system. In addition to finished water from the MCWTP, finished water is able to enter the North Port distribution system from additional sources as follows:

- PRMRWSA Interconnects (two)
    - Upgrades to the Northeast Booster Station provide the ability to send finished water to the PRMRWSA system for customers to the south, if needed.
    - A 12-inch interconnect serving North Port is provided from either the 36-inch or 42-inch PRMRWSA lines. The interconnect is located at the intersection of Raintree Boulevard and Serris Drive and is metered.
    - A 16-inch interconnect serving North Port is provided from either the 36-inch or 42-inch PRMRWSA lines. This interconnect is located near the intersection of East Price and Raintree Boulevard and is metered.
- Sarasota County Interconnect (one)
    - The Sarasota County interconnect is a secondary source of finished water to North Port during a portion of the year. The other portion of the year, North Port provides water to Sarasota County through this same interconnect.
    - This interconnect may also serve as an emergency interconnect, if needed as well.
    - The 12-inch interconnect is located on US-41 at the entrance of State College of Florida and includes telemetry with metering equipment.
- Charlotte County Interconnect (two)
    - Two interconnects with Charlotte County are emergency interconnects only. A 12-inch interconnect is located near the intersection of Hillsborough Boulevard and Flamingo (un-metered) and a 16-inch interconnect is located near the intersection of Biscayne and Chancellor Boulevard (metered). If both interconnects are to be maintained, it is recommended that both interconnects be metered.

Finished water data was obtained from the City for the twelve month time period form September 2013 through August 2014 and this data has been summarized in **Table 3-3**.

Table 3-3. Finished Water, September 2013 – August 2014

SOURCE	AVERAGE DAY DISTRIBUTION (GPD)
MCWTP Finished Water Meter	1,687,000
PRMRWSA Interconnect Metered	1,506,000
Distribution Storage Repumped (1)	-26,000
Permeate Metered (Groundwater)	613,000
Finished Surface Water (2)	1,048,000
Sarasota County Interconnect (3)	-24,000
Charlotte County Interconnect (4)	Zero
COMBINED AVERAGE DAILY FLOW (5)	**3,167,000**

(1) At times (during dry season) water from the distribution system is taken into the MCWTP storage tanks. Once sent back out to the distribution system, this amount is counted through the MCWTP finished water meter, essentially being double-counted, therefore, it is subtracted from the finished water meter. This volume estimated through May 13, 2014, when a meter was installed on the line.
(2) Finished surface water is not metered separately from the MCWTP finished water meter. Volume is calculated based on other metered volumes.
(3) For the time period represented in this table, North Port supplied more water to Sarasota County than received.
(4) Charlotte County interconnects are emergency interconnects only.
(5) Combined Average Daily Flow based on MCWTP finished water and PRMRWSA supplied water. Sarasota County not counted for this time period since North Port supplied more water to Sarasota County than received. Distribution system repump subtracted from MCWTP finished water meter. This number includes customers served in Charlotte County directly connected to the City's distribution system.

3.3 Water Treatment Plant

3.3.1 Overview

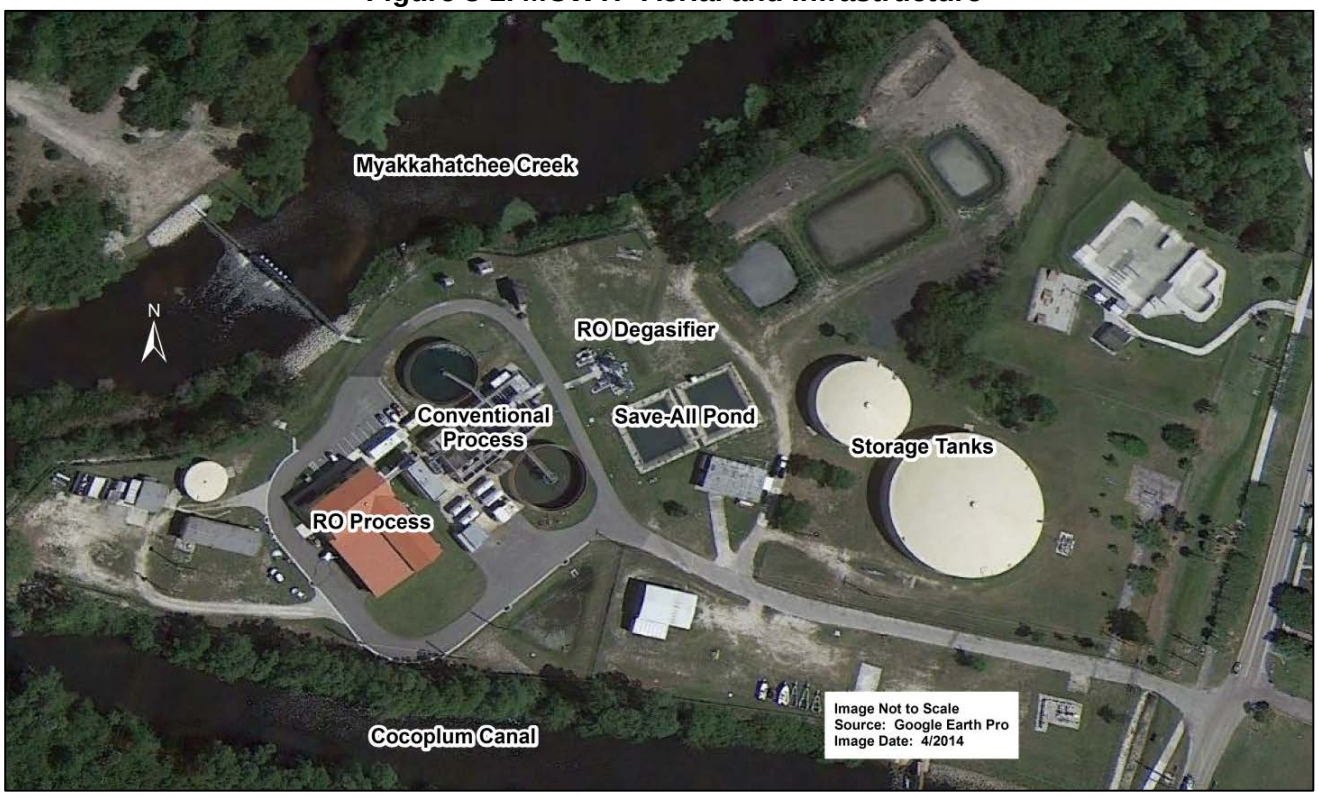
The City has two (2) different water treatment process located at the MCWTP. The MCWTP includes a conventional (i.e. surface water) treatment facility with a permitted capacity of 4.4 million gallons per day (MGD). Available surface water sources for the conventional treatment process are the Myakkahatchee Creek and the Cocoplum Canal. The conventional treatment process performs physical and chemical treatment of the surface water through coagulation, flocculation, sedimentation, sand filtration, and primary disinfection.

The MCWTP also includes a RO treatment system with a nameplate capacity of 1.5 MGD, which was completed and placed into operation in 2012. The RO system includes two mechanical pre-filters, two cartridge filters, two high pressure pumps, and two skid-mounted, two stage RO treatment systems.

Finished water from both treatment processes is blended, transferred to two on-site ground storage tanks, and pumped to the distribution system.

Figure 3-2 provides an aerial view of the MCWTP with the primary infrastructure identified.

Figure 3-2. MCWTP Aerial and Infrastructure



3.3.2 Site Assessment

A site visit to the MCWTP was conducted on August 19, 2014. Wade Trim staff toured the facilities with North Port staff for the purpose of documenting the general condition of the facility and to determine master planning level projects. The following **Table 3-4** lists potential master planning level projects as identified during the site visit and not already identified in previous studies. Any maintenance or small-scale type projects identified during the site visit are not shown.

Table 3-4. Master Planning Level Projects at MCWTP

COMPONENT	ISSUE	PROPOSED PROJECT
Reverse Osmosis Supply Wells	Water quality in 2 of 6 wells is declining	Evaluate wellfield
RO Supply Well Pumps	High pressure spikes at start-up and valves used to control flows	Evaluate potential use of for VFDs on wells
RO Treatment System	Not meeting permitted capacity	Perform RO system evaluation
Powder Activated Carbon (PAC) System	Auto-feed system would improve operations	Install auto-feed PAC system

Table 3-4. Master Planning Level Projects at MCWTP

COMPONENT	ISSUE	PROPOSED PROJECT
Filtration	Exposure to sun allows algae growth	Install canopies to limit algae growth and improve operations
Filtration	Filter control panels nearing end of useful life	Replace all filter control panels
High Service Pump Station	Control panel needs upgrade	Upgrade control panel
Sludge Handling	Insufficient drying of sludge; sending sludge to WWTP for processing is inefficient and transfers costs to WWTP	Evaluate options for processing of sludge at WTP and avoid sending to WWTP.
All process	Increase energy efficiencies to lower operating costs	Perform energy audit
General Site	Staff facilities	Construct maintenance building with machine shop and office space

Photos of the MCWTP facilities are provided in **Appendix B**.

3.4 Water Distribution

3.4.1 Service Area

As noted previously, as of the date of this report, the City of North Port provides service for approximately 19,000 water connections. Historically, the potable water service area has been developed in the areas of the highest population density within the City. Additional areas have been connected as new large developments have occurred. To address other areas of the City increasing in development, Wade Trim completed a Water Demand Analysis in 2014. The 2014 report addressed locations in the City where there is no water service and potential customers that are most likely to connect. The City will use this information to plan for future potable water service area expansions. This is discussed in more detail in **Section 5.5** of this report.

The 2004 Utility Master Plan also prioritized and ranked the expansion of utility services into existing neighborhoods. The City's goal is to eventually connect all residences within the Urban Service Boundary to the utility system, if the expansion is economically practical and otherwise attractive. At this time, only expansion of the water utility into existing neighborhoods is being anticipated. Expansion of water service into the Madagascar neighborhood (Phase 28.2 with 312 ERCs and Phase 28.3 with 188 ERCs) will be complete in 2016.

Beyond City limits, additional historically developed parcels between S. Tamiami Trail and the Myakka River, including four mobile home park communities, are connected to the water distribution system. There are also several historical connections on the south border of the city serving small neighborhood areas within Charlotte County. Charlotte County is in the process of extending their service area to provide water service to these neighborhoods. Final removal of these neighborhood connections from the City of North Port system may take several years.

3.4.2 Water Main

Finished water from the MCWTP and interconnects is pumped to the customers through a network of water mains. The water mains range in size from 1 to 20 inches in diameter and are summarized in **Table 3-5**. Most of the water mains are PVC, though some older asbestos cement (AC) pipe remains in the system.

Table 3-5. North Port Water Main Sizes and Lengths

PIPE DIAMETER	LENGTH OF PIPE (FEET)
1"	758
2"	14,170
3"	9,024
4"	145,947
6"	542,914
8"	369,006
10"	115,056
12"	302,376
16"	94,304
20"	22,086
TOTAL	**1,615,641 (306 MILES)**

To maintain consistent operating pressures throughout the system, the City has three (3) booster pump stations as follows: Southwest Booster Pump Station, Northeast Booster Pump Station, and Hillsborough Booster Pump Station. The booster pump stations were not visited in the preparation of this document, however, the approximate location of each station is shown on **Figure 3-1**.

The following **Table 3-6** summarizes the booster pump station facilities.

Table 3-6. Booster Pump Stations

PUMP LOCATION	NUMBER OF PUMPS	FIRM PUMPING CAPACITY (GPM)	STORAGE TANK(S) AND TANK CAPACITIES
Hillsborough Station	2	2,000	None
Northeast Station	5	5,500(1)	Two Tanks (1 MGD and 2 MGD)
Southwest Station	5	4,920	One Tank (1 MGD)
TOTAL	**12**	**12,420**	**4 MG**

(1) Firm pumping capacity was determined at a common total dynamic head condition of 150 ft.

In addition to the total four (4) MG in storage at the three booster pump stations, the water distribution system includes 3.5 MG in storage at the MCWTP, for a total system storage of 7.5 MG. Approximately one (1) MG of this storage is for fire flow, assuming 4,000 gpm for 4 hours. According to Florida Department of Environmental Protection (FDEP) rules, water systems are generally required to have finished water storage capacity of greater than 25% of the maximum day system demand (Rule 62-555 FAC). In 2014 the estimated maximum day system demand was 5.8 MGD. The City's system exceeds the standards with the system storage being equal to the maximum day demand. The available storage allows the City to maintain 16-hour day operation of the MCWTP rather than 24-hour day.

Review of the aging infrastructure on the bridges is outside of the scope of this document. Evaluation of any reported water quality issues within the distribution system including lower chlorine residuals, water age, flusher use/locations or need for looping to eliminate dead end water mains is beyond the scope of this document. These issues should be the subject of further evaluations in the future.

3.5 Water System Modeling

3.5.1 Overview

In order to determine the existing and future service demands of the water system, a simplified hydraulic model of the water distribution system was developed to characterize the ability of the system to deliver water within the system. The following subsections will describe the model and the standard criteria used in the model, establish the current / future system demands, and discuss the model results.

3.5.2 Model Development

A steady state water model was created in Bentley WaterGEMS V8i hydraulic modeling software. A steady-state hydraulic model is a "snapshot" of the system, calculating the flows, pressures and pump operations from the overall system demand. It does not simulate the varying system demands throughout the day (that a dynamic model simulates), where the number of operating pumps change throughout the day to maintain system pressures and flows. The high service pumps used to simulate pumping operations throughout the system were modeled using the actual pump curves provided by the City.

GIS data provided by the City (water mains, valves, hydrants, parcels, etc.) was imported into WaterGEMS to build a model representative of the City's water system. Other system characteristics, such as tank volumes and pump operating curves, were inputted into the model using information from record drawings and archival data. Once the data was imported and connected, Digital Elevation Model (DEM) data was downloaded from the FDEP's Land Boundary Information System website (www.labins.org) was used to establish the elevation of the system model relative to the ground elevation throughout the City.

All water mains from the GIS data were imported in the model; however, the majority of water mains smaller than 8-inch were not used for the analysis. Select small diameter water mains were included in the model to maintain connections between larger mains, to account for long runs of water main that are used as primary transmission mains, and to maintain existing loops in the system.

Water demands were assigned to junctions in the hydraulic model to correspond with the actual customer use in the system, both in volume and in geographic location. Customer water use data over a three (3) month period (January 2014 – March 2014) was extrapolated from billing account

information provided by the City. A total average demand was determined to be 2.40 MGD and was merged into GIS property data by matching addresses. Once merged, the water use data was imported into WaterGEMS to their respective geographic locations in the City. This provided a more realistic approach to modeling the system where the water demand used within the model is based upon actual customer water usage data. The customer use data imported in the model was adjusted to match the flow data of the combined capacity of the MCWTP and PRMRWSA interconnect by using a global multiple factor.

The daily flows from the MCWTP (surface water and RO plants) were reviewed for the twelve month time period from September 2013 – August 2014. During that time period, the annual average daily flow for the MCWTP was 1.824 MGD and the maximum day flow was 3.255 MGD. The calculated maximum day peaking factor for the MCWTP was calculated to be 1.79 (3.255 MGD ÷ 1.824 MGD). The flow data for the PRMRWSA interconnect is recorded as monthly total flow, and, as such, daily flow data was not available. Daily flows are obtainable from SCADA data but not used for the level of effect in this analysis. The annual average daily flow of the interconnect for the twelve month time period was 1.417 MGD. An estimate of the maximum day flow for the interconnect was calculated by applying the MCWTP maximum day peaking factor to the calculated annual average daily flow or 1.417 MGD x 1.79 = 2.536 MGD. The estimated maximum day flow for the period of record was calculated to be 5.80 MGD (or the sum of the MCWTP max day flow of 3.255 MGD and the estimated max day flow of the interconnect of 2.536 MGD).

3.5.3 Model Criteria

The criteria used to evaluate the system model were derived primarily from the following sources: 1) City of North Port Unified Land Development Code (ULDC); 2) City's Utility Standards (Utility Standards); 3) Recommended Standards for Water Works (Ten State Standards); and 4) FDEP Rules 62-550 FAC. In particular, the following specific criteria were applied and monitored during the development of the model:

- ***Pressure***. Water pressures throughout the system should be maintained at a minimum 55 pounds per square inch (psi) for a max day scenario with no fire flow condition. (Utility Standards 6.02.C.5, Ten State Standards 8.2.1)

- ***Velocity***. Water main velocities are considered acceptable when pipe velocities are less than 5 feet per second (fps). High pipe velocities are indicative of undersized pipes and large pressure losses in the water system.

- ***Fire Flow***. A typical residential minimum fire flow demand of 1,000 gpm while maintaining a minimum system pressure of 20 psi was applied for all areas throughout the City. (ULDC Section 37.17.B.6)

- ***Treatment & Interconnect Capacity***. When the total maximum-day quantity of finished water including fire-flow demand produced by all treatment plants exceeds 75 percent of the permitted maximum-day operating capacity, the City shall investigate expansion options of the treatment system. In the situation of North Port, a portion of the existing water supply capacity, with regards to this criteria, is being met with the use of the existing interconnect. (FDEP Rule 62-555.348)

- ***High Service Pumping Capacity.*** The number of High Service Pumps in operation at each location to maintain acceptable system pressure was evaluated based upon the peak demand capacity that can be satisfied with the largest pump out of service. (Ten State Standards 6.4.1)

3.5.4 Existing System Demands

The first model scenario evaluates an existing system demand of 5.80 MGD for the "Existing Maximum Day" condition. This condition was intended to simulate the water demand on the day of a given time period where the most water is used. The model was used to evaluate the ability of the system to deliver the minimum fire flow without decreasing the system pressure below 20 psi. Color-coded maps of the system from the output of the model showing pipe diameters, pressures, pipe velocities, and fire flows evaluated by this modeling scenario are provided in **Appendix D.**

The results of the model were compared to the model criteria as described **Section 3.5.3** and have been summarized as follows:

- ***Pressure***. System pressures varied from 57 to 68 psi under a max day scenario with no fire flow condition. The pressures were all above the criteria minimum pressure of 55 psi. No abnormally high pressure spots were identified.

- ***Velocity***. The maximum velocity in the system was 2.8 feet per second immediately downstream of the water treatment plants. The velocities in all water mains incorporated into the model were all below the velocity criteria of 5 fps.

  Of the 220 miles of water main within the model representation, 207 miles of water main exhibited velocities below 1.0 feet per second for the modeled maximum day conditions. Under average day conditions, the velocities in these lines will be lower. This can be attributed to the distribution system lines being sized for a future buildout type condition which is very common for most utility systems in areas where additional growth is expected. The lack in demand results is lower pipe velocities. Low velocities are also to be expected within water mains that are designed to accommodate fire flow type flow and more typical low flow demand.

  Areas within the water distribution system with low velocities would be anticipated to exhibit common problems with low chlorine residuals, sediment accumulation, and long water age. This can be addressed through flushing.

- ***Fire Flow***. The majority of the system is capable of providing sufficient fire flows in the Existing Max Day scenario. Approximately 8% of the junctions used within the model representation do not appear to meet the minimum fire flow criteria. These areas may be attributed to having under sized water mains or the need for additional water main feeds into a neighborhood. It is recommended that further evaluation be conducted through the development of a dynamic model incorporating additional piping infrastructure into the model representation to better depict the entire distribution system for the purpose of further detailed evaluation of those areas that do not appear to meet the fire flow criteria.

  The 2007 Water Utility Master Plan Update did not address fire flow and recommended a more thorough analysis as part of a future modeling effort.
  The 2004 Utility Master Plan model results indicated several areas within the City that did not appear to meet the minimum fire flow requirements. The report describes the apparent cause as being any fire hydrant fed by a non-looped 6-inch diameter (or smaller) pipe more than a few

hundred feet in length. The modeling effort for this 2015 analysis showed improved fire flows where looping projects have since been completed.

While modeling efforts are important for analyzing where issues may be arising in the distribution system, the results may not be accurately reflecting true field conditions. Modeling efforts are a first step and areas of concern should be verified.

- ***Treatment & Interconnect Capacity***. The maximum distribution capacity of the MCWTP (4.4 MGD Surface Process and 1.5 MGD RO Process) combined with the maximum capacity of the PRMRWSA interconnect (3.78 Max Day) is 9.68 MGD. The maximum day water demand used for the Existing Conditions model scenario is 5.80 MGD or 60% of the combined system capacity. This is well below the criteria standard of 75%.

- ***Operating High Service Pumps***. **Table 3-7** lists the high service pumps operating in the model. Note that each location operates with at least one (1) standby pump.

Table 3-7. High Service Pump Operation – Existing Condition

HIGH SERVICE PUMP LOCATION	OPERATING	STANDBY
WTP	1	2
Hillsborough Station	0(1)	2
Northeast Station	1	4
Southwest Station	1	4

(1) In the Existing Max Day scenario, one pump at the WTP, one pump at the Northeast Booster station, one pump at the West Villages Pump station and the PRMRWSA interconnect operated with a combined flow of 4,028 gpm (5.80 MGD). Pressures in the model were within the acceptable range and the Hillsborough booster pumps did not operate.

The existing maximum day model scenario showed that system pressure was able to be met using three high service pumps and the pressure originating from the interconnect. It would appear that a significant amount of the water system infrastructure, including the high service pumps, have been designed to accommodate the amount of growth anticipated at full build out of the system.

The model shows that the water system is meeting all design criteria except for fire flow in certain areas. Fire flows should be field verified. If field verification confirms fire flows need to be addressed, this can be corrected by upsizing pipes or looping the water main system depending on the location. The model also showed a significant amount of low velocities that would suggest the distribution system would be expected to exhibit common water quality problems. Further detailed evaluation of the observations from this effort should be investigated at the next subsequent hydraulic modeling update project.

3.5.5 Future System Demands

The City identified four (4) developments that are expected to be the next areas to be developed within the City in the near future. **Table 3-8** provides a summary of the projected water demand for each development that will be used in the modeling of the Future Max Day modeling scenario.

Table 3-8. Future Development Projected Water Demand

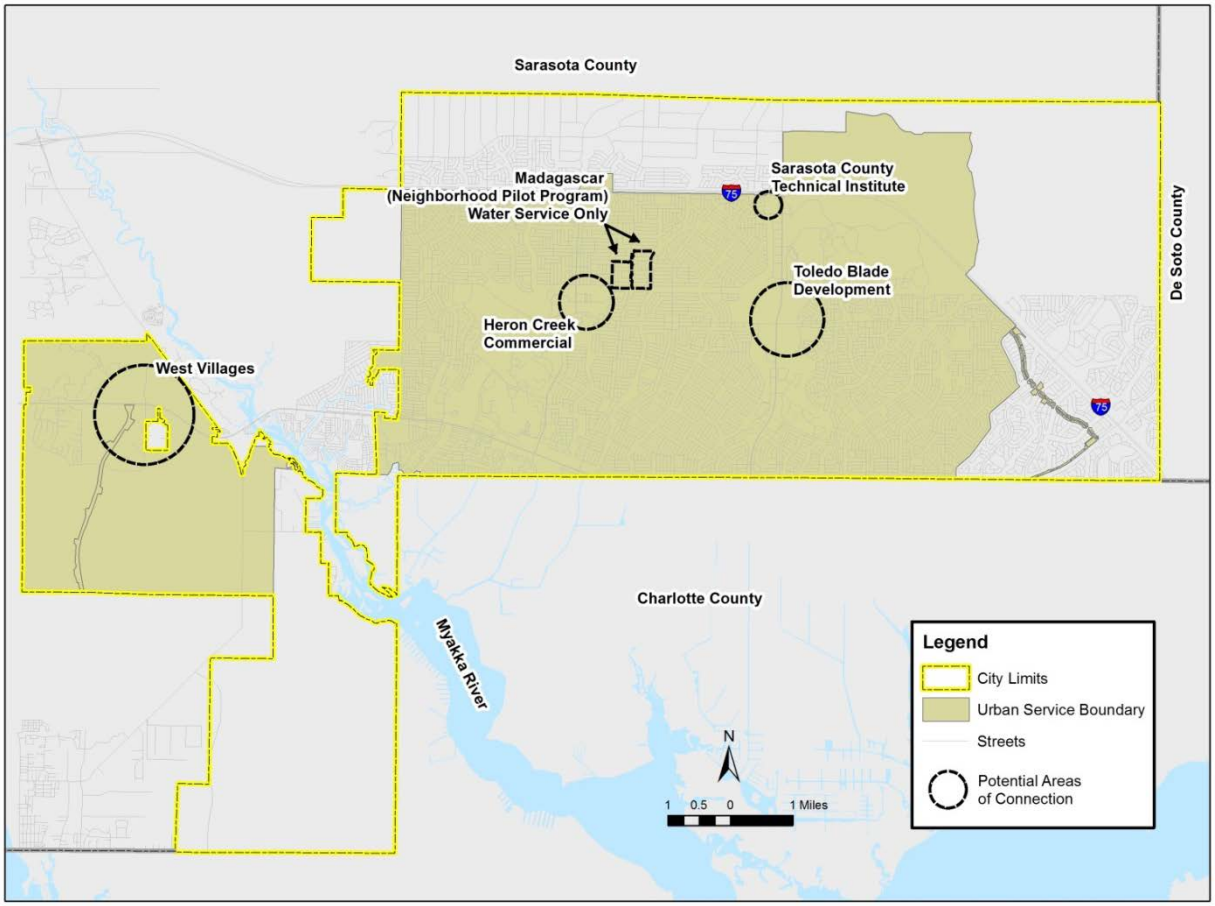
DEVELOPMENT	TYPE	ERC	AREA (SQ FT)	DEMAND (GPD)
West Villages(1,2)	Commercial	80	100,000	270,000
	Residential	1,000	-	
Heron Creek Commercial(2)	Commercial	160	200,000	40,000
Sarasota County Technical Institute (3)	School	80	100,000	20,000
Toledo Blade Development (1,2)	Commercial	240	350,000	115,750
	Residential	223	-	
Madagascar Phase 28.2(1)	Residential	312	-	78,000
Madagascar Phase 28.3(1)	Residential	188	-	47,000
TOTAL FUTURE DEVELOPMENT WATER USE		**2,213**		**570,750**

(1) Residential demands were based on the City's standard of 1 ERC = 250 gpd. (City's Administrative Code, Chapter 78, Section 28-30)
(2) Commercial demands were based on the City's standard ERC = {(number of fixtures)(30)}/{250 gpd/ERC} for commercial (City's Administrative Code, Chapter 78, Section 28-30)
(3) School demands were assumed to be similar to the commercial demand standard due to the specific nature of the use, i.e. trade school.

The water demands for the residential component of the development assumes that the residential areas will be developed as typical single family residence that the water demand would be defined by City standards as one ERC. If the residential components are developed with less intense residential, such as mobile homes or one bedroom multi-family, then less water demand would be expected.

Figure 3-3 provides the approximate location of each development within the City.

Figure 3-3. Modeling Scenarios – Future Demand Locations



The Future Max Day model scenario evaluates the performance of the system comprising the existing demand of 5.80 MGD plus the addition of the expected demand from the future development areas of 0.57 MGD which totals of 6.37 MGD. This condition was intended to simulate the water demand on the day of a given time period when the most water is used. The model was used to evaluate the ability of the system to deliver the minimum fire flow without decreasing the system pressure below 20 psi. Color-coded maps of the system showing pipe diameters, pressures, pipe velocities, and fire flows evaluated under this modeling scenario are available in **Appendix D**.

The results of the model were compared to the model criteria as described **Section 3.5.3** and have been summarized as follows:

- ***Pressure***. System pressures varied from 57 to 68 psi, with the majority of the system over 60 psi with no fire flow condition. The pressures were all above the criteria minimum pressure of 55 psi. No abnormally high pressure spots were identified.

- ***Velocity***. The maximum velocity in the system was 3.0 feet per second immediately downstream of the water treatment plant and Northeast Pump Station. The velocities were all below the criteria maximum velocity of 5 fps. However, the majority of the system showed velocities below 3 feet per second for a maximum day flow. Under average day conditions, the velocities will be lower. As noted in section 3.5.4, areas with low celocities may experience

declines in water quality, which can readily be addressed with flushing. A higher maximum velocity resulted under the future modeling condition because a higher water demand was modeled utilizing the same piping network.

- ***Fire Flow***. The majority of the system is capable of providing sufficient fire flow in the Future Max Day scenario; however, there are areas within the city that do not appear to be capable of providing the minimum fire flow. These areas may be attributed to having under sized water mains or the need for additional water main feeds into a neighborhood. As discussed in Section 3.5.4, areas of concern identified through modeling efforts should be field verified.

- ***Treatment Capacity***. The maximum distribution capacity of the MCWTP (4.4 MGD Surface Process and 1.5 MGD RO Process) combined with the maximum capacity of the PRMRWSA interconnect (4.011 Max Day) is 9.91 MGD. The maximum day water demand for the Future Conditions model scenario of 6.37 MGD is 64% of the combined treatment capacity, which is below the 75% threshold.

- ***Operating High Service Pumps***. **Table 3-9** lists the high service pumps operating in the model. Note that the pumps are still operating with at least one (1) standby pump at each location. This demonstrates that there is sufficient pumping capacity in the future scenario.

Table 3-9. High Service Pump Operation – Future Condition

HIGH SERVICE PUMP LOCATION	OPERATING	STANDBY
WTP	1	2
Hillsborough Station	0	2
NE Station	1	4
SW Station	1	4

The operation of a limited number of High Service pumps during the Future Max Day modeling scenario is similar to the Existing Max Day modeling scenario.

The model shows that, for the future max day modeling condition, the water distribution system is capable of meeting all design criteria except for fire flow in limited areas. Fire flows should be field verified. If field verification confirms the flows need to be addressed, this can be corrected by upsizing pipes or looping the water main system depending on the location.

3.5.6 Model Results Analysis

In both modeled scenarios, the primary transmission lines met the criteria for pressure, velocity, and fire flow.

As noted previously, field verification and additional analysis is recommended to confirm model results with respect to fire flows. If fire flows need to be addressed, increasing water main diameters and constructing water main loops in neighborhoods served by single water mains will improve fire flows.

The existing water treatment facilities combined with the PRMRWSA interconnect provide sufficient capacity for the Existing Max Day condition characterized by a demand of 5.80 MGD and the Future Max Day condition characterized by a demand of 6.37 MGD. The results of the simplified modeling scenarios suggested that no additional capital improvements are needed to allow the system to deliver

up to the Future Max Day condition of 6.37 MGD. No hydraulic limitations within the existing system were identified by the simplified modeling scenarios.

The existing high service pumping capacity is sufficient for the conditions modeled, as less than half of high service pumps were operating to maintain pressures in the system. This type of steady-state model however does not simulate the dynamic operation of the booster stations in response to the typical daily diurnal water demand and how system pressures are affected throughout the day. In addition, peak hour flows were not evaluated. A dynamic model can evaluate the operation of these stations with more details, such as the number of pumps starting up and shutting down as water demands vary throughout the day in order to maintain system pressure, meet peak hour demands, as well as the filling and draining of the storage tanks.

3.5.7 Recommendations

A simplified model of the City's water distribution was developed and used to evaluate the performance of the system for the Existing Maximum Day flow condition of 5.80 MGD and a Future Maximum Day flow condition of 6.37 MGD. The future condition was modeled based upon the existing maximum day flows and the addition of 2,213 ERCs of development consisting of 25% commercial and 75% residential within 4 developments and the water system expansion into the Madagascar Neighborhood (Phase 28.2 & 28.3). The model identified a limited number of locations (8% of the model junctions) where it appears the system may not meet the fire flow criteria of 1,000 gpm at 20 psi minimum pressure. In addition, the modeling work indicated that the system operates at low velocities and would be expected to exhibit typical distribution system water quality issues.

Based upon the modeling results, the following additional analyzes are recommended:

- Field verify model results and, using a more fully developed model representation of the water mains, further evaluate those areas where it appears fire flow criteria may not be met.

- Consider developing a Uni-Directional Flushing (UDF) program to improve water quality in those areas of the water distribution system where the model is indicating low velocities. The program could be attempted on a pilot basis for the City to consider the benefits prior to undertaking a more widespread program.

The following recommendations are improvements to the model representation of the water distribution system that can be implemented in order to provide more accurate results and further evaluate the City water system as a component of a future Water System Hydraulic Model project:

- Calibrating system pressures with field pressure tests at fire hydrants (static and residual pressures);

- Include all water mains in the model instead of only simulating the larger transmission mains;

- Incorporate daily pump operations at the water treatment plant and booster stations;

- Collect daily flow data of the PRMRWSA interconnect to better refine the current flows from the PRMRWSA interconnect instead of using monthly averages;

- Collect hourly flow data at the water treatment plants, booster stations, and PRMRWSA Interconnect in order to calculate a peak hour factor and generate a system diurnal for dynamic modeling;

- Create dynamic scenarios of the water system to evaluate pressures, pump operations, and storage tank levels throughout a typical Average Day and Max Day;

- Further refine the level of future developments and incorporate their projected water demands into a future condition scenario.

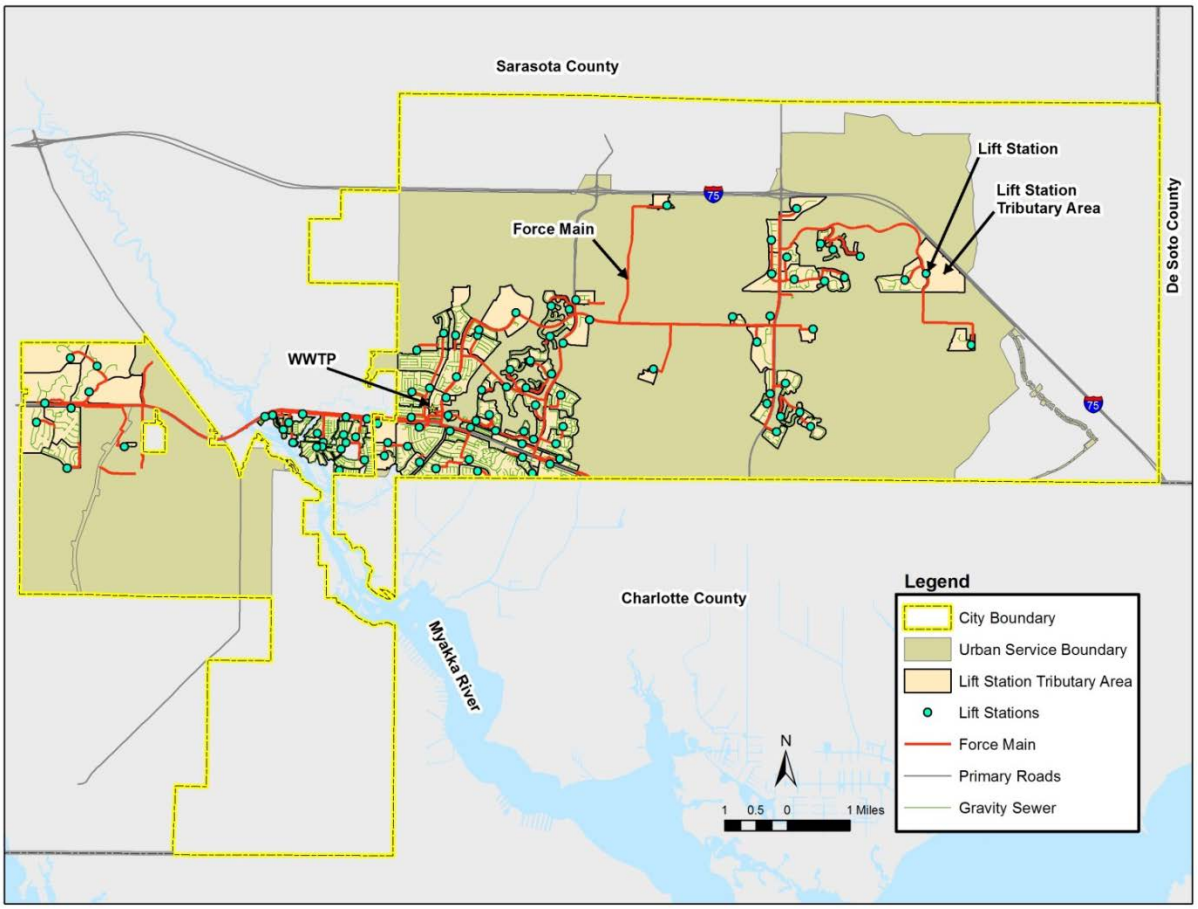
4.0 WASTEWATER & REUSE SYSTEM

4.1 Overview

The City owns and operates the wastewater collection and treatment system. The wastewater collection system is composed of gravity sewers, force mains and lift stations. The wastewater is collected and pumped from the lift stations to the wastewater treatment plant (WWTP) for treatment.

Figure 4-1 provides an illustration of the City's wastewater service area and the location of the primary infrastructure, including the WWTP, 100 lift stations and the corresponding tributary areas, force mains, and gravity sewers. This infrastructure will be discussed in more detail throughout this section.

Figure 4-1. Wastewater Service Area Map and Primary Infrastructure



4.2 Wastewater Treatment Plant

4.2.1 Overview

The City's WWTP has a nameplate rated capacity of 7.0 MGD on a three-month rolling average daily flow (3MRADF) basis. The WWTP is located on the west side of Pan American Boulevard just north of U.S. Highway 41 and is operated under FDEP Domestic Wastewater Facility Permit No. FLA013378.

The most recent renewal of the operating permit occurred on September 22, 2012, and will expire on September 23, 2017. A copy of the current permit is including in **Appendix A**.

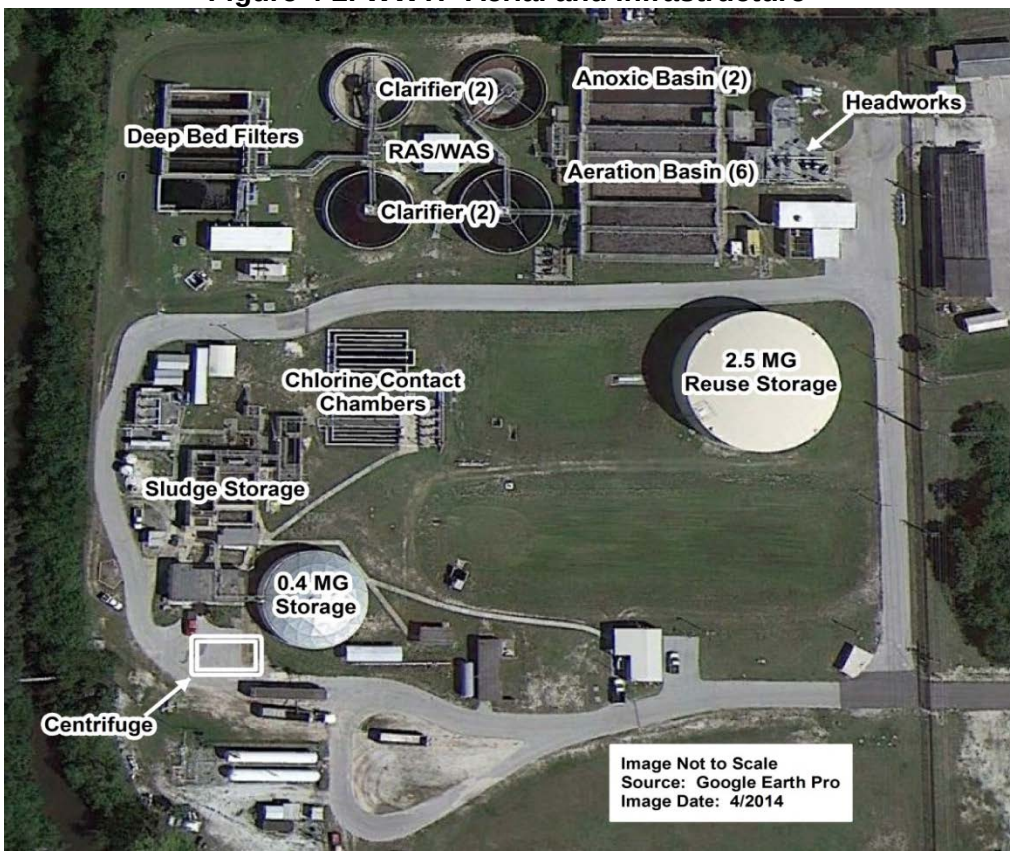
The WWTP is classified as a nitrification/denitrification activated sludge (Modified Ludzak-Ettinger) facility with mechanical screening, grit removal, two anoxic basins, six aeration basins with fine bubble aeration, four secondary clarifiers, deep bed filtration, and high level disinfection using liquid sodium hypochlorite. Effluent from the facility is either distributed to a public access reclaimed water system (RWS) or to two (2) Class I deep injection wells (DIW). The plant has a new 2.5 MG ground storage tank for reuse storage. The WWTP is permitted to provide up to 5.0 MGD annual average daily flow (AADF) to the slow-rate public access (i.e. reuse) system.

The waste activated sludge from the treatment process is pumped from the secondary clarifiers to sludge storage tanks. The existing tanks are currently either aerated or mixed to provide some aeration. The sludge can be thickened by decanting supernatant from tanks. As of the date of this report, the City is in the process of evaluating and making improvements to the solids handling treatment processes of the WWTP.

The City installed a new centrifuge in October 2014 to dewater solids prior to disposal. The City contracts with a private residuals management company for final handling and disposal of the solids.

Figure 4-2 provides an aerial view of the WWTP as well as the primary infrastructure.

Figure 4-2. WWTP Aerial and Infrastructure



4.2.2 Assessment

A site visit to the WWTP was conducted on August 12, 2014. Wade Trim staff toured the facilities with North Port staff for the purpose of documenting the general condition of the facility and to determine master planning level projects. The following **Table 4-1** lists potential master planning level projects as identified during the site visit and not already identified in previous studies.

Table 4-1. WWTP - Master Planning Level Projects

PROCESS	ISSUE	PROPOSED PROJECT
Preliminary Treatment	Grit classifier reaching end of service life	Rebuild or replace
Headworks Control Panel	Currently using older relay logic	Replace with PLC
Headworks Control Panel	Current location is exposed to sun/weather and corrosive environment	Relocate
Clarifier No. 3 Mechanism	Needs upgrading to match other clarifiers	Upgrade prior to increase of flows to WWTP
RAS/WAS Pump MCCs	Reaching end of service life. MCC location also problematic for accessing pumps	Replace MCCs and relocate indoors.
Filters	Algae growth	Install covers
Centrifugal Sludge Blowers	Beyond service life	Replace
MCCs in blower room (MCC 5/5A)	Beyond service life	Replace
Sludge Thickener Tank Aeration	Diffusers not functioning efficiently	Rehab or replace
SCADA	SCADA server and program needs upgrade	Upgrade

The condition of the solids handling facilities was not reviewed for this analysis. At the time of this report, the City is evaluating the solids storage and processing.

4.3 Wastewater Collection System

4.3.1 Service Area

As noted previously, as of the date of this report, the City of North Port provides service for nearly 14,500 wastewater connections. This equates to about 76% of the approximately 19,000 water connections. A majority of the wastewater service is provided to parcels and developments/developed areas along Tamiami Trail, Sumter Boulevard, Pan American Boulevard, and Toledo Blade Boulevard.

The 2004 Utility Master Plan presents an updated analysis in Section 5.0 to prioritize and rank the expansion of utility services into existing neighborhoods. The City's goal is to eventually connect all

residence within the Urban Service Boundary to the utility system if the expansion is economically practical and otherwise attractive. With regards to expansion of the wastewater system into neighborhoods, homes not served by the central system are connected to septic tanks. The 2004 Utility Master Plan states that there are no reported hot spots of well contamination or septic tank failures that would be a significant driver for expansion of the wastewater system. At this time, only expansion of the water utility into existing neighborhoods is being anticipated.

4.3.2 Gravity Sewer and Force Main

Wastewater is collected from customers through a network of gravity sewers, lift stations and force mains. The physical condition or capacity of the gravity sewers were not reviewed for this report. The City's GIS database was used to determine that there are approximately 137 miles of PVC pipe or vitrified clay pipe (VCP) gravity sanitary sewer in the system and that the pipe is typically either 8 inch or 10 inch in diameter.

Force mains are used to convey wastewater from the lift stations to the WWTP. The force main pipes range in size from 2 to 36 inches in diameter and are summarized in **Table 4-2**.

Table 4-2. North Port Force Main Sizes and Lengths

PIPE DIAMETER	LENGTH OF PIPE (FEET)
2"	5,950
3"	2,310
4"	60,360
6"	76,340
8"	88,090
10"	16,920
12"	111,510
14”	85
16”	41,985
18”	30
20”	4,600
24”	500
36”	110
TOTAL	**408,790 (78 MILES)**

It should be noted that the capacity of the 12-inch forcemain on U.S. 41 from the West Villages area is dedicated to serve the West Villages and select parcels identified in the 41 Corridor Study.

4.3.3 Lift Stations

Wastewater from the gravity sewer system discharges into the 100 lift stations found throughout the City's wastewater service area. A cursory review of the GIS database provided by the City shows that the lift stations are primarily duplex (2 pumps), ranging in size from 1.5 to 88 horsepower. The majority of the lift stations are equipped with Flygt submersible pumps. Pumps from other manufacturers such

as Hydromatic, Gorman Rupp and Goulds are also used at lift stations within the system. The wet wells range from 6 to 12 feet in diameter and from 10 to 32 feet in depth.

Wade Trim staff visited six (6) of the lift stations with North Port staff for the purpose of documenting the general condition of each and to obtain from North Port staff any concerns they may have. No major issues or concerns were discussed relative to the six lift stations visited. The lift stations visited appear to have adequate capacity to meet the existing needs of the service area. A listing of the visited lift stations is presented in **Table 4-3.**

Table 4-3. Summary of Lift Stations Visited

LIFT STATION NO.	TYPE	WET WELL DIMENSIONS	DEPTH	PUMP INFORMATION			
				MANUFACTURER	MOTOR SIZE	MODEL	IMPELLER
19	Triplex	16’ x 9’	23	FLYGT	20 HP	CP3152	454
25	Duplex	12' Diameter	34	FLYGT	20 HP	CP3152	454
47	Duplex	12' Diameter	27	FLYGT	30 HP	CP3170	463
80	Duplex	12' Diameter	20	FLYGT	10 HP	CP3126	464
82	Triplex	12' Diameter	35	FLYGT	88 HP	CP3300	464
88	Triplex	12' Diameter	35	FLYGT	88 HP	CP3300	464

The lift station information was not used in the development of the hydraulic model (see **Section 4.4.2**). Additionally, discrepancies were found between the information collected in the field as shown in **Table 4-3** above and the GIS data. Field verification of the existing wastewater collection system is labor intensive. As of the date of this report, much of the GIS data recorded by the City was obtained from old as-built information provided by General Development, the original owners of the system. As time progresses, it is evident that the as-built information, if available, does not always reflect field conditions. It is recommended that the City perform a complete audit of the lift station system and compile a current database of equipment/structures/condition prior to undertaking a complete hydraulic model of the wastewater system.

North Port staff provided a prioritized listing of fourteen (14) lift stations that require rehabilitation and upgrade. Of the fourteen lift stations, four (4) require piping replacement due to corrosion; five (5) require electrical panel upgrade to current code and for providing SCADA remote monitoring capability; and, four (4) require both piping replacement and electrical panel/SCADA upgrade. Lift Station No. 70 is scheduled for capacity upgrade. **Table 4-4** summarizes the lift stations prioritized by North Port Staff for rehabilitation.

Table 4-4. Lift Stations Prioritized for Rehabilitation

PRIORITY	LIFT STATION	PIPING	PANEL	PUMPS
1	4	Y	Y	
2	6	Y		Y
3	36	Y	Y*	Y
4	66	Y	Y	
5	51	Y	Y*	
6	61	Y		
7	63	Y		
8	47		Y	
9	44	Y		
10	38		Y	
11	37		Y	
12	28		Y	
13	26		Y	
14	70	Y		Y

For this particular listing of lift stations, the City has placed a higher priority on replacement of corroded piping. With the exception of Lift Station No. 36, the other panels can be deferred to a later date. Panels with an asterisk require upgrades to the incoming utility power feed by Florida Power and Light (FPL).

4.3.4 Collection System Inflow & Infiltration

Aging collection systems typically suffer from a certain amount of inflow and infiltration (I&I). Inflow is caused by stormwater directly entering the system through illicit connections, lift stations, manholes, cleanouts, or other means. Infiltration, on the other hand, is groundwater entering the system through damaged gravity sewer pipes or cracked wet wells. Excessive I&I in the system results in lost capacity of all components of the wastewater collection and treatment systems as well as an increase in treatment costs at the WWTP.

Data on a daily basis was compiled from the FDEP Discharge Monitoring Reports (DMR) for the WWTP for the period September 2013 through August 2014. Rainfall data was gathered for the same time period from the Monthly Operational Reports (MOR) for the MCWTP. **Figure 4-3** provides a graph showing the influent WWTP flows compared to the daily rainfall.

Figure 4-3. WWTP Daily Influent Flow and Rainfall, Sep. 2013 – Aug. 2014

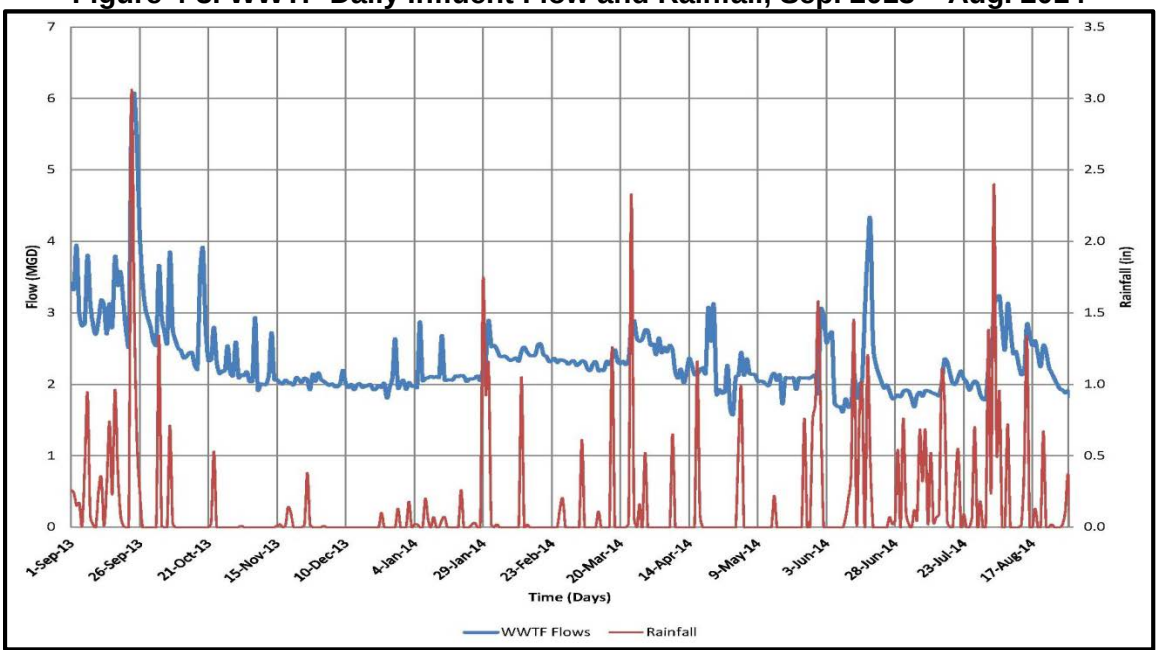


Figure 4-3 shows that influent flows to the WWTP increase when there is a significant rain event. This indicates the collection system is experiencing some degree of both inflow and infiltration. A more detailed analysis would be required to determine the actual magnitude, to pinpoint the primary source (stormwater or groundwater) and to identify specific locations that experience excessive I&I. The City may wish to consider exploring developing elements of a Capacity, Management, Operations, and Maintenance (CMOM) type program in an effort make progress towards reducing I&I.

Although not as accurate as site specific flow monitoring, North Port staff have evaluated lift station run times in an effort to identify potential areas of the system experiencing heavy I&I flows. Pipelines within suspect areas have been televised to select areas for rehabilitation. The City has an on-going pipeline rehabilitation program to reduce I&I flow.

4.4 Wastewater Hydraulic Model

4.4.1 Overview

In order to determine the existing and future wastewater service flows, a simplified hydraulic model was developed to simulate the amount of wastewater collected from the system and conveyed to the WWTP. The following subsections describe the model and the standard criteria used in the model, establish the system demands and discuss the model results.

4.4.2 Model Development

The wastewater model was created using the Bentley SewerGEMS hydraulic modeling software. GIS data provided by the City (force mains, lift station locations, etc.) were imported into the software to build a representation of the City's force main system. Other system criteria, such as treatment plant influent piping and Headworks elevation, was input into the model as determined from record drawings

and archival data. Once the data was imported and connected, Digital Elevation Model (DEM) data was downloaded from the FDEP's Land Boundary Information System website (www.labins.org) to establish the approximate elevation of the system model relative to the ground elevation throughout the City.

The objective of the hydraulic model was to develop a simplified steady state model of the system with the intent of analyzing the performance of the large diameter force mains (10-inch diameter or larger) related to capacity (velocity and pressures) for a maximum day flow condition. To simplify the model representation of upstream areas, the model was developed by placing all upstream flows into the force main downstream of the last lift station to the WWTP. The estimated wastewater flows within each lift station tributary area were modeled as steady state inflows to the force main system. The operation of the lift stations, including wet well geometry, pump operating curves, and pump operating wet well levels, were not incorporated into the modeling framework.

Water use data was obtained from billing account information between the months of January and March, 2014 and used to approximate wastewater inflows. The data was averaged over the three-month period and merged into GIS property data by matching addresses. Once merged, the water use data was imported into SewerGEMS to their respective geographic locations and lift station service areas in the City. This provides a more realistic approach to developing flows for modeling purposes because the flows are based on actual customer usage data. The total average demand using the billing data was 2.40 million gallons per day (MGD). The water billing data compares favorably to the measured flows at the treatment plant. For the period from September 2013 through August 2014, the recorded average daily wastewater flow was 2.38 MGD. The customer specific water use data was imported into the model and was adjusted downward by 1% to match the flow data at the WWTP.

In the wastewater plant data for the period September 2013 to August 2014, the maximum day flow of 6.07 MGD occurred in September 2013. The average daily flow for the same time period was 2.39 MGD; therefore, the maximum day peaking factor was determined to be 2.54 (6.07 MGD ÷ 2.39 MGD). This peaking factor was applied to the modeling scenarios.

4.4.3 Model Criteria

The model criteria were set forth by City of North Port Utility Standard Specifications (Utility Standards), Ten State Standards (Ten State), and FDEP. Criteria adhered to during the development and review of the model consisted of the following guidelines. The results from the hydraulic model will establish the adequacy of the capacity of the major force mains within the system.

- **Pressure**. Wastewater force main sizes were considered acceptable if the modeled pressures were generally less than approximately 50 psi.

- **Velocity**. Wastewater force mains sizes were considered acceptable with modeled pipe velocities between 2 and 5 feet per second. A minimum 2 feet per second is desirable to ensure force mains will be scoured and prevent the settling of solids within the pipes. Velocities above 5 feet per second typically result in higher system pressures and high head loss in the force mains (Ten State Chapter 49).

4.4.4 Existing System Flows

The first model scenario evaluated the performance of the forcemain system at a flow of 6.07 MGD for the "Existing Maximum Day" condition. This scenario was intended to simulate the sanitary wastewater

flows on the day of a given time period when the most wastewater is generated. Color-coded maps of the system showing pipe diameters, pressures, and pipe velocities are available in **Appendix E**. The pressure and velocity results are as follows:

- **Pressure**. System pressures varied from 8 to 16 psi. The pressures were all well less than the criteria maximum pressure of 50 psi.

- **Velocity**. The maximum velocity in the system was 5 feet per second immediately upstream of the headworks at the WWTP. However, the majority of the force main velocities were below the minimum velocity criteria of 2 feet per second for the steady state maximum day flow condition modeled. See sections 4.4.6 and 4.4.7 for analysis of results and recommendations.

4.4.5 Future System Flows

The City identified four (4) developments that are expected to be developed within the City in the near future. **Table 4-5** provides a summary of the projected wastewater flows for each development. Note that the future developments, with the exception of the existing neighborhood expansion program, which is potable water only, are the same as identified for the water system in **Table 3-7** and **Figure 3-3**.

Table 4-5. Future Development Projected Wastewater Flows

DEVELOPMENT	TYPE	ERCS(1)	AREA(2) (SQ FT)	WASTEWATER FLOW (GPD)
West Villages(1,2)	Commercial	80	100,000	243,000
	Residential	1,000	-	
Heron Creek Commercial(2)	Commercial	160	200,000	36,000
Sarasota County Technical Institute(3)	School	80	100,000	18,000
Toledo Blade Development(1,2)	Commercial	240	350,000	104175
	Residential	223	-	
TOTAL FUTURE DEVELOPMENT WW FLOWS		**1,783**		**401,750**

(1) Residential demands were based on the City's standard of 1 ERC = 225 gpd. (City's Administrative Code, Chapter 78, Section 28-30)

(2)

(3) Commercial demands were based on the City's standard of ERC = {(number of fixtures)(30)}/{225 gpd/ERC} (City's Administrative Code, Chapter 78, Section 28-30)School demands were assumed to be similar to the commercial demand standard due to the specific nature of the use, i.e. trade school.

The second model scenario evaluated the performance of the forcemain system at a Future Maximum Day condition of 6.47 MGD. The modeling scenario represents the maximum day flows from the existing system (6.07 MGD) plus the addition of the expected maximum day flows from the future development areas (0.40 MGD). Color-coded maps of the system showing pipe diameters, pressures, and pipe velocities are available in **Appendix E**. The pressure and velocity results are as follows:

- **Pressure**. System pressures varied from 10 to 24 psi. The pressures were all less than the criteria maximum pressure of 50 psi.

- **Velocity**. The maximum velocity in the system was 6 feet per second immediately upstream of the Headworks at the WWTP. However, the majority of the force main velocities were below the

minimum velocity criteria of 2 feet per second for the steady state maximum day flow condition modeled.

4.4.6 Model Results Analysis

In both modeling scenarios, the force main system meets the criteria for pressure but exhibited low velocities. This type of steady-state model is a "snapshot" of the system which does not simulate the operation of lift station pumps and how system pressures and velocities are affected throughout the day in response to the typical diurnal flow pattern. The existing force main system provides sufficient capacity for the Existing Maximum Day flow condition of 6.07 MGD and the Future Maximum Day flow condition of 6.47 MGD as determined using the simplified steady-state model representation of the system. No additional capital improvements are needed to the force mains to allow the system to transmit up to the Future Maximum Day condition of 6.47 MGD to the existing WWTP. The modeling results do show force main segments with velocities below the minimum velocity criteria of 2 feet per second for the steady state maximum day flow condition modeled. This is not an uncommon problem since the size of the force mains have been designed to accommodate future flow increases.

Upgrading the model representation of the system to a dynamic model can evaluate the force mains and lift stations with more detail, such as the number of lift stations starting-up and shutting down as wastewater inflows vary throughout the day. Obtaining the proper information for all lift stations necessary to upgrade the model representation into a dynamic model may be a labor intensive task that is best performed by internal City resources.

4.4.7 Recommendations

A simplified steady-state model of the City of North Port wastewater force main network was developed and used to evaluate the performance of the force main network for an Existing Maximum Day flow condition of 6.07 MGD and the Future Maximum Day flow condition of 6.47 MGD. The future condition was modeled based upon the existing projected maximum day flows along with the addition of 1,783 ERC of development consisting of 31% commercial and 69% residential within 4 developments. The simplified steady-state model representation of the system showed no additional capital improvements are needed to the force mains to allow the system to transmit up to the Future Maximum Day condition of 6.47 MGD to the existing WWTP. The modeling results do show force main segments with velocities below the minimum velocity criteria of 2 feet per second for the steady state max day flow condition modeled.

The following recommendations are improvements to the model representation of the wastewater force main system that can be implemented in order to provide more accurate results and further evaluation of the system as a component of a future Wastewater Hydraulic Modeling project:

- Obtain updated information from each lift station that can be used to develop a representation of the lift station operation within the context of a dynamic model;
- Incorporate wastewater inflows for the tributary area into each lift station;
- Collect hourly data at the WWTP and select master lift stations in order to calibrate the modeled diurnal flow pattern with the measured data;
- Calibrate system modeled pressure with field pressure data at select locations;

- Further refine the level of future development and incorporate the projected wastewater flows into the future condition scenario;
- Determine the impact of the construction of the future Panacea and Thomas Ranch WWTPs on the system, including the distribution of flows between the facilities.

4.5 Reclaimed Water

4.5.1 Overview

A detailed analysis and hydraulic modeling of the reclaimed water system was not performed for this report.

The reclaimed water distributed system is permitted by the FDEP under the Domestic Wastewater Facility Operating Permit No. 013378. The slow-rate public access reuse system has a nameplate rated capacity of 5.0 MGD annual average daily flow (AADF). Reclaimed water can be used for irrigation of residential lawns, golf courses, landscape areas, highways medians, fire protection, construction dust control, and other uses within the designated service area, which includes the incorporated limits of the City of North Port. Reclaimed water is transferred to the on-site 2.5 MG reclaimed water storage tank and a 600,000 gallon reclaimed water storage tank located at the Sabal Trace Golf Course. The following are the City of North Port Domestic Wastewater Facility Operating Permit, Section IV listed major users (defined as using 0.1 MGD or more) of the system:

Table 4-6. Reclaimed Water Major Users

MAJOR USERS(1)	TYPE	CAPACITY (MGD)	AREA (Acres)
Sable Trace	Residential and Golf Courses	0.6	100
Heron Creek	Residential and Golf Courses	0.8	120
North Port High School(2)	Landscaped Area, Parks, and Playgrounds	0.2	104
North Port City Complex	Landscaped Area and Right-of-Way	0.15	68
TOTALS		**1.75**	**290**

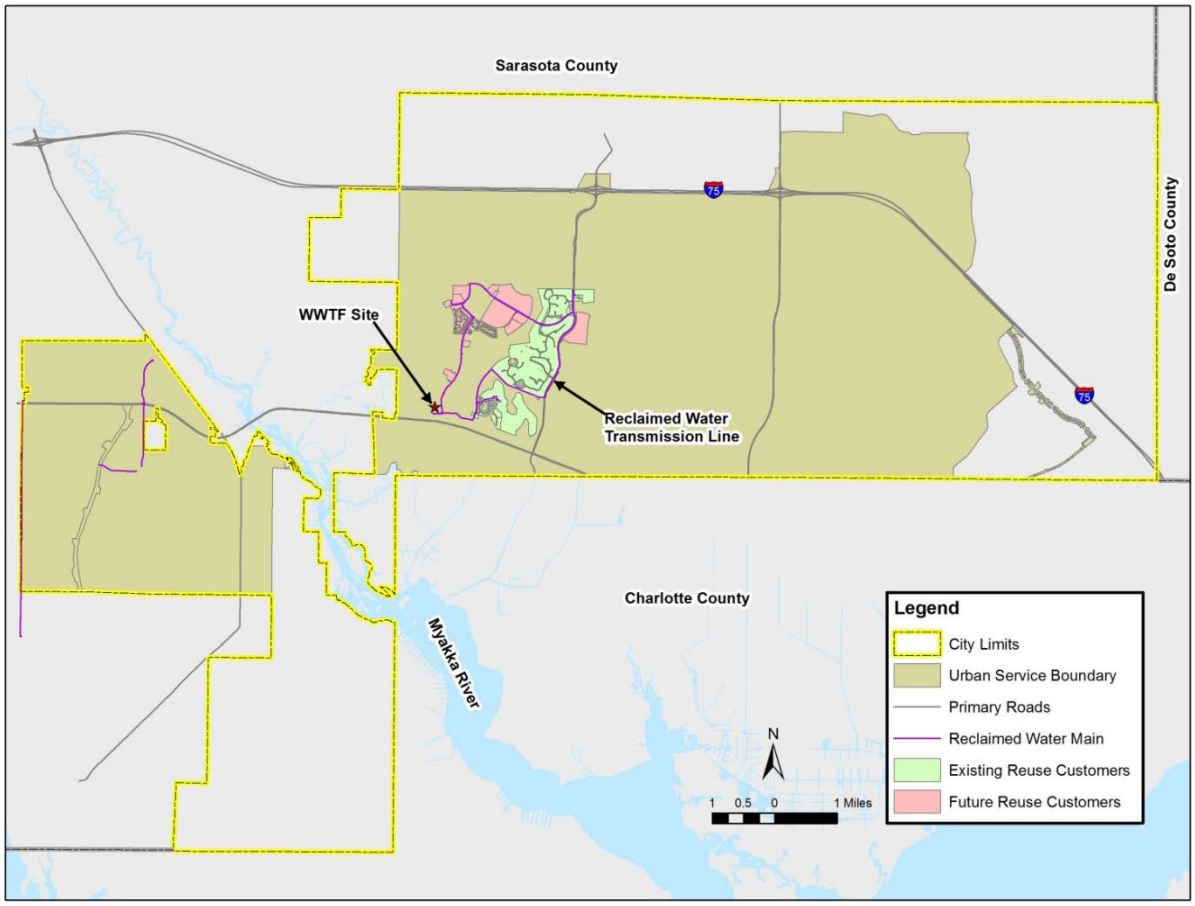
(1) Information taken from City of North Port Domestic Wastewater Facility Operating Permit, Section IV.
(2) Although listed in the permit, the North Port High School is not a current reuse customer.

The 2014 Annual Reuse Report submitted by the City to the FDEP reported that the annual average reuse flow for the period October 1, 2013 to September 30, 2014 was 0.654 MGD and 32% of the treated effluent produced at the WWTP over the period was discharged to the reuse system.

According to the designation in the City's GIS model, here are approximately 16 miles of 12" and 16" transmission pipelines.

Figure 4.4 provides a map of the existing and potential reclaimed water users along the existing system as of March 2015.

Figure 4-4. Reclaimed Water Service Area – Available Service



4.5.2 Recommendations

The City of North Port undertook a Reuse Master Plan that was completed in 2008. A summary of the projects identified in the document can be found in **Section 2.4.5**. The City has completed two projects described in the 2008 Reuse Master Plan including construction a 2.5 MG ground storage tank (identified as Project 1) and 23,000 linear feet of reuse main along Pan American Blvd. (identified as Project 3).

The completion of Project 3 was a critical first step towards forming the reuse system into a looped system for reliability and to provide up to 1.27 MGD of reclaimed water to a number of potential additional users including: North Port Primary School, Police Training Course, North Port Middle School, Butler Park, Garden of the 5 senses, Children's First, Social Services Building, City of North Port (vacant property), Pan American Associates (vacant property), Gulf Coast Assembly of God, Villas of Charleston Park, and Charleston Park.

From the 2014 Reclaimed Water Report, there is an opportunity for the City to increase use of available reuse water by connecting potential customers located along the reuse system. In addition, as of March 2015, the City applied for SWFWMD funding for Project 4 of the 2008 Reuse Master Plan, which will allow pressures to be maintained for future reuse customers east of Sumter Blvd.

We recommend that the City continue to pursue connecting potential customers located along reuse distribution system, thereby increasing the percentage of treated effluent being used for beneficial reuse; and, to continue applying for SWFWMD funding for additional expansion of the reclaimed water system.

5.0 PROJECTS

5.1 Previous Capital Improvement Projects - Water

5.1.1 2007 Water Utility Master Plan Projects

Projects identified in the 2007 Water Utility Master Plan that have *not* commenced have been summarized in **Table 5-1**. The costs presented in the table below have been escalated to present dollars (i.e. July 2015).

Table 5-1. Water System Improvements (2007 Water Utility Master Plan Update)

PROJECT NUMBER	PROJECT[1]	ESTIMATED PROJECT COST[2]
Water-1	WVID Water Treatment Plant Design/Construction. *Design/Construct 2.0 MGD West Villages Improvement District WTP*	$47,034,000
Water-2	Extend 16" Line serving WVID from Ortiz Blvd to MCWTP. *Extend 16-inch from WVID at Ortiz Blvd. to MCWTP*	$1,198,000
Water-3	NE Water Treatment Plant Design/ Construction. *Design/Construct 2.0 MGD Regional Northeast Water Treatment Plant*	$30,944,000
Water-4	Extend 20-in main loop east to NEWTP for Isles of Athena[3]	To Be Determined
TOTAL PROJECT COST (in 2015 dollars)		**$79,176,000[4]**

(1) Projects were obtained from Table 6-1 (Preliminary Schedule of Recommended Improvements) of the 2007 Water Utility Master Plan Update.
(2) Construction and Engineering Project Costs were escalated using the ENR CCI from March 2008 (8109) to July 2015 (10037). Costs were rounded up to the nearest thousand.
(3) Project was referenced in 2007 Water Utility Master Plan but no cost estimate provided.
(4) Total Project Cost does not include unknown estimate for Isles of Athena project.

The 2007 Water Utility Master Plan Update report contains several projects that have yet to be implemented. Those projects identified above in **Table 5-1** include the design/construction of two water treatment facilities in areas where significant growth was expected. For example, the 2007 report described the West Villages Improvement District as projected to require 1.4 MGD of water demand from 5,600 ERCs. The plant was, and is, planned by the district for dedication to the City. However, the current maximum day water demand from the WVID area is only 92,000 gpd; and, the future maximum day water demand, as modeled herein, for the area using 1,080 ERCs, only increases to approximately 362,000 gpd. This amount of water demand from the WVID area can be met using the existing infrastructure servicing the area, including the Southwest Booster Pump Station and its 1.0 MG ground storage tank. If the level of development in the WVID area increases beyond the amount modeled herein for future maximum day conditions, then additional improvements would need to be evaluated within the context of an updated Water Master Plan.

The City also anticipates the need for additional water treatment plant capacity in the northeast as growth increases in that area of the City. The 2007 Water Utility Master Plan Update report projected water demands for the following developments in the northeast quadrant:

Table 5-2. Northeast Quadrant Development Projected Water Demand (2007 Water Utility Master Plan Update)

DEVELOPMENT[1]	ERC	DEMAND (MGD)[2]
Panacea	3,500	1.18
Island of Athena	15,000	5.06
Toledo Village	2,000	0.67
North Port Gardens	2,000	0.67
Toledo Place	2,000	0.67
Other Unnamed	2,000	0.67
TOTAL	**26,500**	**8.92**

(1) Projects obtained from Section 5.1 of 2007 Water Utility Master Plan Update report.
(2) Water demand determined in 2007 Water Utility Master Plan Update were based upon 225 gpd per ERC times 1.5 for maximum day flows.

The anticipated growth in the northeast has not yet been fully realized.

The current PRMRWSA interconnect along with the Northeast Booster Pump Station appear, from the Future Maximum Day modeling scenario, to provide the water volume and pressure for the eastern sections of the service area under the conditions modeled. Until such time that the future developments anticipated in the northeast quadrant begin to occur, the drivers for the construction of the NE Water Treatment Plant are not in place.

5.1.2 2008 WTP Enhancement Study Projects

Projects identified in the 2008 WTP Enhancement Study that have *not* commenced have been summarized in **Table 5-3**. The costs presented in the table below have been escalated to present (i.e. July 2015).

Table 5-3. MCWTP Improvements (2008 WTP Enhancement Study)

PROJECT NO[1]	PROJECT	ESTIMATED PROJECT COST[2]
Repair and Replacement Projects [3]		
	**Projects are completed or in progress.	
Process Improvement Projects [4]		
1	Filter Investigation/Evaluation and Associated Improvements	$167,000
6	Clarifier Center Cone Modifications	$303,000
TOTAL PROJECT COST (in 2015 dollars)		**$470,000**

(1) Project Numbers are as shown in Table 4-4 and Table 4-5 of the 2008 WTP Enhancement Study.
(2) Project costs, by process, were obtained from Table ES.1 (Recommended Improvements to Existing Surface Water WTP) of the 2008 WTP Enhancement Study. Construction and Engineering Project Costs were escalated using the ENR CCI from July 2008 (8293) to July 2015 (10037). Costs were rounded up to the nearest thousand.
(3) Projects were obtained from Table 4-4 (Prioritization of Recommended Repair and Replacement Improvements to Existing Conventional Treatment System at North Port WTP) of the 2008 Water Treatment Plant Enhancement Study.
(4) Projects were obtained from Table 4-5 (Prioritization of Recommended Process Improvements to Existing Conventional Treatment System at North Port WTP) of the 2008 Water Treatment Plant Enhancement Study.

The 2008 WTP Enhancement Study identified two projects that have not yet commenced. The filter investigation/evaluation project is in the planning phase. The Clarifier Center Cone Modification project originated due to a concern with temperature stratification causing short-circuiting across the top of the basin and creating higher settled water turbidity (Refer to 2008 WTP Enhancement Study Section 3.4.2.5.4 for additional information). Plant staff has determined that this issue is not apparent at this time and therefore has deferred the project. The impact of this concern can be monitored and re-evaluated in the future.

5.1.3 2014 Water Demand Analysis Projects

In June 2014, Wade Trim completed the Water Demand Analysis for the City. The 2014 report addressed locations in the City where there is currently no water service and potential customers that are most likely to connect. Eleven locations (called zones in the report) were identified and ranked based on installation cost and likelihood to connect. In part, the report provided a compilation of the number of lots, the estimated length of water main and a budgetary construction cost per zone.

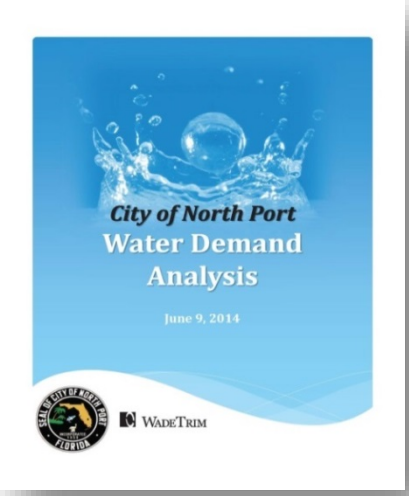


Table 5-4 provides a summary of the estimated project costs for each zone.

Table 5-4. Water System Distribution Projects (2014 Water Demand Analysis)

NEIGHBORHOOD	ZONES	ESTIMATED WATER MAIN (LF)	ESTIMATED PROJECT COST(1)
Madagascar	28.3	11,076	$460,000
Chamberlain	31.5	54,675	$2,270,000
Madagascar	28.2	17,651	$733,000
Sunburst	56.2	33,424	$1,388,000
Sunburst	56.1	34,850	$1,447,000
Cranberry Fields	30.1	45,273	$1,880,000
Cranberry Fields	30.5	28,576	$1,187,000
Cranberry Fields	30.4	36,970	$1,535,000
Cranberry Fields	30.3	66,553	$2,763,000
Madagascar	28.1	83,429	$3,463,000
Chamberlain	31.1	61,908	$2,570,000
TOTALS		**474,385**	**$19,696,000**

(1) Projects were obtained from page 75 (Recommendation for City Water Service Extension) of the June 2014 City of North Port Water Demand Analysis. Construction and Engineering Project Costs were escalated using the ENR CCI from June 2014 (9800) to February 2015 (9962). Costs were rounded up to the nearest thousand.

As of the date of this report, design and construction of water distribution systems for areas Madagascar 28.2 and 28.3 are in progress with estimated construction completion in 2016. Additional neighborhoods will be considered for water system expansion based on the success of the first two areas.

5.2 Previous Capital Improvement Projects - Wastewater

5.2.1 2004 City of North Port Utility Master Plan Wastewater Section Projects

Projects identified in the 2004 City of North Port Utility Master Plan Wastewater Section that have *not* commenced have been summarized in **Table 5-5**. The costs presented in the table below have been escalated to present dollars (i.e. July 2015)

Table 5-5. Wastewater System Improvements (2004 City of North Port Utility Master Plan Wastewater Section)

PROJECT NUMBER	PROJECT (1)	ESTIMATED PROJECT COST (2)
Wastewater – 1	Toledo Blade/Price Primary Lift Station *Construct a 4.0 MGD primary lift station near Toledo Blade Blvd. and Price Blvd. intersection.*	$2,879,000
Wastewater – 2	North Toledo Blade Forcemain Construct a *10-inch forcemain along North Toledo Blade Blvd to serve the Kelse Ranch development*.	$1,645,000
Wastewater – 3	Panacea WWTP (Phase I) *Implement a new WWTP on proposed utility site in the Panacea development with 2.0 MGD AADF (expandable to 5.0 MGD AADF) capacity with reuse disposal.*	$20,564,000
Wastewater – 4	Thomas Ranch WWTP (Phase I) *Implement a new WWTP on proposed utility site in the Thomas Ranch development with 2.0 MGD AADF (expandable to 5.0 MGD AADF) capacity with reuse disposal.*	$20,564,000
Wastewater – 5	East Price Blvd Forcemain Construct a *forcemain along East Price Blvd and North Haberland Blvd from the proposed Toledo Blade/Price Primary Lift Station to the proposed Panacea WWTP.*	$3,701,000
Wastewater – 6	Sunburst Wastewater System Expansion	$13,675,000
Wastewater – 7	Sumter Gardens Wastewater System Expansion	$4,587,000
Wastewater – 8	Blue Ridge-Salford Wastewater System Expansion	$4,260,000
TOTAL PROJECT COST (in 2015 dollars)		**$71,875,000**

(1) Projects obtained from Table 12-1 (Summary of Recommended Actions and Improvements) of the 2004 Utility Master Plan.
(2) Estimated project costs obtained from Table 12-2 (Cost Summary for Recommended Projects) of the 2004 Utility Master Plan. Construction and Engineering Project Costs were escalated using the ENR CCI from January 2005 (7297) to July 2015 (10037). Costs were rounded up to the nearest thousand.

The 2004 Utility Master Plan contains several wastewater projects that have yet to be constructed. Those projects have been identified in **Table 4-4** above and can be categorized into two types: 1)

infrastructure to support new large developments; and, 2) expansion of wastewater collection into select neighborhoods. The 2004 Master Plan identified that additional treatment plant capacity would be needed to support the growth of large scale development and the best approach was, and is, to site these plants within the developments they are serving rather than continuing to expand the existing plant. The 2004 report suggests this approach was selected based upon the intent of minimizing future pumping costs and the construction costs of force main infrastructure to convey flows to a central location. The Toledo Blade/Price Primary Lift Station (Wastewater-1) and North Toledo Blade Forcemain (Wastewater-2) was intended to serve the Kelse Ranch development by connecting the initial development phases to the existing wastewater system until such time as the East Price Blvd Forcemain (Wastewater -5) project was completed to convey flows to the Panacea WWTP (Wastewater -4). The driver for this series of improvements is the development of the Kelse Ranch and Panacea area that has not occurred to date.

The driver for the Thomas Ranch WWTP (Wastewater-4) project is the development within the West Villages Improvement District area. Currently, the wastewater flows from this area are under 100,000 gpd and are being treated using the capacity available at the City's existing WWTP. If the level of development within this area continues to the projected amount, then a WWTP for the WVID area will become necessary.

The 2004 Utility Master Plan contains an analysis evaluating the expansion of utilities into existing neighborhoods (Refer to Section 5). Prioritization of utility expansion was evaluated based upon several factors including: 1) current development density; 2) anticipated short-term future growth; and, 3) support of comprehensive plan goals. Each neighborhood was scored and ranked for the purpose of establishing priorities. The neighborhoods with the highest priority were included as projects within the Master Plan and are identified as Wastewater -6, -7, and -8 in **Table 5-5** above. The 2004 Master Plan recommended that a financial analysis be performed for each neighborhood prior to undertaking the project. It is recommended for the future Wastewater Master Plan to repeat the neighborhood prioritization analysis and evaluate the cost effectiveness of bringing utility services into existing neighborhoods.

5.2.2 2007 Wastewater Treatment Facility Upgrades & Expansion Preliminary Engineering Report Projects

Projects identified in the 2007 Wastewater Treatment Facility Upgrades & Expansion Preliminary Engineering Report that have *not* commenced have been summarized in **Table 5-6**. The costs presented in the table below have been escalated to present dollars (i.e. July 2015).

Table 5-6. Wastewater Treatment Plant Improvements (2007 Wastewater Treatment Facility Upgrades & Expansion Preliminary Engineering Report)

PROJECT [1]	ESTIMATED PROJECT COST[3]
New DIW Pump Station[2]	$1,100,000
New Transmission Main to DIW	$5,600,000

(1) Projects obtained from 2007 Wastewater Treatment Facility Upgrade & Expansion Preliminary Engineering Report
(2) The cost of the new DIW pump station was estimated to be $610,000 in the 2007 report. The cost estimate has been revised based upon an updated analysis of the project scope in 2015. The majority of the increased project costs are the result of additional electrical work that was not considered in 2007.
(3) Project Costs were escalated using the ENR CCI from Jan 2007 (7880) to July 2015 (10037). Costs were rounded up to the nearest thousand.

This series of projects was intended to allow the conveyance of the full rated capacity of the two DIW from the WWTP to the well site.

As of the date of this report, the City is currently undertaking an in-kind replacement of the DIW pump/motors within the constraints of the existing electrical system as the pumps are reaching the end of their useful service life and repair parts are becoming difficult to obtain. The City has elected to delay the planned capacity upgrade of the DIW pumps/motor for at least 5 years. The driver for these projects is an increase in treated effluent disposal capacity using the DIW system and the current limitation of the DIW pumps. Until the wastewater flows increase to a level that additional disposal capacity is needed, then this set of projects is being deferred.

5.2.3 2010 US 41 Corridor Utility Master Plan Executive Summary and Study Update Projects

Projects identified in the 2010 US 41 Corridor Utility Master Plan Executive Summary and Study Update that have *not* commenced have been summarized in **Table 5-7**. The costs presented in the table below have been escalated to present dollars (i.e. July 2015)

Table 5-7. US 41 Corridor Utility Master Plan Improvements (2010 US 41 Corridor Utility Master Plan Executive Summary and Study Update)

PROJECT NO	DESCRIPTION (1)	ESTIMATED PROJECT COST (2)
1	Upgrade existing US41 force main from PS 19 to US 41 including construction of cross connection adding parallel force main system from US 41 to WWTP	$369,000
2	Addition of new neighborhood PS at US 41 and River Road (Service Area A) and addition of neighborhood low pressure Force main collection network to serve development within Service Area A.	$484,000
3	Addition of new neighborhood PS for Area B1 including future development east and north of US 41 to Myakkahatchee creek.	$622,000
4	Construction of neighborhood low pressure collection system and neighborhood pump station to serve Service Area B1 east of Myakkahatchee Creek to the limits of Service Area C.	$634,000
5	Construction of 16" parallel water main from WTP to North Port Blvd, then south on North Port Blvd to US 41, and 8,000 linear feet of 16" along US 41 from North Port Blvd to Ortiz.	$1,565,000

(1) Projects and estimated project costs were obtained from CIP Tables of the 2010 US 41 Corridor Utility Master Plan Executive Summary
(2) Estimated project costs escalated using the ENR CCI from January 2010 (8660) to July 2015 (10037). Costs were rounded up to the nearest thousand.

The purpose of the 2010 US 41 Corridor Utility Master Plan Executive Summary and Study Update was to proactively plan for the eventual development of high intensity commercial and industrial uses along the US 41 corridor. This growth was projected to occur in parallel with the West Village Improvement District development. To date, this growth has not occurred and therefore these CIPs have not been undertaken. It is recommended for the need to complete these projects to be reconsidered upon a future Wastewater Hydraulic Modeling project.

5.3 Previous Capital Improvement Projects - Reuse

Projects identified in the 2008 Reuse Master Plan that have *not* commenced have been summarized in **Table 5-8**. The costs in the table have been escalated to present (i.e. July 2015).

Table 5-8. Reuse Water CIPs (2008 Reuse Master Plan)

PROJECT NO(1)	PROJECT	ESTIMATED PROJECT COST(2)
4	Appomattox Dr Reuse Main *Construct 3,000 LF of 18-in and 5,500 LF of 16-in, Appomattox Dr from Pan American Blvd to North Port Blvd and north along the water way to W Price Blvd.*	$1,634,000
5	Sumter Blvd Reuse Main & City Center Storage Tank *Construct 1,300 LF of 18-in and 5,700 LF of 12-in along Sumter Blvd from W Price Blvd to City Center Blvd. Construct Storage Tank and Booster Pump Station at the City Center. Construct Connection from City Center Tank to W Price Blvd*.	$3,775,000
6	W Price Blvd Reuse Main with Connection NEWWTP *Construct 12,500 LF of 10-in and 55,300 LF of 18-in along W Price Blvd from Sumter Blvd to Haberland then north to Proposed NEWWTP then east long Snover Waterway until Newman Waterway then North to Isles of Athena Area Future WWTP.*	$15,187,000
7	Tamiami Trail Reuse Main from Central WWTP to SWWWTP *Construct 30,000 LF of 20-in and 3,500 LF of 18-in along Tamiami Trail south from Central WWTP to SWWWTP.*	$9,395,000
8	US 41 Reuse Main to WVID *Construct 14,800 LF of 12-in east along US 41 from Venice East Blvd to the Existing Pond. Construct 14,300 LF of 12-in south from Pond to WVID facilities.*	$3,961,000
	Additional Optional Project	
9	Sumter Blvd Reuse Main *Construct 5,000 LF of 16-in along Sumter Blvd from City Center Blvd to Hansard Ave , Extend Line east along Hansard Ave to Salford Blvd.*	$1,089,000
TOTAL PROJECT COST (in 2015 dollars)		**$35,041,000**

(1) Project Numbers are as shown in Table 4-4 and Table 4-5 of the 2008 Reuse Master Plan.
(2) Projects and estimated project costs were obtained from Table ES.3 (Conceptual Opinion of Probable Capital Cost) of the 2008 Reuse Master Plan. Construction and Engineering Project Costs were escalated using the ENR CCI from March 2008 (8109) to July 2015 (10037). Costs were rounded up to the nearest thousand.

The City of North Port undertook a Reuse Master Plan that was completed in 2008. A summary of the projects identified in the document can be found in **Section 2.4.5**. The City has completed two projects described in the 2008 Master Plan, including construction of a 2.5 MG ground storage tank (identified as Project 1) and 23,000 linear feet of reuse main along Pan American Blvd. (identified as Project 3). The completion of Project 3 was a critical first step towards forming the reuse system into a looped system and to provide up to 1.27 MGD of reclaimed water to a number of potential additional users including: North Port Primary School, Police Training Course, North Port Middle School, Butler Park, Garden of the 5 senses, Children's Frist, Social Services Building, City of North Port (vacant property),

Pan American Associates (vacant property), Gulf Coast Assembly of God, Villas of Charleston Park, and Charleston Park. From the 2014 Reclaimed Water Report, there is an opportunity for the City to increase use of available reuse water by connecting potential customers located along the reuse system. In addition, the City has applied for SWFWMD funding for Project 4, which will allow pressures to be maintained for future reuse customers east of Sumter Blvd.

As noted previously, the City has been working with SWFWMD to obtain funding for moving forward with these beneficial projects. As of the date of this report, SWFWMD is in the process of approving funding for project no. 4.

5.4 Site Assessment Projects

5.4.1 Water Treatment Plant

Table 5-9 presents a listing and description of projects for the MCWTP that were derived from the MCWTP site visit as described in **Section 3.3.2** but are not yet initiated.

Table 5-9. Water Treatment Plant Assessment Projects

PROJECT NUMBER	DESCRIPTION	ESTIMATED PROJECT COST(1,2)
W-1	Install Sun Protection Over Filters. This project will install additional sun protection over the filters to reduce the growth of algae. This project will allow for improved plant operation.	$258,000
W-2	Replace Filter Control PLCs. This project will allow for the replacement of equipment that is approaching the end of its useful service life. HMI screens are replaced as needed depending on deterioration from sun exposure. HMI panels could be oriented vertically to minimize weathering.	$372,000
W-3	Evaluate the Need to Replace Filter Media. This project will evaluate the operational performance and physical condition of the of the filter media. If indicated, the project will include the replacement of the filter media and any other components. This project will allow for the replacement of filter media that is approaching the end of its useful service life.	$1,116,000
W-4	Evaluate options for processing of sludge at WTP and avoid sending to WWTP	TBD
W-5	Install auto-feed Powdered Activated Carbon (PAC) system	TBD
W-6	Evaluate potential for use of VFDs on RO wells	TBD
W-7	Perform Energy Audit	TBD
W-8	Evaluate water quality in RO wellfield	TBD
TOTAL PROJECT COST (in 2015 Dollars)		**$1,746,000**

(1) Pricing is based on ENR Construction Cost Index = 10037 (July 2015). Costs were rounded up to the nearest thousand
(2) Estimates of probable costs are Class 4 order-of-magnitude estimates as defined by AACE and rounded to the nearest thousand dollars.

5.4.2 Wastewater Treatment Plant

Table 5-10 presents a listing and description of projects for the WWTP that were derived from the WWTP site visit as discussed in **Section 4.2.2** but are not yet initiated.

Table 5-10. Wastewater Treatment Plant Assessment Projects

PROJECT NUMBER	DESCRIPTION	ESTIAMTED PROJECT COST (1,2)
WW-1	Replace Grit Classifier. This project will replace the existing grit classifier unit used to dewater the grit removed from the treatment process. This project will replace equipment that is approaching the end of its useful service life.	$177,000
WW-2	Relocate West Influent Screen Control Panel. This project will relocate the Existing Screen Control Panels which control the west Influent Screens to reduce sun exposure and extend the service life of the panels.	$55,000
WW-3	Replace Clarifier No. 3 Mechanism. This project will remove existing sludge collector mechanism within Clarifier No. 3 and replace it with a plow type mechanism similar to the other units. This project will replace equipment that is approaching the end of its useful service life and simplify the equipment operations.	$373,000
WW-4	Replace RAS Pump Motor Control Center. This project will replace the existing Motor Control Center that supplies electrical power to the RAS Pumps. This project will replace equipment that is approaching the end of its useful service life.	$331,000
WW-5	Install Sun Protection Over Filter Clear Well. This project will install a sun protection over the Filter Clear Well area to reduce the growth of algae and thereby improve plant operations.	$273,000
WW-6	Replace Sludge Blowers and Control Panels. This project will remove and replace the old centrifugal aeration blowers used to supply process air to the Aerated Sludge Holding Tanks. This project will replace equipment that is approaching the end of its useful service life and save energy costs.	$389,000
WW-7	Upgrade SCADA server and program	TBD
WW-8	Replace MCCs in blower room (MCC 5/5A)	TBD
TOTAL PROJECT COSTS (in 2015 Dollars)		**$1,597,000**

(1) Pricing is based on ENR Construction Cost Index = 10037 (July 2015). Costs were rounded up to the nearest thousand
(2) Estimates of probable costs are Class 4 order-of-magnitude estimates as defined by AACE and rounded to the nearest thousand dollars.

5.5 Future Engineering Planning Reports and Studies

It is recommended that the City consider the preparation of the engineering projects identified in **Table 5-11** for the purpose of developing a detailed evaluation of the various utilities and corresponding CIPs. A brief scope for each recommended project is further explained in the following paragraphs.

Table 5-11. Proposed Engineering Projects

PROJECT NUMBER	DESCRIPTION	ESTIMATED PROJECT COST
EN-1	Water Hydraulic Model *An updated dynamic hydraulic model of the water distribution system will be developed to assess the performance of the existing system and recommended improvements to meet future needs.*	$123,000
EN-2	Wastewater Hydraulic Model *An updated dynamic hydraulic model of the wastewater collection system will be developed to assess the performance of the existing system and recommended improvements to meet future needs.*	$123,000
EN-3	Reuse Hydraulic Model *An updated dynamic model of the reclaimed water distribution system will be developed to assess the performance of the existing system and recommended improvements to meet future needs.*	$123,000
EN-4	SCADA Master Plan *An evaluation of the existing SCADA system will be performed to assess the current infrastructure, review current SCADA software packages, and develop an overall approach for SCADA for the future.*	$85,000
EN-5	SCADA Standards Development *This effort will provide the City with a series of SCADA standards to be used within the Utility for all future projects.*	$90,000
EN-6	Unidirectional Flushing (UDF) Program. *This effort will assist the City in the planning of a water main flushing program to clear pipes of sediment/debris and to improve water quality.*	$150,000
EN-7	Asset Management / CMMS Program Evaluation This study will develop the overall framework for a CMMS system, will assist the City to select a CMMS software, and provide support to the City to implement the system.	$200,000
EN-8	Advanced Wastewater Treatment (AWT) Feasibility Study *This study will determine the improvements required for the existing WWTP to be converted to an AWT Facility that meets the 5-5-3-1 effluent standards (5 mg/L BOD, 5 mg/L TSS, 3 mg/L TN, 1 mg/L TP).*	$45,000

Table 5-11. Proposed Engineering Projects

PROJECT NUMBER	DESCRIPTION	ESTIMATED PROJECT COST
EN-9	Inflow & Infiltration Study – Phase 1 *This study will help to determine most likely locations where surface water and groundwater is entering the wastewater collection system.*	$50,000
EN-10	New WTP & WWTP Plant Expansion Projects Evaluation. *This evaluation will look at new plants proposed in prior reports (2 WTP and 1 WWTP) and provide recommendations and revisions as needed.*	$80,000
EN-11	Wastewater Facility Operating Permit Renewal Assistance *Prepare the documents for the renewal of the FDEP Wastewater Facility Operating Permit.*	$55,000
EN-12	WTP Condition Assessment, Capacity Analysis, and Improvements Programing	$85,000
EN-13	WWTP Condition Assessment, Capacity Analysis, and Improvements Programing	$72,500
EN-14	Master Plan Updates for Potable Water, Wastewater, and Reclaim/Reuse Water should be completed every 5 years	$300,000

5.5.1 Water Hydraulic Model

The development of the hydraulic model will establish a current condition model from which existing and future potable water system projection scenarios will be based. Water modeling software will be used to analyze such items as flows through various pipe diameters within the distribution system, determine areas of water age due to insufficient looping, and evaluate areas of Trihalomethane (THM) concerns.

With the use of historical customer billing records and the City's GIS database, the model can be used to establish water demands on a street by street basis with ideal accuracy. This information will provide the City with realistic scenarios of average day, peak hour and max day events throughout the system including fire flow.

Refer to **Section 3.5.7** for issues being recommended for additional analysis and recommendations for improvements to the modeling framework.

5.5.2 Wastewater Hydraulic Model

The development of a wastewater model will provide the City the ability to verify the operability of the existing collection system and evaluate the impact of infrastructure modifications due to proposed CIPs. As part of the model preparation, an evaluation of the flows at the wastewater plant will be used to

develop a diurnal curve. The diurnal curve will be applied to a dynamic model to simulate the changes in wastewater flow patterns experienced in the system on an hour by hour basis. Information obtained from the model will assist the City in sizing new lift stations, analyzing pump performances for optimizing pump selection, evaluating pump run times in existing lift stations, and evaluating force main pressures and velocities to determine correct pipe diameters.

Refer to **Section 3.4.7** for issues being recommended for additional analysis and recommendations for improvements to the modeling framework.

5.5.3 Reuse Hydraulic Model

A reuse hydraulic model is recommended to assist the City in identifying methods and locations where infrastructure can be effectively installed for the distribution of reclaimed water. The reuse model can be used as input to the reuse master plan to establish the expected customer demands, distribution pipe sizing, and public areas in need of irrigation. Areas to be considered include medians, subdivisions, parks, right of ways, and commercial/industrial areas.

The reuse model will simulate the daily variation in reuse demand and the associated daily variations from the treatment plant. To accomplish this task, the reuse model will be integrated with the wastewater system model to ensure current and future conditions can be directly integrated with the various reuse scenarios and alternatives.

Historical customer and usage records will be needed in order to determine the potential reuse for the above land uses. Coordination with the City will be necessary in order to take into account any areas or future customers the City has envisioned.

As reuse demand increases, additional storage capacity will be required. Information from the reuse model will be used to determine the storage needs that will ensure reliable flow for future needs. Options to be considered include ponds, ground storage tanks, and possibly aquifer storage recovery wells. As a result the model will evaluate various scenarios and alternatives to provide recommendations for CIPs.

Refer to **Section 4.5.2** for issues being recommended for additional analysis.

5.5.4 SCADA Master Plan

The City's water and wastewater SCADA systems have evolved over the years from multiple projects. This has resulted in a system of mixed hardware, software, applications, protocols, and implementations. To improve this situation, it is recommended the City pursue a SCADA Master Plan to achieve an overall SCADA system which is consistent, logical, and straight forward to use. The goal of the SCADA master plan will be to provide the guidance and direction for the future of the SCADA system's enhancements and growth.

The preparation of the SCADA master plan should begin with an overall evaluation of the existing SCADA system. As part of the evaluation, interviews should be conducted with key departments affected by the SCADA system to assess their needs and gather feedback for formulating system standards and goals. A review of existing system documentation and site investigations should then be conducted to develop a detailed accounting of the SCADA system equipment from each of the City's utility facilities.

Upon completing the SCADA system inventory, discussions with City staff should be conducted to develop and document the System Communication Architecture that most appropriately meets the goals and objectives established for the operation of the SCADA system and associated tracking, monitoring, and communications systems. A review of alternate SCADA software products should be conducted to determine the possibility of a more suitable software package to meet the City's goals and expectations. The master plan will be used to document opportunities and migration paths for enhancing the current systems and software such that the City will achieve standardization of implementations, SCADA system software and hardware configurations, and data formatting; as well as improved data security for communication and archiving.

5.5.5 SCADA Standards Development

One of the common problems for utilities that have multiple SCADA system and/or multiple system integrators working on their existing SCADA system is implementation of standards. The preparation of SCADA standards document will allow the utility to furnish system integrators with an integrated document with the details outlining such things as generalized standards for all control systems, PLC configuration and programming standards, operator interface software standards, and control system/instrumentation preferences that would be used going forward on all future projects and could be used for any SCADA upgrades projects on the current facilities. Preparing SCADA standards at this time allows the utility to anticipate future technology and to develop standards now prior to any significant facility improvements in the future.

5.5.6 Unidirectional Flushing (UDF) Program

The purpose of the Unidirectional Flushing (UDF) program is to improve the quality of the City's potable water distribution system by developing a high velocity scouring program which systematically flushes the piping network from a known clean point source. As an alternative to reactive spot hydrant flushing, the UDF program will methodically remove stagnant water and deposits that collect inside water mains. These deposits can be attributed to low disinfectant concentration and settled solids in the water system. The UDF program will be utilized to effectively achieve scouring velocities by closely managing the flushing of the distribution system.

With the use of the City's water hydraulic model, software such as Water Gems will be used to develop a UDF model for analysis of the entire system or specific service areas. In the development of the UDF model, the water distribution system will be divided into zones and further divided into flushing segments. The UDF model will identify the UDF valves which will need to be closed during the flushing process and identify a UDF hydrant for each flushing segment. Flushing maps will be prepared based on the outcome of this analysis.

5.5.7 Asset Management / CMMS Program Evaluation

One of the major functions of a utility is the proper management of assets to allow the utility to provide service to its customers. The implementation of a computerized maintenance management system (CMMS) allows for the assets of the utility to be properly maintained by scheduling and tracking the completion of preventative and corrective maintenance on every asset of the utility. The purpose of this evaluation is to review the current CMMS system, develop the overall framework for the CMMS system, assist the City to select a CMMS software, and provide support to the City to implement the system.

5.5.8 Advanced Wastewater Treatment (AWT) Feasibility Study

The wastewater treatment plant has been designed as a Type I Modified Ludzack-Ettinger (MLE) secondary biological treatment system for the purpose of biological nutrient removal. In this configuration, an anoxic tank is added prior to the aerobic zone with an internal recycle from the aerobic to the anoxic zone for the purpose of promoting denitrification. This level of treatment will generally realize an effluent total nitrogen concentration from 5 to 10 mg/L.

There is a significant regulatory focus within Florida to reduce nutrients from point and non-point sources to achieve additional improvement in surface water quality. In the future, treatment plants may be required to meet lower effluent limits consistent with the Advanced Wastewater Treatment (AWT) standards of 5 mg/L BOD, 5 mg/L TSS, 3 mg/L TN, 1 mg/L TP. This work will determine the technical feasibility and costs associated with reconfiguring the existing WWTP into a facility that can meet the AWT effluent limits in the future.

5.5.9 Inflow & Infiltration Study

Municipalities of aging wastewater collection systems eventually recognize an increase in the amount of flow entering their wastewater treatment plant during extreme wet weather events. As a result, it is recommended that the City take a proactive approach in identifying areas where inflow and infiltration (I&I) may be occurring through the development of an I&I Study. The I&I Study will consist of a progressive five-step program to significantly reduce I&I and increase the capacity of the systems to collect and treat wastewater. As part of the I&I Study, reviews of lift station run times will be conducted and compared to pump curves at each lift station. With staff assistance, existing basin flows at each lift station, metered water usage, and influent flows at the treatment facility will be reviewed.

Data collected will be used in a report format to identify areas in the collection system that have unaccounted flows (I&I). The study should consist of write-ups, graphs, and maps to determine the areas of the collection system requiring further investigation and/or projects to reduce I&I.

5.5.10 New WTP & WWTP Plant Expansion Projects Evaluation

The 2004 Utility Master Plan recommended the construction of two WWTP, one serving the Panacea area and one serving the Thomas Ranch (West Village Improvement District) area. The design effort for the Panacea WWTP has been initiated. The West Village WWTP was designed and originally permitted in 2008. The current FDEP Domestic Wastewater Facility Operating Permit (FLA 584819) for the facility will expire on February 26, 2018. The facility as designed is rated for 3.0 MGD annual average flow (limited to 2.0 MGD based upon the wet weather storage capacity of the reuse system). The facility includes mechanical screens, vortex-type grit removal, in-line equalization basins, two anoxic/oxic biological treatment basins, deep bed filters, chlorine contact chambers, two sludge digesters, belt filter press, a 4.0 MG ground storage tank, 6.0 MG lined reject pond, and two lined storage ponds with 54 MG volume. The facility discharges secondary treated wastewater effluent with high level disinfection to a reclaimed water system. The intent is for the City of North Port to take over the facility once it is constructed by WVID.

The purpose of this evaluation is for the City to perform a design review of the facilities, to confirm the design basis of the facilities, and to further consider the scope of these projects prior to initiating any construction of facilities that were designed more than 10 years ago.

5.5.11 WWTP Operating Permit Renewal Assistance

The current WWTP Domestic Wastewater Facility Operating Permit will expire on September 23, 2017. The application and supporting documents must be submitted to the FDEP no later than six months prior to the permit expiration. It is recommended for the City to begin the preparation of the necessary documents in September 2016 to allow for adequate time to complete the documents. The submittal package is required to contain the following documents: 1) Application (FDEP Form 1 and 2A); 2) Capacity Analysis Report; 3) Operations and Maintenance Performance Report; 4) Reuse Protocol Review; and 5) Reuse Feasibility Study (if required).

5.5.12 WTP Condition Assessment, Capacity Analysis, and Improvements Programing

A significant number of improvements have been completed over the last 10 years at the Myakkahatchee Creek Water Treatment Plant. This work included improving the conventional treatment process and the construction of a new reverse osmosis treatment system. This project is proposed to perform a comprehensive condition assessment of the facility to document the overall condition and performance of the treatment facilities. The results of the water hydraulic modeling work will be used to evaluate the treatment capacity of the facility over the planning period. The results of this work will be used to develop capital improvement projects needed at this facility that can be used to develop an improvement plan for the facility. A plan of this type is useful for the utility for anticipating needed improvements at the facility and developing future budgets.

5.5.13 WWTP Condition Assessment, Capacity Analysis, and Improvements Programing

The wastewater treatment plant has recently completed an improvement project and additional work is ongoing to improve the solids handling facilities at the plant. This project is proposed to perform a comprehensive condition assessment of the facility to document the overall condition and performance of the treatment facilities. The results of the wastewater hydraulic modeling work will be used to evaluate the treatment capacity of the facility over the planning period. The results of this work will be used to develop capital improvement projects needed at this facility that can be used to develop an improvement plant for the facility. A plan of this type is useful for the utility for anticipating needed improvements at the facility and developing future budgets.

6.0 APPENDICES

Appendix A

Southwest Florida Water Management District

2379 Broad Street, Brooksville, Florida 34604-6899
(352) 796-7211 or 1-800-423-1476 (FL only)
SUNCOM 628-4150 TDD only 1-800-231-6103 (FL only)
On the Internet at: WaterMatters.org

An Equal Opportunity Employer

Bartow Service Office
170 Century Boulevard
Bartow, Florida 33830-7700
(863) 534-1448 or
1-800-492-7862 (FL only)

Sarasota Service Office
6750 Fruitville Road
Sarasota, Florida 34240-9711
(941) 377-3722 or
1-800-320-3503 (FL only)

Tampa Service Office
7601 Highway 301 North
Tampa, Florida 33637-6759
(813) 985-7481 or
1-800-836-0797 (FL only)

April 08, 2011

City of North Port
Utilities Dept
6644 W. Price Blvd.
North Port, FL 34287

Subject: Final Agency Action Transmittal Letter
Individual Water Use Permit No: 20 002923.013

Dear Permittee(s):

Your Water Use Permit has been approved. Final approval is contingent upon no objection to the District's action being received by the District within the time frames described below.

Your or any person whose substantial interests are affected by the District's action regarding a permit may request an administrative hearing in accordance with Sections 120.569 and 120.57, Florida Statutes, (F.S.), and Chapter 28-106, Florida Administrative Code, (F.A.C.), of the Uniform Rules of Procedure. A request for hearing must (1) explain how the substantial interests of each person requesting the hearing will be affected by the District's action, or proposed action; (2) state all material facts disputed by the person requesting the hearing or state that there are no disputed facts; and (3) otherwise comply with Chapter 28-106, F.A.C. Copies of Sections 28-106.201 and 28-106.301, F.A.C., are enclosed for your reference. A request for hearing must be filed with (received by) the Agency Clerk of the District at the District's Brooksville address within 21 days of receipt of this notice. Receipt is deemed to be the fifth day after the date on which this notice is deposited in the United States mail. Failure to file a request for hearing within this time period shall constitute a waiver of any right you or such person may have to request a hearing under Sections 120.569 and 120.57, F.S. Mediation pursuant to Section 120.573, F.S. to settle an administrative dispute regarding the District's action in this matter is not available prior to the filing of a request for hearing.

Enclosed is a 'Noticing Packet' that provides information regarding District Rules, 40D-1.1010, F.A.C. which addresses the notification of persons having substantial interests that may be affected by the District's action in this matter. The packet contains guidelines on how to provide notice of the District's action, and a notice that you may use.

Please be advised that the Governing Board has formulated a water shortage plan referenced in a Standard Water Use Permit Condition (Exhibit A) of your permit, and will implement such a plan during periods of water shortage. You will be notified during a declared water shortage of any change in the conditions of your Permit or any suspension of your Permit, or of any restriction on your use of water for the duration of any declared water shortage. Please further note that water conservation is a condition of your Permit and should be practiced at all times.

The ID tags for your withdrawals shall be installed by a District representative. This representative will attempt to contact you within 30 days to discuss placement of your tags. If you have any questions or concerns regarding your tags, please contact Cheryl Johnson at extension 6518, in the Sarasota Regulation Department. If you have any questions or concerns regarding your permit or any other information, please contact the Sarasota Regulation Department and ask to speak to someone in the Water Use Regulation Section.

Sincerely,

Ross Morton

Sarasota Regulation Department

Enclosures: Approved Permit
Rules 28-106.201 and 28-106.301 F.A.C.
Noticing Packet

cc: David A. Wiley

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
WATER USE
INDIVIDUAL
PERMIT NO. 20 002923.013

EXPIRATION DATE:	**September 22, 2030**	**PERMIT ISSUE DATE:**	**April 08, 2011**

The Permittee is responsible for submitting an application to renew this permit no sooner than one year prior to the expiration date, and no later than the end of the last business day before the expiration date, whether or not the Permittee receives prior notification by mail. Failure to submit a renewal application prior to the expiration date and continuing to withdraw water after the expiration date is a violation of Chapter 373, Florida Statutes, and Chapter 40D-2, Florida Administrative Code, and may result in a monetary penalty and/or loss of the right to use the water. Issuance of a renewal of this permit is contingent upon District approval.

TYPE OF APPLICATION: Modification

GRANTED TO: City of North Port
Utilities Dept
6644 W. Price Blvd.
North Port, FL 34287

PROJECT NAME: CITY OF NORTH PORT

WATER USE CAUTION AREA: SOUTHERN WATER USE CAUTION AREA

COUNTY: Sarasota

TOTAL QUANTITIES AUTHORIZED UNDER THIS PERMIT (in gpd)

ANNUAL AVERAGE	7,100,000 gpd
PEAK MONTH [1]	8,700,000 gpd

1. Peak Month: Average daily use during the highest water use month.

ABSTRACT:

This is a modification of an existing water use permit for public supply. The modification adds an Intermediate Aquifer System wellfield at the Myakkahatchee Creek Water Treatment Plant for conjunctive use. The associated groundwater quantities are 2,000,000 gpd on both an annual average and peak month basis. Previously permitted surface water withdrawals from Myakkahatchee Creek of up to 4,400,000 gpd on an annual average basis, and up to 6,000,000 gpd on a peak month basis, are unchanged. However, combined surface water and groundwater withdrawals at the Myakkahatchee Water Treatment Plant are limited to 4,400,000 gpd on an annual average basis, and 6,000,000 gpd on peak month basis. The permitted total annual average quantity remains at 7,100,000 gpd and the peak month quantity remains at 8,700,000 gpd. These quantities were previously allocated to meet potable water demand on this utility through 2030, and include 2,700,000 gpd previously permitted for the West Villages RO Wellfield.

Special Conditions include those that require the Permittee to report monthly meter readings from all withdrawal points; implementation of a Wellfield Management Plan; implementation of a Wetland Monitoring Plan; submittal of a Public Supply Annual Report by April 1 of each year; maintenance of a compliance per capita rate no greater than 91 gpcd; compliance with enhanced customer metering and billing requirements; maintenance of a water conserving rate structure; continued implementation of the Hydrobiological Monitoring Plan and diversion schedule for Myakkahatchee Creek; compliance with the requirements for temporary transfer of water between utilities; and compliance with the District's SWUCA recovery strategy.

WATER USE TABLE (in gallons per day)

USE	ANNUAL AVERAGE	PEAK MONTH
PUBLIC SUPPLY	7,100,000	8,700,000

USE TYPE

Commercial/Industrial

Desalination Reject

Fire Fighting/Testing

Residential Multi-Family

Residential Single Family

Unaccounted Use

PUBLIC SUPPLY:

Population Served: 93,530

Per Capita Rate: 91 gpd/person

WITHDRAWAL POINT QUANTITY TABLE

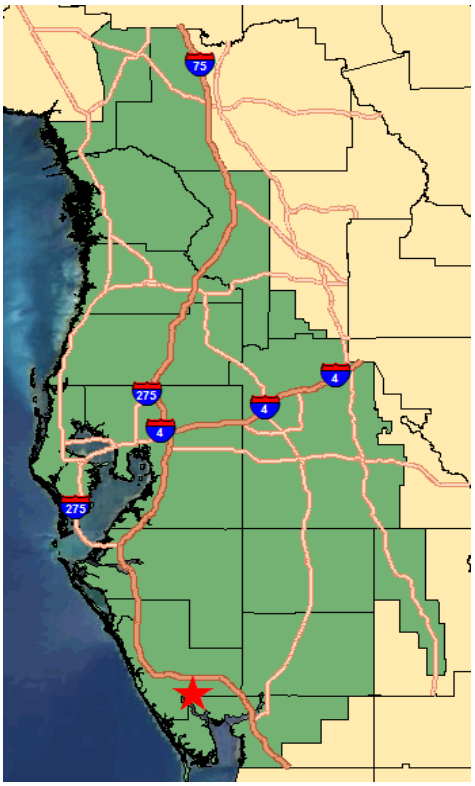
Water use from these withdrawal points are restricted to the quantities given below:

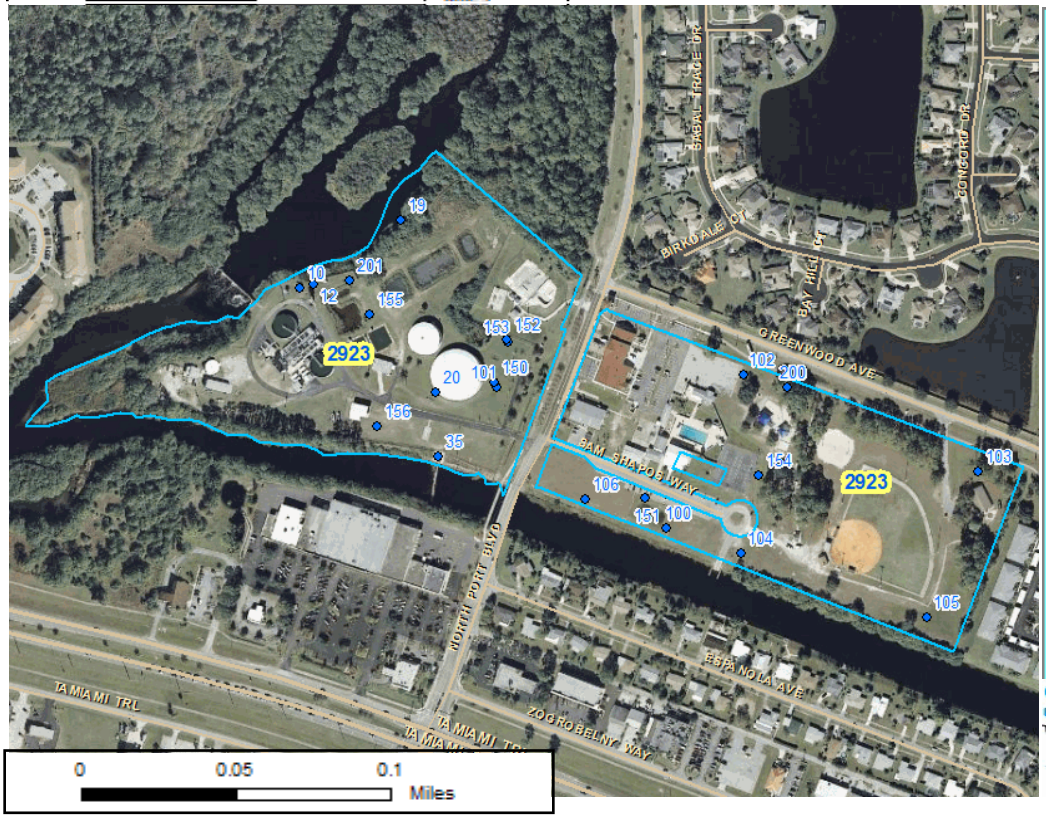
I.D. NO. PERMITTEE/ DISTRICT	DIAM (IN.)	DEPTH TTL./CSD.FT. (feet bls)	USE DESCRIPTION	AVERAGE (gpd)	PEAK MONTH (gpd)
10 / 10	24	N/A / N/A	Public Supply	2,400,000	4,000,000
20 / 20	24	N/A / N/A	Re-Pump	4,400,000	6,000,000
11 / 35	12	N/A / N/A	Public Supply	2,400,000	4,000,000
Standby					
92 / 92	16	311 / 233	Public Supply	675,000	675,000
93 / 93	16	301 / 238	Public Supply	675,000	675,000
94 / 94	16	340 / 238	Public Supply	675,000	675,000
95 / 95	16	259 / 226	Public Supply	675,000	675,000
HW-1 / 100	12	70 / 55	Public Supply	285,800	285,800
VW-1 / 101	12	320 / 240	Public Supply	285,700	285,700
VW-2 / 102	12	320 / 240	Public Supply	285,700	285,700
VW-3 / 103	12	320 / 240	Public Supply	285,700	285,700
VW-4 / 104	12	320 / 240	Public Supply	285,700	285,700
VW-5 / 105	12	320 / 240	Public Supply	285,700	285,700
VW-6 / 106	12	320 / 240	Public Supply	285,700	285,700

WITHDRAWAL POINT LOCATION TABLE

DISTRICT I.D. NO	LATITUDE/LONGITUDE
10	27° 02' 50.46"/82° 14' 13.92"
20	27° 02' 47.42"/82° 14' 09.42"
35	27° 02' 45.52"/82° 14' 09.33"
92	27° 01' 11.92"/82° 18' 43.00"
93	27° 01' 10.77"/82° 17' 45.56"
94	27° 00' 54.03"/82° 18' 58.08"
95	27° 00' 44.52"/82° 17' 45.91"
100	27° 02' 43.45"/82° 14' 01.82"
101	27° 02' 47.58"/82° 14' 07.42"
102	27° 02' 47.93"/82° 13' 59.26"
103	27° 02' 45.12"/82° 13' 51.54"
104	27° 02' 42.70"/82° 13' 59.37"
105	27° 02' 40.86"/82° 13' 53.22"
106	27° 02' 44.31"/82° 14' 04.48"

Location Map
City of North Port
WUP No. 20 002923.013





Legend

- DIDs
- WUP Boundary
- 2010 Natural Color Imagery

SARASOTA COUNTY

N
W E
S

Southwest Florida Water Management District

STANDARD CONDITIONS:

The Permittee shall comply with the Standard Conditions attached hereto, incorporated herein by reference as Exhibit A and made a part hereof.

SPECIAL CONDITIONS:

1. All reports and data required by condition(s) of the permit shall be submitted to the District according to the due date(s) contained in the specific condition. If the condition specifies that a District-supplied form is to be used, the Permittee should use that form in order for their submission to be acknowledged in a timely manner. The only alternative to this requirement is to use the District Permit Information Center (www.swfwmd.state.fl.us/permits/epermitting/) to submit data, plans or reports online. There are instructions at the District website on how to register to set up an account to do so. If the report or data is received on or before the tenth day of the month following data collection, it shall be deemed as a timely submittal.

   All mailed reports and data are to be sent to:
   Southwest Florida Water Management District
   Sarasota Regulation Department, Water Use Regulation
   6750 Fruitville Road
   Sarasota, Florida 34240-9711

   Submission of plans and reports: Unless submitted online or otherwise indicated in the special condition, the original and two copies of each plan and report, such as conservation plans, environmental analyses, aquifer test results, per capita annual reports, etc. are required.

   Submission of data: Unless otherwise indicated in the special condition, an original (no copies) is required for data submittals such as crop report forms, meter readings and/or pumpage, rainfall, water level evapotranspiration, or water quality data.
   (499)

2. By April 1 of each year for the previous calendar year (January through December), the Permittee shall submit an annual report (Excel format preferred) that summarizes the amount of water injected for aquifer storage and amount of water recovered in total gallons per month per well.(33)

3. The average day and peak monthly quantities for **District ID Nos. 92, 93, 94 and 95, Permittee ID Nos. 92, 93, 94 and 95, West Villages RO Wellfield**, shown in the production withdrawal table are estimates based on historic and/or projected distribution of pumpage, and are for water use inventory and impact analysis purposes only. The quantities listed for these individual sources are not intended to dictate the distribution of pumpage from permitted sources. The Permittee may make adjustments in pumpage distribution as necessary up to **900,000** gallons per day on an average basis, and up to **900,000** gallons per day on a peak monthly basis for the individual wells, so long as adverse environmental impacts do not result and the Permittee complies with all other conditions of this Permit. In all cases, the total average annual daily and the total peak monthly daily withdrawals from the **West Villages RO Wellfield** are both limited to **2,700,000** gallons per day.

   The average day and peak monthly quantities for **District ID Nos. 100, 101, 102, 103, 104, 105 and 106, Permittee ID Nos. HW-1, VW-1, VW-2, VW-3, VW-4, VW-5 and VW-6, Myakkahatchee Creek RO Wellfield**, shown in the production withdrawal table are estimates based on historic and/or projected distribution of pumpage, and are for water use inventory and impact analysis purposes only. The quantities listed for these individual sources are not intended to dictate the distribution of pumpage from permitted sources. The Permittee may make adjustments in pumpage distribution as necessary up to **500,000** gallons per day on an average basis, and up to **500,000** gallons per day on a peak monthly basis for the individual wells, so long as adverse environmental impacts do not result and the Permittee complies with all other conditions of this Permit. In all cases, the total average annual daily and the total peak monthly daily withdrawals from the **Myakkahatchee Creek RO Wellfield** are both limited to **2,000,000** gallons per day.

   The average day and peak monthly quantity for **District ID No. 10, Permittee ID No. 10, Myakkahatchee Creek**, shown in the production withdrawal table is an estimate based on historic and/or projected distribution of pumpage, and is for water use inventory and impact analysis purposes only. The quantity listed for this individual source is not intended to dictate the distribution of pumpage from permitted sources. The Permittee may make adjustments in pumpage distribution as necessary up to **4,400,000** gallons per day on an average

basis, and up to **6,000,000** gallons per day on a peak monthly basis for this withdrawal source, so long as adverse environmental impacts do not result and the Permittee complies with all other conditions of this Permit. In all cases, the total average annual daily and the total peak monthly daily for combined withdrawals from **Myakkahatchee Creek** and from the **Myakkahatchee Creek RO Wellfield** are limited to **4,400,000** gallons per day and **6,000,000** gallons per day, respectively.(221)

4. The Permittee shall construct the proposed wells according to the surface diameter and casing depth specifications below. The casing shall be continuous from land surface to the minimum depth stated and is specified to prevent the unauthorized interchange of water between different water bearing zones. If a total depth is listed below, this is an estimate, based on best available information, of the depth at which high producing zones are encountered. However, it is the Permittee's responsibility to have the water in the well sampled during well construction, before reaching the estimated total depth. Such sampling is necessary to ensure that the well does not encounter water quality that cannot be utilized by the Permittee, and to ensure that withdrawals from the well will not cause salt-water intrusion. All depths given are in feet below land surface. For Well Construction requirements see Exhibit B, Well Construction Instructions, attached to and made part to this permit.

   District ID Nos. 102, 103, 104, 105 and 106, Permittee ID Nos. VW-2, VW-3, VW-4, VW-5 and VW-6, having a surface diameter of 12 inches, with a minimum casing depth of 240 feet drilled to an estimated total depth of 320 feet.
   (240)

5. The District reserves the right to set sulfate or TDS concentration limits on any production well in the future, based on data collected and after a sufficient data base has been established to determine limits. These limits shall be required after discussions with the Permittee. At such time as the concentration in any water sample reaches or exceeds the designated concentration limits, the Permittee shall take appropriate action to reduce concentrations to below those set for the particular well. If the District determines that long-term upward trends or other significant water quality changes are occurring, the District may reconsider the quantities permitted. (276)

6. A minimum rate of stream flow for the lower Myakka River system that includes Myakkahatchee Creek may be determined by the District as set forth in Chapter 40D-8, F.A.C.. After the minimum rate of stream flow is set, withdrawals shall cease or be reduced as specified by the District.(357)

7. The Permittee shall investigate alleged loss of reliable access to legal, existing withdrawal of ground water, damage to the ground water wells, or to pumps used to access legal, existing withdrawal of water within 2,500 feet of groundwater withdrawal points, District ID Nos. 100, 101, 102, 103, 104, 105 and 106, Permittee ID Nos. HW-1, VW-1, VW-2, VW-3, VW-4, VW-5 and VW-6 (Myakkahatchee Creek RO Wellfield) that may have been caused by the Permittee's ground water withdrawals. Instructions for the complaint handling and possible mitigation procedure are given in Exhibit B, Well Complaint Instructions, attached to and made part of this permit. (443)

8. The Permittee shall submit a copy of all well completion reports as filed with Sarasota County Health Department to the District Permit Data Section, Performance Management Office within 30 days of each well completion.(508)

9. The Permittee shall submit Annual Wellfield Reports, one for the **West Villages RO Wellfield** and one for the **Myakkahatchee Creek RO Wellfield,** that are a comprehensive but concise assessment of the water resources of the wellfield area based on the subject areas listed below. Each report shall concisely summarize the elements listed below, with emphasis on the interactions between these elements, where appropriate. Data sources shall be referenced, but no raw data shall be included in the reports. Only essential text, graphs, and tables should be included in the reports. Two identical copies (colors replicated) of each report and required documentation shall be submitted to the Sarasota Service Office, Regulation Department by **January 1** of each year. The reports shall cover all activities and conditions pertaining to the West Villages RO Wellfield and the Myakkahatchee Water Treatment Plant RO Wellfield and service area for the preceding water year (October 1 to September 30). The specific elements of the annual report are listed below:

   Hydrologic Analyses

   Statistical trend analysis, such as double-mass curve analysis, multiple linear regression, time series analysis, and factor analysis shall be performed for the annual reporting period and the period of record to analyze the interactions of rainfall and pumpage on changes in the potentiometric surface within and adjacent to the wellfield, water quality, water levels, wetlands, or stream flow. A brief summary of any recommended changes to the monitoring requirements shall be provided noting that some changes may necessitate a modification of the permit.

Wellfield Operation
A brief overview of wellfield operations including withdrawal point rotation within the wellfield for the previous 12 months shall include discussion of wells used most often, and wells used less often, and why their routine use was altered, future changes or modifications to the wellfield rotation plan due to the yield from the various wells, future annexation sites, potential future production well sites, etc. Any proposed production or monitor wells that were completed, wells retired and their current status, or wells converted from other uses to public supply use since the last Annual Wellfield Report will be noted.

Water Quality Monitoring
Water quality sampling collected as a condition of this permit shall be analyzed and summarized into graphs and statistical analysis for the annual reporting period and related to the historical water quality sampling results as well as to pumpage. The report shall delineate areas of concern with respect to water quality degradation, horizontal or vertical movement in the fresh water/saltwater interface, or other trends which have occurred. Changes in water quality specifically in the **Intermediate Aquifer System** shall be discussed.

Water Level Monitoring
Water levels collected as a condition of this permit shall be analyzed, summarized into graphs and statistical analysis for the annual reporting period, and related to pumpage as well as to historic water levels. The report should delineate any areas of concern with respect to water levels within the aquifers monitored, changes in sampling locations, number of wells included in the program, etc., or any other information which may be deemed appropriate in order to protect the resource.

Capital Improvement Program Status
A summary of completed water supply system improvements shall be provided. In addition, an update to any documented system weaknesses or anticipated system improvements shall be described.

Water Treatment Efficiency
A description of efforts to improve water treatment efficiency shall be included. This shall include good faith efforts undertaken in its infrastructure planning and implementation efforts. Opportunities during the prior year to replace water treatment-related infrastructure, including items such as change-outs to pressure vessels, piping, racks (skids), and treatment membrane elements shall be discussed.

Investigation of Complaints
A summary of the investigations of withdrawal-related complaints and mitigation activities related to the impacts shall be provided. This summary shall include:

1. Number and type of complaints,
2. Number and type of mitigation activities,
3. Number and type of complaints which did not require mitigation activity,
4. Total cost of all mitigation activity, and
5. Delineation of areas of concern with respect to legal existing use with respect to any water availability or water quality trends identified.

Chloride Concentration Guidance, Action, and Trigger Levels
The Permittee shall summarize compliance with and events related to chloride concentration guidance and trigger levels. If the chloride trigger levels were exceeded during the previous reporting period, a description of the mitigation or remediation wellfield management procedures that were implemented to reduce the chloride levels shall be provided as well as the results of each mitigation or remediation procedure implemented.

Wellfield Management Updates
The Permittee shall summarize the development, implementation, and events that may affect the approved wellfield management plan over the previous reporting period. If additional information became available that necessitates a change to the plan, the Permittee shall submit an application to modify the permit to effect the changes.
(524)

10. At such time as the **chloride** concentration in a water sample taken from a ground water well listed below reaches the concentration limits designated below, the Permittee shall take appropriate action to reduce concentrations to below those set for the particular well. Provisions shall be made to avoid unacceptable increases in water quality parameter concentrations. Provisions to avoid unacceptable impacts may include but

shall not necessarily be limited to reducing withdrawals from individual wells, dissemination of pumpage, establishing warning water levels, overall reduction in withdrawal quantities, well use/production scheduling, refurbishment of wells, retirement of wells, or some combination thereof. Sample concentration readings in excess of the concentrations designated below may occur, provided long-term upward trends or other significant water quality changes do not occur. If the District determines that long-term upward trends or other significant water quality changes are occurring, the District may reconsider the quantities permitted.

District ID Nos. 92, 93, 94 and 95, Permittee ID Nos. 92, 93, 94 and 95 - Chloride limit to be determined as specified in the Wellfield Management Plan (West Villages RO Wellfield) dated November 5, 2009, which is incorporated herein by reference.

District ID Nos. 100, 101, 102, 103, 104, 105 and 106, Permittee ID Nos. HW-1, VW-1, VW-2, VW-3, VW-4, VW-5 and VW-6 - Chloride limit to be determined as specified in the Wellfield Management Plan (Myakkahatchee Creek RO Wellfield) dated December 17, 2010, which is incorporated herein by reference.

Subsequent to permit issuance, the Permittee may request in writing, a review of the water quality concentration limits by the Regulation Department Director, Resource Regulation, on the basis that the limits are not feasible to attain. Prior to the request for concentration limits review, the Permittee shall document in writing to the District that all feasible withdrawal management measures have been explored within reasonable limits to attain compliance with the concentration limits specified in this permit. The Permittee's written request for review of the limits must include a proposal (well by well) of the lowest feasible concentration limits (based on a review of observed field data) to the Director for consideration. This proposal shall include predictions of changes to the location of the saltwater interface, both laterally and vertically, which may result from the proposed increased limits. If the Regulation Department Director, Resource Regulation, accepts, in writing, that the Permittee has explored all feasible withdrawal management measures within reasonable limits, that the Permittee cannot attain compliance with the concentration limits, and increasing the limits will not cause adverse impacts, the Director may consider modifying concentration limits for each well. If new limits are specified by the District, these shall supersede the limits listed in this permit.
(559)

11. Any wells not in use, and in which pumping equipment is not installed shall be capped or valved in a water tight manner in accordance with Chapter 62-532.500(3)(a)(4), F.A.C.(568)

12. Beginning January 1, 2012, the Permittee shall comply with the following requirements:

A. Customer billing period usage shall be placed on each utility-metered, customer's bill.

B. Meters shall be read and customers shall be billed no less frequently than bi-monthly.

C. The following information, as applicable to the customer, shall be provided at least once each calendar year and a summary of the provisions shall be provided to the District annually as described in Section D, below. The information shall be provided by postal mailings, bill inserts, online notices, on the bill or by other means. If billing units are not in gallons, a means to convert the units to gallons must be provided.

1. To each utility-metered customer in each customer class - Information describing the rate structure and shall include any applicable:

a. Fixed and variable charges,

b. Minimum charges and the quantity of water covered by such charges,

c. Price block quantity thresholds and prices,

d. Seasonal rate information and the months to which they apply, and

e. Usage surcharges

2. To each utility-metered single-family residential customer - Information that the customer can use to compare its water use relative to other single-family customers or to estimate an efficient use and that shall include one or more of the following:

a. The average or median single-family residential customer billing period water use calculated over the most recent three year period, or the most recent two year period if a three year period is not available to the utility. Data by billing period is preferred but not required.

b. A means to calculate an efficient billing period use based on the customer's characteristics, or

c. A means to calculate an efficient billing period use based on the service area's characteristics.

D. Annual Report: The following information shall be submitted to the District annually by October 1 of each year of the permit term to demonstrate compliance with the requirements above. The information shall be current as of the October 1 submittal date.

1. Description of the current water rate structure (rate ordinance or tariff sheet) for potable and non-potable water.

2. Description of the current customer billing and meter reading practices and any proposed changes to

these practices (including a copy of a bill per A above).

3. Description of the means the permittee uses to make their metered customers aware of rate structures, and how the permittee provides information their metered single-family residential customers can use to compare their water use relative to other single-family customers or estimate an efficient use (see C 1 & 2 above).
(592)

13. This Permit is located within the Southern Water Use Caution Area (SWUCA). Pursuant to Section 373.0421, Florida Statutes, the SWUCA is subject to a minimum flows and levels recovery strategy, which became effective on January 1, 2007. The Governing Board may amend the recovery strategy, including amending applicable water use permitting rules based on an annual assessment of water resource criteria, cumulative water withdrawal impacts, and on a recurring five-year evaluation of the status of the recovery strategy up to the year 2025 as described in Chapter 40D-80, Florida Administrative Code. This Permit is subject to modification to comply with new rules.(652)

14. The Permittee shall maintain a water conserving rate structure for the duration of the permit term. Any changes to the water conserving rate structure described in the application shall be described in detail as a component of the next Annual Report on Water Rate, Billing and Meter Reading Practices of the year following the change. (659)

15. The Permittee shall submit a "Water Use Annual Report" to the District by April 1 of each year on their water use during the preceding calendar year using the form, "Public Supply Water Use Annual Report Form" (Form No. LEG-R.023.00 (09/09)), referred to in this condition as "the Form," and all required attachments and documentation. The Permittee shall adhere to the "Instructions for Completion of the Water Use Annual Report" attached to and made part of this condition in Exhibit B. The Form addresses the following components in separate sections.

Per Capita Use Rate

A per capita rate for the previous calendar year will be calculated as provided in Part A of the Form using Part C of the Form to determine Significant Use deduction that may apply. Permittees that cannot achieve a per capita rate of 150 gpd according to the time frames included in the "Instructions for Completion of the Water Use Annual Report," shall include a report on why this rate was not achieved, measures taken to comply with this requirement, and a plan to bring the permit into compliance.

Residential Use

Residential use shall be reported in the categories specified in Part B of the Form, and the methodology used to determine the number of dwelling units by type and their quantities used shall be documented in an attachment.

Non-Residential Use

Non-residential use quantities provided for use in a community but that are not directly associated with places of residence, as well as the total water losses that occur between the point of output of the treatment plant and accountable end users, shall be reported in Part B of the Form.

Water Conservation

In an attachment to the Form, the Permittee shall describe the following:

1. Description of any ongoing audit program of the water treatment plant and distribution systems to address reductions in water losses.

2. An update of the water conservation plan that describes and quantifies the effectiveness of measures currently in practice, any additional measures proposed to be implemented, the scheduled implementation dates, and an estimate of anticipated water savings for each additional measure.

3. A description of the Permittees implementation of water-efficient landscape and irrigation codes or ordinances, public information and education programs, water conservation incentive programs, identification of which measures and programs, if any, were derived from the Conserve Florida Water Conservation Guide, and provide the projected costs of the measures and programs and the projected water savings.

Water Audit

If the current water loss rate is greater than 10% of the total distribution quantities, a water audit as described in the "Instructions for Completion of the Water Use Annual Report" shall be conducted and completed by the following July 1, with the results submitted by the following October 1. Indicate on Part A of the Form whether the water audit was done, will be done, or is not applicable.

Alternative Water Supplied Other Than Reclaimed Water

If the Permittee provides Alternative Water Supplies other than reclaimed water (e.g., stormwater not treated for potable use) to customers, the information required on Part D of the Form shall be submitted along with an attached map depicting the areas of current Alternative Water Use service and areas that are projected to be added within the next year.

Suppliers of Reclaimed Water

1. Permittees having a wastewater treatment facility with an annual average design capacity equal to or greater than 100,000 gpd:

The Permittee shall submit the "SWFWMD Annual Reclaimed Water Supplier Report" on quantities of reclaimed water that was provided to customers during the previous fiscal year (October 1 to September 30). The report shall be submitted in Excel format on the Compact Disk, Form No. LEG-R.026.00 (05/09), that will be provided annually to them by the District. A map depicting the area of reclaimed water service that includes any areas projected to be added within the next year, shall be submitted with this report.

2. Permittees that have a wastewater treatment facility with an annual average design capacity less than 100,000 gpd:

a. The Permittee has the option to submit the "SWFWMD Annual Reclaimed Water Supplier Report," Form No. LEG-R.026.00, as described in sub-part (1) above, or

b. Provide information on reclaimed water supplied to customers on Part E of the Form as described in the "Instructions for Completion of the Water Use Annual Report"

Updated Service Area Map

If there have been changes to the service area since the previous reporting period, the Permittee shall update the service area using the map that is maintained in the District's Mapping and GIS system.

(660)

16. This permit authorizes the temporary transfer of water from one utility to another, when meeting a demand not authorized under this permit, upon written approval from the Sarasota Regulation Department Director. The Permittee will provide a written request for the transfer to the Sarasota Regulation Department Director at least one week prior to the transfer, or within 48 hours following an unanticipated transfer event. The request for temporary transfer shall provide detailed documentation of the circumstances leading to the need for the transfer; location of the interconnect(s) to be used; the meter ID Nos.; the specific conditions under which said transfer will end; the quantities to be transferred; and a copy of the request for transfer from the utility in need. The Permittee's permitted quantities shall not be exceeded, nor shall any provision of the permit be violated, during the temporary transfer. The duration of these transfers will be limited to no more than 15 days, after which time the transfer shall be discontinued unless an Executive Director's Order from the District is obtained authorizing the transfer to continue.

The transfer of water shall be metered on the applicable interconnect between the two utilities. The Permittee, in cooperation with the applicable utility, shall maintain and operate a non-resettable, totalizing flow meter, or other flow measuring device as approved by the Regulation Department Director, for the applicable interconnect being utilized between the participating utilities. Meter reading and reporting, as well as meter accuracy checks every five years, shall be in accordance with instructions in Exhibit B, Meter Instructions, attached to and made part of this permit. The compiled information shall also be included as an "export" quantity in the Permittee's Annual Report.(994)

17. The Permittee shall continue to monitor the parameters as outlined in the **Hydrobiological Monitoring Plan (HBMP)** as submitted to the District on **June 13, 2006**. The District reserves the right to require modification of the HBMP as necessary to protect the resource. Such modifications will only occur after discussion with the Permittee. The Permittee may also request modification to the HBMP in writing. Please note that any proposed changes to the HBMP may require modification of this Water Use Permit. If the District determines that significant adverse impacts are occurring due to withdrawals, the District may reconsider the quantities permitted. The results of the HBMP monitoring program shall be submitted to the Sarasota Regulation Department in a series of monthly data submittals and summary reports, as follows:

A. Data collected monthly under the HBMP shall be submitted to the District by the 15th day of the month following data collection.

B. Data Summary Reports shall be submitted to the District every three years, with the first of these due on April 1, 2012. Subsequent Data Summary Reports shall be due on April 1, 2015; April 1, 2018; April 1, 2021; April 1, 2024; April 1, 2027; and April 1, 2030.

C. The Data Summary Reports shall include plots of mean, minimum and maximum salinity values for diurnal tidal cycles and tables of the salinity data. These data and other raw data specified in the District-approved HBMP shall be provided on paper and electronic medium in a format meeting District requirements. The results and dates of the field calibrations of the salinity meters shall be provided in the reports.

If results of the HBMP indicate that withdrawals by the City have caused, or will cause, adverse impacts to the ecology of the river and/or its estuary (as defined by District Rule and associated Performance Standards), the diversion schedule shall be modified so as to not cause adverse impacts. If such a determination is made, the

City of North Port shall propose revisions to the diversion schedule for the District's approval. Upon approval, the City of North Port shall implement said revised diversion schedule.
(990)

18. Water quality samples from the withdrawal points listed below shall be collected after pumping the withdrawal point at its normal rate for a pumping time specified below, or to a constant temperature, pH, and conductivity. The frequency of sampling per water quality parameter is listed in the table according to the withdrawal point. The recording and reporting shall begin according to the first sample date for existing wells and shall begin within 90 days of completion of any proposed wells. Samples shall be collected whether or not the well is being used unless infeasible. If sampling is infeasible, the Permittee shall indicate the reason for not sampling on the water quality data form or in the space for comments in the WUP Portal for data submissions. For sampling, analysis and submittal requirements see Exhibit B, Water Quality Sampling Instructions, attached to and made part of this permit.

    Existing District ID Nos. 92, 93, 94, 95, 100 and 101, Permittee ID Nos. 92, 93, 94, 95, HW-1 and VW-1 for chlorides, sulfates and TDS, after a minimum pumping time of 40 minutes, on a monthly basis, with first sample due within 30 days of equipping any production well(s) with a pump.

    Proposed District ID Nos. 102, 103, 104, 105 and 106, Permittee ID Nos. VW-2, VW-3, VW-4, VW-5 and WV-6, for chlorides, sulfates, and TDS, after a minimum pumping time of 40 minutes, on a monthly basis, with first analyzed sample due within 30 days of equipping any production well(s) with a pump.
    (752)

19. The following existing, but previously un-metered withdrawal facilities shall be metered upon permit issuance: District ID Nos. 100 and 101, Permittee ID Nos. HW-1 and VW-1. Meter reading and reporting, as well as meter accuracy checks every five years shall be in accordance with instructions in Exhibit B, Metering Instructions, attached to and made part of this permit.(720)

20. The Wetland Monitoring Plan (West Villages RO Wellfield) that was submitted in support of this permit on June 7, 2010 shall be implemented in accordance with the timeframes outlined in the Wetland Monitoring Plan. The Wetland Monitoring Plan is to address how environmental conditions in the vicinity of the Permittee's wellfield will be monitored, how unacceptable adverse impacts will be identified, and how and when unacceptable adverse impacts caused by water production will be mitigated by the Permittee. A Wetland Monitoring Report compiling the results, analyses, and conclusions of the hydrologic and vegetative monitoring from the preceding 5 year period, shall be submitted by January 1 every 5 years after wetland monitoring commences. Three identical copies of the annual report and three identical copies of all required supporting documentation shall be submitted to the Regulation Department, Sarasota Service Office, if submitted in hard copy. "Identical copy" in this instance means that if the original is in color, then all copies shall also be printed in color. If submitted electronically, only one submittal is required; however, it is required that any documentation that is in color be scanned in color. During the permit term, the Permittee may submit a proposal to enhance or revise the Wetland Monitoring Plan. Please note that any proposed changes to the Wetland Monitoring Plan will require modification of this Water Use Permit.
    (992)

21. The following proposed withdrawal facilities shall be metered within 90 days of completion of construction of the facilities: District ID Nos. 102, 103, 104, 105 and 106, Permittee ID Nos. VW-2, VW-3, VW-4, VW-5 and VW-6. Meter reading and reporting, as well as meter accuracy checks every five years shall be in accordance with instructions in Exhibit B, Metering Instructions, attached to and made part of this permit.(718)

22. Permittees having their own wastewater treatment plant that generate at least advanced-secondary treated effluent (high-level disinfection, as described in Rule 62-600.440(5), F.A.C.) to the minimum FDEP requirements for public access reuse shall respond in a timely manner to inquiries about availability from water use permit applicants for water uses where such reclaimed water is appropriate. If reclaimed water is or will be available to that permit applicant within the next six years, the Permittees shall provide a cost estimate for connection to the applicant.(674)

23. The City of North Port shall continue to implement the diversion schedule described below for withdrawals of water from the Myakkahatchee Creek with the following limitations:

    A. Withdrawals shall not exceed 2.08 mgd when flow, as measured at the City's gauge station WCS 101, District ID No. 12, is less than 10 cfs.
    B. Withdrawals shall not exceed 4.0 mgd when flow as measured at the City's gauge station WCS 101, District ID No. 12, is greater than 10 cfs, but less than 30 cfs.

C. Withdrawals shall not exceed 6.0 mgd when flow, as measured at the City's gauge station WCS 101, District ID No. 12, is greater than 30 cfs.
D. The maximum authorized diversion is 6.0 mgd when flow in the Creek is equal to or greater than 30 cfs. Please note that any proposed changes to the diversion schedule will require modification of this Water Use Permit.
(991)

24. At least 12 months prior to the activation of any production well(s) at the **West Villages RO Wellfield**, the Permittee shall install a District-approved staff gauge in the water bodies at the location(s) specified by latitude and longitude below and report measurements of water levels referenced to the North American Vertical Datum 1988, at the frequency required by the **Wetland Monitoring Plan** dated **June 7, 2010**, which is incorporated herein by reference. Instructions for installation of the staff gauge, and for recording and reporting the data are given in Exhibit B, Water Level Instructions, attached to and made part of this permit.

District ID No. 60, Permittee ID No. SG-D at Wetland D on a **monthly** basis at Lat. 270058.41 Long. 821810.08
District ID No. 61, Permittee ID No. SG-G at Wetland G on a **monthly** basis at Lat. 270038.44 Long. 821756.35
District ID No. 62, Permittee ID No. SG-V at Wetland V on a **monthly** basis at Lat. 270046.31 Long. 821838.36
District ID No. 63, Permittee ID No. SG-X at Wetland X on a **monthly** basis at Lat. 270054.56 Long. 821823.39
District ID No. 64, Permittee ID No. SG-REF at the designated reference wetland on a **monthly** basis at Lat. 270052.92 Long. 821726.51
(761)

25. At least 12 months prior to the activation of any production well(s), the Permittee shall record water levels at the proposed monitor wells to North American Vertical Datum 1988 (NAVD88) and report them to the District at the frequency listed for the interval, aquifer system, or geologic formation listed. To the maximum extent possible, water levels shall be recorded on a regular schedule: same time each day, same day each week, same week each month as appropriate to the frequency noted. The readings shall be reported online via the Permit Information Center at the District website, (www.watermatters.org/permits/epermitting/), or mailed in hardcopy on District-provided forms to the address given in this permit for mailing data and reports on or before the tenth day of the following month. The frequency of recording may be modified by the Regulation Department Director, Resource Regulation, as necessary to ensure the protection of the resource.

West Villages RO Wellfield
District ID Nos. 50 and 59, Permittee ID Nos. MW1-SAS and MW5-SAS, to monitor the **surficial aquifer** on a **monthly** basis.
District ID Nos. 51, 53, 55 and 57, Permittee ID Nos. MW1-PZ2, MW2-PZ2, MW3-PZ2 and MW4-PZ2, to monitor the **intermediate aquifer (PZ-2)** on a **monthly** basis.
District ID Nos. 52, 54, 56 and 58, Permittee ID Nos. MW1-PZ3, MW2-PZ3, MW3-PZ3 and MW4-PZ3, to monitor the **intermediate aquifer (PZ-3)** on a **monthly** basis.

Myakkahatchee Creek RO Wellfield

District ID No. 150, Permittee ID No. SMW-3, to monitor the **surficial aquifer** on a **monthly** basis.
District ID No. 151, Permittee ID No. IMW-2, to monitor the **intermediate aquifer (PZ-1)** on a **monthly** basis.
District ID No. 152, Permittee ID No. IMW-4, to monitor the **intermediate aquifer (PZ-2)** on a **monthly** basis.
District ID Nos. 153, 154 and 155, Permittee ID Nos. IMW-5, IMW-6 and ASR-2, to monitor the **intermediate aquifer (PZ-3)** on a **monthly** basis.
District ID No. 156, Permittee ID No. ASR-1, to monitor the **Upper Floridan Aquifer** on a **monthly** basis.(755)

26. The Permittee shall submit the analyses and summaries listed below on the dates required or upon request as described:
Population Growth: By September 22, 2020, the permittee shall submit analyses and summaries of the long-term trends over the portion of the permit term that has elapsed through the remaining term of the permit that addresses population growth based on the District's BEBR medium based GIS model or equivalent

methodology approved by the District, non-population based factors such as large industrial or other uses, other water demand, and per capita use.
If the demands through September 22, 2020 are less than 90% of the projected demands reflected in the permit for that period or for the remainder of the term of the permit, the permittee shall demonstrate a legal, technical or other type of hardship as to why the permitted demand should not be reduced to an allocation based on actual demands experienced through the reporting period and demands projected through the remaining term of the permit. Within 90 days of a District notification to the permittee that the demonstration was not made, the permittee shall submit a request to modify the permit allocation consistent with actual and projected demands.
Adverse Impacts Indicated: At any time during the permit term, if data indicate adverse impacts to environmental or other water resource, offsite land use or a legal existing use, non-compliance with a minimum flow or level or associated recovery or prevention strategy, or interference with a reservation, or where data indicate the impacts predicted at the time of permit issuance were underestimated to the degree that the previous analysis is inadequate, the District shall notify the Permittee that an updated ground-water modeling analysis and data analysis is required. The updated groundwater modeling analysis and data analysis shall address compliance with all conditions of issuance pursuant to Rule 40D-2.301, F.A.C. The Permittee shall submit the updated impact analysis and data analysis within 60 days of notification.
(765)

27. The following withdrawal facilities shall continue to be maintained and operated with existing, non-resettable, totalizing flow meter(s) or other measuring device(s) as approved by the Regulation Department Director: District ID Nos. 10, 20, 35, 92, 93, 94 and 95, Permittee ID Nos. 10, 20, 11, 92, 93, 94 and 95. Meter reading and reporting, as well as meter accuracy checks every five years shall be in accordance with instructions in Exhibit B, Metering Instructions, attached to and made part of this permit.(719)

28. The compliance per capita daily water use rate shall be no greater than 91 gallons per day (gpd). The Permittee shall calculate the compliance per capita rate as described in the Annual Report Condition on this permit and shall submit the calculations with the Annual Report by April 1 of each year. If the compliance per capita rate is greater than 91 gpd, the Permittee shall submit a report that documents why this rate was exceeded, measures previously or currently taken to reduce their compliance per capita rate, and a plan that describes additional measures and implementation dates for those measures to bring their compliance per capita rate to or below 91 gpd. This report shall be submitted with the Annual Report by April 1 for each year the compliance per capita rate exceeds 91 gpd. This report is subject to District approval. Justification for exceeding the adjusted gross per capita rate does not constitute a waiver of the District's authority to enforce the terms and conditions of the permit.
(767)

29. Upon permit issuance, the Permittee shall implement the Wellfield Management Plan (WFMP) for the West Villages RO Wellfield and for the Myakkahatchee Creek RO Wellfield as submitted to the District on November 5, 2009 and December 17, 2010, respectively. The WFMPs are hereby incorporated by reference into this Water Use Permit. Where the Special Conditions of the Permit deviate from the WFMP, the conditions of this Permit shall supersede the WFMP. The District reserves the right to require modification of the WFMP as necessary to protect the resource. Such modifications will only occur after discussion and consultation with the Permittee. The Permittee may also request modification to the WFMP in writing. Please note that any proposed changes to the WFMP may require modification of this Water Use Permit. If the District determines that significant adverse impacts are occurring due to withdrawals, the District may reconsider the quantities permitted.
(993)

30. Water quality samples from monitor sites listed below shall be collected as described in the **Wellfield Management Plan** documents submitted the **West Villages RO Wellfield** and the **Myakkahatchee Creek RO Wellfield** on **November 5, 2009** and **December 17, 2010**, respectively, in support of the permit application for the water use and analyzed for the parameter(s) indicated at the frequency specified in the table below. For analysis and submittal requirements see Exhibit B, Water Quality Sampling Instructions, attached to and made part of this permit.

West Villages RO Wellfield
Proposed **District ID Nos. 52, 54, 56 and 58, Permittee ID Nos. MW1-PZ3, MW1-PZ3, MW3-PZ3 and MW4-PZ3**, analyzed for chlorides, sulfate and TDS, on a monthly basis, with first analyzed sample due at least 12 months prior to activation of any production well(s).

Myakkahatchee Creek RO Wellfield
Existing **District ID Nos. 151, 152, 153, 155 and 156, Permittee ID Nos. IMW-2, IMW-4, IMW-5, ASR-2 and ASR-1** for chlorides, sulfate and TDS, on a monthly basis with first analyzed sample due 5/1/11.

Proposed **District ID No. 154, Permittee ID No. IMW-6**, analyzed for chlorides, sulfate and TDS, on a monthly basis, with first analyzed sample due within 30 days of completion of the monitor site(s).

Myakkahatchee Creek

Existing **District ID No. 12/Permittee ID No. WCS-101** for sulfate and TDS, on a monthly basis with first analyzed sample due 5/1/11.(751)

40D-2
Exhibit A

WATER USE PERMIT STANDARD CONDITIONS

1. The Permittee shall provide access to an authorized District representative to enter the property at any reasonable time to inspect the facility and make environmental or hydrologic assessments. The Permittee shall either accompany District staff onto the property or make provision for access onto the property.

2. When necessary to analyze impacts to the water resource or existing users, the District shall require the Permittee to install flow metering or other measuring devices to record withdrawal quantities and submit the data to the District.

3. The District shall collect water samples from any withdrawal point listed in the permit or shall require the permittee to submit water samples when the District determines there is a potential for adverse impacts to water quality.

4. A District identification tag shall be prominently displayed at each withdrawal point that is required by the District to be metered or for which withdrawal quantities are required to be reported to the District, by permanently affixing the tag to the withdrawal facility.

5. The Permittee shall mitigate to the satisfaction of the District any adverse impact to environmental features or off-site land uses as a result of withdrawals. When adverse impacts occur or are imminent, the District shall require the Permittee to mitigate the impacts. Adverse impacts include the following:

   A. Significant reduction in levels or flows in water bodies such as lakes, impoundments, wetlands, springs, streams or other watercourses; or
   B. Sinkholes or subsidence caused by reduction in water levels;
   C. Damage to crops and other vegetation causing financial harm to the owner; and
   D. Damage to the habitat of endangered or threatened species.

6. The Permittee shall mitigate, to the satisfaction of the District, any adverse impact to existing legal uses caused by withdrawals. When adverse impacts occur or are imminent, the District shall require the Permittee to mitigate the impacts. Adverse impacts include the following:

   A. A reduction in water levels which impairs the ability of a well to produce water;
   B. Significant reduction in levels or flows in water bodies such as lakes, impoundments, wetlands, springs, streams or other watercourses; or
   C. Significant inducement of natural or manmade contaminants into a water supply or into a usable portion of an aquifer or water body.

7. Notwithstanding the provisions of Rule 40D-1.6105, F.A.C., persons who wish to continue the water use permitted herein and who have acquired ownership or legal control of permitted water withdrawal facilities or the land on which the facilities are located must apply to transfer the permit to themselves within 45 days of acquiring ownership or legal control of the water withdrawal facilities or the land.

8. If any of the statements in the application and in the supporting data are found to be untrue and inaccurate, or if the Permittee fails to comply with all of the provisions of Chapter 373, Florida Statutes (F.S.), Chapter 40D, Florida Administrative Code (F.A.C.), or the conditions set forth herein, the Governing Board shall revoke this permit in accordance with Rule 40D-2.341, F.A.C., following notice and hearing.

9. Issuance of this permit does not exempt the Permittee from any other District permitting requirements.

10. The Permittee shall cease or reduce surface water withdrawal as directed by the District if water levels in lakes fall below the applicable minimum water level established in Chapter 40D-8, F.A.C., or rates of flow in streams fall below the minimum levels established in Chapter 40D-8, F.A.C.

11. The Permittee shall cease or reduce withdrawal as directed by the District if water levels in aquifers fall below the minimum levels established by the Governing Board.

12. The Permittee shall not deviate from any of the terms or conditions of this permit without written approval by the District.

13. The Permittee shall practice water conservation to increase the efficiency of transport, application, and use, as well as to decrease waste and to minimize runoff from the property. At such time as the Governing Board adopts specific conservation requirements for the Permittee's water use classification, this permit shall be subject to those requirements upon notice and after a reasonable period for compliance.

14. The District may establish special regulations for Water-Use Caution Areas. At such time as the Governing Board adopts such provisions, this permit shall be subject to them upon notice and after a reasonable period for compliance.

15. In the event the District declares that a Water Shortage exists pursuant to Chapter 40D-21, F.A.C., the District shall alter, modify, or declare inactive all or parts of this permit as necessary to address the water shortage.

16. This permit is issued based on information provided by the Permittee demonstrating that the use of water is reasonable and beneficial, consistent with the public interest, and will not interfere with any existing legal use of water. If, during the term of the permit, it is determined by the District that the use is not reasonable and beneficial, in the public interest, or does impact an existing legal use of water, the Governing Board shall modify this permit or shall revoke this permit following notice and hearing.

17. Within the SWUCA, if the District determines that significant water quantity or quality changes, impacts to existing legal uses, or adverse environmental impacts are occurring, the permittee shall be provided with a statement of facts upon which the District based its determination and an opportunity to address the change or impact prior to a reconsideration by the Board of the quantities permitted or other conditions of the permit.

18. All permits issued pursuant to these Rules are contingent upon continued ownership or legal control of all property on which pumps, wells, diversions or other water withdrawal facilities are located.

Exhibit B
Instructions

METERING INSTRUCTIONS

The Permittee shall meter withdrawals from surface waters and/or the ground water resources, and meter readings from each withdrawal facility shall be recorded on a monthly basis within the last week of the month. The meter reading(s) shall be reported to the Permit Data Section, Performance Management Office on or before the tenth day of the following month.The Permittee shall submit meter readings online using the Permit Information Center at www.swfwmd.state.fl.us/permits/epermitting/ or on District supplied scanning forms unless another arrangement for submission of this data has been approved by the District. Submission of such data by any other unauthorized form or mechanism may result in loss of data and subsequent delinquency notifications. Call the Performance Management Office in Brooksville (352-796-7211) if difficulty is encountered.

The meters shall adhere to the following descriptions and shall be installed or maintained as follows:

1. The meter(s) shall be non-resettable, totalizing flow meter(s) that have a totalizer of sufficient magnitude to retain total gallon data for a minimum of the three highest consecutive months permitted quantities. If other measuring device(s) are proposed, prior to installation, approval shall be obtained in writing from the Regulation Department Director.
2. The Permittee shall report non-use on all metered standby withdrawal facilities on the scanning form or approved alternative reporting method.
3. If a metered withdrawal facility is not used during any given month, the meter report shall be submitted to the District indicating the same meter reading as was submitted the previous month.
4. The flow meter(s) or other approved device(s) shall have and maintain an accuracy within five percent of the actual flow as installed.
5. Meter accuracy testing requirements:
    A. For newly metered withdrawal points, the flow meter installation shall be designed for inline field access for meter accuracy testing.
    B. The meter shall be tested for accuracy on-site, as installed according to the Flow Meter Accuracy Test Instructions in this Exhibit B, every five years in the assigned month for the county, beginning from the date of its installation for new meters or from the date of initial issuance of this permit containing the metering condition with an accuracy test requirement for existing meters.
    C. The testing frequency will be decreased if the Permittee demonstrates to the satisfaction of the District that a longer period of time for testing is warranted.
    D. The test will be accepted by the District only if performed by a person knowledgeable in the testing equipment used.
    E. If the actual flow is found to be greater than 5% different from the measured flow, within 30 days, the Permittee shall have the meter re-calibrated, repaired, or replaced, whichever is necessary. Documentation of the test and a certificate of re-calibration, if applicable, shall be submitted within 30 days of each test or re-calibration.
6. The meter shall be installed according to the manufacturer's instructions for achieving accurate flow to the specifications above, or it shall be installed in a straight length of pipe where there is at least an upstream length equal to ten (10) times the outside pipe diameter and a downstream length equal to two (2) times the outside pipe diameter. Where there is not at least a length of ten diameters upstream available, flow straightening vanes shall be used in the upstream line.
7. Broken or malfunctioning meter:
    A. If the meter or other flow measuring device malfunctions or breaks, the Permittee shall notify the District within 15 days of discovering the malfunction or breakage.
    B. The meter must be replaced with a repaired or new meter, subject to the same specifications given above, within 30 days of the discovery.
    C. If the meter is removed from the withdrawal point for any other reason, it shall be replaced with another meter having the same specifications given above, or the meter shall be reinstalled within 30 days of its removal from the withdrawal. In either event, a fully functioning meter shall not be off the withdrawal point for more than 60 consecutive days.

8. While the meter is not functioning correctly, the Permittee shall keep track of the total amount of time the withdrawal point was used for each month and multiply those minutes times the pump capacity (in gallons per minute) for total gallons. The estimate of the number of gallons used each month during that period shall be submitted on District scanning forms and noted as estimated per instructions on the form. If the data is submitted by another approved method, the fact that it is estimated must be indicated. The reason for the necessity to estimate pumpage shall be reported with the estimate.
9. In the event a new meter is installed to replace a broken meter, it and its installation shall meet the specifications of this condition. The permittee shall notify the District of the replacement with the first submittal of meter readings from the new meter.

FLOW METER ACCURACY TEST INSTRUCTIONS

1. **Accuracy Test Due Date** - The Permittee is to schedule their accuracy test according to the following schedule:

   A. For existing metered withdrawal points, add five years to the previous test year, and make the test in the month assigned to your county.
   B. For withdrawal points for which metering is added for the first time, the test is to be scheduled five years from the issue year in the month assigned to your county.
   C. For proposed withdrawal points, the test date is five years from the completion date of the withdrawal point in the month assigned to your county.
   D. For the Permittee's convenience, if there are multiple due-years for meter accuracy testing because of the timing of the installation and/or previous accuracy tests of meters, the Permittee can submit a request in writing to the Permitting Department Director for one specific year to be assigned as the due date year for meter testing. Permittees with many meters to test may also request the tests to be grouped into one year or spread out evenly over two to three years.
   E. The months for accuracy testing of meters are assigned by county. The Permittee is requested but not required to have their testing done in the month assigned to their county. This is to have sufficient District staff available for assistance.

January	Hillsborough
February	Manatee, Pasco
March	Polk (for odd numbered permits)*
April	Polk (for even numbered permits)*
May	Highlands
June	Hardee, Charlotte
July	None or Special Request
August	None or Special Request
September	Desoto, Sarasota
October	Citrus, Levy, Lake
November	Hernando, Sumter, Marion
December	Pinellas

   * The permittee may request their multiple permits be tested in the same month.

2. **Accuracy Test Requirements**: The Permittee shall test the accuracy of flow meters on permitted withdrawal points as follows:

   A. The equipment water temperature shall be set to 72 degrees Fahrenheit for ground water, and to the measured water temperature for other water sources.
   B. A minimum of two separate timed tests shall be performed for each meter. Each timed test shall consist of measuring flow using the test meter and the installed meter for a minimum of four minutes duration. If the two tests do not yield consistent results, additional tests shall be performed for a minimum of eight minutes or longer per test until consistent results are obtained.
   C. If the installed meter has a rate of flow, or large multiplier that does not allow for consistent results to be obtained with four- or eight-minute tests, the duration of the test shall be increased as necessary to obtain accurate and consistent results with respect to the type of flow meter installed.
   D. The results of two consistent tests shall be averaged, and the result will be considered the test result for the meter being tested. This result shall be expressed as a plus or minus percent (rounded to the nearest one-tenth percent) accuracy of the installed meter relative to the test meter. The percent accuracy indicates the deviation (if any), of the meter being tested from the test meter.

3. **Accuracy Test Report:** The Permittees shall demonstrate that the results of the meter test(s) are accurate by submitting the following information within 30 days of the test:

   A. A completed Flow Meter Accuracy Verification Form, Form LEG-R.014.00 (07/08) for each flow meter tested. This form can be obtained from the District's website (www.watermatters.org) under "Permits and Rules" for Water Use Permits.

   B. A printout of data that was input into the test equipment, if the test equipment is capable of creating such a printout;

   C. A statement attesting that the manufacturer of the test equipment, or an entity approved or authorized by the manufacturer, has trained the operator to use the specific model test equipment used for testing;

   D. The date of the test equipment's most recent calibration that demonstrates that it was calibrated within the previous twelve months, and the test lab's National Institute of Standards and Testing (N.I.S.T.) traceability reference number.

   E. A diagram showing the precise location on the pipe where the testing equipment was mounted shall be supplied with the form. This diagram shall also show the pump, installed meter, the configuration (with all valves, tees, elbows, and any other possible flow disturbing devices) that exists between the pump and the test location clearly noted with measurements. If flow straightening vanes are utilized, their location(s) shall also be included in the diagram.

   F. A picture of the test location, including the pump, installed flow meter, and the measuring device, or for sites where the picture does not include all of the items listed above, a picture of the test site with a notation of distances to these items. with a notation of distances to these items.

WATER QUALITY INSTRUCTIONS

The Permittee shall perform water quality sampling, analysis and reporting as follows:

1. The sampling method(s) from both monitor wells and surface water bodies shall be designed to collect water samples that are chemically representative of the zone of the aquifer or the depth or area of the water body.
2. Water quality samples from monitor wells shall be taken after pumping the well for the minimum time specified (if specified) or after the water reaches a constant temperature, pH, and conductivity.
3. The first submittal to the District shall include a copy of the laboratory's analytical and chain of custody procedures. If the laboratory used by the Permittee is changed, the first submittal of data analyzed at the new laboratory shall include a copy of the laboratory's analytical and chain of custody procedures.
4. Any variance in sampling and/or analytical methods shall have prior approval of the Regulation Department Director, Resource Regulation.
5. The Permittee's sampling procedure shall follow the handling and chain of custody procedures designated by the certified laboratory which will undertake the analysis.
6. Water quality samples shall be analyzed by a laboratory certified by the Florida Department of Health utilizing the standards and methods applicable to the parameters analyzed and to the water use pursuant to Chapter 64E-1, Florida Administrative Code, "Certification of Environmental Testing Laboratories."
7. Analyses shall be performed according to procedures outlined in the current edition of Standard Methods for the Examination of Water and Wastewater by the American Public Health Association-American Water Works Association-Water Pollution Control Federation (APHA-AWWA-WPCF) or Methods for Chemical Analyses of Water and Wastes by the U.S. Environmental Protection Agency (EPA).
8. Unless other reporting arrangements have been approved by the Regulation Department Director, Resource Regulation, reports of the analyses shall be submitted to the Permit Data Section, Strategic Programs Office Department, online at the District WUP Portal or mailed in hardcopy on or before the tenth day of the following month. The online submittal shall include a scanned upload of the original laboratory report. The hardcopy submittal shall be a copy of the laboratory's analysis form. If for some reason, a sample cannot be taken when required, the Permittee shall indicate so and give the reason in the space for comments at the WUP Portal or shall submit the reason in writing on the regular due date.
9. Water quality samples shall be collected based on the following timetable for the frequency listed in the special condition:
10. The parameters and frequency of sampling and analysis may be modified by the District as necessary to ensure the protection of the resource.

Frequency	Timetable
Weekly	Same day of each week
Quarterly	Same week of **February, May, August, November**
Semi-annually	Same week of **May, November**
Monthly	Same week of each month

WATER LEVEL INSTRUCTIONS

The staff gauge(s) shall be surveyed according to instructions given on the District website and referenced to the North American Vertical Datum 1988, and a copy of the survey indicating the datum reference shall be submitted with the first water level data report. The staff gauge(s) shall be scaled in one-tenth foot increments and shall be sized and placed so as to be clearly visible from an easily accessible point of land. Water levels shall be recorded on a frequency as indicated in the table provided in the special condition and reported to the Permit Data Section, Performance Management Office, online via the WUP Portal at the District website or in hardcopy on District-provided forms on or before the tenth day of the following month. To the maximum extent possible, water levels shall be recorded on a regular schedule as indicated in the recording timetable below. The frequency of recording may be modified by the Regulation Department Director, Resource Regulation, as necessary to ensure the protection of the resource.

Water Level Recording Timetable

Frequency	Recording Schedule
Daily	Same time of each day
Weekly	Same day of each week
Monthly	Same week of each month
Quarterly	Same week of months specified

WELL COMPLAINT INSTRUCTIONS

The permittee shall adhere to the following process for handling water resource, surface or ground water withdrawal point impact, dewatering complaints, or discharge/seepage of water from their property:

1. Within 48 hours of a complaint received by the Permittee related to their withdrawal or use of water or dewatering activity, the Permittee shall notify the District, perform a preliminary investigation to determine whether the Permittee's pumpage, dewatering activity, or discharge/seepage from their property may have caused the problem.
2. If this preliminary assessment indicates that the Permittee may be responsible, the Permittee shall, within 72 hours of complaint receipt, supply the complainant with any water necessary for health and safety purposes, such as drinking water.
3. If the resulting investigation determines that the Permittee was not responsible for the well problem, the Permittee shall document the reasons for this determination.
4. If the detailed investigation confirms that the complainant's problem was caused by the Permittee's pumpage, dewatering, or discharge or water impoundment activities:
   A. The complainant's problem shall be fully corrected within 15 days of complaint receipt.
   B. Impacts to wells: Full correction shall be restoration of the complainant's well to pre-impact condition or better, including the aspects of pressure levels, discharge quantity, and water quality. This detailed investigation shall include, but not be limited to, an analysis of water levels and pumpage impacts at the time of the complainant's problem, well and pump characteristics including depths, capacity, pump curves, and irrigation system requirements.
5. The Permittee shall file a report of the complaint, the findings of facts, appropriate technical data, and any mitigating action taken or to be taken by the Permittee, to the Regulation Department Director, Resource Regulation, for review and approval within 20 days of the receipt of any complaint. The report shall include:
   A. The name and address of each complainant;
   B. The date and nature of the complaint;
   C. A summary of the Permittee's investigation;
   D. A summary of the Permittee's determination, including details of any mitigation activities; and
   E. Cost of mitigation activity for each complaint.
6. A copy of the report shall be sent to the complainant within 20 days of complaint receipt.

WELL CONSTRUCTION INSTRUCTIONS

All wells proposed to be constructed shall be drilled and constructed as specified below:

1. All well casing (including liners and/or pipe) must be sealed to the depth specified in the permit condition.
2. The proposed well(s) shall be constructed of materials that are resistant to degradation of the casing/grout due to interaction with the water of lesser quality. A minimum grout thickness of two (2) inches is required on wells four (4) inches or more in diameter.
3. A minimum of twenty (20) feet overlap and two (2) centralizers is required for Public Supply wells and all wells six (6) inches or more in diameter.
4. Any variation from estimated, maximum or minimum total depths; maximum or minimum casing depths; well location or casing diameter specified in the condition requires advanced approval by the Regulation Department Director, Resource Regulation, or the Supervisor of the Well Construction Permitting Section in Brooksville.
5. The Permittee is notified that a proposal to significantly change any of these well construction specifications may require permit modification if the District determines that such a change would result in significantly greater withdrawal impacts than those considered for this Permit.
6. The finished well casing depth shall not vary from these specifications by greater than ten (10) percent unless advance approval is granted by the Regulation Department Director, Resource Regulation, or the Well Construction Regulation Manager in Brooksville.

ANNUAL REPORT SUBMITTAL INSTRUCTIONS

The “Public Supply Water Use Annual Report Form” (Form No. LEG-R.023.00 (01/09)), is designed to assist the Permittee with the annual report requirements, but the final authority for what must be included in the Water Use Annual Report is in this condition and in these instructions. Two identical copies of the “Public Supply Water Use Annual Report Form” and two identical copies of all required supporting documentation shall be included if submitted in hard copy. “Identical copy” in this instance means that if the original is in color, then all copies shall also be printed in color. If submitted electronically, only one submittal is required; however, any part of the document that is in color shall be scanned in color.

1. **Per Capita Use Rate** - A per capita rate for the previous calendar year will be progressively calculated until a rate of 150 gpd per person or less is determined whether it is the unadjusted per capita, adjusted per capita, or compliance per capita. The calculations shall be performed as shown in Part A of the Form. The Permittee shall refer to and use the definitions and instructions for all components as provided on the Form and in Part B, Chapter 3, Section 3.6 of the “Water Use Permit Information Manual.” Permittees that have interconnected service areas and receive an annual average quantity of 100,000 gpd or more from another permittee are to include these quantities as imported quantities. Permittees in the Southern Water Use Caution Area (SWUCA) or the Northern Tampa Bay Water Use Caution Area (NTBWUCA), as it existed prior to October 1, 2007, shall achieve a per capita of 150 gpd or less, and those in these areas that cannot achieve a compliance per capita rate of 150 gpd or less shall include a report on why this rate was not achieved, measures taken to comply with this requirement, and a plan to bring the permit into compliance. Permittees not in a Water Use Caution Area that cannot achieve a compliance per capita rate of 150 gpd or less by December 31, 2019 shall submit this same report in the Annual Report due April 1, 2020.
2. **Residential Use** - Residential water use consists of the indoor and outdoor water uses associated with each category of residential customer (single family units, multi-family units, and mobile homes), including irrigation uses, whether separately metered or not. The Permittee shall document the methodology used to determine the number of dwelling units by type and the quantities used. Estimates of water use based upon meter size will not be accepted. If mobile homes are included in the Permittees multi-family unit category, the information for them does not have to be separated. The information for each category shall include:
   A. Number of dwelling units per category,
   B. Number of domestic metered connections per category,
   C. Number of metered irrigation connections,
   D. Annual average quantities in gallons per day provided to each category, and
   E. Percentage of the total residential water use provided apportioned to each category.
3. **Non-Residential Use** - Non-residential use consists of all quantities provided for use in a community not directly

associated with places of residence. For each category below, the Permittee shall include annual average gpd provided and percent of total non-residential use quantities provided. For each category 1 through 6 below, the number of metered connections shall be provided. These non-residential use categories are:

A. Industrial/commercial uses, including associated lawn and landscape irrigation use,
B. Agricultural uses (e.g., irrigation of a nursery),
C. Recreation/Aesthetic, for example irrigation (excluding golf courses) of Common Areas, stadiums and school yards,
D. Golf course irrigation,
E. Fire fighting, system testing and other accounted uses,-
F. K-through-12 schools that do not serve any of the service area population, and
G. Water Loss as defined as the difference between the output from the treatment plant and accounted residential water use (B above) and the listed non-residential uses in this section.

4. **Water Audit** - The water audit report that is done because water losses are greater than 10% of the total distribution quantities shall include the following items:

A. Evaluation of:
   1) leakage associated with transmission and distribution mains,
   2) overflow and leakage from storage tanks,
   3) leakage near service connections,
   4) illegal connections,
   5) description and explanations for excessive distribution line flushing (greater than 1% of the treated water volume delivered to the distribution system) for potability,
   6) fire suppression,
   7) un-metered system testing,
   8) under-registration of meters, and
   9) other discrepancies between the metered amount of finished water output from the treatment plant less the metered amounts used for residential and non-residential uses specified in Parts B and C above, and

B. A schedule for a remedial action-plan to reduce the water losses to below 10%.

5. **Alternative Water Supplied other than Reclaimed Water** - Permittees that provide Alternative Water Supplies other than reclaimed water (e.g., stormwater not treated for potable use) shall include the following on Part D of the Form:

A. Description of the type of Alternative Water Supply provided,
B. County where service is provided,
C. Customer name and contact information,
D. Customer's Water Use Permit number (if any),
E. Customer's meter location latitude and longitude,
F. Meter ownership information,
G. General customer use category,
H. Proposed and actual flows in annual average gallons per day (gpd) per customer,
I. Customer cost per 1,000 gallons or flat rate information,
J. Delivery mode (e.g., pressurized or non-pressurized),
K. Interruptible Service Agreement (Y/N),
L. Month/year service began, and
M. Totals of monthly quantities supplied.

6. **Suppliers of Reclaimed Water** - Depending upon the treatment capacity of the Permittees wastewater treatment plant, the Permittee shall submit information on reclaimed water supplied as follows:

A. Permittees having a wastewater treatment facility with an annual average design capacity equal to or greater than 100,000 gpd shall utilize the "SWFWMD Annual Reclaimed Water Supplier Report" in Excel format on the Compact Disk, Form No. LEG-R.026.00 (05/09). The "SWFWMD Annual Reclaimed Water Supplier Report" is described in Section 3.1 of Chapter 3, under the subheading "Reclaimed Water Supplier Report" and is described in detail in Appendix A to Part B, Basis of Review of the "Water Use Permit Information Manual."

B. Permittees that have a wastewater treatment facility with an annual average design capacity less than

100,000 gpd can either utilize the “SWFWMD Annual Reclaimed Water Supplier Report,” Form No. LEG-R.026.00, as described in sub-part (1) above or provide the following information on Part E of the Form:

1) Bulk customer information:
   a) Name, address, telephone number,
   b) WUP number (if any),
   c) General use category (residential, commercial, recreational, agricultural irrigation, mining),
   d) Month/year first served,
   e) Line size,
   f) Meter information, including the ownership and latitude and longitude location,
   g) Delivery mode (pressurized, non-pressurized).
2) Monthly flow in gallons per bulk customer.
3) Total gallons per day (gpd) provided for metered residential irrigation.
4) Disposal information:
   a) Site name and location (latitude and longitude or as a reference to the service area map),
   b) Contact name and telephone,
   c) Disposal method, and
   d) Annual average gpd disposed.

Ross Morton

Authorized Signature
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

This permit, issued under the provision of Chapter 373, Florida Statues and Florida Administrative Code 40D-2, authorizes the Permittee to withdraw the quantities outlined above, and may require various activities to be performed by the Permittee as described in the permit, including the Special Conditions. The permit does not convey to the Permittee any property rights or privileges other than those specified herein, nor relieve the Permittee from complying with any applicable local government, state, or federal law, rule, or ordinance.

Southwest Florida Water Management District

2379 Broad Street, Brooksville, Florida 34604-6899
(352) 796-7211 or 1-800-423-1476 (FL only)
SUNCOM 628-4150 TDD only 1-800-231-6103 (FL only)
On the Internet at: WaterMatters.org

An Equal Opportunity Employer

Bartow Service Office
170 Century Boulevard
Bartow, Florida 33830-7700
(863) 534-1448 or
1-800-492-7862 (FL only)

Sarasota Service Office
6750 Fruitville Road
Sarasota, Florida 34240-9711
(941) 377-3722 or
1-800-320-3503 (FL only)

Tampa Service Office
7601 Highway 301 North
Tampa, Florida 33637-6759
(813) 985-7481 or
1-800-836-0797 (FL only)

NOTICING PACKET PUBLICATION INFORMATION

PLEASE SEE THE NEXT PAGE OF THIS NOTICE FOR A LIST OF FREQUENTLY ASKED QUESTIONS (FAQ)

The District's action regarding the issuance or denial of a permit, a petition or qualification for an exemption only becomes closed to future legal challenges from members of the public ("third parties"), if 1.) "third parties" have been properly notified of the District's action regarding the permit or exemption, and 2.) no "third party" objects to the District's action within a specific period of time following the notification.

Notification of "third parties" is provided through publication of certain information in a newspaper of general circulation in the county or counties where the proposed activities are to occur. Publication of notice informs "third parties" of their right to challenge the District's action. If proper notice is provided by publication, "third parties" have a 21-day time limit in which to file a petition opposing the District's action. A shorter 14-day time limit applies to District action regarding Environmental Resource Permits linked with an authorization to use Sovereign Submerged Lands. However, if no notice to "third parties" is published, there is no time limit to a party's right to challenge the District's action. The District has not published a notice to "third parties" that it has taken or intends to take final action on your application. If you want to ensure that the period of time in which a petition opposing the District's action regarding your application is limited to the time frames stated above, you must publish, at your own expense, a notice in a newspaper of general circulation. A copy of the Notice of Agency Action the District uses for publication and guidelines for publishing are included in this packet.

Guidelines for Publishing a Notice of Agency Action

1. Prepare a notice for publication in the newspaper. The District's Notice of Agency Action, included with this packet, contains all of the information that is required for proper noticing. However, you are responsible for ensuring that the form and **the content** of your notice comply with the applicable statutory provisions.
2. Your notice must be published in accordance with Chapter 50, Florida Statutes. A copy of the statute is enclosed.
3. Select a newspaper that is appropriate considering the location of the activities proposed in your application, and contact the newspaper for further information regarding their procedures for publishing.
4. You only need to publish the notice for one day.
5. Obtain an "affidavit of publication" from the newspaper after your notice is published.
6. Immediately upon receipt send the **ORIGINAL** affidavit to the District at the address below, for the file of record. **Retain a copy of the affidavit for your records.**

Southwest Florida Water Management District
Records and Data Supervisor
2379 Broad Street
Brooksville, Florida 34604-6899

Note: If you are advertising a notice of the District's proposed action, and the District's final action is different, publication of an additional notice may be necessary to prevent future legal challenges. If you need additional assistance, please contact us at ext. 4360, at the Brooksville number listed above. **(Your question may be on the FAQ list).**

FAQ ABOUT NOTICING

1. **Q.** Do I have to do this noticing, and what is this notice for?
   A. You do not have to do this noticing, unless you are issued a permit classified as an "Individual". You need to publish a notice if you want to ensure that a "third party cannot challenge the District's action on your permit, exemption, or petition at some future date. If you choose not to publish, there is no time limit to a third party's right to challenge the District's action.

2. **Q.** What do I need to send to the newspaper?
   A. The enclosed one page notice form entitled "Notice of Final Agency Action (or Proposed Agency Action) By The Southwest Florida Water Management District." You must fill in the blanks before sending it.

3. **Q.** Do I have to use the notice form, or can I make up my own form?
   A. You do not have to use our form. However, your notice must contain all information that is in the form.

4. **Q.** Do I send the newspaper the whole form (one page) or just the top portion that has blanks?
   A. Send the full page form which includes the **NOTICE OF RIGHTS** section on the bottom half.

5. **Q.** Do I type or print the information in the blanks? Or will the newspaper fill in the blanks?
   A. You are required to fill in the blanks on the form before sending it to the newspaper. Contact your selected newspaper for instructions on printing or typing the information in the blanks.

6. **Q.** The section 50.051, F.S. (enclosed) proof of publication form of uniform affidavit has blanks in the text. Do I fill in these blanks and send that to the newspaper?
   A. No. That section shows the affidavit the newspaper will send you. They will fill in the blanks.

7. **Q.** If someone objects, is my permit or exemption no good?
   A. If you publish a notice and a "third party" files a request for administrative hearing within the allotted time, the matter is referred to an administrative hearing. While the case is pending, generally, you may not proceed with activities under the challenged agency action. When the hearing is complete, the administrative law judge's (ALJ) recommendation is returned to the District Governing Board, and the Governing Board will take final action on the ALJ's recommendation. There is no time limit for a "third party" to object and file a request for administrative hearing if you do not publish a notice.

8. **Q.** I don't understand what I should put in the blanks on the Notice form?
   A.
   1. **County, Section/Township/Range**, **application No., permit No., proposed permit No., petition No., Exemption No., or permit inquiry No.** is on your Permit, Petition, Exemption, or Denial document.
   2. **Permit Type or Application Type** is Environmental Resource Permit, Water Use Permit, etc.
   3. **# of Acres** is the project acres. This is listed on the Environmental Resource Permit documents. For Water Use Permits, Exemptions, etc., you may put "Not Applicable" if unknown.
   4. **Rule or Statute reference** (Exemptions only). The rule and/or statute reference is at the top of page one in the reference line of the Exemption. For all others, put "Not Applicable" in this blank.
   5. **Type of Project** describes your project activity. Environmental Resource Permit = Agriculture, Commercial, Government, Industrial, Mining, Road Projects, Residential, Semi-Public or Water Quality Treatment. Water Use Permit = Agricultural (if irrigating, state that it is irrigation and specify what is being irrigated), Industrial Commercial, Recreation Aesthetic, Mining Dewatering, or Public Supply.
   6. **Project Name** is the name of your project, if applicable. If there is no project name, put "Not Applicable" in this blank.

CHAPTER 50, FLORIDA STATUTES
LEGAL AND OFFICIAL ADVERTISEMENTS

50.011 Where and in what language legal notices to be published.-

Whenever by statute an official or legal advertisement or a publication, or notice in a newspaper has been or is directed or permitted in the nature of or in lieu of process, or for constructive service, or in initiating, assuming, reviewing, exercising or enforcing jurisdiction or power, or for any purpose, including all legal notices and advertisements of sheriffs and tax collectors, the contemporaneous and continuous intent and meaning of such legislation all and singular, existing or repealed, is and has been and is hereby declared to be and to have been, and the rule of interpretation is and has been, a publication in a newspaper printed and published periodically once a week or oftener, containing at least 25 percent of its words in the English language, entered or qualified to be admitted and entered as periodicals matter at a post office in the county where published, for sale to the public generally, available to the public generally for the publication of official or other notices and customarily containing information of a public character or of interest or of value to the residents or owners of property in the county where published, or of interest or of value to the general public.

History.-s. 2, ch. 3022, 1877; RS 1296; GS 1727; s. 1, ch. 5610, 1907; RGS 2942; s. 1, ch. 12104, 1927; CGL 4666, 4901; s. 1, ch. 63-387; s. 6, ch. 67-254; s. 21, ch. 99-2.

Note.-Former s. 49.01.

50.021 Publication when no newspaper in county.

When any law, or order or decree of court, shall direct advertisements to be made in any county and there be no newspaper published in the said county, the advertisement may be made by posting three copies thereof in three different places in said county, one of which shall be at the front door of the courthouse, and by publication in the nearest county in which a newspaper is published.

History.-RS 1297; GS 1728; RGS 2943; CGL 4667; s. 6, ch. 67-254.

Note.-Former s. 49.02.

50.031 Newspapers in which legal notices and process may be published.

No notice or publication required to be published in a newspaper in the nature of or in lieu of process of any kind, nature, character or description provided for under any law of the state, whether heretofore or hereafter enacted, and whether pertaining to constructive service, or the initiating, assuming, reviewing, exercising or enforcing jurisdiction or power, by any court in this state, or any notice of sale of property, real or personal, for taxes, state, county or municipal, or sheriff's, guardian's or administrator's or any sale made pursuant to any judicial order, decree or statute or any other publication or notice pertaining to any affairs of the state, or any county, municipality or other political subdivision thereof, shall be deemed to have been published in accordance with the statutes providing for such publication, unless the same shall have been published for the prescribed period of time required for such publication, in a newspaper which at the time of such publication shall have been in existence for 1 year and shall have been entered as periodicals matter at a post office in the county where published, or in a newspaper which is a direct successor of a newspaper which together have been so published; provided, however, that nothing herein contained shall apply where in any county there shall be no newspaper in existence which shall have been published for the length of time above prescribed. No legal publication of any kind, nature or description, as herein defined, shall be valid or binding or held to be in compliance with the statutes providing for such publication unless the same shall have been published in accordance with the provisions of this section. Proof of such publication shall be made by uniform affidavit.

History.-ss. 1-3, ch. 14830, 1931; CGL 1936 Supp. 4274(1); s. 7, ch. 22858, 1945; s. 6, ch. 67-254; s. 1, ch. 74-221; s. 22, ch. 99-2.

Note.-Former s. 49.03.

50.041 Proof of publication; uniform affidavits required.

(1) All affidavits of publishers of newspapers (or their official representatives) made for the purpose of establishing proof of publication of public notices or legal advertisements shall be uniform throughout the state.

(2) Each such affidavit shall be printed upon white bond paper containing at least 25 percent rag material and shall be 8.5 inches in width and of convenient length, not less than 5.5 inches. A white margin of not less than 2.5 inches shall be left at the right side of each affidavit form and upon or in this space shall be substantially pasted a clipping which shall be a true copy of the public notice or legal advertisement for which proof is executed.

(3) In all counties having a population in excess of 450,000 according to the latest official decennial census, in addition to the charges which are now or may hereafter be established by law for the publication of every official notice or legal advertisement, there may be a charge not to exceed $2 for the preparation and execution of each such proof of publication or publisher's affidavit.

History.-s. 1, ch. 19290, 1939; CGL 1940 Supp. 4668(1); s. 1, ch. 63-49; s. 26, ch. 67-254; s. 1, ch. 76-58.

Note.-Former s. 49.04.

50.051 Proof of publication; form of uniform affidavit.-

The printed form upon which all such affidavits establishing proof of publication are to be executed shall be substantially as follows:

NAME OF NEWSPAPER
Published (Weekly or Daily)
(Town or City) (County) FLORIDA

STATE OF FLORIDA
COUNTY OF _____:

Before the undersigned authority personally appeared _____, who on oath says that he or she is _____ of the _____, a _____ newspaper published at _____ in _____ County, Florida; that the attached copy of advertisement, being a _____ in the matter of _____ in the _____ Court, was published in said newspaper in the issues of _____.

Affiant further says that the said _____ is a newspaper published at _____, in said _____ County, Florida, and that the said newspaper has heretofore been continuously published in said _____ County, Florida, each _____ and has been entered as periodicals matter at the post office in _____, in said _____ County, Florida, for a period of 1 year next preceding the first publication of the attached copy of advertisement; and affiant further says that he or 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 the said newspaper.

Sworn to and subscribed before me this _____ day of _____, _____ (year), by _____, who is personally known to me or who has produced (type of identification) as identification.

____(Signature of Notary Public)____
____(Print, Type, or Stamp Commissioned Name of Notary Public)____
____(Notary Public)____

History.-s. 2, ch. 19290, 1939; CGL 1940 Supp. 4668(2); s. 6, ch. 67-254; s. 1, ch. 93-62; s. 291, ch. 95-147.

Note.-Former s. 49.05.

50.061 Amounts chargeable.-

(1) The publisher of any newspaper publishing any and all official public notices or legal advertisements shall charge therefore the rates specified in this section without rebate, commission or refund.

(2) The charge for publishing each such official public notice or legal advertisement shall be 70 cents per square inch for the first insertion and 40 cents per square inch for each subsequent insertion, except that:

(a) In all counties having a population of more than 304,000 according to the latest official decennial census, the charge for publishing each such official public notice or legal advertisement shall be 80 cents per square inch for the first insertion and 60 cents per square inch for each subsequent insertion.

(b) In all counties having a population of more than 450,000 according to the latest official decennial census, the charge for publishing each such official public notice or legal advertisement shall be 95 cents per square inch for the first insertion and 75 cents per square inch for each subsequent insertion.

(3) Where the regular established minimum commercial rate per square inch of the newspaper publishing such official public notices or legal advertisements is in excess of the rate herein stipulated, said minimum commercial rate per square inch may be charged for all such legal advertisements or official public notices for each insertion, except that a governmental agency publishing an official public notice or legal advertisement may procure publication by soliciting and accepting written bids from newspapers published in the county, in which case the specified charges in this section do not apply.

(4) All official public notices and legal advertisements shall be charged and paid for on the basis of 6-point type on 6-point body, unless otherwise specified by statute.

(5) Any person violating a provision of this section, either by allowing or accepting any rebate, commission, or refund, commits a misdemeanor of the second degree, punishable as provided in s. 775.082 or s. 775.083.

(6) Failure to charge the rates prescribed by this section shall in no way affect the validity of any official public notice or legal advertisement and shall not subject same to legal attack upon such grounds.

History.-s. 3, ch. 3022, 1877; RS 1298; GS 1729; RGS 2944; s. 1, ch. 12215, 1927; CGL 4668; ss. 1, 2, 2A, 2B, ch. 20264, 1941; s. 1, ch. 23663, 1947; s. 1, ch. 57-160; s. 1, ch. 63-50; s. 1, ch. 65-569; s. 6, ch. 67-254; s. 15, ch. 71-136; s. 35, ch. 73-332; s. 1, ch. 90-279.

Note.-Former s. 49.06.

50.0711 Court docket fund; service charges; publications.-

(1) The clerk of the court in each county may establish a court docket fund for the purpose of paying the cost of publication of the fact of the filing of any civil case in the circuit court of the county by the style and of the calendar relating to such cases. This court docket fund shall be funded by $1 mandatory court cost for all civil actions, suits, or proceedings filed in the circuit court of the county. The clerk shall maintain such funds separate and apart, and the proceeds from this court cost shall not be diverted to any other fund or for any purpose other than that established in this section. The clerk of the court shall dispense the fund to the designated record newspaper in the county on a quarterly basis.

(2) A newspaper qualified under the terms of s. 50.011 shall be designated as the record newspaper for such publication by an order of the majority of the judges in the judicial circuit in which such county is located, and such order shall be filed and recorded with the clerk of the circuit court for such county. The designated record newspaper may be changed at the end of any fiscal year of the county by a majority vote of the judges of the judicial circuit of the county ordering such change 30 days prior to the end of the fiscal year, notice of which order shall be given to the previously designated record newspaper.

(3) The publishers of any designated record newspapers receiving payment from this court docket fund shall publish, without additional charge, the fact of the filing of any civil case, suit, or action filed in such county in the circuit. Such publication shall be in accordance with a schedule agreed upon between the record newspaper and the clerk of the court in such county.

(4) The publishers of any designated record newspapers receiving revenues from the court docket fund established in subsection (1) shall, without charge, accept legal advertisements for the purpose of service of process by publication under s. 49.011(4), (10), and (11) when such publication is required of persons authorized to proceed as indigent persons under s. 57.081.

History.-s. 46, ch. 2004-265.

NOTICE OF FINAL AGENCY ACTION BY
THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

Notice is given that the District's Final Agency Action is approval of the _____ .
(Permit Type)

on_____acres to serve_____known as _____.
(# of Acres) (Type of Project) (Project Name)

The project is located in _____ County, Section(s) _____ .
(County Name) (Section)

Township _____South, Range _____East. The permit applicant
(Township) (Range)

is _____whose address is_____
(name) (Address)

The permit No. is _____.
(Permit #)

The file(s) pertaining to the project referred to above is available for inspection Monday through Friday except for legal holidays, 8:00 a.m. to 5:00 p.m., at the Southwest Florida Water Management District (District)_____.
(Address of District Office issuing Permit)

NOTICE OF RIGHTS

Any person whose substantial interests are affected by the District's action regarding this permit may request an administrative hearing in accordance with Sections 120.569 and 120.57, Florida Statutes (F.S.), and Chapter 28-106, Florida Administrative Code (F.A.C.), of the Uniform Rules of Procedure. *A request for hearing must (1) explain how the substantial interests of each person requesting the hearing will be affected by the District's action, or final action; (2) state all material facts disputed by each person requesting the hearing or state that there are no disputed facts; and (3) otherwise comply with Chapter 28-106, F.A.C.* A request for hearing must be filed with and received by the Agency Clerk of the District at the District's Brooksville address, 2379 Broad Street, Brooksville, FL 34604-6899 within 21 days of publication of this notice (or within14 days for an Environmental Resource Permit with Proprietary Authorization for the use of Sovereign Submerged Lands). Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request a hearing under Sections 120.569 and 120.57,F.S.

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

Mediation pursuant to Section 120.573, F.S., to settle an administrative dispute regarding the District's final action in this matter is not available prior to the filing of a request for hearing.

PART II HEARINGS INVOLVING DISPUTED ISSUES OF MATERIAL FACT

28-106.201 Initiation of Proceedings.

(1) Unless otherwise provided by statute, and except for agency enforcement and disciplinary actions that shall be initiated under Rule 28-106.2015, F.A.C., initiation of proceedings shall by made by written petition to the agency responsible for rendering final agency action. The term "petition" includes any document that requests an evidentiary proceeding and asserts the existence of a disputed issue of material fact. Each petition shall be legible and on 8.5 by 11 inch white paper. Unless printed, the impression shall be on one side of the paper only and lines shall be double-spaced.

(2) All petitions filed under these rules shall contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;

(c) A statement of when and how the petitioner received notice of the agency decision;

(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

(e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action;

(f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and

(g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

(3) Upon receipt of a petition involving disputed issues of material fact, the agency shall grant or deny the petition, and if granted shall, unless otherwise provided by law, refer the matter to the Division of Administrative Hearings with a request that an administrative law judge be assigned to conduct the hearing. The request shall be accompanied by a copy of the petition and a copy of the notice of agency action.

Specific Authority 120.54(3), (5) F.S. Law Implemented 120.54(5), 120.569, 120.57 F.S. History-New 4-1-97, Amended 9-17-98, 1-15-07.

PART III PROCEEDINGS AND HEARINGS NOT INVOLVING DISPUTED ISSUES OF MATERIAL FACT

28-106.301 Initiation of Proceedings

(1) Unless otherwise provided by statute and except for agency enforcement and disciplinary actions initiated under subsection 28-106.2015(1), F.A.C., initiation of a proceeding shall be made by written petition to the agency responsible for rendering final agency action. The term "petition" includes any document which requests a proceeding. Each petition shall be legible and on 8.5 by 11 inch white paper or on a form provided by the agency. Unless printed, the impression shall be on one side of the paper only and lines shall be double-spaced.

(2) All petitions filed under these rules shall contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;

(c) An explanation of how the petitioner's substantial interests will be affected by the agency determination;

(d) A statement of when and how the petitioner received notice of the agency decision;

(e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action;

(f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action;

(g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action; and

(h) A statement that no material facts are in dispute.

Specific Authority 120.54(5) F.S. Law Implemented 120.54(5), 120.569, 120.57 F.S. History-New 4-1-97, Amended 9-17-98, 1-15-07, 12-24-07.

City of North Port
Utilities Dept
North Port, FL 34287

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

RICK SCOTT
GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

May 24, 2013

Cindi B. Mick, Utilities Director
City of North Port
6644 West Price Boulevard
North Port, Florida 34291
cbmick@cityofnorthport.com

Re: Minor Revision
North Port Wastewater Treatment Facility
FLA013378-012-DW1/MR
Sarasota County

Dear Mr. Kirkman:

The Department has completed a minor revision of the City of North Port Wastewater Treatment Facility permit, FLA013378, which expires on September 23, 2017. In accordance with Rule 62-620.325(2), Florida Administrative Code, the permit and associated Discharge Monitoring Reports (DMRs) have been revised to include an additional Class I Injection Well and to clarify that effluent and RO reject can be discharged to the wells in accordance with their respective Underground Injection Control permits.

The revised Permit and DMR are attached and replace the previous documents in their entirety. Please make note of the new DMR submittal requirements in Section I.C.12, on Page 12, of the permit.

Sincerely,

FOR Mauryn McDonald, P.E.
Water Facilities Program Administrator
Southwest District

MM/jgh

Attachments

cc: Kurt W. Jensen, P.E., Jensen & Group, kwj@jag-eng.com
Abdul Ahmadi, PhD, P.E., FDEP SD, abdul.ahmadi@dep.state.fl.us

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

RICK SCOTT
GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

STATE OF FLORIDA
DOMESTIC WASTEWATER FACILITY PERMIT

PERMITTEE:

City of North Port

RESPONSIBLE AUTHORITY:

Cindi B. Mick
Utilities Director
6644 West Price Boulevard
North Port, Florida 34291
(941) 426-9500
cbmick@cityofnorthport.com

FACILITY:

North Port Wastewater Treatment Facility
5355 North Pan American Boulevard
North Port, FL 34287
Sarasota County
Latitude: 27° 02' 51" N Longitude: 82° 14' 43" W

PERMIT NUMBER:	FLA013378
PA FILE NUMBER:	FLA013378-011-DW1P/NR
ISSUANCE DATE:	September 24, 2012
PA FILE NUMBER:	FLA013378-012-DW1/MR
REVISION DATE:	May 24, 2013
EXPIRATION DATE:	September 23, 2017

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and applicable rules of the Florida Administrative Code (F.A.C.). The above named permittee is hereby authorized to operate the facilities shown on the application and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

TREATMENT FACILITIES:

Operation of a existing 7.0 mgd three-month rolling average daily flow (3MRADF) Type I Modified Ludzack-Ettinger domestic wastewater treatment facility consisting of: a receiving station, an expanding headworks structure with odor control, four mechanically cleaned and one manually cleaned bar screen with grit removal, two anoxic basins of 224,400 gallons each for a total of 0.45 MG, six aeration basins of 224,400 gallons each for a total aeration volume of 1.374 MG; four secondary clarifiers of 1.2 MG total volume and 13,265 ft^2 of total surface area, four tertiary filters with a total surface area of 3,000 ft^2 and two chlorine contact chambers with a total volume of 178,547 gallons.. There are one 0.4 MGD and one 2.5 MG reclaimed water storage tanks.

The biosolids stream consists of two aerated sludge holding basins with a total volume of 175,000 gallons, and one rotary drum sludge thickener. Biosolids are dewatered and taken to a landfill.

Effluent for deep well injection is routed to a deep injection well pumping station with hydropneumatic surge control, then down the wells, as described below. Chlorine injection is available for emergency situations.

DISPOSAL:

Underground Injection: An existing 5.32 MGD permitted capacity underground injection well system (U-001). U-001 consists of two Class I underground injection wells permitted under Department permit numbers 131285-006-UO and 131285-010-UO and discharge to a Class G-IV ground water. These wells can receive effluent and RO reject water in accordance with their respective Underground Injection Control permits. U-001 is located approximately at latitude 27 ^{o} 00' 54" N, longitude 82 ^{o} 15' 24" W.

REUSE:

Land Application: An existing 5.0 MGD annual average daily flow (AADF) permitted capacity slow-rate public access system (R-001) consisting of the North Port Master Urban Reuse General Service Area. The service area includes the incorporated limits of the City of North Port. The reclaimed water is transferred to the on-site 0.4 MGD and 2.5 MG reclaimed water storage tanks and a 600,000 gallon reclaimed water storage tank located at the Sabal Trace Golf Course.

IN ACCORDANCE WITH: The limitations, monitoring requirements and other conditions set forth in Pages 1 through 24 of this permit.

I. RECLAIMED WATER AND EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Underground Injection Control Systems

1. During the period beginning on the issuance date and lasting until the wastewater treatment facility 3MRADF reaches 5.0 MGD, the permittee is authorized to discharge effluent to Underground Injection Well U-001. Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with condition I.C.9:

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow (to U-001)	MGD	Max	5.32 Report	Annual Average Monthly Average	Continuous	Recording flow meters and totalizers	FLW-02	See Cond.I.A.4 & 6
BOD, Carbonaceous 5 day, 20C	mg/L	Max	20.0 30.0 60.0	Annual Average Monthly Average Single Sample	Monthly Monthly Weekly	Calculation Calculation 16-hour FPC	EFA-01	
Solids, Total Suspended	mg/L	Max	20.0 30.0 60.0	Annual Average Monthly Average Single Sample	Monthly Monthly Weekly	Calculation Calculation 16-hour FPC	EFA-01	
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	Continuous	Meter	EFA-01	See Cond.I.A.5

A. Underground Injection Control Systems (continued)

2. During the period beginning when the wastewater treatment facility 3MRADF reaches 5.0 MGD and lasting through the expiration date of this permit, the permittee is authorized to discharge effluent to Underground Injection Well U-001. Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with condition I.C.9:

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow (to U-001)	MGD	Max	5.32 Report	Annual Average Monthly Average	Continuous	Recording flow meters and totalizers	FLW-02	See Cond.I.A.4 & 6
BOD, Carbonaceous 5 day, 20C	mg/L	Max	20.0 30.0 45.0 60.0	Annual Average Monthly Average Weekly Average Single Sample	Monthly Monthly Monthly 5 Days/Week	Calculation Calculation Calculation 24-hour FPC	EFA-01	
Solids, Total Suspended	mg/L	Max	20.0 30.0 45.0 60.0	Annual Average Monthly Average Weekly Average Single Sample	Monthly Monthly Monthly 5 Days/Week	Calculation Calculation Calculation 24-hour FPC	EFA-01	
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	Continuous	Meter	EFA-01	See Cond.I.A.5

3. Effluent samples shall be taken at the monitoring site locations listed in Permit Condition I. A. 1. and as described below:

Monitoring Location Site Number	Description of Monitoring Location
EFA-01	After disinfection and prior to discharge to R-001 or U-001.
FLW-02	Meter located on deep well pump line, to deep injection well U-001.

4. The flow to the injection well has a daily maximum sustained injection rate of 3,690 gpm (5.32 MGD).

5. Hourly measurement of pH during the period of required operator attendance may be substituted for continuous measurement. *[Chapter 62-601, Figure 2]*

6. Recording flow meters and totalizers shall be utilized to measure flow and calibrated at least every three months. *[62-601.200(17) and .500(6)]*

7. Disinfection is not required for discharge to Class G-IV waters using Class I wells. However, the permittee must maintain the capability for disinfection at a level that is consistent with the alternate disposal mechanism approved for this facility pursuant to Rule 62-600.540(5), F.A.C. *[62-600.540(1)]*

B. Reuse and Land Application Systems

1. During the period beginning on the issuance date and lasting until the wastewater treatment facility 3MRADF reaches 5.0 MGD , the permittee is authorized to direct reclaimed water to Reuse System R-001. Such reclaimed water shall be limited and monitored by the permittee as specified below and reported in accordance with condition I.C.9:

			Reclaimed Water Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency Of Analysis	Sample Type	Monitoring Site Number	Notes
Flow (to R-001)	MGD	Max	5.0 Report	Annual Average Monthly Average	Continuous	Recording flow meters and totalizers	FLW-01	See Cond.I.B.5
BOD, Carbonaceous 5 day, 20C	mg/L	Max	20.0 30.0 60.0	Annual Average Monthly Average Single Sample	Monthly Monthly Weekly	Calculation Calculation 16-hour FPC	EFA-01	
Solids, Total Suspended	mg/L	Max	5.0	Single Sample	7 Days/Week	Grab	EFB-01	
Coliform, Fecal, % less than detection	percent	Min	75	Monthly Minimum	Monthly	Calculation	EFA-01	See Cond I.B.6
Coliform, Fecal	#/100mL	Max	25	Single Sample	7 Days/Week	Grab	EFA-01	See Cond I.B.6
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	Continuous	Meter	EFA-01	See Cond.I.B.4
Total Residual Chlorine (For Disinfection)	mg/L	Min	1.0	Single Sample	Continuous	Meter	EFA-01	See Cond.I.B.7
Turbidity	NTU	Max	Report	Single Sample	Continuous	Meter	EFB-01	See Cond. I.B.8
Nitrogen, Total (as N)	mg/L	Max	Report	Single Sample	Monthly	16-hour FPC	EFA-01	
Phosphorus, Total (as P)	mg/L	Max	Report	Single Sample	Monthly	16-hour FPC	EFA-01	
Giardia	cysts/ 100L	Max	Report	Single Sample	Once every two years	Filtered	EFA-01	See Cond.I.B.11
Cryptosporidium	oocysts/ 100L	Max	Report	Single Sample	Once every two years	Filtered	EFA-01	See Cond.I.B.11

B. Reuse and Land Application Systems (continued)

2. During the period beginning when the wastewater treatment facility 3MRADF reaches 5.0 MGD and lasting through the expiration date of this permit, the permittee is authorized to direct reclaimed water to Reuse System R-001. Such reclaimed water shall be limited and monitored by the permittee as specified below and reported in accordance with condition I.C.9:

			Reclaimed Water Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency Of Analysis	Sample Type	Monitoring Site Number	Notes
Flow (to R-001)	MGD	Max	5.0 Report	Annual Average Monthly Average	Continuous	Recording flow meters and totalizers	FLW-01	See Cond.I.B.5
BOD, Carbonaceous 5 day, 20C	mg/L	Max	20.0 30.0 45.0 60.0	Annual Average Monthly Average Weekly Average Single Sample	Monthly Monthly Monthly 5 Days/Week	Calculation Calculation Calculation 24-hour FPC	EFA-01	
Solids, Total Suspended	mg/L	Max	5.0	Single Sample	7 Days/Week	Grab	EFB-01	
Coliform, Fecal, % less than detection	percent	Min	75	Monthly Minimum	Monthly	Calculation	EFA-01	See Cond I.B.6
Coliform, Fecal	#/100mL	Max	25	Single Sample	7 Days/Week	Grab	EFA-01	See Cond I.B.6
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	Continuous	Meter	EFA-01	See Cond.I.B.4
Total Residual Chlorine (For Disinfection)	mg/L	Min	1.0	Single Sample	Continuous	Meter	EFA-01	See Cond.I.B.7
Turbidity	NTU	Max	Report	Single Sample	Continuous	Meter	EFB-01	See Cond. I.B.8
Nitrogen, Total (as N)	mg/L	Max	Report	Single Sample	Monthly	24-hour FPC	EFA-01	
Phosphorus, Total (as P)	mg/L	Max	Report	Single Sample	Monthly	24-hour FPC	EFA-01	
Giardia	cysts/ 100L	Max	Report	Single Sample	Once every two years	Filtered	EFA-01	See Cond.I.B.11
Cryptosporidium	oocysts/ 100L	Max	Report	Single Sample	Once every two years	Filtered	EFA-01	See Cond.I.B.11

3. Reclaimed water samples shall be taken at the monitoring site locations listed in Permit Condition I. B. 1. and as described below:

Monitoring Location Site Number	Description of Monitoring Location
EFA-01	After disinfection and prior to discharge to R-001.
EFB-01	Turbidity monitoring / TSS sample point after filtration and prior to disinfection.
FLW-01	Meter located after hydro tank on high service pump line to R-001, Public Access Reuse System.

4. Hourly measurement of pH during the period of required operator attendance may be substituted for continuous measurement. *[Chapter 62-601, Figure 2]*

5. Recording flow meters and totalizers shall be utilized to measure flow and calibrated at least annually. *[62-601.200(17) and .500(6)]*

6. Over a 30-day period, at least 75 percent of the fecal coliform values shall be below the detection limits. No sample shall exceed 25 fecal coliforms per 100 mL. No sample shall exceed 5.0 mg/L of total suspended solids (TSS) at a point before the application of the disinfectant. *[62-600.440(5)(f)]*

7. The minimum total chlorine residual shall be limited as described in the approved operating protocol, such that the permit limitation for fecal coliform bacteria will be achieved. In no case shall the total chlorine residual be less than 1.0 mg/L. *[62-600.440(5)(b); 62-610.460(2); and 62-610.463(2)]*

8. The maximum turbidity shall be limited as described in the approved operating protocol, such that the permit limitations for total suspended solids and fecal coliforms will be achieved. *[62-610.463(2)]*

9. The treatment facilities shall be operated in accordance with all approved operating protocols. Only reclaimed water that meets the criteria established in the approved operating protocol may be released to system storage or to the reuse system. Reclaimed water that fails to meet the criteria in the approved operating protocol shall be directed to the following permitted alternate discharge system: U-001. The operating protocol shall be reviewed and updated periodically to ensure continuous compliance with the minimum treatment and disinfection requirements. Updated operating protocols shall be submitted to the Department for review and approval upon revision of the operating protocol and with each permit application. *[62-610.320(6) and 62-610.463(2)]*

10. Instruments for continuous on-line monitoring of total residual chlorine and turbidity shall be equipped with an automated data logging or recording device. *[62-610.463(2) & .865(8)(d)]*

11. Intervals between sampling for Giardia and Cryptosporidium shall not exceed two years. Sampling results shall be reported on DEP Form 62-610.300(4)(a)4 which is attached to this permit. (If additional sampling is required in accordance with the attached form, only one additional sampling event will be required within the two year monitoring frequency). The pathogen monitoring report shall be completed and submitted in a timely manner so as to be received by the Department by November 28 of every even-numbered year. *[62-610.463(4)]*

C. Other Limitations and Monitoring and Reporting Requirements

1. During the period beginning on the issuance date and lasting until the wastewater treatment facility 3MRADF reaches 5.0 MGD , the treatment facility shall be limited and monitored by the permittee as specified below and reported in accordance with condition I.C.9:

			Reclaimed Water Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Monitoring	Sample Type	Monitoring Site Number	Notes
Flow, Total Plant	MGD	Max Max	7.0 Report	3MRADF Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-03	See Cond.I.C.6
Percent Capacity, (3MRADF/Permitted Capacity) x 100	Percent	Max	Report	Monthly Maximum	Monthly	Calculation	FLW-03	
BOD, Carbonaceous 5 day, 20C	mg/L	Max	Report	Monthly Average	Weekly	24-hr FPC	INF-01	See Cond. I.C.5
Solids, Total Suspended	mg/L	Max	Report	Monthly Average	Weekly	24-hr FPC	INF-01	See Cond. I.C.5
Biosolids Quantity (Transferred to BTF)	Dry Tons	Max	Report	Monthly Total	Monthly	Calculation	RMP-01	See I.B.8
Biosolids Quantity (Landfilled)	Dry Tons	Max	Report	Monthly Total	Monthly	Calculation	RMP-02	See I.B.8

C. Other Limitations and Monitoring and Reporting Requirements

2. During the period beginning when the wastewater treatment facility 3MRADF reaches 5.0 MGD and lasting through the expiration date of this permit, the treatment facility shall be limited and monitored by the permittee as specified below and reported in accordance with condition I.C.9:

			Reclaimed Water Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Monitoring	Sample Type	Monitoring Site Number	Notes
Flow, Total Plant	MGD	Max Max	7.0 Report	3MRADF Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-03	See Cond.I.C.6
Percent Capacity, (3MRADF/Permitted Capacity) x 100	Percent	Max	Report	Monthly Maximum	Monthly	Calculation	FLW-03	
BOD, Carbonaceous 5 day, 20C	mg/L	Max	Report	Monthly Average	Weekly	24-hr FPC	INF-01	See Cond. I.C.5
Solids, Total Suspended	mg/L	Max	Report	Monthly Average	Weekly	24-hr FPC	INF-01	See Cond. I.C.5
Biosolids Quantity (Transferred to BTF)	Dry Tons	Max	Report	Monthly Total	Monthly	Calculation	RMP-01	See I.B.8
Biosolids Quantity (Landfilled)	Dry Tons	Max	Report	Monthly Total	Monthly	Calculation	RMP-02	See I.B.8

3. Samples shall be taken at the monitoring site locations listed in Permit Condition I. C. 1 and as described below:

Monitoring Location Site Number	Description of Monitoring Location
FLW-03	Total plant flow measured at headworks.
INF-01	Influent sampling point prior to treatment and ahead of the return activated sludge line.
RMP-01	Quantity of biosolids transferred to Biosolids Treatment Facility.
RMP-02	Quantity of biosolids transferred to Landfill.

4. Influent samples shall be collected so that they do not contain digester supernatant or return activated sludge, or any other plant process recycled waters. *[62-601.500(4)]*

5. Recording flow meters and totalizers shall be utilized to measure flow and calibrated at least annually. *[62-601.200(17) and .500(6)]*

6. Parameters which must be monitored as a result of a surface water discharge shall be analyzed using a sufficiently sensitive method to assure compliance with applicable water quality standards and effluent limitations in accordance with 40 CFR (Code of Federal Regulations) Part 136. Parameters which must be monitored as a result of a ground water discharge (i.e., underground injection or land application system) shall be analyzed in accordance with Chapter 62-601, F.A.C. All monitoring shall be representative of the monitored activity. *[62-620.320(6)]*

7. In the absence of a laboratory analysis, to estimate the dry tons generated by a facility that transports liquid biosolids, the average value of 1.5% solids may be used. The following formula may be used to convert gallons to dry tons when the estimated percent solids is 1.5%:

$$\text{Dry Tons} = \frac{\text{(gallons X 8.34 lb/gal X 0.015)}}{\text{(2000 lb/ton)}}$$

If the percent solids is known, substitute the known % solids for "0.015" in the formula above. The gallons produced and used for the above calculation shall be reported on the Discharge Monitoring Report (DMR), Part B. During months when biosolids are not transferred to a Biosolids Treatment Facility or to a landfill, the permittee should record "zero" (0) on the DMR. *[62-640.650(5)(a)]*

8. The permittee shall provide safe access points for obtaining representative influent, reclaimed water, and effluent samples which are required by this permit. *[62-601.500(5)]*

9. Monitoring requirements under this permit are effective on the first day of the second month following permit issuance. Until such time, the permittee shall continue to monitor and report in accordance with previously effective permit requirements, if any. During the period of operation authorized by this permit, the permittee shall complete and submit to the Department DMR in accordance with the frequencies specified by the REPORT type (i.e., monthly, quarterly, semiannual, annual, etc.) indicated on the DMR forms attached to this permit. Monitoring results for each monitoring period shall be submitted in accordance with the associated DMR due dates below, unless specified elsewhere in the permit.

REPORT Type	Monitoring Period	Due Date
Monthly	first day of month – last day of month	28th day of following month
Quarterly	January 1 - March 31 April 1 – June 30 July 1 – September 30 October 1 – December 31	April 28 July 28 October 28 January 28
Semiannual	January 1 – June 30 July 1 – December 31	July 28 January 28
Annual	January 1 – December 31	March 28

The permittee may submit either paper or electronic DMRs. The permittee must use the attached DMR as a template, without altering the original format or content unless approved by the Department. Completed DMRs shall be submitted to the Department's Southwest District Office at the address specified in Permit Condition I.B.12 by the 28th day of the month following the month of operation. Paper copies postmarked by the 28th meet the intent of this requirement. If submitting electronic DMRs, portable document format (pdf) is preferred. Data submitted electronically is equivalent to data submitted on signed paper DMRs only when bearing an original signature. DMRs shall be submitted for each required monitoring period including months of no discharge.
[62-620.610(18)][62-601.300(1), (2), and (3)]

10. During the period of operation authorized by this permit, reclaimed water or effluent shall be monitored annually for the primary and secondary drinking water standards contained in Chapter 62-550, F.A.C., (except for asbestos, color, and corrosivity). Twenty-four hour composite samples and grab samples where appropriate shall be used to analyze reclaimed water or effluent for the primary and secondary drinking water standards. These monitoring results shall be reported to the Department annually on the DMR under monitoring group number RWS-01. During years when a permit is not renewed, a certification stating that no new non-domestic wastewater dischargers have been added to the collection system since the last reclaimed water or effluent analysis was conducted may be submitted in lieu of the report. The annual reclaimed water or effluent analysis report or the certification shall be completed and submitted in a timely manner so as to be received by the Department by June 28 of each year. Approved analytical methods identified in Rule 62-620.100(3)(j), F.A.C., shall be used for the analysis. If no method is included for a parameter, methods specified in Chapter 62-550, F.A.C., shall be used. *[62-601.300(4)][62-601.500(3)][62-610.300(4)]*

11. The permittee shall maintain an inventory of storage systems. The inventory shall be submitted to the Department at least 30 days before reclaimed water will be introduced into any new storage system. The inventory of storage systems shall be attached to the annual submittal of the Annual Reuse Report. *[62-610.464(5)]*

12. Unless specified otherwise in this permit, all reports and other information required by this permit, including 24-hour notifications, shall be submitted to or reported to, as appropriate, the Department's Southwest District Office at the address specified below:

    Florida Department of Environmental Protection South District
    2295 Victoria Avenue, Suite 364
    Fort Myers, Florida 33901-3875
    Email Address: firstname.lastname@dep.state.fl.us

    Phone Number - (239) 344-5600
    FAX Number - (850) 412-0590

    All reports and other information shall be signed in accordance with the requirements of Rule 62-620.305, F.A.C. *[62-620.305]*

II. BIOSOLIDS MANAGEMENT REQUIREMENTS

1. Biosolids generated by this facility may be transferred to a Biosolids Treatment Facility (BTF) or disposed of in a Class I solid waste landfill. Transferring biosolids to an alternative biosolids treatment facility does not require a permit modification. However, use of an alternative biosolids treatment facility requires submittal of a copy of the agreement pursuant to Rule 62-640.880(1)(c), F.A.C., along with a written notification to the Department at least 30 days before transport of the biosolids. *[62-620.320(6), 62-640.880(1)(c)]*

2. The permittee shall not be held responsible for treatment and management violations that occur after its biosolids have been accepted by a permitted biosolids treatment facility with which the source facility has an agreement in accordance with subsection 62-640.880(1)(c), F.A.C., for further treatment, management, or disposal. *[62-640.880(1)(b)]*

3. Disposal of biosolids, septage, and "other solids" in a solid waste disposal facility, or disposal by placement on land for purposes other than soil conditioning or fertilization, such as at a monofill, surface impoundment, waste pile, or dedicated site, shall be in accordance with Chapter 62-701, F.A.C. *[62-640.100(6)(b) & (c)]*

4. If the permittee intends to accept biosolids from other facilities, a permit revision is required pursuant to Rule 62-640.880(2)(d), F.A.C. *[62-640.880(2)(d)]*

5. The permittee shall keep records of the quantities of biosolids generated and transferred to another facility, or landfilled. *[62-640.650(4)(a)]*

6. The treatment, management, transportation, use, land application, or disposal of biosolids shall not cause a violation of the odor prohibition in subsection 62-296.320(2), F.A.C. *[62-640.400(6)]*

7. Storage of biosolids or other solids at this facility shall be in accordance with the Facility Biosolids Storage Plan. *[62-640.300(4)]*

8. Biosolids shall not be spilled from or tracked off the treatment facility site by the hauling vehicle. *[62-640.400(9)]*

9. Florida water quality criteria and standards shall not be violated as a result of land application of biosolids from this facility. *[62-640.400(2)]*

10. The permittee shall keep hauling records to track the transport of biosolids between facilities. The hauling records shall contain the following information:

Required of Source Facility	Required of BTF
Date and Time Shipped	Date and Time Received
Amount of Biosolids Shipped	Amount of Biosolids Received
Degree of Treatment (if applicable)	Name and ID Number of Source Facility
Name and ID Number of Biosolids Management Facility or Treatment Facility	Signature of Hauler
Signature of Responsible Party at Source Facility	Signature of Responsible Party at Biosolids Treatment Facility
Signature of Hauler and Name of Hauling Firm	

These records shall be kept for five years and shall be made available for inspection upon request by the Department. A copy of the hauling records information maintained by the source facility shall be provided upon delivery of the biosolids to the biosolids treatment facility. The BTF permittee shall report to the Department within 24 hours of discovery any discrepancy in the quantity of biosolids leaving the source facility and arriving at the biosolids treatment facility. *[62-640.880(4)]*

III. GROUND WATER REQUIREMENTS

Operational Requirements

1. For the Part III Public Access system, all ground water quality criteria specified in Chapter 62-520, F.A.C., shall be met at the edge of the zone of discharge. For major users of reclaimed water (i.e., using 0.1 MGD or more), the zone of discharge shall extend horizontally 100 feet from the application site or to user's site property line, whichever is less, and vertically to the base of the surficial aquifer. *[62-520.200(23)] [62-522.400 and 62-522.410]*

2. The ground water minimum criteria specified in Rule 62-520.400 F.A.C., shall be met within the zone of discharge. *[62-520.400 and 62-520.420(4)]*

3. During the period of operation authorized by this permit, the permittee shall sample ground water in accordance with this permit and the approved ground water monitoring plan prepared in accordance with Rule 62-522.600, F.A.C. *[62-522.600][62-610.463,]*

4. Ground water monitoring for U-001 shall be in accordance with permit number(s) 131285-006-UO.

5. The following monitoring wells shall be sampled in accordance with the monitoring frequencies specified in Permit Condition III.6. for Reuse System R-001. Quarterly sampling must be reasonably spaced to be representative of potentially changing conditions.

Monitoring Well ID	Alternate Well Name and/or Description of Monitoring Location	Aquifer Monitored	New or Existing
MWB-01	MW-1 Sabal Trace GC	Surficial	existing
MWC-01	MW-2 Sabal Trace GC	Surficial	existing
MWC-02	MW-3 Sabal Trace GC	Surficial	existing
MWC-03	MW-4 Sabal Trace GC	Surficial	existing
MWC-04	MW-5 Sabal Trace GC	Surficial	existing
MWB-02	MW-11 WWTF	Surficial	existing

MWB = Background; MWI = Intermediate; MWC = Compliance

[62-522.600][62-610.463]

6. The following parameters shall be analyzed for each of the monitoring well(s) identified in Permit Condition(s) III. 5:

Parameter	Compliance Well Limit	Units	Sample Type	Monitoring Frequency
Water Level Relative to NGVD	Report	FEET	In-situ	Quarterly
Nitrogen, Nitrate, Total (as N)	10	MG/L	Grab	Quarterly
Solids, Total Dissolved (TDS)	500	MG/L	Grab	Quarterly
Arsenic, Total Recoverable	10	UG/L	Grab	Quarterly
Chloride (as Cl)	250	MG/L	Grab	Quarterly
Cadmium, Total Recoverable	5	UG/L	Grab	Quarterly
Chromium, Total Recoverable	100	UG/L	Grab	Quarterly
Lead, Total Recoverable	15	UG/L	Grab	Quarterly
Coliform, Fecal	4	#/100ML	Grab	Quarterly
pH*	6.5 to 8.5	SU	In-situ	Quarterly
Sulfate, Total	250	MG/L	Grab	Quarterly
Turbidity*	Report	NTU	In-situ	Quarterly
Specific Conductance*	Report	UMHO/CM	In-situ	Quarterly
Temperature (C), Water*	Report	DEG.C	In-situ	Quarterly
Sodium, Total Recoverable	160	MG/L	Grab	Quarterly
Oxygen, Dissolved (DO)*	Report	MG/L	In-situ	Quarterly

* The field parameters shall be sampled per DEP–SOP-001/01, FS 2200 Groundwater Sampling and recorded, (see Figure FS 2200-2 Groundwater Purging Procedure and Form FD 9000-24, Groundwater Sampling Log).
The field parameters to be reported on Part D of GW DMR shall be the last sample recorded.
[62-522.600(11)(b)] [62-601.300(3), 62-601.700, and Figure 3 of 62-601][62-601.300(6)] [62-520.300(9)]

7. If the concentration for any constituent listed in Permit Condition III. 6. in the natural background quality of the ground water is greater than the stated maximum, or in the case of pH is also less than the minimum, the representative natural background quality shall be the prevailing standard. *[62-520.420(2)]*

8. In accordance with Part D of Form 62-620.910(10), water levels shall be recorded before evacuating wells for sample collection. Elevation references shall include the top of the well casing and land surface at each well site (NGVD allowable) at a precision of plus or minus 0.1 foot. *[62-610.463(3)(a),]*

9. Ground water monitoring wells shall be purged prior to sampling to obtain representative samples. *[62-601.700(5)]*

10. Analyses shall be conducted on unfiltered samples, unless filtered samples have been approved by the Department's Southwest District Office as being more representative of ground water conditions. *[62-520.300(9)]*

11. Ground water monitoring parameters shall be analyzed in accordance with Chapter 62-601, F.A.C. *[62-620.610(18)]*

12. For permit renewal, the permittee shall submit, to the Southwest District Office, the results of sampling monitoring wells specified in the Department-approved monitoring plan for the primary and secondary drinking water parameters

included in Chapter 62-550, F.A.C., (excluding asbestos, acrylamide, Dioxin, butachlor, epichlorohydrin, pesticides, and PCBs, unless reasonably expected to be a constituent of the discharge or an artifact of the site). Sampling shall occur no sooner than 180 days before submittal of the renewal application. *[62-520.600(5)(b)]*

13. Ground water monitoring test results shall be submitted on Part D of Form 62-620.910(10). For reuse or land application projects, results shall be submitted with the DMR for each month listed in the following schedule. The submitted results shall be for each year during the period of operation allowed by this permit in accordance with Permit Condition I.C.11. *[62-522.600(10) and (11)(b)] [62-601.300(3), 62.601.700, and Figure 3 of 62-601] [62-620.610(18)]*

SAMPLE PERIOD	REPORT DUE DATE
January - March	April 28
April - June	July 28
July - September	October 28
October - December	January 28

14. If any monitoring well becomes damaged or cannot be sampled for some reason, the permittee shall notify the Department's Southwest District Office immediately and a written report shall follow within seven days detailing the circumstances and remedial measures taken or proposed. Repair or replacement of monitoring wells shall be approved in advance by the Department's Southwest District Office. *[62-522.600][62-4.070(3)]*

15. All piezometers and monitoring wells not part of the approved ground water monitoring plan are to be plugged and abandoned in accordance with Rule 62-532.500(4), F.A.C., unless there is intent for their future use. *[62-532.500(4)]*

IV. ADDITIONAL REUSE AND LAND APPLICATION REQUIREMENTS

Part III Public Access System (R-001)

1. Use of reclaimed water is authorized within the North Port Master Urban Reuse General Service Area and consists of the incorporated limits of the City of North Port. Usage will include residential lawns, golf courses, landscape areas, highways medians, fire protection, construction dust control, and others. *[62-620.630(10)(d)]*

2. This reuse system includes the following major users (i.e., using 0.1 MGD or more of reclaimed water):

User Name	User Type	Capacity (MGD)	Acreage
Sabal Trace	Residential and Golf Courses	0.6	100
Heron Creek	Residential and Golf Courses	0.8	120
North Port High School	Landscaped areas, parks and playgrounds	0.2	104
North Port City Complex	Landscaped areas and rights of way	0.15	68
Totals		1.75	290

[62-610.800(5)][62-620.630(10)(b)]

3. New major users of reclaimed water (i.e., using 0.1 MGD or more) may be added to the reuse system using the general permit described in Rule 62-610.890, F.A.C., if the requirements in this rule are complied with. Application for use of this general permit shall be made using Form 62-610.300(4)(a)1. *[62-610.890]*

4. Cross-connections to the potable water system are prohibited. *[62-610.469(7)]*

5. A cross-connection control program shall be implemented and/or remain in effect within the areas where reclaimed water will be provided for use. *[62-610.469(7)]*

6. The permittee shall conduct inspections within the reclaimed water service area to verify proper connections, to minimize illegal cross-connections, and to verify the proper use of reclaimed water. Inspections are required when a

customer first connects to the reuse distribution system. Subsequent inspections are required as specified in the cross-connection control and inspection program. *[62-610.469(7)(h)]*

7. If a cross-connection between the potable and reclaimed water systems is discovered, the permittee shall:

   a. Immediately discontinue potable water and/or reclaimed water service to the affected area.

   b. If the potable water system is contaminated, clear the potable water lines.

   c. Eliminate the cross-connection.

   d. Test the affected area for other possible cross-connections.

   e. Within 24 hours, notify the Southwest District Office's domestic wastewater and drinking water programs.

   f. Within 5 days of discovery of a cross-connection, submit a written report to the Department detailing: a description of the cross-connection, how the cross-connection was discovered, the exact date and time of discovery, approximate time that the cross-connection existed, the location, the cause, steps taken to eliminate the cross-connection, whether reclaimed water was consumed, and reports of possible illness, whether the drinking water system was contaminated and the steps taken to clear the drinking water system, when the cross-connection was eliminated, plan of action for testing for other possible cross-connections in the area, and an evaluation of the cross-connection control and inspection program to ensure that future cross-connections do not occur. *[62-555.350(3), 62-555.360, 62-620.610(20)]*

8. Maximum obtainable separation of reclaimed water lines and potable water lines shall be provided and the minimum separation distances specified in Rule 62-610.469(7), F.A.C., shall be provided. Reuse facilities shall be color coded or marked. Underground piping which is not manufactured of metal or concrete shall be color coded using Pantone Purple 522C using light stable colorants. Underground metal and concrete pipe shall be color coded or marked using purple as the predominant color. *[62-610.469(7)]*

9. In constructing reclaimed water distribution piping, the permittee shall maintain a 75-foot setback distance from a reclaimed water transmission facility to public water supply wells. No setback distances are required to other potable water supply wells or to any nonpotable water supply wells. *[62-610.471(3)]*

10. A setback distance of 75 feet shall be maintained between the edge of the wetted area and potable water supply wells, unless the utility adopts and enforces an ordinance prohibiting potable water supply wells within the reuse service area. No setback distances are required to any nonpotable water supply well, to any surface water, to any developed areas, or to any private swimming pools, hot tubs, spas, saunas, picnic tables, barbecue pits, or barbecue grills. *[62-610.471(1), (2), (5), and (7)]*

11. Reclaimed water shall not be used to fill swimming pools, hot tubs, or wading pools. *[62-610.469(4)]*

12. Low trajectory nozzles, or other means to minimize aerosol formation shall be used within 100 feet from outdoor public eating, drinking, or bathing facilities. *[62-610.471(6)]*

13. A setback distance of 100 feet shall be maintained from indoor aesthetic features using reclaimed water to adjacent indoor public eating and drinking facilities. *[62-610.471(8)]*

14. The public shall be notified of the use of reclaimed water. This shall be accomplished by posting of advisory signs in areas where reuse is practiced, notes on scorecards, or other methods. *[62-610.468(2)]*

15. All new advisory signs and labels on vaults, service boxes, or compartments that house hose bibbs along with all labels on hose bibbs, valves, and outlets shall bear the words “do not drink” and “no beber” along with the equivalent standard international symbol. In addition to the words “do not drink” and “no beber,” advisory signs posted at storage ponds and decorative water features shall also bear the words “do not swim” and “no nadar” along with the equivalent standard international symbols. *[62-610.468, 62-610.469]*

16. The permittee shall ensure that users of reclaimed water are informed about the origin, nature, and characteristics of reclaimed water; the manner in which reclaimed water can be safely used; and limitations on the use of reclaimed water. Notification is required at the time of initial connection to the reclaimed water distribution system and annually after the reuse system is placed into operation. A description of on-going public notification activities shall be included in the Annual Reuse Report. *[62-610.468(6)]*

17. Routine aquatic weed control and regular maintenance of storage pond embankments and access areas are required. *[62-610.414 & 62-610.464]*

18. Overflows from emergency discharge facilities on storage ponds shall be reported as an abnormal event to the Department's Southwest District Office within 24 hours of an occurrence. The provisions of Rule 62-610.800(9), F.A.C., shall be met. *[62-610.800(9)]*

V. OPERATION AND MAINTENANCE REQUIREMENTS

A. Staffing Requirements

1. During the period of operation authorized by this permit, and until the 3MRADF reaches 5.0 MGD, the wastewater facilities shall be operated under the supervision of a(n) operator(s) certified in accordance with Chapter 62-602, F.A.C. In accordance with Chapter 62-699, F.A.C., this facility is a Category II, Class B facility and, at a minimum, operators with appropriate certification must be on the site as follows:

   A Class C or higher operator 16 hours/day for 7 days/week. The lead operator must be a Class B or higher.

   After the 3MRADF reaches 5.0 MGD, the facility will be a Category II, Class A facility and at a minimum the operator staffing will be as follows:

   A Class C or higher operator 24 hours/day for 7 days/week. The lead operator must be a Class A or higher.

   [62-620.630(3), 62-699.310, 62-610.462]

2. The lead operator shall be employed at the plant full time. "Full time" shall mean at least 4 days per week, working a minimum of 35 hours per week, including leave time. A certified operator shall be on-site and in charge of each required shift and for periods of required staffing time when the lead operator is not on-site. An operator meeting the lead operator classification level of the plant shall be available during all periods of plant operation. "Available" means able to be contacted as needed to initiate the appropriate action in a timely manner. *[62-699.311(10), (5) and (1)]*

B. Capacity Analysis Report and Operation and Maintenance Performance Report Requirements

1. The application to renew this permit shall include an updated capacity analysis report prepared in accordance with Rule 62-600.405, F.A.C. *[62-600.405(5)]*

2. The application to renew this permit shall include a detailed operation and maintenance performance report prepared in accordance with Rule 62-600.735, F.A.C. *[62-600.735(1)]*

C. Recordkeeping Requirements

1. The permittee shall maintain the following records and make them available for inspection on the site of the permitted facility.

   a. Records of all compliance monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation and a copy of the laboratory certification showing the certification number of the laboratory, for at least three years from the date the sample or measurement was taken;

   b. Copies of all reports required by the permit for at least three years from the date the report was prepared;

c. Records of all data, including reports and documents, used to complete the application for the permit for at least three years from the date the application was filed;

d. A copy of the current permit;

e. A copy of the current operation and maintenance manual as required by Chapter 62-600, F.A.C.;

f. A copy of any required record drawings;

g. Copies of the licenses of the current certified operators;

h. Copies of the logs and schedules showing plant operations and equipment maintenance for three years from the date of the logs or schedules. The logs shall, at a minimum, include identification of the plant; the signature and license number of the operator(s) and the signature of the person(s) making any entries; date and time in and out; specific operation and maintenance activities, including any preventive maintenance or repairs made or requested; results of tests performed and samples taken, unless documented on a laboratory sheet; and notation of any notification or reporting completed in accordance with Rule 62-602.650(3), F.A.C. The logs shall be maintained on-site in a location accessible to 24-hour inspection, protected from weather damage, and current to the last operation and maintenance performed; and

i. Records of the quantities of biosolids generated, received from source facilities, treated, landfilled, incinerated, transferred to another facility, land applied or distributed and marketed, shall be kept for a minimum of five years.

j. Records of all biosolids monitoring, including a copy of the laboratory certification showing the laboratory certification number, shall be kept for a minimum of five years.

[62-620.350, 62-602.650, 62-640.650(4)]

VI. SCHEDULES

1. The permittee shall adhere to the following schedule:

Implementation Step		Completion Date
A	Continue to sample monitoring well MWB-02 (MW-11 WWTF).	Upon completion of four quarters of samples in which Arsenic is below 10 µg/l, sampling of this well can be discontinued.
B	Submit an application for renewal as required in permit Conditions VIII. 1.	At least 180 days before the permit expiration date.

VII. INDUSTRIAL PRETREATMENT PROGRAM REQUIREMENTS

This facility is not required to have a pretreatment program at this time. *[62-625.500]*

VIII. OTHER SPECIFIC CONDITIONS

1. The permittee shall apply for renewal of this permit at least 180 days before the expiration date of the permit using the appropriate forms listed in Rule 62-620.910, F.A.C. and in the manner established in the Department of Environmental Protection Guide to Permitting Wastewater Facilities or Activities Under Chapter 62-620, F.A.C., including submittal of the appropriate processing fee set forth in Rule 62-4.050, F.A.C. An application filed in accordance with this section shall be considered timely and sufficient. When an application for renewal of a permit is timely and sufficient, the existing permit shall not expire until the Department has taken final action on the application for renewal or until the last day for seeking judicial review of the agency order or a later date fixed by order of the reviewing court. The late submittal of a renewal application shall be considered timely and sufficient for the purpose of extending the effectiveness of the expiring permit only if the renewal application is submitted and made complete before the permit expiration date. *[62-620.335(1)-(4)]*

2. Reuse and land application projects shall not cause or contribute to violations of water quality standards in surface waters and shall be designed and operated to ensure compliance with ground water quality standards contained in Chapter 62-520, F.A.C.*[62-610.850(1)(a) and (2)(a)]*

3. Florida water quality criteria and standards shall not be violated as a result of any discharge or land application of reclaimed water or biosolidsfrom this facility. *[62-610.850(1)(a) and (2)(a)]*

4. In the event that the treatment facilities or equipment no longer function as intended, are no longer safe in terms of public health and safety, or odor, noise, aerosol drift, or lighting adversely affects neighboring developed areas at the levels prohibited by Rule 62-600.400(2)(a), F.A.C., corrective action (which may include additional maintenance or modifications of the permitted facilities) shall be taken by the permittee. Other corrective action may be required to ensure compliance with rules of the Department. Additionally, the treatment, management, use or land application of biosolidsshall not cause a violation of the odor prohibition in Rule 62-296.320(2), F.A.C. *[62-600.410(8), 62-640.400(6)]*

5. The deliberate introduction of stormwater in any amount into collection/transmission systems designed solely for the introduction (and conveyance) of domestic/industrial wastewater; or the deliberate introduction of stormwater into collection/transmission systems designed for the introduction or conveyance of combinations of storm and domestic/industrial wastewater in amounts which may reduce the efficiency of pollutant removal by the treatment plant is prohibited, except as provided by Rule 62-610.472, F.A.C. *[62-604.130(3)]*

6. Collection/transmission system overflows shall be reported to the Department in accordance with Permit Condition IX. 20. *[62-604.550, 62-620.610(20)]*

7. The operating authority of a collection/transmission system and the permittee of a treatment plant are prohibited from accepting connections of wastewater discharges which have not received necessary pretreatment or which contain materials or pollutants (other than normal domestic wastewater constituents):

   a. Which may cause fire or explosion hazards; or

   b. Which may cause excessive corrosion or other deterioration of wastewater facilities due to chemical action or pH levels; or

   c. Which are solid or viscous and obstruct flow or otherwise interfere with wastewater facility operations or treatment; or

   d. Which result in the wastewater temperature at the introduction of the treatment plant exceeding 40^{o}C or otherwise inhibiting treatment; or

   e. Which result in the presence of toxic gases, vapors, or fumes that may cause worker health or safety problems.

   [62-604.130(5)]

8. The treatment facility, storage ponds, rapid infiltration basins, and/or infiltration trenches shall be enclosed with a fence or otherwise provided with features to discourage the entry of animals and unauthorized persons. *[62-600.400(2)(b)]*

9. Screenings and grit removed from the wastewater facilities shall be collected in suitable containers and hauled to a Department approved Class I landfill or to a landfill approved by the Department for receipt/disposal of screenings and grit. *[62-701.300(1)(a)]*

10. The Permittee shall provide verbal notice to the Department as soon as practical after discovery of a sinkhole within an area for the management or application of wastewater, wastewater biosolids (sludges), or reclaimed water. The Permittee shall immediately implement measures appropriate to control the entry of contaminants, and shall detail these measures to the Department in a written report within 7 days of the sinkhole discovery. *[62-4.070(3)]*

11. The permittee shall provide adequate notice to the Department of the following:

    a. Any new introduction of pollutants into the facility from an industrial discharger which would be subject to Chapter 403, F.S., and the requirements of Chapter 62-620, F.A.C. if it were directly discharging those pollutants; and

    b. Any substantial change in the volume or character of pollutants being introduced into that facility by a source which was identified in the permit application and known to be discharging at the time the permit was issued.

    Adequate notice shall include information on the quality and quantity of effluent introduced into the facility and any anticipated impact of the change on the quantity or quality of effluent or reclaimed water to be discharged from the facility.

    [62-620.625(2)]

IX. GENERAL CONDITIONS

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit are binding and enforceable pursuant to Chapter 403, Florida Statutes. Any permit noncompliance constitutes a violation of Chapter 403, Florida Statutes, and is grounds for enforcement action, permit termination, permit revocation and reissuance, or permit revision. *[62-620.610(1)]*

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviations from the approved drawings, exhibits, specifications or conditions of this permit constitutes grounds for revocation and enforcement action by the Department. *[62-620.610(2)]*

3. As provided in subsection 403.087(7), 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 authorize any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit or authorization that may be required for other aspects of the total project which are not addressed in this permit. *[62-620.610(3)]*

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. *[62-620.610(4)]*

5. This permit does not relieve the permittee from liability and penalties 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; 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. The permittee shall take all reasonable steps to minimize or prevent any discharge, reuse of reclaimed water, or biosolidsuse or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. *[62-620.610(5)]*

6. If the permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee shall apply for and obtain a new permit. *[62-620.610(6)]*

7. The permittee shall at all times 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. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to maintain or achieve compliance with the conditions of the permit. *[62-620.610(7)]*

8. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit revision, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. *[62-620.610(8)]*

9. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, including an authorized representative of the Department and authorized EPA personnel, when applicable, upon presentation of credentials or other documents as may be required by law, and at reasonable times, depending upon the nature of the concern being investigated, to:

    a. Enter upon the permittee's premises where a regulated facility, system, or activity is located or conducted, or where records shall be kept under the conditions of this permit;

    b. Have access to and copy any records that shall be kept under the conditions of this permit;

    c. Inspect the facilities, equipment, practices, or operations regulated or required under this permit; and

    d. Sample or monitor any substances or parameters at any location necessary to assure compliance with this permit or Department rules.

    [62-620.610(9)]

10. 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 as such use is proscribed by Section 403.111, Florida Statutes, or Rule 62-620.302, Florida Administrative Code. Such evidence shall only be used to the extent that it is consistent with the Florida Rules of Civil Procedure and applicable evidentiary rules. *[62-620.610(10)]*

11. When requested by the Department, the permittee shall within a reasonable time provide any information required by law which is needed to determine whether there is cause for revising, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also provide to the Department upon request copies of records required by this permit to be kept. If the permittee becomes aware of relevant facts that were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be promptly submitted or corrections promptly reported to the Department. *[62-620.610(11)]*

12. Unless specifically stated otherwise in Department rules, the permittee, in accepting this permit, 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. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard. *[62-620.610(12)]*

13. The permittee, in accepting this permit, agrees to pay the applicable regulatory program and surveillance fee in accordance with Rule 62-4.052, F.A.C. *[62-620.610(13)]*

14. This permit is transferable only upon Department approval in accordance with Rule 62-620.340, F.A.C. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department. *[62-620.610(14)]*

15. The permittee shall give the Department written notice at least 60 days before inactivation or abandonment of a wastewater facility and shall specify what steps will be taken to safeguard public health and safety during and following inactivation or abandonment. *[62-620.610(15)]*

16. The permittee shall apply for a revision to the Department permit in accordance with Rules 62-620.300 and the Department of Environmental Protection Guide to Wastewater Permitting at least 90 days before construction of any planned substantial modifications to the permitted facility is to commence or with Rule 62-620.325(2) for minor modifications to the permitted facility. A revised permit shall be obtained before construction begins except as provided in Rule 62-620.300, F.A.C. *[62-620.610(16)]*

17. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The permittee shall be responsible for any and all

damages which may result from the changes and may be subject to enforcement action by the Department for penalties or revocation of this permit. The notice shall include the following information:

a. A description of the anticipated noncompliance;

b. The period of the anticipated noncompliance, including dates and times; and

c. Steps being taken to prevent future occurrence of the noncompliance.

[62-620.610(17)]

18. Sampling and monitoring data shall be collected and analyzed in accordance with Rule 62-4.246, Chapters 62-160 and 62-601, F.A.C., and 40 CFR 136, as appropriate.

    a. Monitoring results shall be reported at the intervals specified elsewhere in this permit and shall be reported on a Discharge Monitoring Report (DMR), DEP Form 62-620.910(10), or as specified elsewhere in the permit.

    b. If the permittee monitors any contaminant more frequently than required by the permit, using Department approved test procedures, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

    c. Calculations for all limitations which require averaging of measurements shall use an arithmetic mean unless otherwise specified in this permit.

    d. Except as specifically provided in Rule 62-160.300, F.A.C., any laboratory test required by this permit shall be performed by a laboratory that has been certified by the Department of Health Environmental Laboratory Certification Program (DOH ELCP). Such certification shall be for the matrix, test method and analyte(s) being measured to comply with this permit. For domestic wastewater facilities, testing for parameters listed in Rule 62-160.300(4), F.A.C., shall be conducted under the direction of a certified operator.

    e. Field activities including on-site tests and sample collection shall follow the applicable standard operating procedures described in DEP-SOP-001/01 adopted by reference in Chapter 62-160, F.A.C.

    f. Alternate field procedures and laboratory methods may be used where they have been approved in accordance with Rules 62-160.220 and 62-160.330, F.A.C.

    [62-620.610(18)]

19. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule detailed elsewhere in this permit shall be submitted no later than 14 days following each schedule date. *[62-620.610(19)]*

20. The permittee shall report to the Department any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain: a description of the noncompliance and its cause; the period of noncompliance including exact dates and time, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

    a. The following shall be included as information which must be reported within 24 hours under this condition:

        1. Any unanticipated bypass which causes any reclaimed water or effluent to exceed any permit limitation or results in an unpermitted discharge,

        2. Any upset which causes any reclaimed water or the effluent to exceed any limitation in the permit,

        3. Violation of a maximum daily discharge limitation for any of the pollutants specifically listed in the permit for such notice, and

4. Any unauthorized discharge to surface or ground waters.

b. Oral reports as required by this subsection shall be provided as follows:

1. For unauthorized releases or spills of treated or untreated wastewater reported pursuant to subparagraph a.4 that are in excess of 1,000 gallons per incident, or where information indicates that public health or the environment will be endangered, oral reports shall be provided to the Department by calling the **STATE WARNING POINT TOLL FREE NUMBER (800) 320-0519**, as soon as practical, but no later than 24 hours from the time the permittee becomes aware of the discharge. The permittee, to the extent known, shall provide the following information to the State Warning Point:

a) Name, address, and telephone number of person reporting;

b) Name, address, and telephone number of permittee or responsible person for the discharge;

c) Date and time of the discharge and status of discharge (ongoing or ceased);

d) Characteristics of the wastewater spilled or released (untreated or treated, industrial or domestic wastewater);

e) Estimated amount of the discharge;

f) Location or address of the discharge;

g) Source and cause of the discharge;

h) Whether the discharge was contained on-site, and cleanup actions taken to date;

i) Description of area affected by the discharge, including name of water body affected, if any; and

j) Other persons or agencies contacted.

2. Oral reports, not otherwise required to be provided pursuant to subparagraph b.1 above, shall be provided to the Department within 24 hours from the time the permittee becomes aware of the circumstances.

c. If the oral report has been received within 24 hours, the noncompliance has been corrected, and the noncompliance did not endanger health or the environment, the Department shall waive the written report.

[62-620.610(20)]

21. The permittee shall report all instances of noncompliance not reported under Permit Conditions IX. 17., 18. and 19. of this permit at the time monitoring reports are submitted. This report shall contain the same information required by Permit Condition IX. 20 of this permit. *[62-620.610(21)]*

22. Bypass Provisions.

a. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless the permittee affirmatively demonstrates that:

1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

3. The permittee submitted notices as required under Permit Condition IX. 22. b. of this permit.

b. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Department, if possible at least 10 days before the date of the bypass. The permittee shall submit notice of an unanticipated bypass within 24 hours of learning about the bypass as required in Permit Condition IX. 20. of this permit. A notice shall include a

description of the bypass and its cause; the period of the bypass, including exact dates and times; if the bypass has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass.

c. The Department shall approve an anticipated bypass, after considering its adverse effect, if the permittee demonstrates that it will meet the three conditions listed in Permit Condition IX. 22. a. 1. through 3. of this permit.

d. A permittee may allow any bypass to occur which does not cause reclaimed water or effluent limitations to be exceeded if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Permit Condition IX. 22. a. through c. of this permit.

[62-620.610(22)]

23. Upset Provisions

a. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and that the permittee can identify the cause(s) of the upset;

2. The permitted facility was at the time being properly operated;

3. The permittee submitted notice of the upset as required in Permit Condition IX. 20. of this permit; and

4. The permittee complied with any remedial measures required under Permit Condition IX. 5. of this permit.

b. In any enforcement proceeding, the burden of proof for establishing the occurrence of an upset rests with the permittee.

c. Before an enforcement proceeding is instituted, no representation made during the Department review of a claim that noncompliance was caused by an upset is final agency action subject to judicial review.

[62-620.610(23)]

Executed in Hillsborough County, Florida.

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

FOR

Mauryn McDonald, P.E.
Water Facilities Permitting Administrator
Southwest District

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection South District, 2295 Victoria Avenue, Suite 364, Fort Myers, FL 33901-3875

PERMITTEE NAME: City of North Port
MAILING ADDRESS: 6644 W. Price Boulevard
North Port, FL 34291

FACILITY: North Port Wastewater Treatment Plant
LOCATION: 5355 North Pan American Boulevard
North Port, FL 34287

COUNTY: Sarasota
OFFICE: South District

PERMIT NUMBER: FLA013378

LIMIT: Interim
CLASS SIZE: N/A
MONITORING GROUP NUMBER: R-001
MONITORING GROUP DESCRIPTION: Public Access Reuse System, with Influent
RE-SUBMITTED DMR: ☐
NO DISCHARGE TO R-001: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Monthly
PROGRAM: Domestic

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow, to R-001	Sample Measurement										
PARM Code 50050 Y Mon.Site No. FLW-01	Permit Requirement	5.0 (An.Avg.)		MGD						Monthly	Calculation
Flow, To R-001	Sample Measurement										
PARM Code 50050 1 Mon.Site No. FLW-01	Permit Requirement	Report (Mo.Avg.)		MGD						Continuous	Flow Meter & Totalizer
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 Y Mon.Site No. EFA-01	Permit Requirement				20.0 (An.Avg.)			MG/L		Monthly	Calculation
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 A Mon.Site No. EFA-01	Permit Requirement				30.0 (Mo.Avg.)		60.0 (Max.)	MG/L		Weekly	16-hr. FPC
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 B Mon.Site No. EFB-01	Permit Requirement				5.0 (Max.)			MG/L		7 Days/Week	Grab
pH	Sample Measurement										
PARM Code 00400 A Mon.Site No. EFA-01	Permit Requirement				6.0 (Min.)		8.5 (Max.)	SU		Continuous	Meter

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (YY/MM/DD)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: North Port Wastewater Treatment Plant
COUNTY: Sarasota
MONITORING GROUP NUMBER: R-001
MONITORING PERIOD From: _____ To _____
PERMIT NUMBER: FLA013378

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Coliform, Fecal, % less than detection	Sample Measurement										
PARM Code 51005 A Mon.Site No. EFA-01	Permit Requirement				75 (Min.)			%		Monthly	Calculation
Coliform, Fecal	Sample Measurement										
PARM Code 74055 A Mon.Site No. EFA-01	Permit Requirement						25 (Max.)	#/100ML		7 Days/Week	Grab
Total Residual Chlorine (For Disinfection)	Sample Measurement										
PARM Code 50060 A Mon.Site No. EFA-01	Permit Requirement				1.0 (Min.)			MG/L		Continuous	Meter
Turbidity	Sample Measurement										
PARM Code 00070 B Mon.Site No. EFB-01	Permit Requirement						Report (Max.)	NTU		Continuous	Meter
Nitrogen, Total (as N)	Sample Measurement										
PARM Code 00600 A Mon.Site No. EFA-01	Permit Requirement						Report (Max.)	MG/L		Monthly	24-hr. FPC
Phosphorus, Total (as P)	Sample Measurement										
PARM Code 00665 A Mon.Site No. EFA-01	Permit Requirement						Report (Max.)	MG/L		Monthly	24-hr. FPC
Flow, total plant	Sample Measurement										
PARM Code 50050 Y Mon.Site No. FLW-03	Permit Requirement	7.0 (An.Avg.)		MGD						Monthly	Calculation
Flow, total plant	Sample Measurement										
PARM Code 50050 1 Mon.Site No. FLW-03	Permit Requirement	Report (3MRADF)	Report (Mo.Avg.)	MGD						Continuous	Flow Meter & Totalizer
Percent Capacity, (3MRADF/Permitted Capacity) x 100	Sample Measurement										
PARM Code 00180 1 Mon.Site No. FLW-03	Permit Requirement		Report (Mo. Max.)	PER-CENT						Monthly	Calculation
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 G Mon.Site No. INF-01	Permit Requirement				Report (Mo.Avg.)			MG/L		Weekly	24-hr. FPC*
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 G Mon.Site No. INF-01	Permit Requirement				Report (Mo.Avg.)			MG/L		Weekly	24-hr. FPC*

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: North Port Wastewater Treatment Plant
COUNTY: Sarasota
MONITORING GROUP NUMBER: R-001
MONITORING PERIOD From: _____ To _____
PERMIT NUMBER: FLA013378

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Biosolids Quantity (Transferred to BTF)	Sample Measurement										
PARM Code B0007 + Mon. Site No. RMP-01	Permit Requirement		Report (Mo.Total)	dry tons						Monthly	Calculation
Biosolids Quantity (Landfilled)	Sample Measurement										
PARM Code B0008 + Mon. Site No. RMP-02	Permit Requirement		Report (Mo.Total)	dry tons						Monthly	Calculation

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection South District, 2295 Victoria Avenue, Suite 364, Fort Myers, FL 33901-3875

PERMITTEE NAME: City of North Port
MAILING ADDRESS: 6644 W. Price Boulevard
North Port, FL 34291

FACILITY: North Port Wastewater Treatment Plant
LOCATION: 5355 North Pan American Boulevard
North Port, FL 34287

COUNTY: Sarasota
OFFICE: South District

PERMIT NUMBER: FLA013378

LIMIT: Interim
CLASS SIZE: N/A
MONITORING GROUP NUMBER: U-001
MONITORING GROUP DESCRIPTION: Underground Injection Well System
RE-SUBMITTED DMR: ☐
NO DISCHARGE TO U-001: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Monthly
PROGRAM: Domestic

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow, to U-001 deep injection wells	Sample Measurement										
PARM Code 50050 1 Mon.Site No. FLW-02	Permit Requirement	5.32 (An.Avg.)		MGD						Monthly	Calculation
Flow, to U-001 deep injection wells	Sample Measurement										
PARM Code 50050 P Mon.Site No. FLW-02	Permit Requirement	Report (Mo.Avg.)		MGD						Continuous	Flow Meter & Totalizer
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 Y Mon.Site No. EFA-01	Permit Requirement				20.0 (An.Avg.)			MG/L		Monthly	Calculation
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 A Mon.Site No. EFA-01	Permit Requirement				30.0 (Mo.Avg.)		60.0 (Max.)	MG/L		Weekly	16-hr. FPC
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 Y Mon.Site No. EFA-01	Permit Requirement				20.0 (An.Avg.)			MG/L		Monthly	Calculation
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 A Mon.Site No. EFA-01	Permit Requirement				30.0 (Mo.Avg.)		60.0 (Max.)	MG/L		Weekly	16-hr. FPC
pH	Sample Measurement										
PARM Code 00400 A Mon.Site No. EFA-01	Permit Requirement				6.0 (Min.)		8.5 (Max.)	SU		Continuous	Meter

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (YY/MM/DD)

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection South District, 2295 Victoria Avenue, Suite 364, Fort Myers, FL 33901-3875

PERMITTEE NAME: City of North Port
MAILING ADDRESS: 6644 W. Price Boulevard
North Port, FL 34291

FACILITY: North Port Wastewater Treatment Plant
LOCATION: 5355 North Pan American Boulevard
North Port, FL 34287

COUNTY: Sarasota
OFFICE: South District

PERMIT NUMBER: FLA013378

LIMIT: Final
CLASS SIZE: N/A
MONITORING GROUP NUMBER: R-001
MONITORING GROUP DESCRIPTION: Public Access Reuse System, with Influent
RE-SUBMITTED DMR: ☐
NO DISCHARGE TO R-001: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Monthly
PROGRAM: Domestic

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow, to R-001	Sample Measurement										
PARM Code 50050 Y Mon.Site No. FLW-01	Permit Requirement	5.0 (An.Avg.)		MGD						Monthly	Calculation
Flow, To R-001	Sample Measurement										
PARM Code 50050 1 Mon.Site No. FLW-01	Permit Requirement	Report (Mo.Avg.)		MGD						Continuous	Flow Meter & Totalizer
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 Y Mon.Site No. EFA-01	Permit Requirement				20.0 (An.Avg.)			MG/L		Monthly	Calculation
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 A Mon.Site No. EFA-01	Permit Requirement				30.0 (Mo.Avg.)	45.0 (Wk. Avg.)	60.0 (Max.)	MG/L		5 Days/Week	24-hr. FPC
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 B Mon.Site No. EFB-01	Permit Requirement				5.0 (Max.)			MG/L		7 Days/Week	Grab
pH	Sample Measurement										
PARM Code 00400 A Mon.Site No. EFA-01	Permit Requirement				6.0 (Min.)		8.5 (Max.)	SU		Continuous	Meter

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (YY/MM/DD)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: North Port Wastewater Treatment Plant
COUNTY: Sarasota
MONITORING GROUP NUMBER: R-001
MONITORING PERIOD From: _____ To _____
PERMIT NUMBER: FLA013378

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Coliform, Fecal, % less than detection	Sample Measurement										
PARM Code 51005 A Mon.Site No. EFA-01	Permit Requirement				75 (Min.)			%		Monthly	Calculation
Coliform, Fecal	Sample Measurement										
PARM Code 74055 A Mon.Site No. EFA-01	Permit Requirement						25 (Max.)	#/100ML		7 Days/Week	Grab
Total Residual Chlorine (For Disinfection)	Sample Measurement										
PARM Code 50060 A Mon.Site No. EFA-01	Permit Requirement				1.0 (Min.)			MG/L		Continuous	Meter
Turbidity	Sample Measurement										
PARM Code 00070 B Mon.Site No. EFB-01	Permit Requirement						Report (Max.)	NTU		Continuous	Meter
Nitrogen, Total (as N)	Sample Measurement										
PARM Code 00600 A Mon.Site No. EFA-01	Permit Requirement						Report (Max.)	MG/L		Monthly	24-hr. FPC
Phosphorus, Total (as P)	Sample Measurement										
PARM Code 00665 A Mon.Site No. EFA-01	Permit Requirement						Report (Max.)	MG/L		Monthly	24-hr. FPC
Flow, total plant	Sample Measurement										
PARM Code 50050 Y Mon.Site No. FLW-03	Permit Requirement	7.0 (An.Avg.)		MGD						Monthly	Calculation
Flow, total plant	Sample Measurement										
PARM Code 50050 1 Mon.Site No. FLW-03	Permit Requirement	Report (3MRADF)	Report (Mo.Avg.)	MGD						Continuous	Flow Meter & Totalizer
Percent Capacity, (3MRADF/Permitted Capacity) x 100	Sample Measurement										
PARM Code 00180 1 Mon.Site No. FLW-03	Permit Requirement		Report (Mo. Max.)	PER-CENT						Monthly	Calculation
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 G Mon.Site No. INF-01	Permit Requirement				Report (Mo.Avg.)			MG/L		Weekly	24-hr. FPC*
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 G Mon.Site No. INF-01	Permit Requirement				Report (Mo.Avg.)			MG/L		Weekly	24-hr. FPC*

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: North Port Wastewater Treatment Plant
COUNTY: Sarasota
MONITORING GROUP NUMBER: R-001
MONITORING PERIOD From: _____ To _____
PERMIT NUMBER: FLA013378

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Biosolids Quantity (Transferred to BTF)	Sample Measurement										
PARM Code B0007 + Mon. Site No. RMP-01	Permit Requirement		Report (Mo.Total)	dry tons						Monthly	Calculation
Biosolids Quantity (Landfilled)	Sample Measurement										
PARM Code B0008 + Mon. Site No. RMP-02	Permit Requirement		Report (Mo.Total)	dry tons						Monthly	Calculation

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection South District, 2295 Victoria Avenue, Suite 364, Fort Myers, FL 33901-3875

PERMITTEE NAME: City of North Port
MAILING ADDRESS: 6644 W. Price Boulevard
North Port, FL 34291

FACILITY: North Port Wastewater Treatment Plant
LOCATION: 5355 North Pan American Boulevard
North Port, FL 34287

COUNTY: Sarasota
OFFICE: South District

PERMIT NUMBER: FLA013378

LIMIT: Final
CLASS SIZE: N/A
MONITORING GROUP NUMBER: U-001
MONITORING GROUP DESCRIPTION: Underground Injection Well System
RE-SUBMITTED DMR: ☐
NO DISCHARGE TO U-001: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Monthly
PROGRAM: Domestic

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow, to U-001 deep injection well	Sample Measurement										
PARM Code 50050 1 Mon.Site No. FLW-02	Permit Requirement	5.32 (An.Avg.)		MGD						Monthly	Calculation
Flow, to U-001 deep injection well	Sample Measurement										
PARM Code 50050 P Mon.Site No. FLW-02	Permit Requirement	Report (Mo.Avg.)		MGD						Continuous	Flow Meter & Totalizer
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 Y Mon.Site No. EFA-01	Permit Requirement				20.0 (An.Avg.)			MG/L		Monthly	Calculation
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 A Mon.Site No. EFA-01	Permit Requirement				30.0 (Mo.Avg.)	45.0 (Wk. Avg.)	60.0 (Max.)	MG/L		5 Days/Week	24-hr. FPC
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 Y Mon.Site No. EFA-01	Permit Requirement				20.0 (An.Avg.)			MG/L		Monthly	Calculation
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 A Mon.Site No. EFA-01	Permit Requirement				30.0 (Mo.Avg.)	45.0 (Wk. Avg.)	60.0 (Max.)	MG/L		5 Days/Week	24-hr. FPC
pH	Sample Measurement										
PARM Code 00400 A Mon.Site No. EFA-01	Permit Requirement				6.0 (Min.)		8.5 (Max.)	SU		Continuous	Meter

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NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (YY/MM/DD)

DAILY SAMPLE RESULTS - PART B R-001

Permit Number: FLA013378 Facility: North Port Wastewater Treatment Plant
Monitoring Period From: _____ To: _____

	Flow (MGD) To R-001	CBOD5 (MG/L)	TSS (MG/L)	Fecal Coliform Bacteria (#/100ML)	pH (Max)	pH (Min)	TRC (For Disinfect.) (MG/L)	Turbidity (NTU)	Biosolids (Gallons) (transported offsite)
Code	50050	80082	00530	74055	00400	00400	50060	00070	
Mon. Site	FLW-01	EFA-01	EFB-01	EFA-01	EFA-01	EFA-01	EFA-01	EFB-01	
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
Total									
Mo. Avg.									

PLANT STAFFING:

Day Shift Operator Class: _____ Certificate No: _____ Name: _____

Evening Shift Operator Class: _____ Certificate No: _____ Name: _____

Night Shift Operator Class: _____ Certificate No: _____ Name: _____

Lead Operator Class: _____ Certificate No: _____ Name: _____

DAILY SAMPLE RESULTS - PART B – U-001 and Influent

Permit Number: FLA013378 Facility: North Port Wastewater Treatment Plant
Monitoring Period From: _____ To: _____

	Flow (MGD) To U-001	Flow (MGD) Total Plant	CBOD5 (MG/L)	TSS (MG/L)	pH (Max)	pH (Min)	CBOD5 (MG/L)	TSS (MG/L)
Code	50050	50050	80082	00530	00400	00400	80082	00530
Mon. Site	FLW-02	FLW-03	EFA-01	EFA-01	EFA-01	EFA-01	INF-01	INF-01
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
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16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
Total								
Mo. Avg.								

PLANT STAFFING:

Day Shift Operator Class: _____ Certificate No: _____ Name: _____

Evening Shift Operator Class: _____ Certificate No: _____ Name: _____

Night Shift Operator Class: _____ Certificate No: _____ Name: _____

Lead Operator Class: _____ Certificate No: _____ Name: _____

GROUND WATER MONITORING WELL REPORT - PART D

County: Sarasota
Facility Name: North Port Wastewater Treatment Plant
Permit Number: FLA013378

Monitoring Well ID: MWB-01
Well Type: Background
Description: MW-1 Sabal Trace GC

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Was the well purged before sampling? ___ Yes ___ No

Time Sample Obtained: _____

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Monitoring Frequency	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	FEET	In-situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		Report	MG/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		Report	MG/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		Report	UG/L	Grab	Quarterly				
Chloride (as Cl)	00940		Report	MG/L	Grab	Quarterly				
Cadmium, Total Recoverable	01113		Report	UG/L	Grab	Quarterly				
Chromium, Total Recoverable	01118		Report	UG/L	Grab	Quarterly				
Lead, Total Recoverable	01114		Report	UG/L	Grab	Quarterly				
Coliform, Fecal	74055		Report	#/100ML	Grab	Quarterly				
pH	00400		Report	SU	In-situ	Quarterly				
Sulfate, Total	00945		Report	MG/L	Grab	Quarterly				
Turbidity	00070		Report	NTU	In-situ	Quarterly				
Sodium, Total Recoverable	00923		Report	MG/L	Grab	Quarterly				
Specific Conductance	00095		Report	UMHO/CM	In-situ	Quarterly				
Temperature (C), Water	00010		Report	DEG.C	In-situ	Quarterly				
Oxygen, Dissolved (DO)	00300		Report	MG/L	In-situ	Quarterly				

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (yy/mm/dd)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUND WATER MONITORING WELL REPORT - PART D

County: Sarasota
Facility Name: North Port Wastewater Treatment Plant
Permit Number: FLA013378

Monitoring Well ID: MWC-01
Well Type: Compliance
Description: MW-2 Sabal Trace GC

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Was the well purged before sampling? ___ Yes ___ No

Time Sample Obtained: _____

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Monitoring Frequency	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	FEET	In-situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		10	MG/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		500	MG/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		10	UG/L	Grab	Quarterly				
Chloride (as Cl)	00940		250	MG/L	Grab	Quarterly				
Cadmium, Total Recoverable	01113		5	UG/L	Grab	Quarterly				
Chromium, Total Recoverable	01118		100	UG/L	Grab	Quarterly				
Lead, Total Recoverable	01114		15	UG/L	Grab	Quarterly				
Coliform, Fecal	74055		4	#/100ML	Grab	Quarterly				
pH	00400		6.5 to 8.5	SU	In-situ	Quarterly				
Sulfate, Total	00945		250	MG/L	Grab	Quarterly				
Turbidity	00070		Report	NTU	In-situ	Quarterly				
Sodium, Total Recoverable	00923		160	MG/L	Grab	Quarterly				
Specific Conductance	00095		Report	UMHO/CM	In-situ	Quarterly				
Temperature (C), Water	00010		Report	DEG.C	In-situ	Quarterly				
Oxygen, Dissolved (DO)	00300		Report	MG/L	In-situ	Quarterly				

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUND WATER MONITORING WELL REPORT - PART D

County: Sarasota
Facility Name: North Port Wastewater Treatment Plant
Permit Number: FLA013378

Monitoring Well ID: MWC-02
Well Type: Compliance
Description: MW-3 Sabal Trace GC

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Was the well purged before sampling? ___ Yes ___ No

Time Sample Obtained: _____

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Monitoring Frequency	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	FEET	In-situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		10	MG/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		500	MG/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		10	UG/L	Grab	Quarterly				
Chloride (as Cl)	00940		250	MG/L	Grab	Quarterly				
Cadmium, Total Recoverable	01113		5	UG/L	Grab	Quarterly				
Chromium, Total Recoverable	01118		100	UG/L	Grab	Quarterly				
Lead, Total Recoverable	01114		15	UG/L	Grab	Quarterly				
Coliform, Fecal	74055		4	#/100ML	Grab	Quarterly				
pH	00400		6.5 to 8.5	SU	In-situ	Quarterly				
Sulfate, Total	00945		250	MG/L	Grab	Quarterly				
Turbidity	00070		Report	NTU	In-situ	Quarterly				
Sodium, Total Recoverable	00923		160	MG/L	Grab	Quarterly				
Specific Conductance	00095		Report	UMHO/CM	In-situ	Quarterly				
Temperature (C), Water	00010		Report	DEG.C	In-situ	Quarterly				
Oxygen, Dissolved (DO)	00300		Report	MG/L	In-situ	Quarterly				

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUND WATER MONITORING WELL REPORT - PART D

County: Sarasota
Facility Name: North Port Wastewater Treatment Plant
Permit Number: FLA013378

Monitoring Well ID: MWC-03
Well Type: Compliance
Description: MW-4 Sabal Trace GC

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Was the well purged before sampling? ___ Yes ___ No

Time Sample Obtained: _____

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Monitoring Frequency	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	FEET	In-situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		10	MG/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		500	MG/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		10	UG/L	Grab	Quarterly				
Chloride (as Cl)	00940		250	MG/L	Grab	Quarterly				
Cadmium, Total Recoverable	01113		5	UG/L	Grab	Quarterly				
Chromium, Total Recoverable	01118		100	UG/L	Grab	Quarterly				
Lead, Total Recoverable	01114		15	UG/L	Grab	Quarterly				
Coliform, Fecal	74055		4	#/100ML	Grab	Quarterly				
pH	00400		6.5 to 8.5	SU	In-situ	Quarterly				
Sulfate, Total	00945		250	MG/L	Grab	Quarterly				
Turbidity	00070		Report	NTU	In-situ	Quarterly				
Sodium, Total Recoverable	00923		160	MG/L	Grab	Quarterly				
Specific Conductance	00095		Report	UMHO/CM	In-situ	Quarterly				
Temperature (C), Water	00010		Report	DEG.C	In-situ	Quarterly				
Oxygen, Dissolved (DO)	00300		Report	MG/L	In-situ	Quarterly				

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUND WATER MONITORING WELL REPORT - PART D

County: Sarasota
Facility Name: North Port Wastewater Treatment Plant
Permit Number: FLA013378

Monitoring Well ID: MWC-04
Well Type: Compliance
Description: MW-5 Sabal Trace GC

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Was the well purged before sampling? ___ Yes ___ No

Time Sample Obtained: _____

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Monitoring Frequency	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	FEET	In-situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		10	MG/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		500	MG/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		10	UG/L	Grab	Quarterly				
Chloride (as Cl)	00940		250	MG/L	Grab	Quarterly				
Cadmium, Total Recoverable	01113		5	UG/L	Grab	Quarterly				
Chromium, Total Recoverable	01118		100	UG/L	Grab	Quarterly				
Lead, Total Recoverable	01114		15	UG/L	Grab	Quarterly				
Coliform, Fecal	74055		4	#/100ML	Grab	Quarterly				
pH	00400		6.5 to 8.5	SU	In-situ	Quarterly				
Sulfate, Total	00945		250	MG/L	Grab	Quarterly				
Turbidity	00070		Report	NTU	In-situ	Quarterly				
Sodium, Total Recoverable	00923		160	MG/L	Grab	Quarterly				
Specific Conductance	00095		Report	UMHO/CM	In-situ	Quarterly				
Temperature (C), Water	00010		Report	DEG.C	In-situ	Quarterly				
Oxygen, Dissolved (DO)	00300		Report	MG/L	In-situ	Quarterly				

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUND WATER MONITORING WELL REPORT - PART D

County: Sarasota
Facility Name: North Port Wastewater Treatment Plant
Permit Number: FLA013378

Monitoring Well ID: MWB-02
Well Type: Background
Description: MW-11 WWTF

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Was the well purged before sampling? ___ Yes ___ No

Time Sample Obtained: _____

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Monitoring Frequency	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	FEET	In-situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		Report	MG/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		Report	MG/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		Report	UG/L	Grab	Quarterly				
Chloride (as Cl)	00940		Report	MG/L	Grab	Quarterly				
Cadmium, Total Recoverable	01113		Report	UG/L	Grab	Quarterly				
Chromium, Total Recoverable	01118		Report	UG/L	Grab	Quarterly				
Lead, Total Recoverable	01114		Report	UG/L	Grab	Quarterly				
Coliform, Fecal	74055		Report	#/100ML	Grab	Quarterly				
pH	00400		Report	SU	In-situ	Quarterly				
Sulfate, Total	00945		Report	MG/L	Grab	Quarterly				
Turbidity	00070		Report	NTU	In-situ	Quarterly				
Sodium, Total Recoverable	00923		Report	MG/L	Grab	Quarterly				
Specific Conductance	00095		Report	UMHO/CM	In-situ	Quarterly				
Temperature (C), Water	00010		Report	DEG.C	In-situ	Quarterly				
Oxygen, Dissolved (DO)	00300		Report	MG/L	In-situ	Quarterly				

COMMENTS AND EXPLANATION (Reference all attachments here):

INSTRUCTIONS FOR COMPLETING THE WASTEWATER DISCHARGE MONITORING REPORT

Read these instructions as well as the SUPPLEMENTAL INSTRUCTIONS FOR COMPLETING THE WASTEWATER DISCHARGE MONITORING REPORT before completing the DMR. Hard copies and/or electronic copies of the required parts of the DMR were provided with the permit. All required information shall be completed in full and typed or printed in ink. A signed, original DMR shall be mailed to the address printed on the DMR by the 28th of the month following the monitoring period. The DMR shall not be submitted before the end of the monitoring period.

The DMR consists of three parts--A, B, and D--all of which may or may not be applicable to every facility. Facilities may have one or more Part A's for reporting effluent or reclaimed water data. All domestic wastewater facilities will have a Part B for reporting daily sample results. Part D is used for reporting ground water monitoring well data.
When results are not available, the following codes should be used on parts A and D of the DMR and an explanation provided where appropriate. Note: Codes used on Part B for raw data are different.

CODE	DESCRIPTION/INSTRUCTIONS
ANC	Analysis not conducted.
DRY	Dry Well
FLD	Flood disaster.
IFS	Insufficient flow for sampling.
LS	Lost sample.
MNR	Monitoring not required this period.

CODE	DESCRIPTION/INSTRUCTIONS
NOD	No discharge from/to site.
OPS	Operations were shutdown so no sample could be taken.
OTH	Other. Please enter an explanation of why monitoring data were not available.
SEF	Sampling equipment failure.

When reporting analytical results that fall below a laboratory's reported method detection limits or practical quantification limits, the following instructions should be used:

1. Results greater than or equal to the PQL shall be reported as the measured quantity.
2. Results less than the PQL and greater than or equal to the MDL shall be reported as the laboratory's MDL value. These values shall be deemed equal to the MDL when necessary to calculate an average for that parameter and when determining compliance with permit limits.
3. Results less than the MDL shall be reported by entering a less than sign ("<") followed by the laboratory's MDL value, e.g. < 0.001. A value of one-half the MDL or one-half the effluent limit, whichever is lower, shall be used for that sample when necessary to calculate an average for that parameter. Values less than the MDL are considered to demonstrate compliance with an effluent limitation.

PART A -DISCHARGE MONITORING REPORT (DMR)

Part A of the DMR is comprised of one or more sections, each having its own header information. Facility information is preprinted in the header as well as the monitoring group number, whether the limits and monitoring requirements are interim or final, and the required submittal frequency (e.g. monthly, annually, quarterly, etc.). Submit Part A based on the required reporting frequency in the header and the instructions shown in the permit. The following should be completed by the permittee or authorized representative:

No Discharge From Site: Check this box if no discharge occurs and, as a result, there are no data or codes to be entered for all of the parameters on the DMR for the entire monitoring group number; however, if the monitoring group includes other monitoring locations (e.g., influent sampling), the "NOD" code should be used to individually denote those parameters for which there was no discharge.
Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Sample Measurement: Before filling in sample measurements in the table, check to see that the data collected correspond to the limit indicated on the DMR (i.e. interim or final) and that the data correspond to the monitoring group number in the header. Enter the data or calculated results for each parameter on this row in the non-shaded area above the limit. Be sure the result being entered corresponds to the appropriate statistical base code (e.g. annual average, monthly average, single sample maximum, etc.) and units.
No. Ex.: Enter the number of sample measurements during the monitoring period that exceeded the permit limit for each parameter in the non-shaded area. If none, enter zero.
Frequency of Analysis: The shaded areas in this column contain the minimum number of times the measurement is required to be made according to the permit. Enter the actual number of times the measurement was made in the space above the shaded area.
Sample Type: The shaded areas in this column contain the type of sample (e.g. grab, composite, continuous) required by the permit. Enter the actual sample type that was taken in the space above the shaded area.
Signature: This report must be signed in accordance with Rule 62-620.305, F.A.C. Type or print the name and title of the signing official. Include the telephone number where the official may be reached in the event there are questions concerning this report. Enter the date when the report is signed.
Comment and Explanation of Any Violations: Use this area to explain any exceedances, any upset or by-pass events, or other items which require explanation. If more space is needed, reference all attachments in this area.

PART B - DAILY SAMPLE RESULTS

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Daily Monitoring Results: Transfer all analytical data from your facility's laboratory or a contract laboratory's data sheets for all day(s) that samples were collected. Record the data in the units indicated. Table 1 in Chapter 62-160, F.A.C., contains a complete list of all the data qualifier codes that your laboratory may use when reporting analytical results. However, when transferring numerical results onto Part B of the DMR, only the following data qualifier codes should be used and an explanation provided where appropriate.

CODE	DESCRIPTION/INSTRUCTIONS
<	The compound was analyzed for but not detected.
A	Value reported is the mean (average) of two or more determinations.
J	Estimated value, value not accurate.
Q	Sample held beyond the actual holding time.
Y	Laboratory analysis was from an unpreserved or improperly preserved sample.

Add the results to get the Total and divide by the number of days in the month to get the Monthly Average.
Plant Staffing: List the name, certificate number, and class of all state certified operators operating the facility during the monitoring period. Use additional sheets as necessary.

PART D - GROUND WATER MONITORING REPORT

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Date Sample Obtained: Enter the date the sample was taken. Also, check whether or not the well was purged before sampling.
Time Sample Obtained: Enter the time the sample was taken.
Sample Measurement: Record the results of the analysis. If the result was below the minimum detection limit, indicate that.
Detection Limits: Record the detection limits of the analytical methods used.
Analysis Method: Indicate the analytical method used. Record the method number from Chapter 62-160 or Chapter 62-601, F.A.C., or from other sources.
Sampling Equipment Used: Indicate the procedure used to collect the sample (e.g. airlift, bucket/bailer, centrifugal pump, etc.)
Samples Filtered: Indicate whether the sample obtained was filtered by laboratory (L), filtered in field (F), or unfiltered (N).
Signature: This report must be signed in accordance with Rule 62-620.305, F.A.C. Type or print the name and title of the signing official. Include the telephone number where the official may be reached in the event there are questions concerning this report. Enter the date when the report is signed.
Comments and Explanation: Use this space to make any comments on or explanations of results that are unexpected. If more space is needed, reference all attachments in this area.

SPECIAL INSTRUCTIONS FOR LIMITED WET WEATHER DISCHARGES

Flow (Limited Wet Weather Discharge): Enter the measured average flow rate during the period of discharge or divide gallons discharged by duration of discharge (converted into days). Record in million gallons per day (MGD).
Flow (Upstream): Enter the average flow rate in the receiving stream upstream from the point of discharge for the period of discharge. The average flow rate can be calculated based on two measurements; one made at the start and one made at the end of the discharge period. Measurements are to be made at the upstream gauging station described in the permit.
Actual Stream Dilution Ratio: To calculate the Actual Stream Dilution Ratio, divide the average upstream flow rate by the average discharge flow rate. Enter the Actual Stream Dilution Ratio accurate to the nearest 0.1.
No. of Days the SDF > Stream Dilution Ratio: For each day of discharge, compare the minimum Stream Dilution Factor (SDF) from the permit to the calculated Stream Dilution Ratio. On Part B of the DMR, enter an asterisk (*) if the SDF is greater than the Stream Dilution Ratio on any day of discharge. On Part A of the DMR, add up the days with an "*" and record the total number of days the Stream Dilution Factor was greater than the Stream Dilution Ratio.
$CBOD_5$: Enter the average $CBOD_5$ of the reclaimed water discharged during the period shown in duration of discharge.
TKN: Enter the average TKN of the reclaimed water discharged during the period shown in duration of discharge.
Actual Rainfall: Enter the actual rainfall for each day on Part B. Enter the actual cumulative rainfall to date for this calendar year and the actual total monthly rainfall on Part A. The cumulative rainfall to date for this calendar year is the total amount of rain, in inches, that has been recorded since January 1 of the current year through the month for which this DMR contains data.
Rainfall During Average Rainfall Year: On Part A, enter the total monthly rainfall during the average rainfall year and the cumulative rainfall for the average rainfall year. The cumulative rainfall for the average rainfall year is the amount of rain, in inches, which fell during the average rainfall year from January through the month for which this DMR contains data.
No. of Days LWWD Activated During Calendar Year: Enter the cumulative number of days that the limited wet weather discharge was activated since January 1 of the current year.
Reason for Discharge: Attach to the DMR a brief explanation of the factors contributing to the need to activate the limited wet weather discharge.

From:	Brantley, Anna on behalf of SWD_Clerical
To:	Brantley, Anna
Subject:	FW:
Date:	Friday, May 24, 2013 12:35:00 PM
Attachments:	Minor Revision Letter.doc Permit FLA013378-012.docx DMR FLA013378-012.docx

---

For review and process

Anna Brantley
Administrative Assistant II
FL DEP / SWD / Air and Water Facilities
13051 North Telecom Parkway
Temple Terrace FL 33637-0629
Tel: 813/632-7600, Ext. 326
Fax: 813/632-7664
anna.brantley@dep.state.fl.us

The Department of Environmental Protection values your feedback as a customer. DEP Secretary Hershel T. Vinyard Jr. is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on this link to the DEP Customer Survey. Thank you in advance for completing the survey.

.

We don't stop playing because we grow old; we grow old because we stop playing.
George Bernard Shaw

From: Hilton, Jeff
Sent: Friday, May 24, 2013 11:28 AM
To: SWD_Clerical
Subject:

The word documents are attached.

Day 180 for this project is: June 21, 2013

Notes to Administrative Staff: DW Minor Revision

Comments: N/A

***Processor - Flag email if it is to be expedited**
***Verify the Facility Name and/or Permit Number are correct in the subject field**

Oculus Information for projects: All documents received during the review process have been placed into Oculus by the permit processer.

County: **Polk**

DW Permits
Catalog: Wastewater
Profile: Permitting Authorization

Document: **Permit Final**
Permit Type: **DW Facility**
Facility Type: **Domestic Wastewater**
Application Number: FLA013378-012-DW1/MR
Document Subject: 012 Cover Letter , Permit and DMRs.

Jeff Hilton, P.E.
Water Facilities
813.632.7600, x 383
813.632.7662 fax
jeff.hilton@dep.state.fl.us

From:	Brantley, Anna on behalf of SWD_Clerical
To:	"cbmick@cityofnorthport.com"
Cc:	"kwj@jag-eng.com"; Ahmadi, Abdul; Hilton, Jeff; SWD_Clerical; SWD_WF_Permitting
Subject:	Minor Revision Letter for North Port WWTF FLA013378-012
Date:	Friday, May 24, 2013 2:03:00 PM
Attachments:	Minor Revision Letter (3) 5-24-2013.pdf Permit FLA013378-012.pdf DMR FLA013378-012.docx

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Dear Ms. Cindi B. Mick, Utilities Director,

Attached, please find the above subject Minor Revision to Permit. In an effort to reduce costs and waste, our agency is moving to electronic rather than paper correspondence. This is the only copy that you will receive, unless you request otherwise.

Acrobat Reader 6.0 or greater is required to read this document. It is available for downloading at http://www.adobe.com/products/acrobat/readstep.html

If you have any question concerning the contents of the attached document, please contact the FDEP Engineering Specialist, Jeff Hilton at (813) 632-7600 x383 or via email jeff.hilton@dep.state.fl.us.

Sincerely,

Ms. Anna Brantley
Administrative Assistant
Southwest District
13051 N Telecom Parkway
Temple Terrace, FL 33637
(813) 632-7600, x326
Fax: (813) 632-7662
email: anna.brantley@dep.state.fl.us

Appendix B

Appendix B
Water Treatment Plant Photographs
City of North Port Utilities Master Plan
August 9, 2014

The plant operators reported the location of the acid feed injection shown in this photo is too close to the downstream pH probe for the feedback control to operate correctly.

Recommend relocating the acid injection location to improve mixing and improve the automatic acid control operation using the pH feedback from the pH probe.

Work is being planned to be performed.

The Degasifier area for the Reverse Osmosis treatment process is shown in this photo.

Recommend providing additional sun protection for the instrumentation and other equipment control panels within this area. Additional sun protection will be useful to extended the service life of the equipment and prevent excessive maintenance from sun damage.

Work is in progress.

Appendix B
Water Treatment Plant Photographs
City of North Port Utilities Master Plan
August 9, 2014

The photo shows the discharge piping from the Splitter Box to each Treatment Train.

The splitter box does not achieve a consistent splitting of the flow between the two treatment trains. An evaluation of the flow hydraulics within the Splitter Box has been recommended along with the installation of flow meters to measure the flow going to each treatment train.

Work is planned to be performed.

The Filter Control Panel is shown under the sun cover in this photo.

The PLCs used to control the operation of the filters are recommended to be upgraded.

Appendix B
Water Treatment Plant Photographs
City of North Port Utilities Master Plan
August 9, 2014

The sludge removal clarifier mechanism for Clarifier No. 2 is shown in this photo.

The equipment has reached the end of its useful service lift and has been recommended for replacement to replace equipment that is approaching the end of its useful service life.

Work is in progress.

This photo shows the Filter Bank area for Treatment Train No. 1. The photo shows hand rails are being used to support light fixtures.

Recommend all light fixtures be replaced with proper conduit/wire to reduce energy consumption and to eliminate a possible safety hazard.

Work is in progress.

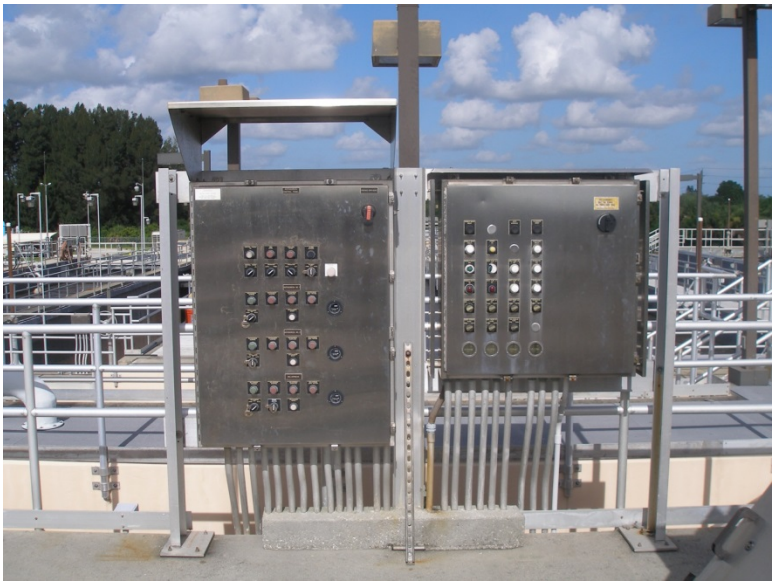
Appendix C

Appendix C
Wastewater Treatment Plant Photographs
City of North Port Utilities Master Plan
August 12, 2014

The influent force main to the Wastewater Treatment Plant is shown in this photo. The influent flow rate to the plant is metered using the clamp on ultrasonic flow meter.

Recommend this meter to be replaced with a properly sized magnetic type flow meter to improve the accuracy of this regulatory required reporting location.

Work in in progress.



The control panels for the influent mechanical screens are shown in the photo. The panels are orientated facing east so they are exposed to direct sunlight.

Recommends for these panels to be relocated reducing their exposure to direct sunlight thereby extending their service lift.

Appendix C
Wastewater Treatment Plant Photographs
City of North Port Utilities Master Plan
August 12, 2014

The Aeration Tanks for the older section of the treatment plant are shown in the photo. The area lighting in this part of the plant uses older style light fixtures.

Recommend the older fixtures be replaced to simplify maintenance and reduce energy consumption.

Work is in progress.

Secondary Clarifier No. 3 is shown in this photo has an older style suction tube type thickened sludge collector mechanism. During the last plant expansion project, several of the clarifiers were retrofitted with spiral type rake blade sludge collector mechanism.

Recommend replacement of the sludge collector mechanism in this clarifier to be consistent with the other units.

Appendix C
Wastewater Treatment Plant Photographs
City of North Port Utilities Master Plan
August 12, 2014

The plant has an existing Rotary Drum Thickener, as shown in this photo. The unit is not being used

Recommend this unit be removed sold for salvage or repurposed.

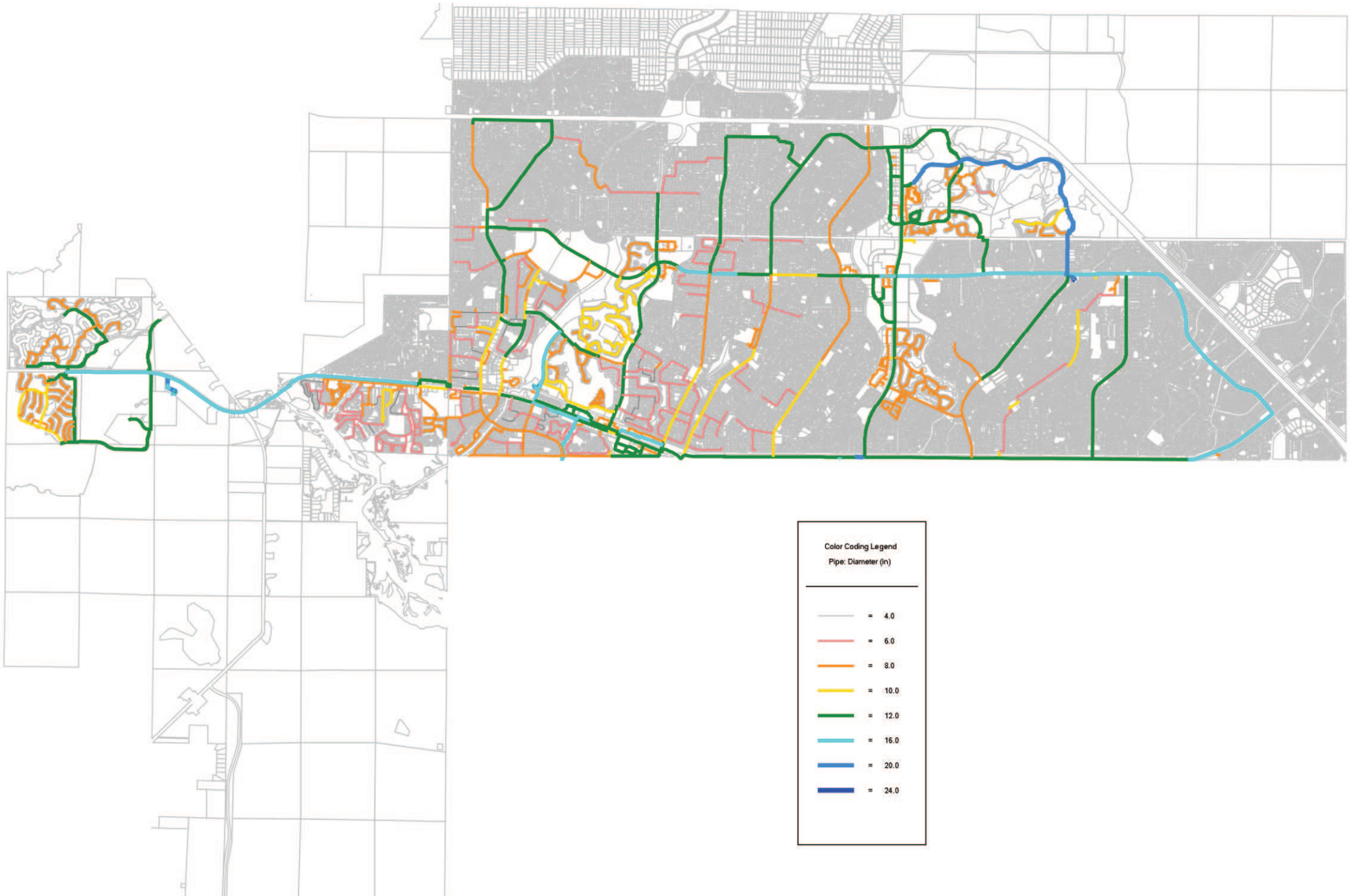
This photo shows the aeration diffusers located in the Sludge Holding Tank. The diffusers are used to introduce process air into the tank for the purpose of mixing the thickened sludge and fostering further biological aerobic digestion/stabilization.

Recommend the diffusers be replaced to improve the effectiveness of mixing within the tank and to increase solids reduction

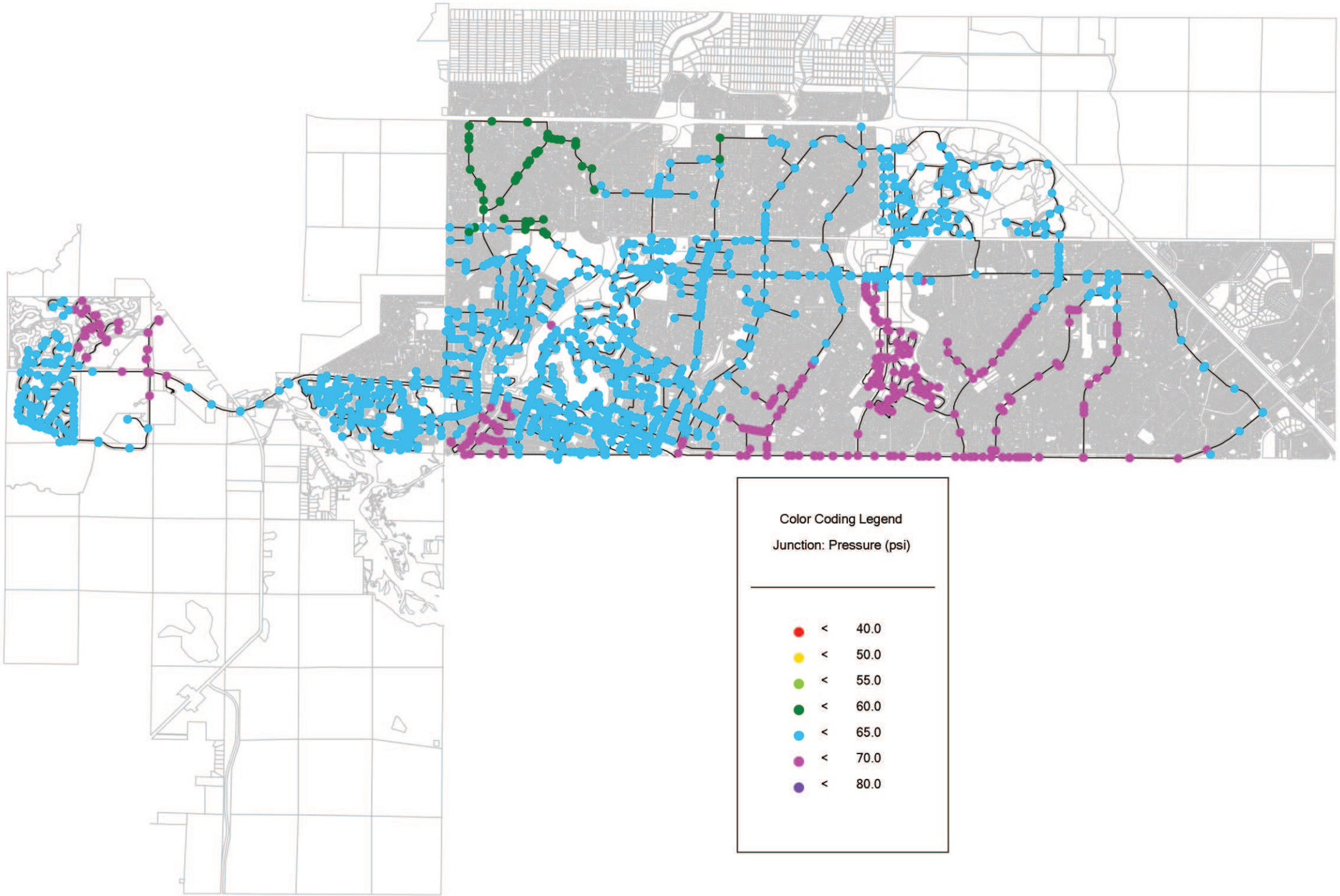
Work is in progress.

Appendix D

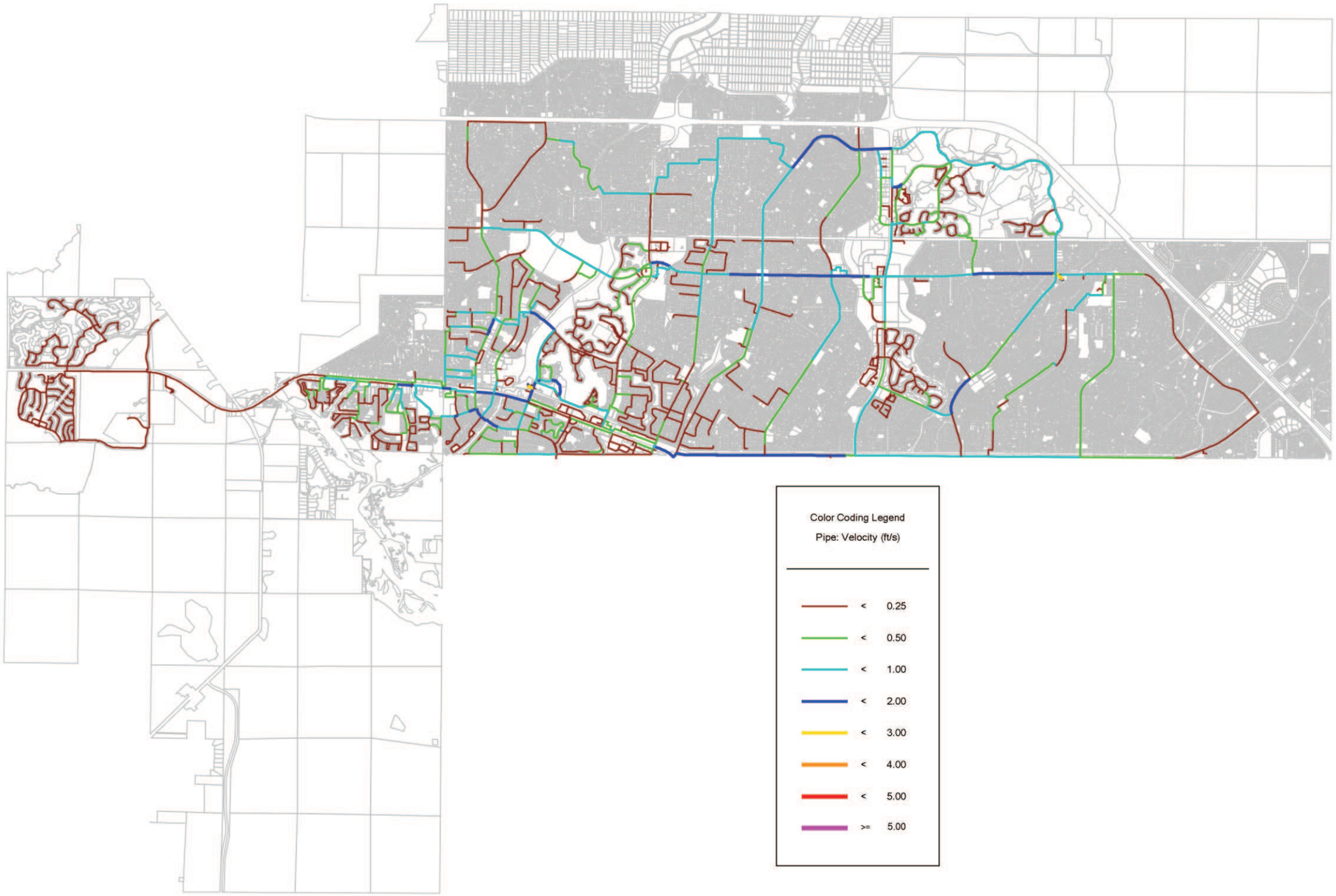
SCENARIO: EXISTING MAX DAY, PIPE DIAMETER



SCENARIO: EXISTING MAX DAY, PRESSURE

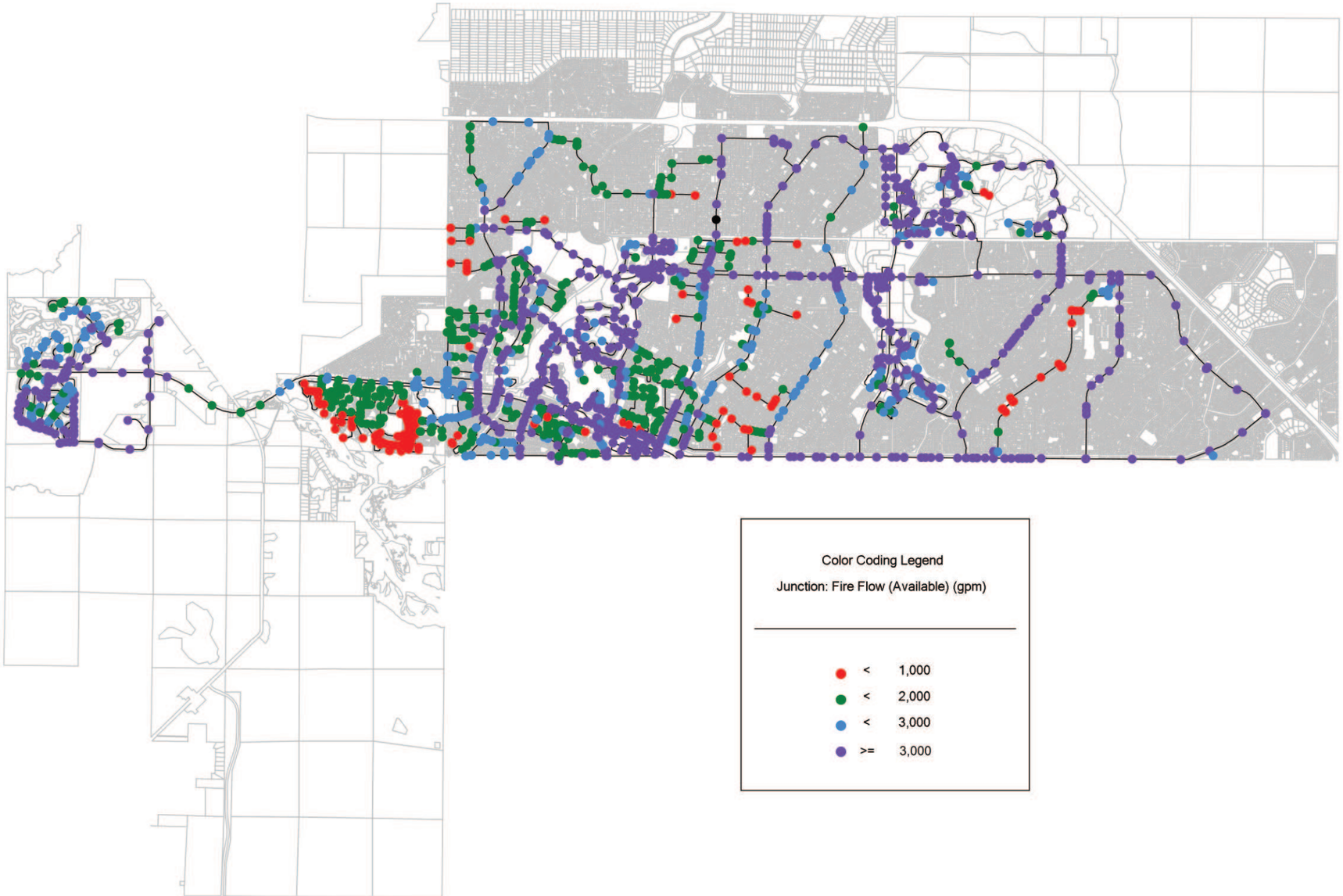


SCENARIO: EXISTING MAX DAY, PIPE VELOCITY



WATER HYDRAULIC MODEL

SCENARIO: EXISTING MAX DAY, FIRE FLOW

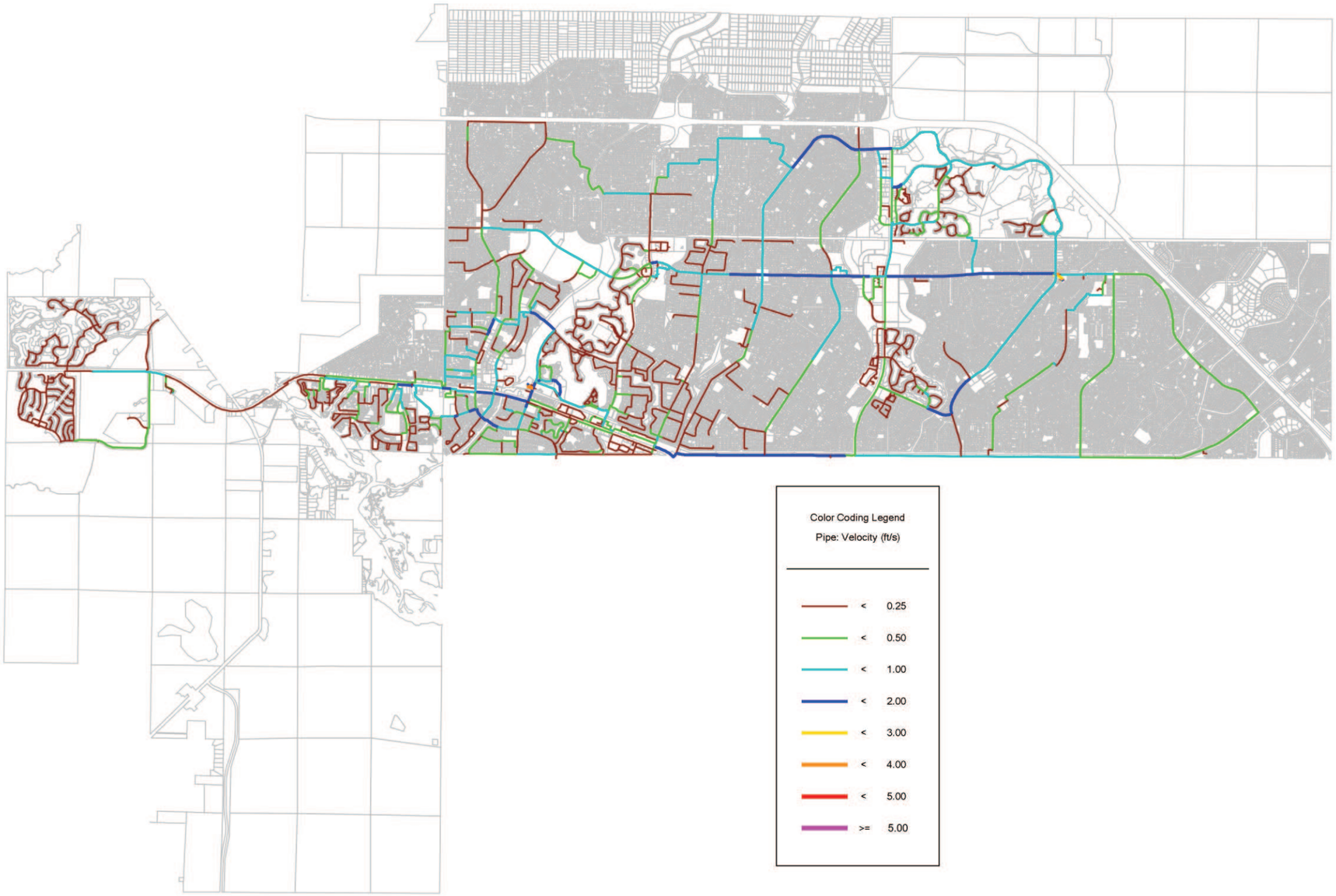


Color Coding Legend

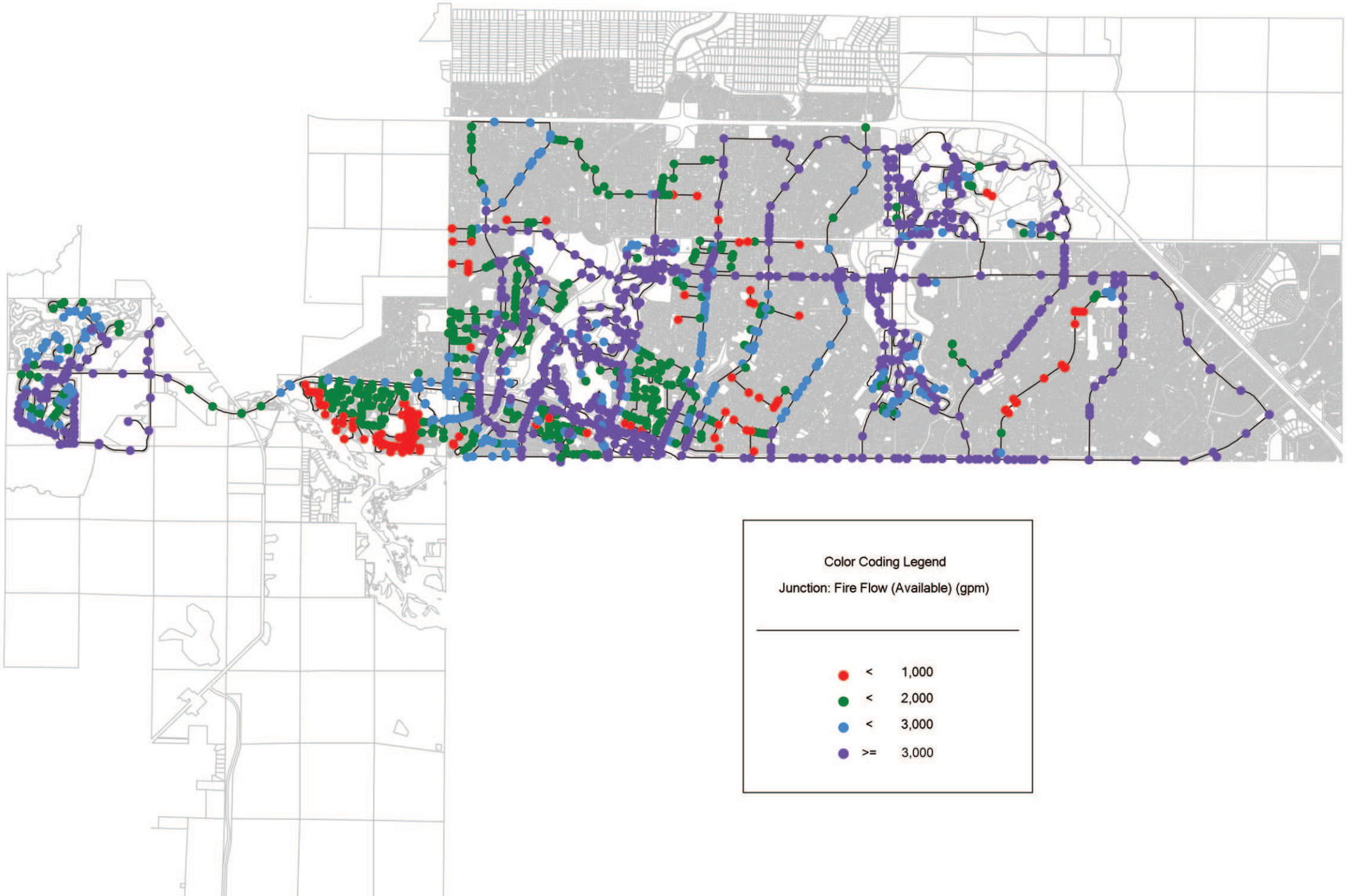
Junction: Fire Flow (Available) (gpm)

●	<	1,000
●	<	2,000
●	<	3,000
●	>=	3,000

SCENARIO: FUTURE MAX DAY, PIPE VELOCITY



SCENARIO: FUTURE MAX DAY, FIRE FLOW



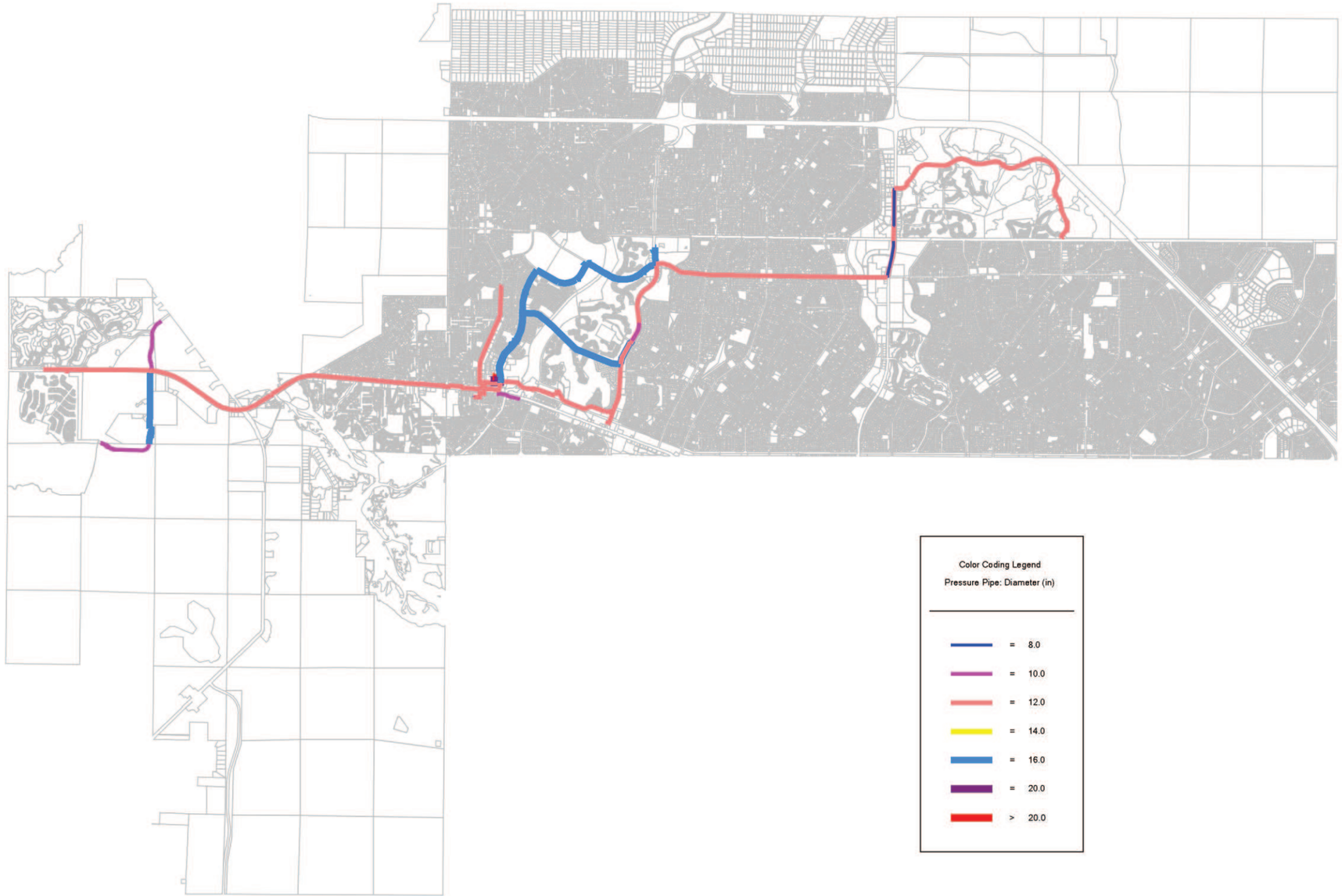
Color Coding Legend

Junction: Fire Flow (Available) (gpm)

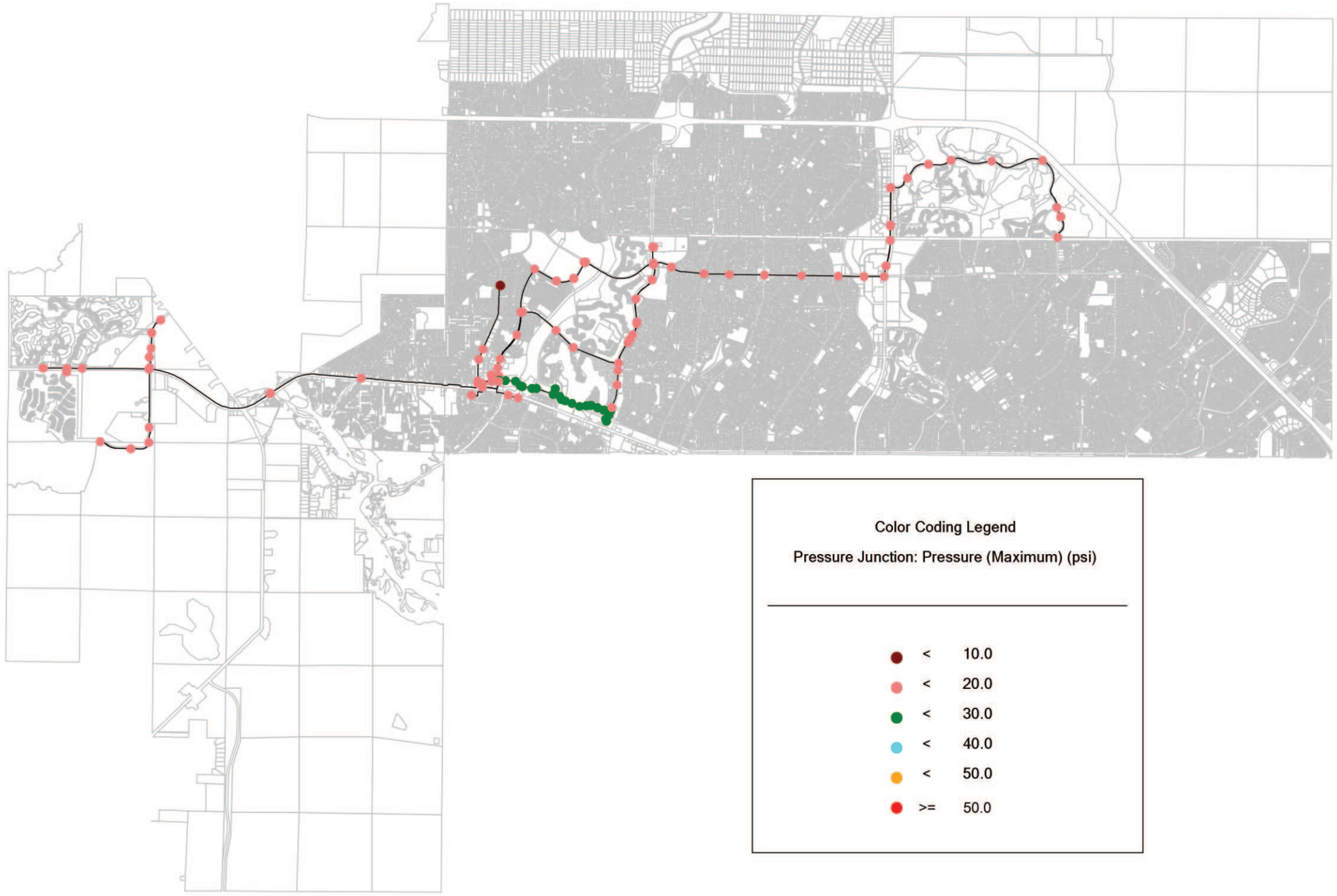
●	<	1,000
●	<	2,000
●	<	3,000
●	>=	3,000

Appendix E

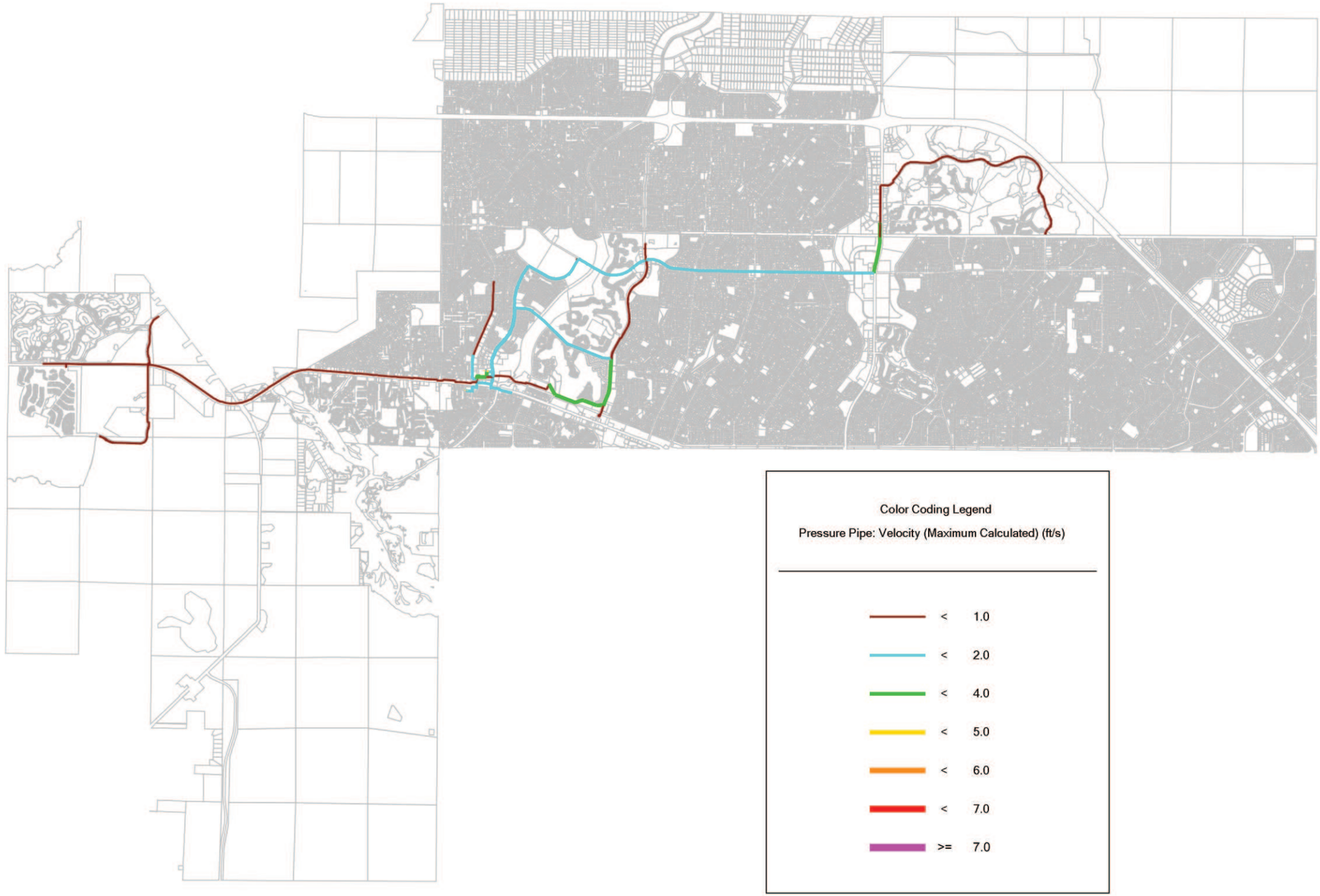
SCENARIO: EXISTING MAX DAY, PIPE DIAMETER



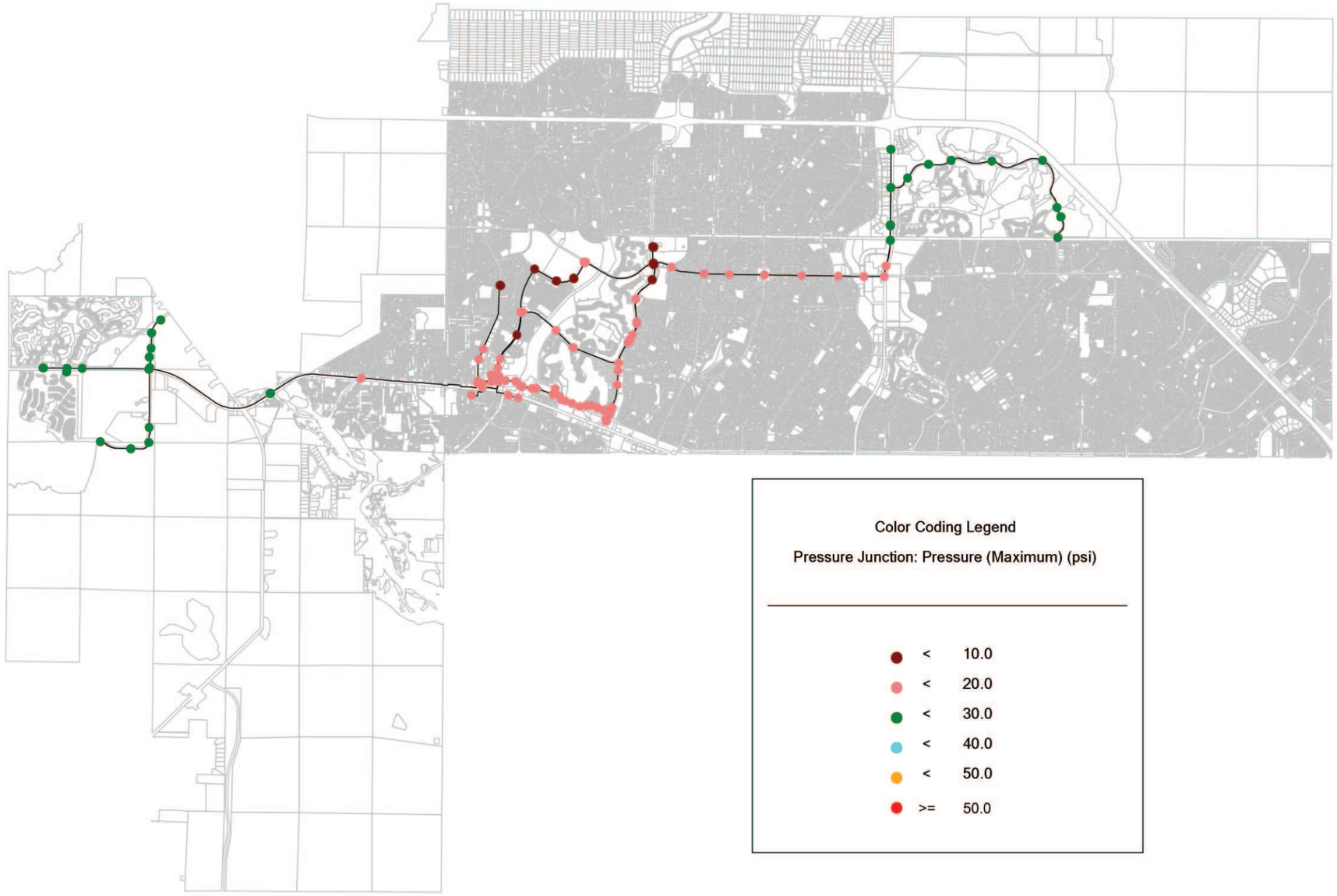
SCENARIO: EXISTING MAX DAY, PRESSURE



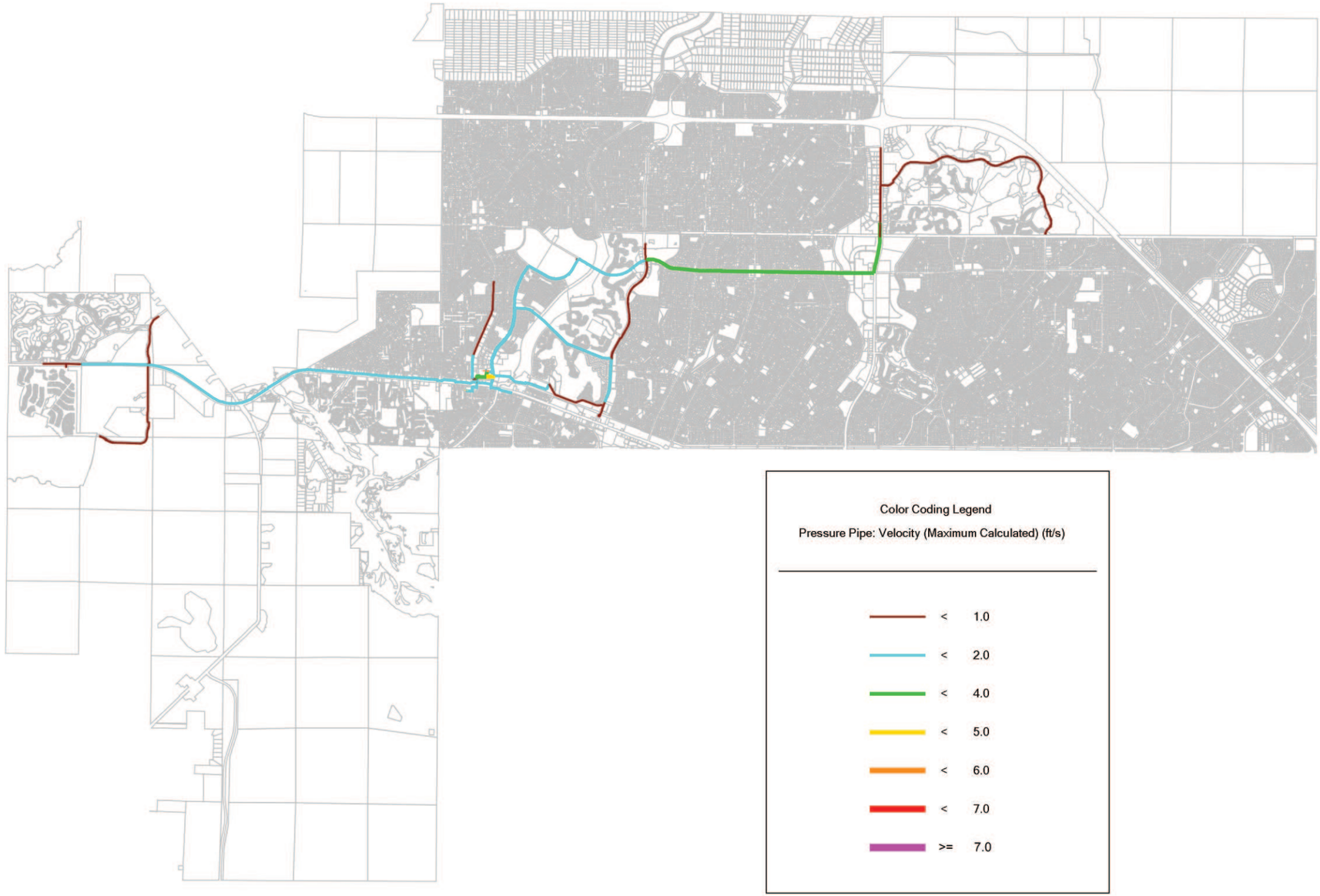
SCENARIO: EXISTING MAX DAY, PIPE VELOCITY



SCENARIO: FUTURE MAX DAY, PRESSURE



SCENARIO: FUTURE MAX DAY, PIPE VELOCITY



City of North Port
2004 Utility Master Plan

Final Printing: January 2005

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Table of Contents

List of Figures

List of Tables

Section 1 – Introduction

A. Background

The City of North Port is located in Southwest Florida in southern Sarasota County. With an incorporated land area of more than 100 square miles, North Port is one of the largest geographic cities in the state. North Port has a current population of approximately 30,000 residents and is growing rapidly. The rapid population growth within North Port is anticipated to continue in the foreseeable future, and may one day reach a projected build-out population of over 250,000 residents.

The City's Utilities Department currently provides potable water and wastewater service to residential and commercial customers within the service area. The City originally purchased the utility systems from the privately owned General Development Utilities in 1992 and has since completed several system expansion and improvement projects. Currently, the City provides water and wastewater service to customers through approximately 15,000 water connections and 11,000 wastewater connections. The City also operates a reclaimed water system, which currently provides reclaimed water to two primary bulk customers located within the City.

In order to ensure that the growing utility needs of the City are satisfied in a cost effective, reliable, and environmentally compatible manner, the City periodically performs utility system planning. Previous utility master plans were completed in 1994 (Hartman & Associates) and 1999 (Boyle Engineering Corporation). The City commissioned Black & Veatch Corporation to prepare the City of North Port's 2004 Utility Master Plan.

B. Scope

The City of North Port's 2004 Utility Master Plan (2004 Plan) addresses the City's potable water, wastewater, and reclaimed water systems. The 2004 Plan recommends year by year actions and improvements for Fiscal Years 2004-2009 and provides a preliminary review of utility needs for planning year 2025 and at build-out. Tasks involved in the development of the 2004 Plan generally include the following:

- An engineering overview of existing facilities.
- Development of a prioritization and projected schedule for utility system expansion into existing neighborhoods currently lacking full utility service.

- Development of future potable water demand and wastewater flow projections using a GIS-based planning database.
- Development and application of hydraulic models of the water, wastewater, and reclaimed water transmission systems.
- Identification of future water, wastewater, and reclaimed water system needs and recommendations for addressing those future needs.
- Development of a five-year capital improvements plan and coordination with the City's rate consultant.
- Development of the City of North Port Utility Master Plan document.
- Support with regard to developer agreements, financial planning, and meetings/presentations.

It should be recognized that the utility needs of the City are dynamic, changing continuously in response to numerous factors. The 2004 Plan presents recommendations based on a snapshot of the planning landscape at the time the plan was prepared. It is recommended that the City update the plan every three to five years.

Section 2 – Service Area and Customers

A. Utility Service Area

The City of North Port's utility service area generally encompasses all areas within the incorporated City limits including the more recently annexed areas (Thomas Ranch, Panacea, and Kelse Ranch), which are each slated for development over the next several years. In addition, the City also provides water and wastewater service to the Old Myakka Utilities service area, which is an area of unincorporated Sarasota County located just southwest of the City core area (the City core area is defined in general as the original North Port development region located along US Highway-41 (US-41) between Granada and Sumter Boulevards). It should be noted that the City's recognized service area has not officially been adopted by the City Commission or approved by the State according to Chapter 180 of the Florida Statutes. It is anticipated that the City will complete the necessary processes to have their service area officially recognize by the City Commission and State in the near future. Figure 2-1 illustrates the City's recognized utility service area.

Although the City of North Port has been experiencing rapid growth over the past several years, the City is only approximately 15% built out based on the GIS data provided by the City's Planning Department. In general, the newly platted developments that are being constructed within the City are being developed with City water and wastewater infrastructure. However, the majority of land within the City of North Port has already been platted into approximately 87,000 quarter acre residential lots by General Development Corporation during the 1950's. These platted lots are contained within 60 designated neighborhoods within the City. The majority of the platted lots have remained vacant and most neighborhoods currently lack the infrastructure necessary to provide water and wastewater service connections to each lot. It is the City's goal to eventually expand the utility system to serve all of these areas with a few notable exceptions as discussed later. The expansion of utility service to the currently unserved lots within the existing neighborhoods was evaluated as part of this plan. This evaluation is described in detail in Section 5 of this report.

B. Utility Customers

1. Water and Wastewater Customers

The existing customer base is predominantly residential, but also includes commercial customers, which consist predominantly of restaurants, retail businesses, office space, and other similar uses. The City currently provides water service to approximately 15,000 water service connections. Of these, approximately 12,000 are located within the City limits, and the remaining 3,000 are part of the Old Myakka Utilities service area in unincorporated Sarasota County. Wastewater customers number approximately 11,000, of which 8,000 are within the City limits and 3,000 are located in the Old Myakka Utilities service area in unincorporated Sarasota County.

The bulk of the City's water and wastewater customers are located in neighborhoods situated within the City core area. There are also numerous existing neighborhoods within the City limits (outside the City core area) that currently have limited or no City utility service available. Most of these neighborhoods that are located outside of the City core area utilize private wells for potable water supply and septic systems for wastewater disposal. The City has indicated that their goal is to eventually extend utility service to all areas of the City in a manner that is economically practical and consistent with the guidelines provided in the City of North Port Comprehensive Plan. It should be noted that the City does not anticipate extending water and sewer service to the designated agricultural estate areas of the City (North Port Estates and Lake Geraldine) and the Myakka State Forest regions. A description of the City's Comprehensive Plan guidelines and a projected schedule for utility system expansion to existing neighborhoods within the City is presented in Section 5 of this plan.

2. Reclaimed Water Customers

The current reclaimed water customer base consists of two primary bulk users, the Sable Trace and Heron Creek developments. Both of these customers primarily utilize reclaimed water for golf course irrigation. The City of North Port also provides reclaimed water directly to some individual residents in the Sable Trace development and to some City owned properties and right-of-ways.

A reclaimed water agreement between General Development Utilities and the Sable Trace development was assigned to the City of North Port upon acquisition of the utility system. This agreement requires that the City deliver no less than 0.14 mgd and up to 1.2 mgd of reclaimed water to Sable Trace.

The reclaimed water agreement between the City and Heron Creek allows Heron Creek to purchase up to 0.5 mgd of reclaimed water, if available. The agreement also indicates that Heron Creek, with the consent of the City's Utilities Department, may purchase as much excess reclaimed water as may become available.

It is the City's goal in the future to expand the reclaimed water system, and several potential bulk customers have been identified within the City. These potential bulk customers are described in further detail in the reclaimed water demand portion of Section 6 in this report.

Section 3 – Summary of Existing Facilities

The City of North Port Utilities Department currently owns and operates a potable water, wastewater, and reclaimed water system. The City originally purchased the utility systems from General Development Utilities in 1992 and has since completed a number of system expansion and improvement projects. This section of the report presents a description of the existing facilities and components that make up the City's current potable water, wastewater and reclaimed water systems.

A. Potable Water System

The primary components of the City's potable water system are described in this section and include the following:

- Myakkahatchee Creek raw water supply
- PR/MRWSA Interconnect - regional finished water supply
- Myakkahatchee Creek Water Treatment Plant
- Hillsborough Booster Pump Station
- Northeast Booster Pump Station
- Transmission and distribution system piping

Figure 3-1 illustrates the location of these primary components of the existing potable water system.

1. Water Supply Sources

The City has two primary sources of water. The City is permitted by the Southwest Florida Water Management District (SWFWMD) to withdraw surface water from the Myakkahatchee Creek which runs through the City core. Water from the Myakkahatchee Creek is treated at the City's Myakkahatchee Creek Water Treatment Plant (WTP) prior to distribution. The City also receives finished potable water from the Peace River/Manasota Regional Water Supply Authority (PR/MRWSA) through an existing agreement.

The City currently operates their potable water system under three different supply modes: Myakkahatchee Creek WTP supply only, PR/MRWSA supply only, or a combination of Myakkahatchee Creek WTP supply and PR/MRWSA supply. The City's potable water system can be partially segregated through the use of valves when operating in the mode that utilizes both water supply sources.

a. Myakkahatchee Creek Surface Water Supply

The City withdraws raw surface water from the Myakkahatchee Creek for treatment at the Myakkahatchee Creek WTP. The City's existing consumptive water use permit (WUP No. 202923.06) from SWFWMD allows for the withdrawal of an annual average quantity of 2.08 mgd and a peak monthly quantity of 2.496 mgd. This permit expires on March 22, 2005.

The City has indicated that the flow in the Myakkahatchee Creek is highly dependent on rainfall and the resulting stormwater runoff. The seasonal fluctuations in rainfall cause this water supply source to be highly variable in quantity and quality throughout the year. Historical data indicates that the Myakkahatchee Creek's water quality diminishes during dry seasons or periods of low rainfall when the creek's flow is minimal and influenced by groundwater. Therefore, the City prefers to withdraw and treat supply from the Myakkahatchee Creek during the wet seasons or periods of higher rainfall.

The City is currently performing a downstream flow and environmental study of the Myakkahatchee Creek to determine the feasibility of increasing the withdrawal limits of their current water use permit. Due to the highly variable seasonal flows associated with the Myakkahatchee Creek supply, the City has also decided to explore the feasibility of implementing an aquifer storage and recovery (ASR) system for the Myakkahatchee Creek supply. An ASR system could allow the City to capture and store large quantities of water during the wet seasons, which in turn could be used to supplement the supply during the dry seasons. The City is currently in the pilot testing phase of ASR implementation.

Implementation of an ASR system, along with the appropriate permit modifications, may allow the City to increase the total annual withdrawal as well as the reliability of the Myakkahatchee Creek supply.

b. PR/MRWSA Interconnect Supply

In 1991, the City entered into a water supply contract with the PR/MRWSA that allows the City to receive up to 435 million gallons per year (or approximately 1.19 mgd if converted to an annual average day basis) of potable water supply from the PR/MRWSA. This water is delivered to the City's transmission / distribution system through a 12-inch diameter interconnect located at the intersection of Raintree and Hillsborough Boulevards in eastern North Port. This interconnect is metered by PR/MRWSA and is fed from a 36-inch pipeline which is also used to deliver PR/MRWSA supply to Charlotte County.

The current contract acknowledges the City of North Port's reliability issues with the Myakkahatchee Creek supply during low rainfall periods, and does not impose a maximum daily flow or peak monthly flow constraint on the City. Recent historical data indicates that the City uses the majority of the allocated supply from the PR/MRWSA between the months of December and May. The current expiration date of this contract is May 30, 2026.

The existing water supply contract indicates that the City is required to pay the Base Rate Charge and the Water Use Rate Charge established by the PR/MRWSA. The City is required to pay for the Base Rate Charge for the entire 435 million gallons per year allocation regardless of the amount that they use. The Water Use Rate Charge is based on the actual amount of water delivered through the interconnect.

The PR/MRWSA agreement also indicates that supply will be delivered to the interconnect at a minimum pressure of 65 psi.

2. Water Treatment Facilities

a. Myakkahatchee Creek Water Treatment Plant

The Myakkahatchee Creek WTP is located on the west side of North Port Boulevard just north of US-41. The plant was originally constructed in 1964 and expanded to include a second treatment train in 1974. Several additional plant components and equipment have been added, upgraded and/or replaced since the original construction date. The plant's current design treatment capacity is 4.4 mgd. The WTP is typically operated for approximately 10 hours per day.

The plant is located along the Myakkahatchee Creek and withdraws surface water supply from the creek through two raw water intakes. The intakes are connected to below grade wetwells with buried piping. Two pumps in each wetwell deliver raw water to the plant's influent flow splitter box. Water treatment at the plant consists of chemical and physical processes including chemical conditioning and coagulation, gravity sedimentation, sand filtration, and disinfection. Finished potable water, which contains a chloramine residual, is transferred to ground storage tanks prior to being pumped to the distribution system. A description of the storage and pumping facilities is provided later in this section. Figure 3-2 is a schematic that illustrates the primary processes of the Myakkahatchee Creek WTP.

3. Transmission and Distribution Facilities

The City owns and operates three potable water system pump stations, several miles of transmission and distribution system piping, and three emergency interconnects with Charlotte County's potable water system. A description of these facilities is provided below.

a. High Service Pump Station at the Myakkahatchee Creek WTP

Finished potable water treated at the Myakkahatchee Creek WTP is transferred to two ground storage tanks that have a combined storage capacity of 3.5 million gallons. The tanks are located on the plant property along with a high service pump station. The City has the ability to feed potable water supply originating from the PR/MRWSA interconnect into these ground storage tanks, thus allowing the City to utilize the high service pump station as a re-pump station under certain operating scenarios. The high service pump station is currently equipped with six constant speed vertical turbine pumps of various capacities. The City is currently in the process of replacing the existing pumps with three new 125-HP pumps equipped with variable frequency drives (VFDs). Following the completion of the pump upgrade (projected completion date = January 2005), the high service pump station is anticipated to have a firm capacity (largest pump out of service) of approximately 3,680 gpm (5.3-mgd).

b. Hillsborough Booster Pump Station

The Hillsborough Booster Pump Station (HBPS) is an in-line booster station located along the 12-inch transmission pipeline in the southern portion of the City along Hillsborough Boulevard, west of the PR/MRWSA Interconnect. Since the direction of flow in the 12-inch pipeline that runs along the southern portion of the City can be in either direction, the booster pump station was designed to be able to boost system pressures when flow is going either east or west. This booster station is currently equipped with two 60-HP constant speed pumps. A project is underway to replace the existing pumps with two new 100-HP pumps equipped with VFDs (projected completion date = January 2005). The proposed replacement pumps would each have a capacity of approximately 2,000 gpm at 125 feet of head.

c. Northeast Booster Pump Station

The Northeast Booster Pump Station (NEBPS) was originally constructed in 1995 and is located in the northeastern portion of the City near the intersection of Haberland Boulevard and Price Boulevard. The NEBPS is a re-pump station which includes three

constant speed pumps (one 30-HP pump, one 50-HP pump, and one 75-HP), a 1-million gallon above ground storage tank, and chemical trim facilities. The function of the NEBPS facility is to collect a portion of the supply originating from the PR/MRWSA Interconnect and re-pump it back into the system at the desired pressure and flowrate.

d. Transmission and Distribution System Piping

The City's transmission and distribution system piping consists of approximately 225 miles of piping. The transmission system is composed of the major pipelines (diameter = 8-inch through 20-inch diameter) that deliver potable water from the Myakkahatchee Creek WTP and PR/MRWSA Interconnect to the distribution system piping. The distribution system piping consists of smaller diameter lines (2-inch through 8-inch).

The larger diameter transmission system piping network is relatively well developed throughout the City, whereas the smaller diameter distribution system piping networks are well developed in the City core area only. Several portions of the existing distribution system piping networks also lack a sufficient amount of pipeline looping. A lack of pipeline looping limits system reliability and hydraulic efficiency, while also increasing the potential for water quality problems typically associated with dead end portions of systems.

The design and construction of a 16-inch potable water transmission main along US-41 is currently underway. This new pipeline will allow the City to deliver potable water supply to the proposed Thomas Ranch development, which is located in the western extents of North Port.

e. Emergency Interconnects

In addition to the PR/MRWSA Interconnect, the City also has three emergency interconnects with Charlotte County's potable water transmission system. These interconnects are all 12-inch diameter pipeline interconnects located near the following intersections: Hillsborough Boulevard and Theresa Boulevard; North Port Boulevard and Chancellor Boulevard; and Chancellor Boulevard and McDill Drive. Currently only the interconnect near North Port Boulevard and Chancellor Boulevard is metered. Telemetry is not provided at any of the emergency interconnects.

B. Wastewater System

The City's existing wastewater system serves a significantly smaller service area than the City's potable water system. City sewer service is primarily available in the City core area and in some new developments located along Toledo Blade Boulevard. All wastewater collected in the City's sewer system is delivered to the City of North Port Wastewater Treatment Plant (WWTP). The treated wastewater is disposed of through the City's reclaimed water system and a deep injection well.

The primary components of the City's wastewater system are described in this section and include the following:

- Wastewater collection and transmission system
- City of North Port WWTP
- Deep injection well (DIW)
- Public Access Reclaimed Water System

Figure 3-3 illustrates the location of the primary components of the existing wastewater system.

1. Collection and Transmission Facilities

The City's wastewater collection and transmission system consists of approximately 100 miles of sewer lines and over 70 sewage lift stations. The collection system is a conventional gravity system which transports wastewater flows by gravity from the customers' connection points to one of the City's lift stations. The lift stations collect wastewater flow and pump it through forcemains to another gravity collection system, a primary lift station, or directly to the treatment plant. The City's wastewater transmission system consists of 4 to 24-inch forcemains.

2. City of North Port Wastewater Treatment Plant

The City of North Port WWTP is located on the west side of Pan American Boulevard just north of US-41. The WWTP is operated under a FDEP domestic wastewater facility permit (# FLA013378) which expires on May 29, 2006. A recent plant expansion has increased the permitted treatment capacity from 2.0 mgd to 3.7 mgd, based on a maximum three month average daily flow (M3MADF) basis. Based on typical engineering planning guidelines, the 3.7 mgd M3MADF permitted treatment capacity at

the City's WWTP correlates to an annual average daily flow (ADF) treatment capacity of approximately 3.1 mgd. The design capacity of the plant is summarized as follows:

- Annual Average Daily Flow (ADF) = 3.1 mgd
- Maximum Three Month Average Daily Flow (M3MADF) = 3.7 mgd
- Maximum Month Average Daily Flow (MMADF) = 4.0 mgd
- Maximum Daily Flow (MDF) = 6.4 mgd
- Maximum Hourly Flow (MHF) = 8.3 mgd
- Maximum Instantaneous Flow (MIF) = 12.5 mgd

Plant staff indicate that average daily flows currently range from approximately 1.0 to 2.0 mgd throughout the year, and that the peak wet weather flows can approach 4.5 mgd. A portion of the plant effluent is distributed in the City's reclaimed water distribution system, and the rest is disposed of through a deep injection well located off site.

The plant is classified as an extended aeration activated sludge facility with screening, grit removal, fine bubble aeration, and secondary clarification. Effluent to be distributed as reclaimed water undergoes additional treatment processes including filtration and high level disinfection.

The City's wastewater biosolids processing operations have recently changed. The City currently aerates the biosolids in the holding tank (with no lime stabilization) and contracts with a company that brings in a mobile centrifuge unit and dewaters the sludge. The dewatered cake (approximately 20% solids) is hauled by the contractor to the Okeechobee landfill, and the remaining water is returned to the plant. Previously, the wastewater biosolids were stabilized through the addition of lime in aerobic digestion tanks. The stabilized Class B biosolids were then removed from the plant in liquid form by a contract hauler who disposed of it by land application. The wastewater treatment plant still has the facilities required to treat biosolids to Class B standards.

Figure 3-4 is a schematic that illustrates the primary plant processes of the City's WWTP.

3. Deep Injection Well

Effluent from the City's WWTP that is not distributed in the reclaimed system is pumped approximately 3 miles through a 16-inch pipeline and disposed of through a deep injection well (DIW) located southwest of the City core area just west of the North Port –

Charlotte County border and east of the Myakka River. This Class I deep injection well is regulated by the FDEP through a Class I municipal injection well system permit (# 131285-002-UO) and the Underground Injection Control Department under Florida Administrative Code Rules 62-4, 62-520, 62-522, 62-528, 62-600, and 62-610. The DIW has been in operation for approximately 20 years and is currently permitted for a maximum injection rate of 4.75 mgd, at a maximum pressure of 84 psi at the well head. The DIW system also includes 2 groundwater monitoring wells. The DIW is approximately 3,200 feet deep with 1,105 feet of 14 inch diameter casing.

C. Reclaimed Water System

The City's existing reclaimed water system currently serves two primary customers which include Sable Trace (residential development and golf course) and Heron Creek (residential development and golf course). The City of North Port also uses reclaimed water to irrigate some City owned properties which include the North Port Skate Park and road rights-of-way. The City has recently expanded their reclaimed water treatment capabilities from 0.6 mgd to 1.9 mgd. The reclaimed water system is regulated under the City's WWTP FDEP operating permit (# FLA013378) as well as FAC 62-610-450.

The primary components of the City's reclaimed water system are described in this section and include the following:

- Treatment, storage, and pumping facilities at the City of North Port WWTP
- Reclaimed water distribution system

Figure 3-5 illustrates the location of the primary components of the existing reclaimed water system.

1. City of North Port WWTP Reclaimed Water Facilities

The City of North Port WWTP provides effluent filtration and high level disinfection of treated wastewater in order to produce reclaimed water that meets the regulatory requirements for public access distribution. Treatment facilities at the WWTP were recently expanded and are currently permitted to produce up to 1.88 mgd of reclaimed water on an annual average basis. Treated reclaimed water is transferred to a 500,000 gallon reclaimed water ground storage tank on the WWTP site. An on-site reclaimed water pump station delivers the reclaimed water to the reclaimed distribution system. The pump station consists of three constant speed pumps (one 25-HP and two 50-HP) and has a firm capacity of 1.63 mgd at a design operating pressure of 60 psi.

2. Reclaimed Water Distribution System

Reclaimed water from the City's WWTP is pumped northeast approximately 2-miles through a 10-inch force main to the City's 600,000 gallon reclaimed water ground storage tank located at the Sable Trace Golf Course. This storage tank is used to store and supply reclaimed water for the Sable Trace Golf Course irrigation system. The City has more recently expanded their reclaimed water transmission system further east and north with a 12-inch pipeline to deliver reclaimed water supply to two irrigation lakes which are used by the Heron Creek development and golf course irrigation system. The irrigation lakes are privately owned and maintained.

Section 4 – Condition and Performance of Existing Facilities

This section provides an overview of recent performance and regulatory compliance of the existing facilities and discusses performance and condition related issues that may need to be addressed through future actions or facility improvements.

In general, the City's potable water, wastewater, and reclaimed water systems are in good condition, properly operational, and well maintained. However, some condition and performance related deficiencies were identified through site visits, interviews with key City Staff, review of historical documentation, and hydraulic modeling of the existing system at current conditions and demands. A description of the methodology followed in developing and using the hydraulic model is included in Section 8.

A discussion of condition/performance issues is provided below. Some of the condition and performance issues are recommended to be addressed through capital improvement projects as discussed in Sections 9, 10, and 11.

A. Water System

1. Condition and Performance

Issues relating to the Myakkahatchee Creek water supply were identified and are summarized as follows:

- Flows in the Myakkahatchee Creek have historically demonstrated a wide seasonal variation in quantity and quality. The City has been forced at times to supply the system completely with PR/MRWSA supply when the water supply has not been available from the creek. In addition, during low flow periods, poor water quality in the Creek hinders effective treatment. It should be noted that the City's ASR system, which is currently under the pilot testing phase, has the potential to improve reliability.

Several issues regarding the Myakkahatchee Creek WTP were identified. These are summarized as follows:

- Finished water in the Myakkahatchee Creek WTP clearwell is transferred to storage tanks using constant speed pumps which cycle on and off in response to

the water level in the clearwell. This causes cyclical variations in the clearwell detention time and flow patterns, thus causing inconsistent disinfection contact time and chemical mixing. Preliminary calculations indicate that, at the minimum clearwell level, sufficient disinfection contact time can only be provided if free chlorine is dosed upstream of the filters, which the City currently does. However, City staff suspects that variations in chemical dosing may result from this situation. The City may want to consider the addition of variable frequency drives (VFDs) on the clearwell transfer pumps to allow operators to maintain a constant wetwell level, thus improving this situation.

- The daily plant shutdown and subsequent startup reportedly induces operational challenges and turbidity spikes. The City may want to consider operational adjustments that would limit the number of shutdowns and subsequent startups experienced at the plant.

- The existing Myakkahatchee Creek WTP is designed to treat a capacity of 4.4 mgd. However, the City has reported difficulty maintaining acceptable filtered water turbidity at flows approaching the design capacity. A review of the filter surface areas indicate the filters appear to be adequately sized for the design flow rate. The turbidity issues may be resolvable through adjustment of the chemical dosing protocol. It is recommended that an operational review of the WTP be performed to identify any operational or facility improvements necessary to enhance capability of the plant to reliably treat flows approaching the design capacity.

- Several deficiencies regarding filter backwashing equipment and procedures were reported in the FDEP Comprehensive Performance Evaluation of the North Port WTP. These include: lack of backwash flow meters showing the backwash rate; inadequate backwash pumping rate (which prevents proper cleaning of filters); lack of rewash (filter-to-waste) capabilities (which contributes to additional spiking after filter backwash); backwashing schedule is currently based on time in service rather than optimized performance goals for turbidity; the duration of backwash is excessive based on the backwash turbidity profiles. Plant Staff have also indicated that the level transmitters that control automatic filter backwashing are not working properly and need to be replaced. It should also be noted that the current regulations now require that an on-line turbidimeter be provided for each filter.

A number of issues regarding the potable water transmission and distribution system were also identified. These are discussed below:

- City Operations Staff have indicated that some areas of the distribution system experience low pressures during certain operating scenarios. In order to increase system pressures and improve system reliability, the City has projects underway to upgrade the pumps and add variable frequency drives (VFDs) at the Myakkahatchee Creek High Service Pump Station and Hillsborough Booster Pump Station (as discussed in Section 3 of this report). The hydraulic modeling performed as part of this plan indicates that the proposed pump replacements will significantly enhance the ability to maintain sufficient pressures throughout the system. The addition of pumps equipped with VFDs will also enhance the operational flexibility of these pump stations.

- Hydraulic modeling of the existing water transmission system indicates that the majority of the transmission pipelines are operated at very low velocities (less than 0.5 feet/second) during average day demand conditions. The hydraulic modeling also indicates that low velocities still occur in several areas of the system during peak hour demand conditions. These low velocities combined with the large distances covered by the City's transmission system could result in lengthy travel times to customers. Extended travel times for treated potable water can often result in water quality issues including low chlorine residual. City Staff has indicated that periodic flushing of the distribution system piping along Ponce de Leon Boulevard is necessary to avoid low chlorine residuals in this portion of the system.

- A fire flow evaluation of the City's potable water system was performed using the hydraulic model created as part of this master plan. The fire flow evaluation revealed that the existing transmission/distribution system can not meet the City's minimum fire flow requirements in some portions of the service area. Specific details regarding the City's fire flow requirements and the results of the fire flow evaluation are presented in Section 8 (Hydraulic Modeling) of this report.

- Continuous water quality and flow monitoring capabilities are currently not available to the City at the PR/MRWSA Interconnect. The lack of these capabilities prevents the City from being able to monitor the PR/MRWSA supply on an instantaneous or daily basis, thus potentially complicating system operational decisions. The City is currently provided with limited water quality and flow monitoring data from PR/MRWSA.

- Two of the City's three emergency interconnects (with Charlotte County's system) currently lack flow metering capabilities, and the other emergency interconnect currently has a flow meter which needs to be replaced.

- At numerous locations, non-looped small diameter distribution piping exists. This exacerbates issues associated with water quality, low pressure, and inadequate fire flow.

- The Hillsborough Booster Pump Station currently lacks emergency backup power, thus limiting the City's ability to maintain system pressures during a power outage.

2. Regulatory Compliance

The City withdraws raw surface water from the Myakkahatchee Creek for treatment at the Myakkahatchee Creek WTP under a SWFWMD consumptive water use permit (WUP # 202923.06). This permit allows for the withdrawal of an annual average quantity of 2.08-mgd and a peak monthly quantity of 2.496-mgd. The current water use permit expires in March 22, 2005.

The Myakkahatchee Creek WTP operating data for the years 1999 through 2003 indicates that the plant has remained in compliance with the current permitted annual average and peak monthly withdrawal limits over this time frame. The highest annual average and peak monthly withdrawal quantities that have occurred during this time frame are 1.4 mgd (2003) and 2.2 mgd (March 2001), respectively.

In addition, the Myakkahatchee Creek WTP must be operated and produce water in compliance with the requirements of the Safe Drinking Water Act (SDWA), as enforced by the U.S. Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP). Based on a review of monthly operating reports, it appears that the plant performance has remained in compliance with regulatory requirements, and it is anticipated that the plant is capable of continued operation within the required parameters in the short-term future.

There are some pending regulations that may require the City to modify monitoring and reporting protocol in the near future. Three key pending regulations are identified below:

- Stage 2 Disinfection By-Product Rule – Although the Stage 2 MCLs would remain at the levels established under the Stage 1 rules (i.e. - TTHM=0.080 mg/L

and HAA5=0.060 mg/L), the primary purpose of this rule will be to impose stricter procedures for collecting samples for monitoring TTHM and HAA5 concentrations in the distribution system. This rule is anticipated to be promulgated during 2005.

- Long-Term Stage 2 Enhanced Surface Water Treatment Rule – This rule is anticipated to require utilities to conduct monthly monitoring of the raw water supply for Cryptosporidium, E coli, and turbidity over a 24-month period. Specific regulatory compliance requirements would then be established based on the microbial contaminant levels present in the supply. This rule is anticipated to be promulgated during 2005.

- Arsenic Rule – In January 2001, EPA adopted a new standard which will require public water systems to reduce the allowable concentration of arsenic in drinking water from 0.050 mg/L to 0.010 mg/L, beginning January 23, 2006. Higher levels of arsenic tend to be found more in groundwater sources than in surface water sources. Since the City's potable water supply originates from surface water sources only, this new rule is not anticipated to significantly affect the City's current system. However, any new groundwater supply sources (or ASR systems) implemented in the future could be significantly affected by the more stringent arsenic requirements.

B. Wastewater / Reclaimed Water System

1. Condition and Performance

Some issues regarding the City's wastewater system were identified. These are summarized as follows:

- The City has indicated that the wastewater system experiences a significant amount of inflow and infiltration (I&I) during heavy storm events. During extremely heavy storm events, I&I of stormwater into the collection system has led to overflows at lift stations and has resulted in very high flows at the WWTP. The City's collection system piping and lift stations range in age from less than 1 year to approximately 40 years old.

- The City does not currently have any remote monitoring or control capabilities at wastewater lift stations. This condition limits operational efficiency and hinders responsive maintenance.

- The City's wastewater treatment plant is currently permitted for a treatment capacity of 3.7 mgd (M3MADF), which correlates to an average daily flow treatment capacity of approximately 3.1 mgd. The City's deep injection well (DIW) is currently permitted for a maximum injection rate of 4.75 mgd. It is recommended that the capacity of the DIW system be increased to at least 7.75 mgd, which is approximately 2.5 times the current average daily flow treatment capacity of the WWTP.

2. Regulatory Compliance

The City currently treats all of their wastewater flow at the City of North Port WWTP under a FDEP domestic wastewater facility permit (# FLA013378). The current permit expires in May 29, 2006. This permit allows the City to operate a Type I activated sludge domestic wastewater treatment plant which disposes treated effluent through a reclaimed water system and deep injection well. Table 4-1 summarizes the primary treatment requirements indicated in the permit:

Table 4-1 City of North Port WWTP Permit Requirements

WWTP Effluent Flow sent to DIW – Limitations	
Parameter	**Value**
Permitted Capacity (flow) (*Maximum 3 Month Average Day*)	3.7 mgd
5 Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$) (*Maximum Month*)	30.0 mg/L
Total Suspended Solids (TSS) (*Maximum Month*)	30.0 mg/L
pH (*Minimum – Maximum*)	6.0 – 8.5
WWTP Effluent Flow sent to Reclaimed Water System – Limitations	
Parameter	**Value**
Permitted Capacity (flow) (*Maximum Annual Average Daily Flow*)	1.88 mgd
5 Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$) (*Maximum Month*)	30.0 mg/L
Total Suspended Solids (TSS) (*Maximum Month*)	5.0 mg/L
pH (*Minimum – Maximum*)	6.0 – 8.5
Turbidity (Maximum)	3.5 NTU

The City's reclaimed water system is regulated under FAC 62-610-450 – Part III: Slow Rate Land Application Systems; Public Access Areas, Residential Irrigation, and Edible Crops, which states that *the reclaimed shall not contain more than 5.0 milligrams of suspended solids before the application of the disinfectant*. This section of the FAC also contains additional treatment requirements, monitoring and operating protocol, storage requirements, etc.

In addition to remaining in compliance with the domestic wastewater facility operating permit, the City must also operate a deep injection well system under a FDEP Class I municipal injection well system permit (# 131285-002-UO). This permit sets forth operating, testing and reporting requirements for the deep injection well system. The permit states that "the injection well shall be continuously monitored and controlled at all times to ensure that the maximum sustained pressure at the wellhead does not exceed 84 psi on the final casing and a maximum peak flow of 4.75 million gallons per day (3,300 gpm)". The deep injection well system permit expires on November 5, 2005.

A review of the WWTP operating data for the years 2001 through 2002 indicates that the plant appears to be able to maintain compliance with the flow and effluent concentration limits specified in the WWTP and DIW operating permits described above.

Although the City appears to be maintaining compliance with their current wastewater treatment and disposal requirements, future trends in wastewater treatment and disposal policies may impose new challenges on the City's wastewater treatment and disposal practices. The current trend in Florida is that the number of landfills accepting sludge from outside counties is diminishing. Similarly, available lands for application of Class B wastewater biosolids are decreasing. This may result in greater hauling distances and increased disposal costs for biosolids in the future. In addition, evolving regulatory requirements may further restrict the disposal of Class B biosolids. Due to these trends, it may be advantageous for the City to consider necessary improvements to treat biosolids to Class AA standards in the future.

Section 5 – Utility Expansion into Existing Neighborhoods

A. Introduction

Within the City of North Port, there are currently 60 designated neighborhoods ranging in size from approximately 20 acres to over 3,600 acres. The City currently provides both water and sewer service to a portion of these neighborhoods. The neighborhoods that currently have both water and sewer service are primarily located in the City core area. The majority of neighborhoods located outside of the City core area are sparsely populated and utilize private water wells and septic tanks.

The City's goal is to eventually connect all residences within the City limits to the City's utility system (with the exception of the North Port Estates and Lake Geraldine areas). In general, centralized utility systems are considered to offer increased environmental, health, and safety benefits over private wells and septic tanks because the central systems can be more closely monitored and controlled. In keeping with this goal, the City has implemented policies that require all newly developed neighborhoods to be constructed with infrastructure to connect into the City's water and sewer systems. Additionally, the City has included policies in their Comprehensive Plan that require residences of existing neighborhoods to connect to the City's water and sewer systems once the appropriate infrastructure is made available to the residences that currently lack these services. It is recommended that the City also implement a program to notify residents of the approximate schedule for utility expansion into existing neighborhoods and the fees associated with the utility system expansions.

An evaluation regarding prioritization of utility expansion into existing neighborhoods was completed as part of the City's 1999 Utility Master Plan. Black & Veatch reviewed the 1999 neighborhood evaluation and worked with City Staff to update the analysis. A revised set of prioritization criteria and a scoring system were developed as part of this updated neighborhood evaluation. A description of the prioritization criteria and the results of this neighborhood evaluation are presented in the remainder of this section.

The neighborhood prioritization evaluation serves two purposes. First, it provides the City a reference tool to help determine the time frame in which each neighborhood will likely represent an economically practical and otherwise attractive candidate for utility system expansion. Also, the preliminary schedule provides a basis for projecting future wastewater flows and water demands since the growing population within neighborhoods does not contribute to utility system needs until residences are actually connected.

Prior to proceeding with utility system expansion into a given neighborhood, it is recommended that the City conduct a detailed financial evaluation to confirm the economic practicality of the endeavor. The economic evaluation should consider the following:

- Capital costs associated with the construction of utility infrastructure, including collection and distribution facilities within the neighborhood interior, system enhancements to connect the neighborhood to the existing utility network, and facility enhancements to provide water supply and water and wastewater treatment to meet the new demands.
- Increased operational and maintenance costs associated with providing utility service to the neighborhood.
- Resulting connection fees, including those that would be realized immediately upon construction of the system and those projected with future population growth in the neighborhood.
- Resulting water and sewer revenues, including those that would commence immediately upon completion of the system and those projected with future population growth in the neighborhood.

B. Neighborhood Prioritization Criteria

Prioritization of utility expansion into neighborhoods was assessed based on the criteria identified below:

- Current Development Density – Neighborhoods that have the highest development densities (and currently lack utility services) would have highest densities of septic systems and private wells. Expansion of utility infrastructure into neighborhoods with higher development densities would provide the City with the best opportunity to retire the maximum number of septic systems and private wells with the least amount of capital expenditure. A neighborhood's development density also provides a relative measure of up-front connection fees and rate revenue. Historical data from previous utility expansion projects in the nearby City of Cape Coral indicated that neighborhoods (GAC Units) with population densities of at least 40 percent generally resulted in a financially viable projects (*1999 City of Cape Coral Master Plan Update,* Dames & Moore - Black & Veatch).

- Anticipated Short-Term Future Growth – Neighborhoods that are anticipated to grow at a rapid rate in the short-term future should be considered for utility expansion over neighborhoods whose growth rates are more stagnant. Providing utility infrastructure in neighborhoods before development occurs would reduce the amount of disturbance caused during construction and eliminate the residents' need to construct private septic systems and wells, which would be abandoned after the utility infrastructure was available. This criterion also provides a relative measure of potential short-term future connection fees and increases in rate revenue. For the purpose of this plan, the anticipated short-term future growth was based on extrapolation of recent historical growth trends.

- Proximity of the Neighborhood to the Existing Utility System - This criterion provides a relative measure of the capital costs associated with connecting the neighborhood to the existing utility systems. Therefore, neighborhoods that are located closer to the existing transmission systems are favored over neighborhoods that are located long distances from existing water and sewer transmission mains.

- Support of Comprehensive Plan Goals - The above criteria support the goals established in the City's Comprehensive Plan. However, the Comprehensive plan contains additional specific guidelines for utility system expansion which should be considered in the evaluation. Thus, compliance with these Comprehensive Plan guidelines serves as a criterion in the neighborhood evaluation. The six guidelines are identified and discussed below.

    - *Increased System Efficiency* - This guideline favors expanding in neighborhoods for which utility infrastructure can be constructed more cost effectively and for which utility service and maintenance can be provided more efficiently. Taking advantage of opportunities to complete key loops in the collection and distribution piping networks would also follow this guideline since system hydraulics would be improved as a byproduct of the expansion. In keeping with this guideline, criteria considered in the evaluation included a.) proximity of the neighborhood to the existing utility system and b.) opportunities to complete key system piping loops.

    - *Protection of Public Health and Safety* - The Sarasota County Health Department (SCHD) does not report any significant health and safety problems associated with the use of septic tanks and private wells in the City of North Port. Further, the SCHD does not report any specific areas of

the City with a higher rate of well contamination or septic tank failures. Occurrences of these issues are reported to be relatively infrequent and geographically scattered. However, in general, public health and safety will be promoted by expansion of both water and sewer service into existing neighborhoods because a central system can be more closely regulated, monitored and maintained than individual isolated wells and septic tanks.

It should be noted that in 1983, the State of Florida and Sarasota County implemented stricter regulations regarding the design and use of septic tanks. Therefore, septic tanks installed prior to 1983 represent older systems which are likely designed to lesser standards than septic tanks installed since 1983. Retiring these older septic tanks will have a potentially greater impact on the improvement of public health and safety than would retiring newer septic tanks. Therefore, in keeping with this guideline, this report considered the predominant year of property development in each neighborhood as a criteria.

As part of the City's ongoing program for source water protection around rivers, the proximity of a neighborhood to the Myakkahatchee Creek was also considered as part of the evaluation criteria.

° *Implementation of Economic Development* - The City's goal of encouraging economic growth, particularly in and around designated activity centers, is considered in the neighborhood evaluations as well as the overall development of the master plan. For the purpose of this evaluation, neighborhoods located near the City core area or the designated Activity Centers were considered to meet this goal.

° *Concurrent Extension of Water and Sewer* - This guideline relates to the City's goal of serving all developed residential areas, as well as industrial and commercial developments, with both water and sewer service. In keeping with this guideline the prioritization and schedule developed herein is based on construction of both water and wastewater infrastructure concurrently when expanding utility services into existing neighborhoods.

° *Reduction of Future Improvements* - This guideline encourages the strategic timing of neighborhood expansion in order to minimize capital costs. The simultaneous expansion of water and sewer is in agreement with this guideline since restoration costs would not be repeated. As a comparative

issue, opportunities to combine utility expansion projects with other planned infrastructure improvements can potentially provide cost-savings opportunities. Further, scheduling utility work ahead of road widening improvements or similar projects can save restoration costs and avoid construction impact to recently improved roads. In keeping with this guideline, potential opportunities to strategically schedule system improvements with planned CIP projects were considered as part of the neighborhood evaluations.

- *Providing Service to Developed Areas Lacking Full Service* - This guideline encourages the expansion of utility service in areas where partial or scattered service exists. The opportunity to complete utility system expansion in a neighborhood with scattered or partial service was considered in this evaluation. This criteria also favors neighborhoods which currently have City water service but lack City wastewater service. It should be noted that the City's water distribution system is significantly more developed than their sewer transmission system. Therefore, the proximity of neighborhoods to existing sewer infrastructure generally has a greater impact on prioritization.

C. Evaluation Results

The City of North Port's neighborhoods were evaluated in consideration of the prioritization criteria discussed earlier in this section. Pertinent data were collected for each neighborhood in order to complete the prioritization evaluations. Table 5-1 summarizes the data collected for each neighborhood. Key to the assessment of relative financial feasibility is the current development density and recent growth trends for each neighborhood. Figure 5-1 presents a graphic representation of these parameters.

The information in Table 5-1 and Figure 5-1 were evaluated and a scoring system was developed to determine prioritization and potential scheduling of utility expansion into existing neighborhoods. A summary of this scoring system is provided at the end of this section (see Table 5-2). It should be noted that the results of this analysis represent a projection of appropriate scheduling for expansion. It is recommended that the City perform a detailed financial evaluation for each neighborhood prior to initiating expansion into that neighborhood. The prioritization and projected schedule for utility expansion into existing neighborhoods should be updated in the future with regular master plan updates.

1. Highest Priority Neighborhoods for Utility Expansion

The following neighborhoods represent potentially attractive candidates for short term utility system expansion in consideration of the evaluation criteria. These are listed in order of priority, and preliminarily scheduled. The projected expansion schedule is relatively aggressive in order to provide a conservative basis for planning. Years (in parentheses) represent the projected commencement of construction date for each neighborhood expansion project.

- Sunburst (2007) – This neighborhood is located just east of Sumter Boulevard and just south of Interstate-75 (I-75) and is approximately 29% built out according to the most recently available GIS data. Steady growth throughout the neighborhood has occurred since 1990, with more rapid growth occurring within the last few years. Water service is only currently available in approximately 10% of the neighborhood (via 6-inch water distribution pipelines that run through a northern and central portion of the neighborhood and dead-ends along the eastern border). Wastewater service is not currently available in any parts of the neighborhood. It is recommended that sewer service be expanded to all areas within the neighborhood where water service is currently available, and that water and sewer service be extended concurrently to other areas of the neighborhood. Although not currently included in the City's current CIP, it would be beneficial to coordinate utility expansion into this neighborhood with any significant projects involving North Sumter Boulevard. Wastewater transmission mains would most likely be constructed along North Sumter Boulevard to transport wastewater south to the City Complex Master Lift Station. Water transmission pipelines would most likely extend north along Sumter Boulevard from the existing 12-inch piping on South Sumter Boulevard. Extending the 12-inch water main north along Sumter Boulevard would also allow the City to complete a transmission system loop with the existing piping that currently dead-ends in the neighborhood.

- Sumter Gardens (2008) – This neighborhood is located just northeast of the City core area and is approximately 37% built out according to the most recently available GIS data. Sumter Gardens was ranked as one of the highest priority neighborhoods in the 1999 Plan, and the City has recently completed utility system expansions to make both water and wastewater service available in the southern portion of the neighborhood. There has been a moderate level of recent growth in the northern portion of the neighborhood which is currently lacking City water and sewer service. It is recommended that the City extend water and sewer service concurrently to the remaining northern portions of Sumter Gardens.

The City's existing water and sewer systems currently have primary trunk lines/forcemains that run along the western border of this neighborhood. Extending water and sewer service to the northern portions of Sumter Gardens is not anticipated to require the construction of any major trunk lines or forcemains.

- Blue Ridge-Salford (2009) – This large neighborhood is located east of the City core and is approximately 46% built-out according to the most recently available GIS data. The majority of the growth has occurred since 1990. Water service infrastructure appears to be currently available throughout approximately 70% of the neighborhood. It does not appear that sewer service is being provided to any lots within the neighborhood. It should be noted that this neighborhood likely contains a significant number of older septic systems. It is recommended that sewer service be expanded to all areas within the neighborhood where water service is currently available, and that water and sewer service be extended concurrently to other areas of the neighborhood. An 8-inch and 12-inch sewer forcemain currently run through the northern portion of the neighborhood along West Price Boulevard. Although not currently included in the City's current CIP, it would be beneficial to coordinate utility expansion into this neighborhood with any significant projects involving Salford Boulevard.

- North Port Gardens (2011) – This large neighborhood is located just east of the Blue Ridge-Salford neighborhood and is approximately 24% built-out according to the most recently available GIS data. The majority of the growth has occurred since 1990. Water service appears to be currently available throughout approximately 20% of the neighborhood. It does not appear that sewer service is being provided to any lots within the neighborhood. It is recommended that sewer service be expanded to all areas within the neighborhood where water service is currently available, and that water and sewer service be extended concurrently to other areas of the neighborhood. An 8-inch and 12-inch sewer forcemain currently run through the northern portion of the neighborhood along West Price Boulevard. Although not currently included in the City's current CIP, it would be beneficial to coordinate utility expansion into this neighborhood with any significant projects involving South Cranberry Boulevard.

2. High Priority Neighborhoods for Utility Expansion

Neighborhoods that represent potential attractive mid-term candidates for utility system expansion were categorized into this high priority tier. As these neighborhoods and the City's water and sewer systems continue to develop, these neighborhoods will most likely become viable candidates for utility system expansion within the next 20 years. It is anticipated that expansion of utilities to these neighborhoods would occur between 2012 and 2025.

- Madagascar – This neighborhood is located along the North Salford Boulevard corridor, just east of the Sunburst neighborhood and south of I-75. The neighborhood is approximately 15% built out with almost all of the growth occurring since 1990. There has been a high level of recent growth scattered throughout Madagascar except for the northern and northeast portions of the neighborhood, which are almost completely undeveloped. Water service is only currently available in approximately 10% of the neighborhood (via a 12-inch water transmission main and 6-inch distribution pipeline that run through the center of the neighborhood along North Salford Boulevard). Wastewater service is not currently available in any parts of the neighborhood. Although not currently included in the City's current CIP, it would be beneficial to coordinate utility expansion into this neighborhood with any significant projects involving North Salford Boulevard. Wastewater transmission mains would most likely be constructed along North Salford Boulevard to transport wastewater south to the existing forcemains that run along Price Boulevard. The City's existing water system currently has a 12-inch pipeline that runs along North Salford Boulevard through the center of the neighborhood. Therefore, extending water service within this neighborhood would not require the construction of a new primary water pipeline (although extension of the 12-inch pipeline further north could be required).

- Glenallen – This neighborhood is located north of the City core area and is approximately 22% built out. The southeast portion of the neighborhood is fully developed and the remaining areas are experiencing slow scattered growth. Water service is currently available in approximately 40% of the neighborhood. Wastewater service is not provided to any lots within the neighborhood. Although not currently included in the City's current CIP, it would be beneficial to coordinate utility expansion into this neighborhood with any future significant projects involving South Biscayne Drive and/or West Price Boulevard.

- Lancelot – This neighborhood is located northwest of the City core area and is approximately 11% built out. The neighborhood is experiencing slow scattered growth in the center of the neighborhood. Water service is currently available in approximately 10% of the neighborhood. Wastewater service is not provided to any lots within the neighborhood. Although not currently included in the City's current CIP, it would be beneficial to coordinate utility expansion into this neighborhood with any significant projects involving South Biscayne Drive.

- Lady Slipper – This neighborhood is located west of North Sumter Boulevard and south of I-75. The neighborhood is approximately 8% built out. Moderate recent scattered growth has occurred throughout the southeastern portion of the neighborhood. Water service is only currently available in approximately 5% of the neighborhood. Wastewater service is not currently available in any parts of the neighborhood. Although not currently included in the City's current CIP, it would be beneficial to coordinate utility expansion into this neighborhood with any significant projects involving North Sumter Boulevard.

- Meroni Paradise – This neighborhood is located northwest of the City core area and is approximately 12% built out. The neighborhood is experiencing slow scattered growth in the center of the neighborhood along North Biscayne Drive. Water service is currently available in approximately 10% of the neighborhood. Wastewater service is not provided to any lots within the neighborhood. Although not currently included in the City's current CIP, it would be beneficial to coordinate utility expansion into this neighborhood with any significant projects involving North Biscayne Drive.

- Chamberlain - This large neighborhood is located just east of the North Port Gardens neighborhood and is approximately 9% built out. Moderate recent scattered growth has occurred throughout the central portions of the neighborhood, primarily along Chamberlain Boulevard. 10-inch and 8-inch water transmission mains currently run along Chamberlain Boulevard and a limited amount of smaller distribution pipelines are scattered in throughout the neighborhood. Wastewater service is not currently available in any parts of the neighborhood. Although not currently included in the City's current CIP, it would be beneficial to coordinate utility expansion into this neighborhood with any significant projects involving Chamberlain Boulevard.

- Kenvil – This neighborhood is located just east of the Chamberlain neighborhood and is approximately 11% built out. The northern portion of the neighborhood was recently developed and is provided with City water and sewer services. The remaining areas do not have City water or sewer services and have been experiencing a moderate amount of recent scattered growth. Although not currently included in the City's current CIP, it would be beneficial to coordinate utility expansion into this neighborhood with any significant projects involving South Toledo Blade Boulevard. Extending water service into this neighborhood would involve extending the current 12-inch water transmission main on South Toledo Blade Boulevard to Hillsborough Boulevard. This would complete a significant loop in the City's transmission system.

- Woodhaven – This neighborhood is located just east of the Kenvil neighborhood and is approximately 21% built out. The northern portion of the neighborhood was recently developed and is provided with City water and sewer services. The remaining areas do not have City water or sewer services and have been experiencing a moderate amount of recent scattered growth. Although not currently included in the City's current CIP, it would be beneficial to coordinate utility expansion into this neighborhood with any significant projects involving South Toledo Blade Boulevard. Extending water service into this neighborhood would involve extending the current 12-inch water transmission main on South Toledo Blade Boulevard to Hillsborough Boulevard. This would complete a significant loop in the City's transmission system.

- Floribanna - This neighborhood is located just northwest of the City core area and is approximately 45% built out. Floribanna was ranked as one of the highest priority neighborhoods in the 1999 Plan and the City has recently expanded water and wastewater service to the southern portion of this neighborhood, which is now almost completely developed. The remaining areas of this neighborhood lack water and wastewater service and are experiencing slow scattered growth along South Biscayne Drive.

- Cranberry Fields – This neighborhood is located east of the Madagascar neighborhood and south of I-75. The neighborhood is approximately 7% built out. Moderate recent scattered growth has occurred throughout the southwestern portion of the neighborhood and along North Cranberry Boulevard and North Chamberlain Boulevard. The remaining areas of the neighborhood are undeveloped. Water transmission mains currently run along North Cranberry

Boulevard and North Chamberlain Boulevard. Wastewater service is not currently available in any parts of the neighborhood. Although not currently included in the City's current CIP, it would be beneficial to coordinate utility expansion into this neighborhood with any significant projects involving North Cranberry Boulevard and North Chamberlain Boulevard.

3. Moderate Priority Neighborhoods for Utility Expansion

Neighborhoods that represent potentially attractive long-term candidates for utility system expansion were categorized into this moderate prioritization tier. As these neighborhoods and the City's water and sewer systems continue to develop, these neighborhoods will most likely become viable candidates for utility system expansion. It is anticipated that expansion of utilities into these neighborhoods (or portions of these neighborhoods) would occur after 2025.

- Ponce De Leon Crossings - This neighborhood is located north of the City core area and is approximately 7% built out. There is currently a 12-inch water transmission main that crosses through the neighborhood, but there are no smaller distribution pipelines to serve the neighborhood. Wastewater service is not available in the neighborhood.

- Skyview – This neighborhood is located north of the City core area and is approximately 5% built out. There are currently some water transmission mains that run through the northern portions of the neighborhood. Wastewater service is not available in the neighborhood.

- Toledo Blade – This neighborhood is located south of the Panacea development area and is approximately 1% built out. There is a school located in the northern portion of the neighborhood which is surrounded by a limited amount of scattered developed lots. There are currently water transmission mains and sewer infrastructure to serve the school. Water and wastewater service is not available in the remaining areas of the neighborhood.

- Constitution – This neighborhood is located north of the City core area and is approximately 5% built out. There are currently some water transmission mains that run through the northern portions of the neighborhood. Wastewater service is not available in the neighborhood.

- San Mateo – This neighborhood is located in the eastern portion of the City and is approximately 7% built out. There are currently some water transmission mains

that run north and south through the center of the neighborhood. Wastewater service is not available in the neighborhood.

- Atwater - This neighborhood is located in the eastern portion of the City and is approximately 3% built out. There is a 12-inch water transmission main that runs along Atwater Dr through the center of the neighborhood. Wastewater service is not available in the neighborhood.

4. Low Priority Neighborhoods for Utility Expansion

Neighborhoods that are currently undeveloped (less than 2% developed according to the most recently available GIS data) and are located several thousands of feet away from existing wastewater system infrastructure have been categorized into this low priority tier. It is anticipated that the majority of these neighborhoods will not become attractive candidates for utility expansion within the next 25 years.

- Gardenside – Undeveloped area south of Panacea.
- Haberland – Undeveloped area south of Panacea.
- Greenley Place – Undeveloped area north of I-75.
- Hornbuckle – Undeveloped area north of I-75.
- Royal Palm – Undeveloped area north of I-75.
- Bristol – Undeveloped area north of I-75.
- Beechwood – Undeveloped area in eastern extents of City limits.
- Bannock – Undeveloped area in eastern extents of City limits.
- Amnesty – Undeveloped area in eastern extents of City limits.
- Newman – Undeveloped area in eastern extents of City limits.
- Price End – Undeveloped area in eastern extents of City limits.
- Nutmeg/Lagrange - Undeveloped area north of I-75 (Sumter Boulevard Cooridor).
- Shawnee Way – Undeveloped area north of I-75.
- Blueleaf – Undeveloped area in eastern extents of City limits.
- Fairview – Undeveloped area in eastern extents of City limits.
- Yorkshire – Undeveloped area in eastern extents of City limits.
- Langlais – Undeveloped area in eastern extents of City limits.

5. Neighborhoods Already Provided with Full Water and Sewer Service

The following neighborhoods are essentially fully served by water and sewer (or will be upon the completion of developers' projects) and were not analyzed as part of the neighborhood prioritization and scheduling.

- Duck Key – City Core: Currently being developed.
- Marius – City Core: Built out.
- Hyde Park – City Core: Built out.
- Highland Ridge – City Core: Built out.
- Fabian – City Core: Built out.
- Spearman – City Core: Built out.
- Holiday Park – City Core: Built out (mobile homes).
- Leisure Villas – City Core: Built out.
- Espanola – City Core: Commercial development.
- Biscayne Gardens – City Core: Built out.
- North Port Palms – City Core: Built out.
- Jockey Club – Charleston Park development will result in build out with 100% water and sewer service.
- Sable Trace – City Core: Being developed.
- Fairway Villas - City Core: Being developed.
- Country Club Estate/Sumter Green – City Core: Built out.
- Country Club Ridge – City Core: Built out.
- Heron Creek – Being developed.
- Borderview – Being developed (Talon Bay)
- Lakeside Plantation – Being developed.
- Riley Chase – Developed (Riley Chase apartments)
- Willow Creek – Developed (Willow Creek apartments)

6. Neighborhoods Excluded from the Utility Expansion Evaluations

The following neighborhoods have been excluded from the neighborhood utility expansion evaluations. The City has indicated that these neighborhoods are not candidates for City water and sewer service.

- Lake Geraldine – Large platted lots (very low development density)
- North Port Estates – Agricultural estates area (very low development density)

Table 5-2 Neighborhood Prioritization Summary

	Neighborhood	Current Development Density [1]	Anticipated Short-Term Future Growth [2]	Proximity to Existing Utility Systems [3]	City Comprehensive Plan Goals [4]	Total
Highest Priority	Sunburst	4	4	4	4	**16**
	Sumter Gardens*	4	3	5	4	**16**
	Blue Ridge Salford	5	3	4	4	**16**
	North Port Gardens	3	4	4	4	**15**
High Priority	Madagascar	2	4	3	3	**12**
	Glenallen	3	2	3	4	**12**
	Lancelot	2	1	4	4	**11**
	Lady Slipper	1	2	3	4	**10**
	Meroni Paradise	2	2	3	3	**10**
	Chamberlain	1	2	4	3	**10**
	Kenvil*	1	2	4	3	**10**
	Woodhaven*	1	2	4	3	**10**
	Floribanna*	1	1	5	2	**9**
	Cranberry Fields	1	2	3	3	**9**

Table 5-2 Neighborhood Prioritization Summary (continued)

	Neighborhood	Current Development Density [1]	Anticipated Short-Term Future Growth [2]	Proximity to Existing Utility Systems [3]	City Comprehensive Plan Goals [4]	Total
Moderatre Priority	Ponce De Leon Crossings	1	0	2	3	**6**
	Skyview	1	0	3	2	**6**
	Toledo Blade	0	0	4	2	**6**
	Constitution	0	0	3	3	**6**
	San Mateo	1	1	1	2	**5**
	Atwater	0	1	2	2	**5**
Low Priority	Gardenside	0	0	2	1	**3**
	Haberland	0	0	2	1	**3**
	Greenly Place	0	0	2	0	**2**
	Hornbuckle	0	0	1	1	**2**
	Royal Palm	0	0	1	0	**1**
	Bristol	0	0	1	0	**1**
	Beechwood	0	0	0	1	**1**
	Bannock	0	0	0	1	**1**
	Amnesty	0	0	0	1	**1**

Table 5-2 Neighborhood Prioritization Summary (continued)						
	Neighborhood	Current Development Density [1]	Anticipated Short-Term Future Growth [2]	Proximity to Existing Utility Systems [3]	City Comprehensive Plan Goals [4]	Total
Low Priority	Newman	0	0	0	1	**1**
	Price End	0	0	0	1	**1**
	Nutmeg/Lagrange	0	0	0	1	**1**
	Shawnee Way	0	0	0	0	**0**
	Blueleaf	0	0	0	0	**0**
	Fairview	0	0	0	0	**0**
	Yorkshire	0	0	0	0	**0**
	Langlais	0	0	0	0	**0**

* The scoring for this neighborhood reflects the fact that a portion of the neighborhood is already provided with both City water and sewer service.

Scoring System Notes:

[1] Current Development Density (according to most recently available GIS data): Neighborhoods with densities greater than 40% = 5 points; Densities from 25% to 40% = 4 points; Densities from 15% to 25% = 3 points; Densities from 10% to 15% = 2 points; Densities from 5% to 10% = 1 point; Densities less than 5% = 0 points.

[2] Anticipated Short-Term Future Growth: Neighborhoods with a 1999-2001 build-out percentage greater than 10% of total lots = 5 points; 8% to 10% = 4 points; 5% to 8% = 3 points; 3% to 5% = 2 points; 2% to 3% = 1 point; 1% or less = 0 points.

[3] Proximity to Existing Utility Systems: Utility Expansion would require no major transmission pipeline improvements = 5 points, Major water and wastewater transmission pipelines are available within neighborhood boundaries but some major transmission pipeline improvements would likely be required = 4 points; Extension of major transmission pipelines (less than 3000 feet) would be require to connect the existing systems to the neighborhood distribution/collection infrastructure = 3 points; Extension of major transmission pipelines (between 3000 feet and 6000 feet) required = 2 points; Extension of major transmission pipelines (between 6000 feet and 12000 feet) required = 1 point; Extension of major transmission pipelines (over 12000 feet) required = 0 points

[4] City Comprehensive Plan Goals: Meets all 6 comprehensive plan guidelines described in Section 5 of the Utility Master Plan = 5 points; Meets 5 of 6 = 4 points; meets 4 of 6 = 3 points; meets 3 of 6 = 2 points; meets 2 of 6 = 1 point; meets less than 2 = 0 points. Guidelines include *Increase System Efficiency; Protection of Public Health and Safety; Implementation of Economic Development; Concurrent Extension of Water and Sewer; Reduction of Future Improvements;* and *Providing Service to Developed Areas Lacking Full Service.*

Table 5-1 City of North Port Existing Neighborhoods Data

Neighborhood			Development Density (Through 2001)					Approximate Distance to Existing Transmission Systems		Current Utility Service		Opportunities to Coordinate with C.I.P. Projects	Comments
#	Name	Acreage	Total Lots	Occupied Lots	Build Out (%)	1999-2001 Build Out Increase	1990-1998 Build Out Increase	Potable Water	Wastewater	City Water	City Sewer		
1	Lake Geraldine	278	50	5	10%	8%	2%	4,000	2,300	0%	0%		Excluded
2	Duck Key	60	118	31	26%	14%	12%	0	0	√	√		Within City; Being Developed
3	Marius	106	303	303	100%	0%	0%	0	0	√	√		City Core; Built Out.
4	Hyde Park	125	298	284	95%	0%	2%	0	0	√	√		City Core; Built Out.
5	Highland Ridge	237	559	545	97%	0%	3%	0	0	√	√		City Core; Built Out.
6	Fabian	109	277	272	98%	0%	1%	0	0	√	√		City Core; Built Out.
7	Spearman	77	135	135	100%	0%	3%	0	0	√	√		City Core; Built Out.
8	Holiday Park	237	873	866	99%	1%	6%	0	0	√	√		City Core (Mobile Home), Built Out.
9	Leisure Villas	30	98	98	100%	0%	4%	0	0	√	√		City Core; Built Out.
10	Espanola	32	80	72	90%	1%	6%	0	0	√	√		Commercial Development
11	Biscayne Gardens	232	1,215	1,195	98%	0%	1%	0	0	√	√		City Core; Built Out.
12	North port Palms	177	274	274	100%	0%	0%	0	0	√	√		City Core; Built Out.
13	Floribanna	423	834	375	45%	2%	7%	0	0	60%	60%		Just northwest of City core; South is developed; North experiencing slow scattered growth.
14	Jockey Club	321	831	475	57%	3%	0%	0	0	70%	70%		Charleston Park development will result in build out with 100% water and sewer service.
15	Lancelot	212	736	80	11%	2%	8%	0	0	10%	0%		Just north of City Core; Slow scattered growth.
16	Glenallen	257	597	132	22%	3%	16%	0	1,900	40%	0%	W. Price Blvd.	Just northwest of City core; Southeast is developed, Slow scattered growth in remaining areas.
17	Meroni Paradise	675	2,277	275	12%	3%	8%	0	1,800	10%	0%	N. Biscayne Dr.	Northwest of City core; Some scattered growth in center and southern portions.
18	Ponce De Leon Crossings	177	370	25	7%	0%	4%	0	4,600	5%	0%		North of City core; Mostly undeveloped.
19	Skyview	620	1,869	89	5%	1%	3%	0	2,600	10%	0%		North of City core; Mostly undeveloped; Scattered growth along Ponce De Leon Blvd.
20	Constitution	606	1,589	25	2%	0%	1%	0	1,700	5%	0%		North of City core; Mostly undeveloped.
21	Ladyslipper	656	1,879	150	8%	3%	4%	0	1,400	5%	0%	N. Sumter Blvd.	North of City core; Sumter Blvd. Corridor (Activity Center); Moderate scattered growth in southeast.
22	Sable Trace	182	281	132	47%	37%	10%	0	0	√	√		City Core; Being Developed
23	Fairway Villas	43	152	140	92%	0%	0%	0	0	√	√		City Core; Being Developed
24	Country Club Estates/Sumt	81	146	140	96%	7%	30%	0	0	√	√		City Core; Built Out.
25	Country Club Ridge	230	539	515	96%	1%	4%	0	0	√	√		City Core; Built Out.
26	Sumter Gardens	344	807	295	37%	9%	18%	0	0	60%	40%	- -	Just east of City core; South has water and sewer service; Moderate scattered growth moving North
27	Blue Ridge - Salford	1,232	3,453	1,575	46%	5%	25%	0	0	70%	0%	S. Salford Blvd.	Just east of City core; Steady moderate level of scattered growth; Significant development before 1990.
28	Madagascar	893	2,468	335	14%	8%	6%	0	2,700	10%	0%	N. Salford Blvd.	East of City planned Activity Centers; High level of recent scattered development (except for northeast)
29	North Port Gardens	1,535	4,289	1,025	24%	10%	11%	0	0	20%	0%	S. Cranberry Blvd./W Price Blvd.	East of City core; High level of recent scattered development throughout.
30	Cranberry Fields	1,540	4,611	305	7%	4%	3%	0	1,000	20%	0%	N. Cranberry Blvd.	Just west of City planned Activity Center; High level of recent scattered development in southwest
31	Chamberlain	1,954	5,627	491	9%	5%	4%	0	0	10%	5%		Moderate recent scatter growth (Growth from Bobcat Trail)
32	Kenvil	452	801	85	11%	11%	0%	0	0	20%	20%		Portions being developed (Bobcat Trail); High recent growth. Opportunity to complete key system loop.
33	Greenley Place	417	640	2	0%	0%	0%	1,000	3,700	0%	0%		Undeveloped - North of I-75
34	Shawnee Way	263	478	2	0%	0%	0%	2,600	10,000	0%	0%		Undeveloped - North of I-75
35	Nutmeg/Lagrange	322	603	12	2%	1%	1%	4,000	8,300	0%	0%		Undeveloped; Sumter Blvd. Corridor. - North of I-75
36	Hornbuckle	508	1,473	20	1%	0%	1%	3,300	8,300	0%	0%		Undeveloped - North of I-75
37	Royal Palm	298	782	9	1%	1%	0%	1,200	10,000	0%	0%		Undeveloped - North of I-75
38	Bristol	311	808	15	2%	1%	0%	700	10,500	0%	0%		Undeveloped - North of I-75
39	North Port Estates	3,656	841	406	48%	14%	25%	3,300	10,000	0%	0%		Excluded
40	Woodhaven	824	998	211	21%	16%	5%	0	0	50%	50%	S. Toledo Blade Blvd.	Being Developed (Bobcat Trail); High growth (except for southeast); Opportunity to complete key loop.
41	Toledo Blade	837	2,699	32	1%	1%	0%	0	0	5%	5%		Primarily Undeveloped; Just east of City planned Activity Center - Scattered growth near school.
42	Gardenside	519	1,325	4	0%	0%	0%	0	2,600	20%	0%		Undeveloped.
43	Haberland	1,317	3,332	18	1%	0%	0%	0	5,600	20%	0%		Undeveloped.
44	San Mateo	1,100	3,342	231	7%	2%	5%	0	8,300	30%	0%		Eastern portion of City; Primarily undeveloped; Scattered growth along San Mateo Drive.
45	Atwater	1,875	5,211	141	3%	1%	2%	0	10,900	20%	0%		Eastern portion of City; Primarily undeveloped; Scattered growth along Atwater Drive.
46	Beechwood	212	428	2	0%	0%	0%	0	15,000	5%	0%		Undeveloped - Eastern extents of City limits
47	Bannock	533	1,293	0	0%	0%	0%	1,700	16,000	0%	0%		Undeveloped - Eastern extents of City limits
48	Amnesty	626	476	0	0%	0%	0%	0	16,500	5%	0%		Undeveloped - Eastern extents of City limits
49	Newman	304	717	0	0%	0%	0%	0	19,000	5%	0%		Undeveloped - Eastern extents of City limits
50	Price End	851	1,548	4	0%	0%	0%	0	19,000	10%	0%		Undeveloped - Eastern extents of City limits
51	Blueleaf	558	965	0	0%	0%	0%	2,300	21,000	0%	0%		Undeveloped - Eastern extents of City limits
52	Fairview	579	1,222	0	0%	0%	0%	2,300	21,000	0%	0%		Undeveloped - Eastern extents of City limits
53	Yorkshire	776	615	0	0%	0%	0%	1,500	16,000	0%	0%		Undeveloped - Eastern extents of City limits
54	Langlais	588	1,133	0	0%	0%	0%	1,200	16,000	0%	0%		Undeveloped - Eastern extents of City limits
55	Heron Creek	814	2,367	350	15%	15%	0%	0	0	65%	65%		City core; Being developed (Heron Creek); High growth.
56	Sunburst	450	1,392	398	29%	10%	17%	0	1,000	10%	0%	N. Sumter Blvd.	Sumter Blvd. Corridor; Near City planned Activity Centers; Steady scattered growth throughout.
57	Borderview	107	218	0	0%	0%	0%	300	300	0%	0%		Being Developed (Talon Bay - 218 ERCs, 2003 - 2008)
58	Lakeside Plantation	304	421	26	6%	6%	0%	0	0	√	√		Near Panacea; Being Developed
59	Riley	29	- -	- -	- -	- -	- -	0	0	√	√		Near Panacea; Developed - Riley Chase apartments - 274 ERCs
60	Willow Creek	19	- -	- -	- -	- -	- -	0	0	√	√		City core; Developed - Willow Creek apartments - 200 ERCs
	Total	33,130	73,763	12,627	17%	4%	5%	- -	- -	- -	- -		

Note: Values in this table are based on the most recent available data provided by the City of North Port's GIS Department.

= Highest Priority Neighborhoods

= High Priority Neighborhoods

= Moderate Priority Neighborhoods

= Low Priority Neighborhoods

= Neighborhoods already provided with full City water and sewer services (or will be upon completion of developer's project)

= Excluded: The City has indicated that these Neighborhoods are not candidates for City water and sewer service expansion.

Section 6 – Demand and Flow Projections

As a basis for utility system planning, projections of future potable water demands, wastewater flows, and reclaimed water demands were developed. This section provides a description of the methodologies used for developing the projections and summarizes the projected flows and demands throughout the planning period.

The study area considered in the development of projected water demands and wastewater flows includes the existing utility service area as well as potential future annexation areas identified by City staff. The planning study area was specifically described and illustrated in Section 2.

The City provided documents and supporting materials that were referenced in developing a planning database to project future water demand and wastewater flows. A detailed list of the informational items provided by the City is included in Appendix A.

A. Growth Projections and GIS Planning Database

1. Historical Population

The US Census Bureau Year 2000 Census shows 22,797 persons within the City of North Port at that time. The population of the study area (which includes the Old Myakka Utilities service area) derived from a summation of the Year 2000 Census Blocks was 27,876 persons. The Year 2000 Census for the study area also shows the number of occupied housing units. Table 6-1 shows a breakdown of Year 2000 Census counts of persons and occupied Dwelling units within the Study Area.

Table 6-1 Year 2000 Population and Dwelling Units

Portion of the Study Area	Year 2000 Census Population	Year 2000 Census Occupied Dwelling Units	Year 2000 Persons Per Dwelling Unit
Within North Port City Limits	22,797	9,111	2.50
Old Myakka Utilities Service Area	5,079	2,834	1.79
Totals for Study Area	27,876	11,945	2.33

2. Projected Population

Population projection information developed and provided by the City of North Port Planning Department forms the basis of projecting future flows and demands. The City Planning Department estimated the year 2021 City population will reach 125,325 through a combination of annexations and new construction. Since the design years for this study are 2009 and 2025, the 2021 population estimate provided by the City was extrapolated to forecast the year 2025 population. The 2009 population projection for the service area was determined by individually extrapolating the recent historical growth of existing neighborhoods and accounting for growth in current and proposed developments based on projected development schedules provided by developers. The build out population projection was based on the maximum densities per land use as defined by the City's future land use data.

The resulting total study area population projections for key planning years are indicated Table 6-2.

Table 6-2 Population Projections for the Study Area

Year	Study Area Population
2000	27,876*
2009	72,000
2021	125,325**
2025	143,000
Build-out	250,000

* Based on Year 2000 Census data

** Based on projection provided by the City's Planning Department

3. Water Usage Rate

Historical records of potable water sales and production were obtained and evaluated as a step in the development of planning assumptions for water usage rates and peaking factors. This evaluation included a review of existing City documents such as the 1999 Utility Master Plan and the Comprehensive Plan.

Historical water use according to the 1999 Utility Master Plan is 138 gallons-per-day-per-ERC (gpd/ERC), or 60 gallons-per-capita-per-day (gpcd) based on 2.3 persons per ERC. Water production and sales records for 2002 indicated that water production was 144 gpd/ERC, or 63 gpcd (based on 2.3 persons per ERC). It should be noted that these usage rates are well below average compared to other communities in the state of Florida. This suggests a high level of conservation within the service area and a low level of potable water use for irrigation.

a. Projected Future Water Usage Rates and Peaking Factors

Although recent historic water use data indicates that the City's residential potable water demand is less than 150 gpd/ERC, the City Planning Department projects changes in demographics of the City's population over the next several years. These changes in demographics are anticipated to increase the average number of persons per dwelling unit from 2.3 to 2.7, and increase the water usage per capita per day from 63 gpcd to approximately 75 gpcd. Therefore, the level of service standards used to develop demand projections in this study are as follows: 75 gpcd for the average daily water usage rate and 2.7 persons per ERC. These assumptions equate to a future residential water use rate of 200 gpd/ERC. This usage rate considers distribution system water losses and anticipates that the City will maintain a fairly low level of potable water irrigation based on historical trends and the anticipated availability of a non-potable irrigation source (supplemented with reclaimed water in certain new developments within the service area).

In addition to projecting the residential water demand for the service area, commercial/industrial water demand projections were also developed. In order to project future commercial/industrial average day water demand, a commercial water usage rate of 1,200 gallons per acre per day (gpad) was selected based on typical engineering guidelines for cities with similar characteristics to North Port. This commercial water usage rate was used to developed demand projections for the future commercial and industrial developments anticipated within the service area. It should be noted that the commercial/industrial water usage rate of 1,200 gpad results in the non-residential demand within the service area to reach 34% of the total demand by 2025. This percentage of non-residential demand is consistent with typical commercially self-sufficient communities.

There is insufficient available data to support the calculation of peaking factors for maximum day and peak hour water use based on actual historical events. Therefore,

typical planning guidelines for peaking factors were used in this planning effort. A maximum day peaking factor of 1.75 and a peak hour peaking factor of 2.5 were considered appropriate, and these factors were applied to the projected average day demands to determine the projected peak flows. These factors are consistent with those applied in the 1999 Utility Master Plan.

b. Projected Future Wastewater Usage Rates and Peaking Factors

Based on typical planning guidelines, it is assumed that eighty percent of the potable water used is returned to the sewer as wastewater. Therefore, the projected average day dry-weather flow (ADDF) was calculated to be 60 gpcd. Due to the occurrence of inflow and infiltration (I&I) of rainwater into wastewater collection systems during storm events, the average daily flow (ADF) of wastewater that enters the WWTP is generally higher than the ADDF. The ratio of ADF to ADDF for the City of North Port was calculated as 1.16, which is based on an evaluation of the actual 2002 North Port WWTP operational data. Utilizing this ratio, the average day wastewater production rate was calculated to be 70 gpcd.

In order to project peak day flows, a peaking factor (peak day flow/average day flow) was established. There was insufficient data available to support the calculation of a wet weather peaking factor based on actual historical events. Therefore, a peaking factor of 2.5 was established based on typical engineering planning guidelines. This peaking factor was used to project future peak day flows for the City throughout the planning period.

Peak flows projected using a typical engineering planning guideline provide a reasonable basis for planning. However, peaks estimated in this manner are not directly related to the City of North Port's weather patterns. Therefore, the level of protection associated with this peaking factor is unknown. It is recommended that a rainfall monitoring study be conducted to determine diurnal patterns and sewer response to rain events prior to the detailed design of specific wastewater system components.

4. Planning Database

A GIS-based planning database was developed for the projection of future water demands and wastewater flows. The planning database factored in the projected population, usage rates, and peaking factors as discussed above, as well as developer-provided development schedules and usage rates where available. In addition, the projected schedule for expansion of the utility system into existing neighborhoods (as discussed in Section 5)

was incorporated. In general, the following steps were followed in utilizing the planning data base to project demands and flows for each planning year:

- The planning database utilized the future study area population projections indicated in Table 6-2.
- The population of the proposed developments of Thomas Ranch, Panacea, and Kelse Ranch was assumed to be in accordance with the developer provided schedules of development.
- Projected population growth in the study area in excess of that applied to the proposed developments was distributed among existing neighborhoods in a manner reflective of anticipated growth trends, in accordance with information provided by the City Planning Department.
- Demands and flows within current and proposed developments were calculated by applying the unit usage rates established by the developers where available. In absence of developer-provided usage rates, the planning unit rates that were previously discussed in this section were used.
- Demands within existing neighborhoods were calculated by applying the planning usage rates only to those neighborhoods where utility service will have been established. That is, no neighborhood contributes to flows and demands before utility system expansion has occurred in that neighborhood. The projected schedule for utility system expansion into existing neighborhoods was discussed in Section 5.
- Commercial and industrial demands were established by applying the commercial unit rates to areas designated for commercial and industrial development. This was established in consideration of information provided by the City Planning Department regarding the anticipated location and timing of commercial development in the study area.

The planning data base was used to determine total water demands and wastewater flows for the system, as well as a geographical distribution of demands for use in planning and hydraulic modeling. It should be noted that the development of future demands/flows is significantly influenced by the projected customer growth in the large proposed new developments of Thomas Ranch, Kelse Ranch, and Panacea. As indicated previously, the projected demands/flows presented in this section reflect the development schedules provided to the City by the developers, which the City has committed to meet. However, current progress suggests that actual development of these areas may lag behind the

developers' presented schedule by at least 6 months in Panacea and Kelse Ranch, and at least 12 months in Thomas Ranch. Therefore, the short term expansion needs may be reduced if the current schedule trends persist. The City should monitor this closely and adjust the schedule for utility system improvements as necessary.

The future demands/flows projected in this plan are also significantly influenced by the proposed utility system expansion into existing neighborhoods, which is discussed in Section 5 of this report. For the purpose of this plan, the demand/flow projections assume that the City will expand water and wastewater service into existing neighborhoods according to the preliminary schedule described in Section 5. However, the City has the ability to delay expansion into the existing neighborhoods in order to slow down the projected increase in demands/flows if beneficial.

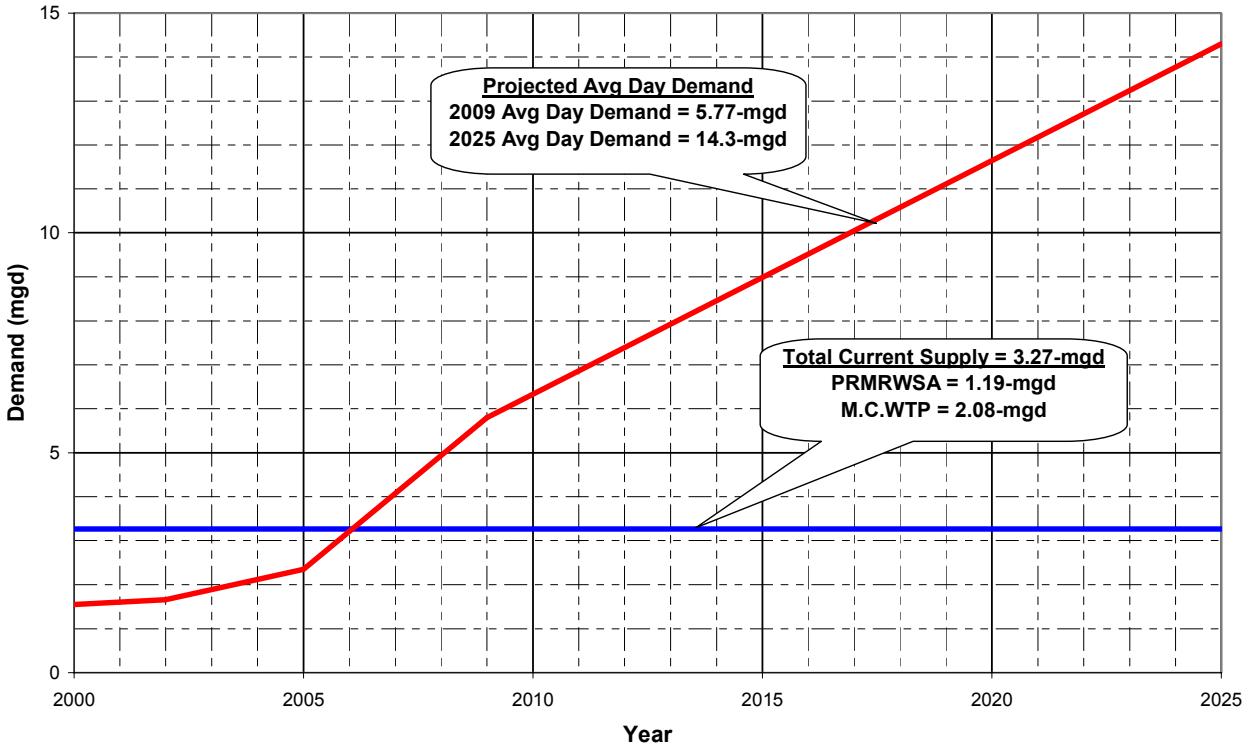
B. Projected Potable Water Demands

The planning database was used to determine projected potable water demands for planning years 2009, 2025, and at build out. Resulting projections are summarized in Table 6-3 and illustrated in Figure 6-1.

Table 6-3 Potable Water Demand Projections

Year	Average Day Demand (mgd)	Maximum Day Demand (mgd)	Peak Hour Demand (mgd)
2002	1.66	2.9	4.2
2009	5.77	10.1	14.4
2025	14.3	25.0	35.8
Build-out	25.4	44.5	63.5

Figure 6-1 Potable Water Average Day Demand Projection



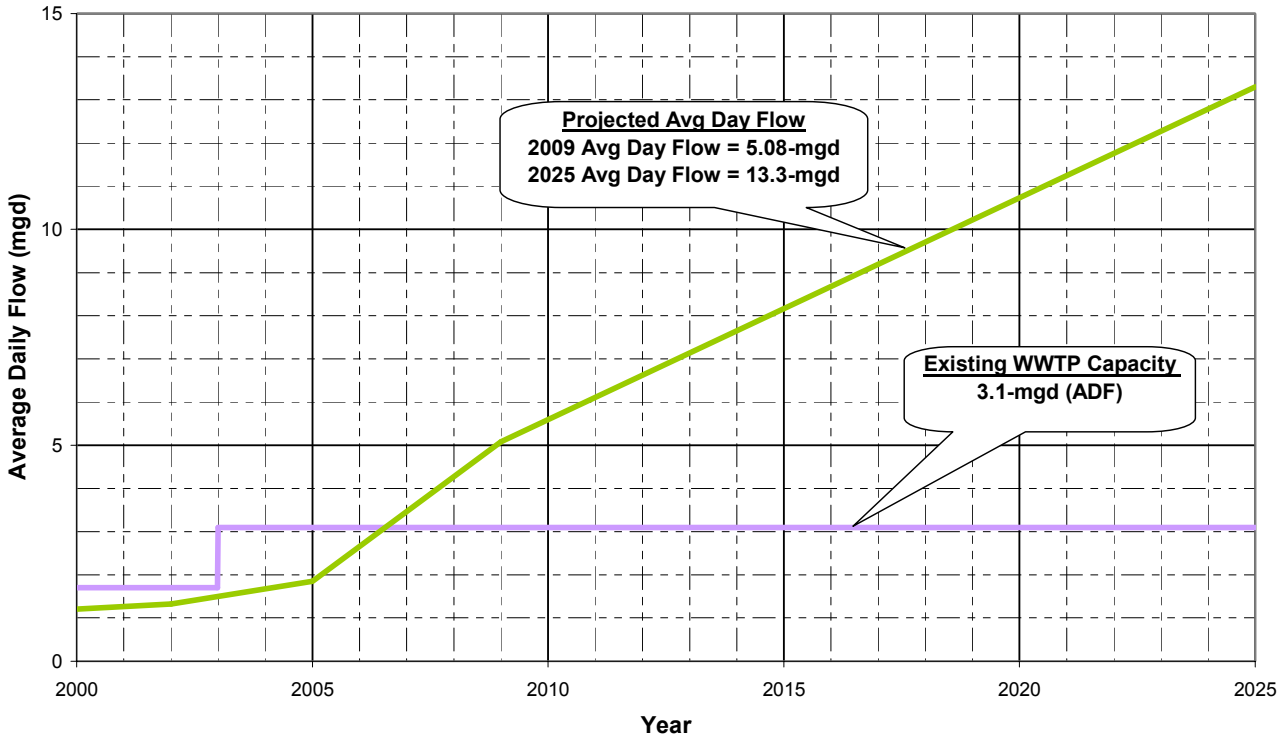
C. Projected Wastewater Flows

The planning data base was used to determine projected wastewater flows for planning years 2009, 2025, and at build out. Resulting projections are summarized in Table 6-4 and illustrated in Figure 6-2.

Table 6-4 Wastewater Flow Projections

Year	Average Daily Flow (mgd)	Peak Daily Flow (mgd)
2002	1.32	2.9
2009	5.08	12.7
2025	13.3	33.3
Build-out	23.5	58.8

Figure 6-2 Wastewater Average Daily Flow Projection



D. Projected Reclaimed Water Demand

The current agreements established by the City with the existing reclaimed water customers indicate that the City has committed to provide up to a combined 1.7 mgd of reclaimed water supply to existing customers. For the purpose of this plan, it is assumed that the City will continue to supply reclaimed water to existing customers in the future, at the currently committed flowrates.

In addition, several potential future bulk users of reclaimed water have been identified. Table 6-5 summarizes the potential future bulk users within the City's service area.

Table 6-5 Potential Future Bulk Reclaimed Water Customers

Potential Customer	Projected Reclaimed Water Demand (mgd)
North Port High School	0.3
City Center	0.3
Butler Park	0.4
Bobcat Trail Golf Course	0.5
Thomas Ranch	7.4
Panacea	1.0
Kelse Ranch	1.0

As the City's wastewater flow increases throughout the planning period, additional reclaimed water supply will become available for distribution to the targeted reclaimed water customers. It should be noted that the City is currently in the process of negotiating Developer Agreements for the planned Thomas Ranch, Panacea, and Kelse Ranch developments. Discussions to date regarding these areas include the implementation of non-potable irrigation systems in these developments for irrigation of residential and commercial properties. Future bulk supply supplementation of these irrigation systems with reclaimed water is a likely scenario. Projections of potential reclaimed water demand in these developments are based on the irrigation demand calculated for the development.

Section 7 – Developer Contributions

A. Existing Agreements

Black & Veatch conducted a review of the City's previous land development agreements to identify the utility system infrastructure that developers agreed to construct, as well as infrastructure that the City agreed to construct with partial financial participation by the developers. A complete summary of the utility system infrastructure agreements was provided to the City along with recommendations for the City's consideration in negotiating future agreements. This information is presented in Appendix B.

It appears that all of the primary infrastructure improvements identified in the existing agreements have already been installed by the developers. The City's hydraulic models, which were developed as part of the Utility Master Plan, include the primary infrastructure improvements identified in the existing land development agreements.

B. Future Agreements for the Thomas Ranch, Kelse Ranch, and Panacea Developments

A substantial portion of the projected future growth in North Port is anticipated to occur within several planned residential developments in the more recently annexed areas of the City. Most notably, these include the proposed Thomas Ranch, Kelse Ranch, and Panacea developments. It is understood that these developments will be fully served with City water and wastewater utilities in keeping with the goals of the City's Comprehensive plan.

At the time of preparation of this master plan, discussions between the City and the developers are leading to the establishment of developer agreements for each of these proposed developments. Among other issues, these agreements will define the contributions the developers will be required to make towards implementation of the necessary utility system infrastructure to serve the needs of these proposed new developments. The agreements will likely require the developers to design and construct certain potions of the necessary utility infrastructure and will require the developer to make some form of financial contribution in support of required infrastructure to be designed and constructed by the City.

Recommendations made by Black & Veatch in the Interim Report on Developer Contributions submitted to the City (see Appendix B) addressed the recommended division of responsibility with regard to the implementation of new infrastructure to meet the needs of proposed developments. These recommendations are summarized below:

- In general, developers should be responsible for funding, designing, and constructing all water transmission and distribution piping, wastewater collection system infrastructure (gravity piping, manholes, lift stations, transmission force mains), and reclaimed water transmission piping within the developments.

- In general, the City should be responsible for funding, designing and constructing the following facilities. For infrastructure designed and constructed by the City, it is recommended that the agreements include requirements for the developers to compensate the City for part or all of these improvements:

    - Water supply, treatment, storage, and pumping facilities
    - Wastewater treatment and disposal facilities, along with reclaimed water storage tank and pumping station.
    - Master wastewater pumping stations / pretreatment facilities.
    - Transmission pipelines/forcemains located outside of the development.

It is understood that the City may opt to require the developers to design and construct certain pumping stations, treatment facilities, and pipelines outside of the development boundaries where deemed beneficial by the City and where design standards / criteria can be properly defined.

For purposes of developing the City's Capital Improvement Plan as part of this Master Plan, it was necessary to make assumptions regarding which projects the City will implement (perhaps with developer compensation) and which projects the developers will implement and fund independently. As negotiations were ongoing between the City and developers during preparation of the Master Plan, City Staff were able to identify certain projects that the agreements would likely require the developers to fund, design, and construct. The master plan was developed to reflect this, and those projects are identified in discussions presented later in this report. In lieu of specific information, it was assumed that responsibilities for funding, design and construction will follow the above recommendations.

Section 8 – Hydraulic Modeling

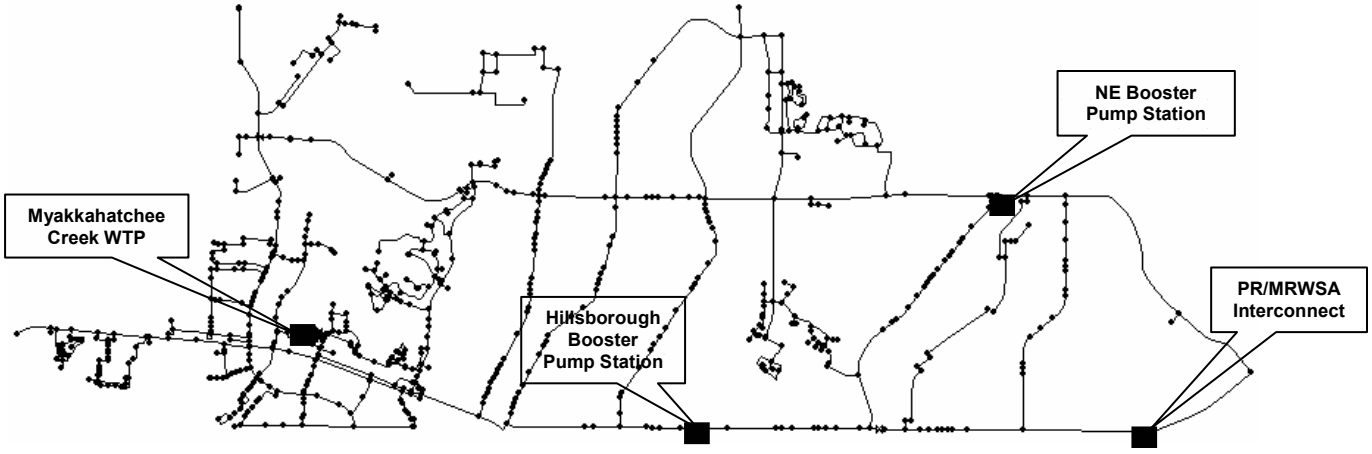
Hydraulic models were developed for the City's potable water transmission system, wastewater forcemain system, and reclaimed water transmission system using WaterCAD software. The development of each of the models was primarily based on utility system data provided by the City in electronic GIS format. Additional facility and operational data was provided by the City's Utilities Operations Staff. This section of the plan describes the methodologies used to develop and validate each of the models created for the City. The results of the hydraulic modeling runs are also discussed in this section.

A. Potable Water System Model

1. Model Development

The potable water system model was created with a high level of skeletonization to facilitate ease of use while also maintaining the ability to evaluate the potable water system at a suitable level of detail. Skeletonization is the process of selecting only the parts of the hydraulic network that have a significant impact on the behavior of the system for inclusion in a water distribution model. Highly skeletonized systems are commonly used when creating hydraulic models for large complex systems, such as the City of North Port's potable water system. The model consists of all of the primary components of the transmission/distribution system, which includes the water supply sources/interconnects, high service pump stations, booster pump stations, storage tanks, all 8-inch and larger pipelines, and 6-inch pipes which complete critical system loops. The GIS data provided by the City was imported into WaterCAD to aid the development of the transmission and distribution system piping layout. Figure 8-1 illustrates the basic layout and components of the hydraulic model created for the City's potable water system.

Figure 8-1 City of North Port Existing Potable Water System Model



Water demands were allocated throughout the model according to the information from the GIS planning database that was created as part of this master plan. The GIS planning database contains current and projected water demand information for each neighborhood/geographic area. Details regarding the GIS planning database and the current and projected potable water demands are available in Section 6 of this report.

A validation analysis of the potable water system model was performed by comparing actual system operating data (collected by the City's Utilities Operation Staff in March and April, 2004) with the results achieved by the model. The amount of system operating data that could be collected for the validation analysis was restricted by the limited amount of monitoring and recording equipment available throughout the system. The validation analysis was performed through a sequence of model runs, reviews, and adjustments to enhance model accuracy. Adjustments made to the model during the validation analysis process were relatively minor and primarily involved adjustments to the modeled pump curves for the existing pumps at the City's pump stations. It should be noted that manufacturers' pump curves were not available for all of the City's existing pumps, and that a number of the modeled pump curves were estimated based on field data provided by City Utilities Staff.

2. Modeling Current System Performance

The hydraulic analysis of the City's current potable water system was based on the evaluation of several steady state hydraulic model runs for the following demand scenarios – average day; maximum day; peak hour; and maximum day plus fire flow. For the purpose of this plan, the modeling runs created to analyze existing system performance assumed that the pump replacement projects currently underway at the Myakkahatchee Creek High Service Pump Station and Hillsborough Booster Pump Station have been completed as proposed (*Technical Memorandum: Final Preliminary Design Report for the City of North Port – High Service Pump and Electrical Replacement at the Water Treatment Facility and Hillsborough Booster Pump Station (City Contract 03-03)*, PBS&J Inc, 2003). These pump replacement projects are scheduled to be completed by January 2005.

The pressure requirements used for the hydraulic analysis of the City's potable water system are summarized in Table 8-1. These pressure requirements are based on information provided in the City of North Port Utilities Standard Handbook as well as general engineering guidelines for hydraulic analysis of potable water distribution systems.

Table 8-1 Potable Water System Pressure Requirements		
Demand Condition	**Minimum Required Curbside Pressure**	**Maximum Allowable Pressure**
Average Day Demand	50 psi	90 psi
Maximum Day Demand	35 psi	90 psi
Peak Hour Demand	30 psi	90 psi
Maximum Day plus Fire Flow Demand	20 psi*	90 psi

* During Maximum Day plus Fire Flow Demand conditions the fire flow must be delivered at a curbside pressure of at least 20 psi, while trunk main pressures are maintained at 35psi or greater.

The results of the hydraulic analysis indicate that the City's potable water system can maintain sufficient pressures throughout the service area under current average day, maximum day, and peak hour demand conditions. However, the hydraulic analysis revealed that the system's ability to meet the City's minimum fire flow requirements is limited in some portions of the service area. Results and conclusions regarding the fire flow analysis are summarized below.

3. Fire Flow Analysis

The hydraulic model was used to evaluate the existing system's ability to meet the City's fire flow requirements throughout the service area. The fire flow requirements used for this analysis were provided by City Staff and are summarized in Table 8-2.

Table 8-2 Fire Flow Requirements			
Type of Development	**Minimum Required Fire Flow Rate[1]**		**Duration of Fire Flow (Hours)[2]**
	gpm	**mgd**	
Single Family Residential	1,000	1.44	2
Multi Family Residential	2,000	2.88	2
Commercial	2,000[3]	2.88	2

[1] Amount of fire flow required at a single location when the rest of the system is experiencing maximum day demand conditions. The fire flow must be delivered at a curbside pressure of at least 20 psi, while trunk main pressures are maintained at 35psi or greater.

[2] Duration of Fire Flow (hours) is based on ISO requirements for fire flows of 2,500 gpm or less.

[3] The 2,000 gpm fire flow requirement assumes that a fire suppression sprinkler system has been installed in the commercial development. The City of North Port's Unified Land Development Code states that a fire flow of 4,000 gallons per minute (gpm) is required for commercial developments which lack a fire suppression sprinkler system.

The fire flow analysis revealed that the minimum required fire flow supply can not be provided to some areas served by the existing potable water system. Figure 8-2 illustrates the available fire flow supply throughout the system as predicted by the hydraulic model.

In general, the model indicated that any fire hydrants fed by non-looped 6-inch diameter piping (or smaller) more than a few hundred feet in length are not able to meet the minimum fire flow requirements. More specifically, the model predicted that fire flow requirements could not be met at the following four regions of the service area:

- Old Myakka Utilities Service Area – This area is served by a non-looped 8-inch pipeline that is several thousands of feet in length.
- San Mateo Neighborhood – This neighborhood is currently provided limited service from a collection of 6-inch to 10-inch diameter pipelines that run along South San Mateo Drive and some parallel streets.
- Sunburst Neighborhood – This neighborhood is currently provided limited service via non-looped 6-inch diameter piping.
- North Biscayne Drive and Ponce De Leon Boulevard – Potable water service is provided to a limited number of customers located along North Biscayne Drive and Ponce De Leon Boulevard via 6-inch to 12-inch diameter piping in the northwest portion of the potable water transmission system.

The model was used to evaluate potential projects for improving fire flow capabilities in these areas. The resulting recommended improvements are described in detail in Section 9 of this report.

4. Modeling Future System Scenarios

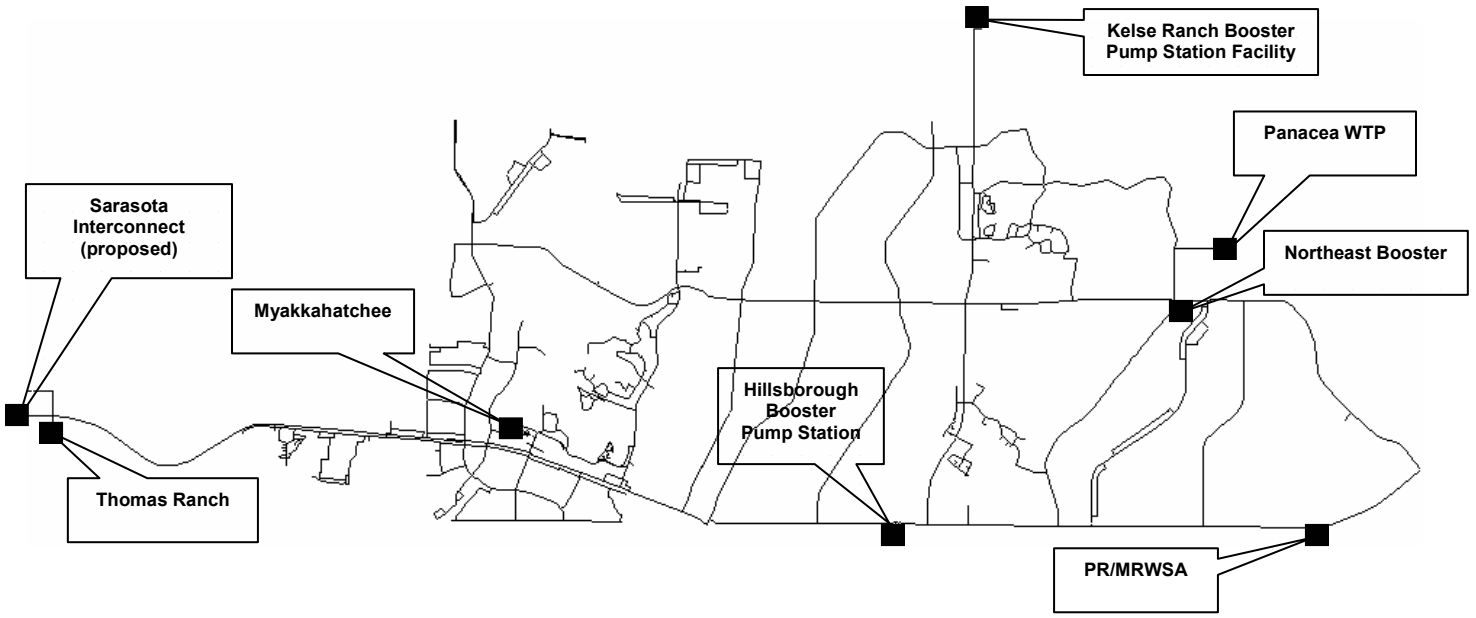
Future system scenarios were created in the hydraulic model to analyze the overall operation of the City's projected future potable water system for planning years 2009 and 2025. The future system scenarios incorporate the projected increases in demands, the anticipated service area expansions, and the future water supply sources that are recommended in this plan. A discussion of the recommended water supply options is provided in Section 9 of this report.

The future system scenarios were reviewed for potential deficiencies, including an examination of piping and pumping system requirements, and an evaluation of supply and storage capacities. Potential system improvements were modeled into the future

system scenarios and an iterative process was used to determine the most appropriate infrastructure improvements needed to meet the future projected demands.

The hydraulic model revealed that several system improvements would be required throughout the planning horizon to meet the rapid growth in demands and system expansions projected to occur over the next 20 years. Since the City's existing potable water transmission piping system is fairly well developed throughout the service area and relatively oversized for current demands, the majority of the improvements required within the planning horizon involve the development of new water supply sources and the addition of distribution piping systems to existing neighborhoods and future developments. The need to upgrade and expand existing transmission system piping and pumping facilities over the next 20 years was also indicated by the hydraulic model. Figure 8-3 illustrates the basic layout of the future system model scenario developed for the year 2025. The recommended system improvements that were identified through the analysis of the future system scenarios are described in detail in Section 9 of this report.

Figure 8-3 City of North Port Projected 2025 Potable Water System Model



B. Wastewater System Model

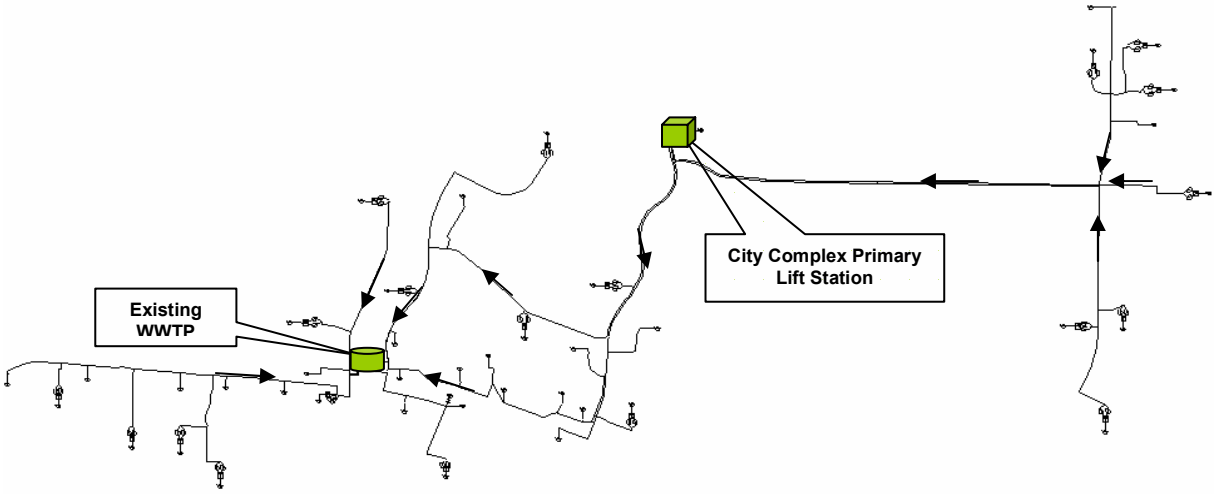
1. Model Development

A hydraulic model of the City's wastewater transmission system was created using the WaterCAD software. The model consists of the primary components of the forcemain transmission system, which includes all primary lift stations, secondary lift stations, the headworks of the WWTP, and all primary wastewater forcemains. The lift station wetwell and pumps were modeled for primary lift stations, whereas secondary lift stations were modeled as inflows. Figure 8-4 illustrates the methodology used for modeling lift stations.

Figure 8-4 Lift Station Modeling

GIS data provided by the City was imported into WaterCAD to aid the development of the forcemain transmission system layout. Details regarding lift station pumps and wetwell storage volumes were input into the model based on field data provided by the City's Utilities Operations Staff. It should be noted that some pertinent lift station data was not available from the City. Therefore, it was necessary to estimate pump curves and wetwell storage volumes for some of the modeled lift stations based on the limited information available. Figure 8-5 illustrates the basic layout of the City's existing wastewater forcemain transmission system hydraulic model. It should be noted that modeling of the City's wastewater gravity collection piping was not completed as part of this Utility Master Plan.

Figure 8-5 City of North Port Existing Wastewater Transmission System Model



2. Modeling Current System Performance

The hydraulic analysis of the City's current wastewater transmission system was based on the evaluation of steady state hydraulic model runs of peak day flow conditions. A peak day flow condition was modeled as one pump running at each primary lift station and an inflow of approximately 75% of the peak day flows for all secondary lift stations. The peak day flow data used in the hydraulic model was developed as part of the planning database which is described in Section 6 of this report.

The results of the hydraulic analysis indicate that the City's existing forcemain transmission system is adequately sized to deliver the current peak daily flows from the collection systems to the WWTP. However, the hydraulic analysis revealed that some portions of the forcemain system may continuously be operating at velocities lower than 2 ft/sec, which is the minimum velocity required by the City of North Port Utilities Standard Handbook (to keep solids in suspension). Since wastewater flows are projected to significantly increase over the planning horizon, the velocities will generally increase over time. In the short-term, the City may wish to conduct periodic flushing of forcemains which are currently oversized (and continuously operated at low velocities).

3. Modeling Future System Scenarios

Future system model scenarios were developed to analyze the overall operation and expansion of the wastewater transmission system for the future service area and demands projected for 2009 and 2025. The scenarios developed for years 2009 and 2025 assessed the performance of the projected future systems at peak day flow conditions. The future system scenarios were used to determine future forcemain and lift station requirements, as well as to evaluate existing and proposed WWTP capacities. The projected improvements were developed and evaluated through an iterative process with the hydraulic model.

The hydraulic model indicated that that several wastewater transmission system improvements are necessary throughout the planning period to meet the rapid growth in demands and system expansions projected over the next 20 years. Necessary system improvements include extensions to serve new developments and expanded neighborhood areas, as well as piping and lift station improvements necessary to convey increased future flows. Figures 8-6 and 8-7 illustrate the basic layout of the future system model scenarios that were created for years 2009 and 2025. Recommendations for implementing the improvements evaluated in the future wastewater system hydraulic model scenarios are presented in Section 10 of this report.

Figure 8-6 City of North Port Projected 2009 Wastewater Transmission System Model

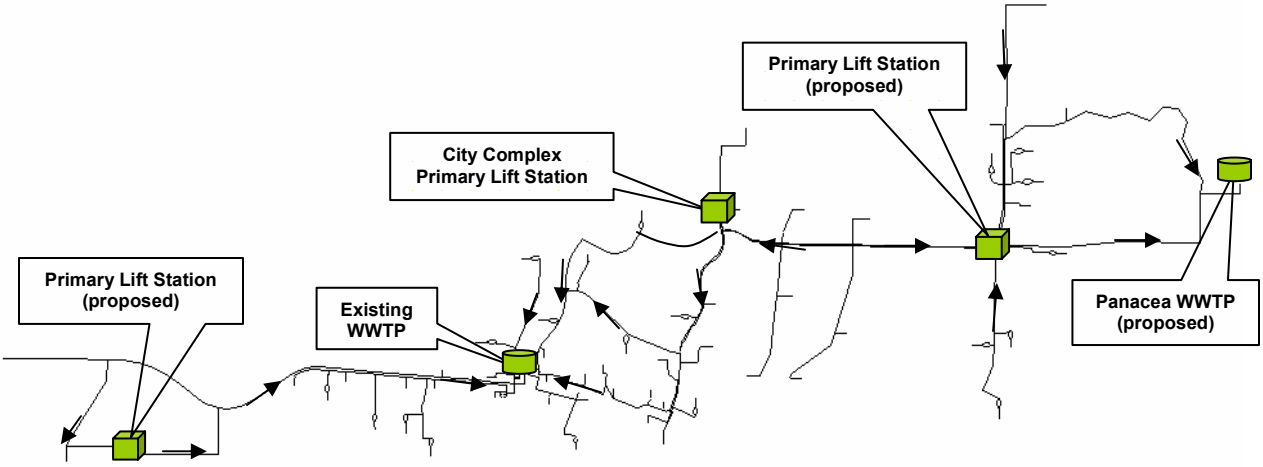
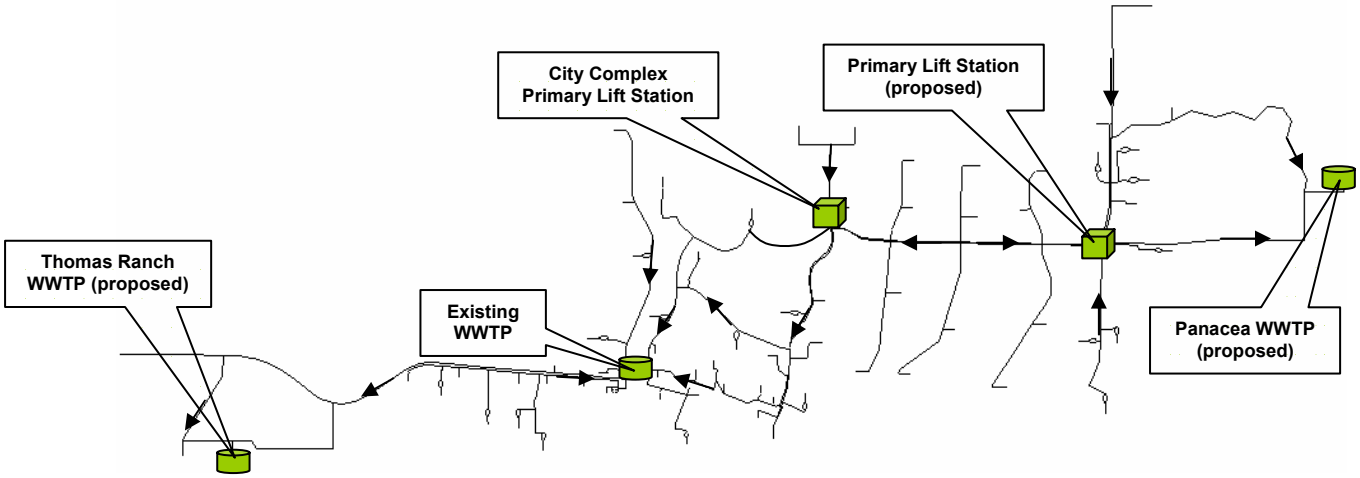


Figure 8-7 City of North Port Projected 2025 Wastewater Transmission System Model



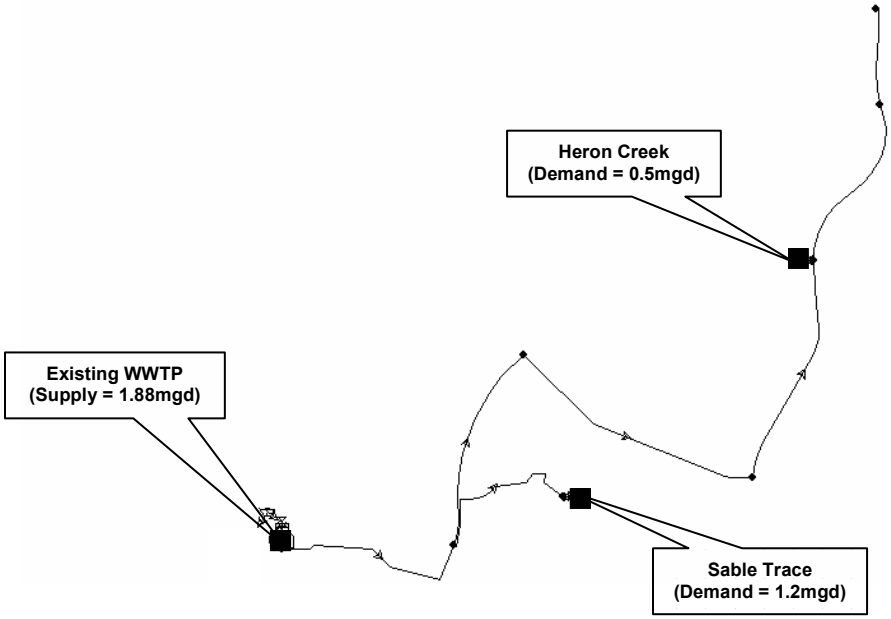
It is recommended that the City update and recalibrate the water and wastewater system hydraulic models every two years in order to maintain the accuracy of the models and to reflect actual system expansions and improvements. It is also recommended that developers be required to submit any necessary data to allow the City to accurately update the hydraulic models according to the developers' water and wastewater infrastructure plans. If available, any hydraulic models created by the developer should be provided to the City.

C. Reclaimed Water System Model

1. Model Development

A hydraulic model of the City's reclaimed water transmission system was created based on the GIS data provided by the City. The reclaimed water model consists of the primary components of the reclaimed water transmission system, which includes the reclaimed water high service pump station and storage tank at the WWTP, the Sable Trace ground storage tank, and all reclaimed transmission system piping. Figure 8-8 illustrates the basic layout of the hydraulic model of the City's reclaimed water system.

Figure 8-8 City of North Port Existing Reclaimed Water Transmission System Model



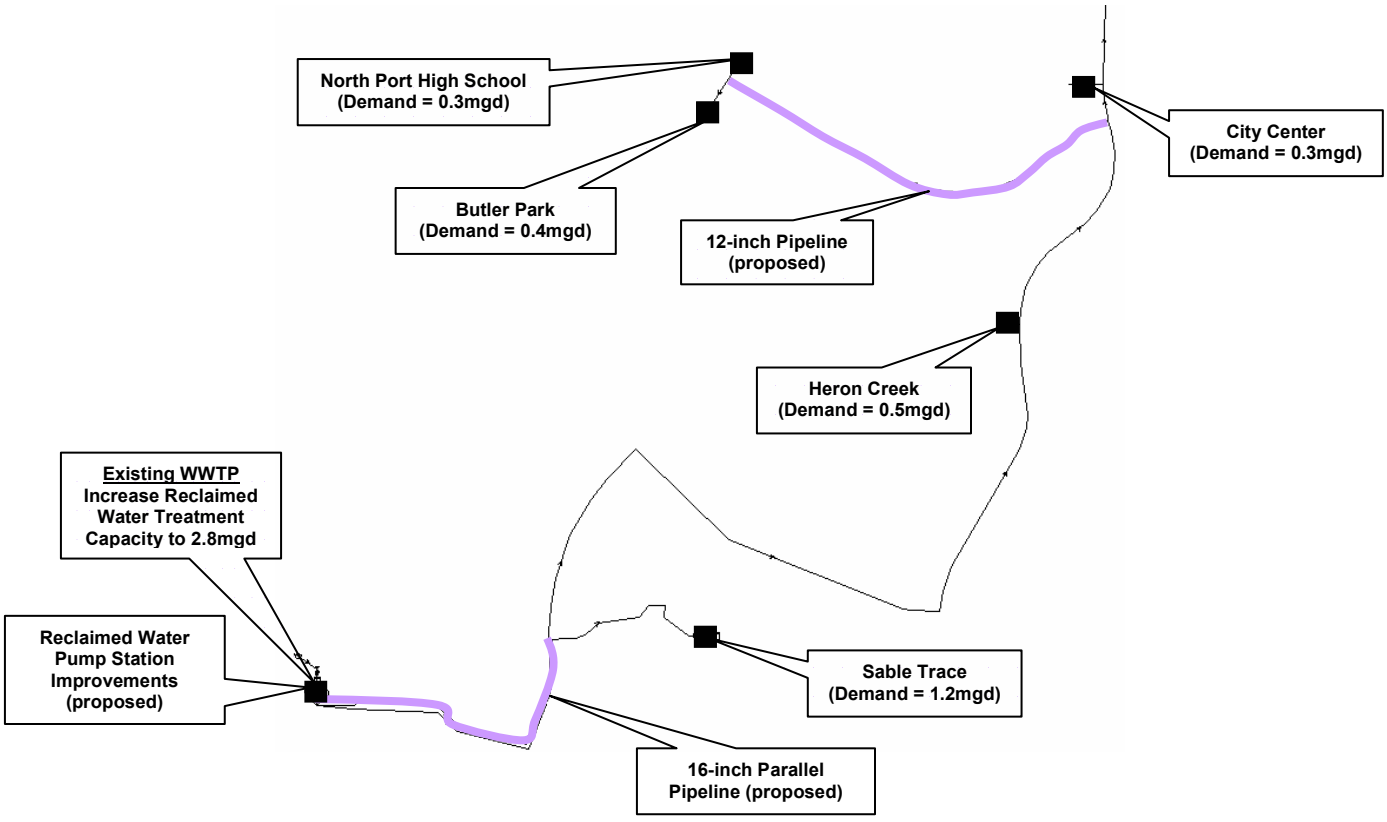
2. Modeling Current System Performance

The maximum committed delivery requirements indicated in the existing reclaimed water supply agreements were modeled. Details regarding the current reclaimed water demands and customers are available in Section 2 of this report. The hydraulic analysis indicated that the City's existing reclaimed water system has the hydraulic capacity to deliver the maximum contractual supply quantities to the existing reclaimed water customers without notable performance issues. The hydraulic model indicated that the existing reclaimed water system could maintain a pressure of 40 psi or greater throughout the entire system during a maximum demand conditions.

3. Modeling Future System Scenarios

Future system scenarios were created in the hydraulic model to analyze potential expansions to the existing reclaimed water system. The future system scenarios assessed the performance of the projected future reclaimed water system under maximum demand conditions. Details regarding the bulk-use reclaimed water customers targeted by the City and their projected reclaimed water demands are available in Section 6 of this report. It should be noted that the reclaimed water systems anticipated for the Thomas Ranch, and Panacea development areas were not included in this reclaimed water system model since these areas are anticipated to be served from future WWTPs. Figure 8-9 illustrates the model scenario developed for the City's potential future reclaimed water system.

Figure 8-9 City of North Port Projected Future Reclaimed Water System Model



This future system model scenario provides a preliminary indication of the primary piping and pumping improvements required to expand reclaimed water service to some additional bulk-use customers currently targeted by the City. It should be noted that expansion of the reclaimed system will also require storage and treatment improvements. Specific recommendations regarding the necessary reclaimed water system improvements are summarized in Section 11 of this report.

Section 9 – Water System Conclusions and Recommendations

This section presents conclusions and recommendations regarding actions and improvements associated with the City's potable water system. These are intended to address existing system deficiencies as well as meet growing future demands. Conclusions and recommendations herein are based on investigations and analyses presented in previous sections and in consideration of available alternative solutions.

Figure 9-3, included at the end of this section, illustrates the water system improvements recommended within the planning horizon. Section 12 includes a summarized listing of the recommendations discussed below and presents a five-year Capital Improvements Program.

A. Conclusions and Recommendations Regarding the Existing System

1. Water Supply and Treatment Facilities

Myakkahatchee Creek WTP

Overall, the Myakkahatchee Creek WTP appears to be operating properly and maintaining compliance with the current regulatory requirements. However, some minor issues related to condition, performance, and operation of the WTP were identified during the master planning process. These issues were described in detail in Section 4 of this report. It is recommended that the City implement the improvements required to address these issues at the WTP. The design effort should include a study phase to define the specific improvements required. The following general items should be addressed.

- Transfer pumping (VFD) improvements to correct possible variations in disinfectant contact time and chemical dosing in the clearwell.
- Improvements to correct high turbidity in filtered water and to otherwise improve the reliability of the plant at flows approaching the 4.4 mgd design capacity.
- Improvements to filter backwash equipment and procedures including addition of on-line turbidity meters.

Myakkahatchee Creek Water Supply

As indicated in Section 4, the water use permit (WUP) for the Myakkahatchee Creek supply is scheduled to expire in March 2005. It is recommended that the City initiate renewal of the SWFWMD consumptive WUP (#202923.06) to achieve renewal prior to the March 2005 expiration.

The Myakkahatchee Creek water supply has shown wide historical variation in quantity and quality due to seasonal low flows. In order to improve the reliability of this water supply, the City is in the process of implementing an ASR system at the WTP. It is recommended that detailed evaluations of water quality and blending issues be performed as part of the pilot testing phase of the City's ASR implementation project. The City may also wish to explore opportunities for implementing a flow augmentation project as part of the WUP renewal. The City has indicated that they are currently seeking funding from SWFWMD for a cooperative study which will analyze the ability of the City's canal system to supplement the Myakkahatchee Creek supply. It should be noted that the future water supplies recommended in this Utility Master Plan provide for a diversification of sources, which will relieve the City's dependence on the Myakkahatchee Creek, thus helping to relieve concerns regarding the reliability of this water supply.

The City currently has some policies in place to protect the water quality of the Myakkahatchee Creek. It is recommended that the City expand upon their current policies and adopt a formal Sourcewater Protection Program to increase the level of protection against contamination of the Myakkahatchee Creek surface water supply from activities on properties adjacent to contributing waterways including canals.

PR/MRWSA Supply and Interconnect

As indicated in Section 4, the City currently receives limited data on flows entering their system from the PR/MRWSA Interconnect. It is understood that the flow data provided includes only periodic volume totals, and that this data is provided after-the-fact, for the previous billing period. The lack of instantaneous PR/WRWSA flow information can present an operational challenge for the City, and the availability of this data will become more crucial as the City's system grows in size and complexity. It is recommended that the negotiations with PR/MRWSA for an increased future allocation (as discussed later in this section) include the provision of real time flow data to the City. In lieu of such an agreement, the City may want to consider constructing their own metering station at the PR/MRWSA Interconnect.

2. Transmission and Distribution System Facilities and Piping

Pump Stations

As discussed in Section 4, the City is currently in the process of upgrading the pumps at the Myakkahatchee Creek High Service Pump Station and the Hillsborough Booster Pump Station. Hydraulic modeling of the potable water system indicates that the proposed pump replacements will significantly enhance the City's ability to maintain sufficient pressures throughout the distribution system. The City has indicated that the proposed pump replacements at the Myakkahatchee Creek High Service Pump Station and Hillsborough Booster Pump Station will be completed by March 2005.

It is recommended that the City install an emergency engine generator at the Hillsborough Booster Pump Station in order to increase the reliability of this facility.

Potable Water Storage Facilities

The City currently utilizes three potable water ground storage tanks which have a combined storage capacity of 4.5 million gallons. Analyses of the City's existing potable water system and current demands indicate that sufficient storage is available within the system to handle the City's current peak hour and fire flow demand requirements. The storage capacity analysis is based on Florida Administrative Code (FAC) Rule 62-555 which states that the "total useful finished water storage capacity connected to a water system shall at least equal 25% of the system's maximum day water demand", and that "additional finished water storage capacity shall be provided as necessary to meet the design fire-flow rate for the design fire-flow duration".

Transmission and Distribution System Piping

Based on information gathered during development of the Utility Master Plan, the transmission and distribution system piping in the City's potable water system is understood to be in good condition and operating properly without significant problems during normal operating conditions. However, as discussed in Sections 4 and 8, the results of existing system hydraulic modeling identified the following issues with the existing transmission and distribution piping:

- The majority of the transmission pipelines are currently operated at low velocities. The combination of low system velocities and the large distances covered by the City's transmission system results in lengthy travel times to some customers, which can often result in water quality issues including low chlorine residual. City Staff has specifically indicated that periodic flushing of the distribution system piping

along Ponce de Leon Boulevard is necessary to avoid low chlorine residuals in this portion of the service area. It is recommended that the City perform a detailed water quality study for the potable water system to determine any pipeline improvements, maintenance activities, and operational modifications that would allow the City to reduce the potential for water quality problems developing within the transmission system. As part of the study, water quality modeling should be performed to analyze the travel time of the water delivered through the system. In addition, it is recommended that the City implement a program of water quality monitoring within the distribution system.

- As discussed in Section 8, the potable water system can not meet the City's minimum required fire flow in some portions of the service area. In general, the model indicated that any fire hydrants fed from over a few hundred feet of non-looped 6-inch diameter piping (or smaller) are not able to meet the minimum fire flow requirements. More specifically, the model predicted that fire flow requirements could not be met in four regions of the service area. Fire flow issues in these regions, as well as recommended improvements, are described below:

    - Old Myakka Utilities Service Area – This area is served by an un-looped 8-inch pipeline that is several thousands of feet in length. In order to improve the availability of fire flow in this region, it is recommended that the City interconnect the western portion of the Old Myakka Utilities Service Area's primary 8-inch supply pipeline with the proposed 16-inch potable water pipeline along US-41. The proposed 16-inch pipeline along US-41 is anticipated to be designed and constructed in the near future to provide potable water service to the Thomas Ranch development.

    - San Mateo Neighborhood – This neighborhood is currently provided limited service from a collection of 6-inch to 10-inch diameter pipelines that run along South San Mateo Drive and some parallel streets. In order to improve the availability of fire flow in this region, it is recommended that the City complete the 10-inch diameter piping along the entire length of South San Mateo Drive. It is estimated that this improvement will require approximately 11,000-feet of new 10-inch diameter piping. This pipeline improvement also enhances the operational flexibility of the potable water transmission system by increasing the amount of PR/MRWSA Interconnect supply that can be delivered to the Northeast Booster Pump Station. It should be noted that the City's current standards do not promote the installation of 10-inch diameter

piping . However, since a significant portion of the pipeline along South San Mateo Drive is already completed with 10-inch diameter piping, the City will consider using 10-inch diameter piping in this case.

- Sunburst Neighborhood – This neighborhood is currently provided limited service via un-looped 6-inch diameter piping. In order to improve the availability of fire flow in this region, it is recommended that the City construct a 12-inch diameter pipeline along N Sumter Boulevard (approximately 5,000-feet from City Center Boulevard to La France Avenue) and construct additional distribution system piping within the neighborhood to reduce the amount of un-looped distribution piping. It is anticipated that these piping improvements will be completed as part of the utility system expansion into the Sunburst neighborhood, which is projected to occur within the next five years.
- North Biscayne Drive and Ponce De Leon Boulevard – Potable water service is provided to a limited number of customers located along North Biscayne Drive and Ponce De Leon Boulevard via 6-inch to 12-inch diameter piping in the northwest extents of the potable water transmission system. In order to improve the fire flow capabilities in this region, it is recommended that the City complete the following improvements:
  - Provide an 8-inch pipeline parallel to the existing 8-inch diameter pipeline along North Biscayne Drive (or replaced the existing 8-inch pipeline with 12-inch diameter piping). This project would require approximately 6,000 feet of pipe.
  - Complete the 12-inch diameter pipeline along Ponce De Leon Boulevard (from Paragon Road to Abady Lane). This project would require approximately 2,500 feet of pipe.
  - Provide additional distribution system piping within the region to reduce the number of un-looped distribution system pipelines.

Emergency Interconnects

Two of the City's three emergency interconnects (with Charlotte County's system) currently lack flow metering capabilities, and the other emergency interconnect currently has a flow meter which needs to be replaced. It is recommended that the City add new flow meters at all three of their emergency interconnects, which are located near the following intersections: Hillsborough Boulevard and Theresa Boulevard; North Port Boulevard and Chancellor Boulevard; and Chancellor Boulevard and McDill Drive.

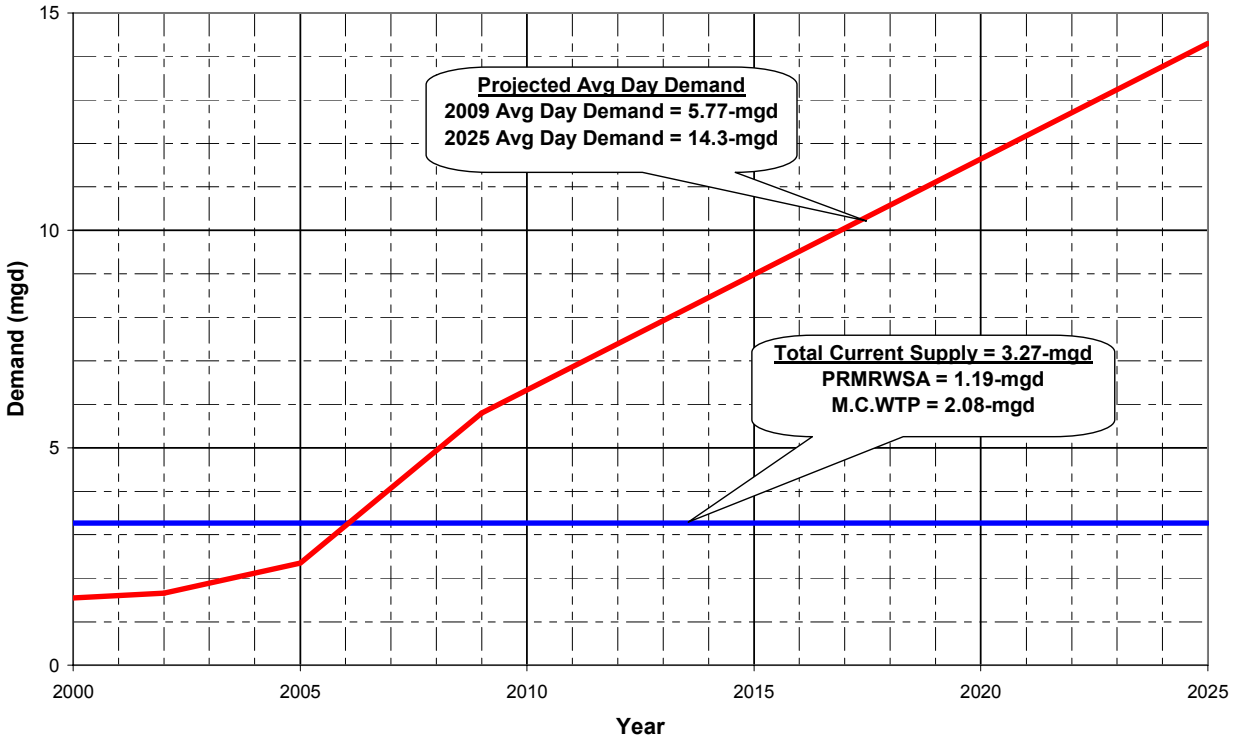
B. Conclusions and Recommendations Regarding Future Needs

1. Water Supply and Treatment Facilities

a. Water Supply / Treatment Capacity Overview

As discussed in Section 6, future water demands were projected for planning years 2009, 2025, and at build-out. Figure 9-1 illustrates the projected average potable water demand through 2025 along with the current water supply/treatment capacity provided by existing facilities.

Figure 9-1 Potable Water Average Day Demand Projection



* Tabular data for projected average day demands is available in Table 6-3 on page 6-6 of this report.

As illustrated in this figure, a potable water deficit is projected to occur as early as 2006. An expansion of water supply/treatment capacity in the amount of 2.5 mgd (annual average) is projected to be needed by 2009, and an expansion by 11.0 mgd (annual average) is projected to be needed by 2025. At build-out conditions, it is projected that the City of North Port's potable water system will require a total supply capacity of approximately 25.4 mgd (annual average). New water supply/treatment facilities should be developed to meet the maximum day demands (1.75 times the annual average demands).

As discussed in Section 6, future potable water demand will be significantly influenced by customer growth in the large proposed new developments of Thomas Ranch, Kelse Ranch, and Panacea. The projected demand curve reflects the development schedule presented to the City by the developers, which the City has committed to meet. However, current progress suggests that actual development of these areas may lag behind the developers' presented schedule by at least 6 months in Panacea and Kelse Ranch, and at least 12 months in Thomas Ranch. Therefore, the short term expansion needs may be reduced if the current schedule trends persist. The City should monitor this closely and adjust the schedule for utility system improvements as necessary.

The City has a number of water supply options that can be pursued to meet future needs. Short term water supplies were considered to meet the increased water supply needs over the next five years. Long term water supplies were considered to meet increased water supply needs beyond 2009.

Recommendations between available water supply alternatives were made below in consideration of several criteria including:

- The time required for development
- Geographic location of demands and associated cost and operational benefits
- Known technical and regulatory feasibility
- Known relative cost differences
- Anticipated water supply yield
- System reliability benefits

It should be noted the water supplies discussed and recommended herein are those considered to be the preferred options in consideration of the above criteria as well as the preferences of City Utilities staff as determined through workshops, meetings, and discussions. At the time of preparation of this Master Plan, limited information was available on the technical feasibility and cost (both capital and operational) of the water supply alternatives. Therefore, while cost was considered to the extent possible, a detailed present worth cost evaluation between alternatives was not completed as part of this Utility Master Plan. As additional information becomes available, through progressing negotiations and feasibility studies, additional consideration should be given to the relative cost of alternatives as the City moves forward with implementation.

The set of water supply implementations recommended herein represent one potential solution, and it should be recognized that the City may need to adjust the set of implementations and quantities as future events unfold.

b. Short Term Water Supply Options

This subsection describes the recommended short term water supply options for meeting the City's projected potable water demand through 2009. The recommended short term water supply options are listed below and described in detail in this section:

- Regional Supply from Neighboring Utilities
- Increase Production from the Myakkahatchee Creek WTP
- Increase Allocation from PR/MRWSA (2009)

Regional Supply from Neighboring Utilities

Addressing the water supply/treatment deficit projected to occur in 2006 will require a water supply option that can be implemented quickly. It is anticipated that the study, design, permitting, and construction of local water supplies within the City North Port will not be feasible within the time frame required to address the projected deficit in 2006. Increasing the City's potable water supply capacity via a regional supply source from a neighboring utility may represent a more viable short-term solution.

The PR/MRWSA has indicated that its system currently does not have capacity in excess of that already allocated to member governments through existing agreements. However, the City has indicated that some of the other member governments are currently allocated more water from PR/MRWSA than is currently needed and may be willing to sell a portion of their excess supply capacity to the City of North Port. It is understood that the City has already held preliminary discussions with Sarasota County officials regarding the possibility of purchasing water from the County. Water from Sarasota County would likely be delivered to the City's system by interconnecting the proposed 16-inch water main along US-41 (proposed for Thomas Ranch) with the County's existing 12-inch water main located along US-41 near the Thomas Ranch development. Implementation of an interconnect in this location may be considered a favorable option to Sarasota County since it would eliminate the current dead end condition that occurs in this portion of the County's transmission system. The City may also find this option to be favorable since the early projected increase in water demand is substantially attributable to the

Thomas Ranch development. An interconnect could also provide the capability for North Port to supply water to Sarasota County in an emergency.

It is recommended that the City pursue an average day allocation of at least 2.0 mgd of regional water supply from Sarasota County (or other neighboring utilities such as Charlotte County). The allocation should be negotiated with a maximum day limitation of at least 3.5 mgd. It will also be necessary for the City to construct an interconnect with a metering station to deliver the supply from the neighboring utility's system to the City's system. If the Sarasota County Interconnect option is implemented, it is anticipated that the County would be able to supply this flow from the existing 12-inch County watermain along US-41, although this will need to be confirmed through modeling of the County's system.

The quantity of water supply available, if any, through an inter-local agreement with Sarasota County or other neighboring utility is not know at this time. However, the City has indicated that 2.0 mgd is a reasonable estimate of the available supply for purposes of planning. If North Port is unable to negotiate a 2.0 mgd (or greater) average day supply from a neighboring utility, the City will need to implement or increase other short term supply options.

It should be noted that Sarasota County's (or other neighboring utility's) ability to provide the City a regional supply capacity throughout the entire planning period is also unknown at this time. However, the City has indicated a potential to partner with Sarasota in an expansion of the County's existing Carlton WTP, which could increase the County's ability to supply water to the City through the planning period. Alternatively, the City may need to adjust the recommended capacities and timing for the other water supply options indicated in this plan according to the terms of the water supply agreement negotiated with Sarasota County (or a neighboring utility).

Increase Production at Myakkahatchee Creek Water Treatment Plant

As previously indicated in this report, the City currently withdraws raw surface water from the Myakkahatchee Creek for treatment at the Myakkahatchee Creek WTP under a SWFWMD consumptive water use permit (WUP # 202923.06). This permit allows for the withdrawal of an annual average quantity of 2.08-mgd and a peak monthly quantity of 2.496-mgd. The current water use permit expires on March 22, 2005.

It is recommended that the City work towards renewing the existing WUP at an increased flow rate based on demonstration of greater need and based on an analysis of flows

available from the creek. The City is currently performing a downstream flow and environmental study of the Creek to support an increased WUP. The opportunity to obtain an increased permitted allocation from the Myakkahachee Creek is enhanced by the proposed development of a potable water aquifer storage and recovery (ASR) system at the Myakkahachee Creek WTP site. The three year cyclic testing program required for the implementation of an ASR system at the Myakkahatchee Creek is in the initial stages. The ASR system could potentially allow the City to harvest and store additional Creek supply during the wet season (when the available supply from the Creek is the highest) to be used to supplement the withdrawals from the Creek during the dry season (when a significant supply from the Creek is not available). According to the City's engineering consultant for the ASR project, the ASR system is projected to ultimately operate at a recovery efficiency of 60-70%. If the system meets expectations, it should provide a recovery supply of approximately 0.9-1.0 mgd.

The actual quantity of increased water supply achievable from the Myakkahachee Creek is not known at this time and will be dependent on regulatory approval, the results of the downstream flow analysis, and the successful implementation of the ASR system. For purposes of planning, an increase in annual average water supply from the Myakkahatchee Creek of 1.0 mgd is assumed.

The existing Myakkahachee Creek WTP was designed to treat a capacity of 4.4 mgd. Therefore, the treatment facilities should already be adequately sized to treat an average day supply of 3.08 mgd (currently permitted 2.08 mgd plus potential 1.0 mgd increase). However, the City has reported difficulty maintaining acceptable filtered water turbidity levels at higher flows. This will need to be addressed as part of the WTP improvements project discussed previously to enhance the capability of the plant to reliably treat flows approaching the design flow rate.

The increased water supply from this option may not be fully available until completion of the three-year ASR testing period. However, it is likely that a portion of the increase would be available before completion of the testing. For planning purposes, a 1.0 mgd supply increase is projected in planning year 2007. It is recommended that the City pursue an increase in their current SWFWMD WUP when renewal of the permit is applied for.

Since design and construction of substantial infrastructure is not required, this represents a water supply option with a low capital cost that can be implemented under a fairly short timeframe. However, it should be noted that water stored and withdrawn from an ASR

system will likely require treatment both prior to injection and after withdrawal, which would increase the O&M costs associated with the additional supply realized through the proposed ASR system.

Several alternatives could be considered to further increase the water supply from the Myakkahatchee Creek as a long term water supply alternative or to increase the reliability of this source. These alternatives include upstream flow augmentation, expansion of the proposed ASR system, or construction of a surface water reservoir.

It should be noted that the new Arsenic Rule, which is discussed in the regulatory compliance discussion in Section 4 of this plan, could have some affects on the treatment requirements of the supply withdrawn from the City's proposed ASR system.

Increase Allocation from PR/MRWSA (2009)

The PR/MRWSA is planning an expansion of current water supplies and infrastructure to help meet the growing demands of its member governments. The City is currently in the process of negotiating a future increase in water supply allocation with PR/MRWSA. The City reports that PR/MRWSA has advised in preliminary discussions that expanded supply could be available to the City of North Port by 2009. At this time, it is recommended that the City request an increase in average annual supply allocation from PR/MRWSA of at least 3.0 mgd (and a maximum daily supply allocation of at least 5.25 mgd) in order to give the City sufficient time to study, permit and implement other long-term supply options discussed herein. This quantity should be increased if the negotiated allocation from a neighboring utility is less than the quantity recommended in this plan.

While increased regional supply from PR/MRWSA represents a viable water supply option, it may be beneficial to view this as one component of the City's long term water supply solution. Ultimately, the quantity of supply commitment requested from PR/MRWSA should be determined in consideration of system diversification and the cost of this source as negotiated with PR/MRWSA. In the long term future, the City could consider increasing or decreasing this allocation depending on the success of implementing the local supply sources discussed later in this section.

It is anticipated that the City will have some options regarding the location where additional PR/MRWSA supply could enter their system. These options include increasing the amount of supply that enters the City's system through the existing PR/MRWSA Interconnect, and providing a new interconnect with the 42-inch diameter PR/MRWSA pipeline which currently crosses through the Kelse Ranch property. Each

option would likely require the City to purchase hydraulic capacity in the PR/MRWSA pipeline that feeds the interconnect(s).

The option to continue receiving all PR/MRWSA supply through the existing interconnect would require the City to increase the capacity of the transmission piping system along Hillsborough Boulevard early in the planning period. The option to create a new interconnect in the Kelse Ranch area could delay the need for transmission piping system improvements along Hillsborough Boulevard until late in the planning period, but would require the construction of a new booster pump station facility downstream of the proposed interconnect (since the existing 42-inch diameter PR/MRWSA pipeline is currently operated as a low pressure main). It should be noted that a new interconnect and booster pump station facility in the Kelse Ranch area would provide additional benefits including increased system reliability, improved system hydraulics, and increased total system storage capacity. It is recommended that the City consider the potential benefits and costs associated with each of these interconnect location options as discussions progress with the PR/MRWSA. Both interconnect options were considered when developing preliminary costs and schedules for the projects recommended in this Utility Master Plan.

It should be noted that the City's existing PR/MRWSA water supply agreement does not contain a maximum flow rate limitation. This agreement gives the City substantial flexibility to meet peak demands, and the City should seek to maintain this arrangement, if possible, when negotiating an additional allocation.

c. Long Term Water Supply Options

This subsection discusses recommended long term water supply options to meet projected future needs between 2009 and 2025. Recommended long term water supply options are listed below and described in detail in this section:

- New Brackish Groundwater Supply and Reverse Osmosis Treatment Facilities
    - Thomas Ranch Groundwater Supply and WTP – Phase I
    - Panacea Groundwater Supply and WTP
    - Thomas Ranch Groundwater Supply and WTP – Phase II

Various alternative long term water supply solutions are also available and discussed herein, including additional increases in supply allocation from PR/MRWSA.

New Brackish Groundwater Supply and Reverse Osmosis Treatment Facilities

The City has indicated an interest in developing additional potable water supply sources within the City limits to meet a portion of the projected future potable water demand. This approach will give the City greater control over the availability, quality, and cost of the City's water supply and will provide diversification of sources to promote reliability. The potential for developing a significant amount of additional supply capacity from surface water sources within the City limits does not appear to be promising beyond that discussed previously with regard to the Myakkahatchee Creek. Also, the City of North Port is located within SWFWMD's Southern Water Use Caution Area (SWUCA). As such, the development of a substantial amount of permitable fresh groundwater sources within the City is unlikely. However, brackish ground water supplies may be permitable as long as regulatory requirements associated with the SWUCA are satisfied. A review of the prevailing hydrogeology in the vicinity of North Port reveals a potential opportunity to develop a substantial amount of brackish groundwater supply from the intermediate aquifer or either the upper or lower zone of the Floridan Aquifer System. Factors which may vary between these options and which will influence the capital and operational costs associated with producing water from the source include the following:

- Available yield per well, and resulting required number of wells
- Necessary well spacing
- Well depth
- Water quality, and resulting treatment requirements
- Long-term stability of water quality
- Brine disposal

Brackish groundwater from any of these hydrogeologic zones is anticipated to require some level of reverse osmosis (RO) treatment. The Floridan Aquifer System would likely yield greater production per well and accommodate closer well spacing than the intermediate aquifer. Therefore, a Floridan Aquifer supply would better accommodate a central treatment plant served by a small number of wells in close proximity (as opposed to a dispersed wellfield, potentially with individual treatment facilities). The centralized plant approach is assumed for purposes of costing in this Master Plan.

Numerous utilities in the region have successfully implemented water supplies involving brackish groundwater supply and RO treatment. Discussions with a representative of SWFWMD indicate that such a source is likely permittable in North Port, although SWFWMD will look for a demonstration that the City has already explored other source

options such as regional supply and surface water. The City may also wish to explore the potential for regional groundwater supply options with neighboring utilities such as Sarasota and Charlotte Counties.

A preliminary brackish groundwater feasibility study for the Panacea area was recently performed for the City by Boyle Engineering, in conjunction with Water Resource Solutions. This preliminary study indicated that a brackish groundwater supply source near the Panacea area appears to be a feasible option. However, this study was based on available existing data only, and did not involve the collection of data through pilot testing. It is recommended that the City perform a detailed feasibility study (including pilot testing) to confirm the presence of compatible hydrogeology, identify the optimal hydrogeologic zone, explore the potential locations for wells throughout the City, evaluate brine disposal options, and estimate potential production rates and well spacing. This detailed study should also consider the impact of the existing deep injection well and potential deep injection wells at proposed future wastewater treatment plants.

Due to the geographic location of future demands in North Port, as well as the proposed provision of land for locating treatment facilities, this plan recommends developing new RO water treatment plants in the Thomas Ranch and Panacea development areas of the City. Hydraulic modeling indicates that the resulting dispersed location of supply sources will substantially delay the need to upgrade major transmission piping. It is recommended that each facility be implemented in phases, as necessary to keep up with growing demands. Details regarding the recommended implementation of these facilities are provided below. It will be important to confirm the feasibility of these recommendations through a detailed engineering study, and the plan should be adjusted as necessary based on the results of the study.

For the purpose of planning, the following RO WTPs and brackish groundwater wellfield projects are proposed for implementation prior to 2025:

- Thomas Ranch Groundwater Supply and WTP – Phase 1: Implement groundwater wells and an associated RO WTP on the proposed utility site in Thomas Ranch. These facilities are envisioned to be initially sized to provide an annual average supply of 2.0 mgd and a maximum day supply of 3.5 mgd. These facilities (or an alternate 2.0 mgd (ADF) water supply/treatment facility) are projected to be needed by 2012 in order to adequately meet projected average day and maximum day demands. The required number and location of wells will need to be determined through a hydrogeologic study, but could potentially be as few as one well initially.

The proposed RO WTP should be designed to easily accommodate a future expansion. High service pumping and storage associated with this water supply option is discussed in further detail later in this section.

It should be noted that the developer for the Thomas Ranch property currently holds a water use permit which allows for the withdrawal of up to 1.0 mgd of groundwater for agricultural purposes. It is possible that this allocation could be leveraged to facilitate obtaining the groundwater withdrawal permit in Thomas Ranch. It is recommended that the City seek to obtain the rights to the developer's existing groundwater permit during the developer agreement negotiations.

- Panacea Groundwater Supply and WTP – Phase 1: Implement a groundwater wellfield and an associated RO WTP on the proposed utility site in the Panacea development. These facilities are envisioned to be initially sized to provide an annual average supply of 4.0 mgd and a maximum day supply of 7.0 mgd. These facilities (or an alternate 4.0 mgd (ADF) water supply/treatment facility) are projected to be needed by 2015 in order to adequately meet projected average day and max day demands. The required number and location of wells will need to be determined through a hydrogeologic study, but may be as few as two wells initially. The proposed RO WTP should be designed to easily accommodate a future expansion. High service pumping and storage associated with this water supply option is discussed in further detail later in this section.

- Thomas Ranch Groundwater Supply and WTP – Phase 2 (Expansion): Implement an expansion of the proposed groundwater supply and RO WTP on the utility site in Thomas Ranch. This expansion (or alternate 2.0 mgd (ADF) water supply/treatment facility) is projected to be needed by 2022 and is envisioned to double the facility capacity to provide a total annual average supply of 4.0 mgd and a maximum day supply of 7.0 mgd.

Additional Long Term Water Supply Options

Depending on the City's success in implementing the future brackish groundwater supply sources discussed above, the City may need to implement other potential long term water supply sources. Other potential long term supply sources could include a regional desalination plant, withdrawals from the Myakka River, or additional allocations from PR/MRWSA. It is difficult to determine the future availability of supply from the Myakka River or the feasibility of a regional desalination plant at this time. However, an

additional expansion of the PR/MRWSA supply capacity around the year 2013 has been proposed. If brackish groundwater supply sources in North Port (or other potential long-term water supply options) are determined to be impractical, the City may wish to expand their PR/MRWSA allocation again in 2013.

d. Summary of Recommended New Water Supply and Treatment Facilities

The water supply and treatment options recommended in this section are potentially sufficient to meet projected potable water demands through 2025. Figure 9-2 illustrates the supply–demand relationship through 2025 if the City is successful at implementing the recommended water supply options at envisioned capacities and schedules. Table 9-1 provides a tabular listing of recommended future water supply implementations.

It should be noted that this set of water supply implementations represents one potential solution. It is recommended that the City adjust their water supply plan as future events unfold. For example, the City may need to consider further increasing its allocation from the PR/MRWSA in 2013 if brackish groundwater supply sources are determined to be unfeasible or uneconomical in the quantities envisioned herein.

Figure 9-2 Potential Water Supply Option Implementation Schedule

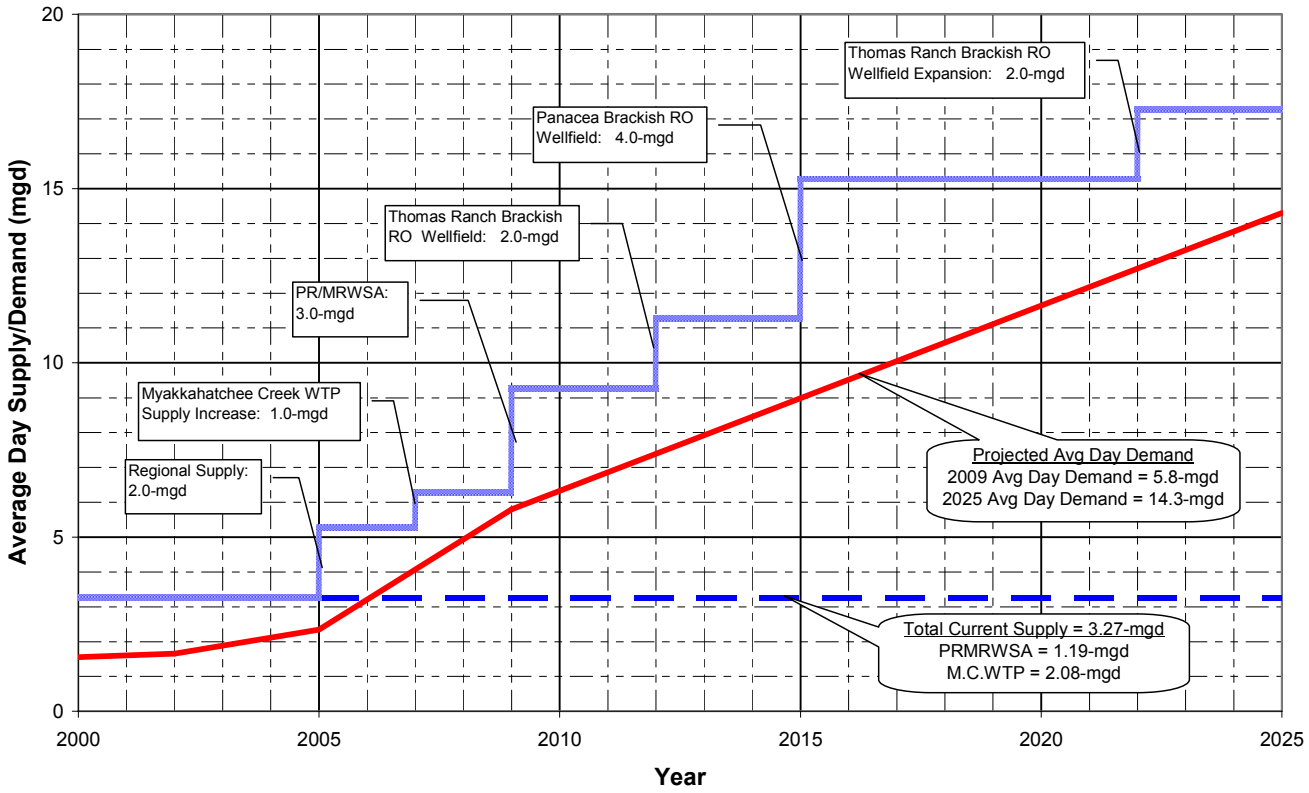


Table 9-1 Summary of Potential Water Supply Option Implementation Schedule		
Year of Implementation	**Proposed New Supply Option**	**Projected Average Day Supply (mgd)**
2005	Regional Supply from Neighboring Utilities	2.0
2007	Increased Production from Myakkahatchee Creek WTP	1.0
2009	Increased Supply from PR/MRWSA	3.0
2012	Thomas Ranch Groundwater Supply and WTP – Phase I	2.0
2015	Panacea Groundwater Supply and WTP	4.0
2022	Thomas Ranch Groundwater Supply and WTP – Phase II	2.0

e. Water Supply / Treatment Expansion Beyond 2025

As indicated previously, the build-out average day water demand in North Port is projected to be approximately 25 mgd (45 mgd maximum day demand). The recommended new supplies through 2025 discussed above, together with the City's existing supplies, would provide the City with approximately 17 mgd average day supply and 30 mgd maximum day supply. In order to meet long term future demands, implementation of additional supply / treatment capacity is projected to be needed in the amount of approximately 8 mgd average day and 15 mgd maximum day after 2025. To achieve this, the City may consider further expansion of groundwater supply sources within the City, expansion of the Myakkahatchee Creek Water Supply and WTP, expansion of regional supply allocations from PR/MRWSA and/or neighboring utilities, or development of new water supply sources such as a regional desalination plant or withdrawals from the Myakka River.

Due to the location of demands, it may not be practical to expand the Thomas Ranch WTP beyond the capacity discussed above without substantial piping improvements to convey the flow east. Therefore increased PR/MRWSA allocation or further expansion of the proposed Panacea groundwater supply system may represent a more appropriate approach. Implementation of a new WTP and additional wells in a central location within the North Port City limits is also a possibility. It is recommended that the City consider future property acquisitions to accommodate potential long term water supply facilities. It is possible that land for future facilities may be obtainable from future land developers through the negotiated agreements.

2. Potable Water Storage Facilities

According to FAC Rule 62-555, the City's system will need at least 7 million gallons of total storage capacity to handle the projected peak flow and fire flow requirements through 2025. Therefore, it will be necessary for the City to increase their current storage capacity of 4.5 million gallons by at least another 2.5 million gallons. It is recommended that the City increase their total storage capacity by adding the following storage facilities as part of the water treatment plant and pumping station projects discussed in this section.

- Thomas Ranch HSPS, initial construction: 1 million gallons
- Kelse Ranch Booster Pump Station Facility: 1 million gallons
- Thomas Ranch HSPS, upon WTP construction: 1 million gallons
- Thomas Ranch HSPS, upon WTP expansion: 1 million gallons
- Panacea WTP HSPS, initial construction: 2 million gallons

If the City implements the above recommended storage improvements within the planning horizon, the system will have a total potable water storage capacity of approximately 10.5 mgd. At the City's projected build-out conditions, the minimum amount of storage capacity required to handle the projected peak flow and fire flow requirements is calculated to be approximately 12 million gallons. Therefore, the City should anticipate the need to expand their potable water storage capacity by at least 1.5 mgd before build-out conditions are reached.

3. Transmission and Distribution System Facilities and Piping

Based on hydraulic modeling of the projected potable water system for planning years 2009 and 2025, necessary transmission and distribution system pumping and piping improvements were identified. Improvements are recommended to address the following needs:

- Expand the system to extend potable water service (in conjunction with wastewater service) to areas/residences which currently do not have service, including both existing neighborhoods and new developments.
- Provide pipes to connect proposed new high service pumping stations to the system.
- Add or upgrade pipes to accommodate higher system flow rates anticipated in the future.

It should be noted that this set of recommended improvements is based on hydraulic modeling of future system scenarios including the recommendations made in this plan to address existing system deficiencies and incorporate proposed new water supplies. It will be necessary to confirm the desirability of the recommended improvements in response to changed future conditions or revised or adjusted water supply plan. Recommended improvements discussed below are summarized in tabular form in Section 12.

a. Pumping Stations

- A high service pump station is recommended to be implemented on the proposed pump station site in Thomas Ranch with the earliest phase of development in Thomas Ranch. This pump station will include finished water storage (as discussed previously in this section) and chemical trim facilities. The purpose of this pump station facility would be to collect potable water supply from the available sources and repump the supply into the Thomas Ranch distribution system at the required pressures and flow rates. The supply delivered to this pump station facility will initially come from the existing City system through the proposed 16-inch water-main along US-41. Supply from the proposed Sarasota County Interconnect would also feed this pump station facility. Later in the planning horizon, it is also anticipated that the supply from the proposed Thomas Ranch groundwater RO WTP would feed this pump station.

  It may be beneficial to incorporate a bypass into the pump station design to allow Thomas Ranch customers to be served directly from the existing City system when demand conditions do not require storage or local pumping. It is projected that this pump station should be implemented with an initial firm capacity of 4.6 mgd (3,200 gpm), and should be designed to accommodate future expansion. The City has indicated that the developer has initiated the design and construction of this pump station.

  An expansion of the proposed Thomas Ranch high service pump station to a firm capacity of approximately 9 mgd is recommended upon the initial completion of Phase I of the proposed Thomas Ranch Groundwater Supply and WTP project, which is projected to occur in 2012. A subsequent expansion to a firm capacity of approximately 13 mgd is recommended upon completion of Phase II of the proposed Thomas Ranch Groundwater Supply and WTP expansion, which is projected to occur in 2022.

- An upgrade of the Northeast Booster Pump Station is recommended by 2006. This pump station is designed for future addition of two pumps, and a capacity expansion

of approximately 4-mgd is proposed. It is recommended that the new pumps be equipped with variable frequency drives (VFDs).

- If the expanded PR/MRWSA supply is introduced primarily through an interconnect in the Kelse Ranch area, a high service pump station would be required to deliver the PR/MRWSA supply into the City's system. This pump station should include finished water storage (as discussed previously in this section). The purpose of this pump station facility would be to take supply from the 42-inch diameter PR/MRWSA pipeline, which is currently operated as a low pressure main, and deliver it into the City's system at an adequate distribution pressure. It is projected that this pump station should be implemented with an initial firm capacity of 7.5 mgd (5,200 gpm), and should be designed to accommodate future expansion.
- Addition of a fourth 125-HP pump is recommended in the available pump position at the Myakkahatchee Creek High Service Pump Station by 2010.
- A high service pump station is recommended to be implemented as part of the proposed Panacea Groundwater Supply and WTP project at the Panacea utility site. This pump station should be implemented with an initial firm capacity of approximately 10 mgd (7,000 gpm), and should be designed to accommodate future expansions. The Panacea Groundwater Supply and WTP project is projected to occur in 2015.
- Beyond 2025, additional pumping improvements will be needed as the system continues to grow and existing pumping equipment ages. At a minimum, the City should anticipate high service pump station improvements at any location where a new supply source is developed or an existing supply source is expanded.

b. Transmission and Distribution System Piping

- In order to provide initial potable water service to the Thomas Ranch development, it is recommended that a 16-inch potable water pipeline be constructed along US-41 from North Port Boulevard to the proposed Thomas Ranch high service pumping station site. It is estimated that the 16-inch pipeline will be approximately 30,000-feet in length. The City has indicated that the developer has initiated the design and construction of this pipeline.

- In order to provide potable water service to the Kelse Ranch development, it is recommended that a 16-inch potable water pipeline be constructed along North Toledo Blade Boulevard from North Cranberry Boulevard to the proposed Kelse

Ranch distribution system. It is estimated that the 16-inch pipeline will be approximately 8,000-feet in length. This pipe is needed prior to the earliest established residences in Kelse Ranch.

- In order to provide potable water service to the Panacea development, it is recommended that a 20-inch pipeline be constructed along North Haberland Boulevard from Price Boulevard to the Panacea development (approximate length = 3,000 feet). The continuation of this pipeline through the Panacea property along Woodlands Parkway, which is anticipated to be constructed by the developer, should be sized at 20-inches until it reaches the intersection with Plantation Boulevard (approximate length = 12,000 feet). It should be noted that the early planning documents prepared by the developer proposes that this pipeline be constructed with 12-inch diameter piping. The hydraulic model indicates that the proposed increase in diameter for this pipeline will significantly improve the hydraulic capacity of the City's transmission system and reduce/delay the need to replace or parallel the existing 16-inch pipeline along W Price Boulevard.

- A 16-inch interconnect and metering station may be required if the City enters into an inter-local agreement with Sarasota County. The interconnect would convey water from Sarasota County's system into the City's proposed 16-inch watermain along US-41. The exact tie in location to the Sarasota County system is not known at this time, but for the purpose of this plan, it is anticipated that the interconnect will be located along US-41 just west of the Thomas Ranch property limits. It is projected that this interconnect will be needed by 2005.

- In order to increase the hydraulic capacity of the City's transmission system and accommodate an increased future supply of water from the PR/MRWSA, it is recommended that the existing 12-inch diameter asbestos concrete pipeline along Hillsborough Boulevard (from the PR/MRWSA Interconnect to South Cranberry Boulevard) be replaced with a new 20-inch diameter pipeline. If expanded PR/MRWSA supply is introduced primarily in the vicinity of the existing point of connection, this new pipeline should be operational before the City increases its supply allocation from PR/MRWSA (anticipated to occur in 2009). Otherwise, this pipeline replacement project may not be required until late in the planning period. It is estimated that the new 20-inch pipeline will be approximately 36,000 feet in length.

- If the expanded PR/MRWSA allocation is supplied primarily through the low pressure 42-inch pipe in the Kelse Ranch area, it is estimated that approximately 5,000 feet of 20-inch piping would be required to connect the proposed Kelse Ranch Booster Pump Station Facility to the proposed North Toledo Blade Boulevard 16-inch pipeline.

- In order to make potable water service connections available to all residential lots within the neighborhoods targeted for utility system expansion within the planning horizon, the City will need to complete distribution piping networks throughout the targeted neighborhoods and construct transmission pipelines to connect the neighborhood distribution systems with the City's existing system. The specific neighborhood expansion projects and projected schedule are presented in Section 5 – Utility Expansion into Existing Neighborhoods. Expansion into the following neighborhoods is projected by 2025: Blue-Ridge Salford, Sunburst, Sumter Gardens, North Port Gardens, Madagascar, Glenallen, Lancelot, Menori Paradise, Chamberlain, Kenvil, Woodhaven, Floribanna, Lady Slipper, and Cranberry Fields. The primary transmission pipeline improvements that will be required as part of the expansion of water service to these neighborhoods will include: 5,000 feet of 12-inch diameter piping along N Sumter Blvd (from City Center Blvd to La France Avenue), and 5,000 feet of 12-inch diameter piping along South Toledo Blade Boulevard (from Woodhaven Drive to Hillsborough Boulevard). The recommendations for future water supply implementations include water from a variety of sources treated through a variety of processes. Variations in the resulting finished water quality can have adverse effects on the distribution system if not properly addressed. Potential negative issues could derive from blending of different finished waters as well as from a long term change in the water quality being conveyed. Re-suspension of mineral deposits which may have built up on the interior walls of pipelines over the last several years or decades is one example of the potential effects. In order to avoid negative issues, a blending study is recommended. It is recommended that the analysis be conducted prior to the proposed implementation of the Sarasota County interconnect, and as part of the detailed design of proposed new RO WTPs.

- Beyond 2025, additional piping improvements will be needed as the system continues to expand and the demands continue to increase. Although hydraulic modeling scenarios were not developed for projected system conditions beyond 2025, it is apparent that a substantial amount of transmission system piping improvements will be needed to handle the demands associated with build-out conditions.

Section 10 – Wastewater System Conclusions and Recommendations

This section presents conclusions and recommendations regarding actions and improvements associated with the City's wastewater system. These are intended to address existing system deficiencies and handle the increase in flows projected throughout the planning period. Conclusions and recommendations herein are based on investigations and analyses presented in previous sections and in consideration of available alternative solutions.

Figure 10-4, included at the end of this section, illustrates the wastewater system improvements recommended in this plan through 2025. Chapter 12 includes a summarized listing of the recommendations discussed below and presents a five-year Capital Improvements Program.

A. Conclusions and Recommendations Regarding the Existing System

1. Treatment and Disposal Facilities

City of North Port WWTP

The City's existing WWTP was recently expanded and appears to be operating properly and maintaining compliance with the current regulatory requirements. Therefore, no improvements to address current issues at the existing WWTP are recommended at this time.

Deep Injection Well

The City's Deep Injection Well (DIW) appears to be operating without any significant problems and within the limits of its current permit, which allows a maximum injection rate of 4.75 mgd. However, the permitted capacity of the DIW was not expanded with the most recent WWTP expansion. In order to handle peak flows, it is recommended that the capacity of the DIW system be increased to at least 7.75 mgd, which is approximately 2.5 times the current permitted average daily flow treatment capacity of the WWTP. It may be possible to rerate the existing DIW to a maximum injection rate of 5.94 mgd (based on allowing up to a 10 ft/sec velocity through the 13-inch inside diameter casing of the well). However, in order to increase the capacity of the DIW to at least 7.75 mgd, an additional injection well (and transmission pipeline) will need to be constructed.

Biosolids Disposal

As discussed in Section 4, regulatory and community trends raise questions about the long term viability and cost-effectiveness of disposal of wastewater biosolids treated to less than Class AA standards. At some point in the future, it will likely be necessary and/or beneficial for the City to implement Class AA treatment. There are numerous technologies and numerous approaches available for consideration. The City could implement biosolids treatment systems at multiple future WWTP locations or construct a single regional facility to treat all of the City's biosolids. There may also be opportunities to develop a regional facility in cooperation with neighboring utilities. Further, there may be opportunities to contract for treatment and disposal of Class AA biosolids with a private company. The City has indicated that if a biosolids treatment facility was implemented within the City, it would preferably be located at the proposed Panacea utility site due to compatibility with proposed surrounding development. It is recommended that the City monitor trends with regard to wastewater biosolids and be prepared to perform an alternatives evaluation study at some point in the future. Future WWTPs should be implemented with consideration to the potential future siting of Class AA biosolids treatment facilities.

2. Collection and Transmission Facilities

Wastewater Collection Piping

The City has indicated that the existing wastewater collection system experiences a significant amount of inflow and infiltration (I&I) during heavy storm events. This is thought to originate primarily in older areas of the system such as the City core and the Old Myakka Utilities service area. It is recommended that the City implement an ongoing repair and rehabilitation (R&R) program for collection system infrastructure. Benefits of an effective R&R program include environmental protection (against overflows) and cost savings associated with recovered capacity in the collection and transmission system and treatment facilities as well as reduced treatment costs. Based on Black & Veatch's experience, a typical R&R program for a wastewater system the current size of North Port's would have an annual budget of approximately $500,000.

As part of the initial stages of the recommended R&R program, the City may wish to perform a "Self-Audit" of their wastewater system according to the proposed Capacity, Management, Operation, and Maintenance (CMOM) program, which is recommended by EPA.

Forcemain Transmission System

Based on information gathered during the development of the Utility Master Plan, the City's existing forcemain system appears to be operating properly without any significant problems. However, the hydraulic analysis revealed that it is likely that several portions of the City's forcemain system are continuously operated at velocities lower than 2 ft/sec, which is the minimum velocity required by the City of North Port Utilities Standard Handbook (to keep solids in suspension). This is not uncommon since pipes are typically sized to handle future increased flows. Flows in the City's wastewater system are projected to increase significantly over the planning period. Therefore, it is likely that pipe velocities will increase over time. In the meantime, it is recommended that the City's regular maintenance activities include periodic flushing forcemains where necessary. The City may also wish to add pig ports at several locations throughout the forcemain system to facilitate flushing of the pipelines if determined to be necessary. Figure 10-1 illustrates the velocities throughout the forcemian system during peak day conditions as projected by the hydraulic model of the City's existing wastewater system.

Lift Stations

Based on information gathered during the development of the Utility Master Plan, the City's existing lift stations appear to be operating properly without any significant problems. However, the City indicated that it is their intention to have SCADA capabilities at all lift stations, and generators and odor control at the lift stations which have firm pumping capacities greater than 1,000 gpm (primary lift stations). The City's primary lift stations include Lift Station #19 (Biscayne Plaza); Lift Station # 51 (City Complex); and Lift Station # 63 (Villas of Sable Trace). Generator and SCADA capabilities are currently not available at any of the City's lift stations. Odor control is currently provided at the City Complex lift station only.

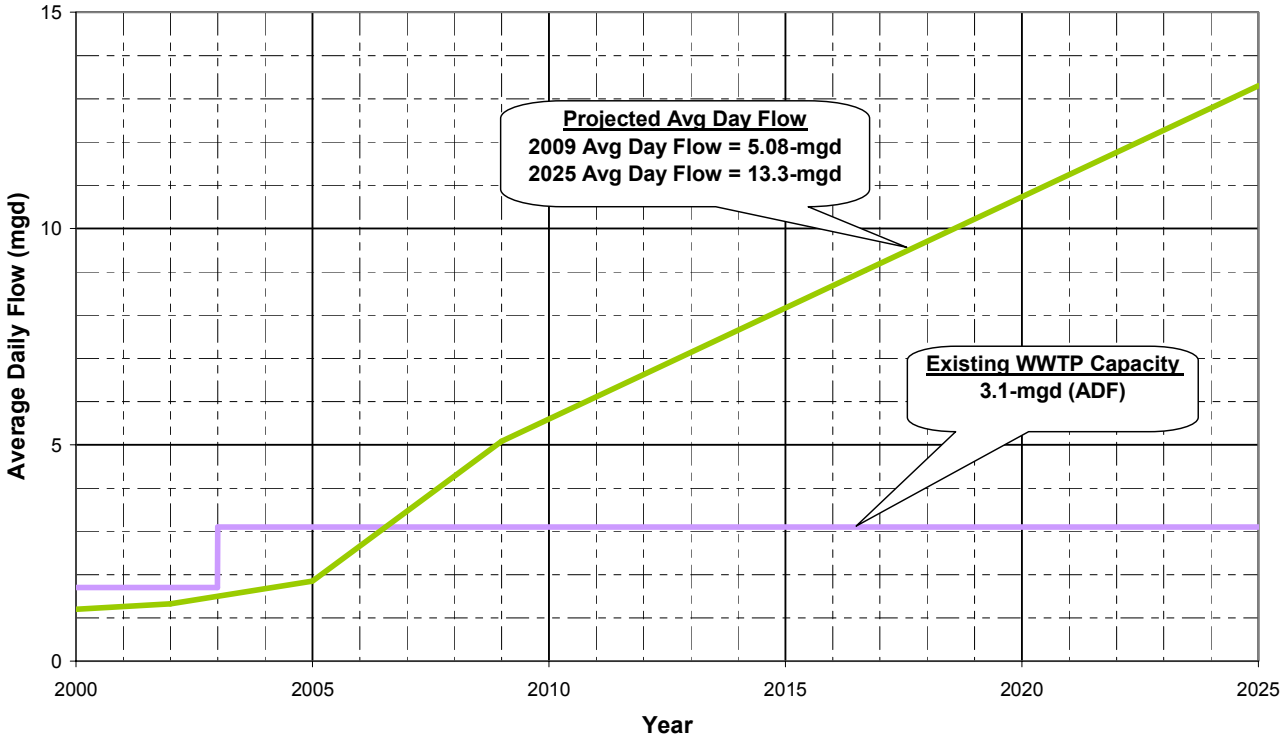
B. Conclusions and Recommendations Regarding Future Needs

1. Wastewater Treatment and Disposal Facilities

Overview of Future Wastewater Treatment Capacity Needs

As discussed in Section 6, future wastewater flows were projected for planning years 2009, 2025, and at build-out. Figure 10-2 provides a graph of the projected average wastewater flow through 2025 along with the current wastewater treatment/disposal capacity provided by existing facilities.

Figure 10-2 Wastewater Average Daily Flow Projection



* Tabular data for projected average day flows is available in Table 6-4 on page 6-7 of this report.

As illustrated in this figure, a wastewater treatment capacity deficit is projected to occur as early as 2006. An expansion of wastewater treatment capacity by at least 2.0 mgd (average daily flow) is projected to be needed by 2009, and an expansion by at least 10.2 mgd (average daily flow) is projected to be needed by 2025. At build-out condition, it is projected that the City of North Port's wastewater system will need to have a total wastewater treatment capacity of at least 23.5 mgd (average daily flow).

As discussed in Section 6, future wastewater flows will be significantly influenced by customer growth in the large proposed new developments of Thomas Ranch, Kelse Ranch, and Panacea. The projected flow curve reflects the development schedule presented to the City by the developers, which the City has committed to meet. However, current progress suggests that actual development of these areas may lag behind the developers' presented schedule by at least 6 months in Panacea and Kelse Ranch, and at least 12 months in Thomas Ranch. Therefore, the short term expansion needs may be reduced if the current schedule trends persist. The City should monitor this closely and adjust the schedule for utility system improvements as necessary.

Options for increasing the system's wastewater treatment capacity to meet the projected increase in flows anticipated within the planning period include expansion of the City's existing WWTP and the construction of new WWTPs. Proposed locations of new WWTPs include sites in the Thomas Ranch and Panacea development areas. Recommendations between available wastewater treatment capacity alternatives were made below in consideration of several criteria including:

- The time required for development
- Geographic location of flows and associated cost and operational benefits
- Known technical and regulatory feasibility
- Known relative cost differences

It should be noted the wastewater treatment options discussed and recommended herein are those considered to be the preferred options in consideration of the above criteria as well as the preferences of City Utilities Staff as determined through workshops, meetings, and discussions.

The set of wastewater treatment implementations recommended herein represent one potential solution, and it should be recognized that the City may need to adjust the set of implementations and quantities as future events unfold.

Expansion of Existing WWTP

Addressing the wastewater treatment capacity deficit projected to occur as early as 2006 will require a quickly implementable improvement. Expanding the treatment capacity of the City's existing WWTP represents the fastest way to increase the City's wastewater treatment capacity. According to the *Preliminary Design Report, City of North Port Wastewater Treatment Plant Phase 3 Expansion* (Boyle Engineering, 2001) the build-out capacity of the existing WWTP is 6.0 mgd (M3MADF) or 5.0 mgd (ADF). This represents a 1.9 mgd increase in average daily flow treatment capacity over the existing WWTP capacity of 3.1 mgd (ADF).

The primary improvements required to expand the plant to a 5.0 mgd (ADF) capacity would include the addition of three new aeration basins (224,400 gallons, each), one secondary clarifier (diameter = 65 feet), and miscellaneous pumps and yard piping throughout the plant. In addition, a second deep injection well (DIW) and new DIW transmission pipeline would be required to expand the capacity of the effluent disposal

system. The City may also wish to increase the capacity of the reclaimed water treatment facilities at the plant by providing additional effluent filters.

Since some of the infrastructure required for increased flow at the existing WWTP is already in place, the cost per gallon of capacity is anticipated to be less than the cost per gallon to develop a new WWTP.

It should be noted that some collection system piping improvements are recommended to be implemented in order to convey increased flow to the existing WWTP. These improvements are discussed later in this section.

New Wastewater Treatment Facilities

As discussed earlier in this report, the City has recently purchased an area of land in the southeastern portion of the Panacea property to use for siting future utility system facilities, including a proposed new WWTP. The City has also indicated that the developer of the Thomas Ranch property has agreed to dedicate a portion of the Thomas Ranch property for siting future utility system facilities. Utilizing these sites for future WWTPs will place the treatment plants geographically close to areas of projected substantial growth in North Port, thus minimizing future pumping costs and minimizing the cost of new infrastructure to convey flows to the plant. In addition, hydraulic modeling performed as part of this plan indicates that the resulting dispersed location of WWTPs significantly reduces the need to upgrade wastewater transmission piping and pumping facilities throughout the system as flows increase. Locating these plants in the vicinity of the proposed Thomas Ranch and Panacea/Kelse Ranch developments also facilitates the supply of reclaimed water to those communities for non-potable irrigation.

For the above reasons, this plan recommends implementing new WWTPs in the Thomas Ranch and Panacea development areas of the City.

A review of prevailing geology in the vicinity of North Port indicates that conditions are likely compatible with a deep well injection disposal system, and associated treatment requirements are presumed to be similar to those in place for the City's existing plant. However, the actual feasibility of implementing and permitting additional deep injection wells in North Port will need to be confirmed through an engineering study prior to detailed design. The treatment requirements will also need to be confirmed as part of this study. It is recommended that the City initiate such a study as soon as possible.

For the purpose of planning, the following WWTP projects are proposed for implementation prior to 2025:

- Panacea WWTP – Phase 1: Implement a new WWTP on the proposed utility site in the Panacea development. This facility is envisioned to be initially sized with an average daily flow treatment capacity of 2.0 mgd. This facility is projected to be needed by 2008. The proposed WWTP should be designed to easily accommodate a future expansion. It is recommended that this facility also be implemented with capabilities to produce and distribute reclaimed water as discussed in more detail in Section 11. The City may wish to also explore fast-track project delivery options such as design-build, which could potentially allow the Panacea WWTP to be implemented earlier in the planning period. The ability to implement this WWTP quickly could reduce the number of wastewater transmission system improvements required over the next several years.

  Following the completion of the Panacea WWTP, all of the flow produced in the Panacea development would be sent directly to the Panacea WWTP through the forcemain system proposed by the Panacea developer. Additional flow from the remaining wastewater service areas located east of Salford Boulevard are anticipated to be collected at a proposed primary lift station near the intersection of Toledo Blade and Price Boulevards and then pumped to the Panacea WWTP through a new forcemain proposed along East Price Boulevard. The proposed primary pump station and forcemain are described in detail later in this section.

- Thomas Ranch WWTP – Phase 1: Implement a new WWTP on the proposed utility site in the Thomas Ranch development. This facility is envisioned to be initially sized with an average daily flow treatment capacity of 2.0 mgd. This facility is projected to be needed by 2009 in order to adequately meet projected demands. The proposed WWTP should be designed to easily accommodate a future expansion. It is recommended that this facility be implemented with capabilities to produce and distribute reclaimed water as discussed in more detail in Section 11.

- Thomas Ranch WWTP – Phase 2 (expansion): Implement an expansion of the WWTP on the utility site in Thomas Ranch. This expansion is projected to be needed by 2015 and is envisioned to increase the average daily flow treatment capacity from 2.0 to 5.0 mgd.

- Panacea Ranch WWTP – Phase 2 (expansion): Implement an expansion of the WWTP on the utility site in Panacea. This expansion is projected to be needed by 2021 and is envisioned to increase the average daily flow treatment capacity from 2.0 to 5.0 mgd,.

Summary of Recommended Plan to Increase Wastewater Treatment Capacity

The wastewater treatment plant improvements recommended above are potentially sufficient to treat the projected wastewater flows through 2025. Figure 10-3 illustrates the flow-capacity relationship through 2025 if the City is successful at implementing the recommended improvements at the envisioned capacities and schedules. Table 10-1 provides a summary of the recommended WWTP improvements.

Figure 10-3 Potential Wastewater Treatment Plant Improvements Implementation Schedule

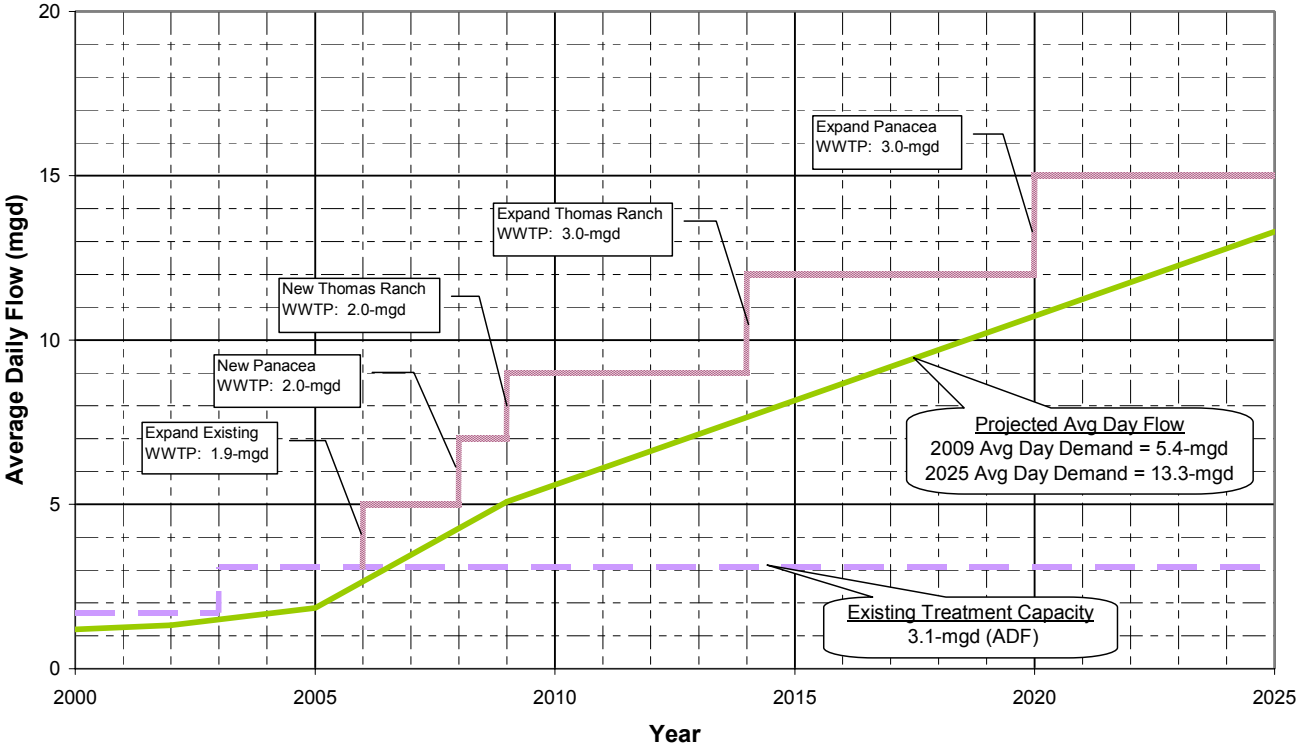


Table 10-1 Summary of Recommended Wastewater Treatment Plant Improvements

Year of Implementation	Proposed WWTP Improvement	Projected Increase in Average Day Treatment Capacity (mgd)
2006	Expansion of Existing City of North Port WWTP	1.9
2008	New Panacea WWTP	2.0
2009	New Thomas Ranch WWTP	2.0
2014	Expand Thomas Ranch WWTP	3.0
2020	Expand Panacea WWTP	3.0

As discussed previously, the above set of wastewater treatment facility implementations represents one potential solution. The City may need to adjust the set of implementation and capacities as future events unfold.

Regional Wastewater Treatment Capacity

The City has indicated that neighboring utilities have expressed an interest in purchasing WWTP capacity from the City of North Port at both the proposed Thomas Ranch and Panacea WWTPs. The City may wish to implement these proposed WWTPs with a greater capacity than that recommended in this plan to accommodate additional regional flow. Due to economy of scale, economic benefits could potentially result from such an arrangement. Although no agreements have been made, the City has indicated that potential regional wastewater customers include Sarasota County, Desoto County, Charlotte County, and Englewood.

Wastewater Treatment Capacity Expansion Beyond 2025

As indicated previously, the build-out average daily wastewater flows for North Port is projected to be approximately 23.5 mgd. The recommended improvements through 2025 discussed above would provide the City with a total of approximately 16.0 mgd of average daily treatment capacity. In order to handle long term future flows, implementation of additional wastewater treatment/disposal capacity is projected to be needed in the amount of approximately 7.0-mgd average day after 2025. To achieve this, the City may consider further expansion of the proposed Thomas Ranch and/or the Panacea WWTPs. Due to the proposed location of these facilities, it may not be practical to expand the Thomas Ranch WWTP beyond the capacity discussed above without substantial piping improvements to convey flows to the west. Therefore further expansion of the proposed Panacea WWTP may represent a more appropriate approach. Implementation of a new WWTP and disposal facilities in another location within the North Port City limits is also a possibility. It is recommended that the City consider opportunities for future property acquisitions to accommodate the siting of a potential long term wastewater treatment facility.

2. Collection and Transmission Facilities

Based on hydraulic modeling of the projected wastewater system, necessary pumping and piping improvements were identified. Improvements are recommended to address the following needs:

- Expand the system to extend wastewater service to areas/residences which currently do not have service, including both existing neighborhoods and new developments.
- Provide piping to convey flows to new WWTPs.
- Add or upgrade pumps and pipes to accommodate higher system flow rates anticipated in the future.

It should be noted that this set of recommended improvements is based on hydraulic modeling of future system scenarios including the recommendations made in this plan to address existing system deficiencies and incorporate proposed new WWTPs. It will be necessary to confirm the desirability of the recommended improvements below in response to changed future conditions or revised approach to providing future treatment capacity. As indicated previously, any improvements to lower the amount of inflow and infiltration (I&I) experienced by the system would reduce the need to upgrade lift stations or piping in the future. Recommended improvements discussed below are summarized in tabular form in Section 12.

Lift Stations

- In order to pump the initial wastewater flows from the Thomas Ranch development to the existing WWTP, a primary lift station at the Thomas Ranch Utility Site has been proposed by the developer. The developer has already proposed and initiated the development of this primary lift station. The developer's preliminary plans indicate that the lift station facility will include a 300,000 gallon surge/storage tank and have a pumping capacity of approximately 0.8 mgd (556 gpm). The purpose of the relatively large wastewater storage tank volume associated with this lift station facility would be to reduce the peak flow rates conveyed to the City's WWTP and to more fully utilize the forcemain during off-peak times. The developer proposes to ultimately use the 300,000 gallon surge/storage tank associated with this primary lift station as part of an equalization basin system for the proposed Thomas Ranch WWTP. Due to the extended time of travel to the existing WWTP, it is anticipated that a pretreatment process will be needed at this facility.

- It is recommended that the City implement the design and construction of a primary lift station near the intersection of Toledo Blade Boulevard and Price Boulevard as soon as possible. Initially, this primary lift station would collect flows in the eastern portions of the wastewater system and pump it west through the 8-inch and 12-inch

forcemains along Price Boulevard to the existing City Complex Primary Lift Station. Following the completion of the Panacea WWTP, this proposed new primary lift station would then be configured to pump the wastewater collected in the eastern portion of the City further east to the proposed Panacea WWTP through a new forcemain (which is described in detail later in this section). It is recommended that the lift station initially be equipped with three pumps, each with a pumping capacity of approximately 4.0 mgd (2,800 gpm) at 165 feet of head. It is recommended that this lift station be equipped with an emergency generator and odor control facilities.

- According to the hydraulic analyses performed on the City's projected future wastewater transmission system, it may be necessary to upgrade the pumps at the following existing primary lift stations:

    - Lift Station # 51 (City Complex) – In order to handle the additional flows projected for this lift station throughout the planning period, it may be necessary to replace the existing pumps with larger pumps. It is anticipated that the pumps will need to be upgraded as early as 2007. The need for upgraded pumps at this facility is due, in part, to the increased flows associated with the Panacea and Kelse Ranch developments. As such, the City may wish to seek partial compensation from developers. The determination of an appropriate proportion of compensation would need to be evaluated.

    - Lift Station # 19 (Biscayne Plaza) – In order to reduce the potential for overflows throughout the planning period, it is recommended that the pumping capacity of this lift station be expanded by upgrading the existing pumps or adding an additional pump. It is anticipated that the upgrade of pumping capacity of this lift station will be needed by 2007.

- According to the hydraulic analyses performed on the City's projected future wastewater transmission system, it may be necessary to upgrade the pumps at some of the secondary lift stations located throughout the system. It is recommended that the City monitor the performance of the secondary lift station pumps closely throughout the planning period and make any secondary lift station pumping improvements that are necessary to handle the system expansions and the associated increases in wastewater flows.

- In order to make wastewater service connections available to all residential lots within the neighborhoods targeted for utility system expansion within the planning

period, numerous lift stations will be required throughout the targeted neighborhoods to transfer the wastewater to the WWTP sites. The specific neighborhood expansion projects and projected schedule are presented in Section 5 – Utility Expansion into Existing Neighborhoods. Expansion into the following neighborhoods is projected by 2025: Sunburst, Sumter Gardens, Blue-Ridge Salford, North Port Gardens, Madagascar, Glenallen, Lancelot, Menori Paradise, Chamberlain, Kenvil, Woodhaven, Floribanna, Lady Slipper, and Cranberry Fields. The number and size of each lift station required will be determined during detailed design of the neighborhood expansion projects.

- Beyond 2025, additional lift station improvements will be needed as the system continues to expand and the flows continue to increase. Although hydraulic modeling scenarios were not developed for projected system conditions beyond 2025, the necessary improvements are anticipated to include upgrades to existing lift stations throughout the wastewater system and the addition of several new lift stations required for future system expansions.

Forcemain and Wastewater Collection Piping

- It is recommended that a forcemain along US-41 from the Thomas Ranch development to the City's existing WWTP be constructed to connect the proposed Thomas Ranch wastewater collection system to the City's existing system. It is understood that this forcemain has been discussed between the City and the Thomas Ranch developer, and a 12-inch forcemain is proposed. This forcemain is estimated to be approximately 32,000 feet in length. The proposed forcemain will be used to convey wastewater flows produced in Thomas Ranch during the initial stages of development to the City's existing WWTP for treatment. Following the completion of the proposed Thomas Ranch WWTP, the forcemain could continue to be used to balance flows between the Thomas Ranch WWTP and the City's existing WWTP. It is anticipated that this forcemain will be designed and constructed by the developer of the Thomas Ranch property.
- It is recommended that a 10-inch forcemain along North Toledo Blade Boulevard from the Kelse Ranch development to the proposed Price/Toledo Blade Primary Lift Station be constructed as soon as possible to connect the proposed Kelse Ranch wastewater collection system to the City's existing system. This forcemain could also be used to handle some of the initial wastewater flows projected from the

Panacea development prior to the implementation of the Panacea WWTP. It is estimated that this forcemain will be approximately 16,000 feet in length.

- In order to handle the initial wastewater flows produced in the Panacea development (prior to the implementation of the proposed new Panacea WWTP) the developer's preliminary infrastructure plans propose to connect the Panacea wastewater collection system to the City's existing 8-inch forcemain along North Toledo Blade Boulevard via a 4-inch to 6-inch forcemain along Panacea Boulevard. According to the demand projections provided by the developer and the estimated implementation schedule for the proposed Panacea WWTP it does not appear that the developer's proposed 4-inch to 6-inch forcemain or the City's existing 8-inch forcemain will have sufficient hydraulic capacity to handle the projected flows prior to the completion of the Panacea WWTP. It is recommended that the City work with the developer to discuss increasing the diameter of the proposed forcemain along Panacea Boulevard from 4-inches and 6-inches to 6-inches and 8-inches respectively. As indicated previously, the proposed 10-inch forcemain along North Toledo Blade Boulevard (which is proposed to connect the Kelse Ranch wastewater collection system to the proposed Toledo Blade/Price Primary Lift Station) could also be used to handle some of the initial Panacea wastewater flows prior to the completion of the WWTP.
- In order to expand the hydraulic capacity of the forcemain system to handle the projected increased flow to the City's existing WWTP, some forcemain improvements may be required. It is projected that the following improvements may be needed by 2007:
    - New 12-inch forcemain along West Price Boulevard (from Sumter Boulevard to Spring Haven Drive) – The addition of this forcemain would increase the amount of flow that can be pumped from the City Complex Primary Lift Station to the City's existing WWTP. It is estimated that this forcemain would be approximately 5,500 feet in length.
    - New 16-inch forcemain along Pan American Boulevard (from Appomattox Drive to the City's existing WWTP) – This forcemain would parallel the existing 16-inch forcemain located along Pan American Boulevard. This improvement (in combination with the above proposed 12-inch forcemain along West Price Boulevard) would significantly increase the amount of flow that could be sent from the City Complex Primary Lift Station to the City's existing WWTP. It is estimated that this forcemain would be approximately 5,500 feet in length.

- It is recommended that the City connect the proposed Price/Toledo Blade Primary Lift Station to the proposed Panacea WWTP through a new forcemain which would include 20-inch piping along East Price Boulevard and North Haberland Boulevard to the Panacea WWTP site. It is estimated that the forcemian will be comprised of approximately 18,000 feet of 20-inch piping. This forcemain should be operational by the time the Panacea WWTP is on-line.
- In order to make wastewater service connections available to all residential lots within the neighborhoods targeted for utility system expansion within the planning period, the City will need to construct gravity and forcemain piping systems throughout each targeted neighborhood. Utility expansion into the following neighborhoods is projected by 2025: Sunburst, Sumter Gardens, Blue-Ridge Salford, North Port Gardens, Madagascar, Glenallen, Lancelot, Menori Paradise, Chamberlain, Kenvil, Woodhaven, Floribanna, Lady Slipper, and Cranberry Fields.
- Beyond 2025, additional wastewater piping improvements will be needed as the system continues to expand and the flows continue to increase. Although hydraulic modeling scenarios were not developed for projected system conditions beyond 2025, the necessary improvements are anticipated to include the addition of several thousands of feet of new gravity pipelines and forcemains required for future system expansions.

Section 11 – Reclaimed Water Conclusions and Recommendations

This section provides conclusions and recommendations regarding the City's current and projected future reclaimed water system. The conclusions and recommendations herein are based on investigations and analyses presented in previous sections of this plan.

A. Conclusions and Recommendations Regarding the Existing Reclaimed Water System

The City's existing reclaimed water system appears to be in good condition and operating properly. Hydraulic modeling of the system indicates that the City's existing reclaimed water infrastructure is adequate to provide the maximum committed demands to the current reclaimed water customers at sufficient pressures. No improvements to the existing reclaimed water system are necessary to continue providing reclaimed water service to the existing customers under the current agreements.

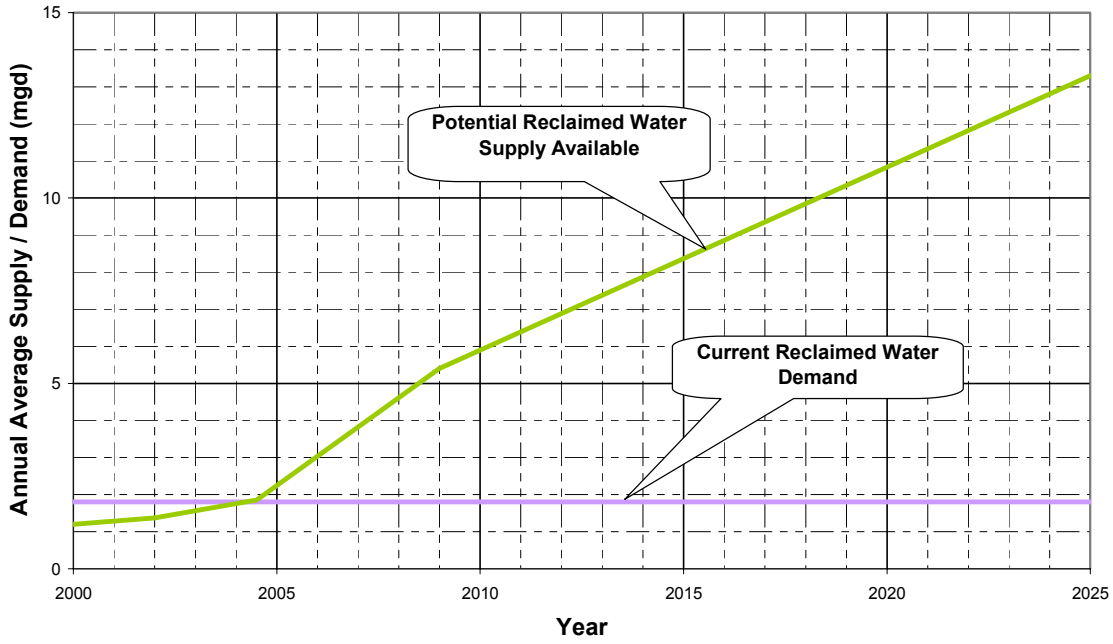
B. Conclusions and Recommendations Regarding Future Development of the Reclaimed Water System

1. General Overview

The maximum potential future quantity of available reclaimed water supply can be projected as a function of the anticipated future wastewater flows to the City's wastewater plants. This maximum potential supply is illustrated in Figure 11-1 along with the current demand that the City has committed to meet for existing customers. As this figure illustrates, there is substantial opportunity for the City to expand the reclaimed water customer base in the future.

Future expansion of the City's reclaimed water system is likely to yield several benefits. First, this will support the goal of minimizing the use of potable water for irrigation, thus conserving natural water resources and helping to maintain the relatively low per-capita potable water consumption rate that has historically existed in North Port. Also, distributing more reclaimed water will minimize the volume of treated wastewater to be disposed of through other means, thus further benefiting the environment and reducing the need for permitting and developing future effluent disposal facilities.

Figure 11-1 Current Reclaimed Water Demand vs. Potential Reclaimed Water Supply



In general, it is recommended that the City maximize the volume of reclaimed water distributed for the reasons discussed above. The City has options regarding the target customer base to accomplish this. Bulk flow customers provide an opportunity to distribute a large volume of reclaimed water with a minimum amount of infrastructure and lower pressure requirements. For these reasons, pursuing bulk customers appears to be an advantageous approach for the City. Since it is fairly common in the region for residential developments to be supplied irrigation water by a privately operated irrigation utility, it may be possible for the City to support residential irrigation systems by providing reclaimed water as a supplemental irrigation source through a bulk supply agreement.

Additionally, the City could consider supplying high pressure reclaimed water directly to commercial and residential customers such as in existing neighborhoods. However, such systems have several disadvantages compared to bulk supply, including the following:

- Increased system pressure requirements
- Increased city-provided storage requirements
- Development of relatively expensive and disruptive infrastructure in existing neighborhoods when compared to the potential revenues
- Increased efforts in customer service and billing

For the above reasons, it is recommended that the City primarily pursue bulk-supply customers. It is further recommended that bulk customers typically be required to provide their own reclaimed water storage in the form of a pond or tank.

It should be noted that reclaimed water demands are highly seasonal and highly dependent on the prevailing weather conditions. In Western Florida, reclaimed water demand will typically peak during the dry winter months and will reach a low during the summer rainy season. Selecting an appropriately sized customer base is a challenging task due to this seasonally varying demand. It is desirable to maximize the customer base in order to maximize the benefits provided by the system. However, maintaining a customer base which is too large can cause a supply shortfall during the dry season and may result in difficulty meeting committed demands to customers. This balance can be facilitated by the implementation of a seasonal reclaimed water storage system such as ponds or ASR.

2. Improvements to Serve Future Target Customers

As discussed in Section 6, a number of potential bulk reclaimed water customers (and their projected demands) have been previously identified. These potential bulk customers are: City Center (0.3 mgd); North Port High School (0.3 mgd); and Butler Park (0.4 mgd). The combined committed average demand to existing and targeted customers is projected to be approximately 2.9 mgd. As illustrated in Figure 11-1, sufficient reclaimed water supply may be available to meet this demand by 2007. The hydraulic model of the City's reclaimed water system was used to evaluate potential options for expanding the reclaimed water system to provide service to these potential bulk customers. The preliminary recommendations for system improvements are identified and described below and illustrated in Figure 8-9.

- Wastewater Treatment Improvements – The City may wish to increase filtration, high level disinfection, and transfer pumping capacity at the existing North Port WWTP to increase the amount of plant effluent that can be disposed of through an expanded reclaimed water customer base. The City will also need to increase the annual average permitted reclaimed water limits for the WWTP from 1.88 mgd to atleast 2.9 mgd.

- Pipeline Improvements – The primary pipeline improvements required to deliver reclaimed water to the targeted bulk customers include 4,000-feet of 16-inch pipeline parallel to the existing 10-inch pipeline from the WWTP to the intersection

of North Port Boulevard and Greenwood Avenue; and 6,000-feet of 10-inch piping along West Price Boulevard from Sumter Boulevard to Spring Haven Drive.

- High Service Pump Station Improvements – The existing pumps at the reclaimed water pump station will need to be replaced with larger capacity pumps in order to provide adequate service to the potential targeted reclaimed water customers during maximum delivery scenarios. The pump station will need to have a firm capacity of approximately 3 mgd at a design head of 165-feet.

It should be noted that these preliminary recommendations are highly dependant on the eventual customers and the negotiated allocations. In addition, these recommendations reflect a maximum delivery scenario to these customers. Depending on the needs of the future customers and requirements of the agreements, the City may be able to reduce the required piping and pumping station improvements through daily management of delivery schedules to customers with storage at the point of delivery.

3. Supplemental Irrigation Water in Thomas Ranch, Kelse Ranch, and Panacea

As discussed in the Interim Report on Developer Contributions, included in Appendix B, it is recommended that the City require the developers to implement non-potable irrigation systems which are to be owned and operated by private utilities. It is further recommended that the City require these irrigation systems to be designed to accommodate the future supply of bulk reclaimed water by the City to supplement the other irrigation supply sources.

It is recommended that the proposed Thomas Ranch and Panacea WWTPs be provided with facilities to treat wastewater flows to reclaimed water standards and to pump the reclaimed water to the privately owned irrigation system storage facilities (most likely pond storage). The point of delivery for this supplemental reclaimed water is currently undefined, and the quantity of reclaimed water to be provided is subject to negotiations with the developers or subsequent privately owned utilities which may be set up to run the irrigation systems.

The potential projected irrigation demand in Thomas Ranch, as discussed in Section 6, is 7.4 mgd, significantly more than the projected flow to the Thomas Ranch WWTP. Therefore, it is likely that all of the reclaimed water available at the Thomas Ranch WWTP can be used to supplement irrigation water within that development, with none remaining for supply to additional customers from that facility. There would appear to be

little benefit in connecting the reclaimed water system in Thomas Ranch to the City's existing system, particularly considering the significant length of pipeline that would be required.

The potential projected irrigation demand in Kelse Ranch and Panacea, as discussed in Section 6, is a combined 2.0 mgd. It is likely that the future Panacea WWTP will be able to provide a substantial supplemental supply of reclaimed water to the irrigation systems for these developments, with some quantity of reclaimed water available to serve other customers. Depending on the eventual makeup and demand of the customer base, the City may wish to consider the benefits of interconnecting the reclaimed water systems fed from the future Panacea WWTP and existing North Port WWTP. This would allow demand shifting between the two facilities and accommodate serving new customers along the interconnecting pipe route.

Section 12 – Summary of Recommendations and Five-Year Capital Improvement Program

A. Summary of Recommendations

Sections 9 through 11 presented a discussion of conclusions and recommendations associated with the City's Potable Water, Wastewater, and Reclaimed Water systems. A summary of the recommended actions and implementations from sections 9-11 is presented below in Table 12-1.

Table 12-1 Summary of Recommended Actions and Improvements

	To be Initiated in Fiscal Year 2005
Potable Water System	**Myakkahatchee Creek HSPS and Hillsborough Booster PS Upgrades** - Complete pump station improvement projects underway at the Myakkahatchee Creek HSPS and Hillsborough Booster PS. Construction of these projects is scheduled for completion by March 2005.
	US-41 Potable Water Pipeline - Design and construct a 16-inch watermain along US-41 from North Port Boulevard to the Thomas Ranch HSPS (approximately 30,000 feet) to provide water supply to Thomas Ranch. This needs to be completed prior to the earliest development in Thomas Ranch. This pipeline should also include a connection to the western portion of the Old Myakka Utilities primary 8-inch distribution pipeline in order to improve fire flow capability in the Old Myakka Utilities service area. It is understood that the Thomas Ranch developer has initiated the design and construction of a portion of this pipeline.
	Thomas Ranch HSPS and Ground Storage Tank - Design and construct a HSPS with a firm capacity of 4.6 mgd (3,200 gpm) and 1 million gallons of finished water storage on the proposed Thomas Ranch PS site. This needs to be completed prior to the earliest development in Thomas Ranch. It is understood that the Thomas Ranch developer has initiated the design and construction of this facility. This facility should be designed to accommodate expansion as described herein.
	North Haberland Boulevard Potable Water Pipeline - Design and construct a 20-inch pipeline along North Haberland Boulevard from Price Boulevard to the Panacea distribution system (approximately 3,000 feet) to provide water supply to the Panacea development. This needs to be completed prior to the earliest development in Panacea. It is understood that the Panacea developer will initiate the design and construction of this pipeline.
	North Toledo Blade Boulevard Potable Water Pipeline - Design and construct a 16-inch pipeline along Toledo Blade Boulevard from North Cranberry Boulevard to the proposed Kelse Ranch distribution system (approximately 8,000 feet) to provide water supply to the Kelse Ranch development. This needs to be completed prior to the earliest development in Kelse Ranch.
	Establish Interlocal Agreement with Sarasota County - Negotiate an interlocal agreement with Sarasota County for a supply allocation of at least 2.0 mgd average day supply (3.5 mgd maximum day).
	Myakkahatchee Creek WTP WUP Renewal / Increase - Renew the SWFWMD Water Use Permit (WUP) for the Myakkahatchee Creek surface water supply. Seek an increased allocation in the renewed permit based on the ongoing stream-flow study and ASR system development. Submit application by March 2005 and secure increased allocation by 2007. Subsequently, increase production at the existing WTP as allowed by the WUP.
	Negotiate Increased PRMRWSA Allocation - Negotiate a new water supply agreement with the PR/MRWSA to increase the City's allocation by at least 3.0 mgd. It is recommended that the City seek the provision of this additional supply as early as possible (currently projected to be available by 2009). The City may have some options regarding the location(s) where the additional PR/MRWSA supply will enter the system. The location(s) should be determined as soon as possible in order to make any necessary improvements by 2009.

Table 12-1 Summary of Recommended Actions and Improvements (continued)

Potable Water System	**Sarasota County Interconnect and Metering Station** - Design and construct a metering station and interconnect pipeline to deliver Sarasota County supply to the proposed Thomas Ranch High Service Pumping Station. Supply from Sarasota County is projected to be needed by 2005.
	Myakkahatchee Creek WTP Study and Improvements - Conduct an engineering study at the existing WTP to define necessary improvements to correct several equipment deficiencies and improve treatment reliability at flows approaching the plant's design capacity. Subsequently design and construct these improvements. The improvements should be completed by 2007.
	Northeast Booster Pump Station Upgrade – Design and construct improvements to increase the capacity of the Northeast Booster PS. The improvements should include the addition of two new pumps (equipped with VFDs). It is projected that this improvement will be needed by 2006.
	Emergency Interconnect Improvements – Install new flow meters at all three of the City's emergency interconnects with Charlotte County.
Wastewater System	**Collection System Infrastructure R&R Program** – Implement an ongoing repair and rehabilitation (R&R) program for collection system infrastructure in order to reduce the amount of inflow and infiltration (I&I) that occurs within the wastewater collection system. This R&R program should include the addition of remote monitoring and control capabilities (SCADA) at all of the City's lift stations.
	Re-rate Existing Deep Injection Well – Seek an increase in the permitted maximum injection rate of the City's existing deep injection well (DIW) based on allowing a higher velocity in the well.
	US-41 Forcemain – Design and construct a 12-inch forcemain along US-41 from the City's existing WWTP to the Thomas Ranch development (approximately 32,000 feet) to connect the Thomas Ranch wastewater system to the City's existing system. This needs to be completed prior to the earliest development in Thomas Ranch. It is understood that the Thomas Ranch developer has initiated the design and construction of this forcemain.
	Thomas Ranch Primary Lift Station Facility – Design and construct a primary lift station with a firm pumping capacity of 0.8 mgd (556 gpm). The lift station facility should include a 300,000 gallon surge/storage tank to reduce the peak flow rates conveyed to the City's WWTP and to more fully utilize the proposed US-41 forcemain during off-peak times. A pretreatment process should also be provided at this lift station. This needs to be completed prior to the earliest development in Thomas Ranch. It is understood that the Thomas Ranch developer has initiated the design and construction of this facility.
	North Toledo Blade Forcemain - Design and construct a 10-inch forcemain along North Toledo Blade Boulevard from the Kelse Ranch development to the proposed Toledo Blade / Price Primary Lift Station (approximately 16,000 feet in length). This needs to be completed prior to the earliest development in Kelse Ranch.
	City of North Port WWTP Expansion – Design and construct a 1.9 mgd (ADF) expansion of the existing WWTP. It is projected that the additional WWTP capacity will be needed by 2006. Expansion of the DIW system capacity to a maximum injection rate of 12.5 mgd is recommended as part of the WWTP expansion. The City may also wish to increase the capacity of the reclaimed water treatment facilities at the WWTP during this project.
	Toledo Blade / Price Primary Lift Station - Design and construct a primary lift station near the intersection of Toledo Blade Boulevard and Price Boulevard. It is recommended that the lift station initially be equipped with three pumps, each with a pumping capacity of approximately 4.0 mgd (2,800 gpm) at 165 feet of head. It is projected that this facility will be needed before 2007.
	Panacea WWTP (Phase 1) – Design and construct a new 2.0 mgd (ADF) WWTP at the Panacea Utility Site. An effluent disposal system such as deep well injection will be needed as part of this project. It is also recommended that this WWTP be implemented with capabilities to produce and distribute reclaimed water. It is projected that this facility will be needed by 2008.

Table 12-1 Summary of Recommended Actions and Improvements (continued)

	To be Initiated in Fiscal Year 2006
Potable Water System	**Groundwater Supply Feasibility Study** - Conduct a detailed feasibility study, including pilot testing, to confirm that the hydrogeology in North Port is compatible with developing local groundwater supplies and to identify optimal aquifer, wellfield location, well spacing, water quality, etc.
	San Mateo Drive Pipeline Improvements - Design and construct watermain improvements to complete the 10-inch diameter water main along South San Mateo Drive to improve fire flow capability in the San Mateo neighborhood and improve hydraulic conveyance in the eastern part of the distribution system (approximately. 10,000 feet of 10-inch piping is required).
	Water Distribution System Study - Consider conducting a water distribution system study to determine appropriate maintenance activities and operational modifications to minimize travel times and reduce the potential for water quality problems developing within the transmission system.
Wastewater System	**Thomas Ranch WWTP (Phase 1)** - Begin the design and construction of a new 2.0 mgd (ADF) WWTP at the Thomas Ranch Utility Site. An effluent disposal system such as deep well injection will be needed as part of this project. It is also recommended that this WWTP be implemented with capabilities to produce and distribute reclaimed water. It is projected that this facility will be needed by 2009.
	Upgrade Pumps at Lift Station #19 (Biscayne Plaza) – Design and construct improvements to increase the pumping capacity of the Biscayne Plaza Primary Lift Station to reduce the potential for overflows throughout the planning period. As part of this project, the City may also wish to add a generator, odor control, and SCADA capabilities at this lift station.
	East Price Boulevard Forcemain - Design and construct a 20-inch forcemain along East Price Boulevard and North Haberland Boulevard from the proposed Toledo Blade / Price Primary Lift Station to the proposed Panacea WWTP (approximately 18,000 feet of 20-inch piping). This forcemain should be operational by the time that the Panacea WWTP is on-line.
	West Price Boulevard Forcemain - Design and construct a 12-inch forcemain along West Price Boulevard from the Sumter Boulevard to Spring Haven Drive (approximately 5,500 feet in length). It is projected that this forcemain could be needed as early as 2007.
	Pan American Boulevard Forcemain - Design and construct a parallel 16-inch forcemain along Pan American Boulevard from Appomattox Drive to City of North Port WWTP site (approximately 5,500 feet in length). It is projected that this forcemain could be needed as early as 2007.
	Upgrade Pumps at Lift Station #51 (City Complex) – Design and construct improvements to increase the pumping capacity of the City Complex Primary Lift Station to handle the additional flows projected throughout the planning period. It is anticipated that an increased pumping capacity may be needed as early as 2007. As part of this project, the City may also wish to add a generator and SCADA capabilities at this lift station.
Reclaimed Water System	**Negotiate Agreements with Future Bulk-use Reclaimed Water Customers** - Seek to expand the reclaimed water customer base and system in the future. Primarily seek agreements with potential bulk reclaimed water users including the following targeted customers: Thomas Ranch Development, Panacea Development, Kelse Ranch Development, City Center, North Port High School, and Butler Park. In negotiating agreements with future bulk-use reclaimed water customers, it is recommended that the City require the customers to provide for their own reclaimed water storage needs (in the form of an irrigation pond or a ground storage tank). This will facilitate balancing daily flows and reduce the need to increase City-owned short-term storage volume.

Table 12-1 Summary of Recommended Actions and Improvements (continued)

	To be Initiated in Fiscal Year 2007
Potable Water System	**Sunburst Potable Water System Expansion** – Design and construct an expansion of the water distribution system to make potable water service connections available to all lots within the existing Sunburst neighborhood (if shown to be economically viable). The expansion is projected to require approximately 5,000-feet of new 12-inch piping along North Sumter Boulevard and several thousands of feet of smaller diameter distribution system piping throughout the entire neighborhood.
	Hillsborough Boulevard Potable Water Pipeline - Design and Construct a 20-inch watermain to replace the existing 12-inch watermain along Hillsborough Boulevard from the PR/MRWSA Interconnect to South Cranberry Boulevard (approximately 36,000 feet). If the expanded PR/MRWSA supply is introduced to the City's system near the existing interconnect, this pipeline replacement project should be completed prior to the proposed increase in PR/MRWSA supply allocation, which is projected to occur in 2009. Alternatively, if the majority of the expanded PR/MRWSA supply is delivered into the City's system in the Kelse Ranch area, this pipeline replacement project may not be required until late in the planning period.
	Kelse Ranch Booster Pump Station Facility and Interconnect – If the expanded PR/MRWSA supply is introduced to the City's system primarily through a connection to the low pressure pipeline in the Kelse Ranch area, a booster pump station and storage tank will be required to deliver the PR/MRWSA supply into the potable water system at adequate distribution system pressures. If the City does not implement a new PR/MRWSA Interconnect in the Kelse Ranch area, this booster pump station facility would not be required.
	Utility Master Plan Update – Prepare an update to this Utility Master Plan report.
Wastewater System	**Biosolids Treatment and Disposal Alternatives Study** - Conduct a biosolids treatment and disposal alternatives study. The potential for a regional biosolids treatment facility should be considered in the study.
	Sunburst Wastewater System Expansion – Design and construct an expansion of the wastewater collection/transmission system to make wastewater service connections available to all lots within the existing Sunburst neighborhood (if shown to be economically viable). The expansion is projected to require some new lift stations and several thousands of feet of gravity and forcemain piping throughout the neighborhood.
Reclaimed Water System	**Reclaimed Water Transmission System Expansion (City Center, Butler Park, and North Port High School)** - Flows to the existing WWTP are projected to be sufficient to serve the targeted bulk supply customers of City Center, North Port High School, and Butler Park by 2007. If the City is successful at negotiating reclaimed water agreements with these potential customers at their projected reclaimed water demands, the following system improvements may be required: ▪ Design and construct a new 16-inch pipeline (approximately 4,000 feet in length) parallel to the existing 10-inch pipeline from the WWTP to the intersection of North Port Boulevard and Greenwood Avenue, as well as a new 10-inch pipeline along West Price Boulevard from Sumter Boulevard to Spring Haven Drive. ▪ Upgrade the reclaimed water distribution system pump station at the City's WWTP to provide a firm capacity of approximately 3 mgd at 165' of head. ▪ Filtration, high-level disinfection, and transfer pumping facilities at the existing WWTP should be evaluated to determine if any improvements are necessary to expand the reclaimed water system.

Table 12-1 Summary of Recommended Actions and Improvements (continued)

To be Initiated in Fiscal Year 2008	
Potable Water System	**Thomas Ranch Groundwater Supply and WTP – Phase I** – Design and construct a groundwater wellfield and associated WTP on the proposed utility site in Thomas Ranch (2.0 mgd annual average and 3.5 mgd max day). Simultaneously expand pumping and storage facilities at the Thomas Ranch HSPS. These improvements are projected to be needed by 2012.
	Sumter Gardens Potable Water System Expansion – Design and construct an expansion of the water distribution system to make potable water service connections available to all lots within the existing Sumter Gardens neighborhood (if shown to be economically viable). The expansion is projected to require several thousands of feet of 6-inch to 8-inch diameter distribution system piping throughout the northern portion of the neighborhood.
	North Biscayne Drive and Ponce De Leon Boulevard Pipelines - Design and construct watermain improvements along North Biscayne Drive and Ponce De Leon Boulevard to improve fire flow capability in this area of the system.
Wastewater System	**Sumter Gardens Wastewater System Expansion** - Design and construct an expansion of the wastewater collection/transmission system to make wastewater service connections available to all lots within the existing Sumter Gardens neighborhood (if shown to be economically viable). The expansion is projected to require new lift stations and several thousands of feet of gravity collection piping throughout the neighborhood.
To be Initiated in Fiscal Year 2009	
Potable Water System	**Myakkahatchee Creek HSPS Upgrade** – Upgrade the Myakkahatchee Creek HSPS with the addition of one new pump in the available space. It is projected that this improvement will be needed by 2010.
	Blue Ridge-Salford Potable Water System Expansion – Design and construct an expansion of the water distribution system to make potable water service connections available to all lots within the existing Blue Ridge-Salford neighborhood (if shown to be economically viable). The expansion is projected to require several thousands of feet of 6-inch to 10-inch diameter distribution system piping throughout the entire neighborhood.
Wastewater System	**Blue Ridge-Salford Wastewater System Expansion** - Design and construct an expansion of the wastewater collection/transmission system to make wastewater service connections available to all lots within the existing Blue Ridge-Salford neighborhood (if shown to be economically viable). The expansion is projected to require some new lift stations and several thousands of feet of gravity and forcemain piping throughout the neighborhood.
To be Initiated in Fiscal Years 2010 through 2025	
Potable Water System	**North Port Gardens Potable Water System Expansion** - Design and construct an expansion of the water distribution system to make potable water service connections available to all lots within the existing North Port Gardens neighborhood (if shown to be economically viable). The expansion is projected to require several thousands of feet of 6-inch to 10-inch diameter distribution system piping throughout the entire neighborhood.
	Panacea Groundwater Supply and WTP (Phase I) - Design and construct a groundwater wellfield and associated WTP on the proposed utility site in Panacea (4.0 mgd annual average and 7.0 mgd max day). The facility should include storage and pumping facilities. This is projected to be needed by 2015.
	Thomas Ranch Groundwater Supply and WTP (Phase 2) - Design and construct an expansion of the groundwater wellfield and associated WTP on the proposed utility site in Thomas Ranch (to 4.0 mgd annual average and 7.0 mgd max day). Simultaneously expand pumping and storage facilities at the Thomas Ranch HSPS. This is projected to be needed by 2022.

Table 12-1 Summary of Recommended Actions and Improvements (continued)

Potable Water System	**Potable Water System Expansion into "High Priority Neighborhoods"** - Design and construct an expansion of the water distribution system to additional unconnected areas potentially including the following existing neighborhoods (if shown to be economically viable): Madagascar, Glenallen, Lancelot, Meroni Paradise, Chamberlain, Kenvil, Woodhaven, Floribanna, Lady Slipper, Cranberry Fields.
	Potable Water System Build-out Planning - Consider opportunities to acquire / preserve land for locating potential long term future wells and WTPs.
Wastewater System	**North Port Gardens Wastewater System Expansion** - Design and construct an expansion of the wastewater collection/transmission system to make wastewater service connections available to all lots within the existing North Port Gardens neighborhood (if shown to be economically viable). The expansion is projected to require some new lift stations and several thousands of feet of gravity and forcemain piping throughout the neighborhood.
	Thomas Ranch WWTP (Phase 2) – Design and construct a 3.0 mgd (ADF) expansion of the proposed Thomas Ranch WWTP. The capacity of the effluent disposal systems (DIW and reclaimed water) should also be expanded as part of this project. This is projected to be needed by 2015.
	Panacea WWTP (Phase 2) – Design and construct a 3.0 mgd (ADF) expansion of the proposed Panacea WWTP. The capacity of the effluent disposal systems (DIW and reclaimed water) should also be expanded as part of this project. This is projected to be needed by 2021.
	Wastewater System Expansion into "High Priority Neighborhoods" - Design and construct an expansion of the wastewater collection/transmission system to additional unconnected areas potentially including the following existing neighborhoods (if shown to be economically viable): Madagascar, Glenallen, Lancelot, Meroni Paradise, Chaimberlain, Kenvil, Woodhaven, Floribanna, Lady Slipper, Cranberry Fields. The expansions will require the construction of new lift stations and several thousands of feet of gravity and forcemain piping throughout the neighborhoods.
Reclaimed Water System	**Reclaimed Water System Build-out Planning** - Consider the future option of interconnecting reclaimed water distribution systems at the existing WWTP and proposed Panacea WWTP to allow demand shifting between the facilities and accommodate serving new customers.

B. Five-Year Capital Improvement Program

Figure 12-1 presents a schedule for implementation of projects recommended above for the water, wastewater and reclaimed water systems. Projects are scheduled herein according to the apparent timing constraints discussed above. Project durations shown in Figure 12-1 are based on a preliminary estimate of the required duration for engineering/permitting and bidding/construction.

Table 12-2 presents a summary of costs for implementation of projects recommended above. Cost information is derived from the preliminary opinions of probable cost for each project, which is included in Appendix C.

Table 12-2 Cost Summary for Recommended Projects

	Project	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Potable Water System	Myakkahatchee Creek HSPS and Hillsborough BPS Upgrades	NA[1]				
	US-41 Potable Water Pipeline	NA[2]				
	Thomas Ranch HSPS & Ground Storage Tank	NA[2]				
	North Haberland Boulevard Potable Water Pipeline	$449,000				
	North Toledo Blade Boulevard Potable Water Pipeline	$957,000				
	Sarasota County Interconnect and Metering Station	$523,000				
	Emergency Interconnect Improvements	$75,000				
	Myakkahatchee Creek WTP Study and Improvements	$70,000	$450,000			
	Northeast Booster PS Upgrade	$49,000	$325,000			
	Groundwater Supply Feasibility Study		$260,000			
	San Mateo Drive Pipeline Improvement		$148,000	$600,000		
	Water Distribution System Study		$39,000			
	Sunburst Potable Water System Expansion			$566,000	$3,000,000	$770,000
	Hillsborough Boulevard Potable Water Pipeline[3]			$702,000	$4,000,000	$680,000
	Kelse Ranch Booster Pump Station Facility and Interconnect[3]			$390,000	$2,000,000	$600,000
	Utility Master Plan Update			$195,000		
	Sumter Gardens Potable Water System Expansion				$500,000	$500,000
	North Biscayne Drive and Ponce De Leon Blvd Pipelines				$100,000	$800,000
	Thomas Ranch Groundwater Supply and WTP - Phase I[4]				$365,000	$1,000,000
	Myakkahatchee Creek HSPS Upgrade					$179,000
	Blue Ridge-Salford Potable Water System Expansion[4]					$424,000
Wastewater System	US-41 Forcemain	NA[2]				
	Thomas Ranch Primary Lift Station Facility	NA[2]				
	North Toledo Blade Forcemain	$1,196,000				
	City of North Port WWTP Expansion	$7,000,000	$6,126,000			
	Toledo Blade / Price Boulevard Primary Lift Station	$393,000	$1,700,000			
	Panacea WWTP (Phase I)	$4,950,000	$6,000,000	$4,000,000		
	Thomas Ranch WWTP (Phase I)		$1,950,000	$6,500,000	$6,500,000	
	Upgrade Pumps at Lift Station #19 (Biscayne Plaza)		$299,000			
	East Price Boulevard Forcemain		$351,000	$2,340,000		
	West Price Boulevard Forcemain[5]		$64,000	$429,000		
	Pan American Boulevard Forcemain[5]		$86,000	$572,000		
	Upgrade Pumps at Lift Station #51 (City Complex)[5]		$59,000	$390,000		
	Biosolids Treatment and Disposal Alternatives Study			$130,000		
	Sunburst Wastwater System Expansion			$1,297,000	$7,000,000	$1,645,000
	Sumter Gardens Wastewater System Expansion				$1,335,000	$2,000,000
	Blue Ridge-Salford Wastewater System Expansion[4]					$3,097,000
R	Reclaimed Water System Expansion to Bulk-use Customers			$800,000	$500,000	
Totals	**Potable Water System Total**	**$2,123,000**	**$1,222,000**	**$2,453,000**	**$9,965,000**	**$4,953,000**
	Wastewater System Total	**$13,539,000**	**$16,635,000**	**$15,658,000**	**$14,835,000**	**$6,742,000**
	Reclaimed Water System Total	**$0**	**$0**	**$800,000**	**$500,000**	**$0**
	TOTAL (in millions of dollars)	**$15.7**	**$17.9**	**$18.9**	**$25.3**	**$11.7**

[1] This project is already in the construction phase. Therefore, funding has already been secured for the cost of this project.

[2] The City has indicated that this project will be designed, constructed, and funded by a developer.

[3] The negotiated point of delivery of expanded PR/MRWSA supply could affect the need for and required timing of this project.

[4] For this project, the cost indicated in the table is for the engineering study, design, and permitting only.

[5] Implementing the Panacea WWTP project with a fast-track delivery method could potentially delay the need to implement this project until late in the planning period.

Informational Items Provided by the City

(For Use in Developing the Planning Database)

Existing Documents and Records:

- Previous Utility Master Plans (1994, 1999)
- City of North Port Comprehensive Plan (Amended May 2002).
- Existing Reclaimed Water Bulk Supply Customer Agreements
- Preliminary Developer Plans
- Supply Contracts with PR/MRWSA and Charlotte County

Population and Land Use Data:

- Population Projections for City of North Port for Years 2021 and Build Out
- Year 2000 Population by Neighborhood
- Information Regarding Planned Developments within City Limits

Metered Water Sales Records:

- Summary Tables of Historic Water Production and Metered Water Sales by Class (Residential, Commercial, and Industrial).

Operational Data:

Data on historical WTP Production, Reclaimed Water Distribution, and WWTP Influent flows, including the following:

- Historical Data on WTP Production, WWTP Influent flows, and Reclaimed Water Distribution (Average Day, Maximum Day, Minimum Day, Peak Hour, and Total Annual Flow).
- Summary Table of Daily Plant Flows from January 1, 2001 to Present.
- Treatment Plant Hourly Operator's Logs for the Day Before, Day of, and Day After, the Day of Maximum Flow for the Previous Five Years.

GIS Data:

- Water Distribution System
- Wastewater Transmission and Collection System
- Reclaimed Water Transmission System
- City Limits and Neighborhood / Development Boundaries
- Existing and Future Land Use
- Streets, Roads and Highways
- Hydrology (Wetlands, Lakes, Rivers, Creeks, and Canals)
- Contours (2 foot within planning area limits)
- Environmentally sensitive areas

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Black & Veatch Corporation

MEMO

Subject: Developers' Contribution to Utility System Infrastructure – Interim Report

Date: May 26, 2004

Review and Summary of Existing Developer Agreements

Black & Veatch has conducted a review of the City's land development agreements to assess the developers' required provision of utility infrastructure (within the area to be developed as well as the collection and distribution infrastructure required to serve the development). The City provided Black & Veatch with a copy of twenty-six of their previous development agreements which primarily encompass residential developments and range in size from 2.5 to 2,350 ERC's (Equivalent Residential Connections).

Each of the development agreement documents includes an Exhibit B - Special Conditions section which outlines the developers' specific infrastructure construction requirements and fees. In general, the agreements appear to be thorough with regard to infrastructure improvement and funding requirements imposed on the developers. The following is a list of typical requirements included in the City's previous land development agreements:

- Water and Wastewater Capital Charges – One time charges based on the number of ERCs the developer requires. The charges are based on the rates adopted by the City. The charges are paid according to the schedule defined in the development agreement. Water and Wastewater Capital Charges appear to be included in all of the City's development agreements.
- Guaranteed Revenue Charges - Annual charges for any unconnected/unused potable water or wastewater ERC which the developer has paid the Capital Charge for. The Guaranteed Revenue Charge represents a fixed charge assessed to have capacity available to serve a customer, even though no flows are billed, and provides the City revenues necessary to maintain the collection and distribution lines. Guaranteed Revenue Charges appear to be included in all of the City's development agreements.
- On-site Utility Infrastructure Improvements – The City requires the developers to design, permit, and construct all on-site utility infrastructure required by their development

according to the City's Utilities' Manual of Standards and Specifications for the Construction of Water and Wastewater and all regulatory agencies' requirements for the development of property. Typically, the developer conveys all the water and wastewater infrastructure and associated easements to the City for operation and maintenance as part of the close out documents.

- Connection into the City's Existing Water and Wastewater Systems (Off-site Improvements) – In most agreements, the developer is required to construct all or a portion of the water and wastewater infrastructure required to connect the new development's system into the City's existing system. The City requires the infrastructure to be designed and constructed to the City's specifications/standards, and approved by the Development Review Committee. Typically, the developer conveys all the water and wastewater infrastructure and associated easements to the City for operation and maintenance as part of the close out documents.
- Contributions in Aid of Construction Payment – A one time fee is required in some of the City's development agreements which is based upon a determination of the hydraulic share attributable to the developer. The City has also assigned specific system infrastructure improvement projects to developers in substitution of this fee.

Additional items discussed in several of the City's development agreements include payment scheduling, insurance coverage requirements, and reclaimed water agreements/requirements. Table 1 provides a summary of the City's development agreements that were provided to and reviewed by Black & Veatch. The Utility Master Plan will consider for utility infrastructure to be provided by developers under the existing agreements. Table 1 summarizes the infrastructure to be provided.

Table 1 – Summary of Development Agreements

#	Development	Status	Original Contract Date	ERC's	Details Regarding Specific Developer Requirements
1	Villas @ Charleston Park	Construction Pending	May-12-2003	188	▪ Developer shall design and construct utility facilities associated with the future Spring Haven Drive (from Pan American Blvd to Price Blvd). Water system improvements = 6" looped system. Wastewater system improvements = fee based on flow contributed to future main + $8,000 for RTU.
2	Charleston Park	On Going	Feb-25-1998	139	▪ Developer shall design and construct water and wastewater system improvements to connect the development's system into the City's system.
3	Talon Bay	Construction Pending	Oct-28-2002	218	▪ Developer shall design and construct water and wastewater system improvements to connect the development's system into the City's system. Wastewater system improvements shall include two lift stations within the property and a force main, which will discharge to an existing manhole at West Sydney Ave and Talbot St.
4	North Port Marketplace	Completed	Nov-26-1997	15	▪ Contribution in Aid of Construction - one time payment of $14,000.
5	Woodhaven Estates	On Going	Feb-28-2001	88	▪ Developer shall design and construct an 8" water main from Toledo Blade along Woodhaven to Fairlain to Hedgewood, a lift station on Fairlain, and a 4" force main to Toledo Blade. In addition, the developer must pay for 30% of the cost of an 8" force main along Toledo Blade to the existing force main from lift station #55. A one time payment of $18,000 for treatment capacity improvements is also required.
6	Willow Creek Apts.	Completed	Jan-24-2000	200	▪ Developer shall design and construct water and wastewater system improvements to connect the development's system into the City's system. The improvements shall include an 8" water main and a 4" force main. A one time payment of $7,300 for the construction of a wastewater transmission line from Pan American Blvd to the North Port WTP is also required.
7	Bobcat Trail	On Going/ Pending Amendment/ Assignment	Sep-9-1997	684	▪ Developer shall design and construct a 12" water transmission main from existing main on Price and Toledo Blade Blvd to the developer's entrance on Toledo Blade, and an 8" water transmission main from Woodhaven drive entrance to Haberland Blvd. Required wastewater system improvements: 1/3 of the construction cost for rerouting the existing transmission line from Lift Station L (amount not to exceed $10,000), + second parallel transmission line from developer's collection system to the City's WWTP, + 8" wastewater force main to tie in the developer's system from Toledo Blade and Price Blvd.
8	Lakeside Plantation	On Going/ Pending Amendment/ Assignment	Jun-1-1999	800	▪ Developer shall design and construct the following water system improvements: 12" water transmission main from existing main on Price Blvd through Greenbrooke Blvd to the developer's property, + 12" water transmission main from the City's existing water transmission main on Toledo Blade Blvd to the developer's property. Wastewater system improvements: 8" wastewater force main to tie into the City's system at Toledo Blade Blvd. The developer shall reimburse the City a one time payment of $142,270 for a wastewater transmission main (this payment may be credited towards the purchase of a property – Panacea Site).
9	Heron Creek	On Going/ Pending Amendment/ Assignment	Aug-31-1998	2,350	▪ Developer shall design and construct the following water system improvements: 12" looping water transmission main through Heron Creek from North Port Blvd and Appomattox Drive along North Port Blvd to connect to the water main on Price Blvd. Wastewater system improvements: Connection of the Heron Creek Master Lift Station to the City's force mail along Appomattox Drive. The developer shall reimburse the City a one time payment of $52,000 for a 12" water main at the Myakkahatchee Creek Crossing and 70.4% of the costs of a 12" potable water main along Price Blvd from Sumter Blvd to the west side of the Myakkahatchee Creek (representing the development's hydraulic share). Also, a one time payment of $200,000 for the force main from the master lift station at Heron Creek to the City's WWTP.

Table 1 (continued) – Summary of Development Agreements					
#	**Development**	**Status**	**Original Contract Date**	**ERC's**	**Details Regarding Specific Developer Requirements**
10	Sable Trace	Completed	May-18-1995	164	▪ Developer shall design and construct a reclaimed water distribution system within the development and accept reclaimed water at the specified rates once the City makes reclaimed water available to the development.
11	Villas @ Sable Trace	On Going	Nov-29-1999	174	▪ Developer shall design and construct the following water system improvements: construction of a 12" water main to complete the linkage along Appomattox Drive. Wastewater system improvements: a new force main from the intersection of Toledo Blade and Price Blvd to the WWTP, + a lift station to transfer the wastewater to from the development to the WWTP. A one time payment of $20,000 for wastewater transmission system improvements is also required.
12	Grand Courte Apts.	On Going	Apr-28-2003	126	▪ Developer shall design and construct the following water system improvements: construction of a looped 6" water main to connect the development with the City's existing system. Wastewater system improvements: construction of an 8" gravity main to connect to the City's lift station on Greenwood Ave.
13	North Port High School	Completed	Feb-15-2000	NA	▪ Developer shall design and construct the following water system improvements: construction of a 12" water main along Price Blvd to connect to the City's existing system on Sumter Blvd. Wastewater system improvements: construction of a 6" force main and a lift station on Price Blvd to connect to the City's force main on Pan American Blvd and Appomattox Drive. A one time payment of $16,200 for a wastewater transmission line from Toledo Blade Blvd to the City's WWTP is also required.
14	Heron Creek Middle School (DD)	Completed	Dec-9-2002	90	▪ Developer shall design and construct the following water system improvements: construction of an 8" water main along Spring Haven Blvd from Price Blvd to the second entry of the Middle School DD complex to connect to the City's existing system. Wastewater system improvements: a one time payment of $16,200 for utilizing a force main along Pan American Blvd is also required. Reclaimed water system improvements = developer may purchase up to 200,000 gallons per day at the adopted rate. This would require a one time payment of $50,000 for the expansion of reclaimed treatment.
15	Bobcat Trail Fitness Center	Under Construction	Jul-14-2003	6	▪ Water and wastewater system improvements: Developer shall design and construct water and wastewater system improvements to connect the development's system into the City's system.
16	Riley Chase Apts.	Completed	Aug-30-1999	274	▪ Developer shall design and construct the following water system improvements: connection to the City's transmission system, construction of a 12" water main from the City's future transmission main in Lakeside Plantation north along Sycamore St to Panacea Blvd and then west to the existing transmission main on Toledo Blade Blvd is required. Wastewater system improvements: developer shall construct a new 4" force main along Sycamore Street to tie into the stub out provided in Lakeside Plantation. A one time payment of $50,613 for the construction of a wastewater transmission line along Price Blvd to the City's WWTP is required.
17	Toledo Club Apts.	Completed	May-20-1999	219	▪ Developer shall design and construct the following water system improvements: connect to the City's transmission system, construction of a 12" water main from the City's existing transmission main on Toledo Blade Blvd to Woodhaven Drive, and a 6 " water main from Woodhaven Drive to the proposed development is required. Wastewater system improvements: developer shall construct a new 6" force main to tie into the lift station being constructed at Bobcat Village Center. A one time payment of $35,430 for the construction of a wastewater transmission main from the development to City's WWTP is required.
18	Linkside	Completed	May-18-1995	107	▪ Developer shall design and construct a reclaimed water distribution system within the development and accept reclaimed water at the specified rates once the City makes reclaimed water available to the development.
19	Coco Plum Condos	Completed	May-14-1998	57	▪ Developer will be responsible for new backflow prevention devices and metering equipment associated with the development.

Table 1 (continued) – Summary of Development Agreements					
#	**Development**	**Status**	**Original Contract Date**	**ERC's**	**Details Regarding Specific Developer Requirements**
20	Fantacia Development	Never Started	Jun-10-1992	NA	▪ Developer agrees to pay a connection charge of $43,720.56.
21	Maya Commerce Center	Cancelled	Dec-13-1999	220	▪ Developer shall design and construct the following water system improvements: connection of their distribution system to the City's transmission system. Wastewater system improvements: developer shall construct a lift station on Cranberry Blvd and a 6" force main to connect to the City's existing 6" force main along Toledo Blade Blvd. A one time payment of $45,000 for the construction of a wastewater transmission main from the development to City's WWTP is required.
22	North Port Floormaster	Completed	Jul-14-1998	2.5	▪ Developer shall design and construct the following water system improvements: extension of the 6" water main to the far west boundary of the property is required in addition to the installation of a fire hydrant. Wastewater system improvements: developer shall construct a mini lift station and a force main to connect to the City's existing system.
23	King Plastic Factory	Completed	Jan-26-2000	31	▪ Developer shall design and construct the following water system improvements: construction of a 10" water main to connect to the City's system. Wastewater system improvements: developer shall construct a 4" force main to connect to the City's force main on Toledo Blade Blvd.
24	North Port Industrial Park	On Going	Oct-17-1995	25	▪ N/A
25	Riverwalk (Harbor Isles)	On Going	Oct-26-1993	101	▪ Developer agrees to pay a connection charge of $40,400 ($400 per lot).
26	Royale Properties (ALF)	Cancelled	Jul-28-1999	43.5	▪ Developer shall design and construct the following water system improvements: extension of the 8" water main and the installation of a fire hydrant are required. Wastewater system improvements: developer shall construct a lift station and a force main to connect to the City's existing system. A one time payment of $10,677 is required to offset a portion of the construction costs for lining the manhole receiving the discharge from the force main, and upgrades to lift station D and the force main from the lift station to the WWTP.

General Conclusions and Recommendations Regarding Future Developer Agreements

Communities that experience rapid growth generally have the ability to assign more of the cost of new water and wastewater infrastructure to the developers. In areas where growth is more stagnant, utilities are generally less successful at recovering this level of cost for line extensions and system improvements. Black & Veatch's review of the City's development agreements indicates that the City has been successful in obtaining a relatively high level of contributions from developers, and it is recommended that the City continue seeking this level of contributions as long as the area's growth market will accommodate it.

If not already in place, the City should implement a program to verify and update the required development fees and charges on a regular basis in order to avoid under-recovery of costs.

If the City wishes to encourage growth in particular areas, the City may wish to consider providing incentives (fee discounts, etc) to attract development of areas that are consistent with the City's planning goals. One example of this would be to provide incentives to developers proposing redevelopment of existing neighborhoods.

Specific Conclusions and Recommendations Regarding Thomas Ranch, Kelse Ranch, and Panacea Developer Agreements

Three new residential developments have been proposed in recently annexed areas of the North Port. These include Thomas Ranch in the western part of the City and Panacea and Kelse Ranch in the northeast part of the City. These new developments are anticipated to substantially contribute to a rapid future growth in North Port. It is understood that these developments will be fully served with City water and wastewater utilities in keeping with the goals of the City's Comprehensive Plan. Therefore, the developments are expected to have a significant impact on utility system needs in the future.

At the time of preparation of this document, the City is involved in discussions with the developers of each of these proposed developments. The discussions are leading to the establishment of developer agreements. Among other issues, these agreements will define the contributions the developers will be required to make towards implementation of the necessary utility system infrastructure to serve the needs of these developments.

The Utility Master Plan, which is currently under development, will present Black & Veatch's recommendations regarding the specific system improvements required to meet future utility system needs, including the needs of these proposed new developments in the recently annexed areas. A recommended implementation schedule and preliminary opinion of probable cost for recommended improvements will also be provided in the Master Plan. Here, we are presenting recommendations regarding the form of contributions by the developers and some technical

requirements that the City may want to consider including in the agreements. Recommendations are as follows:

Collection, Transmission, and Distribution Facilities Within the Developments

It is recommended that the developers be required to design, permit, and construct the following types of necessary facilities located within the areas to be developed:

- Water transmission and distribution piping
- Wastewater collection system infrastructure (gravity piping, manholes, lift stations, transmission force mains)
- Reclaimed water transmission piping

These facilities must be closely coordinated with other improvements being implemented in the development by the developer. Therefore, it is typically beneficial from a scheduling and coordination perspective to leave these items under the control of the developer. Further, it is a relatively manageable task for the City to ensure that these types of facilities are implemented with an acceptable level of quality so that the City has the benefits of long facility life and a manageable O&M effort after the facilities have been turned over to the Utilities Department. It is recommended that the agreements include a requirement for the developers to follow established City design and construction standards for the implementation of gravity sewers, manholes, force mains, wastewater lift stations, water mains, and related facilities. It is also recommended that the agreements provide the City the opportunity and authority to conduct design reviews and construction inspections associated with the implementation of these facilities.

Transmission Pipelines Outside of the Developments

It is recommended that pipelines located outside of the developments be designed, permitted, and constructed by the City and that the City seek appropriate compensation from developers in the agreements. This will allow the City to size the pipe and select the pipe routing in consideration of utility system needs beyond those of the specific developments. This will also provide the City an opportunity to coordinate these projects with City road projects or other work.

Supply, Treatment, and Disposal Facilities

It is recommended that the City perform the design, permitting, and construction of the following types of facilities whether located within the development or not, and that the City seek appropriate compensation from the developers in the agreements:

- Water supply and treatment facilities
- Water storage and pumping facilities
- Water booster pumping station (as required)
- Wastewater treatment and disposal facilities (along with reclaimed water storage tank and pumping station)
- Master wastewater pumping station / pretreatment facility (as required)

These facilities are complex and need to be planned and coordinated with related system facilities which are not associated with a specific development. In addition, it is much more difficult to define and ensure the desired level of quality and specific desired features for these facilities since established City standards are typically not available for facilities of this complexity. Therefore it is beneficial for the City to maintain control over their implementation.

The permitability and financial viability of potential water supplies and a wastewater disposal system needs to be confirmed through feasibility studies. It is recommended that the City conduct these studies in order to maintain control over this important task on which the successful implementation of treatment facilities is dependent. It is recommended that the compensation sought from developers consider the cost of performing these studies.

The developer for Thomas Ranch has proposed, as a potential source for potable water supply, the transfer of consumptive use permits associated with several agricultural wells on the property. These wells would be a subject of the feasibility study mentioned above. It is recommended that the agreement include a commitment from the developer to transfer these consumptive use permits to the City, should the wells prove to be a viable source of potable water supply.

Irrigation Facilities / Reclaimed Water

It is recommended that the agreements require that the developments be provided with a non-potable supply and distribution system for irrigation of residential and commercial properties. Among other reasons, this is important because the per-capita potable water consumption rates that have been proposed by the developers and which are being used in development of the Utility Master Plan are reflective of a low level of potable irrigation use.

Preliminary conclusions from the Utility Master Plan indicate that reclaimed water will not be available initially to these developments, and reclaimed water may never be available in sufficient quantity to fully meet the projected irrigation needs. It is recommended that the agreement require the irrigation pumping and distribution facilities be implemented as a privately owned and operated system. A likely arrangement involves development of stormwater ponds with local filtration and pumping facilities. Under this scenario, reclaimed water, when available, could be delivered as a bulk supply at low pressure to supplement the irrigation ponds. Therefore, the agreements should require the irrigation system to be designed to accommodate the supply of reclaimed water in the future.

Implementation of a non-potable irrigation system would require a water supply from other surface waters or augmentation wells, both subject to review and approval through the SWFWMD for a consumptive use permit. For example, in the Thomas Ranch development, the developer has proposed the transfer of existing agricultural surface water consumptive use permits for providing an initial/supplemental water supply source. It is recommended that the agreements require the developers to conduct a feasibility study regarding the permitability and financial viability of a water source. This is important to the City because it will impact the future requirements of the City's reclaimed water system and will confirm the viability of an initial irrigation system before reclaimed water is available.

Land for Utility Facilities

It is understood that the City will require developers to provide land within the Thomas Ranch and Panacea developments for the purpose of siting water and wastewater treatment, storage and pumping facilities. It is further understood that a likely location for the utilities site(s) within each of these developments has been identified in previous discussions between the City and developers as illustrated in documentation provided by the developers to the City.

Operation of Facilities

It is recommended that the City own and operate the water, wastewater, and reclaimed water facilities serving the proposed developments, including collection, transmission and distribution infrastructure originally constructed by the developers. It is recommended that the agreements require the developer to turn these facilities over to the City at such time as the City has determined them to be complete and properly operational.

Compensation and Representation

It is recommended that the City seek an equitable compensation of costs from developers for required utility system infrastructure which the City will study, design, permit, and construct. The amount and form of the compensation is to be negotiated and may take one of the forms described earlier in this document such as water and wastewater capital charges or contributions in aid of construction. It is recommended that the City maintain the representation of a financial consultant to assist in the identification of the most beneficial form and appropriate amount of compensation. It is further recommended that the City maintain the representation of legal council in the development of said agreements.

Preliminary Conceptual Opinions of Probable Costs for Recommended Actions and Implementations through 2009

Table C-1 North Haberland Boulevard Potable Water Pipeline	
Description	**Capital Cost**
3,000 feet of 20-inch piping along North Haberland Boulevard	$300,000
Contingency (30% of construction cost subtotal)	$90,000
Total Construction Cost	**$390,000**
Engineering (15% of total construction cost)	**$59,000**
Total Cost	**$449,000**

Table C-2 North Toledo Blade Boulevard Potable Water Pipeline	
Description	**Capital Cost**
8,000 feet of 16-inch piping along North Toledo Blade Blvd	$640,000
Contingency (30% of construction cost subtotal)	$192,000
Total Construction Cost	**$832,000**
Engineering (15% of total construction cost)	**$125,000**
Total Cost	**$957,000**

Table C-3 Sarasota County Interconnect and Metering Station	
Description	**Capital Cost**
5,000 feet of 12-inch piping along US-41	$300,000
Interconnect and metering station	$50,000
Contingency (30% of construction cost subtotal)	$105,000
Total Construction Cost	**$455,000**
Engineering (15% of total construction cost)	**$68,000**
Total Cost	**$523,000**

Table C-4 Myakkahatchee Creek WTP Study and Improvements / Increase Production	
Description	**Capital Cost**
WTP Study and Improvements	$400,000
Contingency (30% of cost subtotal)	$120,000
Total Cost	**$520,000**

Table C-5 Northeast Booster Pump Station Upgrade	
Description	**Capital Cost**
Addition of two new pumps equipped with VFDs	$250,000
Contingency (30% of construction cost subtotal)	$75,000
Total Construction Cost	**$325,000**
Engineering (15% of total construction cost)	**$49,000**
Total Cost	**$374,000**

Table C-6 Groundwater Supply Feasibility Study	
Description	**Capital Cost**
Groundwater Supply Feasibility Study (including pilot testing)	$200,000
Contingency (30% of cost subtotal)	$60,000
Total Cost	**$260,000**

Table C-7 San Mateo Drive Pipeline Improvement	
Description	**Capital Cost**
10,000 feet of 10-inch piping along San Mateo Drive	$500,000
Contingency (30% of construction cost subtotal)	$150,000
Total Construction Cost	**$650,000**
Engineering (15% of total construction cost)	**$98,000**
Total Cost	**$748,000**

Table C-8 Water Distribution System Study	
Description	**Capital Cost**
Water Distribution System Study	$30,000
Contingency (30% of cost subtotal)	$9,000
Total Cost	**$39,000**

Table C-9 Sunburst Potable Water System Expansion	
Description	**Capital Cost**
Distribution system infrastructure for 1,250 ERCs.	$2,600,000
5,000 feet of 12-inch transmission system piping along North Sumter Boulevard	$300,000
Contingency (30% of construction cost subtotal)	$870,000
Total Construction Cost	**$3,770,000**
Engineering (15% of total construction cost)	**$566,000**
Total Cost	**$4,336,000**

Table C-10 Hillsborough Boulevard Potable Water Pipeline	
Description	**Capital Cost**
36,000 feet of 20-inch piping along Hillsborough Boulevard	$3,600,000
Contingency (30% of construction cost subtotal)	$1,080,000
Total Construction Cost	**$4,680,000**
Engineering (15% of total construction cost)	**$702,000**
Total Cost	**$5,382,000**

Table C-11 Kelse Ranch Booster Pump Station Facility	
Description	**Capital Cost**
Booster Pump Station, Storage Tank, and Pipeline	$2,000,000
Contingency (30% of construction cost subtotal)	$600,000
Total Construction Cost	**$2,600,000**
Engineering (15% of total construction cost)	**$390,000**
Total Cost	**$2,990,000**

Table C-12 Utility Master Plan Update	
Description	**Capital Cost**
Utility Master Plan Update	$150,000
Contingency (30% of cost subtotal)	$54,000
Total Cost	**$195,000**

Table C-13 Sumter Gardens Potable Water System Expansion	
Description	**Capital Cost**
Distribution system infrastructure for 320 ERCs.	$670,000
Contingency (30% of construction cost subtotal)	$200,000
Total Construction Cost	**$870,000**
Engineering (15% of total construction cost)	**$130,000**
Total Cost	**$1,000,000**

Table C-14 North Biscayne and Ponce De Leon Boulevard Pipelines	
Description	**Capital Cost**
10,000 feet of 12-inch piping along North Biscayne and Ponce De Leon Boulevards	$600,000
Contingency (30% of construction cost subtotal)	$180,000
Total Construction Cost	**$780,000**
Engineering (15% of total construction cost)	**$120,000**
Total Cost	**$900,000**

Table C-15 Thomas Ranch Groundwater Supply and WTP (Phase 1)	
Description	**Capital Cost**
New RO WTP and supply wells (2.0 mgd annual average supply)	$6,250,000
1 million gallon ground storage tank	$250,000
Expand proposed Thomas Ranch Booster Pump Station to a firm capacity of 9 mgd	$500,000
Contingency (30% of construction cost subtotal)	$2,100,000
Total Construction Cost	**$9,100,000**
Engineering (15% of total construction cost)	**$1,365,000**
Total Cost	**$10,465,000**

Table C-16 Myakkahatchee Creek HSPS Upgrade	
Description	**Capital Cost**
Upgrade Myakkahatchee Creek HSPS with an additional pump	$120,000
Contingency (30% of construction cost subtotal)	$36,000
Total Construction Cost	**$156,000**
Engineering (15% of total construction cost)	**$23,000**
Total Cost	**$179,000**

Table C-17 Blue Ridge-Salford Potable Water System Expansion	
Description	**Capital Cost**
Distribution system infrastructure for 1036 ERCs.	$2,176,000
Contingency (30% of construction cost subtotal)	$653,000
Total Construction Cost	**$2,829,000**
Engineering (15% of total construction cost)	**$424,000**
Total Cost	**$3,253,000**

Table C-18 North Toledo Blade Forcemain	
Description	**Capital Cost**
16,000 feet of 10-inch piping along North Toledo Blade Blvd	$800,000
Contingency (30% of construction cost subtotal)	$240,000
Total Construction Cost	**$1,040,000**
Engineering (15% of total construction cost)	**$156,000**
Total Cost	**$1,196,000**

Table C-19 City of North Port WWTP Expansion	
Description	**Capital Cost**
Expand Existing WWTP (including DIW system and reclaimed water treatment capacity) by 1.9 mgd (ADF)	$8,780,000
Contingency (30% of construction cost subtotal)	$2,634,000
Total Construction Cost	**$11,414,000**
Engineering (15% of total construction cost)	**$1,712,000**
Total Cost	**$13,126,000**

Table C-20 Toledo Blade / Price Primary Lift Station	
Description	**Capital Cost**
New Primary Lift Station (firm capacity = 4.0 mgd)	$1,400,000
Contingency (30% of construction cost subtotal)	$420,000
Total Construction Cost	**$1,820,000**
Engineering (15% of total construction cost)	**$273,000**
Total Cost	**$2,093,000**

Table C-21 Panacea WWTP (Phase 1)	
Description	**Capital Cost**
New 2.0 mgd (ADF) WWTP (including DIW system and reclaimed water treatment capacity)	$10,000,000
Contingency (30% of construction cost subtotal)	$3,000,000
Total Construction Cost	**$13,000,000**
Engineering (15% of total construction cost)	**$1,950,000**
Total Cost	**$14,950,000**

Table C-22 Thomas Ranch WWTP (Phase 1)	
Description	**Capital Cost**
New 2.0 mgd (ADF) WWTP (including DIW system and reclaimed water treatment capacity)	$10,000,000
Contingency (30% of construction cost subtotal)	$3,000,000
Total Construction Cost	**$13,000,000**
Engineering (15% of total construction cost)	**$1,950,000**
Total Cost	**$14,950,000**

Table C-23 Upgrade Pumps at Lift Station #19 (Biscayne Plaza)	
Description	**Capital Cost**
Upgrade/add pumps to increase the firm capacity of the lift station to at least 1.5 mgd	$200,000
Contingency (30% of construction cost subtotal)	$60,000
Total Construction Cost	**$260,000**
Engineering (15% of total construction cost)	**$39,000**
Total Cost	**$299,000**

Table C-24 East Price Boulevard Forcemain	
Description	**Capital Cost**
18,000 feet of 20-inch forcemain	$1,800,000
Contingency (30% of construction cost subtotal)	$540,000
Total Construction Cost	**$2,340,000**
Engineering (15% of total construction cost)	**$351,000**
Total Cost	**$2,691,000**

Table C-25 West Price Boulevard Forcemain	
Description	**Capital Cost**
5,500 feet of 12-inch piping along West Price Boulevard	$330,000
Contingency (30% of construction cost subtotal)	$99,000
Total Construction Cost	**$429,000**
Engineering (15% of total construction cost)	**$64,000**
Total Cost	**$493,000**

Table C-26 Pan American Boulevard Forcemain	
Description	**Capital Cost**
5,500 feet of 16-inch piping along Pan American Boulevard	$440,000
Contingency (30% of construction cost subtotal)	$132,000
Total Construction Cost	**$572,000**
Engineering (15% of total construction cost)	**$86,000**
Total Cost	**$658,000**

Table C-27 Upgrade Pumps at Lift Station #51 (City Complex)	
Description	**Capital Cost**
Upgrade/add pumps to increase the firm capacity of the lift station to 1.5 mgd	$300,000
Contingency (30% of construction cost subtotal)	$90,000
Total Construction Cost	**$390,000**
Engineering (15% of total construction cost)	**$59,000**
Total Cost	**$449,000**

Table C-28 Biosolids Treatment and Disposal Alternatives Study	
Description	**Capital Cost**
Biosolids Treatment and Disposal Allternatives Study	$100,000
Contingency (30% of cost subtotal)	$30,000
Total Cost	**$130,000**

Table C-29 Sunburst Wastewater System Expansion	
Description	**Capital Cost**
Wastewater collection and transmission system infrastructure for 1,392 ERCs.	$6,400,000
5,000 feet of 10-inch forcemain along North Sumter Boulevard	$250,000
Contingency (30% of construction cost subtotal)	$1,995,000
Total Construction Cost	**$8,645,000**
Engineering (15% of total construction cost)	**$1,297,000**
Total Cost	**$9,942,000**

Table C-30 Sumter Gardens Wastewater System Expansion	
Description	**Capital Cost**
Wastewater collection and transmission system infrastructure for 485 ERCs.	$2,230,000
Contingency (30% of construction cost subtotal)	$670,000
Total Construction Cost	**$2,900,000**
Engineering (15% of total construction cost)	**$435,000**
Total Cost	**$3,335,000**

Table C-31 Blue Ridge-Salford Wastewater System Expansion	
Description	**Capital Cost**
Wastewater collection and transmission system infrastructure for 3453 ERCs.	$15,884,000
Contingency (30% of construction cost subtotal)	$4,765,000
Total Construction Cost	**$20,649,000**
Engineering (15% of total construction cost)	**$3,097,000**
Total Cost	**$23,746,000**

Table C-32 Reclaimed Water Transmission System Expansion	
Description	**Capital Cost**
4,000 feet of 16-inch piping from the WWTP to Sable Trace	$320,000
6,500 feet of 10-inch piping along West Price Boulevard	$325,000
Upgrade Reclaimed Water Pump Station to a firm capacity of 3.0 mgd at 165 feet of head.	$225,000
Contingency (30% of construction cost subtotal)	$260,000
Total Construction Cost	**$1,130,000**
Engineering (15% of total construction cost)	**$170,000**
Total Cost	**$1,300,000**

Table C-33 Emergency Interconnect Improvements	
Description	**Capital Cost**
Three new flow-meters for existing emergency interconnects	$50,000
Contingency (30% of construction cost subtotal)	$15,000
Total Construction Cost	**$65,000**
Engineering (15% of total construction cost)	**$10,000**
Total Cost	**$75,000**

Executive Summary

A. Introduction

The City of North Port Public Utilities Department currently provides utility service to approximately 15,000 water connections and 11,000 wastewater connections. The City also operates a reclaimed water system, providing reclaimed water for irrigation to the Sable Trace and Heron Creek developments as well as some City-owned properties and rights-of-way.

The City has been experiencing rapid growth in recent years, and the City's Planning Department projects the City's population will grow from approximately 28,000 (2000 Census) to approximately 125,000 by 2021. The future growth trend is anticipated to be spurred by several large developments proposed in recently annexed areas of the City. These include Thomas Ranch in the western part of the City, and Kelse Ranch and Panacea in the northeastern part of the City.

Most of the areas currently served by City utilities are located within or near the City core area. Many residents / businesses outside of the City core currently utilized private wells for drinking water and septic systems for wastewater disposal. It is the City's goal to eventually expand the City water and wastewater systems to serve most areas of the City.

In order to ensure that the growing utility needs of the City are satisfied in a cost effective, reliable, and environmentally compatible manner, the City periodically performs utility system planning. The City commissioned Black & Veatch Corporation to prepare its 2004 Utility Master Plan (the Plan). The Plan addresses the City's potable water, wastewater, and reclaimed water systems. The Plan recommends year by year actions and improvements for Fiscal Years 2005-2009 and provides a preliminary review of utility needs for planning Year 2025 and at build-out.

It should be recognized that the utility needs of the City are dynamic, changing continuously in response to numerous factors. The Plan presents recommendations based on a snapshot of the planning landscape at the time the plan was prepared. It will be necessary for the City to evaluate the Plan's recommendations in response to changing conditions, and it is recommended that the City update the Plan every three to five years.

B. Utility Master Plan Development

In general, the 2004 Utility Master Plan was developed through the following major tasks:

- The condition and performance of existing utility system facilities was assessed through site visits, interviews with City staff, review of existing documents, and hydraulic modeling. Necessary improvements were identified to address existing condition, performance, and operational/regulatory issues.

- An evaluation was performed to prioritize the expansion of the City's water and wastewater systems into existing neighborhoods that currently lack (partially or completely) utility system infrastructure. The neighborhood prioritization evaluation serves two purposes. First, it provides the City a reference tool to help determine the time frame in which each neighborhood will likely represent an economically practical and otherwise attractive candidate for utility system expansion. Also, the preliminary schedule provides a basis for projecting future wastewater flows and water demands for the City utility systems.

- As a basis for utility system planning, projections of future potable water demands and wastewater flows were developed using a GIS-based planning database. Information utilized in developing the database included population projections, land use projections, and usage rates and peaking factors determined for the City's water and wastewater systems. The database incorporated developer-provided schedules and anticipated usage rates, where applicable.

- Hydraulic models were developed for the City's potable water transmission system, wastewater forcemain system, and reclaimed water transmission system using WaterCAD software. The hydraulic models were used to analyze existing and future system conditions in order to evaluate alternatives and identify necessary improvements. The hydraulic models were provided to the City in electronic format for the City's future use.

- Conclusions and recommendations for utility system improvements were developed through investigations and analyses and presented in the Plan along with supporting discussion and information. Estimated implementation costs and an implementation schedule were developed and presented for recommended improvements in Fiscal Years 2005 through 2009.

C. Conclusions and Recommendations

Projections of future wastewater flows and potable water demands indicate that the City's utility systems will experience tremendous growth in the coming years. The average day potable water demand is projected reach approximately 5.8 mgd by 2009, exceeding the current average day supply capacity of 3.27 mgd. Similarly, the annual average wastewater flows are projected to reach approximately 5.1 mgd by 2009, exceeding the current annual average treatment capacity of about 3.1 mgd. The projected future water demand and wastewater flows are illustrated in Figures ES-1 and ES-2.

Figure ES-1 Potable Water Average Day Demand Projection

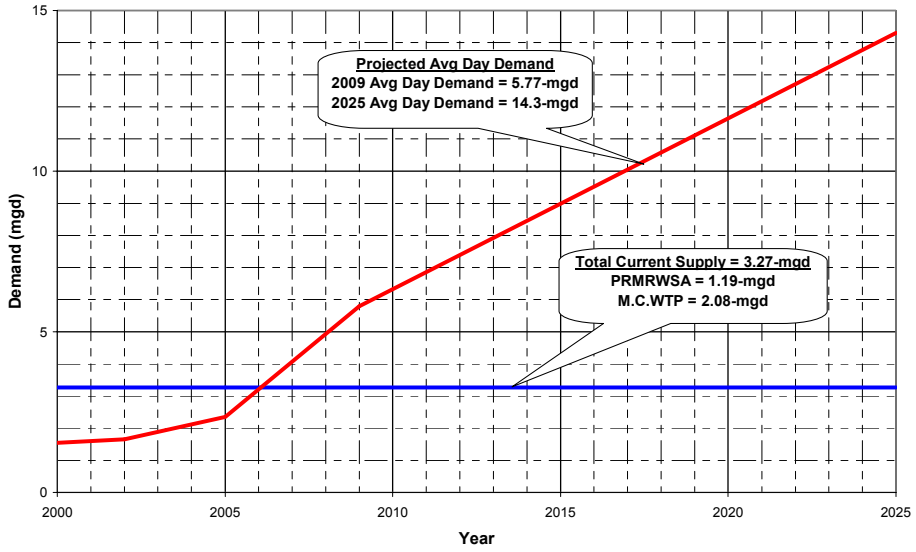
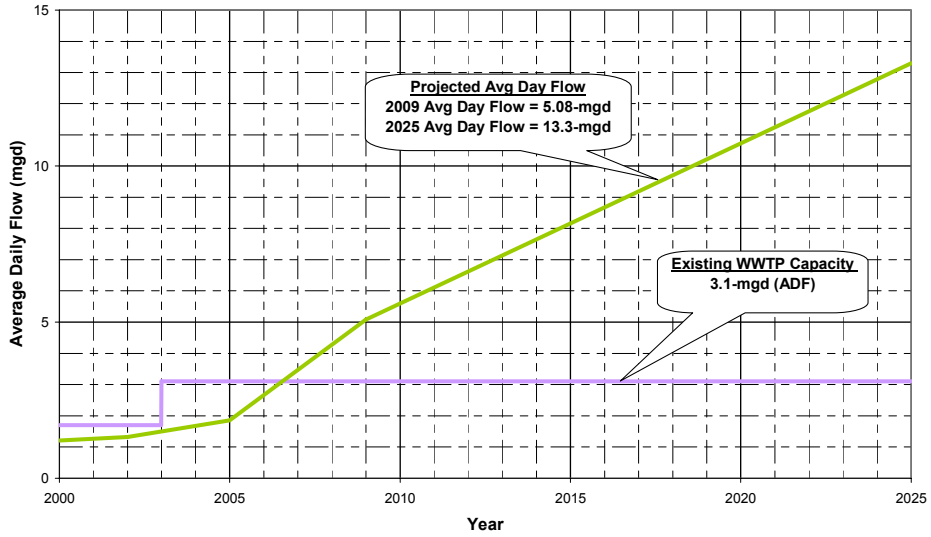


Figure ES-2 Wastewater Average Daily Flow Projection



Conclusions and recommendations regarding actions and improvements associated with the City's potable water, wastewater, and reclaimed water systems were developed to address existing system deficiencies as well as to meet future demands. The conclusions and recommendations are discussed in detail in Sections 9, 10, and 11 of the Plan, and a tabular summary of recommended actions and implementations is included in Section 12.

Table ES-1 presents a summary of the capital costs for actions and implementations recommended in Fiscal Years 2005 through 2009. The cost information presented in this table is derived from the preliminary opinions of probable cost for each project, which are included in Appendix C.

The water and wastewater facility improvements recommended through 2025 are illustrated in Figures ES-3 and ES-4.

Table ES-1 Capital Cost Summary for Recommended Projects

	Project	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Potable Water System	Myakkahatchee Creek HSPS and Hillsborough BPS Upgrades	NA[1]				
	US-41 Potable Water Pipeline	NA[2]				
	Thomas Ranch HSPS & Ground Storage Tank	NA[2]				
	North Haberland Boulevard Potable Water Pipeline	$449,000				
	North Toledo Blade Boulevard Potable Water Pipeline	$957,000				
	Sarasota County Interconnect and Metering Station	$523,000				
	Emergency Interconnect Improvements	$75,000				
	Myakkahatchee Creek WTP Study and Improvements	$70,000	$450,000			
	Northeast Booster PS Upgrade	$49,000	$325,000			
	Groundwater Supply Feasibility Study		$260,000			
	San Mateo Drive Pipeline Improvement		$148,000	$600,000		
	Water Distribution System Study		$39,000			
	Sunburst Potable Water System Expansion			$566,000	$3,000,000	$770,000
	Hillsborough Boulevard Potable Water Pipeline[3]			$702,000	$4,000,000	$680,000
	Kelse Ranch Booster Pump Station Facility and Interconnect[3]			$390,000	$2,000,000	$600,000
	Utility Master Plan Update			$195,000		
	Sumter Gardens Potable Water System Expansion				$500,000	$500,000
	North Biscayne Drive and Ponce De Leon Blvd Pipelines				$100,000	$800,000
	Thomas Ranch Groundwater Supply and WTP - Phase I[4]				$365,000	$1,000,000
	Myakkahatchee Creek HSPS Upgrade					$179,000
	Blue Ridge-Salford Potable Water System Expansion[4]					$424,000
Wastewater System	US-41 Forcemain	NA[2]				
	Thomas Ranch Primary Lift Station Facility	NA[2]				
	North Toledo Blade Forcemain	$1,196,000				
	City of North Port WWTP Expansion	$7,000,000	$6,126,000			
	Toledo Blade / Price Boulevard Primary Lift Station	$393,000	$1,700,000			
	Panacea WWTP (Phase I)	$4,950,000	$6,000,000	$4,000,000		
	Thomas Ranch WWTP (Phase I)		$1,950,000	$6,500,000	$6,500,000	
	Upgrade Pumps at Lift Station #19 (Biscayne Plaza)		$299,000			
	East Price Boulevard Forcemain		$351,000	$2,340,000		
	West Price Boulevard Forcemain[5]		$64,000	$429,000		
	Pan American Boulevard Forcemain[5]		$86,000	$572,000		
	Upgrade Pumps at Lift Station #51 (City Complex)[5]		$59,000	$390,000		
	Biosolids Treatment and Disposal Alternatives Study			$130,000		
	Sunburst Wastwater System Expansion			$1,297,000	$7,000,000	$1,645,000
	Sumter Gardens Wastewater System Expansion				$1,335,000	$2,000,000
	Blue Ridge-Salford Wastewater System Expansion[4]					$3,097,000
R	Reclaimed Water System Expansion to Bulk-use Customers			$800,000	$500,000	
Totals	**Potable Water System Total**	**$2,123,000**	**$1,222,000**	**$2,453,000**	**$9,965,000**	**$4,953,000**
	Wastewater System Total	**$13,539,000**	**$16,635,000**	**$15,658,000**	**$14,835,000**	**$6,742,000**
	Reclaimed Water System Total	**$0**	**$0**	**$800,000**	**$500,000**	**$0**
	TOTAL (in millions of dollars)	**$15.7**	**$17.9**	**$18.9**	**$25.3**	**$11.7**

[1] This project is already in the construction phase. Therefore, funding has already been secured for the cost of this project.

[2] The City has indicated that this project will be designed, constructed, and funded by a developer.

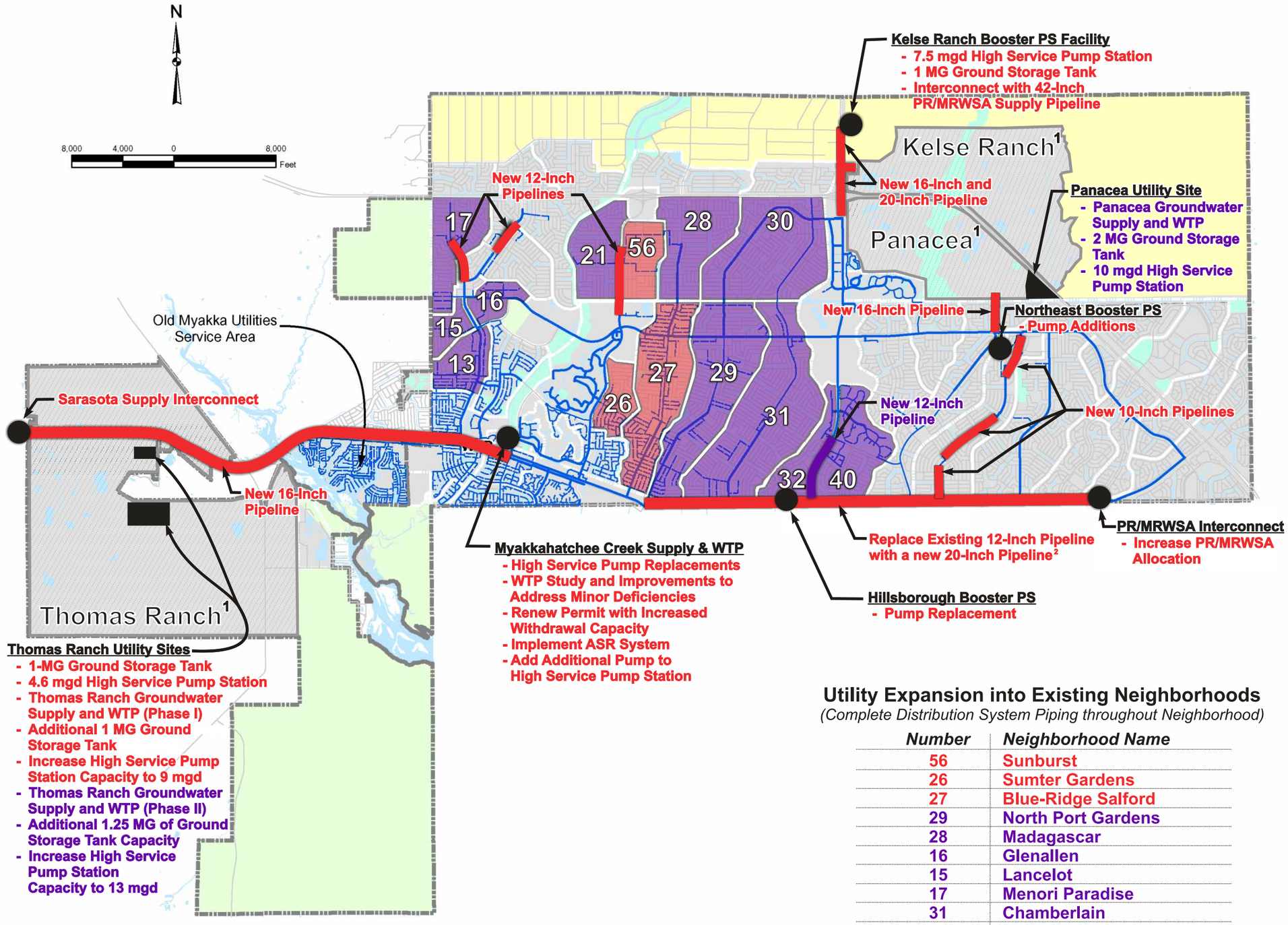
[3] The negotiated point of delivery of expanded PR/MRWSA supply could affect the need for and required timing of this project.

[4] For this project, the cost indicated in the table is for the engineering study, design, and permitting only.

[5] Implementing the Panacea WWTP project with a fast-track delivery method could potentially delay the need to implement this project.

Figure ES-3

City of North Port
Recommended Potable
Water System Improvements



Utility Expansion into Existing Neighborhoods

(Complete Distribution System Piping throughout Neighborhood)

Number	*Neighborhood Name*
56	Sunburst
26	Sumter Gardens
27	Blue-Ridge Salford
29	North Port Gardens
28	Madagascar
16	Glenallen
15	Lancelot
17	Menori Paradise
31	Chamberlain
32	Kenvil
40	Woodhaven
13	Floribanna
21	Ladyslipper
30	Cranberry Fields

Legend

- Recommended Improvements 2004 - 2009
- Recommended Improvements 2010 - 2025

Existing Watermains

- <= 6”
- 8”
- 10” - 20”

- North Port City Boundary
- Utilities Service Limits
- Recreation Areas and Open Space

Areas not to be serviced by City of North Port Utilities

Future Land Use

- Conservation
- Agricultural Estates

Notes:

1. Projected distribution system infrastructure within the proposed Thomas Ranch, Panacea, and Kelse Ranch developments is not shown in this figure. This infrastructure will be designed and constructed by the developers.
2. If the proposed Kelse Ranch Booster PS Facility is implemented by 2009, the project to replace the existing 12-inch pipeline along Hillsborough Blvd. with a new 20-inch pipeline would not be required until later in the planning period.

City of North Port

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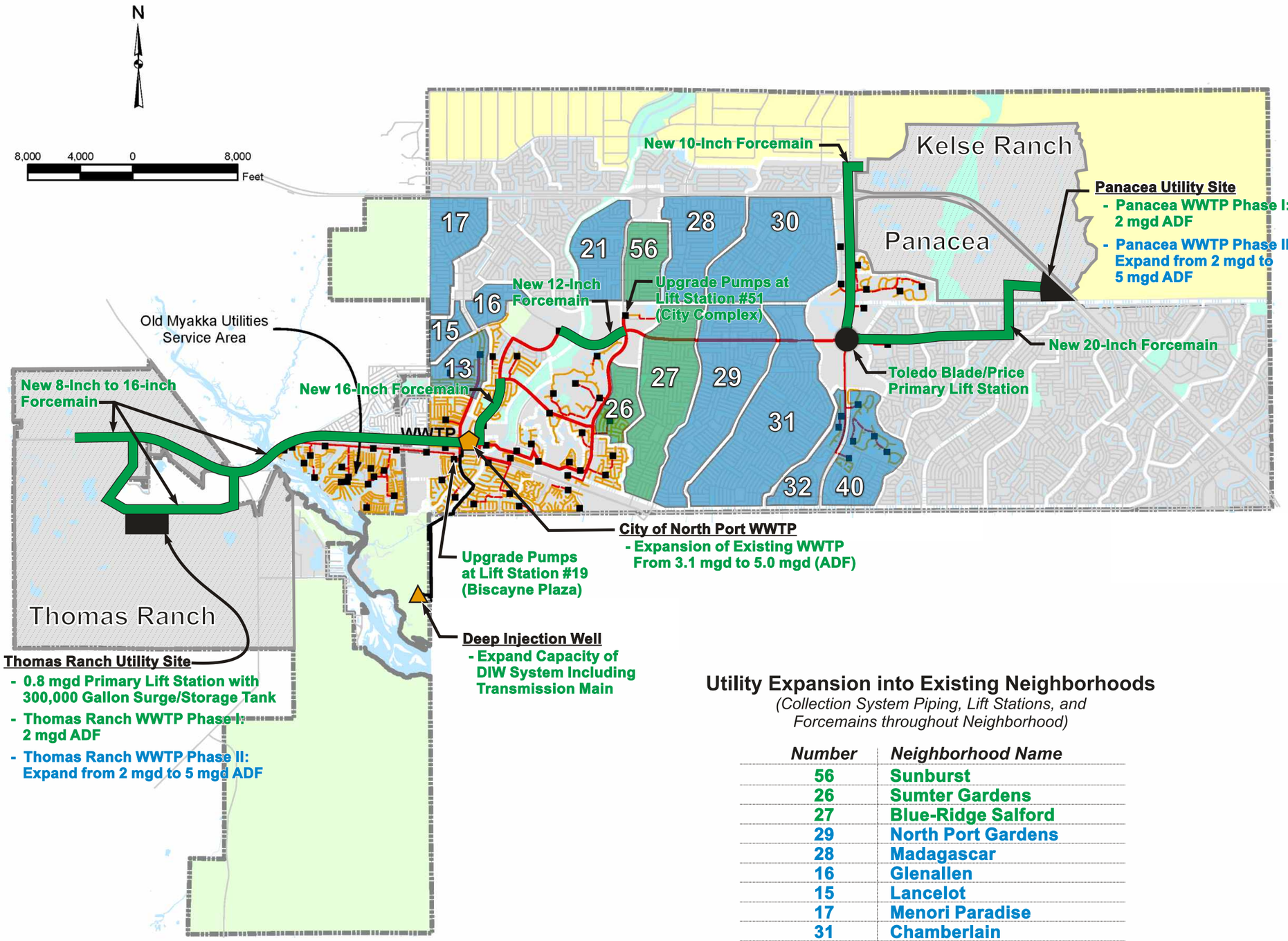
\\CYGNET\134808\Final Utility Master Plan Report\Figure ES-3 Recommended Potable Water Improvements.cdr

Figure ES-4

City of North Port Recommended Wastewater System Improvements



Utility Expansion into Existing Neighborhoods

(Collection System Piping, Lift Stations, and Forcemains throughout Neighborhood)

Number	*Neighborhood Name*
56	Sunburst
26	Sumter Gardens
27	Blue-Ridge Salford
29	North Port Gardens
28	Madagascar
16	Glenallen
15	Lancelot
17	Menori Paradise
31	Chamberlain
32	Kenvil
40	Woodhaven
13	Floribanna
21	Ladyslipper
30	Cranberry Fields

Note:

Projected collection and transmission infrastructure within the proposed Thomas Ranch, Panacea, and Kelse Ranch developments is not shown in this figure. This infrastructure will be designed and constructed by the developers.

Legend

- Recommended Improvements 2004 - 2009
- Recommended Improvements 2010 - 2025
- Existing Lift Stations

Existing Forcemains

- <= 6"
- 8"
- 10" - 20"
- Gravity Mains
- DIW Transmission Main
- Streets
- North Port City Boundary
- Utilities Service Limits
- Recreation Areas and Open Space

Areas not to be serviced by City of North Port Utilities

Future Land Use

- Conservation
- Agricultural Estates

City of North Port

BLACK & VEATCH Corporation

\\CYGNET\134808\Final Utility Master Plan Report\Figure ES-4 Recommended WW Improvements.cdr

Figure 2-1
City of North Port
Utilities Service Area

N

9,000 4,500 0 9,000
Feet

Agricultural Estates not to be provided water and sewer service per Comprehensive Plan

Myakka State Forest

Old Myakka Utilities Service Area

Kelse Ranch

Panacea

N Toledo Blade

S Toledo Blade

75

41

Thomas Ranch

Myakka State Forest

Myakka State Forest

Legend

- Hydrology
- Kelse Ranch
- Thomas Ranch
- Panacea
- City of North Port Limits
- Future Service Area by Annexation
- Utilities Service Area
- Recreation Areas and Open Space

Areas not to be serviced by City of North Port Utilities (Future Land Use)

- Conservation
- Agicultural Estates

City of North Port

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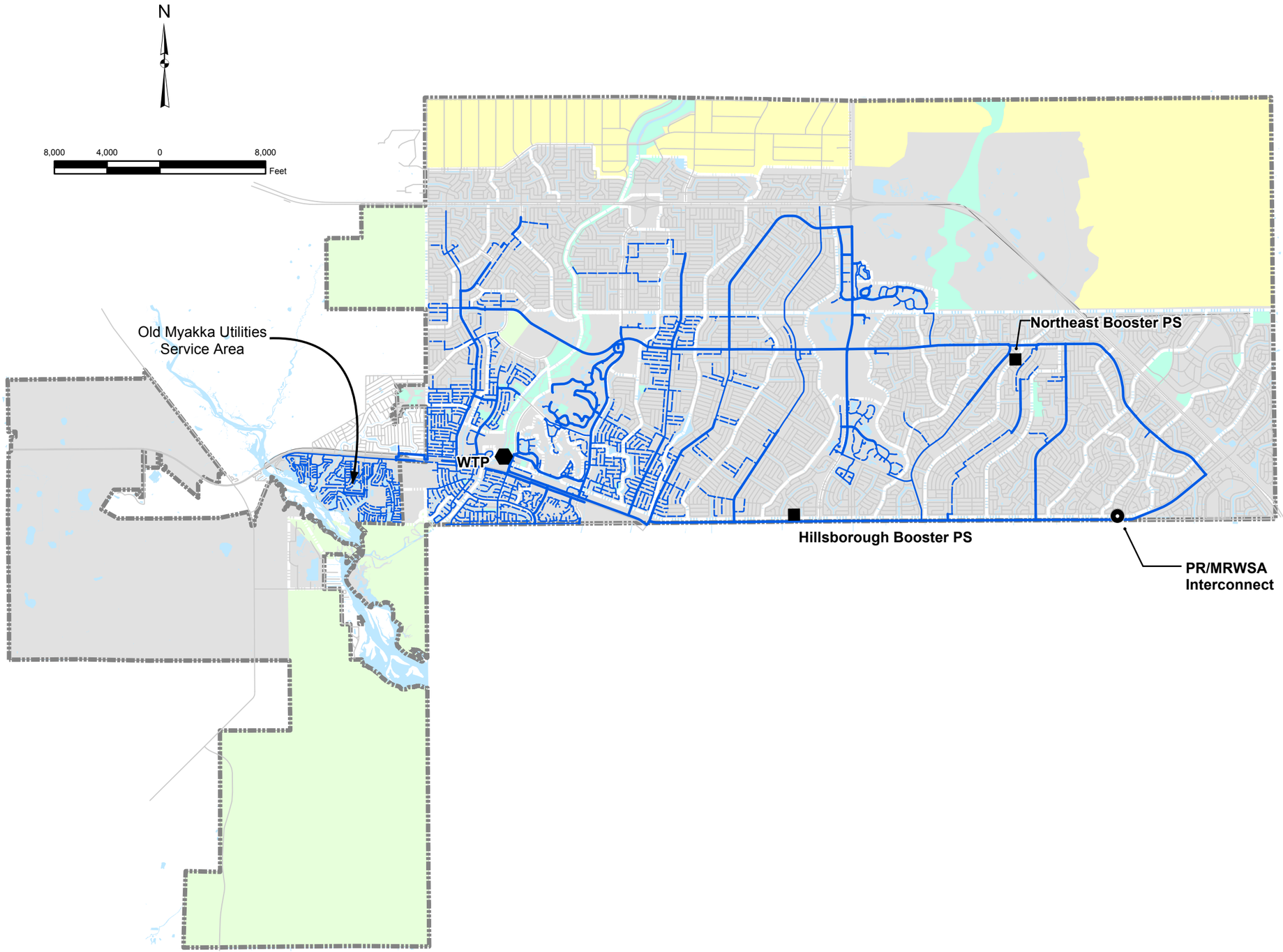
\\Projects\North_Port\Utilities Master Plan\Geospatial\Figure2_1_Utilities_Service_Area.mxd C. Hassell 01/20/2004

Figure 3-1
City of North Port
Potable Water System



Legend

- PR/MRWSA Interconnect
- Booster Pump Station
- Water Treatment Plant
- Streets

Watermains Diameter

- <= 6"
- 8"
- 10" - 20"

- North Port City Boundary
- Utilities Service Limits
- Recreation Areas and Open Space

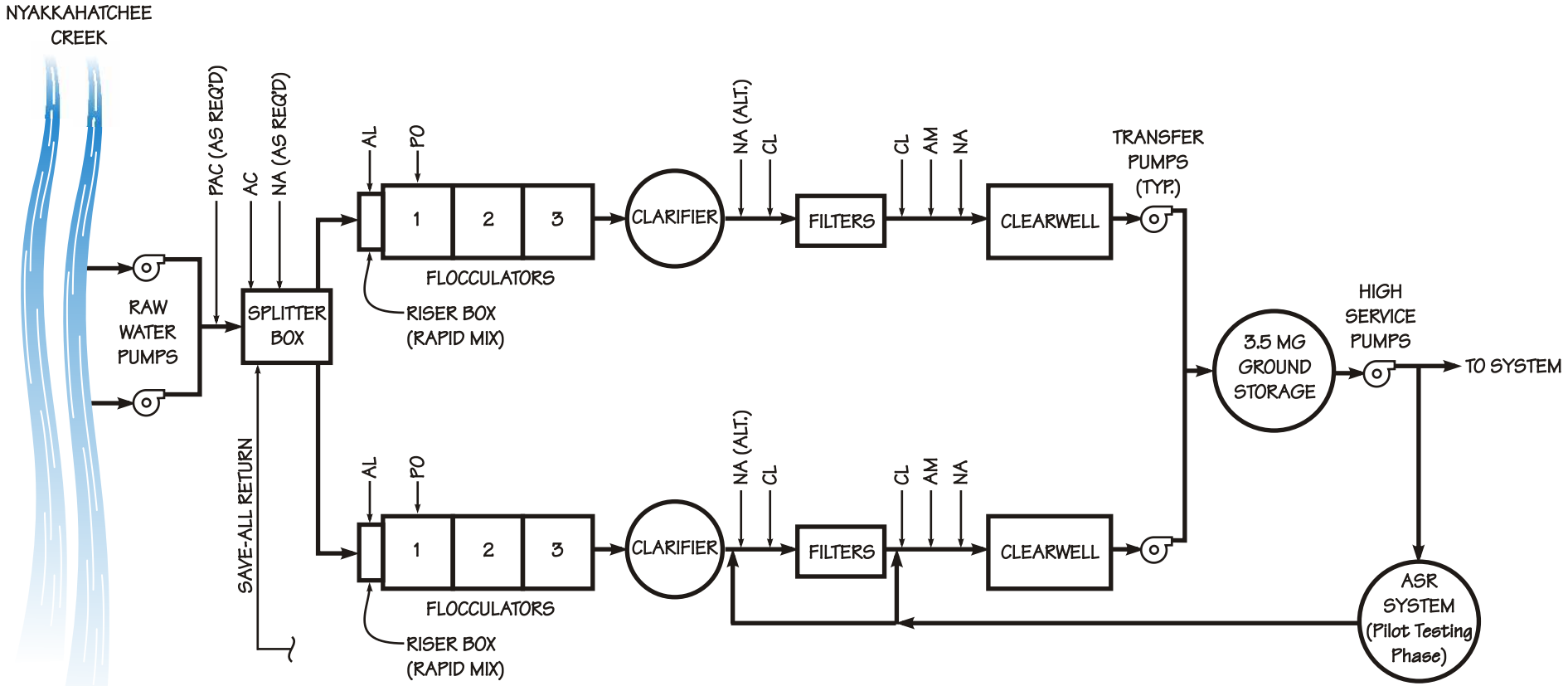
Areas not to be serviced by City of North Port Utilities

Future Land Use

- Conservation
- Agicultural Estates

\\Projects\North_Port\Utilities Master Plan\Geospatial\Figure3_1_NP_Water_Potable_Water_System.mxd C. Hassell 06/24/2004

BLACK & VEATCH Corporation



LEGEND

AC - ACID
AL - ALUM
AM - AMMONIA
CL - CHLORINE
NA - CAUSTIC
PAC - CARBON
PO - POLYMER

City of North Port

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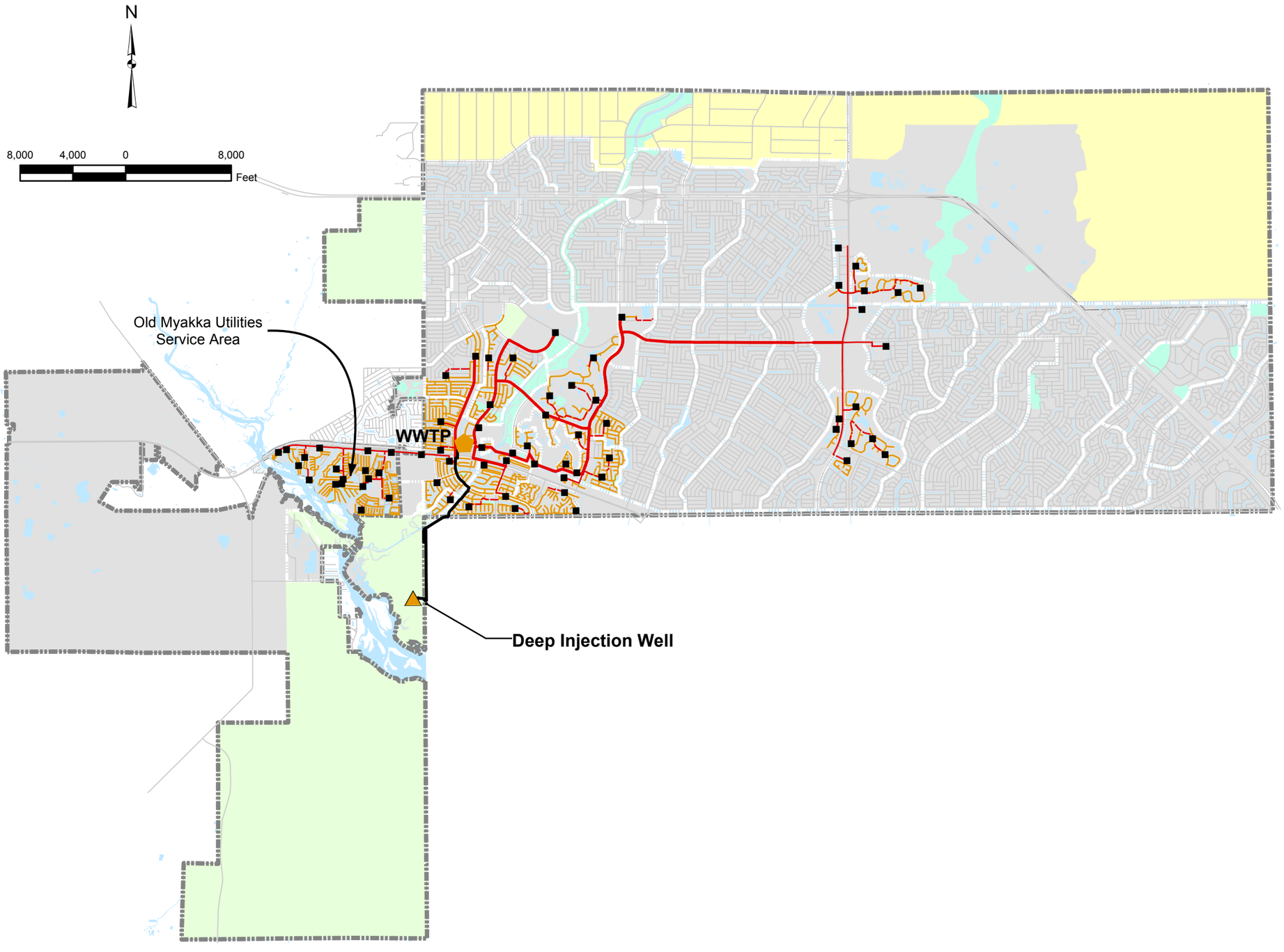
FIGURE 3-2
MYAKKAHATCHEE CREEK - WTP PROCESS SCHEMATIC

Figure 3-3
City of North Port
Wastewater System



Legend

- Lift Stations
- Deep Injection Well
- WWTP

Force Mains
Diameter

- <= 6"
- 8"
- 10" - 20"

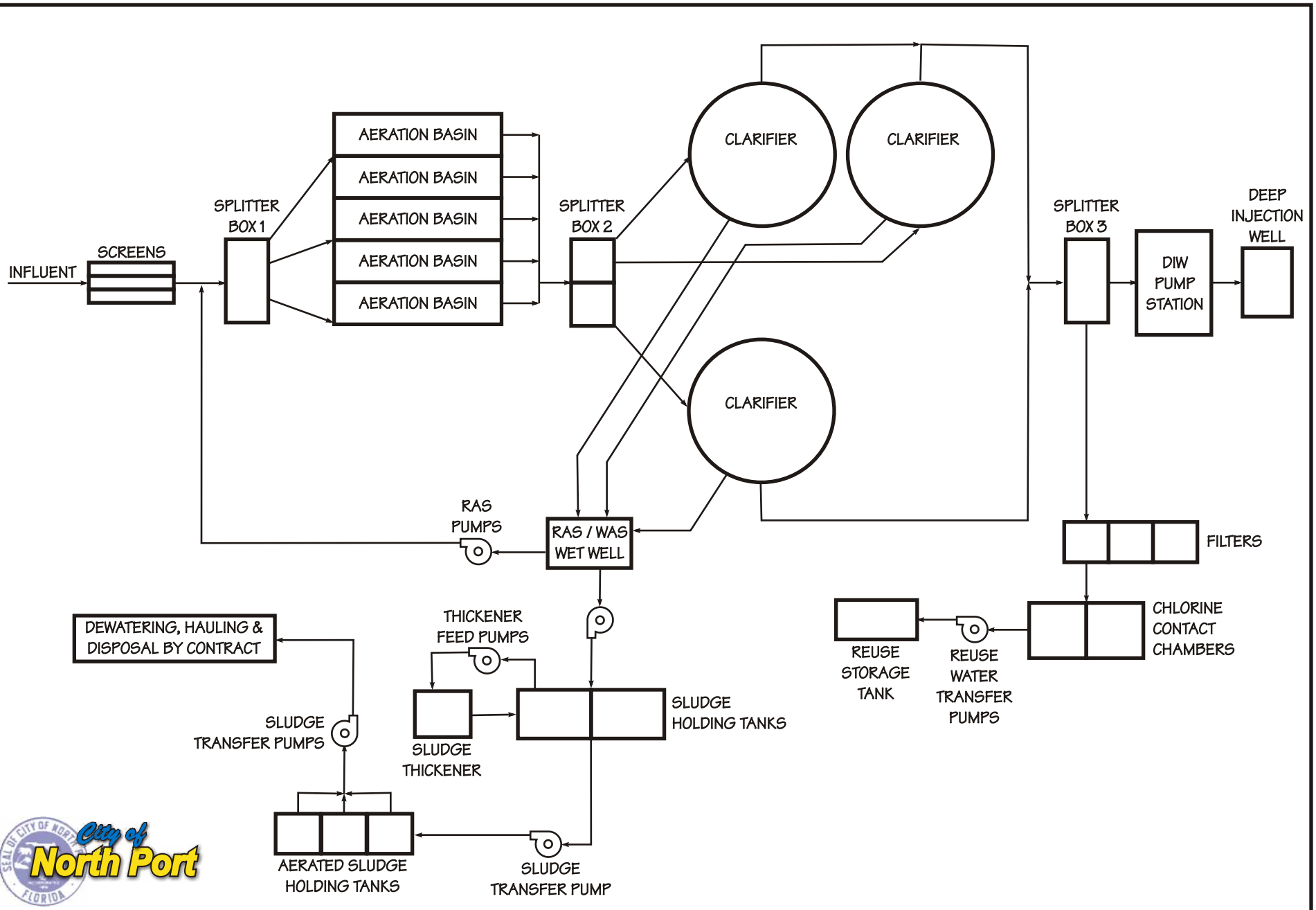
- Gravity Mains
- DIW Transmission Main
- Streets
- North Port City Boundary
- Utilities Service Limits
- Recreation Areas and Open Space

Areas not to be serviced by City of North Port Utilities

Future Land Use

- Conservation
- Agicultural Estates

\\Projects\North_Port\Utilities Master Plan\Geospatial\Figure3_3_NP_Wasewater_System.mxd C. Hassell 01/20/2005



City of North Port

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FIGURE 3-4
CITY OF NORTH PORT WWTP - PROCESS SCHEMATIC

Figure 3-5
City of North Port
Reclaimed Water System

N

9,000 4,500 0 9,000
Feet

Old Myakka Utilities
Service Area

WWTP

Reclaimed Water
Storage Tank at
Sabal Trace

Deep Injection Well

Legend

- Deep Injection Well
- WWTP
- Reclaimed Water Storage Tank at Sabal Trace
- Reclaimed Water Transmission Piping
- Heron Creek
- Sabal Trace Golf Course
- Sabal Trace
- Streets
- North Port City Boundary
- Utilities Service Limits
- Recreation Areas and Open Space

Areas not to be serviced by City of North Port Utilities

Future Land Use

- Conservation
- Agicultural Estates

City of North Port

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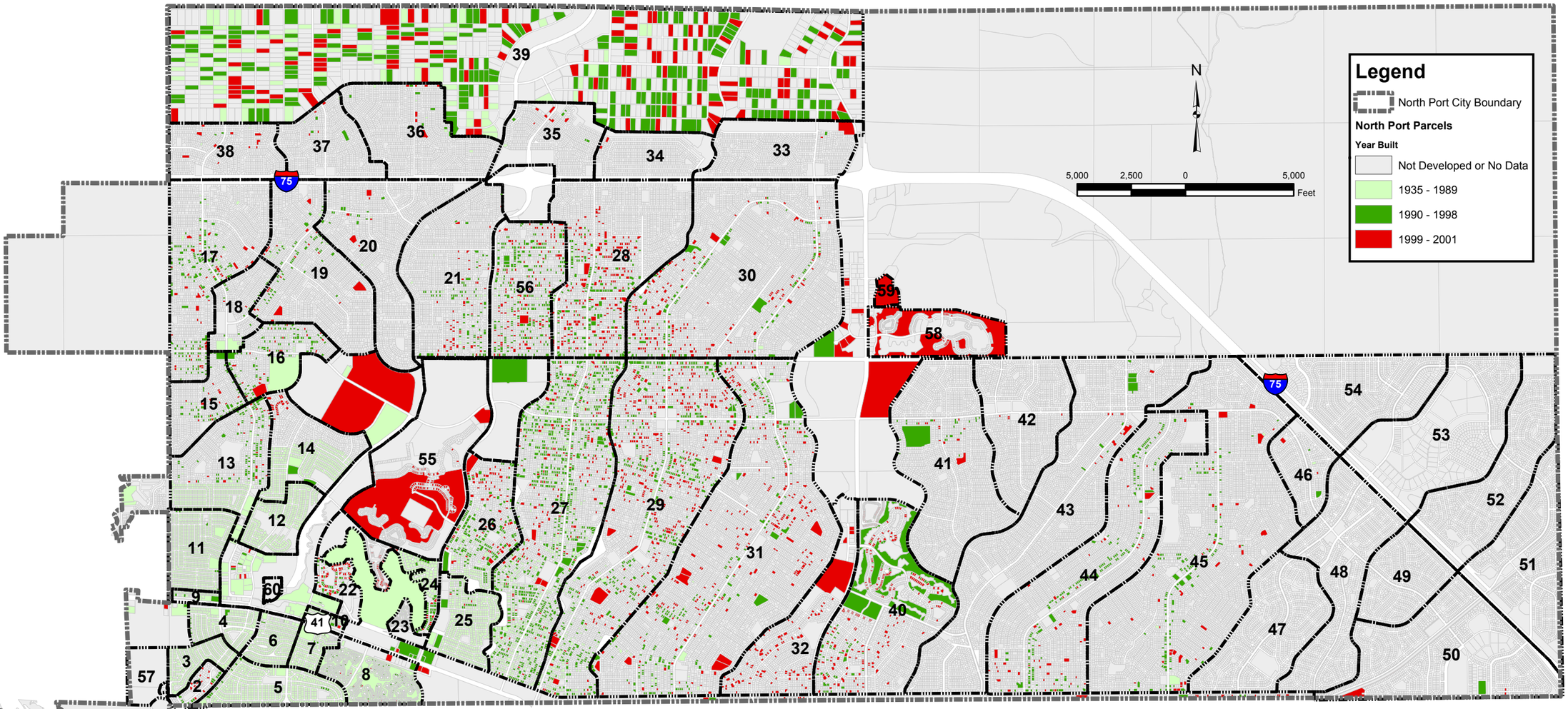
Corporation

\\Projects\North_Port\Utilities Master Plan\Geospatial\Figure3_5_NP_Reclaim_Water_System.mxd C. Hassell 01/20/2005



ID	Neighborhood Name	Acres
1	Lake Geraldine	278.13
2	Duck Key	60.25
3	Marius	106.21
4	Hyde Park	125.28
5	Highland Ridge	237.08
6	Fabian	108.87
7	Spearman	76.50
8	Holiday Park	237.45
9	Leisure Villas	30.14
10	Espanola	32.35
11	Biscayne Gardens	232.39
12	North Port Palms	177.03
13	Floribanna	422.96
14	Jockey Club	320.80
15	Lancelot	211.98
16	Glenallen	256.62
17	Meroni Paradise	675.31
18	Ponce De Leon Crossings	176.80
19	Skyview	620.08
20	Constitution	606.02

ID	Neighborhood Name	Acres
21	Ladyslipper	656.12
22	Sabal Trace	181.88
23	Fairway Villas	42.91
24	Country Club Estates/Sumter Green	81.23
25	Country Club Ridge	230.39
26	Sumter Gardens	343.96
27	Blue Ridge-Salford	1231.72
28	Madagascar	892.87
29	North Port Gardens	1535.19
30	Cranberry Fields	1539.81
31	Chamberlain	1953.65
32	Kenvil	452.46
33	Greenley Place	417.18
34	Shawnee Way	262.62
35	Nutmeg/Lagrange	321.58
36	Hornbuckle	507.75
37	Royal Palm	298.07
38	Bristol	311.17
39	North Port Estates	3655.73
40	Woodhaven	824.01

ID	Neighborhood Name	Acres
41	Toledo Blade	837.25
42	Gardenside	519.07
43	Haberland	1317.37
44	San Mateo	1100.71
45	Atwater	1875.22
46	Beechwood	211.80
47	Bannock	532.95
48	Amnesty	625.66
49	Newman	303.68
50	Price End	851.17
51	Blueleaf	557.92
52	Fairview	578.52
53	Yorkshire	776.07
54	Langlais	587.74
55	Heron Creek	813.97
56	Sunburst	449.74
57	Borderview	106.82
58	Lakeside Plantation	303.66
59	Riley	29.17
60	Willow Creek	18.59

Figure 5-1
North Port Neighborhoods
Developed Parcels
by Year Built

Note:
1. GIS data provided by the City of North Port.

\\Projects\North_Port\Utilities Master Plan\Geospatial\Figure 5_1_NP_Developed_Lots11x17.mxd C. Hassell 01/20/2005

Figure 8-2: City of North Port Existing Potable Water System – Available Fire Flow during Maximum Day Demand

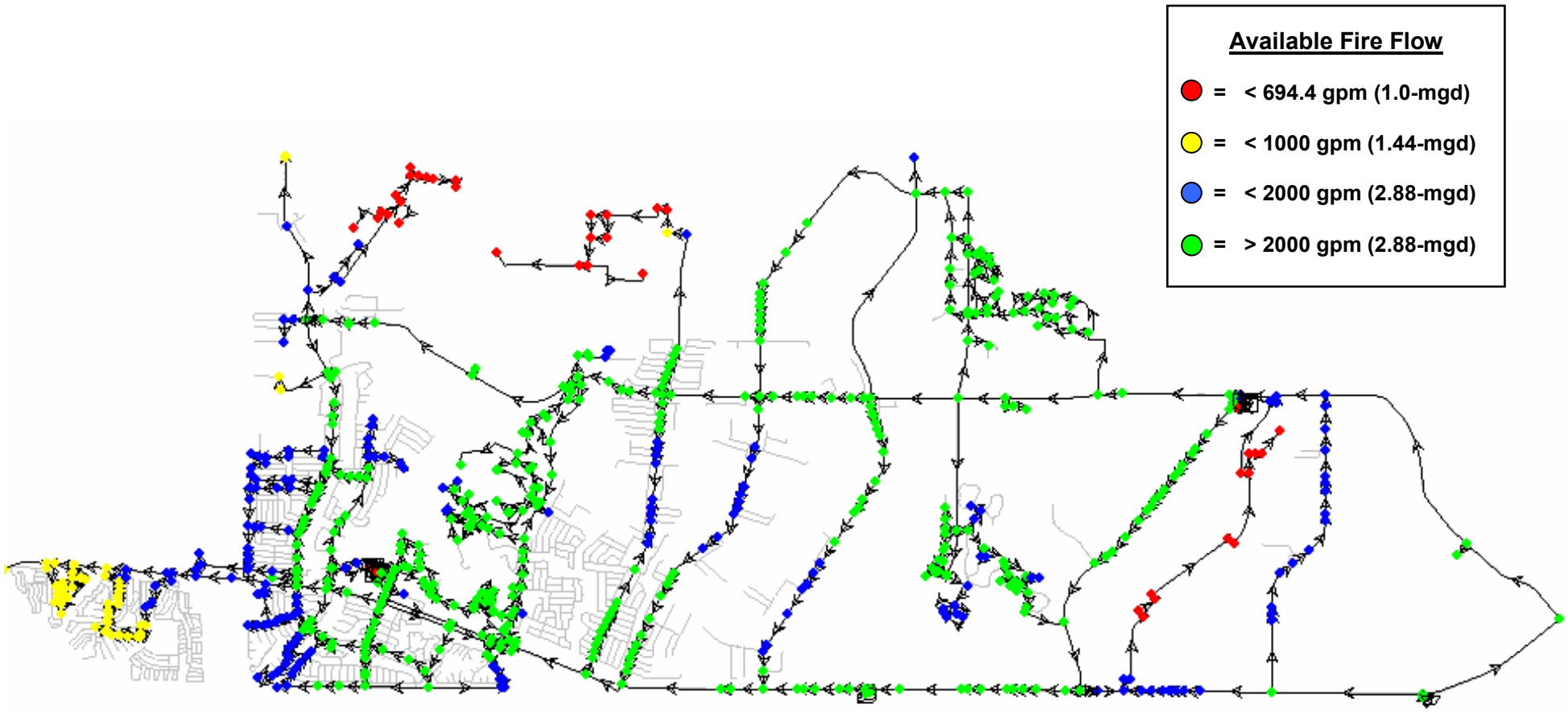
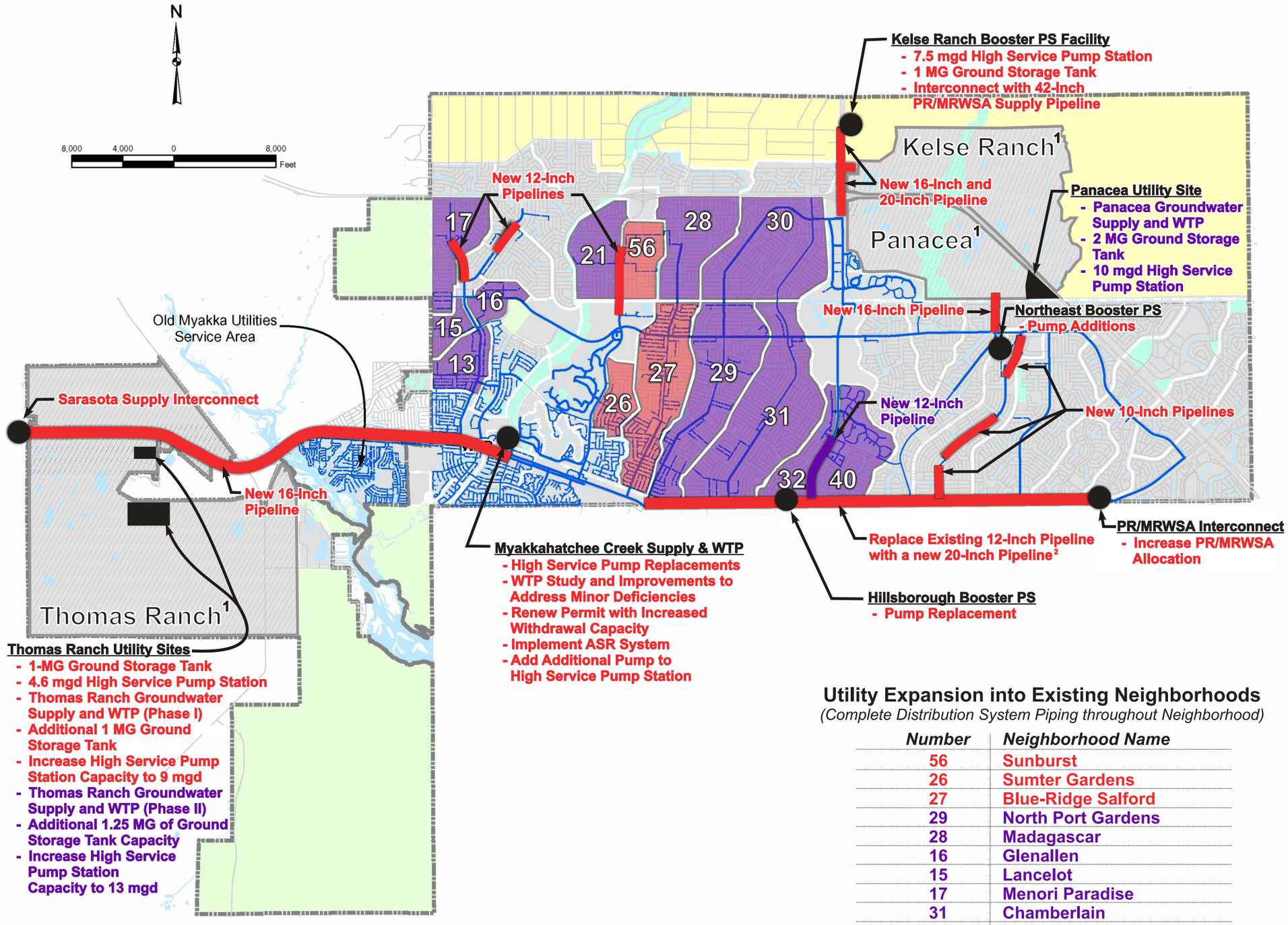


Figure 9-3

City of North Port Recommended Potable Water System Improvements



Legend

- Recommended Improvements 2004 - 2009
- Recommended Improvements 2010 - 2025

Existing Watermains

- <= 6”
- 8”
- 10” - 20”

- North Port City Boundary
- Utilities Service Limits
- Recreation Areas and Open Space

Areas not to be serviced by City of North Port Utilities

Future Land Use

- Conservation
- Agricultural Estates

Utility Expansion into Existing Neighborhoods

(Complete Distribution System Piping throughout Neighborhood)

Number	*Neighborhood Name*
56	Sunburst
26	Sumter Gardens
27	Blue-Ridge Salford
29	North Port Gardens
28	Madagascar
16	Glenallen
15	Lancelot
17	Menori Paradise
31	Chamberlain
32	Kenvil
40	Woodhaven
13	Floribanna
21	Ladyslipper
30	Cranberry Fields

Notes:

1. Projected distribution system infrastructure within the proposed Thomas Ranch, Panacea, and Kelse Ranch developments is not shown in this figure. This infrastructure will be designed and constructed by the developers.
2. If the proposed Kelse Ranch Booster PS Facility is implemented by 2009, the project to replace the existing 12-inch pipeline along Hillsborough Blvd. with a new 20-inch pipeline would not be required until later in the planning period.

City of North Port

BLACK & VEATCH Corporation

Figure 10-1 Wastewater Transmission System Hydraulic Model - Existing System Forcemain Velocities During Peak Day Conditions

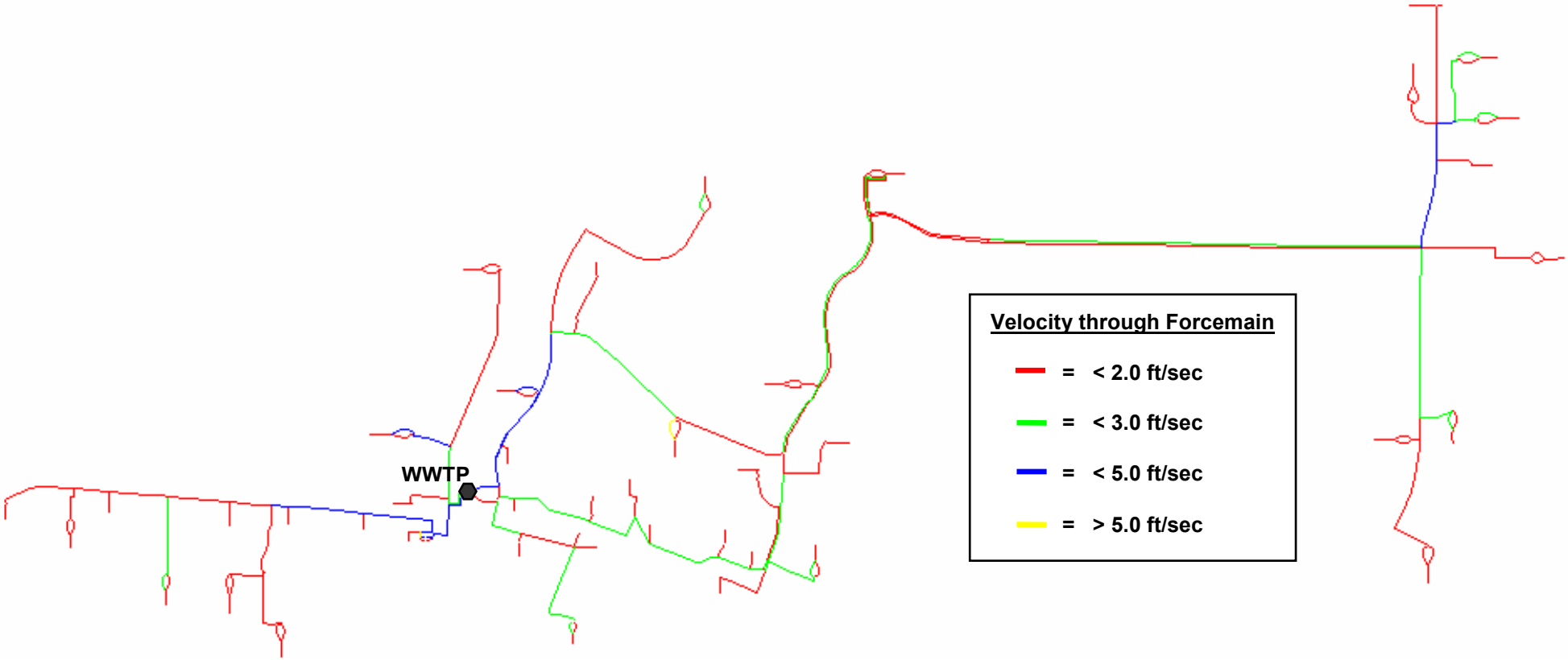
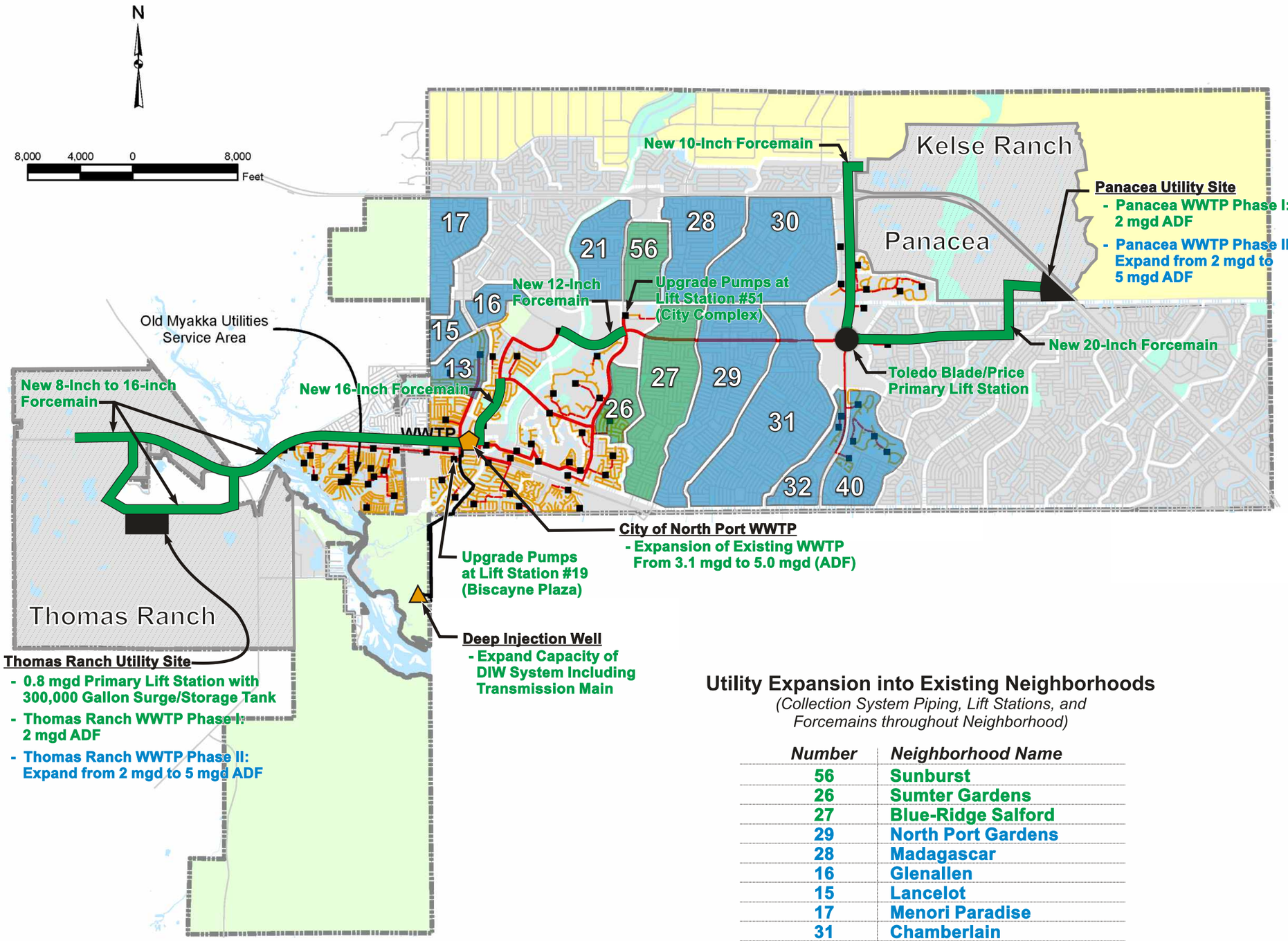


Figure 10-4

City of North Port
Recommended Wastewater
System Improvements



Utility Expansion into Existing Neighborhoods

(Collection System Piping, Lift Stations, and Forcemains throughout Neighborhood)

Number	*Neighborhood Name*
56	Sunburst
26	Sumter Gardens
27	Blue-Ridge Salford
29	North Port Gardens
28	Madagascar
16	Glenallen
15	Lancelot
17	Menori Paradise
31	Chamberlain
32	Kenvil
40	Woodhaven
13	Floribanna
21	Ladyslipper
30	Cranberry Fields

Note:

Projected collection and transmission infrastructure within the proposed Thomas Ranch, Panacea, and Kelse Ranch developments is not shown in this figure. This infrastructure will be designed and constructed by the developers.

Legend

- Recommended Improvements 2004 - 2009
- Recommended Improvements 2010 - 2025
- Existing Lift Stations

Existing Forcemains

- <= 6"
- 8"
- 10" - 20"
- Gravity Mains
- DIW Transmission Main
- Streets
- North Port City Boundary
- Utilities Service Limits
- Recreation Areas and Open Space

Areas not to be serviced by City of North Port Utilities

Future Land Use

- Conservation
- Agricultural Estates

BLACK & VEATCH

Figure 12-1 Approximate Scheduling for Recommended Projects

LEGEND
- = City Administrative Activity
- = Engineering Study / Design / Permitting
- = Bidding / Construction

	FY 2005												FY 2006											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Potable Water System																								
Myakkahatchee Creek HSPS and Hillsborough BPS Upgrades																								
US-41 Potable Water Pipeline																								
Thomas Ranch HSPS & Ground Storage Tank																								
North Haberland Boulevard Potable Water Pipeline																								
North Toledo Blade Boulevard Potable Water Pipeline																								
Establish Interlocal Agreement with Sarasota County																								
Myakkahatchee Creek WTP WUP Renewal / Increase																								
Negotiate Increased PR/MRWSA Allocation																								
Sarasota County Interconnect and Metering Station																								
Emergency Interconnect Improvements																								
Myakkahatchee Creek WTP Study and Improvements																								
Northeast Booster Pump Station Upgrade																								
Groundwater Supply Feasibility Study																								
San Mateo Drive Pipeline Improvement																								
Water Distribution System Study																								
Sunburst Potable Water System Expansion																								
Hillsborough Boulevard Potable Water Pipeline[3]																								
Kelse Ranch Booster Pump Station Facility and Interconnect[3]																								
Utility Master Plan Update																								
Sumter Gardens Potable Water System Expansion																								
North Biscayne Drive and Ponce De Leon Blvd Pipelines																								
Thomas Ranch Groundwater Supply and WTP (Phase I)																								
Myakkahatchee Creek HSPS Upgrade																								
Blue Ridge-Salford Potable Water System Expansion																								
Wastewater System																								
US-41 Forcemain																								
Thomas Ranch Primary Lift Station Facility																								
North Toledo Blade Forcemain																								
City of North Port WWTP Expansion[1]																								
Toledo Blade / Price Boulevard Primary Lift Station																								
Panacea WWTP (Phase I)[2]																								
Thomas Ranch WWTP (Phase I)																								
Upgrade Pumps at Lift Station #19 (Biscayne Plaza)																								
East Price Boulevard Forcemain																								
West Price Boulevard Forcemain[4]																								
Pan American Boulevard Forcemain[4]																								
Upgrade Pumps at Lift Station #51 (City Complex)[4]																								
Biosolids Treatment and Disposal Alternatives Study																								
Sunburst Wastwater System Expansion																								
Sumter Gardens Wastewater System Expansion																								
Blue Ridge-Salford Wastewater System Expansion																								
Reclaimed Water System																								
Negotiate Agrements w/ Future Reclaimed Water Customers																								
Reclaimed Water System Expansion to new Bulk-use Customers																								

	FY 2007												FY 2008											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Potable Water System																								
Myakkahatchee Creek HSPS and Hillsborough BPS Upgrades																								
US-41 Potable Water Pipeline																								
Thomas Ranch HSPS & Ground Storage Tank																								
North Haberland Boulevard Potable Water Pipeline																								
North Toledo Blade Boulevard Potable Water Pipeline																								
Establish Interlocal Agreement with Sarasota County																								
Myakkahatchee Creek WTP WUP Renewal / Increase																								
Negotiate Increased PR/MRWSA Allocation																								
Sarasota County Interconnect and Metering Station																								
Emergency Interconnect Improvements																								
Myakkahatchee Creek WTP Study and Improvements																								
Northeast Booster Pump Station Upgrade																								
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Hillsborough Boulevard Potable Water Pipeline[3]																								
Kelse Ranch Booster Pump Station Facility and Interconnect[3]																								
Utility Master Plan Update																								
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Wastewater System																								
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City of North Port WWTP Expansion[1]																								
Toledo Blade / Price Boulevard Primary Lift Station																								
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Upgrade Pumps at Lift Station #19 (Biscayne Plaza)																								
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Upgrade Pumps at Lift Station #51 (City Complex)[4]																								
Biosolids Treatment and Disposal Alternatives Study																								
Sunburst Wastwater System Expansion																								
Sumter Gardens Wastewater System Expansion																								
Blue Ridge-Salford Wastewater System Expansion																								
Reclaimed Water System																								
Negotiate Agrements w/ Future Reclaimed Water Customers																								
Reclaimed Water System Expansion to new Bulk-use Customers																								

	FY 2009											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Potable Water System												
Myakkahatchee Creek HSPS and Hillsborough BPS Upgrades												
US-41 Potable Water Pipeline												
Thomas Ranch HSPS & Ground Storage Tank												
North Haberland Boulevard Potable Water Pipeline												
North Toledo Blade Boulevard Potable Water Pipeline												
Establish Interlocal Agreement with Sarasota County												
Myakkahatchee Creek WTP WUP Renewal / Increase												
Negotiate Increased PR/MRWSA Allocation												
Sarasota County Interconnect and Metering Station												
Emergency Interconnect Improvements												
Myakkahatchee Creek WTP Study and Improvements												
Northeast Booster Pump Station Upgrade												
Groundwater Supply Feasibility Study												
San Mateo Drive Pipeline Improvement												
Water Distribution System Study												
Sunburst Potable Water System Expansion												
Hillsborough Boulevard Potable Water Pipeline[3]												
Kelse Ranch Booster Pump Station Facility and Interconnect[3]												
Utility Master Plan Update												
Sumter Gardens Potable Water System Expansion												
North Biscayne Drive and Ponce De Leon Blvd Pipelines												
Thomas Ranch Groundwater Supply and WTP (Phase I)												
Myakkahatchee Creek HSPS Upgrade												
Blue Ridge-Salford Potable Water System Expansion												
Wastewater System												
US-41 Forcemain												
Thomas Ranch Primary Lift Station Facility												
North Toledo Blade Forcemain												
City of North Port WWTP Expansion[1]												
Toledo Blade / Price Boulevard Primary Lift Station												
Panacea WWTP (Phase I)[2]												
Thomas Ranch WWTP (Phase I)												
Upgrade Pumps at Lift Station #19 (Biscayne Plaza)												
East Price Boulevard Forcemain												
West Price Boulevard Forcemain[4]												
Pan American Boulevard Forcemain[4]												
Upgrade Pumps at Lift Station #51 (City Complex)[4]												
Biosolids Treatment and Disposal Alternatives Study												
Sunburst Wastwater System Expansion												
Sumter Gardens Wastewater System Expansion												
Blue Ridge-Salford Wastewater System Expansion												
Reclaimed Water System												
Negotiate Agrements w/ Future Reclaimed Water Customers												
Reclaimed Water System Expansion to new Bulk-use Customers												

Notes:

[1] In order to meet the City's projected demands in the early phases of the planning period, a schedule based on a fast-track project delivery method (design/construction management) is illustrated for this project. The City was still considering other potential project delivery options at the time of preparation of this Master Plan.

[2] In order to meet the City's projected demands in the early phases of the planning period, a schdeule based on a fast-track project delivery method (design/build) is illustrated for this project. The City was still considering other potential project delivery options at the time of preparation of this Master Plan.

[3] The negotiated point of delivery of expanded PR/MRWSA supply could affect the need for and required timing of this project.

[4] Implementing the Panacea WWTP project with a fast-track delivery method could potentially delay the need to implement this project until late in the planning period.

FLORIDA DEPARTMENT OF Environmental Protection

South District Office
2295 Victoria Ave, Suite 364
Ft. Myers, Florida 33901-3875

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

March 20, 2023

In the Matter of an
Application for Permit by:

City of North Port Utilities Department
Nancy Gallinaro
664 West Price Blvd
North Port, Florida 34291
ngallinaro@cityofnorthport.com

Sarasota County – Domestic Wastewater
File Number FLA013378-020-DW1P
City of North Port WWTP

NOTICE OF PERMIT ISSUANCE

Enclosed is Permit Number FLA013378-020 to operate the City of North Port WWTP, issued under Chapter 403**,** Florida Statutes. This permit is accompanied by Administrative Order AO-01013378-020 that establishes a schedule of compliance for groundwater requirements.

Monitoring requirements under this permit are effective on May 1, 2023. Until such time, the permittee shall continue to monitor and report in accordance with previously effective permit requirements.

NOTICE OF RIGHTS

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the application.

Petition for Administrative Hearing
A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rules 28-106.201 and 28-106.301, F.A.C., a petition for an administrative hearing must contain the following information:

(a) The name and address of each agency affected and each agency's file or identification number, if known;
(b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified

representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;

(c) A statement of when and how the petitioner received notice of the agency decision;
(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
(e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
(f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
(g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@FloridaDEP.gov. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant and persons entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. You cannot justifiably rely on the finality of this decision unless notice of this decision and the right of substantially affected persons to challenge this decision has been duly published or otherwise provided to all persons substantially affected by the decision. While you are not required to publish notice of this action, you may elect to do so pursuant Rule 62-110.106(10)(a), F.A.C.

The failure 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, F.S., or to intervene in this proceeding and participate as a party to it. 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, F.A.C. If you do not publish notice of this action, this waiver may not apply to persons who have not received a clear point-of-entry.

Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-

3000, or via electronic correspondence at Agency_Clerk@FloridaDEP.gov, before the deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation
Mediation is not available in this proceeding.

Judicial Review
Once this decision becomes final, any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Florida Rules of Appellate Procedure 9.110 and 9.190 with the Clerk of the Department in the Office of General Counsel (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 must be filed within 30 days from the date this action is filed with the Clerk of the Department.

EXECUTION AND CLERKING
Executed in Ft. Myers, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Jennifer L. Carpenter

_____
Jennifer L. Carpenter
Director of District Management

Attachments:
1. Permit No. FLA013378-020
2. Administrative Order AO-013378-020

CERTIFICATE OF SERVICE
The undersigned duly designated deputy clerk hereby certifies that this document and all attachments were sent on the filing date below to the following listed persons:

Michael Acosta, P.E., City of North Port Utilities Dept., macosta@cityofnorthport.com

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.

_____ March 20, 2023
Clerk Date

FLORIDA DEPARTMENT OF Environmental Protection

South District Office
2295 Victoria Ave, Suite 364
Ft. Myers, Florida 33901-3875

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

STATE OF FLORIDA
DOMESTIC WASTEWATER FACILITY PERMIT

PERMITTEE:
City of North Port Utilities Department

RESPONSIBLE OFFICIAL:
Nancy Gallinaro
664 West Price Blvd
North Port, Florida 34291
(941) 240-8001
ngallinaro@cityofnorthport.com

PERMIT NUMBER: FLA013378
FILE NUMBER: FLA013378-020-DW1P
ISSUANCE DATE: **March 20, 2023**
EFFECTIVE DATE: **March 20, 2023**
EXPIRATION DATE: **March 19, 2028**

FACILITY:
North Port City of WWTP
5355 Pan American Blvd.
North Port, FL 34287
Sarasota County
Latitude: 27°2' 54.7275" N Longitude: 82°14' 42.2592" W

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and applicable rules of the Florida Administrative Code (F.A.C.). This permit does not constitute authorization to discharge wastewater other than as expressly stated in this permit. This permit is accompanied by an Administrative Order, pursuant to paragraphs 403.088(2)(e) and (f), Florida Statutes. Compliance with Administrative Order, AO-013378-020, is a specific requirement of this permit. The above-named permittee is hereby authorized to operate the facilities in accordance with the documents attached hereto and specifically described as follows:

WASTEWATER TREATMENT:

An existing 7.0 MGD, Three-Month Average Daily Flow (TMADF) Type I Modified Ludzack-Ettinger domestic wastewater treatment plant limited to 4.99 MGD Three-Month Average Daily Flow and consists of: a receiving station, a headworks structure with odor control, four mechanically cleaned and one manually cleaned bar screens with grit removal, two anoxic basins of 224,400 gallons each for a total of 0.45 MG, six aeration basins of 224,400 gallons each for a total aeration volume of 1.374 MG, four secondary clarifiers of 1.2 MG total volume and 13,265 sq.ft., four effluent filters with a total surface area of 3,000 sq.ft., and two chlorine contact chambers with a total volume of 178,547 gallons. There is one 2.5 MG reclaimed water storage tank.

The biosolids stream consists of four aerated sludge holding basins with a total volume of 0.07 MG. Biosolids are dewatered and taken to a landfill.

REUSE OR DISPOSAL:

Underground Injection U-001: An existing 18.52 MGD monthly average daily flow permitted capacity reuse system discharging to an underground injection well system consisting of two Class I underground injection wells permitted under Department permit numbers 0131285-015 and -016- UO/1X; WACS ID 51730 discharging to Class G-IV ground water. Chlorine injection is available for emergency situations. Underground Injection Well System U-001 is located approximately at latitude 27° 0' 59" N, longitude 82° 15' 23" W.

Land Application R-001: An existing 4.99 MGD annual average daily flow permitted capacity slow-rate public access system. R-001 is a reuse system which consists of North Port Master Urban Reuse General Service Area and consists of the incorporated limits of the City of North Port.

IN ACCORDANCE WITH: The limitations, monitoring requirements, and other conditions set forth in this cover sheet and Part I through Part IX on pages 1 through 24 of this permit.

I. RECLAIMED WATER AND EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Underground Injection Control Systems

1. During the period beginning on the effective date and lasting through the expiration date of this permit, the permittee is authorized to direct treated effluent to **U-001**. Such effluent shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.8.:

			Reclaimed Water Condition		Monitoring Requirements			
Parameter	Units	Max. /Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow	MGD	Max	18.52	Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-02	See I.A.4
BOD, Carbonaceous 5 day, 20C	mg/L	Max Max Max Max	20.0 30.0 45.0 60.0	Annual Average Monthly Average Weekly Average Single Sample	Weekly	24-hr FPC	EFA-01	
Solids, Total Suspended	mg/L	Max Max Max Max	20.0 30.0 45.0 60.0	Annual Average Monthly Average Weekly Average Single Sample	Weekly	24-hr FPC	EFA-01	
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	Continuous	Meter	EFA-01	See I.A.3

2. Reclaimed water samples shall be taken at the monitoring site locations listed in Permit Condition I.A.1. and as described below:

Monitoring Site Number	Description of Monitoring Site
FLW-02	Flow meter located on deep well pump line, to the UIC System U-001.
EFA-01	After disinfection but prior to discharge to the Part III Public Access Reuse System R-001.

3. Hourly measurement of pH during the period of required operator attendance may be substituted for continuous measurement. *[62-600.660(1)]*

4. A Recording Flow Meter with Totalizer shall be utilized to measure flow and calibrated at least once every 12 months. *[62-600.200(25)]*

B. Reuse and Land Application Systems

1. During the period beginning on the effective date and lasting through the expiration date of this permit, the permittee is authorized to direct reclaimed water to Reuse System R-001. Such reclaimed water shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.8.:

			Reclaimed Water Limitations		Monitoring Requirements			
Parameter	Units	Max./Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow	MGD	Max Max	4.99 Report	Annual Average Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-01	See I.B.4
BOD, Carbonaceous 5 day, 20C	mg/L	Max Max Max Max	20.0 30.0 45.0 60.0	Annual Average Monthly Average Weekly Average Single Sample	Weekly	24-hr FPC	EFA-01	
Solids, Total Suspended	mg/L	Max	5.0	Single Sample	Daily; 24 hours	Grab	EFB-01	
Coliform, Fecal	#/100mL	Max	25	Single Sample	Daily; 24 hours	Grab	EFA-01	
Coliform, Fecal, % less than detection	percent	Min	75	Monthly Total	Daily; 24 hours	Calculated	EFA-01	See I.B.5
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	Continuous	Meter	EFA-01	See I.B.3
Chlorine, Total Residual (For Disinfection)	mg/L	Min	1.0	Single Sample	Continuous	Meter	EFA-01	See I.B.6 and I.B.9
Turbidity	NTU	Max	Report	Single Sample	Continuous	Meter	EFB-01	See I.B.7 and I.B.9
Phosphorus, Total (as P)	mg/L	Max	Report	Single Sample	Weekly	16-hr FPC	EFA-01	
Nitrogen, Total	mg/L	Max	Report	Single Sample	Weekly	16-hr FPC	EFA-01	
Giardia	cysts/100L	Max	Report	Single Sample	Biennially; Every 2 years	Grab	EFA-01	See I.B.10 and I.B.11
Cryptosporidium	oocysts/ 100L	Max	Report	Single Sample	Biennially; Every 2 years	Grab	EFA-01	See I.B.10

2. Reclaimed water samples shall be taken at the monitoring site locations listed in Permit Condition I.B.1. and as described below:

Monitoring Site Number	Description of Monitoring Site
FLW-01	Flow meter located after reuse high service pump station on line to the R-001, Public Access Reuse System; as indicated in the revised Figure 4 flow diagram received on April 24, 2017.
EFA-01	After disinfection but prior to discharge to the Part III Public Access Reuse System R-001.
EFB-01	Turbidity monitoring /TSS sample point after filtration but prior to disinfection.

3. Hourly measurement of pH during the period of required operator attendance may be substituted for continuous measurement. *[62-600.660(1)]*

4. A recording flow meter with totalizer shall be utilized to measure flow and calibrated at least once every 12 months. *[62-600.200(25)]*

5. To report the "% less than detection," count the number of fecal coliform observations that were less than detection, divide by the total number of fecal coliform observations in the month, and multiply by 100% (round to the nearest integer). *[62-600.440(6)(a)]*

6. The minimum total chlorine residual shall be limited as described in the approved operating protocol, such that the permit limitation for fecal coliform bacteria will be achieved. In no case shall the total chlorine residual be less than 1.0 mg/L. *[62-600.440(6)(b)][62-610.460(2)][62-610.463(2)]*

7. The maximum turbidity shall be limited as described in the approved operating protocol, such that the permit limitations for total suspended solids and fecal coliforms will be achieved. Filtration shall be provided for total suspended solids control. *[62-610.463(2)]*

8. The treatment facilities shall be operated in accordance with all approved operating protocols. Only reclaimed water that meets the criteria established in the approved operating protocol(s) may be released to system storage or to the reuse system. Reclaimed water that fails to meet the criteria in the approved operating protocol(s) shall be directed to reject storage for subsequent additional treatment or disinfection or to the following permitted alternate discharge system: to UIC wells. *[62-610.320(6) and 62-610.463(2)]*

9. Instruments for continuous on-line monitoring of total residual chlorine and turbidity shall be equipped with an automated data logging or recording device. *[62-610.463(2)]*

10. Sampling for Giardia and Cryptosporidium shall be conducted at one time during each two-year period. Intervals between sampling shall not exceed two years. The sample results shall be submitted to the Department on or before November 28 of that year using Form 62-610.300(3)(a)4. *[62-610.463(4)]*

11. Grab samples shall be collected during periods of minimal treatment plant pollutant removal efficiencies or maximum organic loading in the reclaimed water or effluent. *[62-600.660(3)(e)]*

C. Other Limitations and Monitoring and Reporting Requirements

1. During the period beginning on the effective date and lasting through the expiration date of this permit, the treatment facility shall be limited and monitored by the permittee as specified below and reported in accordance with condition I.C.8.:

			Limitations		Monitoring Requirements			
Parameter	Units	Max. /Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow	MGD	Max Max	4.99 Report	3-Month Rolling Average Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-03	See I.C.4
Percent Capacity, (TMADF/Permitted Capacity) x 100	percent	Max	Report	3-Month Rolling Average	Monthly	Calculated	CAL-01	
BOD, Carbonaceous 5 day, 20C (Influent)	mg/L	Max	Report	Single Sample	Weekly	16-hr FPC	INF-01	See I.C.3
Solids, Total Suspended (Influent)	mg/L	Max	Report	Single Sample	Weekly	16-hr FPC	INF-01	See I.C.3

2. Samples shall be taken at the monitoring site locations listed in Permit Condition I.C.1. and as described below:

Monitoring Site Number	Description of Monitoring Site
FLW-03	Flow meter at headworks measures total plant flow.
CAL-01	Calculated from the FLW-03 flow measurements.
INF-01	Influent sampling point prior to treatment but ahead of the return activated sludge line and pumped drainage; as indicated in the revised Figure 4 flow diagram received on April 24, 2017.

3. Influent samples shall be collected so that they do not contain digester supernatant or return activated sludge, or any other plant process recycled waters. *[62-600.660(4)(a)]*

4. A recording flow meter with totalizer shall be utilized to measure flow and calibrated at least once every 12 months. *[62-600.200(25)]*

5. Sampling results for giardia and cryptosporidium shall be reported on DEP Form 62-610.300(3)(a)4, Pathogen Monitoring, which is attached to this permit. This form shall be submitted to the Department's Wastewater Management Program (M.S. 3545 Blair Stone Road, Tallahassee, Florida 32399-2400 or at epostbwfrdom@floridadep.gov) and to the Department's South District Office. *[62-610.300(4)(a)]*

6. The sample collection, analytical test methods, and method detection limits (MDLs) applicable to this permit shall be conducted using a sufficiently sensitive method to ensure compliance with applicable water quality standards and effluent limitations and shall be in accordance with Rule 62-4.246, Chapters 62-160 and 62-600, F.A.C., and 40 CFR 136, as appropriate. The list of Department established analytical methods, and corresponding MDLs (method detection limits) and PQLs (practical quantitation limits), which is titled "FAC 62-4 MDL/PQL Table (November 10, 2020)" is available at https://floridadep.gov/dear/quality-assurance/content/quality-assurance-resources. The MDLs and PQLs as described in this list shall constitute the minimum acceptable MDL/PQL values and the Department shall not accept results for which the laboratory's MDLs or PQLs are greater than those described above unless alternate MDLs and/or PQLs have been specifically approved by the Department for this permit. Any method included in the list may be used for reporting as long as it meets the following requirements:

   a. The laboratory's reported MDL and PQL values for the particular method must be equal or less than the corresponding method values specified in the Department's approved MDL and PQL list;

   b. The laboratory reported MDL for the specific parameter is less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Parameters that are listed as "report only" in the permit shall use methods that provide an MDL, which is equal to or less than the applicable water quality criteria stated in 62-302, F.A.C.; and

   c. If the MDLs for all methods available in the approved list are above the stated permit limit or applicable water quality criteria for that parameter, then the method with the lowest stated MDL shall be used.

   When the analytical results are below method detection or practical quantitation limits, the permittee shall report the actual laboratory MDL and/or PQL values for the analyses that were performed following the instructions on the applicable discharge monitoring report.

   Where necessary, the permittee may request approval of alternate methods or for alternative MDLs or PQLs for any approved analytical method. Approval of alternate laboratory MDLs or PQLs are not necessary if the laboratory reported MDLs and PQLs are less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Approval of an analytical method not included in the above-referenced list is not necessary if the analytical method is approved in accordance with 40 CFR 136 or deemed acceptable by the Department. *[62-4.246, 62-160]*

7. The permittee shall provide safe access points for obtaining representative samples which are required by this permit. *[62-600.650(2)]*

8. Monitoring requirements under this permit are effective on the first day of the second month following the effective date of the permit. Until such time, the permittee shall continue to monitor and report in accordance with previously effective permit requirements. During the period of operation authorized by this permit, the permittee shall complete and submit to the Department Discharge Monitoring Reports (DMRs) in accordance with the frequencies specified by the REPORT type (i.e. monthly, quarterly, semiannual, annual, etc.) indicated on the DMR forms attached to this permit. Unless specified otherwise in this permit, monitoring results for each monitoring period shall be submitted in accordance with the associated DMR due dates below. DMRs shall be submitted for each required monitoring period including periods of no discharge.

REPORT Type on DMR	Monitoring Period	Submit by

Monthly	first day of month - last day of month	28th day of following month
Once Every Two Months	January 1 - February 28/29 March 1 - April 30 May 1 - June 30 July 1 - August 31 September 1 - October 31 November 1 - December 31	March 28 May 28 July 28 September 28 November 28 January 28
Quarterly	January 1 - March 31 April 1 - June 30 July 1 - September 30 October 1 - December 31	April 28 July 28 October 28 January 28
Semiannual	January 1 - June 30 July 1 - December 31	July 28 January 28
Annual	January 1 - December 31	January 28

The permittee shall use the electronic DMR system approved by the Department (EzDMR) and shall electronically submit the completed DMR forms using the DEP Business Portal at https://www.fldepportal.com/go/, unless the permittee has a waiver from the Department in accordance with 40 CFR 127.15. Reports shall be submitted to the Department by the twenty-eighth (28th) of the month following the month of operation.

[62-620.610(18)] [62-600.680(1)]

9. During the period of operation authorized by this permit, reclaimed water or effluent shall be monitored annually for the primary and secondary drinking water standards contained in Chapter 62-550, F.A.C., and the Revised Total Coliform Rule contained in Rule 62-550.830, F.A.C., (except for asbestos, color, odor, and residual disinfectants). These monitoring results shall be reported to the Department annually on the DMR. During years when a permit is not renewed, a certification stating that no new non-domestic wastewater dischargers have been added to the collection system since the last reclaimed water or effluent analysis was conducted may be submitted with the signed DMR in lieu of performing the analysis. When such a certification is submitted with the DMR, monitoring not required this period should be noted on the DMR. The annual reclaimed water or effluent analysis report, and certification if applicable, shall be completed and submitted in a timely manner so as to be received by the Department at the address identified on the DMR by January 28 of each year. Approved analytical methods identified in Rule 62-620.100(3)(j), F.A.C., shall be used for the analysis. If no method is included for a parameter, methods specified in Chapter 62-550, F.A.C., shall be used. *[62-600.660(2) and (3)(d)][62-600.680(2)][62-610.300(3)]*

10. The permittee shall submit DEP Form 62-610.300(3)(a)2., Annual Reuse Report, using DEP Form 62-610.300(4)(a)2. on or before January 1 of each year. to the Department and the appropriate water management district on or before January 1 of each year. The form shall be submitted electronically to the Department using the Online Business Portal (https://www.fldepportal.com/DepPortal/go/home) *[62-610.870(3)(a)]*

11. Operating protocol(s) shall be reviewed and updated periodically to ensure continuous compliance with the minimum treatment and disinfection requirements. Updated operating protocols shall be submitted to the Department's South District Office for review and approval upon revision of the operating protocol(s) and with each permit application. *[62-610.320(6)][62-610.463(2)]*

12. The permittee shall maintain an inventory of storage systems. The most recent inventory shall be submitted each year with the Annual Reuse Report. At least 30 days before reclaimed water will be introduced into any new storage system, the updated inventory shall be submitted to the Department's South District Office. The inventory shall include the following:

    a. name or identifier for the storage system;

    b. location of the storage system (latitude/longitude);

    c. function of the storage system (system storage or reject storage);

    d. type of facility (covered tank, lined pond, unlined pond);

e. Indication of whether or not the storage facility is a water of the state or discharges to a water of the state; and

f. distances to the nearest public water supply wells and to the nearest potable water supply wells which are not public water supply wells.

[62-610.464(5) and 62-610.870(3)(d)]

13. The permittee of a publicly owned facility shall submit an annual report regarding transactions or allocations of costs and expenditures on pollution mitigation among the utility's permitted wastewater systems, including the prevention of sanitary sewer overflows, collection and transmission system pipe leakages, and inflow and infiltration. This report may be combined with the annual report for the permittee's collection system action plan once Rule 62-600.705, F.A.C., becomes effective. The report shall be electronically submitted to the district office no later than June 30 of each calendar year. *[62-600.700(4)]*

14. Except as otherwise specified in this permit, all reports and other information required by this permit, including 24-hour notifications, shall be submitted to the Department in a digital format when practicable. The Department's electronic mailing address is:

SouthDistrict@FloridaDEP.gov

Please contact the Department at (239) 344-5600 if you are unable to submit electronically.

[62-620.610(11)]

15. All reports and other information shall be signed in accordance with the requirements of Rule 62-620.305, F.A.C. *[62-620.305]*

16. The wastewater treatment is limited to 4.99 MGD at the request of the applicant. If the applicant or the permittee wishes to treat more than 4.99 MGD, then a minor permit revision is required in accordance with the Rule 62-620.325(2)(c), F.A.C. *[62-620]*

II. BIOSOLIDS MANAGEMENT REQUIREMENTS

A. Basic Requirements

1. Biosolids generated by this facility may be transferred to Charlotte County Bio-Recycling Center, LLC, 29751 Zemel Rd., Punta Gorda, FL 33955, or disposed of in a Class I solid waste landfill. Transferring biosolids to an alternative biosolids treatment facility does not require a permit modification. However, use of an alternative biosolids treatment facility requires submittal of a copy of the agreement pursuant to Rule 62-640.880(1)(c), F.A.C., along with a written notification to the Department at least 30 days before transport of the biosolids. *[62-620.320(6), 62-640.880(1)]*

2. The permittee shall monitor and keep records of the quantities of biosolids generated, received from source facilities, treated, distributed and marketed, land applied, used as a biofuel or for bioenergy, transferred to another facility, or landfilled. These records shall be kept for a minimum of five years. *[62-640.650(4)(a)]*

3. Biosolids quantities shall be monitored by the permittee as specified below. Results shall be reported on the permittee's Discharge Monitoring Report for Monitoring Group RMP-Q in accordance with Condition I.C.8.

			Biosolids Limitation		Monitoring Requirements			
Parameter	Units	Max. /Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Biosolids Quantity (Landfilled)	dry tons	Max	Report	Monthly Total	Monthly	Calculated	RMP-01	
Biosolids Quantity (Transferred)	dry tons	Max	Report	Monthly Total	Monthly	Calculated	RMP-02	

[62-640.650(5)(a)1]

4. Biosolids quantities shall be calculated as listed in Permit Condition II.3 and as described below:

Monitoring Site Number	Description of Monitoring Site Calculations
RMP-01	Biosolids landfilled.
RMP-02	Biosolids transferred.

5. The treatment, management, transportation, use, land application, or disposal of biosolids shall not cause a violation of the odor prohibition in subsection 62-296.320(2), F.A.C. *[62-640.400(6)]*

6. Storage of biosolids or other solids at this facility shall be in accordance with the Facility Biosolids Storage Plan. *[62-640.300(4)]*

7. Biosolids shall not be spilled from or tracked off the treatment facility site by the hauling vehicle. *[62-640.400(9)]*

B. Disposal

1. Disposal of biosolids, septage, and "other solids" in a solid waste disposal facility, or disposal by placement on land for purposes other than soil conditioning or fertilization, such as at a monofill, surface impoundment, waste pile, or dedicated site, shall be in accordance with Chapter 62-701, F.A.C. *[62-640.100(6)(b) & (c)]*

C. Transfer

1. The permittee shall not be held responsible for treatment and management violations that occur after its biosolids have been accepted by a permitted biosolids treatment facility with which the source facility has an agreement in accordance with subsection 62-640.880(1)(c), F.A.C., for further treatment, management, or disposal. *[62-640.880(1)(b)]*

2. The permittee shall keep hauling records to track the transport of biosolids between the facilities. The hauling records shall contain the following information:

Source Facility
1. Date and time shipped
2. Amount of biosolids shipped
3. Degree of treatment (if applicable)
4. Name and ID Number of treatment facility
5. Signature of responsible party at source facility
6. Signature of hauler and name of hauling firm

Biosolids Treatment Facility or Treatment Facility
1. Date and time received
2. Amount of biosolids received
3. Name and ID number of source facility
4. Signature of hauler
5. Signature of responsible party at treatment facility

A copy of the source facility hauling records for each shipment shall be provided upon delivery of the biosolids to the biosolids treatment facility or treatment facility. The treatment facility permittee shall report to the Department within 24 hours of discovery any discrepancy in the quantity of biosolids leaving the source facility and arriving at the biosolids treatment facility or treatment facility.

[62-640.880(4)]

D. Receipt

1. If the permittee intends to accept biosolids from other facilities, a permit revision is required pursuant to paragraph 62-640.880(2)(d), F.A.C. *[62-640.880(2)(d)]*

III. GROUND WATER REQUIREMENTS

A. Construction Requirements

1. The permittee shall give at least 72-hour notice to the Department's South District Office, prior to the installation of any monitoring wells. *[62-520.600(6)(h)]*

2. Before construction of new ground water monitoring wells, a soil boring shall be made at each new monitoring well location to properly determine monitoring well specifications such as well depth, screen interval, screen slot, and filter pack. *[62-520.600(6)(g)]*

3. Within 30 days after installation of a monitoring well, the permittee shall submit to the Department's South District Office well completion reports and soil boring/lithologic logs on DEP Form 62-520.900(3), Monitoring Well Completion Report. *[62-520.600(6)(j) and .900(3)]*

4. All piezometers and monitoring wells not part of the approved ground water monitoring plan shall be plugged and abandoned in accordance with Rule 62-532.500(5), F.A.C., unless future use is intended. *[62-532.500(5)]*

B. Operational Requirements

1. For the Part III Public Access system, all ground water quality criteria specified in Chapter 62-520, F.A.C., shall be met at the edge of the zone of discharge. The zone of discharge shall extend horizontally 100 feet from the application site(s) or to the property boundaries, whichever is less, and vertically to the base of the surficial aquifer. *[62-520.200(27)] [62-520.465]*

2. The ground water minimum criteria specified in Rule 62-520.400 F.A.C., shall be met within the zone of discharge. *[62-520.400 and 62-520.420(4)]*

3. If the concentration for any constituent listed in Permit Condition III.6. in the natural background quality of the ground water is greater than the stated maximum, or in the case of pH is also less than the minimum, the representative background quality shall be the prevailing standard. *[62-520.420(2)]*

4. During the period of operation authorized by this permit, the permittee shall continue to sample ground water at the monitoring wells identified in Permit Condition III.5., below in accordance with this permit and the approved ground water monitoring plan prepared in accordance with Rule 62-520.600, F.A.C. *[62-520.600] [62-610.463]*

5. The following monitoring wells shall be sampled for Reuse System R-001.

Monitoring Well ID	Alternate Well Name and/or Description of Monitoring Location	Latitude	Longitude	Depth (Feet)	Aquifer Monitored	Well Type	New or Existing
MWB-1	MWB-01 Background monitoring well. At the utility offices, in the NW corner of the project.	27°4' 31.1"	82°13' 43.33"	20	Surficial	Background	Existing
MWC-3	MWC-03 Compliance monitoring well. Located in the South of the project, downgradient and outside of the spray irrigation area.	27°3' 57.51"	82°13' 32.3"	20	Surficial	Compliance	Existing
MWI-02	Intermediate well	27°4' 11.15"	82°13' 28.24"	20	Surficial	Intermediate	Existing
MWI-04	Intermediate well	27°4' 10.68"	82°13' 16.89"	20	Surficial	Intermediate	Existing

[62-520.600] [62-610.463]

6. The following parameters shall be analyzed for each monitoring well identified in Permit Condition III.5.:

Parameter	Compliance Well Limit	Units	Sample Type	Monitoring Frequency
Water Level Relative to NGVD	Report	ft	In Situ	Quarterly
Nitrogen, Nitrate, Total (as N)	10	mg/L	Grab	Quarterly
Solids, Total Dissolved (TDS)	500	mg/L	Grab	Quarterly
Arsenic, Total Recoverable	Report*	ug/L	Grab	Monthly*
Chloride (as Cl)	250	mg/L	Grab	Quarterly
Cadmium, Total Recoverable	5	ug/L	Grab	Quarterly
Chromium, Total Recoverable	100	ug/L	Grab	Quarterly
Lead, Total Recoverable	15	ug/L	Grab	Quarterly
Coliform, Fecal	4	#/100mL	Grab	Quarterly
pH	6.5-8.5	s.u.	In Situ	Quarterly
Sulfate, Total	250	mg/L	Grab	Quarterly
Turbidity	Report	NTU	Grab	Quarterly
Temperature (C), Water	Report	Deg C	In Situ	Quarterly
Specific Conductance	Report	umhos/cm	In Situ	Quarterly
Sodium, Total Recoverable	160	mg/L	Grab	Quarterly
Oxygen, Dissolved (DO)	Report	mg/L	In Situ	Quarterly

**Arsenic, Total Recoverable limit will revert back to 10.0 ug/L once the accompanying Administrative Order, AO-013378-020 has expired.*

[62-520.600(11)(b)] [62-600.670] [62-600.650(3)] [62-520.310(5)]

7. Water levels shall be recorded before evacuating each well for sample collection. Elevation references shall include the top of the well casing and land surface at each well site (NAVD allowable) at a precision of plus or minus 0.01 foot. *[62-520.600(11)(c)] [62-610.463(3)(a)]*

8. Ground water monitoring wells shall be purged prior to sampling to obtain representative samples. *[62-160.210] [62-600.670(3)]*

9. Analyses shall be conducted on unfiltered samples, unless filtered samples have been approved by the Department's South District Office as being more representative of ground water conditions. *[62-520.310(5)]*

10. Ground water monitoring test results shall be submitted on Part D of Form 62-620.910(10) in accordance with Permit Condition I.C.8. *[62-520.600(11)(b)] [62-600.670] [62-600.680(1)] [62-620.610(18)]*

11. If any monitoring well becomes inoperable or damaged to the extent that sampling or well integrity may be affected, the permittee shall notify the Department's South District Office within two business days from discovery, and a detailed written report shall follow within ten days after notification to the Department. The written report shall detail what problem has occurred and remedial measures that have been taken to prevent recurrence or request approval for replacement of the monitoring well. All monitoring well design and replacement shall be approved by the Department's South District Office before installation. *[62-520.600(6)(l)]*

12. The permittee shall sample the intermediate monitoring wells for the primary and secondary drinking water parameters included in Rules 62-550.310 and 62-550.320, F.A.C., (except for asbestos and all parameters in Table 5 of Chapter 62-550, F.A.C., other than Di(2-ethylhexyl) adipate and Di(2-ethylhexyl) phthalate). Results of this sampling shall be submitted to the Department's South District Office with the application for permit renewal. Sampling shall occur no sooner than 180 days before submittal of the renewal application. *[62-520.600(5)(b)]*

IV. ADDITIONAL REUSE AND LAND APPLICATION REQUIREMENTS

A. Part III Public Access System(s)

1. Use of reclaimed water is authorized within the general service area identified in the attached map. The following uses of reclaimed water are authorized within this general service area:

   Athletic Complexes and Parks
   Residential Developments
   Other Landscape Irrigation
   Golf Courses
   Industrial Uses for Vehicle Washing

   [62-620.630(10)(a)]

2. This reuse system includes the following major user(s) of reclaimed water (i.e., using 0.1 MGD or more) and general service areas:

Site Number	Username	User Type	Capacity (MGD)	Acreage
PAA-001A	Sable Trace Golf Course, Colony, and Master	Golf Courses	0.6	97
PAA-001B	Heron Creek Development Golf Course Phases I and II	Golf Courses	0.8	117
PAA-001C	North Port High School	Other Landscape Irrigation	0.2	104
PAA-001D	North Port City Complex	Other Landscape Irrigation	0.15	68
PAA-001E	Miscellaneous approved sites throughout the City of North Port	Other Landscape Irrigation	3.25	2734
		Total	5.0	3,120

   [62-610.800(5)][62-620.630(10)(b)]

3. New major users of reclaimed water (i.e., using 0.1 MGD or more) may be added to the reuse system using the general permit described in Rule 62-610.890, F.A.C., if the requirements in this rule are complied with. Application for use of this general permit shall be made using Form 62-610.300(3)(a)1. Notice of Intent to Use General Permit for Addition of a Major User of Reclaimed Water. *[62-610.890]*

4. Cross-connections to the potable water system are prohibited. *[62-610.469(7)]*

5. A cross-connection control program shall be implemented and/or remain in effect within the areas where reclaimed water will be provided for use and shall be in compliance with the Rule 62-555.360, F.A.C. *[62-610.469(7)]*

6. The permittee shall conduct inspections within the reclaimed water service area to verify proper connections, to minimize illegal cross-connections, and to verify both the proper use of reclaimed water and that the proper backflow prevention assemblies or devices have been installed and tested. Inspections are required when a customer first connects to the reuse distribution system. Subsequent inspections are required as specified in the cross-connection control and inspection program. *[62-610.469(7)(h)]*

7. If an actual or potential (e.g., no dual check device on residential connections served by a reuse system) cross-connection between the potable and reclaimed water systems is discovered, the permittee shall:

   a. Immediately discontinue potable water and/or reclaimed water service to the affected area if an actual cross-connection is discovered.

   b. If the potable water system is contaminated, clear the potable water lines.

   c. Eliminate the cross-connection and install a backflow prevention device as required by the Rule 62-555.360. F.A.C.

   d. Test the affected area for other possible cross-connections.

   e. Within 24 hours, notify the Department's South District Office's domestic wastewater and drinking water programs.

   f. Within 5 days of discovery of an actual or potential cross-connection, submit a written report to the Department's South District Office detailing: a description of the cross-connection, how the cross-connection was discovered, the exact date and time of discovery, approximate time that the cross-connection existed, the location, the cause, steps taken to eliminate the cross-connection, whether reclaimed water was consumed, and reports of possible illness, whether the drinking water system was contaminated and the steps taken to clear the drinking water system, when the cross-connection was eliminated, plan of action for testing for other possible cross-connections in the area, and an evaluation of the cross-connection control and inspection program to ensure that future cross-connections do not occur.

   [62-555.360][62-620.610(20)]

8. Maximum obtainable separation of reclaimed water lines and potable water lines shall be provided and the minimum separation distances specified in Rule 62-610.469(7), F.A.C., shall be provided. Reuse facilities shall be color coded or marked. Underground piping which is not manufactured of metal or concrete shall be color coded using Pantone Purple 522C using light stable colorants. Underground metal and concrete pipe shall be color coded or marked using purple as the predominant color. *[62-610.469(7)]*

9. In constructing reclaimed water distribution piping, the permittee shall maintain a 75-foot setback distance from a reclaimed water transmission facility to public water supply wells. No setback distances are required to other potable water supply wells or to any nonpotable water supply wells. *[62-610.471(3)]*

10. A setback distance of 75 feet shall be maintained between the edge of the wetted area and potable water supply wells, unless the utility adopts and enforces an ordinance prohibiting potable water supply wells within the reuse service area. No setback distances are required to any nonpotable water supply well, to any surface water, to any developed areas, or to any private swimming pools, hot tubs, spas, saunas, picnic tables, barbecue pits, or barbecue grills. *[62-610.471(1), (2), (5), and (7)]*

11. Reclaimed water shall not be used to fill swimming pools, hot tubs, or wading pools. *[62-610.469(4)]*

12. Low trajectory nozzles, or other means to minimize aerosol formation shall be used within 100 feet from outdoor public eating, drinking, or bathing facilities. *[62-610.471(6)]*

13. A setback distance of 100 feet shall be maintained from indoor aesthetic features using reclaimed water to adjacent indoor public eating and drinking facilities. *[62-610.471(8)]*

14. The public shall be notified of the use of reclaimed water. This shall be accomplished by posting of advisory signs in areas where reuse is practiced, notes on scorecards, or other methods. *[62-610.468(2)]*

15. All new advisory signs and labels on vaults, service boxes, or compartments that house hose bibbs along with all labels on hose bibbs, valves, and outlets shall bear the words "do not drink" and "no beber" along with the equivalent standard international symbol. In addition to the words "do not drink" and "no beber," advisory signs posted at storage ponds and decorative water features shall also bear the words "do not swim" and "no nadar" along with the equivalent standard international symbols. Existing advisory signs and labels shall be retrofitted, modified, or replaced in order to comply with the revised wording requirements. For existing advisory signs and labels this retrofit, modification, or replacement shall occur within 365 days after the date of this permit. For labels on existing vaults, service boxes, or compartments housing hose bibbs this retrofit, modification, or replacement shall occur within 730 days after the date of this permit. *[62-610.468, 62-610.469]*

16. The permittee shall ensure that users of reclaimed water are informed about the origin, nature, and characteristics of reclaimed water; the manner in which reclaimed water can be safely used; and limitations on the use of reclaimed water. Notification is required at the time of initial connection to the reclaimed water distribution system and annually after the reuse system is placed into operation. A description of on-going public notification activities shall be included in the Annual Reuse Report. *[62-610.468(6)]*

17. Routine aquatic weed control and regular maintenance of storage pond embankments and access areas are required. *[62-610.414(8)]*

18. Overflows from emergency discharge facilities on storage ponds shall be reported as abnormal events in accordance with Permit Condition IX.20. *[62-610.800(9)]*

19. Requirements for system storage pond capacity shall be as contained in Rule 62-610.414, F.A.C. System storage capacity shall be the volume equal to three times that portion of the average daily flow of the total reuse capacity for which no alternative reuse or disposal system is permitted. *[62-610.414, 62-610.464 (2)]*

20. A separate, off-line system for storage of reject water shall be provided unless another permitted reuse system or effluent disposal system is capable of discharging the reject water in accordance with requirements of Chapter 62-600, F.A.C. At a minimum this capacity shall be the volume equal to one day flow at the average daily design flow of the treatment plant or the average daily permitted flow of the reuse system, whichever is less. *[62-610.464(3)]*

21. If reclaimed water will be used only for toilet flushing, the Department shall approve alternate levels of reliability, operation controls, and operator attendance if the applicant provides an affirmative demonstration in the engineering report that alternative controls will provide controls on reclaimed water production equivalent to the full requirements of Part III of this chapter, and the engineering report presents reasonable assurances that public health will be protected. The engineering report shall document cross-connection control measures and controls on facility operation sufficient to ensure reliable production of reclaimed water of suitable quality. *[62-610.476(1)(a)]*

22. If reclaimed water will be used only for fire protection, the Department shall approve alternative levels of reliability, operation controls, and operator attendance if the applicant provides an affirmative demonstration in the engineering report that alternative controls will provide controls on reclaimed water production equivalent to the full requirements of Part III of this chapter, and the engineering report presents reasonable assurances that public health will be protected. The engineering report shall document cross-connection control measures and controls on facility operation sufficient to ensure reliable production of reclaimed water of suitable quality. *[62-610.476(2)(b)]*

23. Use of reclaimed water for industrial reuse is only authorized at commercial car washes. Reclaimed water shall not be used for wand car washes. *[62-620.300(2)]*

24. Advisory signs shall be posted around the portions of each industrial site in which reclaimed water is used and at the main entrances to the industrial site to notify employees at the industrial site and the public of the nature of the reclaimed water use *[62-610.658(1)]*

25. The return of reclaimed water to the reclaimed water distribution system after the reclaimed water has been delivered to an industrial facility is prohibited. *[62-610.660(3)]*

26. The Department authorizes discharge to the reuse system during times when an operator is not present provided full treatment and disinfection is met and that the system includes fail safe "lock-out" capabilities which will ensure that operational problems jeopardizing the quality of the reclaimed water will result in immediate shut-down or diversion of potentially unacceptable quality water. The operating protocol shall require positive operator verification that the problem has been corrected before reclaimed water will be allowed to be sent to system storage or to the reuse system. The following parameters shall be subject to the failsafe "lock-out" provisions:
    (a) Turbidity.
    (b) Chlorine residual (or other disinfectant dose or residual).
    (c) Failure of the chlorination (or other disinfection) system to deliver the disinfectant.
    (d) Failure to meet the chlorine contact time requirements.
    (e) Failure to feed coagulant, while the chemical feed system is activated.

[62-610.567(2)]

V. OPERATION AND MAINTENANCE REQUIREMENTS

A. Staffing Requirements

1. Chapter 62-602, F.A.C. In accordance with Chapter 62-699, F.A.C., this facility is a Category II, Class A facility and, at a minimum, operators with appropriate certification must be on the site as follows:

   A Class C or higher operator 8 hours/day for 7 days/week with the 8 hours/day of staffing occurring during the 8-hour period of greatest influent flow or water production. The lead/chief operator must be a Class A operator.

   After this wastewater treatment facility's Three-Month Average Daily Flow reaches 5.0 MGD, the operator staffing will be as follows:

   A Class C or higher operator 12 hours/day for 7 days/week with the 12 hours/day of staffing occurring during the 12-hour period of greatest influent flow or water production. The lead operator shall be a Class A operator.

   [62-620.630(3)][62-699.310][62-610.462][62-699.311(9)]

2. An operator meeting the lead/chief operator class for the plant shall be available during all periods of plant operation. "Available" means able to be contacted as needed to initiate the appropriate action in a timely manner. *[62-699.311(1)]*

B. Capacity Analysis Report and Operation and Maintenance Performance Report Requirements

1. The application to renew this permit shall include an updated capacity analysis report prepared in accordance with Rule 62-600.405, F.A.C. *[62-600.405(5)]*

2. The application to renew this permit shall include a detailed operation and maintenance performance report prepared in accordance with Rule 62-600.735, F.A.C. *[62-600.735(1)]*

C. Recordkeeping Requirements

1. The permittee shall maintain the following records and make them available for inspection at the following address: on the site of the permitted facility.

   a. Records of all compliance monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, including, if applicable, a copy of the laboratory certification showing the certification number of the laboratory, for at least three years from the date the sample or measurement was taken;

   b. Copies of all reports required by this permit for at least three years from the date the report was prepared;

   c. Records of all data, including reports and documents, used to complete the application for this permit for at least three years from the date the application was filed;

   d. Monitoring information, including a copy of the laboratory certification showing the laboratory certification number, related to the residuals use and disposal activities for the time period set forth in Chapter 62-640, F.A.C., for at least three years from the date of sampling or measurement;

   e. A copy of the current wastewater facility permit;

   f. Copies of the current operation and maintenance manuals for the wastewater facility and the collection/transmission systems owned or operated by the wastewater facility permittee as required by Chapters 62-600 and 62-604, F.A.C.;

   g. A copy of any required record drawings for the wastewater facility and the collection/transmission systems owned or operated by the wastewater facility permittee;

   h. Copies of the licenses of the current certified operators;

   i. Copies of the logs and schedules showing plant operations and equipment maintenance for three years from the date of the logs or schedules. The logs shall, at a minimum, include identification of the plant; the signature and license number of the operator(s) and the signature of the person(s) making any entries; date and time in and out; specific operation and maintenance activities, including any preventive maintenance or repairs made or requested; results of tests performed and samples taken, unless documented on a laboratory sheet; and notation of any notification or reporting completed in accordance with Rule 62-602.650(3), F.A.C. The logs shall be maintained on-site in a location accessible to 24-hour inspection, protected from weather damage, and current to the last operation and maintenance performed; and

   j. Records of biosolids quantities, treatment, monitoring, and hauling for at least five years.

   [62-620.350, 62-604.500, 62-602.650, 62-640.650(4)]

VI. SCHEDULES

1. In accordance with section 403.088(2)(e) and (f), Florida Statutes, a compliance schedule for this facility is contained in Administrative Order AO-013378-020 which is hereby incorporated by reference.

2. The permittee is not authorized to discharge to waters of the state after the expiration date of this permit, unless:

   a. The permittee has applied for renewal of this permit at least 180 days before the expiration date of this permit using the appropriate forms listed in Rule 62-620.910, F.A.C., and in the manner established in the Department of Environmental Protection Guide to Permitting Wastewater Facilities or Activities Under Chapter 62-620, F.A.C., including submittal of the appropriate processing fee set forth in Rule 62-4.050, F.A.C.; or

   b. The permittee has made complete the application for renewal of this permit before the permit expiration date.

   [62-620.335(1)-(4)]

VII. INDUSTRIAL PRETREATMENT PROGRAM REQUIREMENTS

This facility is not required to have a pretreatment program at this time. *[62-625.500]*

VIII. OTHER SPECIFIC CONDITIONS

1. In the event that the wastewater facilities or equipment, including collection/transmission systems, no longer function as intended, are no longer safe in terms of public health and safety (including inactive or abandoned facilities), or odor, noise, aerosol drift, or lighting adversely affects neighboring developed areas at the levels prohibited by paragraphs 62-600.400(2)(a) and 62-604.400(2)(c), F.A.C., corrective action (which may include additional maintenance or modifications of the permitted facilities) shall be taken by the permittee. Other corrective action may be required to ensure compliance with rules of the Department. Additionally, the treatment, management, use or land application of residuals shall not cause a violation of the odor prohibition in subsection 62-296.320(2), F.A.C. *[62-600.410(5), 62-604.500(3) and 62-640.400(6)]*

2. All collection/transmission systems shall be operated and maintained to provide uninterrupted service. All pump stations shall be operated and maintained to provide the emergency pumping capability requirements in paragraph 62-604.400(2)(a), F.A.C., the lightning and transient voltage surge protections in paragraph 62-604.400(2)(b), F.A.C., and the design and signage requirements in paragraph 62-604.400(2)(d), F.A.C. Also, all equipment, pipes, manholes, pump stations, and other appurtenances necessary for the collection/transmission of domestic wastewater, including equipment provided pursuant to subsection 62-604.400(2), F.A.C., shall be maintained to function as intended. *[62-604.500(2) and (3)]*

3. The permittee shall evaluate and update the emergency response plan portion of the collection system operation and maintenance manual annually. The emergency response plan shall assess collection system security including cybersecurity; water quality monitoring for sanitary sewer overflows affecting surface waters; and hurricane and severe storm preparedness and response. *[62-604.500(4)]*

4. Collection/transmission systems shall be maintained to minimize excessive infiltration and inflow into the collection/transmission system, as well as excessive leakage from the collection/transmission system. The permittee shall take corrective actions when infiltration, inflow, or leakage is excessive. Infiltration and inflow are considered excessive if one or both cause or contribute to sanitary sewer overflows. Leakage, or exfiltration, is considered excessive if it causes or contributes to a violation of surface water quality standards or ground water quality standards. *[62-604.500(5)]*

5. All collection/transmission systems shall be operated and maintained to prevent sanitary sewer overflows. The permittee shall evaluate the cause of all sanitary sewer overflows and evaluate potential corrective measures to avoid future sanitary sewer overflows. Corrective actions shall be taken by the permittee if excessive inflow and infiltration causes or contributes to a sanitary sewer overflow. The owner/operator of a satellite collection system shall take corrective actions for a sanitary sewer overflow in the receiving collection system caused by excessive inflow and infiltration in the satellite collection system. *[62-604.500(6)]*

6. The deliberate introduction of stormwater in any amount into collection/transmission systems designed solely for the introduction (and conveyance) of domestic/industrial wastewater; or the deliberate introduction of stormwater into collection/transmission systems designed for the introduction or conveyance of combinations of storm and domestic/industrial wastewater in amounts which may reduce the efficiency of pollutant removal by the treatment plant is prohibited, except as provided by Rule 62-610.472, F.A.C. *[62-604.130(4)]*

7. Cross-connection, as defined in Rule 62-550.200, F.A.C., between the wastewater facility, including the collection/transmission system, and a potable water system is prohibited. *[62-550.360][62-604.130(3)]*

8. The collection/transmission operation and maintenance manual shall be maintained and revised periodically in accordance with subsection 62-604.500(4), F.A.C., to reflect any alterations performed or to reflect experience resulting from operation. However, a new operation and maintenance manual is not required to be developed for each project if there is already an existing manual that is applicable to the facilities being constructed. *[62-604.500(4)]*

9. Collection/transmission system overflows shall be reported to the Department in accordance with Permit Condition IX. 20. *[62-604.550] [62-620.610(20)]*

10. The operating authority of a collection/transmission system and the permittee of a treatment plant are prohibited from accepting connections of wastewater discharges which have not received necessary pretreatment or which contain materials or pollutants (other than normal domestic wastewater constituents):

    a. Which may cause fire or explosion hazards; or

    b. Which may cause excessive corrosion or other deterioration of wastewater facilities due to chemical action or pH levels; or

    c. Which are solid or viscous and obstruct flow or otherwise interfere with wastewater facility operations or treatment; or

    d. Which result in the wastewater temperature at the introduction of the treatment plant exceeding 40^{o}C or otherwise inhibiting treatment; or

    e. Which result in the presence of toxic gases, vapors, or fumes that may cause worker health and safety problems.

    [62-604.130(5)]

11. The treatment facility, storage ponds for Part II systems, rapid infiltration basins, and/or infiltration trenches shall be enclosed with a fence or otherwise provided with features to discourage the entry of animals and unauthorized persons. *[62-600.400(2)(b)]*

12. Screenings and grit removed from the wastewater facilities shall be collected in suitable containers and hauled to a Department approved Class I landfill or to a landfill approved by the Department for receipt/disposal of screenings and grit. *[62-701.300(1)(a)]*

13. Where required by Chapter 471 or Chapter 492, F.S., applicable portions of reports that must be submitted under this permit shall be signed and sealed by a professional engineer or a professional geologist, as appropriate. *[62-620.310(4)]*

14. The permittee shall provide verbal notice to the Department's South District Office as soon as practical after discovery of a sinkhole or other karst feature within an area for the management or application of wastewater, wastewater residuals (sludges), or reclaimed water. The permittee shall immediately implement measures appropriate to control the entry of contaminants and shall detail these measures to the Department's South District Office in a written report within 7 days of the sinkhole discovery. *[62-620.320(6)]*

15. The permittee shall provide notice to the Department of the following:

    a. Any new introduction of pollutants into the facility from an industrial discharger which would be subject to Chapter 403, F.S., and the requirements of Chapter 62-620, F.A.C., if it were directly discharging those pollutants; and

    b. Any substantial change in the volume or character of pollutants being introduced into that facility by a source which was identified in the permit application and known to be discharging at the time the permit was issued.

    Notice shall include information on the quality and quantity of effluent introduced into the facility and any anticipated impact of the change on the quantity or quality of effluent or reclaimed water to be discharged from the facility. If pretreatment becomes necessary, this permit may be modified to require the permittee to develop and implement a local pretreatment program in accordance with the requirements of Chapter 62-625, F.A.C.

    [62-620.625(2)]

IX. GENERAL CONDITIONS

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to Chapter 403, Florida Statutes. Any permit noncompliance constitutes a violation of Chapter 403, Florida Statutes, and is grounds for enforcement action, permit termination, permit revocation and reissuance, or permit revision. *[62-620.610(1)]*

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviations from the approved drawings, exhibits, specifications, or conditions of this permit constitutes grounds for revocation and enforcement action by the Department. *[62-620.610(2)]*

3. As provided in subsection 403.087(7), 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 authorize any infringement of federal, state, or local laws or regulations. This permit is not a waiver of, or approval of any other Department permit or authorization that may be required for other aspects of the total project which are not addressed in this permit. *[62-620.610(3)]*

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. *[62-620.610(4)]*

5. This permit does not relieve the permittee from liability and penalties 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; 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. The permittee shall take all reasonable steps to minimize or prevent any discharge, reuse of reclaimed water, or residuals use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. *[62-620.610(5)]*

6. If the permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee shall apply for and obtain a new permit. *[62-620.610(6)]*

7. The permittee shall at all times 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. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to maintain or achieve compliance with the conditions of the permit. *[62-620.610(7)]*

8. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit revision, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. *[62-620.610(8)]*

9. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, including an authorized representative of the Department and authorized EPA personnel, when applicable, upon presentation of credentials or other documents as may be required by law, and at reasonable times, depending upon the nature of the concern being investigated, to:

   a. Enter upon the permittee's premises where a regulated facility, system, or activity is located or conducted, or where records shall be kept under the conditions of this permit;

   b. Have access to and copy any records that shall be kept under the conditions of this permit;

   c. Inspect the facilities, equipment, practices, or operations regulated or required under this permit; and

   d. Sample or monitor any substances or parameters at any location necessary to assure compliance with this permit or Department rules.

[62-620.610(9)]

10. 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 as such use is proscribed by Section 403.111, F.S., or Rule 62-620.302, F.A.C. Such evidence shall only be used to the extent that it is consistent with the Florida Rules of Civil Procedure and applicable evidentiary rules. *[62-620.610(10)]*

11. When requested by the Department, the permittee shall within a reasonable time provide any information required by law which is needed to determine whether there is cause for revising, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also provide to the Department upon request copies of records required by this permit to be kept. If the permittee becomes aware of relevant facts that were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be promptly submitted or corrections promptly reported to the Department. *[62-620.610(11)]*

12. Unless specifically stated otherwise in Department rules, the permittee, in accepting this permit, 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. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard. *[62-620.610(12)]*

13. The permittee, in accepting this permit, agrees to pay the applicable regulatory program and surveillance fee in accordance with Rule 62-4.052, F.A.C. *[62-620.610(13)]*

14. This permit is transferable only upon Department approval in accordance with Rule 62-620.340, F.A.C. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department. *[62-620.610(14)]*

15. The permittee shall give the Department written notice at least 60 days before inactivation or abandonment of a wastewater facility or activity and shall specify what steps will be taken to safeguard public health and safety during and following inactivation or abandonment. *[62-620.610(15)]*

16. The permittee shall apply for a revision to the Department permit in accordance with Rules 62-620.300, F.A.C., and the Department of Environmental Protection Guide to Permitting Wastewater Facilities or Activities Under Chapter 62-620, F.A.C., at least 90 days before construction of any planned substantial modifications to the permitted facility is to commence or with Rule 62-620.325(2), F.A.C., for minor modifications to the permitted facility. A revised permit shall be obtained before construction begins except as provided in Rule 62-620.300, F.A.C. *[62-620.610(16)]*

17. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The permittee shall be responsible for any and all damages which may result from the changes and may be subject to enforcement action by the Department for penalties or revocation of this permit. The notice shall include the following information:

    a. A description of the anticipated noncompliance;

    b. The period of the anticipated noncompliance, including dates and times; and

    c. Steps being taken to prevent future occurrence of the noncompliance.

    [62-620.610(17)]

18. Sampling and monitoring data shall be collected and analyzed in accordance with Rule 62-4.246 and Chapters 62-160, 62-600, and 62-610, F.A.C., and 40 CFR 136, as appropriate.

a. Monitoring results shall be reported at the intervals specified elsewhere in this permit and shall be reported on a Discharge Monitoring Report (DMR), DEP Form 62-620.910(10), or as specified elsewhere in the permit.

b. If the permittee monitors any contaminant more frequently than required by the permit, using Department approved test procedures, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

c. Calculations for all limitations which require averaging of measurements shall use an arithmetic mean unless otherwise specified in this permit.

d. Except as specifically provided in Rule 62-160.300, F.A.C., any laboratory test required by this permit shall be performed by a laboratory that has been certified by the Department of Health Environmental Laboratory Certification Program (DOH ELCP). Such certification shall be for the matrix, test method and analyte(s) being measured to comply with this permit. For domestic wastewater facilities, testing for parameters listed in Rule 62-160.300(4), F.A.C., shall be conducted under the direction of a certified operator.

e. Field activities including on-site tests and sample collection shall follow the applicable standard operating procedures described in DEP-SOP-001/01 adopted by reference in Chapter 62-160, F.A.C.

f. Alternate field procedures and laboratory methods may be used where they have been approved in accordance with Rules 62-160.220, and 62-160.330, F.A.C.

[62-620.610(18)]

19. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule detailed elsewhere in this permit shall be submitted no later than 14 days following each schedule date. *[62-620.610(19)]*

20. The permittee shall report to the Department any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; clean up actions taken and status; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. For noncompliance events related to sanitary sewer overflows, bypass events, or unauthorized discharges, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (e.g., sanitary sewer overflow, bypass, unauthorized discharge); type of sanitary sewer overflow structure (e.g., manhole); the discharge location address and latitude/longitude; type of water discharged; discharge volumes and volumes recovered; volume discharged to surface waters and receiving waterbody name; types of human health and environmental impacts of the sanitary sewer overflow, bypass event, or unauthorized discharge (e.g., beach closure); whether the noncompliance was caused by a third party; and whether the noncompliance was related to wet weather. The written submission may be provided electronically using the Department's Business Portal at https://www.fldepportal.com/go/ (via "Submit" followed by "Report" or "Registration/Notification"). Notice required for public notice of pollution under paragraph (d) may be provided together with the written submission using the Business Portal. All noncompliance events related to sanitary sewer overflows or bypass events submitted after September 14, 2021, shall be submitted electronically.

a. The following shall be included as information which must be reported within 24 hours under this condition:

(1) Any unanticipated bypass which causes any reclaimed water or the effluent to exceed any permit limitation or results in an unpermitted discharge,

(2) Any upset which causes any reclaimed water or the effluent to exceed any limitation in the permit,

(3) Violation of a maximum daily discharge limitation for any of the pollutants specifically listed in the permit for such notice; and,

(4) Any unauthorized discharge to surface or ground waters, except for discharges to ground water of reclaimed water meeting Part III or Part V treatment standards under Chapter 62-610, F.A.C.

b. Oral reports as required by this subsection shall be provided as follows:

(1) For unauthorized releases or spills of treated or untreated wastewater reported pursuant to subparagraph (a)4., that are in excess of 1,000 gallons per incident, or where information indicates that public health or the environment will be endangered, oral reports shall be provided to the Department by calling the STATE WATCH OFFICE TOLL FREE NUMBER (800)320-0519, as soon as practicable, but no later than 24 hours from the time the permittee becomes aware of the discharge. The permittee, to the extent known, shall provide the following information to the State Watch Office:

(a) Name, address, and telephone number of person reporting,

(b) Name, address, and telephone number of permittee or responsible person for the discharge,

(c) Date and time of the discharge and status of discharge (ongoing or ceased),

(d) Characteristics of the wastewater spilled or released (untreated or treated, industrial or domestic wastewater),

(e) Estimated amount of the discharge,

(f) Location or address of the discharge,

(g) Source and cause of the discharge,

(h) Whether the discharge was contained on-site, and cleanup actions taken to date,

(i) Description of area affected by the discharge, including name of water body affected, if any; and,

(j) Other persons or agencies contacted.

(2) Oral reports, not otherwise required to be provided pursuant to subparagraph (b)1., above, shall be provided to the Department within 24 hours from the time the permittee becomes aware of the circumstances.

c. If the oral report has been received within 24 hours, the noncompliance has been corrected, and the noncompliance did not endanger health or the environment, the Department shall waive the written report.

d. In accordance with Section 403.077, F.S., unauthorized releases or spills reportable to the State Watch Office pursuant to subparagraph (b)1. above shall also be reported to the Department within 24 hours from the time the permittee becomes aware of the discharge. The permittee shall provide to the Department information reported to the State Watch Office. Notice of unauthorized releases or spills may be provided to the Department through the Department's Public Notice of Pollution web page at https://floridadep.gov/pollutionnotice or by reporting electronically using the Department's Business Portal at https://www.fldepportal.com/go/ (via "Submit" followed by "Report" or "Registration/Notification").

(1) If, after providing notice pursuant to paragraph (d) above, the permittee determines that a reportable unauthorized release or spill did not occur or that an amendment to the notice is warranted, the permittee may submit a letter to the Department documenting such determination at pollution.notice@floridadep.gov.

(2) If, after providing notice pursuant to paragraph (d) above, the permittee discovers that a reportable unauthorized release or spill has migrated outside the property boundaries of the installation, the permittee must provide an additional notice to the Department that the release has migrated outside the property boundaries within 24 hours after its discovery of the migration outside of the property boundaries.

e. Unless discharged to surface waters, a spill, release, discharge, upset or bypass involving reclaimed water meeting Part III or Part V treatment standards under Chapter 62-610, F.A.C., shall not be considered to endanger health or the environment and shall be reported under subsection (21) of this permit.

[62-620.610(20)] [62-620.100(3)]

21. The permittee shall report all instances of noncompliance not reported under Permit Conditions IX.17., IX.18., or IX.19. of this permit at the time monitoring reports are submitted. This report shall contain the same information required by Permit Condition IX.20. of this permit. *[62-620.610(21)]*

22. Bypass Provisions.

a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment works.

b. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless the permittee affirmatively demonstrates that:

(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The permittee submitted notices as required under Permit Condition IX.22.c. of this permit.

c. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Department, if possible, at least 10 days before the date of the bypass. The permittee shall submit notice of an unanticipated bypass within 24 hours of learning about the bypass as required in Permit Condition IX.20. of this permit. A notice shall include a description of the bypass and its cause; the period of the bypass, including exact dates and times; if the bypass has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass.

d. The Department shall approve an anticipated bypass, after considering its adverse effect, if the permittee demonstrates that it will meet the three conditions listed in Permit Condition IX.22.b.(1) through (3) of this permit.

e. A permittee may allow any bypass to occur which does not cause reclaimed water or effluent limitations to be exceeded if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Permit Condition IX.22.b. through d. of this permit.

[62-620.610(22)]

23. Upset Provisions.

a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee.

(1) An upset does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, careless or improper operation.

(2) An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of upset provisions of Rule 62-620.610, F.A.C., are met.

b. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the permittee can identify the cause(s) of the upset;

(2) The permitted facility was at the time being properly operated;

(3) The permittee submitted notice of the upset as required in Permit Condition IX.20. of this permit; and

(4) The permittee complied with any remedial measures required under Permit Condition IX.5. of this permit.

c. In any enforcement proceeding, the burden of proof for establishing the occurrence of an upset rests with the permittee.

d. Before an enforcement proceeding is instituted, no representation made during the Department review of a claim that noncompliance was caused by an upset is final agency action subject to judicial review.

[62-620.610(23)]

Executed in Ft. Myers, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Jennifer L. Carpenter, Director of District Management

Attachments:
Discharge Monitoring Report
"Pathogen Monitoring" Form
Statement of Basis

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

IN THE MATTER OF:

City of North Port Utilities Department
Nancy Gallinaro
North Port City of WWTP
664 West Price Blvd
North Port, Florida 34291
ngallinaro@cityofnorthport.com

IN THE OFFICE OF
THE SOUTH DISTRICT

Administrative Order No.: AO-013378-020
File No.: FLA013378-020-DW1P
DEP Permit No.: FLA013378-020

ORDER ESTABLISH COMPLIANCE SCHEDULE UNDER SECTION 403.088(2)(f), F.S.

I. STATUTORY AUTHORITY

The Department of Environmental Protection (Department) issues this order under the authority of Section 403.088, Florida Statutes. The Secretary of the Department has delegated this authority to the Director of District Management, who issues this order and makes the following findings fact.

II. FINDINGS OF FACT

1. City of North Port Utilities Department (the "Permittee") is a "person" under Section 403.031, Florida Statutes (F.S.).

2. The Permittee owns and operates a domestic wastewater facility known as the North Port City of WWTP, located at 664 West Price Blvd, North Port, Florida 34291-, which discharges domestic wastewater into waters of the state as defined in Section 403.031(13), F.S.

3. The Permittee has filed a timely application for renewal of DEP Permit No. FLA013378-020 under Section 403.088(2), F.S.

4. Sections 403.088(2)(e) and (f), F. S., authorize the Department to issue a permit for the discharge of wastes into waters of the state, accompanied by an order establishing a schedule for achieving compliance with all permit conditions if the specified criteria are met.

5. The Department finds that there is no present, reasonable, alternative means of disposing of the waste other than by discharging it into waters of the state.

III. ORDER

Based on the foregoing findings of fact,

IT IS ORDERED,

1. The Permittee shall be in full compliance with the final conditions of this administrative order by **August 1, 2024**.

2. The Permittee shall submit comply with the following schedule:

Action Item	Due Date
a. Sample the groundwater background, intermediate and compliance wells for total arsenic concentrations. This shall be a “report” only	Beginning May 1, 2023

requirement for the compliance well as well as the intermediate well during the active administrative order.	
b. Retain a licensed engineer or geologist to evaluate the groundwater flow direction and impact of the effluent to the groundwater at the intermediate and compliance wells.	August 1, 2023
c. Submit the licensed engineer or geologist's report demonstrating that the effluent discharge does not cause or contribute to groundwater violations within the zone of discharge and determine the cause of the arsenic exceedances at the intermediate wells and provide a plan that will provide reasonable assurance that arsenic levels will be brought to within permitted limits.	May 1, 2024
d. If the report provided to the Department does not demonstrate that the effluent discharge does not cause or contribute to groundwater violations, the permittee shall: i. Submit a complete application to modify the treatment facility for arsenic removal at the intermediate well sites, or. ii. Submit a complete application to modify the reuse or disposal system.	August 1, 2023
e. The permittee shall commence construction of the chosen modifications.	Within 6 months of permit revision or collection system permit

2. The Permittee shall report on concentrations of arsenic at the groundwater compliance well and the intermediate wells on the Interim Discharge Monitoring Report.

3. The Permittee shall construct, maintain, and operate its facilities in compliance with all other conditions of DEP Permit No. FLA013378-020.

4. This order may be modified through revisions as set forth in Chapter 62-620, Florida Administrative Code.

5. Reports or other information required by this order shall be electronically sent to SouthDistrict@floridadep.gov.

6. This order does not operate as a permit under Section 403.088, F. S. This order shall be incorporated by reference into DEP Permit No. FLA013378, which shall require compliance by the Permittee with the requirements of this order.

7. Failure to comply with the requirements of this order shall constitute a violation of this order and DEP Permit No. FLA013378, and may subject the permittee to penalties as provided in Section 403.161, F. S.

IV. NOTICE OF RIGHTS

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, Florida Statutes. The petition must contain the information set forth below and must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000.

Under Rule 62-110.106(4), Florida Administrative Code, a person may request an extension of the time for filing a petition for an administrative hearing. The request must be filed (received by the Clerk) in the Office of General Counsel before the end of the time period for filing a petition for an administrative hearing.

Petitions by the applicant or any of the persons listed below must be filed within twenty-one days of receipt of this written notice. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), Florida Statutes, must be filed within twenty-one days of publication of the notice or within twenty-one days of receipt of the written notice, whichever occurs first. Section 120.60(3), Florida Statutes, however, also allows that any person who has asked the Department in writing for notice of agency action may file a petition within twenty-one 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 or request for an extension of time within twenty-one days of receipt of notice shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, 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, Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information, as indicated in Rule 28-106.201, Florida Administrative Code:

(a) The name and address of each agency affected and each agency's file or identification number, if known;
(b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the determination;
(c) A statement of when and how the petitioner received notice of the Department's decision;
(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
(e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the Department's proposed action;
(f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the Department's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
(g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the Department to take with respect to the Department's proposed action.

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, 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 (or request for an extension of time) is filed in accordance with the above. Upon the timely filing of a petition (or request for an extension of time), this order will not be effective until further order of the Department.

Any party to this order has the right to seek judicial review of the order under Section 120.68, Florida Statutes, by the filing of a notice of appeal under Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, 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.

Executed in Ft. Myers, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Jennifer L. Carpenter
DIRECTOR OF DISTRICT MANAGEMENT

South District
2295 Victoria Ave, Suite 364
Ft. Myers, FL 33901-3875

FILING AND ACKNOWLEDGEMENT

FILED on this date, under Section 120.52, Florida Statutes, with the designated Deputy Clerk, receipt of which is hereby acknowledged.

Clerk March 20, 2023
Date

CERTIFICATE OF SERVICE

The undersigned hereby certifies that this Order and all copies were mailed or transmitted electronically or by facsimile before the close of business on March 20, 2023, to the listed persons.

Clerk March 20, 2023
Date

Copies furnished to:
Michael Acosta, P.E., City of North Port Utilities Dept., macosta@cityofnorthport.com

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed submit this report to: Http://www.fldepportal.com/go/submit-report/

PERMITTEE NAME: City of North Port Utilities Department
MAILING ADDRESS: 664 West Price Blvd
North Port, Florida 34291-

FACILITY: North Port City of WWTP
LOCATION: 5355 Pan American Blvd.
North Port, FL 34287-

COUNTY: Sarasota
OFFICE: South District

PERMIT NUMBER: FLA013378-020-DW1P

LIMIT: Final
CLASS SIZE: N/A
MONITORING GROUP NUMBER: R-001
MONITORING GROUP DESCRIPTION: R-001, including Influent
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Monthly
PROGRAM: Domestic

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow	Sample Measurement										
PARM Code 50050 Y Mon. Site No. FLW-01	Permit Requirement		4.99 (An.Avg.)	MGD						Continuous	Flow Totalizer
Flow	Sample Measurement										
PARM Code 50050 1 Mon. Site No. FLW-01	Permit Requirement		Report (Mo.Avg.)	MGD					0	Continuous	Flow Totalizer
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 Y Mon. Site No. EFA-01	Permit Requirement					20.0 (An.Avg.)		mg/L		Weekly	24-hr FPC
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 A Mon. Site No. EFA-01	Permit Requirement				45.0 (Max.Wk.Avg.)	60.0 (Max.)	30.0 (Mo.Avg.)	mg/L		Weekly	24-hr FPC
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 B Mon. Site No. EFB-01	Permit Requirement						5.0 (Max.)	mg/L		Daily; 24 hours	Grab
Coliform, Fecal	Sample Measurement										
PARM Code 74055 A Mon. Site No. EFA-01	Permit Requirement						25 (Max.)	#/100mL		Daily; 24 hours	Grab

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: North Port City of WWTP MONITORING GROUP NUMBER: R-001 PERMIT NUMBER: FLA013378-020-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Coliform, Fecal, % less than detection	Sample Measurement										
PARM Code 51005 A Mon. Site No. EFA-01	Permit Requirement				75 (Min.Mo.Total)			percent		Daily; 24 hours	Calculated
pH	Sample Measurement										
PARM Code 00400 A Mon. Site No. EFA-01	Permit Requirement				6.0 (Min.)		8.5 (Max.)	s.u.		Continuous	Meter
Chlorine, Total Residual (For Disinfection)	Sample Measurement										
PARM Code 50060 A Mon. Site No. EFA-01	Permit Requirement				1.0 (Min.)			mg/L		Continuous	Meter
Turbidity	Sample Measurement										
PARM Code 00070 B Mon. Site No. EFB-01	Permit Requirement						Report (Max.)	NTU	0	Continuous	Meter
Phosphorus, Total (as P)	Sample Measurement										
PARM Code 00665 A Mon. Site No. EFA-01	Permit Requirement						Report (Max.)	mg/L	0	Weekly	16-hr FPC
Nitrogen, Total	Sample Measurement										
PARM Code 00600 A Mon. Site No. EFA-01	Permit Requirement						Report (Max.)	mg/L	0	Weekly	16-hr FPC
Flow	Sample Measurement										
PARM Code 50050 P Mon. Site No. FLW-03	Permit Requirement	4.99 (3Mo.Avg.)	Report (Mo.Avg.)	MGD						Continuous	Flow Totalizer
Percent Capacity, (TMADF/Permitted Capacity) x 100	Sample Measurement										
PARM Code 00180 P Mon. Site No. CAL-01	Permit Requirement						Report (3Mo.Avg.)	percent	0	Monthly	Calculated
BOD, Carbonaceous 5 day, 20C (Influent)	Sample Measurement										
PARM Code 80082 G Mon. Site No. INF-01	Permit Requirement						Report (Max.)	mg/L	0	Weekly	16-hr FPC
Solids, Total Suspended (Influent)	Sample Measurement										
PARM Code 00530 G Mon. Site No. INF-01	Permit Requirement						Report (Max.)	mg/L	0	Weekly	16-hr FPC

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed submit this report to: Http://www.fldepportal.com/go/submit-report/

PERMITTEE NAME: City of North Port Utilities Department
MAILING ADDRESS: 664 West Price Blvd
North Port, Florida 34291-

FACILITY: North Port City of WWTP
LOCATION: 5355 Pan American Blvd.
North Port, FL 34287-

COUNTY: Sarasota
OFFICE: South District

PERMIT NUMBER: FLA013378-020-DW1P
LIMIT: Final
CLASS SIZE: N/A
MONITORING GROUP NUMBER: U-001
MONITORING GROUP DESCRIPTION: U-001
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Monthly
PROGRAM: Domestic

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow	Sample Measurement										
PARM Code 50050 1 Mon. Site No. FLW-02	Permit Requirement		18.52 (Mo.Avg.)	MGD						Continuous	Flow Totalizer
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 Y Mon. Site No. EFA-01	Permit Requirement					20.0 (An.Avg.)		mg/L		Weekly	24-hr FPC
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 A Mon. Site No. EFA-01	Permit Requirement				45.0 (Max.Wk.Avg.)	60.0 (Max.)	30.0 (Mo.Avg.)	mg/L		Weekly	24-hr FPC
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 Y Mon. Site No. EFA-01	Permit Requirement					20.0 (An.Avg.)		mg/L		Weekly	24-hr FPC
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 A Mon. Site No. EFA-01	Permit Requirement				45.0 (Max.Wk.Avg.)	60.0 (Max.)	30.0 (Mo.Avg.)	mg/L		Weekly	24-hr FPC
pH	Sample Measurement										
PARM Code 00400 A Mon. Site No. EFA-01	Permit Requirement				6.0 (Min.)		8.5 (Max.)	s.u.		Continuous	Meter

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed submit this report to: Http://www.fldepportal.com/go/submit-report/

PERMITTEE NAME: City of North Port Utilities Department
MAILING ADDRESS: 664 West Price Blvd
North Port, Florida 34291-

FACILITY: North Port City of WWTP
LOCATION: 5355 Pan American Blvd.
North Port, FL 34287-

COUNTY: Sarasota
OFFICE: South District

PERMIT NUMBER: FLA013378-020-DW1P

LIMIT: Final
CLASS SIZE: N/A
MONITORING GROUP NUMBER: RMP-Q
MONITORING GROUP DESCRIPTION: Biosolids Quantity
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Monthly
PROGRAM: Domestic

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Biosolids Quantity (Landfilled)	Sample Measurement										
PARM Code B0008 + Mon. Site No. RMP-01	Permit Requirement		Report (Mo.Total)	dry tons					0	Monthly	Calculated
Biosolids Quantity (Transferred)	Sample Measurement										
PARM Code B0007 + Mon. Site No. RMP-02	Permit Requirement		Report (Mo.Total)	dry tons					0	Monthly	Calculated

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed submit this report to: Http://www.fldepportal.com/go/submit-report/

PERMITTEE NAME: City of North Port Utilities Department
MAILING ADDRESS: 664 West Price Blvd
North Port, Florida 34291-

FACILITY: North Port City of WWTP
LOCATION: 5355 Pan American Blvd.
North Port, FL 34287-

COUNTY: Sarasota
OFFICE: South District

PERMIT NUMBER: FLA013378-020-DW1P

LIMIT: Final
CLASS SIZE: N/A
MONITORING GROUP NUMBER: RWS-A
MONITORING GROUP DESCRIPTION: Annual Reclaimed Water or Effluent Analysis
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING NOT REQUIRED:* ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Annually
PROGRAM: Domestic

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Antimony, Total Recoverable (GWS = 6)**	Sample Measurement										
PARM Code 01268 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Arsenic, Total Recoverable (GWS = 10)	Sample Measurement										
PARM Code 00978 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Barium, Total Recoverable (GWS = 2,000)	Sample Measurement										
PARM Code 01009 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Beryllium, Total Recoverable (GWS = 4)	Sample Measurement										
PARM Code 00998 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Cadmium, Total Recoverable (GWS = 5)	Sample Measurement										
PARM Code 01113 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Chromium, Total Recoverable (GWS =100)	Sample Measurement										
PARM Code 01118 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC

*THE "MONITORING NOT REQUIRED" CHECKBOX SHOULD BE SELECTED WHEN A CERTIFICATION STATEMENT IN ACCORDANCE WITH SUBSECTION 62-600.680(2), F.A.C., IS SUBMITTED WITH THIS DMR. SEE CERTIFICATION STATEMENT IN COMMENTS SECTION BELOW.
**GROUND WATER STANDARD (GWS) FOR REFERENCE AND REVIEW ONLY.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):
☐ NO NEW NON-DOMESTIC WASTEWATER DISCHARGERS HAVE BEEN ADDED TO THE COLLECTION SYSTEM SINCE THE LAST RECLAIMED WATER OR EFFLUENT ANALYSIS WAS CONDUCTED.
SIGN AND DATE:

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: North Port City of WWTP MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA013378-020-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Cyanide, Free (amen. to chlorination)(GWS = 200)	Sample Measurement										
PARM Code 00722 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
Fluoride, Total (as F) (GWS = 4.0/2.0)	Sample Measurement										
PARM Code 00951 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L	0	Annually	24-hr FPC
Lead, Total Recoverable (GWS = 15)	Sample Measurement										
PARM Code 01114 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Mercury, Total Recoverable (GWS = 2)	Sample Measurement										
PARM Code 71901 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Nickel, Total Recoverable (GWS = 100)	Sample Measurement										
PARM Code 01074 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Nitrogen, Nitrate, Total (as N) (GWS = 10)	Sample Measurement										
PARM Code 00620 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L	0	Annually	24-hr FPC
Nitrogen, Nitrite, Total (as N) (GWS = 1)	Sample Measurement										
PARM Code 00615 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L	0	Annually	24-hr FPC
Nitrite plus Nitrate, Total 1 det. (as N)(GWS = 10)	Sample Measurement										
PARM Code 00630 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L	0	Annually	24-hr FPC
Selenium, Total Recoverable (GWS =50)	Sample Measurement										
PARM Code 00981 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Sodium, Total Recoverable (GWS = 160)	Sample Measurement										
PARM Code 00923 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L	0	Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: North Port City of WWTP MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA013378-020-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Thallium, Total Recoverable (GWS = 2)	Sample Measurement										
PARM Code 00982 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
1,1-dichloroethylene (GWS = 7)	Sample Measurement										
PARM Code 34501 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
1,1,1-trichloroethane (GWS = 200)	Sample Measurement										
PARM Code 34506 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
1,1,2-trichloroethane (GWS = 5)	Sample Measurement										
PARM Code 34511 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
1,2-dichloroethane (GWS = 3)	Sample Measurement										
PARM Code 32103 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
1,2-dichloropropane (GWS = 5)	Sample Measurement										
PARM Code 34541 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
1,2,4-trichlorobenzene (GWS = 70)	Sample Measurement										
PARM Code 34551 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Benzene (GWS = 1)	Sample Measurement										
PARM Code 34030 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
Carbon tetrachloride (GWS = 3)	Sample Measurement										
PARM Code 32102 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
Cis-1,2-dichloroethene (GWS = 70)	Sample Measurement										
PARM Code 81686 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: North Port City of WWTP MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA013378-020-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Dichloromethane (methylene chloride)(GWS = 5)	Sample Measurement										
PARM Code 03821 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
Ethylbenzene (GWS = 700)	Sample Measurement										
PARM Code 34371 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
Monochlorobenzene (GWS = 100)	Sample Measurement										
PARM Code 34031 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
1,2-dichlorobenzene (GWS = 600)	Sample Measurement										
PARM Code 34536 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
1,4-dichlorobenzene (GWS = 75)	Sample Measurement										
PARM Code 34571 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
Styrene, Total (GWS = 100)	Sample Measurement										
PARM Code 77128 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
Tetrachloroethylene (GWS = 3)	Sample Measurement										
PARM Code 34475 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
Toluene (GWS = 1,000)	Sample Measurement										
PARM Code 34010 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
1,2-trans-dichloroethylene (GWS = 100)	Sample Measurement										
PARM Code 34546 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
Trichloroethylene (GWS = 3)	Sample Measurement										
PARM Code 39180 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: North Port City of WWTP MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA013378-020-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Vinyl chloride (GWS = 1)	Sample Measurement										
PARM Code 39175 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
Xylenes (GWS = 10,000)	Sample Measurement										
PARM Code 81551 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
2,3,7,8-tetrachlorodibenzo-p-dioxin(GWS = 3x10^-5)	Sample Measurement										
PARM Code 34675 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
2,4-dichlorophenoxyacetic acid (GWS = 70)	Sample Measurement										
PARM Code 39730 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Silvex (GWS = 50)	Sample Measurement										
PARM Code 39760 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Alachlor (GWS = 2)	Sample Measurement										
PARM Code 39161 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Atrazine (GWS = 3)	Sample Measurement										
PARM Code 39033 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Benzo(a)pyrene (GWS = 0.2)	Sample Measurement										
PARM Code 34247 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Carbofuran (GWS = 40)	Sample Measurement										
PARM Code 81405 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Chlordane (tech mix. and metabolites)(GWS = 2)	Sample Measurement										
PARM Code 39350 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: North Port City of WWTP MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA013378-020-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Dalapon (GWS = 200)	Sample Measurement										
PARM Code 38432 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Bis(2-ethylhexyl)adipate (GWS = 400)	Sample Measurement										
PARM Code 77903 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Bis (2-ethylhexyl) phthalate (GWS = 6)	Sample Measurement										
PARM Code 39100 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Dibromochloropropane (DBCP) (GWS = 0.2)	Sample Measurement										
PARM Code 82625 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
Dinoseb (GWS = 7)	Sample Measurement										
PARM Code 30191 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Diquat (GWS = 20)	Sample Measurement										
PARM Code 04443 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Endothall (GWS = 100)	Sample Measurement										
PARM Code 38926 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Endrin (GWS = 2)	Sample Measurement										
PARM Code 39390 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Ethylene dibromide (1,2-dibromoethane)(GWS = 0.02)	Sample Measurement										
PARM Code 77651 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	Grab
Glyphosate (GWS = 0.7)	Sample Measurement										
PARM Code 79743 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L	0	Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: North Port City of WWTP MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA013378-020-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Heptachlor (GWS = 0.4)	Sample Measurement										
PARM Code 39410 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Heptachlor epoxide (GWS = 0.2)	Sample Measurement										
PARM Code 39420 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Hexachlorobenzene (GWS = 1)	Sample Measurement										
PARM Code 39700 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Hexachlorocyclopentadiene (GWS = 50)	Sample Measurement										
PARM Code 34386 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Gamma BHC (Lindane) (GWS = 0.2)	Sample Measurement										
PARM Code 39782 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Methoxychlor (GWS = 40)	Sample Measurement										
PARM Code 39480 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Oxamyl (vydate) (GWS = 200)	Sample Measurement										
PARM Code 38865 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Pentachlorophenol (GWS = 1)	Sample Measurement										
PARM Code 39032 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Picloram (GWS = 500)	Sample Measurement										
PARM Code 39720 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Polychlorinated Biphenyls (PCBs)(GWS = 0.5)	Sample Measurement										
PARM Code 39516 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: North Port City of WWTP MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA013378-020-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Simazine (GWS = 4)	Sample Measurement										
PARM Code 39055 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Toxaphene (GWS = 3)	Sample Measurement										
PARM Code 39400 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Trihalomethane, Total by summation(GWS = 0.080)	Sample Measurement										
PARM Code 82080 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L	0	Annually	Grab
Radium 226 + Radium 228, Total (GWS = 5)	Sample Measurement										
PARM Code 11503 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	pCi/L	0	Annually	24-hr FPC
Alpha, Gross Particle Activity (GWS = 15)	Sample Measurement										
PARM Code 80045 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	pCi/L	0	Annually	24-hr FPC
Aluminum, Total Recoverable (GWS = 0.2)	Sample Measurement										
PARM Code 01104 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L	0	Annually	24-hr FPC
Chloride (as Cl) (GWS = 250)	Sample Measurement										
PARM Code 00940 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L	0	Annually	24-hr FPC
Iron, Total Recoverable (GWS = 0.3)	Sample Measurement										
PARM Code 00980 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L	0	Annually	24-hr FPC
Copper, Total Recoverable (GWS = 1,000)	Sample Measurement										
PARM Code 01119 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Manganese, Total Recoverable (GWS = 50)	Sample Measurement										
PARM Code 11123 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: North Port City of WWTP MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA013378-020-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Silver, Total Recoverable (GWS = 100)	Sample Measurement										
PARM Code 01079 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
Sulfate, Total (GWS = 250)	Sample Measurement										
PARM Code 00945 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L	0	Annually	24-hr FPC
Zinc, Total Recoverable (GWS = 5,000)	Sample Measurement										
PARM Code 01094 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L	0	Annually	24-hr FPC
pH (GWS = 6.5-8.5)	Sample Measurement										
PARM Code 00400 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	s.u.	0	Annually	Grab
Solids, Total Dissolved (TDS) (GWS = 500)	Sample Measurement										
PARM Code 70295 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L	0	Annually	24-hr FPC
Foaming Agents (GWS = 0.5)	Sample Measurement										
PARM Code 01288 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L	0	Annually	24-hr FPC

I ISSUANCE/REISSUANCE DATE: March 20, 2023

DMR EFFECTIVE DATE: First day of r the second moth after the effective date of the permit - Permit expiration

DAILY SAMPLE RESULTS - PART B

Permit Number: FLA013378-020-DW1P Facility: North Port City of WWTP
Monitoring Period From: _____ To: _____

	BOD, Carbonaceous 5 day, 20C mg/L	BOD, Carbonaceous 5 day, 20C (Influent) mg/L	Chlorine, Total Residual (For Disinfection) mg/L	Coliform, Fecal #/100mL	Flow MGD	Flow MGD	Flow MGD	Nitrogen, Total mg/L	Phosphorus, Total (as P) mg/L	Solids, Total Suspended mg/L	Solids, Total Suspended mg/L
Code	80082	80082	50060	74055	50050	50050	50050	00600	00665	00530	00530
Mon. Site	EFA-01	INF-01	EFA-01	EFA-01	FLW-01	FLW-02	FLW-03	EFA-01	EFA-01	EFA-01	EFB-01
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
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22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
Total											
Mo. Avg.											

PLANT STAFFING:

Day Shift Operator Class: _____ Certificate No: _____ Name: _____

Evening Shift Operator Class: _____ Certificate No: _____ Name: _____

Night Shift Operator Class: _____ Certificate No: _____ Name: _____

Lead Operator Class: _____ Certificate No: _____ Name: _____

DAILY SAMPLE RESULTS - PART B

Permit Number: FLA013378-020-DW1P Facility: North Port City of WWTP
Monitoring Period From: _____ To: _____

	Solids, Total Suspended (Influent) mg/L	Turbidity NTU	pH (Min) s.u.	pH (Max) s.u.							
Code	00530	00070	00400	00400							
Mon. Site	INF-01	EFB-01	EFA-01	EFA-01							
1											
2											
3											
4											
5											
6											
7											
8											
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26											
27											
28											
29											
30											
31											
Total											
Mo. Avg.											

PLANT STAFFING:

Day Shift Operator Class: _____ Certificate No: _____ Name: _____

Evening Shift Operator Class: _____ Certificate No: _____ Name: _____

Night Shift Operator Class: _____ Certificate No: _____ Name: _____

Lead Operator Class: _____ Certificate No: _____ Name: _____

GROUNDWATER MONITORING REPORT - PART D

Facility Name: North Port City of WWTP
Permit Number: FLA013378-020-DW1P
County: Sarasota

Monitoring Well ID: MWB-1
Well Type: Background
Description: MWB-01 Background monitoring well. At the utility offices, in the NW corner of the project.

Report Frequency: Quarterly
Program: Domestic

Office: South District

Re-submitted DMR: ☐

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		Report	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		Report	mg/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		Report	ug/L	Grab	Quarterly				
Chloride (as Cl)	00940		Report	mg/L	Grab	Quarterly				
Cadmium, Total Recoverable	01113		Report	ug/L	Grab	Quarterly				
Chromium, Total Recoverable	01118		Report	ug/L	Grab	Quarterly				
Lead, Total Recoverable	01114		Report	ug/L	Grab	Quarterly				
Coliform, Fecal	74055		Report	#/100mL	Grab	Quarterly				
pH	00400		Report	s.u.	In Situ	Quarterly				
Sulfate, Total	00945		Report	mg/L	Grab	Quarterly				
Turbidity	00070		Report	NTU	Grab	Quarterly				
Temperature (C), Water	00010		Report	Deg C	In Situ	Quarterly				
Specific Conductance	00095		Report	umhos/cm	In Situ	Quarterly				
Sodium, Total Recoverable	00923		Report	mg/L	Grab	Quarterly				

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D (Continued)

Facility Name: North Port City of WWTP
Permit Number: FLA013378-020-DW1P
County: Sarasota

Monitoring Well ID: MWB-1
Well Type: Background
Description: MWB-01 Background monitoring well. At the utility offices, in the NW corner of the project.

Report Frequency: Quarterly
Program: Domestic

Office: South District

Re-submitted DMR: ☐

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Oxygen, Dissolved (DO)	00300		Report	mg/L	In Situ	Quarterly				

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: North Port City of WWTP
Permit Number: FLA013378-020-DW1P
County: Sarasota

Monitoring Well ID: MWC-3
Well Type: Compliance
Description: MWC-03 Compliance monitoring well. Located in the South of the project, downgradient and outside of the spray irrigation area.

Report Frequency: Quarterly
Program: Domestic

Office: South District

Re-submitted DMR: ☐

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		10	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		500	mg/L	Grab	Quarterly				
Arsenic, Total Recoverable*	00978		Report	ug/L	Grab	Quarterly				
Chloride (as Cl)	00940		250	mg/L	Grab	Quarterly				
Cadmium, Total Recoverable	01113		5	ug/L	Grab	Quarterly				
Chromium, Total Recoverable	01118		100	ug/L	Grab	Quarterly				
Lead, Total Recoverable	01114		15	ug/L	Grab	Quarterly				
Coliform, Fecal	74055		4	#/100mL	Grab	Quarterly				
pH	00400		6.5-8.5	s.u.	In Situ	Quarterly				
Sulfate, Total	00945		250	mg/L	Grab	Quarterly				
Turbidity	00070		Report	NTU	Grab	Quarterly				
Temperature (C), Water	00010		Report	Deg C	In Situ	Quarterly				
Specific Conductance	00095		Report	umhos/cm	In Situ	Quarterly				
Sodium, Total Recoverable	00923		160	mg/L	Grab	Quarterly				

** The permit requirement for Arsenic, Total Recoverable shall revert back to 10 ug/L upon expiration of the accompanying Administrative Order, AO-013378-020*

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D (Continued)

Facility Name: North Port City of WWTP
Permit Number: FLA013378-020-DW1P
County: Sarasota

Monitoring Well ID: MWC-3
Well Type: Compliance
Description: MWC-03 Compliance monitoring well. Located in the South of the project, downgradient and outside of the spray irrigation area.

Report Frequency: Quarterly
Program: Domestic

Office: South District

Re-submitted DMR: ☐

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Oxygen, Dissolved (DO)	00300		Report	mg/L	In Situ	Quarterly				

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: North Port City of WWTP
Permit Number: FLA013378-020-DW1P
County: Sarasota
Office: South District

Monitoring Well ID: MWI-02
Well Type: Intermediate
Description: Intermediate well
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Domestic

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		Report	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		Report	mg/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		Report	ug/L	Grab	Quarterly				
Chloride (as Cl)	00940		Report	mg/L	Grab	Quarterly				
Cadmium, Total Recoverable	01113		Report	ug/L	Grab	Quarterly				
Chromium, Total Recoverable	01118		Report	ug/L	Grab	Quarterly				
Lead, Total Recoverable	01114		Report	ug/L	Grab	Quarterly				
Coliform, Fecal	74055		Report	#/100mL	Grab	Quarterly				
pH	00400		Report	s.u.	In Situ	Quarterly				
Sulfate, Total	00945		Report	mg/L	Grab	Quarterly				
Turbidity	00070		Report	NTU	Grab	Quarterly				
Temperature (C), Water	00010		Report	Deg C	In Situ	Quarterly				
Specific Conductance	00095		Report	umhos/cm	In Situ	Quarterly				
Sodium, Total Recoverable	00923		Report	mg/L	Grab	Quarterly				

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D (Continued)

Facility Name: North Port City of WWTP
Permit Number: FLA013378-020-DW1P
County: Sarasota
Office: South District

Monitoring Well ID: MWI-02
Well Type: Intermediate
Description: Intermediate well
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Domestic

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Oxygen, Dissolved (DO)	00300		Report	mg/L	In Situ	Quarterly				

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: North Port City of WWTP
Permit Number: FLA013378-020-DW1P
County: Sarasota
Office: South District

Monitoring Well ID: MWI-04
Well Type: Intermediate
Description: Intermediate well
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Domestic

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		Report	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		Report	mg/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		Report	ug/L	Grab	Quarterly				
Chloride (as Cl)	00940		Report	mg/L	Grab	Quarterly				
Cadmium, Total Recoverable	01113		Report	ug/L	Grab	Quarterly				
Chromium, Total Recoverable	01118		Report	ug/L	Grab	Quarterly				
Lead, Total Recoverable	01114		Report	ug/L	Grab	Quarterly				
Coliform, Fecal	74055		Report	#/100mL	Grab	Quarterly				
pH	00400		Report	s.u.	In Situ	Quarterly				
Sulfate, Total	00945		Report	mg/L	Grab	Quarterly				
Turbidity	00070		Report	NTU	Grab	Quarterly				
Temperature (C), Water	00010		Report	Deg C	In Situ	Quarterly				
Specific Conductance	00095		Report	umhos/cm	In Situ	Quarterly				
Sodium, Total Recoverable	00923		Report	mg/L	Grab	Quarterly				

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D (Continued)

Facility Name: North Port City of WWTP
Permit Number: FLA013378-020-DW1P
County: Sarasota
Office: South District

Monitoring Well ID: MWI-04
Well Type: Intermediate
Description: Intermediate well
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Domestic

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Oxygen, Dissolved (DO)	00300		Report	mg/L	In Situ	Quarterly				

COMMENTS AND EXPLANATION (Reference all attachments here):

INSTRUCTIONS FOR COMPLETING THE WASTEWATER DISCHARGE MONITORING REPORT

Read these instructions before completing the DMR. Hard copies and/or electronic copies of the required parts of the DMR were provided with the permit. All required information shall be completed in full and typed or printed in ink. A signed, original DMR shall be mailed to the address printed on the DMR by the 28th of the month following the monitoring period. Facilities who submit their DMR(s) electronically through eDMR do not need to submit a hardcopy DMR. The DMR shall not be submitted before the end of the monitoring period.

The DMR consists of three parts--A, B, and D--all of which may or may not be applicable to every facility. Facilities may have one or more Part A's for reporting effluent or reclaimed water data. All domestic wastewater facilities will have a Part B for reporting daily sample results. Part D is used for reporting ground water monitoring well data.

When results are not available, the following codes should be used on parts A and D of the DMR and an explanation provided where appropriate. Note: Codes used on Part B for raw data are different.

CODE	DESCRIPTION/INSTRUCTIONS
ANC	Analysis not conducted.
DRY	Dry Well
FLD	Flood disaster.
IFS	Insufficient flow for sampling.
LS	Lost sample.
MNR	Monitoring not required this period.

CODE	DESCRIPTION/INSTRUCTIONS
NOD	No discharge from/to site.
OPS	Operations were shutdown so no sample could be taken.
OTH	Other. Please enter an explanation of why monitoring data were not available.
SEF	Sampling equipment failure.

When reporting analytical results that fall below a laboratory's reported method detection limits or practical quantification limits, the following instructions should be used, unless indicated otherwise in the permit or on the DMR:

1. Results greater than or equal to the PQL shall be reported as the measured quantity.
2. Results less than the PQL and greater than or equal to the MDL shall be reported as the laboratory's MDL value. These values shall be deemed equal to the MDL when necessary to calculate an average for that parameter and when determining compliance with permit limits.
3. Results less than the MDL shall be reported by entering a less than sign ("<") followed by the laboratory's MDL value, e.g. < 0.001. A value of one-half the MDL or one-half the effluent limit, whichever is lower, shall be used for that sample when necessary to calculate an average for that parameter. Values less than the MDL are considered to demonstrate compliance with an effluent limitation.

PART A -DISCHARGE MONITORING REPORT (DMR)

Part A of the DMR is comprised of one or more sections, each having its own header information. Facility information is preprinted in the header as well as the monitoring group number, whether the limits and monitoring requirements are interim or final, and the required submittal frequency (e.g. monthly, annually, quarterly, etc.). Submit Part A based on the required reporting frequency in the header and the instructions shown in the permit. The following should be completed by the permittee or authorized representative:

Resubmitted DMR: Check this box if this DMR is being re-submitted because there was information missing from or information that needed correction on a previously submitted DMR. The information that is being revised should be clearly noted on the re-submitted DMR (e.g. highlight, circle, etc.)
No Discharge From Site: Check this box if no discharge occurs and, as a result, there are no data or codes to be entered for all of the parameters on the DMR for the entire monitoring group number; however, if the monitoring group includes other monitoring locations (e.g., influent sampling), the "NOD" code should be used to individually denote those parameters for which there was no discharge.
Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Sample Measurement: Before filling in sample measurements in the table, check to see that the data collected correspond to the limit indicated on the DMR (i.e. interim or final) and that the data correspond to the monitoring group number in the header. Enter the data or calculated results for each parameter on this row in the non-shaded area above the limit. Be sure the result being entered corresponds to the appropriate statistical base code (e.g. annual average, monthly average, single sample maximum, etc.) and units. Data qualifier codes are not to be reported on Part A.
No. Ex.: Enter the number of sample measurements during the monitoring period that exceeded the permit limit for each parameter in the non-shaded area. If none, enter zero.
Frequency of Analysis: The shaded areas in this column contain the minimum number of times the measurement is required to be made according to the permit. Enter the actual number of times the measurement was made in the space above the shaded area.
Sample Type: The shaded areas in this column contain the type of sample (e.g. grab, composite, continuous) required by the permit. Enter the actual sample type that was taken in the space above the shaded area.
Signature: This report must be signed in accordance with Rule 62-620.305, F.A.C. Type or print the name and title of the signing official. Include the telephone number where the official may be reached in the event there are questions concerning this report. Enter the date when the report is signed.
Comment and Explanation of Any Violations: Use this area to explain any exceedances, any upset or by-pass events, or other items which require explanation. If more space is needed, reference all attachments in this area.

PART B - DAILY SAMPLE RESULTS

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Daily Monitoring Results: Transfer all analytical data from your facility's laboratory or a contract laboratory's data sheets for all day(s) that samples were collected. Record the data in the units indicated. Table 1 in Chapter 62-160, F.A.C., contains a complete list of all the data qualifier codes that your laboratory may use when reporting analytical results. However, when transferring numerical results onto Part B of the DMR, only the following data qualifier codes should be used and an explanation provided where appropriate.

CODE	DESCRIPTION/INSTRUCTIONS
<	The compound was analyzed for but not detected.
A	Value reported is the mean (average) of two or more determinations.
J	Estimated value, value not accurate.
Q	Sample held beyond the actual holding time.
Y	Laboratory analysis was from an unpreserved or improperly preserved sample.

To calculate the monthly average, add each reported value to get a total. For flow, divide this total by the number of days in the month. For all other parameters, divide the total by the number of observations.
Plant Staffing: List the name, certificate number, and class of all state certified operators operating the facility during the monitoring period. Use additional sheets as necessary.

PART D - GROUND WATER MONITORING REPORT

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Date Sample Obtained: Enter the date the sample was taken. Also, check whether or not the well was purged before sampling.
Time Sample Obtained: Enter the time the sample was taken.
Sample Measurement: Record the results of the analysis. If the result was below the minimum detection limit, indicate that. Data qualifier codes are not to be reported on Part D.
Detection Limits: Record the detection limits of the analytical methods used.
Analysis Method: Indicate the analytical method used. Record the method number from Chapter 62-160 or Chapter 62-601, F.A.C., or from other sources.
Sampling Equipment Used: Indicate the procedure used to collect the sample (e.g. airlift, bucket/bailer, centrifugal pump, etc.)
Samples Filtered: Indicate whether the sample obtained was filtered by laboratory (L), filtered in field (F), or unfiltered (N).
Signature: This report must be signed in accordance with Rule 62-620.305, F.A.C. Type or print the name and title of the signing official. Include the telephone number where the official may be reached in the event there are questions concerning this report. Enter the date when the report is signed.
Comments and Explanation: Use this space to make any comments on or explanations of results that are unexpected. If more space is needed, reference all attachments in this area.

SPECIAL INSTRUCTIONS FOR LIMITED WET WEATHER DISCHARGES

Flow (Limited Wet Weather Discharge): Enter the measured average flow rate during the period of discharge or divide gallons discharged by duration of discharge (converted into days). Record in million gallons per day (MGD).
Flow (Upstream): Enter the average flow rate in the receiving stream upstream from the point of discharge for the period of discharge. The average flow rate can be calculated based on two measurements; one made at the start and one made at the end of the discharge period. Measurements are to be made at the upstream gauging station described in the permit.
Actual Stream Dilution Ratio: To calculate the Actual Stream Dilution Ratio, divide the average upstream flow rate by the average discharge flow rate. Enter the Actual Stream Dilution Ratio accurate to the nearest 0.1.
No. of Days the SDF > Stream Dilution Ratio: For each day of discharge, compare the minimum Stream Dilution Factor (SDF) from the permit to the calculated Stream Dilution Ratio. On Part B of the DMR, enter an asterisk (*) if the SDF is greater than the Stream Dilution Ratio on any day of discharge. On Part A of the DMR, add up the days with an "*" and record the total number of days the Stream Dilution Factor was greater than the Stream Dilution Ratio.
$CBOD_5$: Enter the average $CBOD_5$ of the reclaimed water discharged during the period shown in duration of discharge.
TKN: Enter the average TKN of the reclaimed water discharged during the period shown in duration of discharge.
Actual Rainfall: Enter the actual rainfall for each day on Part B. Enter the actual cumulative rainfall to date for this calendar year and the actual total monthly rainfall on Part A. The cumulative rainfall to date for this calendar year is the total amount of rain, in inches, that has been recorded since January 1 of the current year through the month for which this DMR contains data.
Rainfall During Average Rainfall Year: On Part A, enter the total monthly rainfall during the average rainfall year and the cumulative rainfall for the average rainfall year. The cumulative rainfall for the average rainfall year is the amount of rain, in inches, which fell during the average rainfall year from January through the month for which this DMR contains data.
No. of Days LWWD Activated During Calendar Year: Enter the cumulative number of days that the limited wet weather discharge was activated since January 1 of the current year.
Reason for Discharge: Attach to the DMR a brief explanation of the factors contributing to the need to activate the limited wet weather discharge.

STATEMENT OF BASIS
FOR
STATE OF FLORIDA DOMESTIC WASTEWATER FACILITY PERMIT

PERMIT NUMBER: FLA013378-020

FACILITY NAME: North Port City of WWTP

FACILITY LOCATION: 5355 Pan American Blvd., North Port, FL 34287
Sarasota County

NAME OF PERMITTEE: City of North Port Utilities Department

PERMIT WRITER: Bill Robertson, P.E.

1. SUMMARY OF APPLICATION

a. Chronology of Application

Application Number: FLA013378-020-DW1P

Application Submittal Date: March 15, 2022

b. Type of Facility

Domestic Wastewater Treatment Plant

Ownership Type: Municipal

SIC Code: 4952

c. Facility Capacity

Existing Permitted Capacity:	4.99 mgd Three Month Average Daily Flow
Proposed Increase in Permitted Capacity:	0 mgd Three Month Average Daily Flow
Proposed Total Permitted Capacity:	4.99 mgd Three Month Average Daily Flow

d. Description of Wastewater Treatment

An existing 7.0 MGD Three-Month Average Daily Flow (TMADF) Type I Modified Ludzack-Ettinger domestic wastewater treatment plant limited to 4.99 MGD Three-Month Average Daily Flow consisting of: a receiving station, a headworks structure with odor control, four mechanically cleaned and one manually cleaned bar screens with grit removal, two anoxic basins of 224,400 gallons each for a total of 0.45 MG, six aeration basins of 224,400 gallons each for a total aeration volume of 1.374 MG, four secondary clarifiers of 1.2 MG total volume and 13,265 sq.ft., four effluent filters with a total surface area of 3,000 sq.ft., and two chlorine contact chambers with a total volume of 178,547 gallons. There is currently one 2.5 MG reclaimed water storage tank. The biosolids stream consists of four aerated sludge holding basins with a total volume of 0.07 MG. Biosolids are dewatered and taken to a Department approved landfill.

e. Description of Effluent Disposal and Land Application Sites (as reported by applicant)

Effluent is disposed of via U-001, a deep well injection system and R-001, a slow-rate public access system which consists of the North Port Master Urban Reuse General Service Area and consists of the incorporated limits of the City of North Port.

2. SUMMARY OF SURFACE WATER DISCHARGE

This facility does not discharge to surface waters.

3. BASIS FOR PERMIT LIMITATIONS AND MONITORING REQUIREMENTS

This facility is authorized to discharge reclaimed water to Underground Injection Well System U-001 which consists of 2 Class I injection wells discharging to Class G-IV ground water based on the following:

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Flow	MGD	Max	18.52	Monthly Average	62-600.700(2)(b) FAC
BOD, Carbonaceous 5 day, 20C	mg/L	Max	20.0	Annual Average	62-600.540(1) & 62-600.420(3)(a)1. FAC
		Max	30.0	Monthly Average	62-600.420(3)(a)2. FAC
		Max	45.0	Weekly Average	
		Max	60.0	Single Sample	
Solids, Total Suspended	mg/L	Max	20.0	Annual Average	62-600.540(1) & 62-600.420(3)(b)1. FAC
		Max	30.0	Monthly Average	62-600.420(3)(b)2. FAC
		Max	45.0	Weekly Average	
		Max	60.0	Single Sample	
pH	s.u.	Min	6.0	Single Sample	62-600.445 FAC
		Max	8.5	Single Sample	62-600.445 FAC

This facility is authorized to direct reclaimed water to Reuse System R-001, a slow-rate public access system, based on the following:

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Flow	MGD	Max	4.99	Annual Average	62-600.700(2)(b) & 62-610.810(5) FAC
		Max	Report	Monthly Average	62-600.700(2)(b) & 62-610.810(5) FAC
BOD, Carbonaceous 5 day, 20C	mg/L	Max	20.0	Annual Average	62-610.460 & 62-600.420(3)(a)1. FAC
		Max	30.0	Monthly Average	62-610.460 & 62-600.420(3)(a)2. FAC
		Max	45.0	Weekly Average	
		Max	60.0	Single Sample	
Solids, Total Suspended	mg/L	Max	5.0	Single Sample	62-610.460(1) & 62-600.440(6)(a)3. FAC
Coliform, Fecal	#/100mL	Max	25	Single Sample	62-610.460 & 62-600.440(6)(a)2. FAC
Coliform, Fecal, % less than detection	percent	Min	75	Minimum Total	62-610.460 & 62-600.440(6)(a)1. FAC
pH	s.u.	Min	6.0	Single Sample	62-600.445 FAC
		Max	8.5	Single Sample	62-600.445 FAC
Chlorine, Total Residual (For Disinfection)	mg/L	Min	1.0	Single Sample	62-600.440(6)(b), 62-610.460(2), & 62-610.463(2) FAC
Turbidity	NTU	Max	Report	Single Sample	62-610.463(2) FAC

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Phosphorus, Total (as P)	mg/L	Max	Report	Single Sample	62-600.650(3) FAC
Nitrogen, Total	mg/L	Max	Report	Single Sample	62-600.650(3) FAC
Giardia	cysts/100L	Max	Report	Single Sample	62-610.463(4) FAC
Cryptosporidium	oocysts/100L	Max	Report	Single Sample	62-610.463(4) FAC

Other Limitations and Monitoring Requirements:

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Flow	MGD	Max	4.99	3-Month Rolling Average	62-600.700(2)(b) FAC
		Max	Report	Monthly Average	62-600.700(2)(b) FAC
Percent Capacity, (TMADF/Permitted Capacity) x 100	percent	Max	Report	3-Month Rolling Average	62-600.405(4) FAC
BOD, Carbonaceous 5 day, 20C (Influent)	mg/L	Max	Report	Single Sample	62-600.660(1) FAC
Solids, Total Suspended (Influent)	mg/L	Max	Report	Single Sample	62-600.660(1) FAC
Monitoring Frequencies and Sample Types	-	-	-	All Parameters	62-600 FAC & 62-699 FAC and/or BPJ of permit writer
Sampling Locations	-	-	-	All Parameters	62-600, 62-610.412, 62-610.463(1), 62-610.568, 62-610.613 FAC and/or BPJ of permit writer

4. DISCUSSION OF CHANGES TO PERMIT LIMITATIONS

Arsenic has been exceeded numerous times in the groundwater compliance monitoring well. The applicant believes that since there are no arsenic exceedances at the facility discharge, the exceedances are not due to plant effluent. Arsenic is a "report" only parameter at the intermediate wells, but there are 12 incidents in MWI-02 of arsenic being greater that 10 ug/L and 11 incidents at MWI-04 of arsenic being greater than 10 ug/L. These intermediate wells are located at the ball field where a majority of the reuse water is utilized. The applicant stated in their response to the RAI that there is a good possibility that the fill dirt that was used to add a cover layer in 2017 may contain high levels of arsenic. In order to determine the cause of the high arsenic, an Administrative Order will accompany this permit in order to provide the time necessary for the applicant to come into compliance with permitted conditions.

The facility is rated for 7.0 MGD, TMADF, but the monitoring and operator requirements were set to a maximum of 4.99 MGD, TMADF in permit FLA013378-014. The conditions in the permit allow reduced monitoring, as indicated in in Permit Condition I.C.1 and reduced operator requirements, as indicated in Permit Condition V.A.1. until such time the facility reaches 5.0 MGD, AADF.

5. BIOSOLIDS MANAGEMENT REQUIREMENTS

Biosolids generated by this facility may be transferred to Charlotte County Bio-Recycling Center, LLC, 29751 Zemel Rd., Punta Gorda, FL 33955, and or disposed of in a Class I solid waste landfill.

See the table below for the rationale for the biosolids quantities monitoring requirements.

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Biosolids Quantity (Landfilled)	dry tons	Max	Report	Monthly Total	62-640.650(5)(a)1. FAC
Biosolids Quantity (Transferred)	dry tons	Max	Report	Monthly Total	62-640.650(5)(a)1. FAC
Monitoring Frequency		All Parameters			62-640.650(5)(a) FAC

6. GROUND WATER MONITORING REQUIREMENTS

Ground water monitoring requirements have been established in accordance with Rules 62-520, 62-532, 62-600, 62-610, and 62-620, F.A.C.

7. PERMIT SCHEDULES

There are no scheduled action items listed in Section VI of the permit.

8. INDUSTRIAL PRETREATMENT REQUIREMENTS

At this time, the facility is not required to develop an approved industrial pretreatment program. However, the Department reserves the right to require an approved program if future conditions warrant.

9. ADMINISTRATIVE ORDERS (AO) AND CONSENT ORDERS (CO)

This permit is accompanied by AO-013378-020, effective 05/01/2023, which includes a schedule of compliance. The AO is hereby incorporated by reference. This Administrative Order allows additional time for the permittee to come into compliance with permitted conditions.

10. REQUESTED VARIANCES OR ALTERNATIVES TO REQUIRED STANDARDS

No variances were requested for this facility.

11. THE ADMINISTRATIVE RECORD

The administrative record is available for public inspection electronically at http://prodenv.dep.state.fl.us/DepNexus/public/electronic-documents/FLA013378/facility!search, or during normal business hours at the location specified in item 12. Copies will be provided at a minimal charge per page.

12. DEP CONTACT

Additional information concerning the permit and proposed schedule for permit issuance may be obtained during normal business hours from:

Bill Robertson
Professional Engineer
South District Office

2295 Victoria Ave
Suite 364

Ft. Myers, FL 33901-3875

Telephone No.: (239) 344-5657

Florida Department of Environmental Protection

Pathogen Monitoring

Part I - Instructions

1. Completion of this report is required by Rules 62-610.463(4), 62-610.472(3)(d), 62-610.525(13), 62-610.568(11), and 62-610.652(6)(c), F.A.C., for all domestic wastewater facilities that provide reclaimed water to certain types of reuse activities. The schedule for sampling and reporting shall be in accordance with the permit for the facility. If a schedule for sampling or re-sampling is not included in the permit, the sampling and re-sampling shall be conducted every two years, or quarterly in accordance with the applicable Rule. If sampling is required once every five years, this report shall be submitted with the application for permit renewal.

2. Submit one copy of this form and a copy of the laboratory's final report for the analysis of *Giardia* and *Cryptosporidium* to each of the following two addresses:

   a. The appropriate DEP district office. Addresses for the DEP district offices are available at www.dep.state.fl.us/secretary/dist/default.htm.
   b. The DEP Water Reuse Coordinator electronically at: epost.bwfrdom@dep.state.fl.us.

3. Please type or print legibly.

4. In Part II, Items 7 through 12 need to be completed only if this is the first submittal of this report, if the information in Items 7 through 12 has changed since the last submittal, or if the information in any of these questions has not been previously provided.

5. Part III is to be used when sampling for *Giardia* and *Cryptosporidium* at the treatment plant. Part III is also to be used when sampling for *Giardia* and *Cryptosporidium* in a supplemental water supply (see Rule 62-610.472, F.A.C.).

6. For each sample, record the sample volume obtained in liters.

7. For *Giardia*, record the concentrations in cysts per 100 liters. For *Cryptosporidium*, record the concentrations in oocysts per 100 liters. Sufficient sample volumes shall be collected and processed such that the detection limit is no greater than 5 cysts or oocysts per 100 liters. Detection levels on the order of 1 cyst or oocyst per 100 liters are recommended. If an observation is less than the detection limit, make an entry in the form "<2" (where 2 per 100 liters is the detection limit in this example). The actual detection limit will be dictated by the volumes of sample obtained, filtered, and processed. Do NOT record nondetectable values as zero.

8. Rule 62-160.300, F.A.C., requires that all laboratories generating environmental data for submission to the DEP shall hold certification from the Department of Health's (DOH) Environmental Laboratory Certification Program (ELCP). Certification by the ELCP for analysis of *Giardia* and *Cryptosporidium* using EPA Method 1623.1 for non-potable waters is required. If other approved methods are used, certification by the ELCP is required for the specific method and for the test matrix. Lists of certified laboratories can be found at www.dep.state.fl.us/labs/cgi-bin/aams/index.asp

9. When sampling a supplemental water supply, obtain a grab sample for total suspended solids (TSS) that is representative of the water leaving the filters at the treatment facility during the period when pathogen samples are being obtained. In addition, record the lowest total chlorine residual observed during the period when pathogen samples are being obtained.

Part II - General Information

1. DEP wastewater facility identification number: **FLA013378-020**

   Wastewater facility name: North Port City of WWTP

   Permittee name: City of North Port Utilities Department

2. Person completing this form:

   Name: _____

   Telephone: (_____)_____

   Email address: _____

3. Sampling and analysis:

   Date samples were taken: _____

   Organization collecting the samples: _____

   Was the sample dechlorinated in the field? ☐ Yes ☐ No

   Was the sample refrigerated or kept on ice during shipment to the laboratory? ☐ Yes ☐ No

   Date samples delivered to laboratory: _____

   Date analytical work was done: _____

   Laboratory doing the analysis: _____

   Laboratory's DOH Identification Number: _____

   Approved method used:

   ☐ EPA Method 1623.1

   ☐ Other approved method: _____

   Contact person at the laboratory: _____

   Email address of the lab contact person: _____

4. Is this the first time that this form has been submitted for the facility?

   ☐ Yes [Please complete Questions 7 through 16.]

☐ No [Proceed to Question 5.]

5. Is this a report of "subsequent re-sampling" required by Item 9 in Part I of this form based on concentrations of potentially viable cysts or oocysts in a previous sampling?

☐ No [Proceed to Question 6.]

☐ Yes [Attach a description of any facility or operational changes made to the treatment facilities since the time of the previous sampling and proceed to Question 6.]

6. Has the information requested in Questions 7 through 12 (below) changed since the last submittal of this form?

☐ Yes [Please complete Questions 7 through 16.]

☐ No [Proceed to Questions 13 through 16 of Part II of this form. You do not need to complete Questions 7 through 12.]

7. Type of secondary treatment system:

☐ Conventional activated sludge ☐ Extended aeration

☐ Contact stabilization ☐ Biological nutrient removal (such as Bardenpho)

☐ Other: _____

8. Does this treatment facility nitrify (convert ammonia nitrogen to nitrate)? ☐ Yes ☐ No

9. Filter type:

☐ Deep bed, single media ☐ Deep bed, multiple media

☐ Shallow bed, automatic backwash ☐ Upflow (including Dynasand)

☐ Slow rate sand filter ☐ Diatomaceous earth filter

☐ Fabric filter ☐ Cartridge filter

☐ Membranes (microfiltration, ultrafiltration, membrane bioreactor, reverse osmosis)

☐ Other: _____

10. Filter Media (complete for each type of media provided):

Top layer of media: Media type: _____

Effective size: _____ mm

Uniformity coefficient: _____

Bed depth: _____ inches

Middle layer of media: Media type: _____

Effective size: _____ mm

Uniformity coefficient: _____

Bed depth: _____ inches

Bottom layer of media: Media type: _____

Effective size: _____ mm

Uniformity coefficient: _____

Bed depth: _____ inches

11. Filter backwash water:

☐ Backwash water is returned to the headworks of the treatment plant.

☐ Backwash water is returned to the aeration basin.

☐ Other. Please describe: _____

12. Disinfection system:

☐ Chlorination, gas ☐ Hypochlorite

☐ Chlorine dioxide ☐ Chlorination, other

☐ Ultraviolet ☐ Ozone

☐ Other: _____

13. Is chlorine added before the filters? ☐ No ☐ Yes Dose: _____ mg/L

14. During the period that samples were taken, did you add a coagulant, coagulant aid, polyelectrolyte, or other chemical to enhance filtration?

☐ No

☐ Yes. Please list the chemicals being added and their dose.

Chemical 1 - Name: _____ Dose: _____ mg/L

Chemical 2 - Name: _____ Dose: _____ mg/L

Chemical 3 - Name: _____ Dose: _____ mg/L

15. Wastewater treatment plant permitted capacity: _____ MGD

16. Wastewater flow being treated at the time samples were collected: _____ MGD

Part III - Pathogen Monitoring Report

Permittee Name: City of North Port Utilities Department

Facility ID: FLA013378

Mailing Address: 664 West Price Blvd, North Port, Florida 34291

Date of Sampling:

Facility Address: 5355 Pan American Blvd., North Port, FL 34287

Facility Name: North Port City of WWTP

Table I. Treatment Plant: After Filter

Monitoring Site No. _____

Parameter	Sample Measurement	Units
Turbidity PARM Code 00070		NTU
TSS PARM Code 00530		mg/L

Table II. Treatment Plant: After Disinfection

Monitoring Site No. _____

Volume Collected - PARM Code 71994: _____ Liters

Parameter	Sample Measurement	Units
Total Chlorine Residual PARM Code 50060		mg/L
Giardia, total count * PARM Code GIARD		total cysts/100 L
Giardia, potentially viable cysts * PARM Code VGIAR		potentially viable cysts/100 L
Cryptosporidium, total count * PARM Code CRYPT		total oocysts/100 L
Cryptosporidium, potentially viable oocysts * PARM Code VCRYP		potentially viable oocysts/100 L

Table III. Supplemental Water Supply (surface water or stormwater): After Treatment & Disinfection

Monitoring Site No. _____

Volume Collected - PARM Code 71994: _____ Liters

Parameter	Sample Measurement	Units
TSS PARM Code 00530		mg/L
Total Chlorine Residual PARM Code 50060		mg/L
Giardia, total count * PARM Code GIARD		total cysts/100 L
Giardia, potentially viable cysts * PARM Code VGIAR		potentially viable cysts/100 L
Cryptosporidium, total count * PARM Code CRYPT		total oocysts/100 L
Cryptosporidium, potentially viable oocysts * PARM Code VCRYP		potentially viable oocysts/100 L

* Data entries must be made for both total and potentially viable cysts and oocysts.

Part IV - Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based upon my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

_____

Signature of Principle Executive Officer or Authorized Agent

_____

Name/Title of Principle Executive Officer or Authorized Agent (Type or Print)

Date (YY/MM/DD): _____

Phone: _____

Email: _____

FLORIDA DEPARTMENT OF
Environmental Protection

South District
PO Box 2549
Fort Myers FL 33902-2549
SouthDistrict@FloridaDEP.gov

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

March 17, 2020

In the Matter of an
Application for Permit by:

City of North Port
Rick Newkirk, Utilities Director
6644 West Price Blvd.
North Port, FL 34291
rnewkirk@cityofnorthport.com

Sarasota County – Domestic Wastewater
Southwest WRF
File Number FLA984841-004-DWF
Correction of minor typographical errors

NOTICE OF PERMIT REVISION

This letter is in response to your request to correct reference errors in the notes section of Table I.A.1 and to Section V.A. Staffing Requirements of permit number FLA984841-003 for the Southwest WRF. The Department of Environmental Protection ("Department") revises the referenced permit to correct the minor typographical errors. This permit revision is issued under Section 403.087 of the Florida Statutes. Revised permit number FLA984841-004 accompanies this letter.

All other conditions of the permit shall remain unchanged. This letter shall be attached to the permit and made part thereof.

NOTICE OF RIGHTS

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the application.

Petition for Administrative Hearing

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rules 28-106.201 and 28-106.301, F.A.C., a petition for an administrative hearing must contain the following information:

(a) The name and address of each agency affected and each agency's file or identification number, if known;
(b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;
(c) A statement of when and how the petitioner received notice of the agency decision;
(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

(e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
(f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
(g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant and persons entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. You cannot justifiably rely on the finality of this decision unless notice of this decision and the right of substantially affected persons to challenge this decision has been duly published or otherwise provided to all persons substantially affected by the decision. While you are not required to publish notice of this action, you may elect to do so pursuant Rule 62-110.106(10)(a), F.A.C.

The failure 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, F.S., or to intervene in this proceeding and participate as a party to it. 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, F.A.C. If you do not publish notice of this action, this waiver may not apply to persons who have not received a clear point-of-entry.

Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us, before the deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

Mediation is not available in this proceeding.

Judicial Review

Once this decision becomes final, any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Florida Rules of Appellate Procedure 9.110 and 9.190 with the Clerk of the Department in the Office of General Counsel (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 must be filed within 30 days from the date this action is filed with the Clerk of the Department.

EXECUTION AND CLERKING
Executed in Ft. Myers, Florida.
STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Jon M. Iglehart
Director of District Management

Attachment:
Permit Number: F**CERTIFICATE OF SERVICE**
The undersigned duly designated deputy clerk hereby certifies that this document and all attachments were sent on the filing date below to the following listed persons:

Ashley Miele, P.E. Kimley-Horn & Associates, Inc., ashley.miele@kimley-horn.com
Madeline Kender, Kimley-Horn & Associates, Inc., madeline.kender@kimley-horn.com

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.

March 17, 2020
Clerk Date

FLORIDA DEPARTMENT OF Environmental Protection

South District Office
2295 Victoria Ave, Suite 364
Ft. Myers, Florida 33901-3875

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

STATE OF FLORIDA
DOMESTIC WASTEWATER FACILITY PERMIT

PERMITTEE:
City of North Port

RESPONSIBLE OFFICIAL:
Rick Newkirk, Utilities Director
6644 West Price Blvd.
North Port, Florida 34291
rnewkirk@cityofnorthport.com

PERMIT NUMBER: FLA984841
FILE NUMBER: FLA984841-004-DWF
REVISION DATE: **March 17, 2020**
EFFECTIVE DATE: **November 25, 2019**
EXPIRATION DATE: **November 24, 2024**

FACILITY:
Southwest WRF
US 41 and River Rd
Sarasota, FL 34231
Sarasota County
Latitude: 27° 02' 20.17" N, Longitude: 82° 18' 15.46" W

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and applicable rules of the Florida Administrative Code (F.A.C.). This permit does not constitute authorization to discharge wastewater other than as expressly stated in this permit. This permit is accompanied by an Administrative Order, pursuant to paragraphs 403.088(2)(e) and (f), Florida Statutes. Compliance with Administrative Order, AO-FLA984841-003, is a specific requirement of this permit. The above-named permittee is hereby authorized to construct and operate the facilities in accordance with the documents attached hereto and specifically described as follows:

WASTEWATER TREATMENT:

A 4.0 million gallons per day (MGD) annual average daily flow (AADF), Modified Ludzack-Ettinger (MLE), domestic wastewater treatment plant. This facility is to be constructed in two 2-MGD phases. The major units of the facility are headworks, MLE biological treatment, filtration, high-level disinfection, reject storage, and residual storage and pumping.

Phase I: A headworks structure with four influent channels (two mechanical screens). one bypass channel with a manual bar screen. and a single stacked tray grit removal system; two MLE basins, each with a 0.120 million gallon (MG) anoxic zone and 0.340 MG aeration zone for a total volume of 0.46 MG; two secondary clarifiers, each with a volume of 0.298 MG and a surface area of 3,318 square feet; two deep bed filters of 525 square feet; two chlorine contact chambers of 54,000 gallons each; an aerobic digester that is divided equally in two basins with a total volume of 0.364 MG; a centrifuge; chemical feed systems; a 2.0 MG reject tank; and a Class 1 deep injection well with a minimum capacity of 4.0 MGD to dispose of wet weather flows from the system.

Phase II: The Southwest Wastewater Reclamation Facility (SWWWRF) will be permitted to treat 4.0 MGD AADF when the following facilities are installed: The addition of a third mechanical bar screen in the headworks; two MLE basins, each with a 0.120 MG anoxic zone and 0.340 MG aeration zone; a third deep bed filter of 525 square feet; and one additional CCC with a capacity of 54,000 gallons; a second centrifuge; and a 2.0 MG reject water ground storage tank.

REUSE OR DISPOSAL:

Underground Injection U-001: An underground injection well system consisting of one Class I underground injection well discharging to Class G-IV ground water. The permit for the injection well is 0361012-001-UC/IX, WACS ID: 105134. The well is permitted to accept a maximum flow of 12.0 MGD of domestic wastewater from the facility. The Underground Injection Well System U-001 is located approximately at latitude 27° 02' 18.89" N, longitude 82° 18' 13.96" W.

Land Application R-001: The facility provides reclaimed water to the West Villages Reuse Distribution System, permitted under number FLAB07114.

IN ACCORDANCE WITH: The limitations, monitoring requirements, and other conditions set forth in this cover sheet and Part I through Part IX on pages 1 through 17 of this permit.

I. RECLAIMED WATER AND EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Effluent Systems

1. During the period beginning on the effective date and lasting through the expiration date of this permit, the permittee is authorized to discharge effluent U-001 and R-001. Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.B.8:

			Reclaimed Water Condition		Monitoring Requirements			
Parameter	Units	Max./ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow (to reuse system)	MGD	Max Max	4.82 Report	Annual Average Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-02	See I.A.5 and I.A.13
Flow (to injection well)	MGD	Max Max	12.0 Report	Annual Average Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-03	See I.A.5
BOD, Carbonaceous 5 day, 20C	mg/L	Max Max Max Max	20.0 30.0 45.0 60.0	Annual Average Monthly Average Weekly Average Single Sample	Weekly	16-hr FPC	EFA-01	
Solids, Total Suspended	mg/L	Max	5.0	Single Sample	Daily; 24 hours	Grab	EFB-01	
Coliform, Fecal	#/100mL	Max	25	Single Sample	Daily; 24 hours	Grab	EFA-01	
Coliform, Fecal	#/100mL	Max	25	Single Sample	Daily; 24 hours	Grab	EFA-02	See I.A.12
Coliform, Fecal, % less than detection	percent	Min	75	Monthly Total	Daily; 24 hours	Calculated	EFA-01	See I.A.6
Coliform, Fecal, % less than detection	percent	Min	75	Monthly Total	Daily; 24 hours	Calculated	EFA-02	See I.A.6 and I.A.12
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	Continuous	Meter	EFA-01	See I.A.4
Chlorine, Total Residual (for disinfection)	mg/L	Min	1.0	Single Sample	Continuous	Meter	EFA-01	See I.A.7 and I.A.10
Chlorine, Total Residual (for disinfection)	mg/L	Min	1.0	Single Sample	Continuous	Meter	EFA-02	See I.A.7, I.A.10 and I.A.12
Turbidity	NTU	Max	Report	Single Sample	Continuous	Meter	EFB-01	See I.A.8 and I.A.10
Giardia	cysts/100L	Max	Report	Single Sample	Bi-annually; every 2 years	Grab	EFA-01	See I.A.11
Cryptosporidium	#/100mL	Max	Report	Single Sample	Bi-annually; every 2 years	Grab	EFA-01	See I.A.11

2. Effluent samples shall be taken at the monitoring site locations listed in Permit Condition I.A.1 and as described below:

Monitoring Site Number	Description of Monitoring Site
FLW-02	Master flow meter for the reuse system
FLW-03	Flow meter for the injection well.
EFA-01	Common Effluent channel of the chlorine contact basin
EFB-01	Clearwell of the effluent filters
EFA-02	Discharge at Phase II chlorine contact chamber (western chamber)

3. Disinfection is not required for discharge to Class G-IV waters using Class I wells. However, the permittee must maintain the capability for disinfection at a level that is consistent with the alternate disposal mechanism approved for this facility pursuant to Rule 62-600.540(5), F.A.C. *[62-600.540(1)]*

4. Hourly measurement of pH during the period of required operator attendance may be substituted for continuous measurement. *[62-600.660(1)]*

5. A recording flow meter with totalizer shall be utilized to measure flow and calibrated at least once every 12 months. *[62-600.200(25)]*

6. To report the "% less than detection," count the number of fecal coliform observations that were less than detection, divide by the total number of fecal coliform observations in the month, and multiply by 100% (round to the nearest integer). *[62-600.440(6)(a)]*

7. The minimum total chlorine residual shall be limited as described in the approved operating protocol, such that the permit limitation for fecal coliform bacteria will be achieved. In no case shall the total chlorine residual be less than 1.0 mg/L. *[62-600.440(6)(b)][62-610.460(2)][62-610.463(2)]*

8. The maximum turbidity shall be limited as described in the approved operating protocol, such that the permit limitations for total suspended solids and fecal coliforms will be achieved. *[62-610.463(2)]*

9. The treatment facilities shall be operated in accordance with all approved operating protocols. Only reclaimed water that meets the criteria established in the approved operating protocol(s) may be released to system storage or to the reuse system. Reclaimed water that fails to meet the criteria in the approved operating protocol(s) shall be directed to reject storage for subsequent additional treatment or disinfection. *[62-610.320(6) and 62-610.463(2)]*

10. Instruments for continuous on-line monitoring of total residual chlorine and turbidity shall be equipped with an automated data logging or recording device. *[62-610.463(2)]*

11. Intervals between sampling for Giardia and Cryptosporidium shall not exceed five years. *[62-610.472(3)(d)]*

12. Monitoring at EFA-02 shall not be required until the completion of Phase II.

13. The permittee shall not discharge to the West Villages Improvement District general reuse service area, until written approval is received from the Department. *[62-610.800]*

B. Other Limitations and Monitoring and Reporting Requirements

1. During the period beginning on the effective date and lasting through the expiration date of this permit, the treatment facility shall be limited and monitored by the permittee as specified below and reported in accordance with condition I.B.8.:

			Limitations		Monitoring Requirements			
Parameter	Units	Max. /Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow	MGD	Max Max Max	2.0 Report Report	Annual Average Monthly Average 3-Month Rolling Average	Continuous	Recording Flow Meter with Totalizer	FLW-01	See I.B.4
Percent Capacity, (TMADF/Permitted Capacity) x 100	percent	Max	Report	Monthly Average	Monthly	Calculated	FLW-01	
BOD, Carbonaceous 5 day, 20C (Influent)	mg/L	Max	Report	Single Sample	Weekly	16-hr FPC	INF-01	See I.B.3
Solids, Total Suspended (Influent)	mg/L	Max	Report	Single Sample	Weekly	16-hr FPC	INF-01	See I.B.3

2. Samples shall be taken at the monitoring site locations listed in Permit Condition I.B.1. and as described below:

Monitoring Site Number	Description of Monitoring Site
FLW-01	Influent flow meter upstream of the headworks
INF-01	Upstream of the screens at the headworks

3. Influent samples shall be collected so that they do not contain digester supernatant or return activated sludge, or any other plant process recycled waters. *[62-600.660(4)(a)]*

4. A recording flow meter with totalizer shall be utilized to measure flow and calibrated at least once every 12 months. *[62-600.200(25)]*

5. Sampling results for giardia and cryptosporidium shall be reported on DEP Form 62-610.300(4)(a)4, Pathogen Monitoring, which is attached to this permit. This form shall be submitted to the Department's South District Office and to DEP's Reuse Coordinator in Tallahassee. *[62-610.300(4)(a)]*

6. The sample collection, analytical test methods, and method detection limits (MDLs) applicable to this permit shall be conducted using a sufficiently sensitive method to ensure compliance with applicable water quality standards and effluent limitations and shall be in accordance with Rule 62-4.246, Chapters 62-160 and 62-600, F.A.C., and 40 CFR 136, as appropriate. The list of Department established analytical methods, and corresponding MDLs (method detection limits) and PQLs (practical quantitation limits), which is titled "FAC 62-4 MDL/PQL Table (May 31, 2019)" is available at https://floridadep.gov/dear/quality-assurance/content/quality-assurance-resources. The MDLs and PQLs as described in this list shall constitute the minimum acceptable MDL/PQL values and the Department shall not accept results for which the laboratory's MDLs or PQLs are greater than those described above unless alternate MDLs and/or PQLs have been specifically approved by the Department for this permit. Any method included in the list may be used for reporting as long as it meets the following requirements:

   a. The laboratory's reported MDL and PQL values for the particular method must be equal or less than the corresponding method values specified in the Department's approved MDL and PQL list;

   b. The laboratory reported MDL for the specific parameter is less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Parameters that are listed as "report only" in the permit shall use methods that provide an MDL, which is equal to or less than the applicable water quality criteria stated in 62-302, F.A.C.; and

   c. If the MDLs for all methods available in the approved list are above the stated permit limit or applicable water quality criteria for that parameter, then the method with the lowest stated MDL shall be used.

When the analytical results are below method detection or practical quantitation limits, the permittee shall report the actual laboratory MDL and/or PQL values for the analyses that were performed following the instructions on the applicable discharge monitoring report.

Where necessary, the permittee may request approval of alternate methods or for alternative MDLs or PQLs for any approved analytical method. Approval of alternate laboratory MDLs or PQLs are not necessary if the laboratory reported MDLs and PQLs are less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Approval of an analytical method not included in the above-referenced list is not necessary if the analytical method is approved in accordance with 40 CFR 136 or deemed acceptable by the Department. *[62-4.246, 62-160]*

7. The permittee shall provide safe access points for obtaining representative samples which are required by this permit. *[62-600.650(2)]*

8. Monitoring requirements under this permit are effective on the first day of the second month following the effective date of the permit. Until such time, the permittee shall continue to monitor and report in accordance with previously effective permit requirements. If not already registered to use the Department's Ez Discharge Monitoring Report (EzDMR) system, the permittee should register now in order to begin using the EzDMR system when the monitoring requirements under this permit are effective. During the period of operation authorized by this permit, the permittee shall complete and submit to the Department Discharge Monitoring Reports (DMRs) in accordance with the frequencies specified by the REPORT type (i.e. monthly, quarterly, semiannual, annual, etc.) indicated on the DMR forms attached to this permit. Unless specified otherwise in this permit, monitoring results for each monitoring period shall be submitted in accordance with the associated DMR due dates below. DMRs shall be submitted for each required monitoring period including periods of no discharge.

REPORT Type on DMR	Monitoring Period	Submit by
Monthly	First day of month - last day of month	28th day of following month
Quarterly	January 1 - March 31 April 1 - June 30 July 1 - September 30 October 1 - December 31	April 28 July 28 October 28 January 28
Semiannual	January 1 - June 30 July 1 - December 31	July 28 January 28
Annual	January 1 - December 31	January 28

The permittee shall submit the completed DMR to the Department by the twenty-eighth (28th) of the month following the month of operation. Please contact the Department at (239) 344-5600 if you are unable to submit the completed DMR electronically using the EzDMR system.

The Department electronic EzDMR system at the time of permit issuance is available through the DEP Business Portal at: http://www.fldepportal.com/go/submit-report/

[62-620.610(18)][62-600.680(1)]

9. During the period of operation authorized by this permit, reclaimed water or effluent shall be monitored annually for the primary and secondary drinking water standards contained in Chapter 62-550, F.A.C., (except for asbestos, total coliform, color, odor, and residual disinfectants). These monitoring results shall be reported to the Department annually on the DMR. During years when a permit is not renewed, a certification stating that no new non-domestic wastewater dischargers have been added to the collection system since the last reclaimed water or effluent analysis was conducted may be submitted with the signed DMR in lieu of performing the analysis. When such a certification is submitted with the DMR, monitoring not required this period should be noted on the DMR. The annual reclaimed water or effluent analysis report, and certification if applicable, shall be completed and submitted in a timely manner so as to be received by the Department at the address identified on the DMR by January 28 of each year. Approved analytical methods identified in Rule 62-620.100(3)(j), F.A.C., shall be used for the analysis. If no method is included for a parameter, methods specified in Chapter 62-550, F.A.C., shall be used. *[62-600.660(2) and (3)(d)][62-600.680(2)][62-610.300(4)]*

10. The permittee shall submit an Annual Reuse Report using DEP Form 62-610.300(4)(a)2. on or before January 1 of each year. *[62-610.870(3)]*

11. Operating protocol(s) shall be reviewed and updated periodically to ensure continuous compliance with the minimum treatment and disinfection requirements. Updated operating protocols shall be submitted to the Department's South District Office for review and approval upon revision of the operating protocol(s) and with each permit application. *[62-610.320(6)] [62-610.463(2)]*

12. The permittee shall maintain an inventory of storage systems. The inventory shall be submitted to the Department's South District Office at least 30 days before reclaimed water will be introduced into any new storage system. The inventory of storage systems shall be attached to the annual submittal of the Annual Reuse Report. *[62-610.464(5)]*

13. Except as otherwise specified in this permit, all reports and other information required by this permit, including 24-hour notifications, shall be submitted to the Department in a digital format when practicable. The Department's electronic mailing address is:

    SouthDistrict@FloridaDEP.gov

    Please contact the Department at (239) 344-5600 if you are unable to submit electronically.

    [62-620.610(11)]

14. All reports and other information shall be signed in accordance with the requirements of Rule 62-620.305, F.A.C. *[62-620.305]*

II. BIOSOLIDS MANAGEMENT REQUIREMENTS

A. Basic Requirements

1. Biosolids generated by this facility may be transferred to a biosolids treatment facility or disposed of in a Class I solid waste landfill. Transferring biosolids to an alternative biosolids treatment facility does not require a permit modification. However, use of an alternative biosolids treatment facility requires submittal of a copy of the agreement pursuant to Rule 62-640.880(1)(c), F.A.C., along with a written notification to the Department at least 30 days before transport of the biosolids. *[62-620.320(6), 62-640.880(1)]*

2. The permittee shall monitor and keep records of the quantities of biosolids generated, received from source facilities, treated, distributed and marketed, land applied, used as a biofuel or for bioenergy, transferred to another facility, or landfilled. These records shall be kept for a minimum of five years. *[62-640.650(4)(a)]*

3. Biosolids quantities shall be monitored by the permittee as specified below. Results shall be reported on the permittee's Discharge Monitoring Report for Monitoring Group RMP-Q in accordance with Condition I.B.8.

			Biosolids Limitation		Monitoring Requirements			
Parameter	Units	Max. /Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Biosolids Quantity (Landfilled)	dry tons	Max	Report	Monthly Total	Monthly	Calculated	RMP-1	
Biosolids Quantity (Transferred)	dry tons	Max	Report	Monthly Total	Monthly	Calculated	RMP-1	

[62-640.650(5)(a)1]

4. Biosolids quantities shall be calculated as listed in Permit Condition II.3 and as described below:

Monitoring Site Number	Description of Monitoring Site Calculations
RMP-1	Calculated mass of biosolids removed from the facility

5. The treatment, management, transportation, use, land application, or disposal of biosolids shall not cause a violation of the odor prohibition in subsection 62-296.320(2), F.A.C. *[62-640.400(6)]*

6. Storage of biosolids or other solids at this facility shall be in accordance with the Facility Biosolids Storage Plan. *[62-640.300(4)]*

7. Biosolids shall not be spilled from or tracked off the treatment facility site by the hauling vehicle. *[62-640.400(9)]*

B. Disposal

1. Disposal of biosolids, septage, and "other solids" in a solid waste disposal facility, or disposal by placement on land for purposes other than soil conditioning or fertilization, such as at a monofill, surface impoundment, waste pile, or dedicated site, shall be in accordance with Chapter 62-701, F.A.C. *[62-640.100(6)(b) & (c)]*

C. Transfer

1. The permittee shall not be held responsible for treatment and management violations that occur after its biosolids have been accepted by a permitted biosolids treatment facility with which the source facility has an agreement in accordance with subsection 62-640.880(1)(c), F.A.C., for further treatment, management, or disposal. *[62-640.880(1)(b)]*

2. The permittee shall keep hauling records to track the transport of biosolids between the facilities. The hauling records shall contain the following information:

Source Facility
1. Date and time shipped
2. Amount of biosolids shipped
3. Degree of treatment (if applicable)
4. Name and ID Number of treatment facility
5. Signature of responsible party at source facility
6. Signature of hauler and name of hauling firm

Biosolids Treatment Facility or Treatment Facility
1. Date and time received
2. Amount of biosolids received
3. Name and ID number of source facility
4. Signature of hauler
5. Signature of responsible party at treatment facility

A copy of the source facility hauling records for each shipment shall be provided upon delivery of the biosolids to the biosolids treatment facility or treatment facility. The treatment facility permittee shall report to the Department within 24 hours of discovery any discrepancy in the quantity of biosolids leaving the source facility and arriving at the biosolids treatment facility or treatment facility.

[62-640.880(4)]

D. Receipt

1. If the permittee intends to accept biosolids from other facilities, a permit revision is required pursuant to paragraph 62-640.880(2)(d), F.A.C. *[62-640.880(2)(d)]*

III. GROUND WATER REQUIREMENTS

Section III is not applicable to this facility.

IV. ADDITIONAL REUSE AND LAND APPLICATION REQUIREMENTS

Section IV is not applicable to this facility.

V. OPERATION AND MAINTENANCE REQUIREMENTS

A. Staffing Requirements

1. During the period of operation authorized by this permit, the wastewater facilities shall be operated under the supervision of one or more operators certified in accordance with Chapter 62-602, F.A.C. In accordance with Chapter 62-699, F.A.C., this facility is a Category II, Class B facility and, at a minimum, operators with appropriate certification must be on the site as follows:

   a. A Class C or higher operator 6 hours/day for 7 days/week. The lead/chief operator must be a Class B operator, or higher.

   b. After the time plant flow reaches 1.0 MGD on a consecutive three-month rolling average daily flow basis: a Class C or higher operator 16 hours/day for 7 days/week

   [62-620.630(3)][62-699.310] [62-610.462]

2. The lead/chief operator shall be employed at the plant full time. "Full time" shall mean at least 4 days per week, working a minimum of 35 hours per week, including leave time. A licensed operator shall be on-site and in charge of each required shift for periods of required staffing time when the lead/chief operator is not on-site. An operator meeting the lead/chief operator class for the treatment plant shall be available during all periods of plant operation. "Available" means able to be contacted as needed to initiate the appropriate action in a timely manner. *[62-699.311(10), (6) and (1)]*

3. An operator meeting the lead/chief operator class for the plant shall be available during all periods of plant operation. "Available" means able to be contacted as needed to initiate the appropriate action in a timely manner. *[62-699.311(1)]*

B. Capacity Analysis Report and Operation and Maintenance Performance Report Requirements

1. When the three-month average daily flow for the most recent three consecutive months exceeds 50 percent of the permitted capacity of the treatment plant or reuse and disposal systems, the permittee shall submit to the Department a capacity analysis report. This initial capacity analysis report shall be submitted within 180 days after the last day of the last month of the three-month period referenced above or with the permittee's application for permit renewal, whichever occurs first. The capacity analysis report shall be prepared in accordance with Rule 62-600.405, F.A.C. *[62-600.405(4)]*

2. The application to renew this permit shall include a detailed operation and maintenance performance report prepared in accordance with Rule 62-600.735, F.A.C. *[62-600.735(1)]*

C. Recordkeeping Requirements

1. The permittee shall maintain the following records and make them available for inspection on the site of the permitted facility.

   a. Records of all compliance monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, including, if applicable, a copy of the laboratory certification showing the certification number of the laboratory, for at least three years from the date the sample or measurement was taken;

   b. Copies of all reports required by this permit for at least three years from the date the report was prepared;

   c. Records of all data, including reports and documents, used to complete the application for this permit for at least three years from the date the application was filed;

d. Monitoring information, including a copy of the laboratory certification showing the laboratory certification number, related to the residuals use and disposal activities for the time period set forth in Chapter 62-640, F.A.C., for at least three years from the date of sampling or measurement;

e. A copy of the current wastewater facility permit;

f. Copies of the current operation and maintenance manuals for the wastewater facility and the collection/transmission systems owned or operated by the wastewater facility permittee as required by Chapters 62-600 and 62-604, F.A.C.;

g. A copy of any required record drawings for the wastewater facility and the collection/transmission systems owned or operated by the wastewater facility permittee;

h. Copies of the licenses of the current certified operators;

i. Copies of the logs and schedules showing plant operations and equipment maintenance for three years from the date of the logs or schedules. The logs shall, at a minimum, include identification of the plant; the signature and license number of the operator(s) and the signature of the person(s) making any entries; date and time in and out; specific operation and maintenance activities, including any preventive maintenance or repairs made or requested; results of tests performed and samples taken, unless documented on a laboratory sheet; and notation of any notification or reporting completed in accordance with Rule 62-602.650(3), F.A.C. The logs shall be maintained on-site in a location accessible to 24-hour inspection, protected from weather damage, and current to the last operation and maintenance performed; and

j. Records of biosolids quantities, treatment, monitoring, and hauling for at least five years.

[62-620.350, 62-604.500, 62-602.650, 62-640.650(4)]

VI. SCHEDULES

1. In accordance with section 403.088(2)(e) and (f), Florida Statutes, a compliance schedule for this facility is contained in Administrative Order AO-FLA984841-003 which is hereby incorporated by reference.

2. The permittee is not authorized to discharge to waters of the state after the expiration date of this permit, unless:

   a. The permittee has applied for renewal of this permit at least 180 days before the expiration date of this permit using the appropriate forms listed in Rule 62-620.910, F.A.C., and in the manner established in the Department of Environmental Protection Guide to Permitting Wastewater Facilities or Activities Under Chapter 62-620, F.A.C., including submittal of the appropriate processing fee set forth in Rule 62-4.050, F.A.C.; or

   b. The permittee has made complete the application for renewal of this permit before the permit expiration date.

   [62-620.335(1) - (4)]

VII. INDUSTRIAL PRETREATMENT PROGRAM REQUIREMENTS

This facility is not required to have a pretreatment program at this time. *[62-625.500]*

VIII. OTHER SPECIFIC CONDITIONS

1. In the event that the wastewater facilities or equipment, including collection/transmission systems, no longer function as intended, are no longer safe in terms of public health and safety (including inactive or abandoned facilities), or odor, noise, aerosol drift, or lighting adversely affects neighboring developed areas at the levels prohibited by paragraphs 62-600.400(2)(a) and 62-604.400(2)(c), F.A.C., corrective action (which may include additional maintenance or modifications of the permitted facilities) shall be taken by the permittee. Other corrective action may be required to ensure compliance with rules of the Department. Additionally, the treatment, management, use or land application of residuals shall not cause a violation of the odor prohibition in subsection 62-296.320(2), F.A.C. *[62-600.410(5), 62-604.500(3) and 62-640.400(6)]*

2. All collection/transmission systems shall be operated and maintained so as to provide uninterrupted service. *[62-604.500(2)]*

3. The deliberate introduction of stormwater in any amount into collection/transmission systems designed solely for the introduction (and conveyance) of domestic/industrial wastewater; or the deliberate introduction of stormwater into collection/transmission systems designed for the introduction or conveyance of combinations of storm and domestic/industrial wastewater in amounts which may reduce the efficiency of pollutant removal by the treatment plant is prohibited, except as provided by Rule 62-610.472, F.A.C. *[62-604.130(3)]*

4. Cross-connection, as defined in Rule 62-550.200, F.A.C., between the wastewater facility, including the collection/transmission system, and a potable water system is prohibited. *[62-550.360][62-604.130(3)]*

5. The collection/transmission operation and maintenance manual shall be maintained and revised periodically in accordance with subsection 62-604.500(4), F.A.C., to reflect any alterations performed or to reflect experience resulting from operation. However, a new operation and maintenance manual is not required to be developed for each project if there is already an existing manual that is applicable to the facilities being constructed. *[62-604.500(4)]*

6. Collection/transmission system overflows shall be reported to the Department in accordance with Permit Condition IX. 20. *[62-604.550] [62-620.610(20)]*

7. The operating authority of a collection/transmission system and the permittee of a treatment plant are prohibited from accepting connections of wastewater discharges which have not received necessary pretreatment, or which contain materials or pollutants (other than normal domestic wastewater constituents):

   a. Which may cause fire or explosion hazards; or

   b. Which may cause excessive corrosion or other deterioration of wastewater facilities due to chemical action or pH levels; or

   c. Which are solid or viscous and obstruct flow or otherwise interfere with wastewater facility operations or treatment; or

   d. Which result in the wastewater temperature at the introduction of the treatment plant exceeding $40^{o}C$ or otherwise inhibiting treatment; or

   e. Which result in the presence of toxic gases, vapors, or fumes that may cause worker health and safety problems.

   [62-604.130(5)]

8. The treatment facility, storage ponds for Part II systems, rapid infiltration basins, and/or infiltration trenches shall be enclosed with a fence or otherwise provided with features to discourage the entry of animals and unauthorized persons. *[62-600.400(2)(b)]*

9. Screenings and grit removed from the wastewater facilities shall be collected in suitable containers and hauled to a Department approved Class I landfill or to a landfill approved by the Department for receipt/disposal of screenings and grit. *[62-701.300(1)(a)]*

10. Where required by Chapter 471 or Chapter 492, F.S., applicable portions of reports that must be submitted under this permit shall be signed and sealed by a professional engineer or a professional geologist, as appropriate. *[62-620.310(4)]*

11. The permittee shall provide verbal notice to the Department's South District Office as soon as practical after discovery of a sinkhole or other karst feature within an area for the management or application of wastewater, wastewater residuals (sludges), or reclaimed water. The permittee shall immediately implement measures appropriate to control the entry of contaminants, and shall detail these measures to the Department's South District Office in a written report within 7 days of the sinkhole discovery. *[62-620.320(6)]*

12. The permittee shall provide notice to the Department of the following:

    a. Any new introduction of pollutants into the facility from an industrial discharger which would be subject to Chapter 403, F.S., and the requirements of Chapter 62-620, F.A.C., if it were directly discharging those pollutants; and

    b. Any substantial change in the volume or character of pollutants being introduced into that facility by a source which was identified in the permit application and known to be discharging at the time the permit was issued.

    Notice shall include information on the quality and quantity of effluent introduced into the facility and any anticipated impact of the change on the quantity or quality of effluent or reclaimed water to be discharged from the facility. If pretreatment becomes necessary, this permit may be modified to require the permittee to develop and implement a local pretreatment program in accordance with the requirements of Chapter 62-625, F.A.C.

[62-620.625(2)]

IX. GENERAL CONDITIONS

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to Chapter 403, Florida Statutes. Any permit noncompliance constitutes a violation of Chapter 403, Florida Statutes, and is grounds for enforcement action, permit termination, permit revocation and reissuance, or permit revision. *[62-620.610(1)]*

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviations from the approved drawings, exhibits, specifications, or conditions of this permit constitutes grounds for revocation and enforcement action by the Department. *[62-620.610(2)]*

3. As provided in subsection 403.087(7), 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 authorize any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit or authorization that may be required for other aspects of the total project which are not addressed in this permit. *[62-620.610(3)]*

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. *[62-620.610(4)]*

5. This permit does not relieve the permittee from liability and penalties 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; 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. The permittee shall take all reasonable steps to minimize or prevent any discharge, reuse of reclaimed water, or residuals use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. *[62-620.610(5)]*

6. If the permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee shall apply for and obtain a new permit. *[62-620.610(6)]*

7. The permittee shall at all times 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. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to maintain or achieve compliance with the conditions of the permit. *[62-620.610(7)]*

8. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit revision, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. *[62-620.610(8)]*

9. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, including an authorized representative of the Department and authorized EPA personnel, when applicable, upon presentation of credentials or other documents as may be required by law, and at reasonable times, depending upon the nature of the concern being investigated, to:

   a. Enter upon the permittee's premises where a regulated facility, system, or activity is located or conducted, or where records shall be kept under the conditions of this permit;

   b. Have access to and copy any records that shall be kept under the conditions of this permit;

   c. Inspect the facilities, equipment, practices, or operations regulated or required under this permit; and

   d. Sample or monitor any substances or parameters at any location necessary to assure compliance with this permit or Department rules.

   [62-620.610(9)]

10. 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 as such use is proscribed by Section 403.111, F.S., or Rule 62-620.302, F.A.C. Such evidence shall only be used to the extent that it is consistent with the Florida Rules of Civil Procedure and applicable evidentiary rules. *[62-620.610(10)]*

11. When requested by the Department, the permittee shall within a reasonable time provide any information required by law which is needed to determine whether there is cause for revising, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also provide to the Department upon request copies of records required by this permit to be kept. If the permittee becomes aware of relevant facts that were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be promptly submitted, or corrections promptly reported to the Department. *[62-620.610(11)]*

12. Unless specifically stated otherwise in Department rules, the permittee, in accepting this permit, 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. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard. *[62-620.610(12)]*

13. The permittee, in accepting this permit, agrees to pay the applicable regulatory program and surveillance fee in accordance with Rule 62-4.052, F.A.C. *[62-620.610(13)]*

14. This permit is transferable only upon Department approval in accordance with Rule 62-620.340, F.A.C. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department. *[62-620.610(14)]*

15. The permittee shall give the Department written notice at least 60 days before inactivation or abandonment of a wastewater facility or activity and shall specify what steps will be taken to safeguard public health and safety during and following inactivation or abandonment. *[62-620.610(15)]*

16. The permittee shall apply for a revision to the Department permit in accordance with Rules 62-620.300, F.A.C., and the Department of Environmental Protection Guide to Permitting Wastewater Facilities or Activities Under Chapter 62-620, F.A.C., at least 90 days before construction of any planned substantial modifications to the permitted facility is to commence or with Rule 62-620.325(2), F.A.C., for minor modifications to the permitted

facility. A revised permit shall be obtained before construction begins except as provided in Rule 62-620.300, F.A.C. *[62-620.610(16)]*

17. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The permittee shall be responsible for any and all damages which may result from the changes and may be subject to enforcement action by the Department for penalties or revocation of this permit. The notice shall include the following information:

    a. A description of the anticipated noncompliance;

    b. The period of the anticipated noncompliance, including dates and times; and

    c. Steps being taken to prevent future occurrence of the noncompliance.

    [62-620.610(17)]

18. Sampling and monitoring data shall be collected and analyzed in accordance with Rule 62-4.246 and Chapters 62-160, 62-600, and 62-610, F.A.C., and 40 CFR 136, as appropriate.

    a. Monitoring results shall be reported at the intervals specified elsewhere in this permit and shall be reported on a Discharge Monitoring Report (DMR), DEP Form 62-620.910(10), or as specified elsewhere in the permit.

    b. If the permittee monitors any contaminant more frequently than required by the permit, using Department approved test procedures, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

    c. Calculations for all limitations which require averaging of measurements shall use an arithmetic mean unless otherwise specified in this permit.

    d. Except as specifically provided in Rule 62-160.300, F.A.C., any laboratory test required by this permit shall be performed by a laboratory that has been certified by the Department of Health Environmental Laboratory Certification Program (DOH ELCP). Such certification shall be for the matrix, test method and analyte(s) being measured to comply with this permit. For domestic wastewater facilities, testing for parameters listed in Rule 62-160.300(4), F.A.C., shall be conducted under the direction of a certified operator.

    e. Field activities including on-site tests and sample collection shall follow the applicable standard operating procedures described in DEP-SOP-001/01 adopted by reference in Chapter 62-160, F.A.C.

    f. Alternate field procedures and laboratory methods may be used where they have been approved in accordance with Rules 62-160.220, and 62-160.330, F.A.C.

    [62-620.610(18)]

19. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule detailed elsewhere in this permit shall be submitted no later than 14 days following each schedule date. *[62-620.610(19)]*
20. The permittee shall report to the Department any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and time, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. For noncompliance events related to sanitary sewer overflows or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (sanitary sewer overflows or bypass events), type of sewer overflow (e.g., manhole), discharge volumes by the treatment works treating domestic sewage, types of human health and environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather. The written submission may be provided electronically using the Department's Business Portal at http://www.fldepportal.com/go/ (via "Submit" followed by "Report" or "Registration/Notification").

Notice required under paragraph (d) may be provided together with the written submission using the Business Portal. All noncompliance events related to sanitary sewer overflows or bypass events submitted after December 21, 2020 shall be submitted electronically.

(a) The following shall be included as information which must be reported within 24 hours under this condition:

1. Any unanticipated bypass which causes any reclaimed water or the effluent to exceed any permit limitation or results in an unpermitted discharge,

2. Any upset which causes any reclaimed water or the effluent to exceed any limitation in the permit,

3. Violation of a maximum daily discharge limitation for any of the pollutants specifically listed in the permit for such notice, and

4. Any unauthorized discharge to surface or ground waters.

(b) Oral reports as required by this subsection shall be provided as follows:

1. For unauthorized releases or spills of treated or untreated wastewater reported pursuant to subparagraph (a)4, that are in excess of 1,000 gallons per incident, or where information indicates that public health or the environment will be endangered, oral reports shall be provided to the Department by calling the STATE WATCH OFFICE TOLL FREE NUMBER (800) 320-0519, as soon as practical, but no later than 24 hours from the time the permittee becomes aware of the discharge. The permittee, to the extent known, shall provide the following information to the State Watch Office:

a. Name, address, and telephone number of person reporting;

b. Name, address, and telephone number of permittee or responsible person for the discharge;

c. Date and time of the discharge and status of discharge (ongoing or ceased);

d. Characteristics of the wastewater spilled or released (untreated or treated, industrial or domestic wastewater);

e. Estimated amount of the discharge;

f. Location or address of the discharge;

g. Source and cause of the discharge;

h. Whether the discharge was contained on-site, and cleanup actions taken to date;

i. Description of area affected by the discharge, including name of water body affected, if any; and

j. Other persons or agencies contacted.

2. Oral reports, not otherwise required to be provided pursuant to subparagraph (b)1. above, shall be provided to the Department within 24 hours from the time the permittee becomes aware of the circumstances.

(c) If the oral report has been received within 24 hours, the noncompliance has been corrected, and the noncompliance did not endanger health or the environment, the Department shall waive the written report.

(d) In accordance with Section 403.077, F.S., unauthorized releases or spills reportable to the StateWatch Office pursuant to subparagraph (b)1. above shall also be reported to the Department within 24 hours from the time the permittee becomes aware of the discharge. The permittee shall provide to the Department information reported to the State Watch Office. Notice of unauthorized releases or spills may be provided to the Department through the Department's Public Notice of Pollution web page at https://floridadep.gov/pollutionnotice.

1. If, after providing notice pursuant to paragraph (d) above, the permittee determines that a reportable unauthorized release or spill did not occur or that an amendment to the notice is warranted, the permittee may submit additional notice to the Department documenting such determination.

2. If, after providing notice pursuant to paragraph (d) above, the permittee discovers that a reportable unauthorized release or spill has migrated outside the property boundaries of the installation, the permittee must provide an additional notice to the Department that the release has migrated outside the property boundaries within 24 hours after its discovery of the migration outside of the property boundaries.

[62-620.610(20)] [62-620.100(3)] [403.077, F.S.]

21. The permittee shall report all instances of noncompliance not reported under Permit Conditions IX.17., IX.18., or IX.19. of this permit at the time monitoring reports are submitted. This report shall contain the same information required by Permit Condition IX.20. of this permit. *[62-620.610(21)]*

22. Bypass Provisions.

    a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment works.

    b. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless the permittee affirmatively demonstrates that:

        (1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

        (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

        (3) The permittee submitted notices as required under Permit Condition IX.22.c. of this permit.

    c. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Department, if possible at least 10 days before the date of the bypass. The permittee shall submit notice of an unanticipated bypass within 24 hours of learning about the bypass as required in Permit Condition IX.20. of this permit. A notice shall include a description of the bypass and its cause; the period of the bypass, including exact dates and times; if the bypass has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass.

    d. The Department shall approve an anticipated bypass, after considering its adverse effect, if the permittee demonstrates that it will meet the three conditions listed in Permit Condition IX.22.b.(1) through (3) of this permit.

    e. A permittee may allow any bypass to occur which does not cause reclaimed water or effluent limitations to be exceeded if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Permit Condition IX.22.b. through d. of this permit.

    [62-620.610(22)]

23. Upset Provisions.

    a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee.

        (1) An upset does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, careless or improper operation.

        (2) An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of upset provisions of Rule 62-620.610, F.A.C., are met.

    b. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:

        (1) An upset occurred and that the permittee can identify the cause(s) of the upset;

        (2) The permitted facility was at the time being properly operated;

        (3) The permittee submitted notice of the upset as required in Permit Condition IX.20. of this permit; and

        (4) The permittee complied with any remedial measures required under Permit Condition IX.5. of this permit.

    c. In any enforcement proceeding, the burden of proof for establishing the occurrence of an upset rests with the permittee.

    d. Before an enforcement proceeding is instituted, no representation made during the Department review of a claim that noncompliance was caused by an upset is final agency action subject to judicial review.

[62-620.610(23)]

Executed in Ft. Myers, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

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Jon M. Iglehart, Director of District Management