

RESOLUTION 16-24

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

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

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

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

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

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

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

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

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

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

Section 1. Recitals.

The above recitals are true and correct and are incorporated herein by this reference.

Section 2. Approval of Plan.

The Stormwater facilities Plan, prepared by Tetra Tech, Inc. dated July 2016, and attached as Exhibit A is hereby approved. The Plan is approved by Town Council with the understanding that approval is subject to changes as may be required by FDEP in conjunction with its review, or the State Clearinghouse. The Planning Document Review checklist is attached hereto as Exhibit B.

Section 3. Authorization of Town Officials.

The Town Manager, and or his designee, is authorized to take all actions necessary to implement the recommendations of the Plan and to execute any documents required in relation to the SRF application.

Section 4. Effective Date.

This resolution becomes effective immediately upon its adoption.

THE FOREGOING RESOLUTION was adopted by the Town Council upon a motion by Council Member Cereceda and seconded by Council Member Hosafros and upon being put to a vote, the result was as follows:

| | | | |
|--------------------------------|-----|---------------------------------|-----|
| Dennis C. Boback, Mayor | Nay | Summer Stockton, Vice Mayor | Aye |
| Anita Cereceda, Council Member | Aye | Rexann Hosafros, Council Member | Aye |
| Tracey Gore, Council Member | Nay | | |

DULY PASSED AND ADOPTED THIS 22nd DAY OF AUGUST, 2016.

ATTEST

TOWN OF FORT MYERS BEACH

By: 
Michelle D. Mayher, Town Clerk

By: 
Dennis C. Boback, Mayor

Approved as to Form:

By: 
Dawn E. Perry-Lehnert
Town Attorney



STORMWATER FACILITIES PLAN





TETRA TECH

Executive Summary

EXECUTIVE SUMMARY

Tetra Tech has been tasked by the Town to develop a facilities plan for projected stormwater improvements. This plan is intended to aid the Town in securing necessary funding for the implementation of the plan as well as identifying existing deficiencies and proposed improvements within the system. At this time, portions of the Town have undergone stormwater retrofits or are under design.

The scope of the facilities plan is described below:

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

The Town has begun a retrofit program to improve existing infrastructure within certain portions of the island. Namely, the *North Estero Stormwater Improvements Project* and *Water Main Replacement and Drainage Improvements for the Basin Based Neighborhood Phases 1A and 1B* have been constructed and are in operation. Plans for these projects are located in **Attachment 1**. The *North Estero Phase II* project is currently under design and has been divided into two sub-phases, IIA and IIB, to accommodate an accelerated design and construction schedule. This project encompasses residential and commercial areas at the north end of the Town from Carlos Circle to Palermo Circle. Phase IIA comprises Carlos Circle, Matanzas Court, Lagoon Street, and Primo Drive. Phase IIB comprises Crescent Street, First Street, Second Street, Third Street, Fourth Street, Fifth Street, Harbor Court, Bonita Street, Palermo Circle, and Santos Road. All other areas within the Town have been analyzed and evaluated at a planning level to identify stormwater needs and potential improvement options. The current design plans for *North Estero Phase IIA* (streets completed by Tetra Tech) are included in **Appendix A**. These plans are at various levels of design and have been on hold pending Town Council approval of this document. A map of the Town showing the planning area covered herein, limits of the recently completed areas, and areas currently under design and associated costs is shown in **Figure A**.

Within the limits of the planning area and including the areas currently under design, the town is responsible for the maintenance of 132 acres of right-of-way. The combined residential and Town right-of-way runoff area, which is drainage basin area, included in this plan is approximately 409 acres. Of this, approximately 10 acres have been identified as having no infrastructure. Fifty-nine basins, with a total area of 200 acres, contain a minimal amount of infrastructure (along 25% or less of the roadways). Eighteen basins, with a total area of 65 acres, contain a medium amount of infrastructure (along 25-75% of the roadways). Twenty-nine basins, with a total area of 134 acres, contain the largest amount of infrastructure (along greater than 75% of the roadways). A summary of the infrastructure provided by the Town is given in the following table. Private commercial development accounts for 320 acres of basin area and is responsible for its own stormwater management. A majority of these developments drains to the bay and do not contribute runoff to the Town's stormwater management system. Lee County right-of-way within the Town totals 57 acres, solely Estero Boulevard right-of-way, and the total basin area that contributes to this area comprises 236 acres.

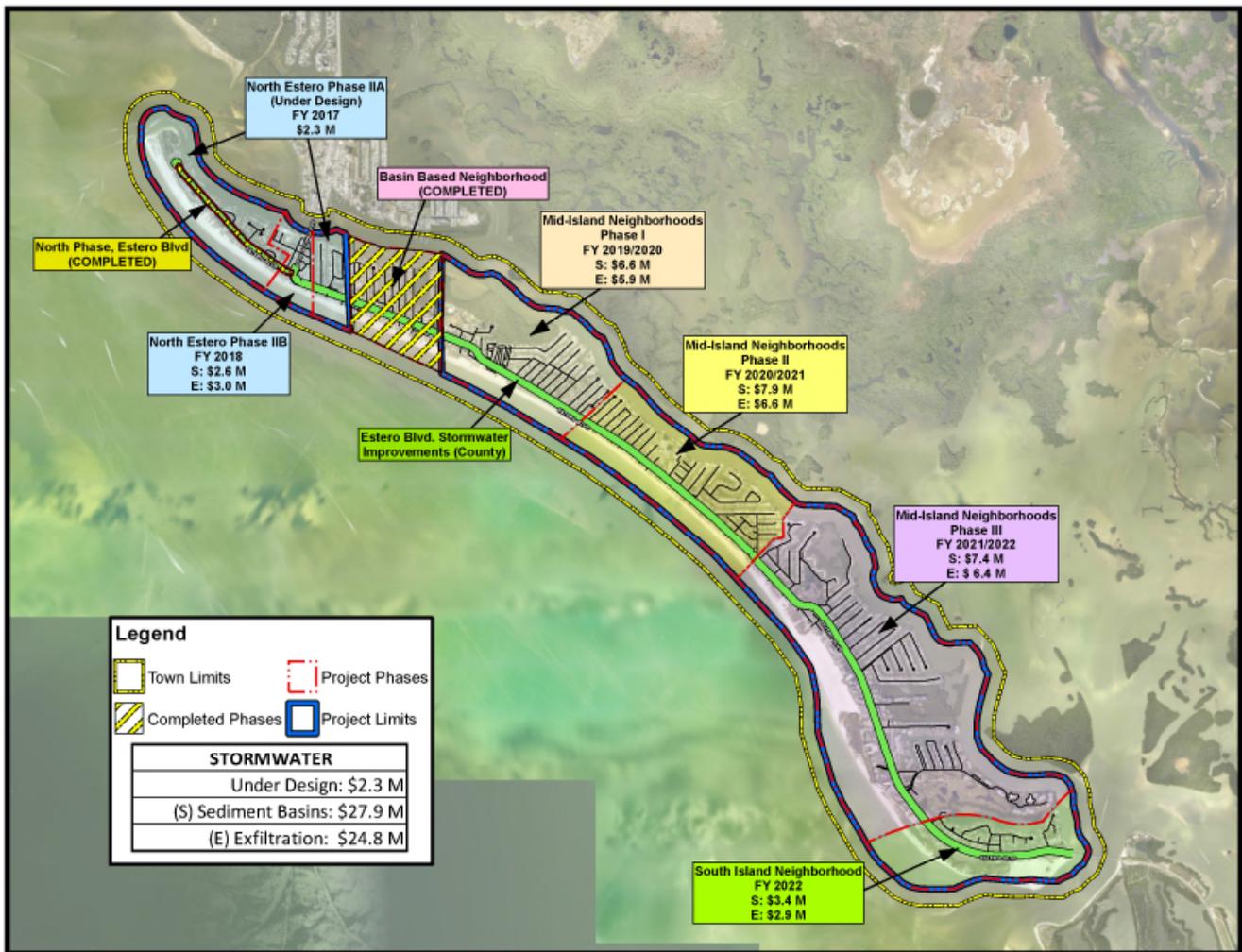


Figure A. Fort Myers Beach Stormwater Improvement Projects.

Summary of Existing Town Infrastructure

| Amount of Infrastructure | Number of Basins | Basin Area in Acres | Percentage of Total Town Basin Area |
|------------------------------|------------------|---------------------|-------------------------------------|
| No Infrastructure | 4 | 10 | 2.4% |
| Along 25% or less of roadway | 59 | 200 | 48.9% |
| Along 25% to 75% of roadway | 18 | 65 | 15.9% |
| Along 75% or more of roadway | 29 | 134 | 32.8% |
| Total | 110 | 409 | 100% |

The existing stormwater management system is in need of improvements over the next five years to meet the Town's level of service (LOS) goals and reduce nuisance flooding throughout the Town's public rights-of-way. In 2013, CDM Smith completed a stormwater master plan for the Town and suggested recommendations for improvements using three areas as a representative sample of the Town's system: 1) School Street to Lovers Lane, 2) Donora Boulevard to Hibiscus Drive, and 3) Lazy Way to Aberdeen Avenue. These areas were found to be deficient in providing adequate stormwater management. Based on anecdotal evidence gathered by Town staff, these deficiencies have been confirmed and many other stormwater issues have been documented. The Basin Based Neighborhood (Carolina Avenue to Gulf Beach Road) and Estero Boulevard north of Old San Carlos Boulevard have been identified as having stormwater issues and have undergone drainage improvements.

The tidal behavior of the surrounding water bodies encompassing the Town also affects the performance of the Town's stormwater management system. This generates a potential to create nuisance flooding due to unrestricted surcharging of the system. Provisions have been included in this plan to mitigate stormwater system issues caused by tidal influences.

To provide the most economical solutions to the deficiencies identified, alternatives were evaluated that would help reduce the cost of project. Although the stormwater issues being experienced within the Town are primarily caused by a lack of conveyance infrastructure within the system, the Town desires to provide water quality treatment as a part of its overall plan. Therefore, the alternatives explored in this plan have, as one of its main objectives, a means of treating the quality of the stormwater prior to discharge into the bay. In addition to improvement alternatives, a "no action" alternative was developed to determine the baseline costs of operating and maintaining the existing system.

The first of the improvement alternatives explored consists of the installation of nutrient separating baffle boxes, or sediment boxes. These units are installed immediately upstream of basin outfalls with the purpose of collecting sediment, suspended solids, floating debris, and other pollutants prior to discharging to open water. Basins exceeding three (3) acres in runoff area are proposed for installation of these devices.

The second alternative proposed in this plan involves the installation of exfiltration chambers within the Town right-of-way to impound stormwater runoff, provide water quality treatment, and reduce the peak flows into the receiving water body. In order to minimize the cost associated with this system, only areas with available right-of-way but limited green space, as well as larger basins with peak flows above 13 cubic feet per second (cfs), were selected as suitable for exfiltration chambers.

To evaluate the most cost effective alternative, a net present value life cycle analysis was performed. A life cycle of 50 years was assumed based on industry standards. This analysis accounted for initial capital improvement costs, annual maintenance costs, and recurring capital costs in the case of the exfiltration trenches whose typical lifespan is 15 to 20 years.

The no action alternative would include the performance of regular maintenance on the existing system as well as the removal and replacement of failing infrastructure that is beyond its useful life. Existing stormwater management infrastructure within the planning area serves drainage basins totaling approximately 399 acres. Existing infrastructure is shown in **Figure 5** through **Figure 9**. Careful planning to establish a rotating operation and maintenance (O&M) and removal and replacement (R&R) programs can avoid this process from becoming reactive and performed in short notice at a premium cost. In addition to the costs detailed in this plan, if the no action option is chosen, the County may elect to solicit funds from the Town to cover costs associated with collection and conveyance of stormwater runoff from the Town's jurisdiction.

Based on the life cycle analysis, the cost differential between the two alternatives is negligible. Therefore, the sediment basin alternative was chosen due to its lack of recurring capital costs that would require additional construction, roadway closures, and pavement replacement. However, each street will be evaluated at the time of design and the most appropriate method of improvement will be made on a street-by-street basis.

Summary of Cost for Proposed Alternatives

| Alternative | Net Present Value |
|-----------------------|-------------------|
| No Action | \$5,200,000 |
| Sediment Boxes | \$34,200,000 |
| Exfiltration Chambers | \$34,000,000 |

The design phase of the *North Estero Phase II Water Main and Stormwater Improvements* project is underway. This project has been separated into two (2) sub-phases to facilitate an accelerated construction schedule. Phase IIA of North Estero Phase II is currently in design. Phase IIA includes Carlos Circle, Matanzas Court, Lagoon Street, Primo Drive. Permitting is underway and final design is scheduled to be completed by August 2016. The Town has on-going contractor services that will perform the construction. This project is scheduled to be completed by August 2017. Phase IIB of North Estero Phase II is included in the planning level design included in this plan. Phase IIB includes Crescent Street, First Street, Second Street, Third Street, Fourth Street, Fifth Street, Harbor Court, Bonita Street, Palermo Circle, and Santos Road. Upon completion of the Phase IIA design, the design of Phase IIB will commence. This project is scheduled to be completed FY 2018.

Additional funding is required to construct the North Estero Phase IIA project currently under design. The current Engineer's Estimate of Probable Cost approximates the cost of the stormwater portion of this project at **\$2,266,000**. North Estero Phase IIB is included in the planning area of this facilities plan, and the infrastructure cost is **\$2,600,000**.

The *Mid-Island Neighborhood Improvements* project will be completed in multiple phases. Preliminary work will be completed in conjunction with drainage improvements performed by Lee County on Estero Boulevard. The remaining areas will be constructed in three separate phases. Mid-Island Neighborhoods Phase 1 will include the portion of the Town from School Street to St. Peters Drive. This will include improvements within all public right-of-way on the bay side and beach side of Estero Boulevard. Construction on this phase is scheduled to be completed FY 2019/2020 and the infrastructure cost is \$6,600,000. Mid-Island Neighborhoods Phase 2 includes Bay Mar Drive to Lazy Way. This portion is scheduled to be completed FY 2020/2021 and the infrastructure cost is \$7,900,000. Mid-Island Neighborhoods Phase 3 will consist of Sterling Avenue to Lenell Road. This is scheduled to be completed FY 2021/2022 and the infrastructure cost is \$7,400,000.

The *South Island Neighborhood Stormwater Improvements* includes the Laguna Shores development and Estrellita Road neighborhood. This is the final stormwater retrofit project included in the facilities planning area and is scheduled to be completed FY 2022, and the infrastructure cost is \$3,400,000.

The intended improvements will be within existing developed residential and commercial areas. The Town is nearly completely built-out and there are no anticipated impacts to the flora and fauna, threatened and endangered species, or wetlands and surface waters. The planning area is not projected to increase due to population growth, and no service area increases are anticipated. The proposed improvements are intended to benefit the residents by increasing the stormwater management facilities' capacity and conveyance capabilities to reduce nuisance flooding that adversely affects the public's health, safety, and welfare.

Financial Feasibility

This information can be found in **Appendix C**.

Addendum:

Per Town of Fort Myers Beach Resolution 16-24 “Adopting the Town of Fort Myers Beach Stormwater Facilities Plan”, Tetra Tech has been requested to include further clarification regarding the proposed improvements within the plan and their impact on Private Developments. This plan discusses the current stormwater infrastructure, maintenance responsibilities, and drainage characteristics within the entire Town limits. Bay Beach Lane/EBIA has been identified as “Private”, meaning the basin is wholly encompassed within a private development and stormwater runoff is managed by a private entity, and not the Town of Fort Myers Beach. No proposed stormwater improvements are proposed as a part of this Facilities Plan, and no assumption of maintenance responsibility or ownership of existing infrastructure has been proposed for this development.

Dated August 24, 2016

TABLE OF CONTENTS

| | |
|---|-----------|
| 1.0 INTRODUCTION | 1 |
| 1.1 Scope of Study..... | 1 |
| 1.1.1 Assumptions | 3 |
| 1.2 Existing Conditions..... | 3 |
| 1.2.1 Climate..... | 3 |
| 1.2.2 Topography and Drainage..... | 4 |
| 1.2.3 Geology, Soils, and Physiography | 4 |
| 1.2.4 Environmentally Sensitive Areas or Features | 4 |
| 1.2.5 Flood Plain..... | 5 |
| 2.0 STORMWATER FACILITIES..... | 9 |
| 2.1 Existing System..... | 9 |
| 2.2 Existing Deficiencies | 9 |
| 2.2.1 Managed Areas | 10 |
| 2.2.2 Maintained Areas..... | 20 |
| 2.2.3 Problem Areas | 20 |
| 2.2.4 Outfalls..... | 22 |
| 3.0 SYSTEM-WIDE IMPROVEMENTS..... | 23 |
| 3.1 Open System | 23 |
| 3.2 Closed System | 23 |
| 3.3 Mixed Conveyance..... | 23 |
| 3.4 Maintenance Areas | 23 |
| 3.5 Outfalls | 29 |
| 3.5.1 New Outfalls | 29 |
| 3.5.2 Up-sized Outfall | 29 |
| 3.5.3 Rehabilitated Outfall | 30 |
| 3.5.4 Tidal Backflow Prevention Device | 30 |
| 3.6 Roadway Drainage..... | 30 |
| 3.7 Beach Side Right-of-Way..... | 30 |
| 4.0 ALTERNATIVE ANALYSIS | 31 |
| 4.1 No Action..... | 31 |
| 4.2 Sediment boxes | 33 |
| 4.3 Exfiltration Chambers..... | 33 |

4.4 Cost Comparison 34

4.5 Alternative Selection 35

5.0 IMPACTS AND BENEFITS..... 36

5.1 Environmental 36

 5.1.1 Flora and Fauna 36

 5.1.2 Threatened and Endangered Species..... 36

 5.1.3 Wetlands and Surface Waters..... 36

 5.1.4 Population..... 36

 5.1.5 Land Use and Development..... 36

6.0 PROJECT IMPLEMENTATION SCHEDULE 38

6.1 North Estero Phase II..... 38

6.2 Estero Boulevard Outfalls 38

6.3 Mid-Island Neighborhoods 39

6.4 South Island Neighborhoods..... 39

7.0 FINANCIAL FEASIBILITY 40

8.0 RECOMMENDATION 41

LIST OF TABLES

Table 2-1. Basins by Type Including Area and Existing Outfall 16

Table 4-1. Existing Town Stormwater Infrastructure 31

Table 4-2. Replacement Cost of Existing Town Stormwater Infrastructure 32

Table 4-3. Net Present Value Analysis 35

LIST OF FIGURES

Figure 1. Town of Ft. Myers Beach Planning Area Location Map2

Figure 2. Soil Survey Map6

Figure 3. Wetlands Map.....7

Figure 4. Flood Hazard Zones8

Figure 5. North Estero Phase IIB Existing Infrastructure and Basin Map..... 11

Figure 6. Mid-Island Neighborhoods Phase 1 Existing Infrastructure and Basin Map 12

Figure 7. Mid-Island Neighborhoods Phase 2 Existing Infrastructure and Basin Map 13

Figure 8. Mid-Island Neighborhoods Phase 3 Existing Infrastructure and Basin Map 14

Figure 9. South Island Neighborhood Existing Infrastructure and Basin Map..... 15

Figure 10. Ft. Myers Beach Stormwater Maintenance Map 21

Figure 11. North Estero Phase IIB Proposed Infrastructure and Basin Map..... 24

Figure 12. Mid-Island Neighborhoods Phase I Proposed Infrastructure and Basin Map 25

Figure 13. Mid-Island Neighborhoods Phase II Proposed Infrastructure and Basin Map. 26

Figure 14. Mid-Island Neighborhoods Phase III Proposed Infrastructure and Basin Map. 27
Figure 15. South Island Neighborhood Proposed Infrastructure and Basin Map. 28
Figure 16. Land Cover Map for the Town of Ft. Myers Beach 37

APPENDICES AND ATTACHMENTS

Appendix A – North Estero Phase IIA Design Plans

Appendix B – Cost Information on Alternatives and Net Present Value Analysis

Appendix C – Financial Feasibility

Attachment 1 – Completed Projects As-built Drawings and Cost Information

 North Estero Stormwater Improvements Project and Water Main Replacement

 Drainage Improvements for the Basin Based Neighborhood Phases 1A and 1B

ADDENDA AND REVISIONS

Addendum dated August 24, 2016.....Executive Summary, Page v

ACRONYMS/ABBREVIATIONS

| Acronyms/Abbreviations | Definition |
|------------------------|---|
| BMP | Best Management Practice |
| EPA | Environmental Protection Agency |
| cfs | Cubic feet per second |
| LF | Linear Feet |
| LOS | Level of Service |
| O&M | Operation and Maintenance |
| MS4 | Municipal Separate Storm Sewer Systems |
| NPDES | National Pollutant Discharge Elimination System |
| TMDL | Total Maximum Daily Load |
| TSS | Total Suspended Solids |



TETRA TECH

1.0

Introduction

1.0 INTRODUCTION

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

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

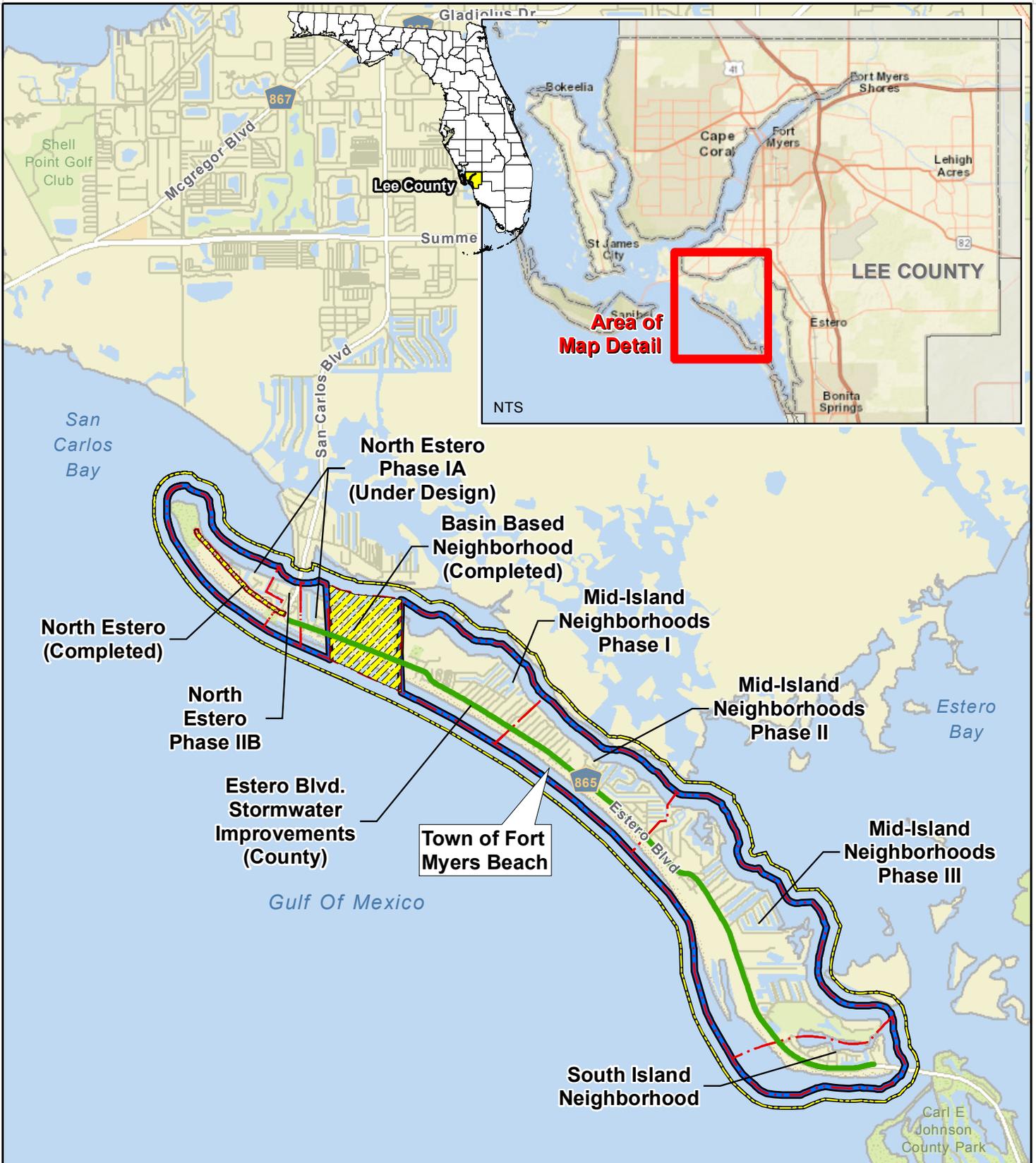
1.1 SCOPE OF STUDY

Tetra Tech has been tasked by the Town to develop a facilities plan for projected stormwater improvements. This plan is intended to aid the Town in securing necessary funding for the implementation of the plan as well as identify existing deficiencies and propose improvements within the system.

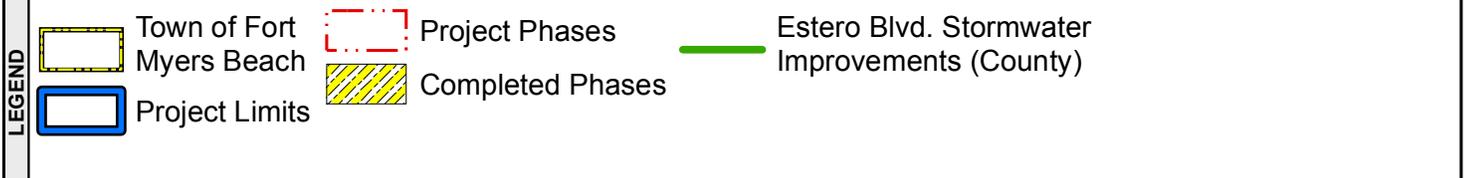
The Town has begun a retrofit program to improve existing infrastructure within certain portions of the island. Namely, the *North Estero Stormwater Improvements Project* and *Water Main Replacement and Drainage Improvements for the Basin Based Neighborhood Phases 1A and 1B* have been constructed. Plans for these projects are located in **Attachment 1**. The *North Estero Phase II* project is currently under design. This project encompasses residential and commercial neighborhoods at the north end of the Town from Carlos Circle to Palermo Circle. The *North Estero Phase II* project has been divided into two sub-phases, IIA and IIB, to accommodate an accelerated design and construction schedule. Phase IIA comprises Carlos Circle, Matanzas Court, Lagoon Street, and Primo Drive. Phase IIB comprises Crescent Street, First Street, Second Street, Third Street, Fourth Street, Fifth Street, Harbor Court, Bonita Street, Palermo Circle, and Santos Road. The current design plans for *North Estero Phase IIA*, completed by Tetra Tech, are included in **Appendix A**. **Figure 1** shows the planning area covered herein, the limits of the recently completed areas, and areas currently under design.

The scope of the facilities plan is described below:

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



Source: ESRI NatGeo World, World Street;



TETRA TECH

0 1
Miles

TOWN OF FORT MYERS BEACH
FACILITIES PLAN

PLANNING AREA LOCATION MAP

FIGURE 1

P:\IER\74765\200-74765-16005\GIS\Maps\20160518\APP\AF1.mxd
[alex.montalvo 6/1/2016]

1.1.1 Assumptions

This facilities plan is based on a preliminary analytical model developed using existing data provided by Lee County and the Town. The stormwater master plan, dated September 2010 and updated May 2013, developed for the Town addressed various storm events and volumes. It identified the highest level of service (LOS) storm event for the type of road within this project as a 10-year, 72-hour storm event with a total rainfall of 9.5 inches and allowable flooding of less than 9-inches. Therefore, a 10-year storm event peak intensity of 6.5 inches per hour for this event was used for evaluation in the facilities plan. This type of evaluation only considers conveyance needs due to peak flows and does not account for volumetric storage. Using this information, the following assumptions were made in evaluating the existing watersheds, system infrastructure, system deficiencies, and proposed recommendations.

- Basin Flows calculated using Rational Equation:
 - $Q = c ia$, where
 - Q = peak runoff flow
 - c = runoff coefficient
 - i = intensity of rainfall
 - a = basin area
 - A uniform time of concentration of 15 minutes was assumed for all areas.
 - A uniform runoff coefficient of 0.55 was assumed for all areas based on a typical developed site.
 - A uniform rainfall intensity of 6.5 inches per hour was assumed for all areas based on FDOT rainfall intensity-duration-frequency data.
- No retention volume assumed
- Basin delineation based on available GIS infrastructure data provided by the Town and Florida Department of Emergency Management LiDAR contours
- Minimum pipe flushing velocity of 2.5 fps and maximum scour velocity of 7.5 fps assumed
- A maximum pipe slope of 0.2% assumed
- Minimum pipe size of 15-inches assumed
- Manning's n value of 0.01 assumed (smooth wall PVC pipe)
- Flows from County improvements on Estero Boulevard provided by TY Lin Engineering

The effort performed has been preliminary in nature and has not included a specific street-by-street detailed analysis for final sizing of stormwater management infrastructure. Detailed modeling and design efforts will be performed as part of a future design.

1.2 EXISTING CONDITIONS

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

1.2.1 Climate

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

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

1.2.2 Topography and Drainage

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

1.2.3 Geology, Soils, and Physiography

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

1.2.4 Environmentally Sensitive Areas or Features

The following features are found on Estero Island and contribute to the natural and historical environment within the Town and project area.

1.2.4.1 Wetlands

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

1.2.4.2 Environmentally Sensitive Lands

According to the USDA Natural Resources Conservation Service, there are no prime or unique farmlands in the planning area. Areas within the Town limits have been identified as Strategic Habitat Conservations Areas for the Snowy Plover, Wading Birds, and Black-whiskered Vireo. These areas will not be affected by construction.

1.2.4.3 Plant and Animal Communities (Endangered Species)

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

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

1.2.4.4 Archaeological and Historical Sites

The proposed work will upgrade existing utilities within the existing ROW. Therefore, there will be no disturbance of untouched archeological or historical sites. According to the Bureau of Archaeological Research, there are 125 historic structures within the limits of the Town of Fort Myers Beach. No new easements have been proposed in this facilities plan. Any easements identified during the design phase will take into account these structures.

1.2.5 Flood Plain

Flood hazard zones for the Town are designated on **Figure 4**. Since the Town is located on a barrier island, the Town lies completely within a floodplain. This is one of the main contributing factors for the localized flooding. FEMA provides Flood Insurance Rate Maps (FIRMs) to delineate both the special hazard areas and the insurance risk premium zones applicable to the community. The maps define the Base Flood Elevations (BFEs) as “the computed elevation to which floodwater is anticipated to rise during the base flood. The BFE is the regulatory requirement for the elevation or floodproofing of structures. The relationship between the BFE and a structure's elevation determines the flood insurance premium.” The Town lies within the VE and AE Zones, which exhibit a one percent (1%) or greater chance of flooding each year.



Source: ESRI World Imagery; USDA NRCS Soils Survey, Lee County, FL;

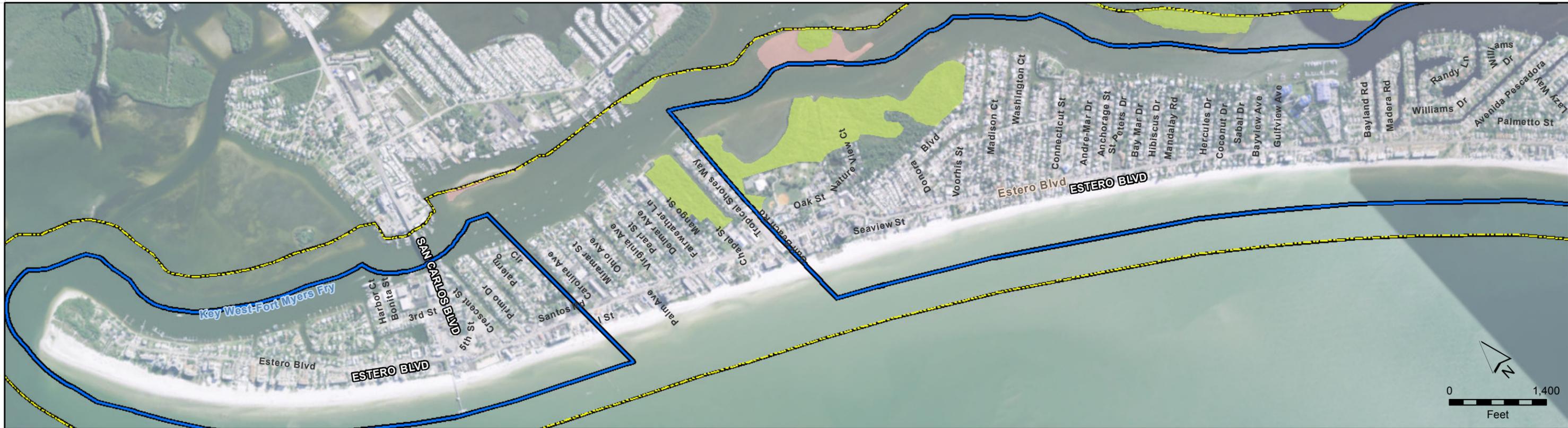
| | | | | | |
|---------------|--------------------------|----------------------------|----------------------|------------------------------|----------------|
| LEGEND | Town of Fort Myers Beach | Soils Survey | 4, Canaveral, C | Hydro Soils Group B/D | 23, Wulfert, D |
| | Project Limits | Hydro Soils Group C | 48, St. Augustine, C | 5, Captiva, B/D | 24, Kesson, D |
| | | 2, Canaveral, C | 69, Matlacha, C | Hydro Soils Group D | Other |
| | | 25, St. Augustine, C | 22, Beaches, D | 59, Urban land, | 99, Water, |

TOWN OF FORT MYERS BEACH
FACILITIES PLAN

SOIL SURVEY MAP



FIGURE 2



Source: ESRI World Imagery; SFWMD LULC 2008

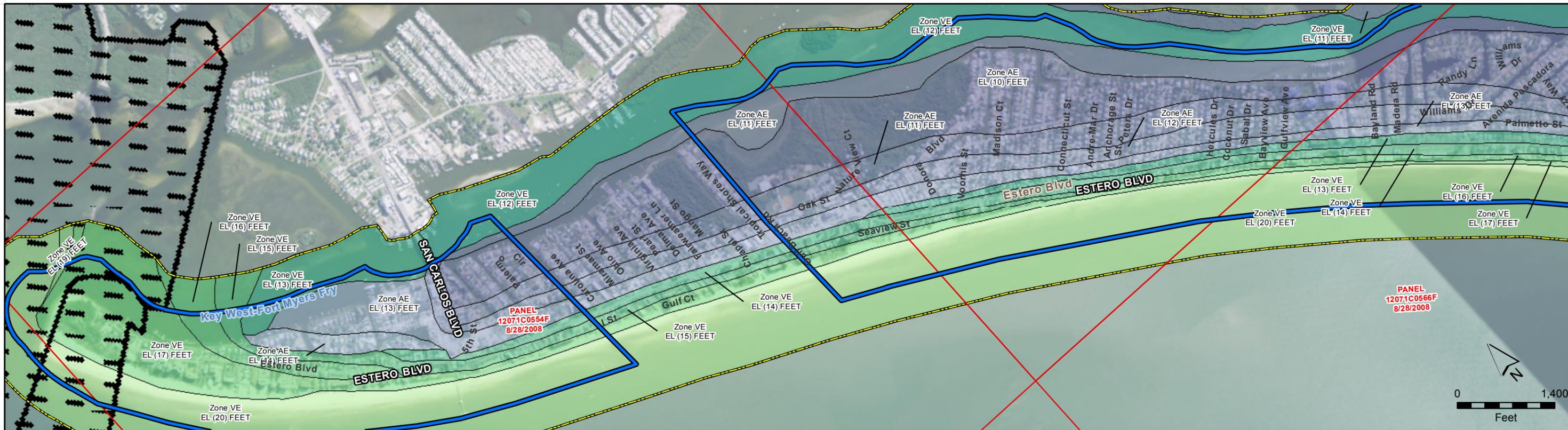
| LEGEND | Town of Fort Myers Beach | |
|-----------------|-------------------------------------|--------------------------|
| | | Town of Fort Myers Beach |
| | Project Limits | |
| Land Cover 2008 | | |
| Wetlands | | |
| | Mangrove | |
| | Non-Vegetated Wetland (Tidal Flats) | |

TOWN OF FORT MYERS BEACH
FACILITIES PLAN

WETLANDS MAP



FIGURE 3



Source: ESRI World Imagery; FEMA NFHL

LEGEND

- Town of Fort Myers Beach
- Project Limits
- Coastal Barrier Resources System Area
- Zone AE
1% Annual Chance Flood Hazard
- Zone VE
1% Annual Chance Flood Hazard
Coastal flood zone with velocity hazard (wave action)

TOWN OF FORT MYERS BEACH
FACILITIES PLAN

FLOOD HAZARD ZONES



FIGURE 4



TETRA TECH

2.0

Stormwater Facilities

2.0 STORMWATER FACILITIES

Within the limits of the planning area, the town is responsible for maintaining 132 acres of right-of-way. The combined residential and Town right-of-way runoff area included in this plan is approximately 409 acres. Private commercial development accounts for 320 acres of basin area and is responsible for its own stormwater management. A majority of these developments drain to the bay and do not provide flow into the Town's system. Lee County right-of-way within the Town totals 57 acres, solely Estero Boulevard right-of-way, and the total basin area that collects within this area comprises 236 acres. This is summarized in **Table 2-1** below.

Table 2-1. Basins Area in Acres by Land Use and Maintaining Entity

| Land Use | Town of Fort Myers Beach | Lee County |
|-------------------------|--------------------------|------------|
| Right-of-way | 132 | 57 |
| Outside of Right-of-way | 277 | 179 |
| Total | 409 | 236 |

2.1 EXISTING SYSTEM

The Town's primary means of stormwater management includes utilization of roadside swales that collect runoff and convey it to outfalls. Where green space is limited within the right-of-way, inlets are employed to collect runoff, conveying it through culverts. Within the planning area, 81 basins have been identified as having piped outfalls. These outfalls range from 4-inches to 30-inches for a single pipe outfall. **Figure 5** through **Figure 9** show the basin delineations of the Town within the planning area.

Lee County is in the planning stages for improvements to Estero Boulevard across its entire length (less portions previously improved) and currently is in the design phase for the initial project area, which will extend from Lovers Lane on the east to Crescent Street on the west, a distance of approximately 5,600 linear feet (1.1 miles). The Town is working in conjunction with the County to coordinate stormwater management. The County has identified at least 20 locations along Estero Boulevard for discharge into the Town's stormwater system in which the runoff will be directed to outfalls into Estero Bay. The County system includes exfiltration and possible storage; however, for the purpose of this study, no retention or infiltration is assumed.

Table 2-1 provides a summary of each basin including whether the basin is within the Town's limits of responsibility and contains infrastructure (managed), has no infrastructure yet is the responsibility of the Town (not managed), is part of the Town's regular maintenance regime (maintained), or part of a private development (private). Also included is the basin size in acreage and the basin outfall size (in diameter) if piped or description of any non-piped outfall conditions.

2.2 EXISTING DEFICIENCIES

The existing stormwater management system is in need of improvements over the next five years to meet the Town's LOS goals and reduce nuisance flooding throughout the Town's public rights-of-way. In 2013, CDM Smith completed a stormwater master plan for the Town and suggested recommendations for improvements using three areas as a representative sample of the Town's system. These areas were found to be deficient in providing adequate stormwater management. Based on anecdotal evidence gathered by Town staff, these deficiencies have

been confirmed and many other stormwater issues have been documented. Areas within the Town outside of the scope of this plan have undergone drainage improvements or are currently under design.

2.2.1 Managed Areas

Within the planning area and including the areas currently under design, 409 acres of basin area drain to the Town's right-of-way and ultimately to Estero Bay. Some small areas drain through Estero Boulevard, which is maintained by the County, but this runoff then continues into the Town system via combined outfalls as discussed previously. There are four basins, with a combined area of 10 acres, which do not contain any stormwater infrastructure. Fifty-nine basins, with a total area of 200 acres, contain a minimal amount of infrastructure (along 25% or less of the roadways). Eighteen basins, with a total area of 65 acres, contain a medium amount in infrastructure (along 25-75% of the roadways). Twenty-nine basins, with a total area of 134 acres, contain the largest amount of infrastructure (along greater than 75% of the roadways).



Source: ESRI World Imagery; USDA NRCS Soils Survey, Lee County, FL;

| | | | | | |
|---------------|--------------------------|--------------|----------------|-------------------------|-----------------|
| LEGEND | Town of Fort Myers Beach | Basin | Basin Boundary | Existing Infrastructure | Drain Pipes |
| | Project Limits | Maintained | County Basin | Inlets | Roadside Swales |
| | Project Phases | Managed | | Junction Boxes | |
| | | Not Managed | | Outfalls | |
| | | Private | | | |
| | | Under Design | | | |

TOWN OF FORT MYERS BEACH
FACILITIES PLAN

**NORTH ESTERO PHASE IIB
EXISTING INFRASTRUCTURE
AND BASIN MAP**

TETRA TECH

FIGURE 5

P:\NER\74765\200-74765-16005\GIS\Maps\20160518\BL_BasinsF5.mxd [betty.morris 7/13/2016]



Source: ESRI World Imagery; USDA NRCS Soils Survey, Lee County, FL;

| LEGEND | |
|--------|--|
| | Town of Fort Myers Beach |
| | Project Limits |
| | Project Phases |
| | Basin Maintained |
| | Managed |
| | Not Managed |
| | Private |
| | Under Design |
| | Basin Boundary |
| | County Basin |
| | Existing Infrastructure Drain Pipes |
| | Inlets |
| | Junction Boxes |
| | Outfalls |
| | Roadside Swales |

TOWN OF FORT MYERS BEACH
FACILITIES PLAN

**MID-ISLAND NEIGHBORHOODS PHASE I
EXISTING INFRASTRUCTURE
AND BASIN MAP**

TETRA TECH

FIGURE 6

P:\NER\74765\200-74765-16005\GIS\Maps\20160518\BL_BasinsF6.mxd [betty.morris 7/13/2016]



Source: ESRI World Imagery; USDA NRCS Soils Survey, Lee County, FL;

| LEGEND | | Basin | | Existing Infrastructure | | Basin Boundary | |
|--------|--------------------------|-------|--------------|-------------------------|----------------|----------------|-----------------|
| | Town of Fort Myers Beach | | Maintained | | Inlets | | Basin Boundary |
| | Project Limits | | Managed | | Junction Boxes | | County Basin |
| | Project Phases | | Not Managed | | Outfalls | | Drain Pipes |
| | | | Private | | | | Roadside Swales |
| | | | Under Design | | | | |

TOWN OF FORT MYERS BEACH
FACILITIES PLAN

**MID-ISLAND NEIGHBORHOODS PHASE II
EXISTING INFRASTRUCTURE
AND BASIN MAP**

TETRA TECH

FIGURE 7

P:\NER\74765\200-74765-16005\GIS\Maps\20160518\BL_BasinsF7.mxd [betty.morris 7/13/2016]



Source: ESRI World Imagery; USDA NRCS Soils Survey, Lee County, FL;

| | | | | | |
|---------------|--------------------------|--------------|----------------|--------------------------------|-----------------|
| LEGEND | Town of Fort Myers Beach | Basin | Basin Boundary | Existing Infrastructure | Drain Pipes |
| | Project Limits | Maintained | County Basin | Inlets | Roadside Swales |
| | Project Phases | Managed | | Junction Boxes | |
| | | Not Managed | | Outfalls | |
| | Private | | | | |
| | Under Design | | | | |

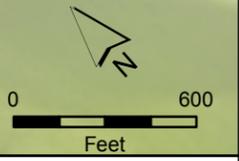
TOWN OF FORT MYERS BEACH
FACILITIES PLAN

**MID-ISLAND NEIGHBORHOODS PHASE III
EXISTING INFRASTRUCTURE
AND BASIN MAP**

TETRA TECH

FIGURE 8

P:\NER\74765\200-74765-16005\GIS\Maps\20160518\BL_BasinsF8.mxd [betty.morris 7/13/2016]



Source: ESRI World Imagery; USDA NRCS Soils Survey, Lee County, FL;

| | | | | | |
|---------------|--------------------------|--------------|----------------|--------------------------------|-----------------|
| LEGEND | Town of Fort Myers Beach | Basin | Basin Boundary | Existing Infrastructure | Drain Pipes |
| | Project Limits | Maintained | County Basin | Inlets | Roadside Swales |
| | Project Phases | Managed | | Junction Boxes | |
| | | Not Managed | | Outfalls | |
| | | Private | | | |
| | | Under Design | | | |

TOWN OF FORT MYERS BEACH
FACILITIES PLAN

**SOUTH ISLAND NEIGHBORHOOD
EXISTING INFRASTRUCTURE
AND BASIN MAP**

TETRA TECH

FIGURE 9

P:\NER\74765\200-74765-16005\GIS\Maps\20160518\BL_BasinsF9.mxd [betty.morris 7/13/2016]

Table 2-2. Basins by Type Including Area and Existing Outfall

| Phase | Basin | Type | Area (ac) | Existing Outfall |
|---------------------|---------|-------------|------------|---------------------------------|
| Mid-Island Phase I | 1A | Managed | 3 | 18" |
| | 1B | Managed | 5 | 12" |
| | 1C | Managed | 3 | 2 @ 16" |
| | 1D | Maintained | 3 | Drains to Wetland |
| | 1E | Maintained | 8 | 24" |
| | 1F | Maintained | 8 | 12" |
| | 1G | Maintained | 4 | 18" |
| | 1H | Managed | 4 | 12" |
| | 1I | Managed | 12 | 15" |
| | 1J | Managed | 7 | 16" |
| | 1K | Maintained | 4 | 18" |
| | 1L | Managed | 4 | 15" |
| | 1M | Managed | 7 | 16" |
| | 1N | Maintained | 2 | 15" |
| | 1O | Maintained | 7 | Swale to Bay |
| | 1P | Managed | 2 | 15" |
| | 1Q | Maintained | 6 | 15" |
| | 1R | Private | 4 | Private |
| | 1S | Private | 7 | Private |
| | 1T | Not Managed | 2 | Landlocked |
| 1U | Managed | 2 | Landlocked | |
| Mid-Island Phase II | 2A | Managed | 6 | 15" |
| | 2B | Managed | 4 | 18" |
| | 2C | Managed | 11 | 12"x18" Elliptical Pipe |
| | 2C-2 | New | 5 | None |
| | 2D | Managed | 5 | 2 @ 10", 1 @ 12"x18" Elliptical |
| | 2E | Maintained | 6 | Coconut Drive swales |
| | 2F | Managed | 3 | 15" |
| | 2G | Managed | 3 | 12" |
| | 2H | Private | 14 | Private |
| | 2I | Managed | 4 | 24" |
| | 2J | Managed | 5 | 20" |
| | 2K | Managed | 2 | 18" |
| | 2L | Managed | 1 | 15" |

Table 2-2 (Cont'd). Basins by Type Including Area and Existing Outfall

| Phase | Basin | Type | Area (ac) | Existing Outfall |
|----------------------|---------|-------------|-----------|------------------------|
| | 2N | Managed | 1 | 10" |
| | 2O | Managed | 5 | 15" |
| | 2P | Managed | 3 | 12" |
| | 2Q | Managed | 3 | 18" |
| | 2R | Managed | 6 | 16" |
| | 2S | Not Managed | 2 | Overland flow |
| | 2T | Maintained | 2 | 18" |
| | 2U | Managed | 12 | 18" |
| | 2V | Managed | 2 | 18" |
| | 2W | Maintained | 1 | 6" |
| | 2X | Maintained | 2 | 18" |
| | 2Y | Maintained | 9 | 18" |
| | 2Z | Managed | 0 | Drains to Estero Blvd |
| | 2AA | Managed | 1 | 12" |
| | 2AB | Managed | 5 | 20" |
| | 2AC | Managed | 0 | Drains to Estero Blvd |
| Mid-Island Phase III | 3A | Managed | 2 | 15" |
| | 3B | Managed | 2 | 15" |
| | 3C | Maintained | 2 | 15" |
| | 3D | Maintained | 11 | 12" |
| | 3E | Maintained | 4 | Drains to Private (3I) |
| | 3F | Maintained | 12 | Dundee Road swales |
| | 3G | Maintained | 1 | 15" |
| | 3H | Maintained | 1 | 15" |
| | 3I | Private | 20 | Private |
| | 3J | Managed | 1 | 15" |
| | 3K | Managed | 2 | 12"x18" Elliptical |
| | 3L | Managed | 3 | 12" |
| | 3M | Maintained | 3 | 18" |
| | 3N | Managed | 2 | 15" |
| | 3O | Maintained | 5 | 16" |
| | 3P | Managed | 3 | 16" |
| 3Q | Managed | 1 | 16" | |
| 3R | Managed | 3 | 6" | |

Table 2-2 (Cont'd). Basins by Type Including Area and Existing Outfall

| Phase | Basin | Type | Area (ac) | Existing Outfall |
|-------------------------|---------|------------|-----------|------------------------|
| | 3S | Managed | 1 | 24" |
| | 3T | Managed | 3 | 14" |
| | 3V | Maintained | 3 | 16" |
| | 3W | Managed | 3 | 17" |
| | 3X | Managed | 4 | 16" |
| | 3Y | Maintained | 2 | 15" |
| | 3Z | Managed | 1 | 12"x18" Elliptical |
| | 3AA | Managed | 1 | 12" |
| | 3AB | Managed | 1 | 15" |
| | 3AC | Managed | 3 | 18" |
| | 3AD | Private | 3 | Private |
| | 3AE | Maintained | 2 | 16" |
| | 3AF | Managed | 1 | 24" |
| | 3AG | Managed | 0 | 15" |
| | 3AH | Managed | 3 | 12"x18" Elliptical |
| | 3AI | Managed | 2 | 16" |
| | 3AJ | Managed | 2 | 16" |
| | 3AK | Private | 6 | Private |
| | 3AL | Private | 3 | Private |
| | 3AM | Managed | 13 | 15" |
| | 3AN | Private | 3 | Private |
| | 3AP | Managed | 0 | Drains to Estero |
| | 3AR | Managed | 2 | 15" |
| | 3AS | Managed | 5 | Drains to Private (3I) |
| | 3AT | Private | 4 | Private |
| | 3AU | Managed | 7 | Landlocked |
| 3AV | Private | 127 | Private | |
| South End Neighborhoods | SA | Managed | 8 | 15" |
| | SB | Managed | 14 | 24" |
| | SC | Managed | 9 | 15" |
| | SD | Managed | 2 | 15" |
| | SE | Managed | 4 | 6" |
| | SF | Managed | 4 | 4" |

Table 2-2 (Cont'd). Basins by Type Including Area and Existing Outfall

| Phase | Basin | Type | Area (ac) | Existing Outfall |
|---|-------|-------------|-----------|------------------|
| North Estero Phase IIB (Times Square) | TA | Managed | 12 | 18" |
| | TB | Managed | 9 | 15" |
| | TC | Private | 2 | Private |
| | TD | Managed | 1 | 18" |
| | TE | Managed | 0 | 24" |
| | TF | Not Managed | 3 | Landlocked |

Note: Bolded outfall sizes are inferred based on upstream pipe size.

2.2.2 Maintained Areas

Of the 73,000 linear feet of right-of-way within the project area, approximately 19,000 linear feet of the roadways have been identified by the Town as part of the regular maintenance regime. **Figure 10** shows the locations of the 16 roads that are designated as maintained within the project area basins.

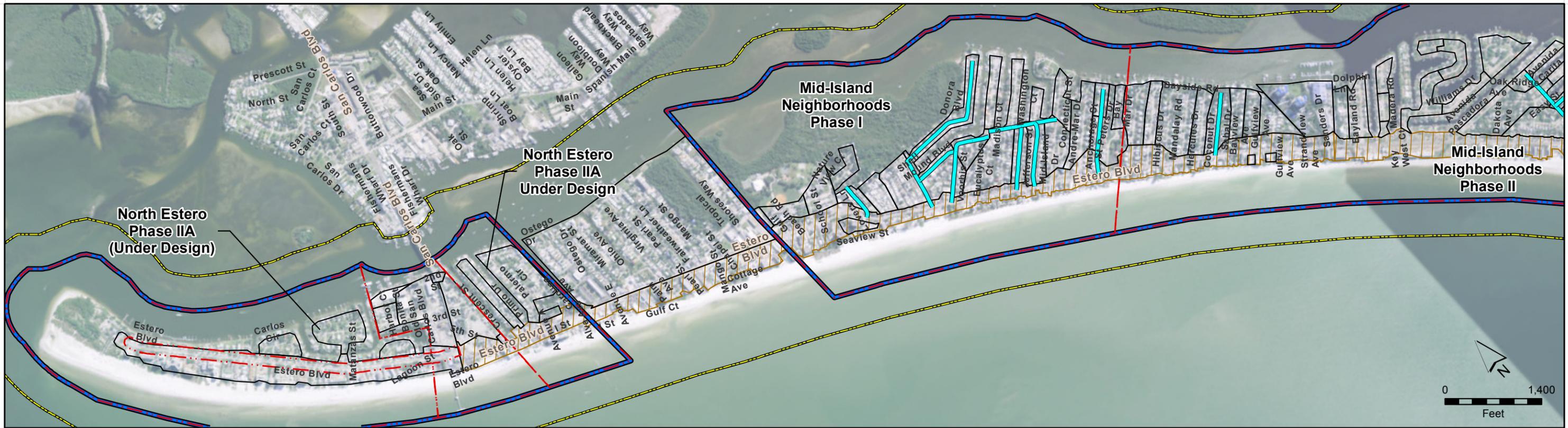
2.2.3 Problem Areas

A number of problem areas were identified within the Town following a high rain event on January 15, 2016, with 2.59 inches of rainfall within 24 hours. Below are photos of sample accounts of flooding on Curlew Street, Sterling Avenue/Lazy Way, and Sterling Avenue/Seminole Way. Areas of nuisance flooding are listed below:

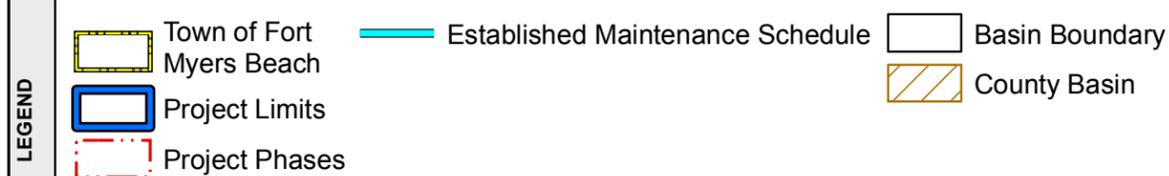
Problem Areas:

- Lauder Street & Dundee Road
- Lauder Street & Lanark Avenue
- Indian Bayou Drive
- Shell Mound Boulevard
- Jefferson Street
- Bahia Via
- Donora Boulevard
- Dakota Avenue
- Sterling Avenue/Lazy Way
- Eucalyptus Court
- Sterling & Seminole Way
- Driftwood Lane
- Bay Road
- Bayland Road
- Madison Court
- Curlew Street
- Egret Street
- Ibis Street
- Gulf Island Drive
- Connecticut Street
- Bay Mar Drive
- Andre Mar Drive
- Lennell Road
- Flamingo Street
- Lagoon Road & Buccaneer Drive
- Old San Carlos Boulevard
- Crescent Street & 3rd Street





Source: ESRI World Imagery; USDA NRCS Soils Survey, Lee County, FL;



TOWN OF FORT MYERS BEACH
FACILITIES PLAN

FORT MYERS BEACH
STORMWATER MAINTENANCE MAP

TETRA TECH

FIGURE 10

P:\NIE\74765\200-74765-16005\GIS\Maps\20160518\BL_MaintF10.mxd [alex.montalvo 5/19/2016]

2.2.4 Outfalls

Basin flow calculations were performed based on the Rational Equation expressed in Section 1.1.1. Then, assuming a maximum slope of 0.2%, each diameter of pipe ranging from 15-inches to 48-inches was evaluated using Manning's equation, which determines flow based on pipe slope and material roughness, to determine a maximum full flow amount. A maximum diameter outfall was assigned for each of the outfalls for conservative design purposes. In addition to maximum pipe sizing, a minimum flow capacity for each size pipe was determined to evaluate if the existing outfall meets the peak flow identified for the basin. A minimum outfall size of 15-inches should be considered for public stormwater discharge to minimize restrictive conditions due to debris and sediment. From these assumptions, it was determined that 15 outfalls were adequately sized in the planning area, meaning the existing outfall size was greater than or equal to the determined maximum outfall size, and 66 outfalls should be increased in size. There are five basins, with a total area of 24 acres, where an outfall structure is not present. One basin area is proposed to be separated into two basins, with the existing outfall servicing one part of the basin, and a proposed outfall servicing the remaining area. A majority of the outfalls are located either directly on Estero Bay or on the finger canals that connect to Estero Bay. A sample outfall in the project area is shown below.



Donora Boulevard Cul-de-sac Outfall



TETRA TECH

3.0

System-Wide Improvements

3.0 SYSTEM-WIDE IMPROVEMENTS

A detailed description of stormwater infrastructure improvements recommended system-wide is contained in the following section. Each component of the system is described, including the justification for its inclusion in the proposed improvements. **Figure 11** through **Figure 15** show the proposed improvements included in this plan by phase.

3.1 OPEN SYSTEM

Many basins within the project area are relatively small and produce peak stormwater flows manageable by a maximum pipe size of 24-inches. In many areas, the Town owns right-of-way that has space available for an open drainage system. This system includes open swales, or roadside grass-lined ditches, for conveyance of stormwater, as well as treatment, to the basin outfall. Depending on driveway grades and available depth of cover, driveways may be culverted or inverted for cross flow.

The selected alternative includes 37,120 LF of open drainage that will drain to an outfall of 24-inches or smaller.

3.2 CLOSED SYSTEM

Multiple criteria were applied to basins to determine the need for a closed drainage system. This system is subsurface with flow entering through grated or curb inlets. Since the neighborhood roads within the Town are primarily without curb and gutter, grated inlets were assumed to be the only means of stormwater collection. Closed drainage systems typically involve a single trunk line that runs down one side of the road with cross drains spaced in a manner to collect the opposite side's flow and direct it to the trunk line.

Areas with limited right-of-way or those collecting off-site flows from the County's Estero Boulevard system were assumed to require a completely closed system. This type of system will account for 13,090 LF of the proposed improvements.

3.3 MIXED CONVEYANCE

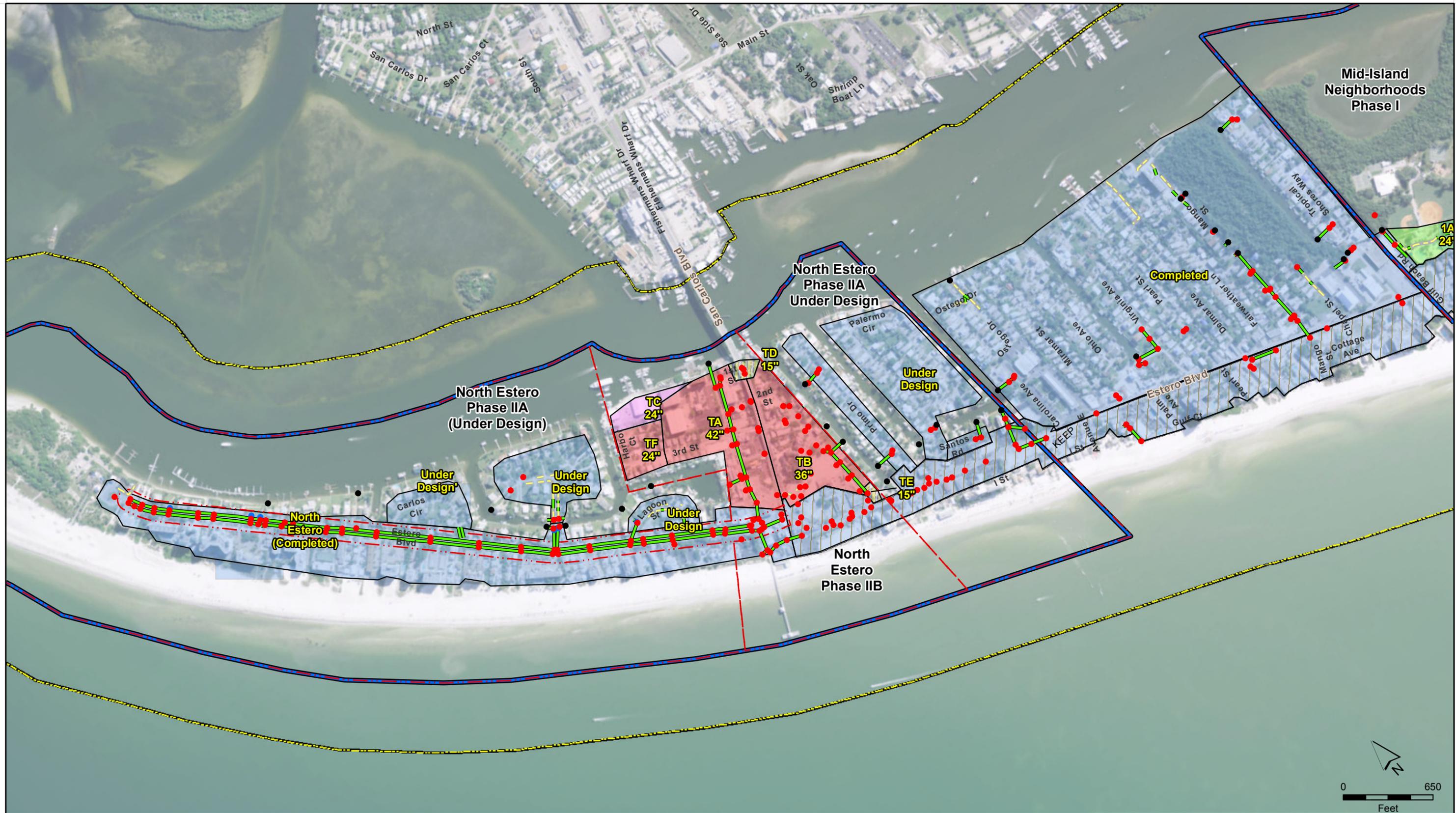
Multiple areas were deemed to require a mixture of both open and closed systems. These areas have available right-of-way for an open system; however, as the required flow capacity increases in the system, an open conveyance system becomes unfeasible. Where appropriate, inlets deemed will collect the open system flow and convey it to the outfall via a subsurface, closed system.

It is estimated that the mixed systems will comprise 63,727 LF of open drainage and 16,157 LF of closed drainage.

3.4 MAINTENANCE AREAS

Within the system, multiple areas were found to have adequate flow capacity at the outfall. Meaning, the calculated maximum diameter outfall for the basin is equal to or less than the existing outfall. In these areas, it is assumed that the conveyance system is also adequately sized for the design storm event. In these cases, it is proposed that the Town perform maintenance on these areas to ensure the existing system is operating at ideal conditions. Maintenance would include desilting swales and inlets, lining any cracked pipe, and rehabbing any damaged outfalls.

Existing right-of-way totaling 5,390 LF has been identified for this type of work.



Mid-Island
Neighborhoods
Phase I

North Estero
Phase IIA
Under Design

North Estero
Phase IIA
(Under Design)

North
Estero
(Completed)

North
Estero
Phase IIB

TA
42"

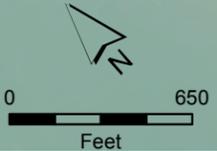
TB
36"

TD
15"

TE
15"

TC
24"

TF
24"



Source: ESRI World Imagery; USDA NRCS Soils Survey, Lee County, FL;

| | | | | | | |
|--------|--------------------------|--------------------------|---------|----------------|--------------------------------|-----------------|
| LEGEND | Town of Fort Myers Beach | Basin System Type | Private | Basin Boundary | Existing Infrastructure | Drain Pipes |
| | Project Limits | Closed | O and M | County Basin | Inlets | Roadside Swales |
| | Project Phases | Mix | N/A | | Junction Boxes | |
| | | Open | | | Outfalls | |
| | | | | | | |

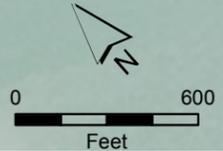
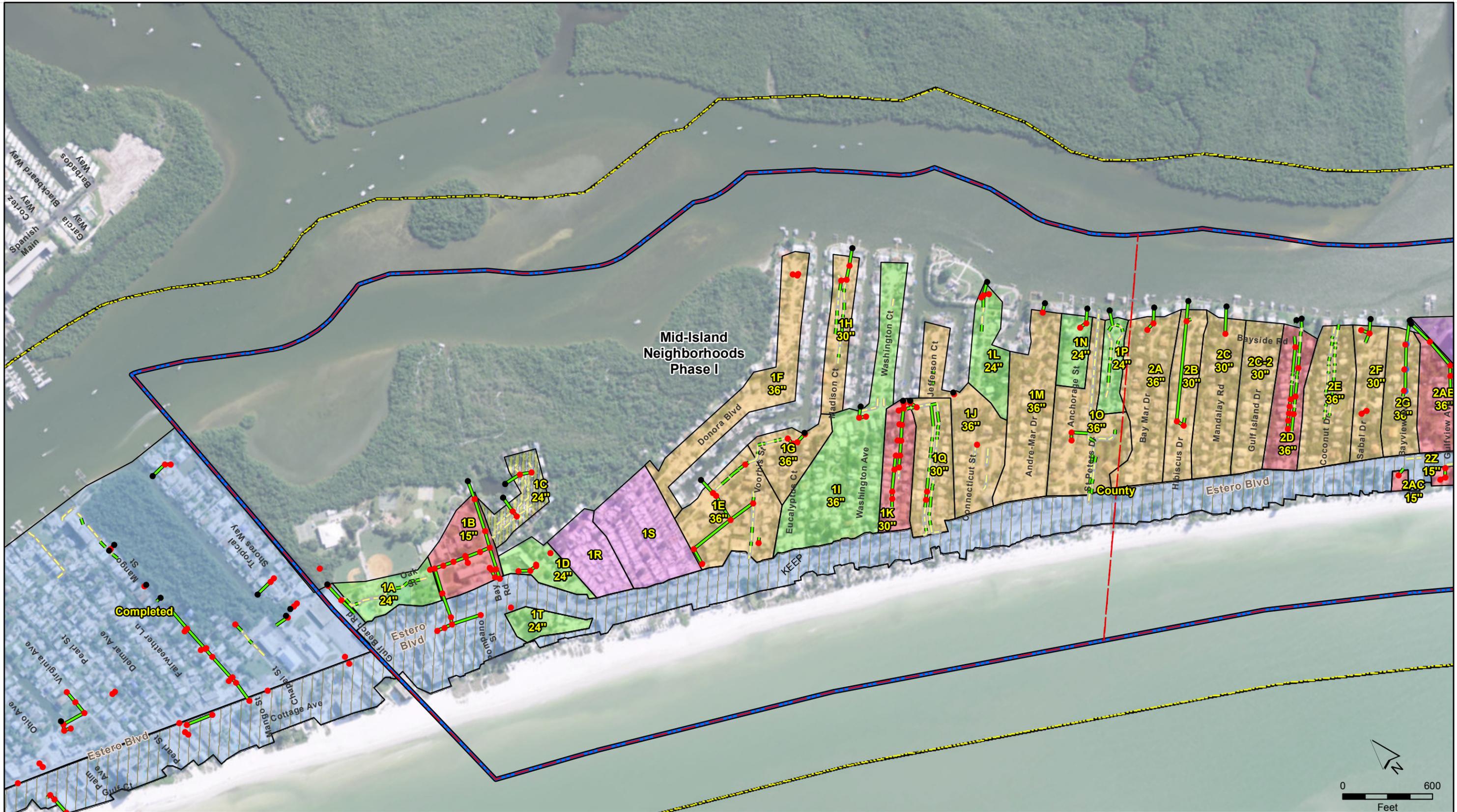
TOWN OF FORT MYERS BEACH
FACILITIES PLAN

**NORTH ESTERO PHASE IIB
PROPOSED INFRASTRUCTURE
AND BASIN MAP**

TETRA TECH

FIGURE 11

P:\NER\74765\200-74765-16005\GIS\Maps\20160518\BL_BasinsF11.mxd [alex.montalvo 5/19/2016]



Source: ESRI World Imagery; USDA NRCS Soils Survey, Lee County, FL;

| LEGEND | |
|--------|--------------------------|
| | Town of Fort Myers Beach |
| | Project Limits |
| | Project Phases |
| | Closed |
| | Mix |
| | Open |
| | Private |
| | O and M |
| | N/A |
| | Basin Boundary |
| | County Basin |
| | Inlets |
| | Junction Boxes |
| | Outfalls |
| | Drain Pipes |
| | Roadside Swales |

TOWN OF FORT MYERS BEACH
FACILITIES PLAN

MID-ISLAND NEIGHBORHOODS PHASE I
PROPOSED INFRASTRUCTURE
AND BASIN MAP

TETRA TECH

FIGURE 12

P:\N\174765\200-74765-16005\GIS\Maps\20160518\BL_BasinsF12.mxd [alex.montalvo 6/1/2016]



Source: ESRI World Imagery; USDA NRCS Soils Survey, Lee County, FL;

| LEGEND | |
|--------|---------------------------------|
| | Town of Fort Myers Beach |
| | Project Limits |
| | Project Phases |
| | Basin System Type: Private |
| | Closed |
| | Mix |
| | Open |
| | O and M |
| | N/A |
| | Basin Boundary |
| | County Basin |
| | Existing Infrastructure: Inlets |
| | Junction Boxes |
| | Outfalls |
| | Drain Pipes |
| | Roadside Swales |

TOWN OF FORT MYERS BEACH
FACILITIES PLAN

**MID-ISLAND NEIGHBORHOODS PHASE II
PROPOSED INFRASTRUCTURE
AND BASIN MAP**

TETRA TECH

FIGURE 13

P:\NER\74765\200-74765-16005\GIS\Maps\20160518\BL_BasinsF13.mxd [alex.montalvo 6/1/2016]



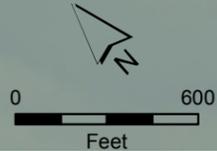
Source: ESRI World Imagery; USDA NRCS Soils Survey, Lee County, FL;

| | | | | | | |
|--------|--------------------------|--------------------------|---------|----------------|--------------------------------|-----------------|
| LEGEND | Town of Fort Myers Beach | Basin System Type | Private | Basin Boundary | Existing Infrastructure | Drain Pipes |
| | Project Limits | Closed | O and M | County Basin | Inlets | Roadside Swales |
| | Project Phases | Mix | N/A | | Junction Boxes | |
| | | Open | | | Outfalls | |

TOWN OF FORT MYERS BEACH
FACILITIES PLAN

MID-ISLAND NEIGHBORHOODS PHASE III
PROPOSED INFRASTRUCTURE
AND BASIN MAP

FIGURE 14



Source: ESRI World Imagery; USDA NRCS Soils Survey, Lee County, FL;

| | | | | | | |
|---------------|--------------------------|--------------------------|---------|----------------|--------------------------------|-----------------|
| LEGEND | Town of Fort Myers Beach | Basin System Type | Private | Basin Boundary | Existing Infrastructure | Drain Pipes |
| | Project Limits | Closed | O and M | County Basin | Inlets | Roadside Swales |
| | Project Phases | Mix | N/A | | Junction Boxes | |
| | | Open | | | Outfalls | |

TOWN OF FORT MYERS BEACH
FACILITIES PLAN

**SOUTH ISLAND NEIGHBORHOOD
PROPOSED INFRASTRUCTURE
AND BASIN MAP**

TETRA TECH

FIGURE 15

P:\NER\74765\200-74765-16005\GIS\Maps\20160518\BL_BasinsF15.mxd [alex.montalvo 6/1/2016]

3.5 OUTFALLS

Outfalls are a key component to the proposed system. It is proposed that each outfall will undergo construction to ensure proper function of the system and adequate evacuation of stormwater. The following improvements are proposed for the outfalls.

3.5.1 New Outfalls

Certain basins have been identified as having no existing piped outfall. These locations are proposed to include a new piped outfall. New seawalls will be installed to provide a stable shoreline and support for an outfall penetration. This seawall will be constructed to tie into existing seawall in the vicinity to provide consistent storm surge resiliency.

For the selected alternative, 6 basins have been identified for installation of a new piped outfall.

3.5.2 Up-sized Outfall

As mentioned in Section 2.2.4, many outfalls have been identified as functionally deficient. It is proposed that these outfalls be replaced with a new outfall with a larger diameter to meet the peak flow requirement of the design storm. Construction of a larger outfall will require removal of a section of existing seawall and installation of new seawall that has been fabricated with a larger penetration. The existing pipe will be excavated and removed. The new outfall pipe will be installed through the new seawall and grouted in place for a watertight seal around the exterior of the pipe.

It is proposed that 66 outfalls be retrofit with a larger size pipe as part of the sediment basin alternative. The exfiltration alternative has less outfalls, 54, that require upsizing due to an assumption that including exfiltration will reduce the necessary pipe outfall diameter by one pipe size (6-inches) as a result of impoundment and reduction of peak flow rates.

3.5.2.1 NPDES/TMDL

Currently, there are no Total Maximum Daily Load (TMDL) pollutants set for the Town's receiving water bodies (Estero Bay and Gulf of Mexico). However, waterways that flow into these water bodies are listed as impaired. Therefore, it is likely that Estero Bay will be listed as impaired in the future and additional discharge requirements will have to be met by the Town.

The Town and Lee County currently act as co-permittees for a Phase I NPDES Municipal Separate Storm Sewer System (MS4) permit. At this time, there are no outfalls designated as major outfalls within the Town's system. A major outfall is defined as a single piped outfall with an inside diameter of 36-inches or greater or drainage area of more than 50 acres. The current permit is in its final year and the Town will be obtaining a new permit in the near future. A condition for the new permit is anticipated to require additional monitoring and sampling for specified pollutants.

The results of the analysis performed in this plan have designated twenty-five (25) outfalls to be sized 36-inches and larger to provide adequate flow capacity for the largest of basins. This would require the Town to provide additional monitoring and testing to meet the requirements of the Town's NPDES permit. The majority of the outfalls have homogeneous runoff contribution characteristics. It is assumed the NPDES program managers will allow for a representative sample of outfalls to be monitored for the entire system. This monitoring effort is anticipated to require 5 man-hour per qualifying rain event with sampling performed on a quarterly basis. Additionally, the Town will need to contract laboratory services to perform sample testing. These services are anticipated to cost \$5,000 annually.

The current estimates show that all the outfalls that convey County runoff would require a pipe 36-inches or larger to meet the hydraulic constraints of the Estero Boulevard system.

As an alternative, these larger basins could be subdivided into smaller basins that would require smaller outfall sizes. Additional locations for outfalls would be considered during the engineering design phase with input from the Town regarding preferred easement locations.

3.5.3 Rehabilitated Outfalls

Outfalls that are determined as adequate for flow capacity are recommended for rehab based on existing conditions that have been observed within the Town. Due to age and environmental conditions, outfall piping may be inundated with barnacles, cracked, misaligned, separated at the joints, or deteriorating. Conservatively, all adequately sized outfalls should be replaced in-kind or lined to improve the functionality of the system. It is proposed that 15 outfalls be rehabbed.

3.5.4 Tidal Backflow Prevention Device

The Town currently has no backflow prevention measures within the existing stormwater system. To provide additional protection from storm surge on the island, backflow prevention devices are proposed for every outfall within the Town's system. Within the project area, 87 backflow prevention devices are proposed for installation.

Backflow prevention will reduce the impacts of regular high tide conditions and surge events lower than the top of the existing seawall. It also allows for maximum storage capacity of the system and reduces the amount of brackish water intrusion in the system. This will not protect the Town from storm surge conditions above the existing seawall elevation, but it will decrease the recovery time after a significant surge event. The backflow preventer will allow for evacuation of the system after the storm has receded below the seawall and fluctuates back to normal conditions.

3.6 ROADWAY DRAINAGE

To reduce on street ponding of surface water runoff, it is proposed that roadways within basins that include proposed capital improvements be milled and resurfaced to provide a normal roadway crown. This crowning of the road will direct runoff away from the center of the road to the roadside stormwater management system. A raised roadway center will also provide increased service during high storm events in providing a few inches of higher ground in elevation.

3.7 BEACH SIDE RIGHT-OF-WAY

Although, the majority of property on the beach side of Estero Boulevard is privately owned and maintained, the Town does own some of the right-of-way. The County is accounting for flows within these areas as a part of the Estero Boulevard improvement plan. However, the Town should consider improvements within the right-of-way by directly connecting these areas to the County's system. This would be the most cost-effective solution for achieving the desired LOS and reducing nuisance flooding. However, alternative solutions may also be explored and include pervious pavement and/or exfiltration absorption beds with a connection to the County's system as an overflow measure.



TETRA TECH

4.0

Alternative Analysis

4.0 ALTERNATIVE ANALYSIS

To provide the most economical solutions to the deficiencies identified above, alternatives were evaluated that would have a lower overall opinion of probable construction cost. Although the stormwater issues being experienced within the Town are primarily caused by a lack of stormwater conveyance infrastructure within the system, the Town also desires to provide water quality treatment of stormwater runoff prior to the discharge into the canals and bay. Therefore, the alternatives explored in this plan have water quality treatment as a high priority prior to discharge into the bay.

Although data related to flood damages were not available for analysis as a part of this study, our preliminary estimates of the costs of not providing the recommended improvements is provided hereafter to establish a benchmark of the potential effects related to the ongoing operation and maintenance (O&M) of this deteriorating system.

4.1 NO ACTION

Existing stormwater management infrastructure within the planning area serves drainage basins totaling approximately 184 acres. A no action alternative would include the performance of regular maintenance on the existing system as well as the removal and replacement of failing infrastructure that is beyond its useful life. Careful planning to establish a rotating O&M and removal and replacement programs can avoid this process from becoming reactive and performed in short notice at a premium cost.

Table 4-1 provides a summary of the existing infrastructure inventory within the Town's areas of responsibility as well as projected annual maintenance costs by facility type.

Table 4-1. Existing Town Stormwater Infrastructure

| Facility Type | Unit | Quantity | Maintenance Costs per Unit and Frequency | Total Annual Maintenance Cost |
|---------------|------|----------|--|-------------------------------|
| Swale | LF | 29800 | \$0.50 Annually | \$ 14,900 |
| Storm Pipe | LF | 33100 | \$6.00 Every 4 years | \$ 49,650 |
| Inlet | EA | 396 | \$100 every 4 years | \$ 9,900 |
| Outfall | EA | 100 | \$1,000 every 10 years | \$ 10,000 |

Typical lifespans for stormwater management facilities range from 20 years to 50 years depending on a number of factors. These include the type of material; amount of salt in the air and water; and an effective operation and maintenance program. Upon failure due to deterioration, collapse, or blockage due to sedimentation, stormwater facilities may cause upstream issues that could lead to a reduction in the LOS. This includes flooding in the roadway at a minimum, and habitable structure flooding in the worst case. Based on estimates, assumptions, and visual inspection, the entire system could require complete replacement within 20 years. The total cost of replacement in complete replacement today would be approximately \$7,500,000. Spread over the next 50 years, this equates to \$179,076 annually in today's dollars, but prices would increase with inflation. The net present value of the replacement and O&M is \$5,200,000 in today's dollars with a 4.625% present value discount factor per FDEP State Revolving Fund staff. **Table 4-2** provides a summary of these replacement costs by facility type.

Table 4-2. Replacement Cost of Existing Town Stormwater Infrastructure

| Facility Type | Unit | Quantity | Replacement Cost per Unit | Total Replacement Cost |
|---------------|------|----------|---------------------------|------------------------|
| Swale | LF | 29800 | \$1 | \$ 29,800 |
| Storm Pipe | LF | 33100 | \$47 | \$ 1,555,700 |
| Inlet | EA | 396 | \$6000 | \$ 2,376,000 |
| Outfall | EA | 100 | \$35,000 | \$ 3,500,000 |
| Total | | | | \$ 7,500,000 |

4.2 SEDIMENT BOXES

This alternative focuses the pollutant removal at the discharge point of the stormwater. At the end of the collection system a sediment box is inserted which includes multiple baffled chambers (with options for trash removal) that act to intercept sediment and other pollutant loads. A typical sediment baffle box is designed to remove sediment from the entire stormwater flow. The US Environmental Protection Agency (EPA) states that the total removal of a standard box will provide an average of 70.6% Total Suspended Solids (TSS) removal, and even higher for coarse sediment that this project would mostly encounter. Head loss is minimal and comparable to a large square catch basin because water flow is not directed off line for treatment.

For example, with the nutrient removal system, the Nutrient Separating Baffle Box® by SunTree Technologies, Inc., the system meets or exceeds National Pollutant Discharge Elimination System (NPDES) requirements for capturing a wide variety of pollutants including TSS, sediment, debris, organic material, hydrocarbons, and trash.

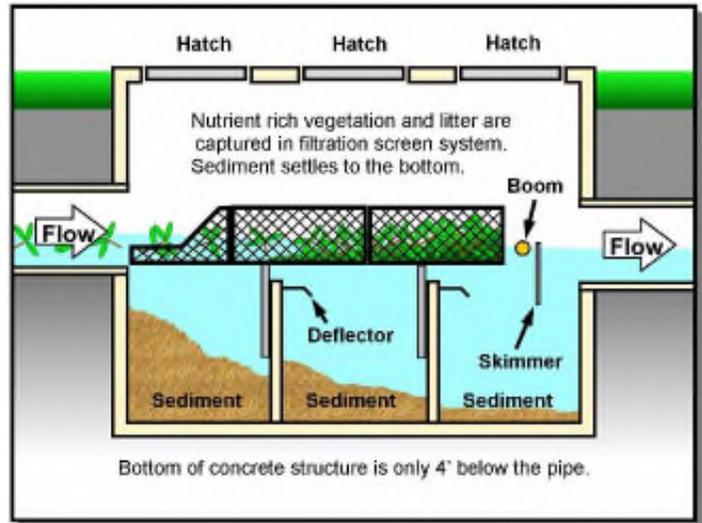
The baffle boxes will be precast concrete structure (or fiberglass), sized according to the storm pipe, and placed as close to the outfall as practical. Due to the proximity of the box to seawater, a higher grade of concrete should be used to withstand the aggressive environment. Sediment boxes are considerably smaller than exfiltration chambers but require space within the alignment of the pipe system near the outfall and are best suited outside of the roadway.

An illustration and image of a partially constructed sediment basin are shown on the right.

Sediment boxes are sized according to stormwater pipe sizes. The effective flows for removal of pollutants can be found in literature provided by the manufacturer.

4.3 EXFILTRATION CHAMBERS

There are numerous forms of exfiltration devices, which disposes stormwater directly into the ground by placing hydraulic head pressure on a permeable distribution facility, thus forcing the stormwater into the void spaces in the surrounding soil. These systems are highly efficient in treating water quality since they do not allow discharges to downstream water bodies, if they are designed correctly. They typically consist of slotted culverts, perforated pipes, gravel trenches, and specialized corrugated plastic distribution galleries that are wrapped with special filter fabrics to prevent the fine soil materials from entering into the distribution system and clogging the perforations.



Images: Suntree, Technologies, Inc.

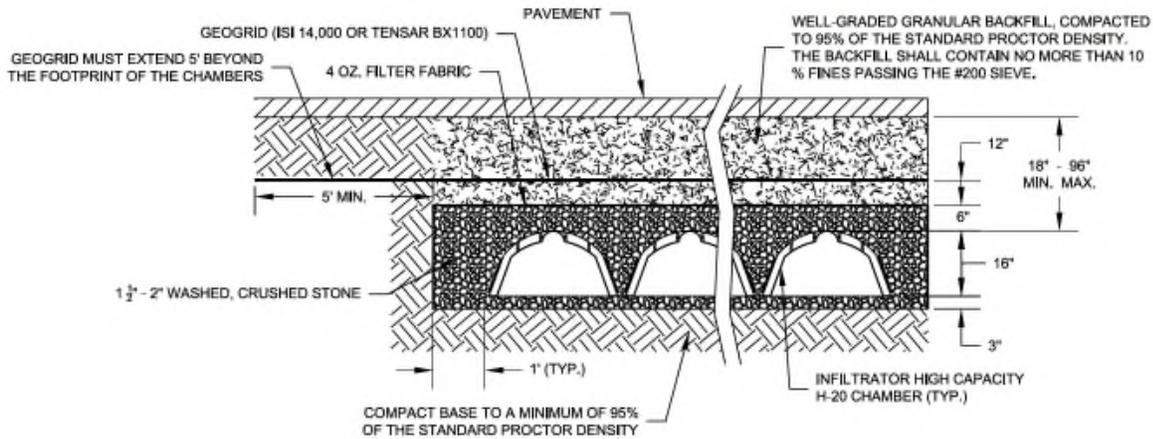
The ability of these systems to operate is dependent upon their use in soils where the groundwater table remains below the exfiltration system allowing the hydraulic pressure to force collected water through the native soils. The amount of void space in the surrounding soils controls how much stormwater can be stored in the system at a given time. Then, percolation rates associated with those soils will determine how fast the stormwater will infiltrate into the groundwater table, leaving the system available for mores stormwater volume. Silty soils, organic soils and clayey soils do not lend themselves to the proper operation of these systems. Often exfiltration pipes and galleries work very well in coastal communities when placed in relic dune systems where the water table is low and the sands have high percolation rates.

A typical exfiltration system’s removal efficiency for total nitrogen (TN) and total phosphorus (TP) is dependent on the treatment volume of the system. For this plan, the removal efficiencies for a system serving a smaller basin area are approximately 74% for TN and 74% for TP. For a system serving a larger basin area, the removal efficiencies are approximately 84% for TN and 84 % for TP.

To achieve water quality treatment in basins not suited for exfiltration, due to limited space or high groundwater conditions, but larger than 3 acres, it is recommended that sediment basins be utilized as the option.

Typical Exfiltration Chamber Cross Section

**HIGH CAPACITY INFILTRATOR H-20 CHAMBER
TYPICAL CROSS SECTION**



Underdrains are typical of this type of stormwater best management practice (BMP). Underdrains are used extensively in communities that have high water tables and where exfiltration practices are not feasible. Underdrains allow the vertical recovery of stormwater management areas where the native soils do not provide sufficient time to evacuate the design treatment volume to allow the pond to be available for the next storm event.

4.4 COST COMPARISON

Within this plan, it has been assumed that each outfall within a basin larger than 3 acres will be retrofitted with a sediment box as a best management practice. These boxes vary in price based on size and range from \$120,000 to \$140,000, installed. The total number of sediment boxes proposed for this project area is 47. The estimated opinion of probable construction cost, including sediment boxes, is approximately \$30,200,000. In this alternative, the sediment boxes account for \$5,800,000 of construction costs.

Exfiltration systems cost approximately \$150 per linear foot on average. The minimum roadway elevation assumed for effective installation of exfiltration chambers is elevation 4.0. This will provide a maximum chamber size of 36-inches using a bottom-less arch system as shown above. Based on required flows for each basin, a total linear

footage of exfiltration chamber within the project area is approximately 27,000 feet. This equates to a total project cost of \$27,100,000 with \$4,075,050 estimated for construction of exfiltration systems within the project.

In addition to the initial capital improvement costs required to construct the project, life cycle and maintenance costs should also be considered. For the purposes of consistency in comparing the projects, a life cycle analysis was performed using a 50-year maximum lifespan for the systems. All improvements within the sediment chamber alternative have been assumed to have a lifespan of 50 years and maintenance costs of approximately \$287,997 annually. The exfiltration chambers have been assumed to require replacement twice within the 50-year life cycle. This alternative has annual maintenance costs of approximately \$244,847 annually. The detailed project cost summary and results of the net present value analysis are contained in **Appendix B**. A summary of the results of the analysis are contained in **Table 4-3**.

Table 4-3. Net Present Value Analysis

| Alternative | Net Present Value |
|-----------------------|-------------------|
| No Action | \$5,200,000 |
| Sediment Boxes | \$34,200,000 |
| Exfiltration Chambers | \$34,000,000 |

4.5 ALTERNATIVE SELECTION

Based on these costs, the projected difference between the two improvement alternatives is not significant. Based on the need for complete replacement of the exfiltration chambers during the life cycle and reduced water quality benefits as the effectiveness of each system gradually reduces, the selected alternative for construction is the sediment box alternative.



TETRA TECH

5.0
Impacts and Benefits

5.0 IMPACTS AND BENEFITS

The following impacts and benefits to the environment and socio-economic life of the Town are included in this section.

5.1 ENVIRONMENTAL

5.1.1 Flora and Fauna

The intended improvements will be within existing developed residential and commercial areas. Estero Island is nearly completely built-out and there are no anticipated impacts to flora or fauna in the area.

5.1.2 Threatened and Endangered Species

The intended improvements will be within existing developed residential and commercial areas. There are no anticipated T&E impacts, other than the temporary concerns for the outfall connections and cofferdams required to construct the modified seawall segments and outfalls. A “duckbill” type backflow preventer will be attached to outfall locations to reduce the potential for wildlife to enter the proposed stormwater system. Riprap will be added to reduce erosion from pipe discharges. There is a known Eagle nest, outside of the improvement area that will not be affected by the improvements.

As a condition of the contacts to work on this project, the Contactor will be required to educate the construction crews and sub-contractors of the environmental concerns and steps to avoid impacts to the environment.

5.1.3 Wetlands and Surface Waters

The intended improvements will be within existing developed residential and commercial areas. Estero Island is nearly completely built-out and there are no anticipated herbaceous wetland impacts. Impacts will be limited to required temporary impacts to construct the outfall connections along the existing seawall described in 5.1.2 above. No stormwater improvements are assumed to take place in the identified wetland in section 1.2.4.1.

Currently, Estero Island consistently floods during moderate to heavy rain and during extreme high tide events and surge conditions. Although this project will not reduce extreme event flooding, it will reduce the impact caused by moderate rain events in the existing flood-prone areas. Backflow preventers will provide sufficient protection from high tide conditions that inundate the pipe network during tide fluctuations.

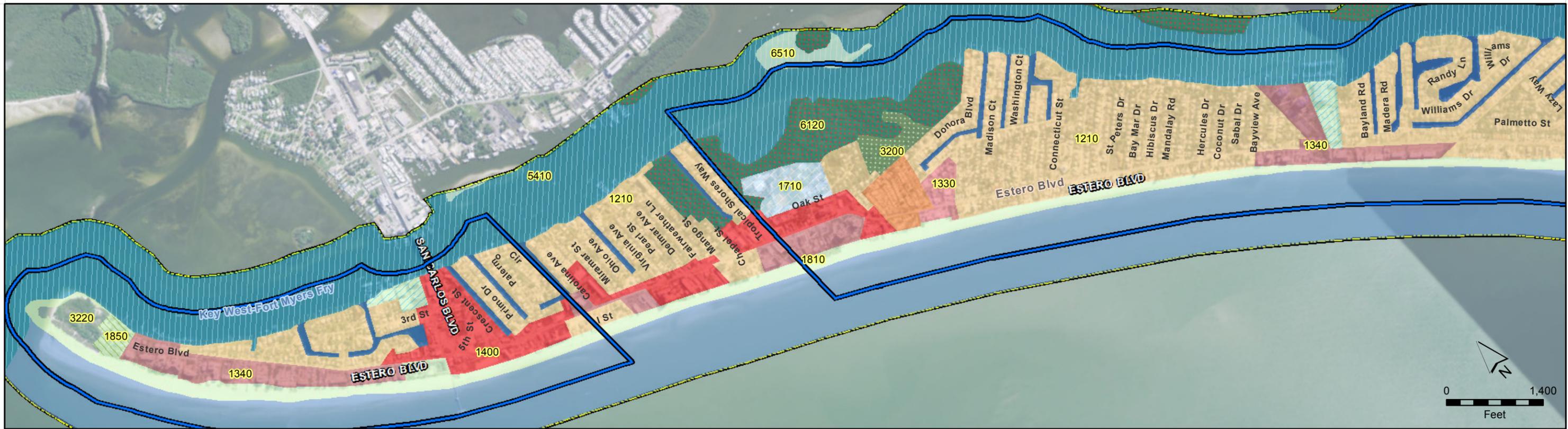
5.1.4 Population

The non-seasonal population in the Town is 6,277. The seasonal peak population is approximately 25,000 people for a duration of five (5) months from December to April.

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

5.1.5 Land Use and Development

Estero Island is diverse in its land use, ranging from single-family homes to hi-rise condominiums and beaches to shopping centers. The Town does not expect any further development. **Figure 16** illustrates the varying land uses throughout the planning area.



Source: ESRI World Imagery; SFWMD LULC 2008

| | | | | | |
|---------------|----------------------------|---------------------------------|----------------------------|------------------------|----------------------------------|
| LEGEND | Town of Fort Myers Beach | Detailed Land Cover 2008 | Commercial and Services | Golf Course | Embayments open to Gulf or Ocean |
| | Project Limits | Land Cover (Level III) | Retail Sales and Services | Marinas and Fish Camps | Enclosed salt water ponds |
| | Med. Density Single Family | Shopping Centers | Institutional | Parks and Zoos | Gulf of Mexico |
| | High Density Mobile Homes | Educational Facilities | Upland Shrub and Brushland | Channelized Waterways | Mangrove Swamp |
| | High Density Low Rise | Swimming Beach | Reservoirs | Tidal Flats | |
| | High Density High Rise | | | | |

TOWN OF FORT MYERS BEACH
FACILITIES PLAN

LAND COVER MAP



FIGURE 16



TETRA TECH

6.0

Project Implementation Schedule

6.0 PROJECT IMPLEMENTATION SCHEDULE

The project will be completed in multiple phases. Preliminary work will be completed in conjunction with drainage improvements performed by the County on Estero Boulevard. Areas currently under design will also be constructed in the near future. The remaining areas will be constructed in four separate phases as described in previous sections. These are the Mid-Island Neighborhoods Phases 1, 2, and 3, and the South Island Neighborhoods.

6.1 NORTH ESTERO PHASE II

The design phase of the North Estero Water Main and Stormwater Improvements project is underway. This project has been separated into two (2) sub-phases to facilitate an accelerated construction schedule.

Phase IIA

Phase IIA of North Estero Phase II is currently at the 90% design stage. This project includes Carlos Circle, Matanzas Court, Lagoon Street, Primo Drive, Palermo Circle, and Santos Road. Permitting is underway and final design will be completed by August 2016. The Town has on-going contractor services that will perform the construction. This project will be completed by August 2017.

Phase IIB

Phase IIB of North Estero Phase II is included in the planning level design included in this plan. This project phase includes Crescent Street, First Street, Second Street, Third Street, Fourth Street, Fifth Street, Harbor Court, and Bonita Street. Upon completion of the Phase IIA design, the design of this phase will commence. This project will be completed FY 2016/2017.

6.2 ESTERO BOULEVARD OUTFALLS

As the County prepares to complete drainage improvements within the Estero Boulevard right-of-way, the Town will also perform construction on the installation of the proposed water main as well as future outfalls for Estero Boulevard runoff. Currently, the County is preparing to construct the portion of Estero Boulevard from Crescent Street to Sanders Drive (Publix). Based on the best available information provided by Lee County at the finalizing of this report, flows have been estimated for the outfalls of this portion of Estero Boulevard. Design plans and calculations include at least eight (8) outfalls to neighborhood streets that will ultimately outfall to Estero Bay. Of these streets, the following are included in this plan:

- Eucalyptus Court
- Jefferson Street
- Hercules Drive
- Bayview Avenue

Future improvements to Estero Boulevard east of Sanders Drive (Publix) will include additional outfalls to neighborhood streets. At least twelve (12) locations have been identified by Lee County for this use. Of these, nine (9) are included in this plan and the remainder will be determined at a later date. These are:

- Madera Road or Glenview Manor Drive
- Dakota Avenue
- Aberdeen Avenue
- Mound Road
- Curlew Street
- Albatross Street
- Lenell Road
- Buccaneer Drive
- Redfish Road

This work is scheduled to be completed during FY 2016/2017.

6.3 MID-ISLAND NEIGHBORHOODS

All other construction will be completed in three separate phases.

Phase 1

The first portion of neighborhood improvements will include the portion of the Town from School Street to St. Peters Drive. This will include improvements within all public right-of-way on the bay side and beach side of Estero Boulevard. Construction on this phase will be completed FY 2017/2018.

Phase 2

The second portion of the neighborhood improvements includes Bay Mar Drive to Lazy Way. This portion will be completed FY 2018/2019.

Phase 3

The final portion of the project will consist of Sterling Avenue to Lenell Road. This is scheduled to be completed FY 2019/2020.

6.4 SOUTH ISLAND NEIGHBORHOODS

The South Island Neighborhood Stormwater Improvements includes the Laguna Shores development and Estrellita Road neighborhood. This is the final stormwater retrofit project included in the facilities planning area and is scheduled to be completed FY 2020/2021.



TETRA TECH

7.0

Financial Feasibility

7.0 FINANCIAL FEASIBILITY

This information can be found in **Appendix C**.



TETRA TECH

8.0

Recommendation

8.0 RECOMMENDATION

Based on the findings of this study, it is recommended that the Town proceed with the design and construction of the selected alternative. Through analysis, a comparison of the flow capacity of existing outfalls to peak flows generated by the contributing outfall has shown deficiencies in a majority of the project area. It is assumed that a deficiency of flow capacity at the outfall will cause upstream staging of runoff, and in turn, nuisance flooding, at a minimum.

To achieve the desired LOS flow capacity for the design storm, the recommended alternative proposes to increase the size of the conveyances within the system as well. Where possible, it is recommended that available right-of-way be utilized to convey flow via open swales, thus providing a level of water quality treatment prior to discharge. For basins projected to contribute large flows due to having drainage areas larger than three (3) acres, it is proposed that the Town install nutrient separating baffle boxes within the stormwater management system immediately upstream of the outfall to provide for the collection of sediment, suspended solids, and floating debris collected in the stormwater system.

This overall recommended plan is proposed due to the Town's susceptibility to consistent flooding and the overall condition of the existing stormwater system.

It should be noted that the Town is already in the process of securing funding for potable water system improvements in the same areas covered by this stormwater facilities plan. If these projects are constructed by the Town as one single project, the costs related to roadway reconstruction could see significant decreases due to economies of scale. It is recommended that the Town follow this course of action to capitalize on this.

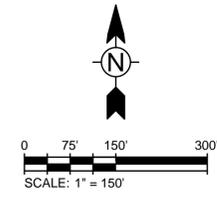
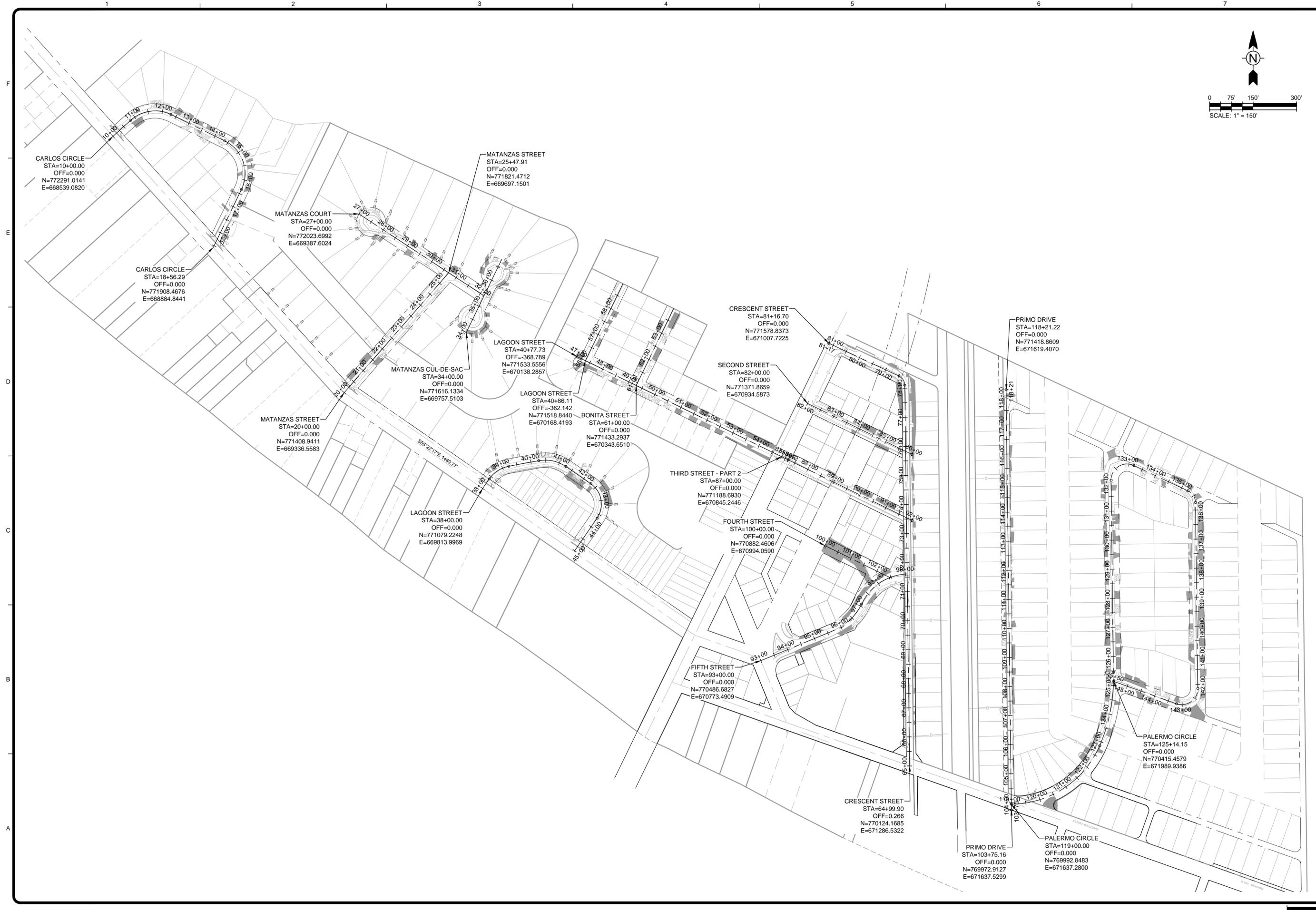


TETRA TECH

Appendix A

APPENDIX A NORTH ESTERO PHASE IIA DESIGN PLANS

5/18/2016 3:25:00 PM - P:\IER\74765200-74765-16002\CAD\SHSHEETFILES\C-101.DWG - REYES, HECTOR



TETRA TECH
www.tetra.tech.com
10600 CHEVROLET WAY, SUITE 300
ESTERO, FL 33928
PHONE: (239) 390-1467 FAX: (407) 839-3790

Brett T. Messner, P.E.
P.E. No. 77093, FL
Tetra Tech Inc.
201 E Pine Street, Suite 1000
Orlando, FL 32801
Engineering Business No. 2429

DATE _____

| BY | MARK | DATE | DESCRIPTION |
|----|------|------|-------------|
| | | | |
| | | | |
| | | | |
| | | | |

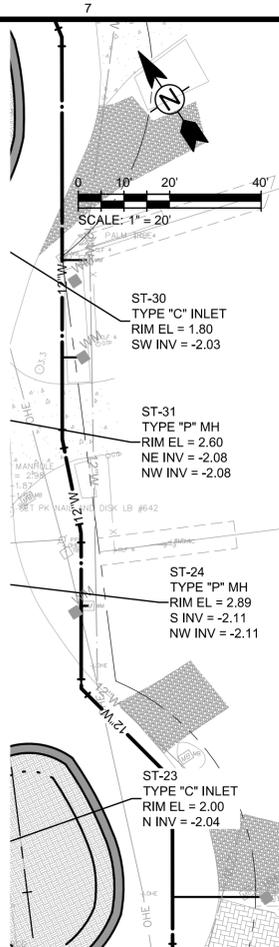
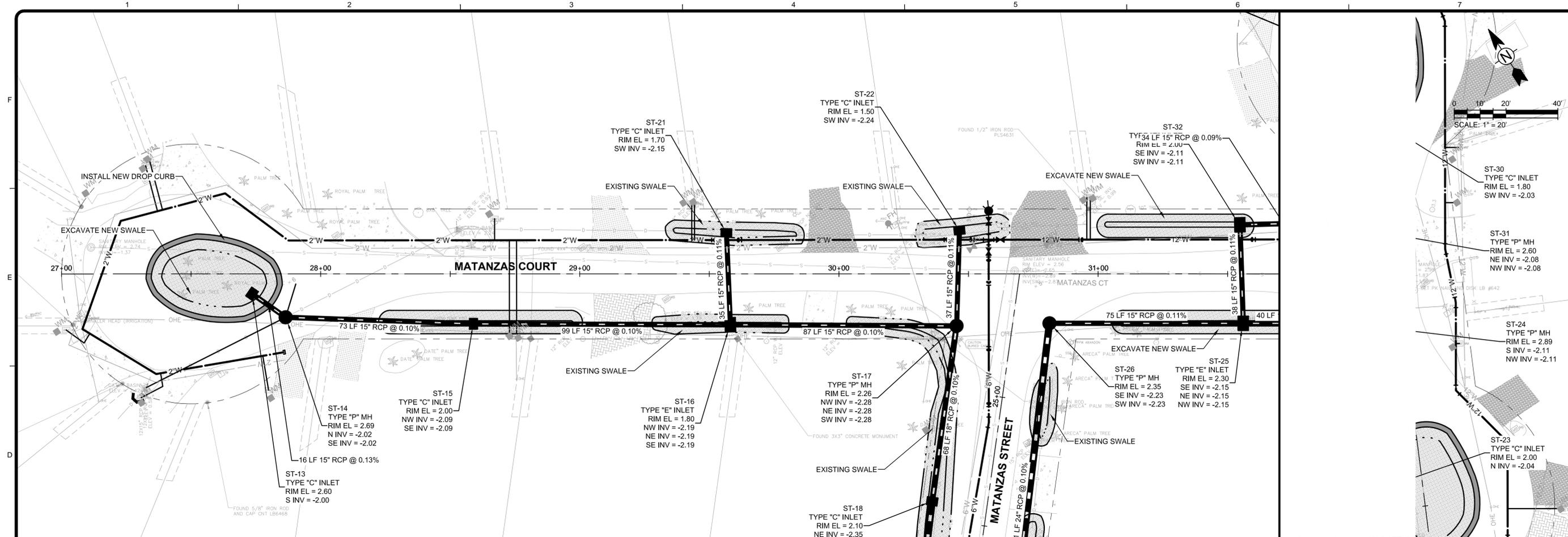
TOWN OF FORT MYERS BEACH
NORTH ESTERO BLVD. SIDE STREETS
PHILWIM AND STORM IMPROVEMENTS
OVERALL KEY PLAN

Project No.: 200-74765-16002
Designed By: TAV
Drawn By: HCR
Checked By: BTM

C-101
Sheet
Bar Measures 1 inch

Copyright: Tetra Tech

3/19/2007 C-102.dwg



HORIZ: 1" = 20'
VERT: 1" = 2'

Project No.: 200-74765-16002

Designed By: TAV

Drawn By: HCR

Checked By: BTM

C-106

Sheet

Bar Measures 1 inch

Copyright Tetra Tech

TOWN OF FORT MYERS BEACH

NORTH ESTERO BLVD. SIDE STREETS

PHIIWM AND STORM IMPROVEMENTS

MATANZAS COURT

PLAN AND PROFILE

BY

MARK

DATE

DESCRIPTION

Brett T. Messinger, P.E.

P.E. No. 77093, FL

Tetra Tech Inc.

201 E Pine Street, Suite 1000

Orlando, FL 32801

Engineering Business No. 2429

TETRA TECH

www.tetra.tech.com

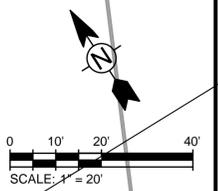
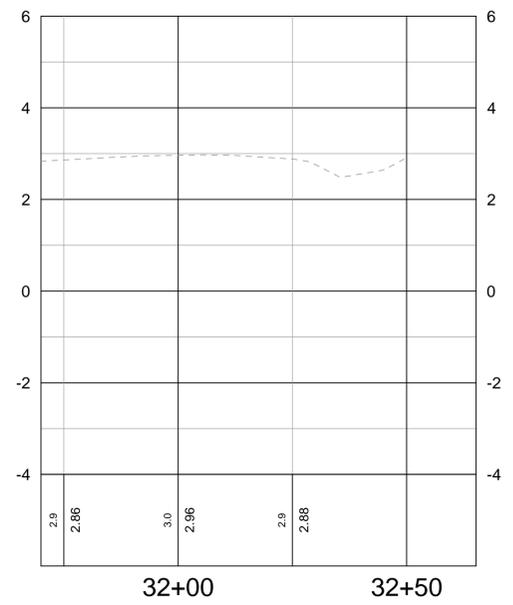
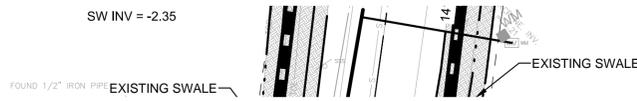
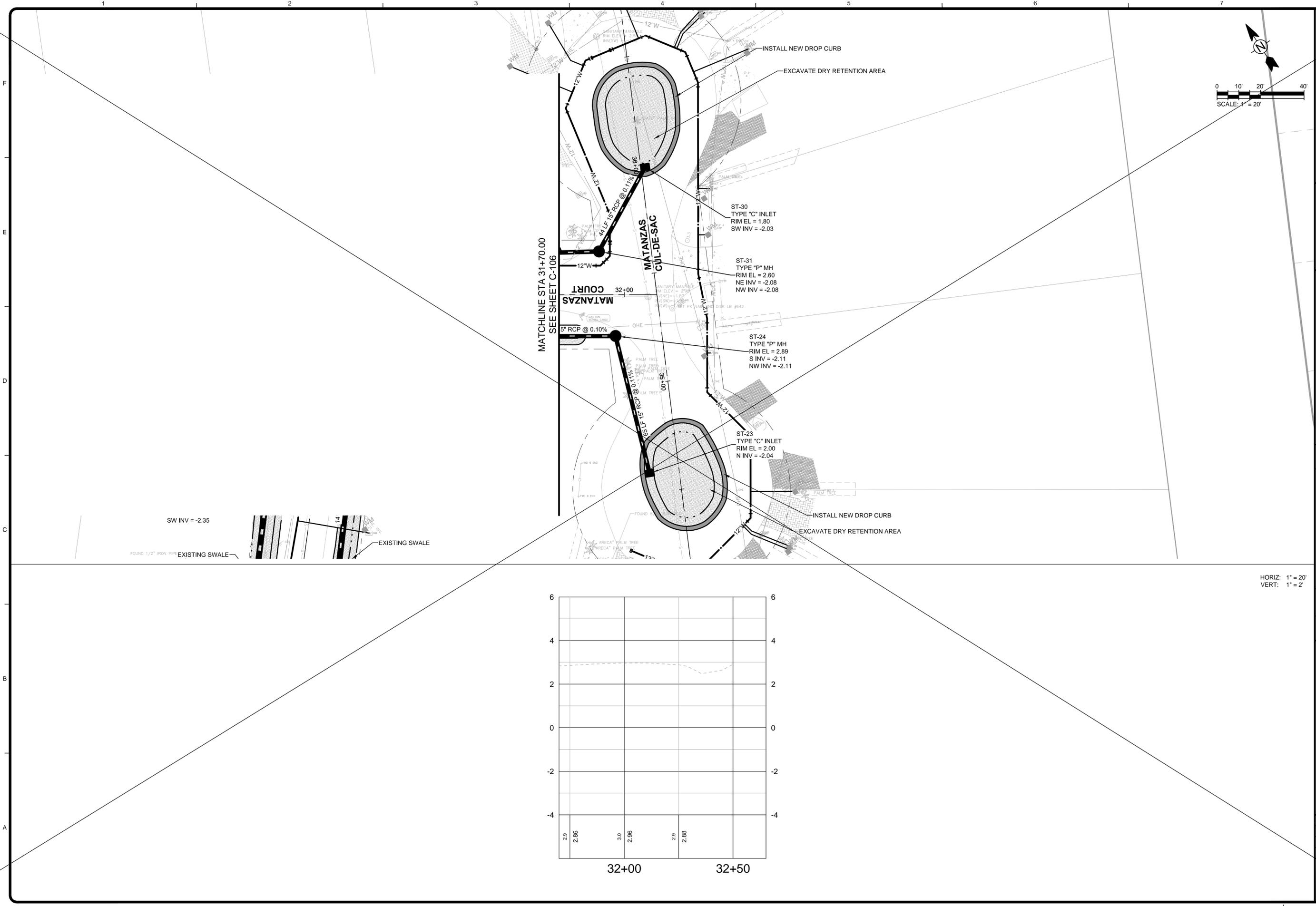
10600 CHEVROLET WAY, SUITE 300

ESTERO, FL 33928

PHONE: (239) 390-1467 FAX: (407) 839-3790

DATE

3/19/2007
 C-102.dwg
 5/18/2018 3:27:34 PM - P:\HERV\4785\2007\4785-16002\CAD\SHEETFILES\C-102.DWG - REYES, HECTOR



HORIZ: 1" = 20'
 VERT: 1" = 2'



Brett T. Messner, P.E.
 P.E. No. 77029, FL
 Tetra Tech Inc.
 201 E Pine Street, Suite 1000
 Orlando, FL 32801
 Engineering Business No. 2429

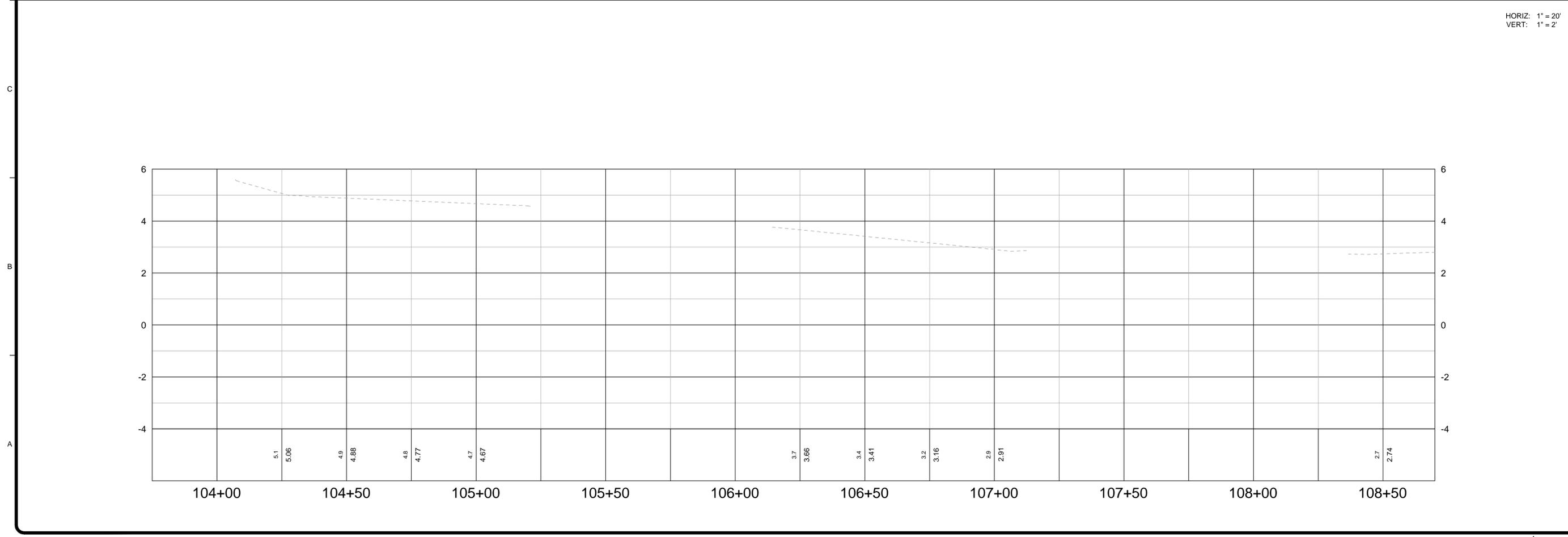
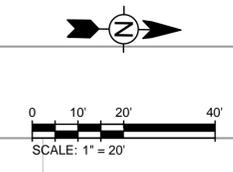
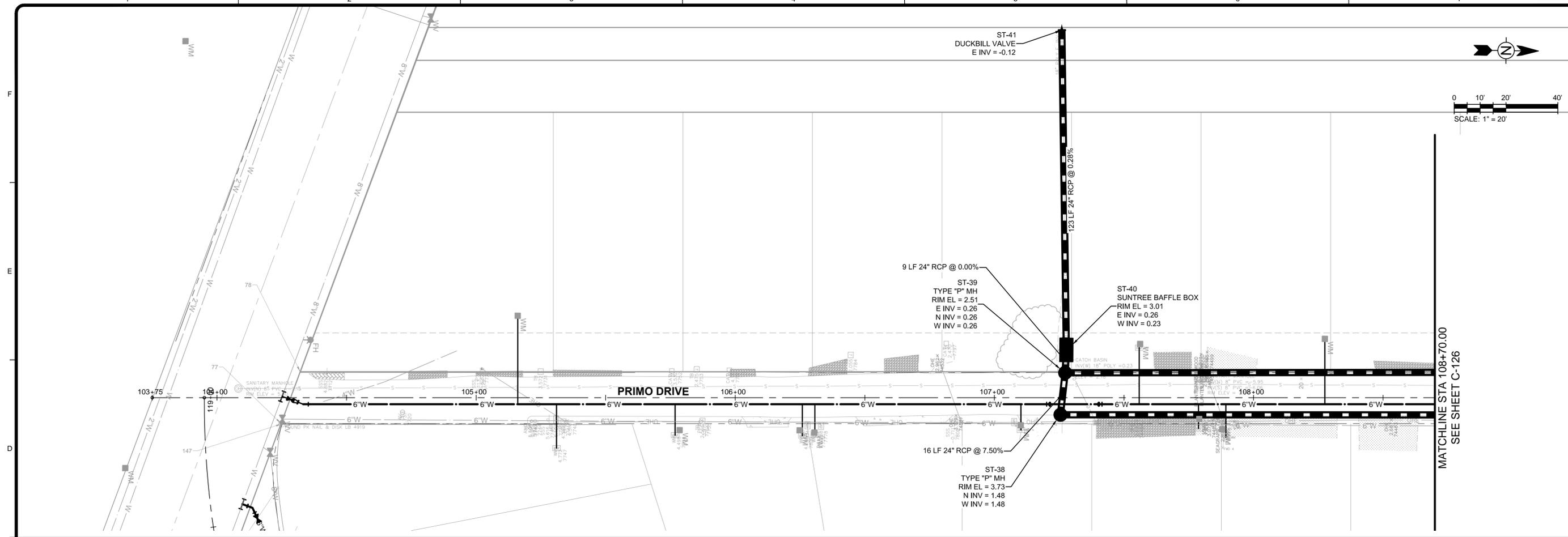
| MARK | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |

TOWN OF FORT MYERS BEACH
 NORTH ESTERO BLVD. SIDE STREETS
 PH II IWM AND STORM IMPROVEMENTS
MATANZAS COURT

Project No.: 200-
 Designed By:
 Drawn By:
 Checked By:

Sheet
 Bar Measu

3/19/2007 C-102.dwg
 5/18/2016 3:30:00 PM - P:\IER\74765200-74765-16002\CAD\SHEETFILES\C-102.DWG - REYES, HECTOR





TETRA TECH

www.tetra-tech.com
 10600 CHEVROLET WAY, SUITE 300
 ESTERO, FL 33928
 PHONE: (239) 390-1467 FAX: (407) 839-3790

Brett T. Messner, P.E.
 P.E. No. 77093, FL
 Tetra Tech, Inc.
 201 E Pine Street, Suite 1000
 Orlando, FL 32801
 Engineering Business No. 2429

DATE _____

| MARK | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

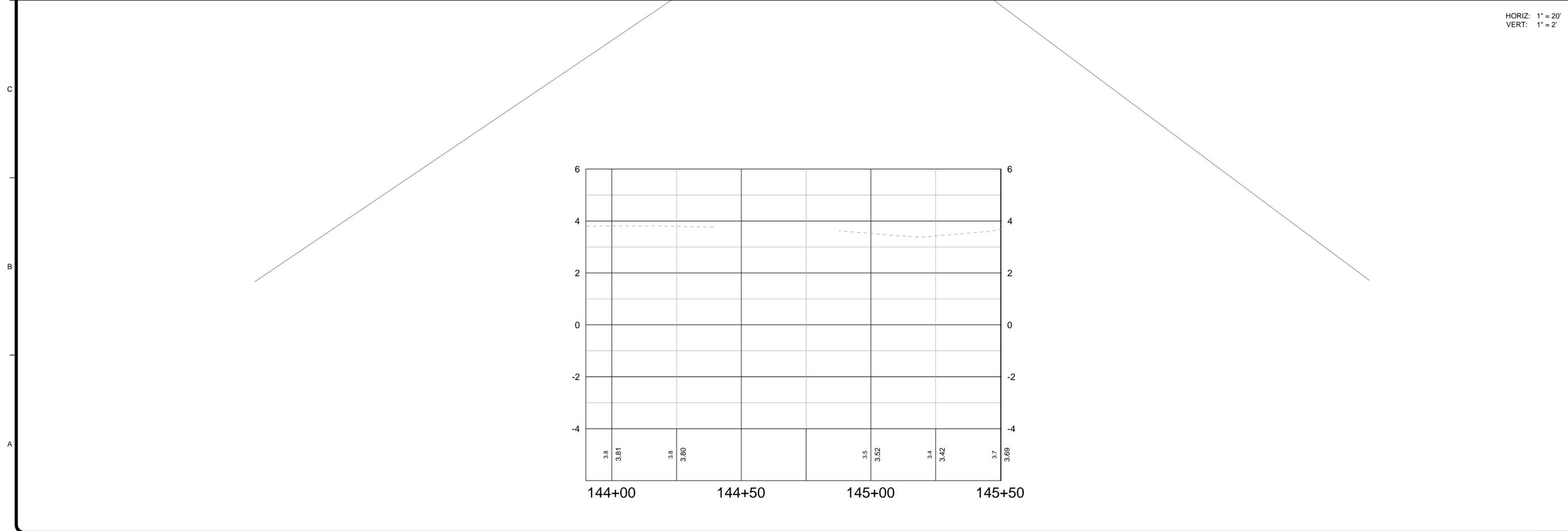
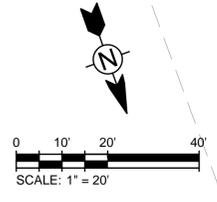
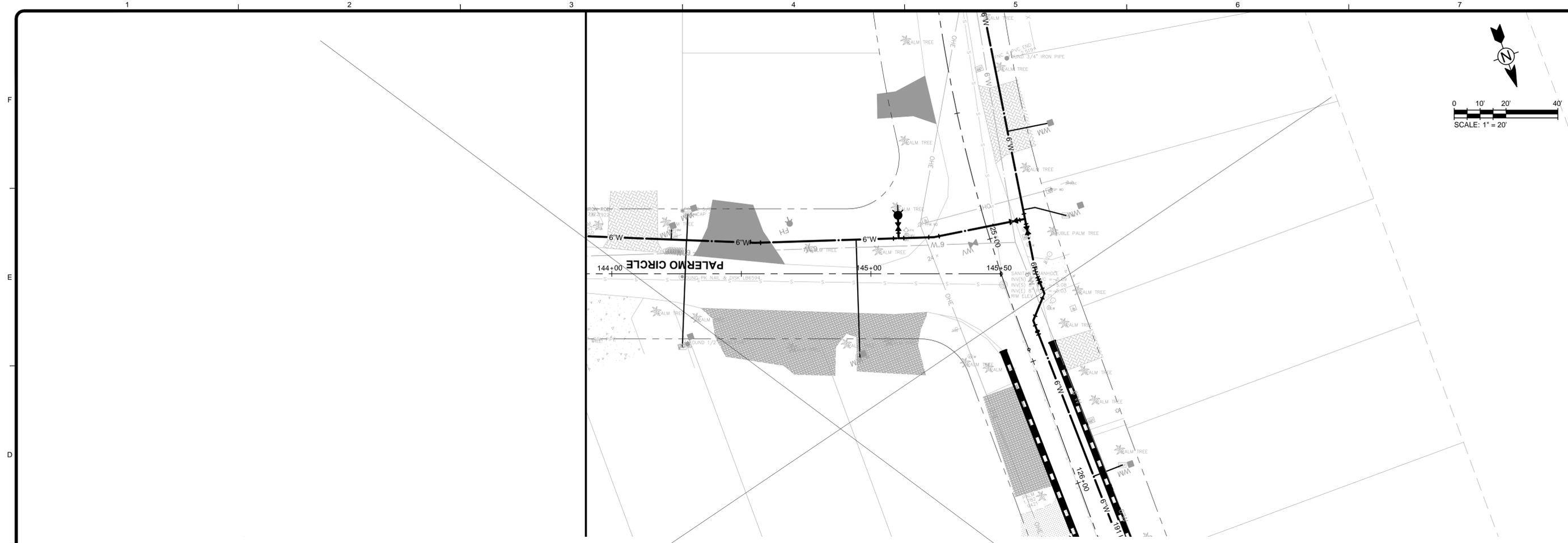
TOWN OF FORT MYERS BEACH
 NORTH ESTERO BLVD. SIDE STREETS
 PHILWIM AND STORM IMPROVEMENTS
PRIMO DRIVE
PLAN AND PROFILE

Project No.: 200-74765-16002
 Designed By: TAV
 Drawn By: HCR
 Checked By: BTM

C-125
Sheet

Copyright Tetra Tech
 Bar Measures 1 inch

3/19/2007 C-102.dwg
 5/18/2016 3:34:17 PM - P:\IERI\74765200-74765-16002\CAD\SHEETFILES\C-102.DWG - REYES, HECTOR



HORIZ: 1" = 20'
 VERT: 1" = 2'



Brett T. Messner, P.E.
 P.E. No. 77093, FL
 Tetra Tech Inc.
 201 E Pine Street, Suite 1000
 Orlando, FL 32801
 Engineering Business No. 2429

| BY | DATE | DESCRIPTION |
|----|------|-------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

| MARK | DATE | DESCRIPTION |
|------|------|-------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

TOWN OF FORT MYERS BEACH
 NORTH ESTERO BLVD. SIDE STREETS
 PHII WIM AND STORM IMPROVEMENTS
**PALERMO CIRCLE
 PLAN AND PROFILE**

Project No.: 200-74765-16002
 Designed By: TAV
 Drawn By: HCR
 Checked By: BTM

C-133
 Sheet

Bar Measures 1 inch

Copyright Tetra Tech

TOWN OF FORT MYERS BEACH NORTH ESTERO BLVD. - PHASE II CARLOS CIRCLE WATER MAIN AND STORM IMPROVEMENTS

10600 CHEVROLET WAY, SUITE 300
ESTERO, FL 33928
PHONE: (239) 390-1467 FAX: (407) 839-3790



www.tetrattech.com

PROJECT LOCATION:

FORT MYERS BEACH, FL

CLIENT INFORMATION:

TOWN OF FORT MYERS BEACH

Tt PROJECT No.:

200-74765-16002

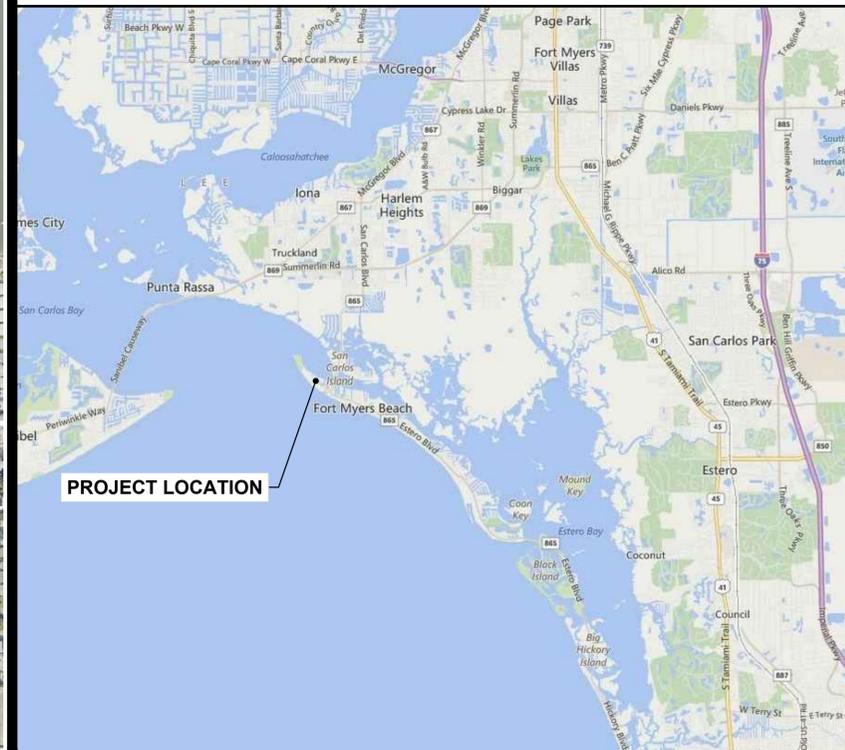
CLIENT PROJECT No.:

PROJECT DESCRIPTION / NOTES:

ISSUED:

MAY 2016 - PERMIT SUBMITTAL

VICINITY MAP:



| INDEX OF DRAWINGS | |
|-------------------|--|
| SHEET NO. | SHEET TITLE |
| G-000 | COVER SHEET, VICINITY MAP AND LOCATION MAP |
| G-001 | GENERAL NOTES |
| G-002 | LEGEND AND ABBREVIATIONS |
| C-101 | OVERALL KEY PLAN |
| C-102 | CARLOS CIRCLE - PLAN AND PROFILE |
| C-103 | CARLOS CIRCLE - PLAN AND PROFILE |
| C-501 | CIVIL DETAILS |
| C-502 | CIVIL DETAILS |
| C-503 | CIVIL DETAILS |
| C-504 | CIVIL DETAILS |

5/18/2016 8:59:10 AM - P:\16002\CADD\SHETS\CARLOS CIRCLE\G-001_CARLOS CIRCLE.DWG - REVES, HECTOR

LIST OF STANDARD ABBREVIATIONS

Table with 4 columns of abbreviations and their corresponding full names, including categories like Alarm, Electrical, Mechanical, and Civil.

PIPING LEGEND

Table showing piping symbols for various fittings and joints, categorized by Flanged, Mechanical Joint, Groove Joint, and Solvent Weld, with sub-categories for Single-Line and Double-Line.

CIVIL LEGEND

Table of civil engineering symbols for property lines, easements, construction limits, and various types of fences and barriers.

REFERENCE SYMBOLS

Table explaining reference symbols for sections and details, including drawing numbers and section letter identification.

HATCHING LEGEND

Table of hatching patterns used in civil engineering drawings to represent different materials and surfaces.

MECHANICAL/DRAFTING LEGEND

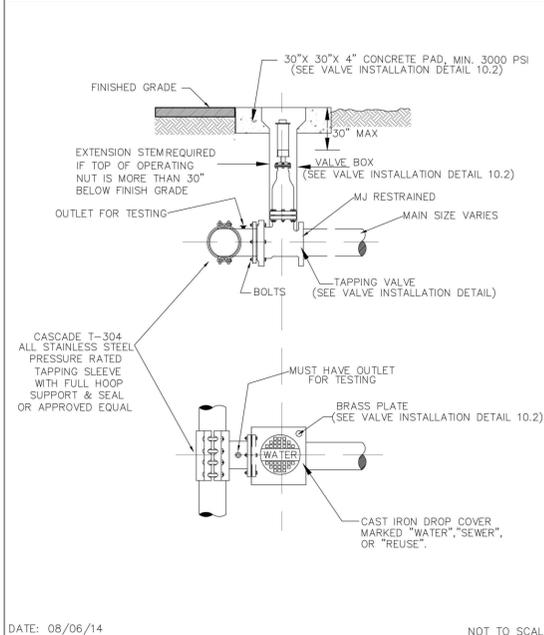
Table of mechanical and drafting abbreviations, including symbols for existing and proposed lines and dimensioning.

Project information block containing company logo (Tetra Tech), contact details, project name (TOWN OF FORT MYERS BEACH), and drawing title (G-002).

5/18/2016 9:02:19 AM - P:\PIER7\74765\200-74765-16002\CAD\SHETS\CARLOS\CIRCLE501_CARLOS CIRCLE.DWG - REYES, HECTOR

TOWN OF FORT MYERS BEACH STANDARD DETAIL

TOWN OF FT. MYERS BEACH STANDARD DETAIL NO. 10.1 TAPPING SLEEVE AND VALVE



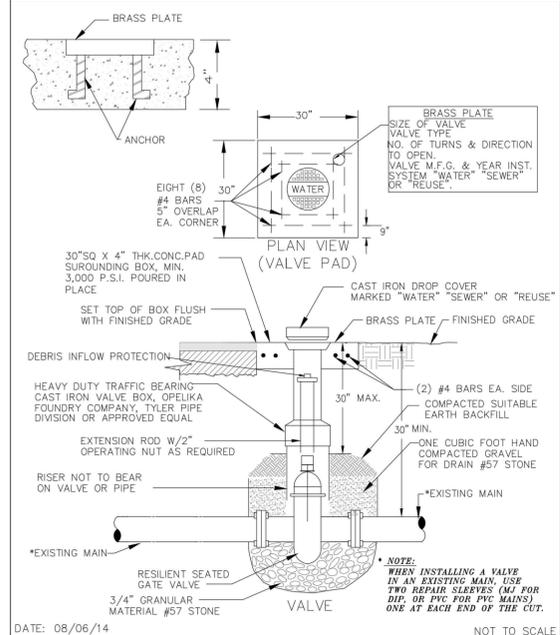
DATE: 08/06/14

NOT TO SCALE

1 DETAIL SCALE: NTS

TOWN OF FORT MYERS BEACH STANDARD DETAIL

TOWN OF FT. MYERS BEACH STANDARD DETAIL NO. 10.2 GATE VALVE INSTALLATION



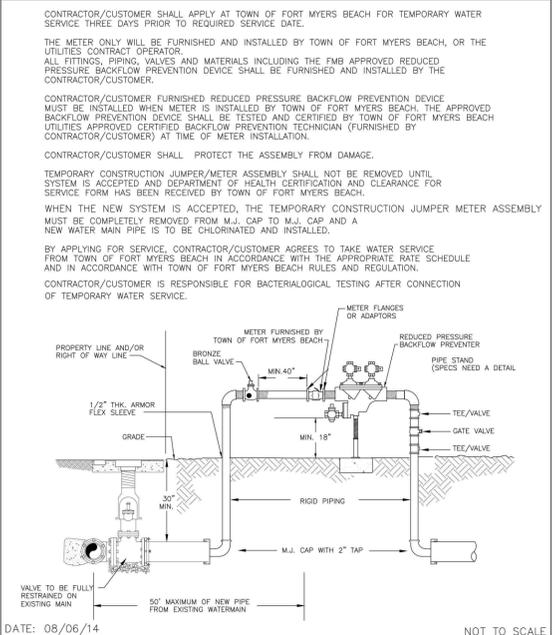
DATE: 08/06/14

NOT TO SCALE

2 DETAIL SCALE: NTS

TOWN OF FORT MYERS BEACH STANDARD DETAIL

TOWN OF FT. MYERS BEACH STANDARD DETAIL NO. 10.3 TEMPORARY CONSTRUCTION WATER SERVICE



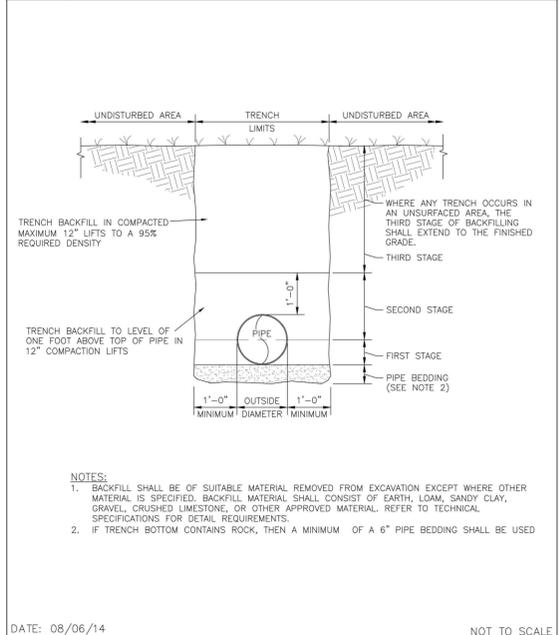
DATE: 08/06/14

NOT TO SCALE

3 DETAIL SCALE: NTS

TOWN OF FORT MYERS BEACH STANDARD DETAIL

TOWN OF FT. MYERS BEACH STANDARD DETAIL NO. 10.4 UNPAVED AREA TRENCH BACKFILL DETAIL



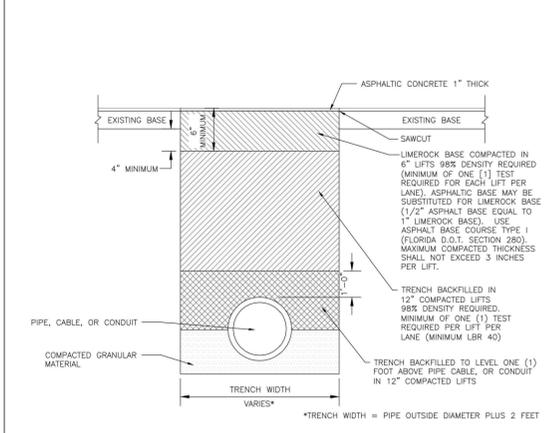
DATE: 08/06/14

NOT TO SCALE

4 DETAIL SCALE: NTS

TOWN OF FORT MYERS BEACH STANDARD DETAIL

TOWN OF FT. MYERS BEACH STANDARD DETAIL NO. 10.4a ROAD AND TRENCH RESTORATION FOR LOCAL ROADS



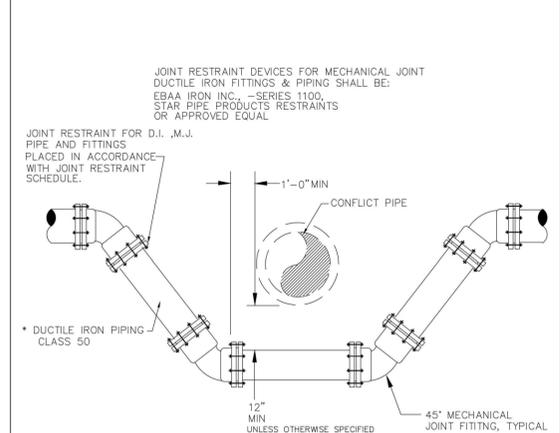
DATE: 08/06/14

NOT TO SCALE

5 DETAIL SCALE: NTS

TOWN OF FORT MYERS BEACH STANDARD DETAIL

TOWN OF FT. MYERS BEACH STANDARD DETAIL NO. 10.6 WATER PRESSURE LINE VERTICAL OFFSET WITH DUCTILE IRON MJ FITTINGS & PIPE



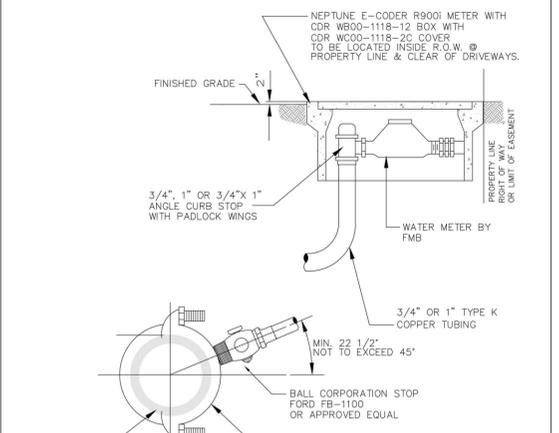
DATE: 08/06/14

NOT TO SCALE

6 DETAIL SCALE: NTS

TOWN OF FORT MYERS BEACH STANDARD DETAIL

TOWN OF FT. MYERS BEACH STANDARD DETAIL NO. 10.9 WATER SERVICE INSTALLATION 5/8" THROUGH 1"



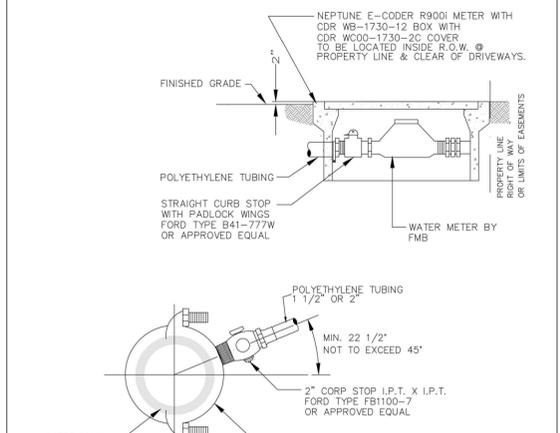
DATE: 08/06/14

NOT TO SCALE

7 DETAIL SCALE: NTS

TOWN OF FORT MYERS BEACH STANDARD DETAIL

TOWN OF FT. MYERS BEACH STANDARD DETAIL NO. 10.10 WATER SERVICE INSTALLATION 1-1/2" THROUGH 2"



DATE: 08/06/14

NOT TO SCALE

8 DETAIL SCALE: NTS

TETRA TECH logo and contact information including address, phone, and website.

Table with columns for P.E. name, P.E. No., and Date.

Table with columns for Mark, Date, and Description.

TOWN OF FORT MYERS BEACH CIVIL DETAILS project information including location and phase.

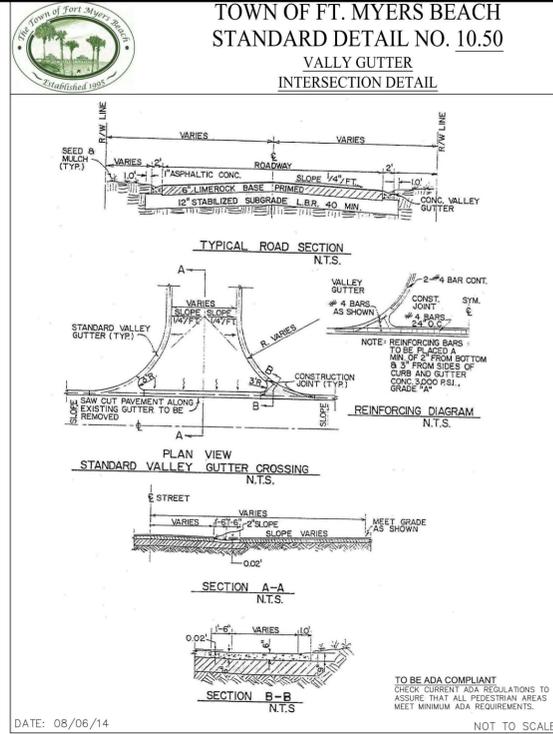
Project No., Designed By, Drawn By, and Checked By fields.

C-501 project identifier.

Bar Measures 1 inch.

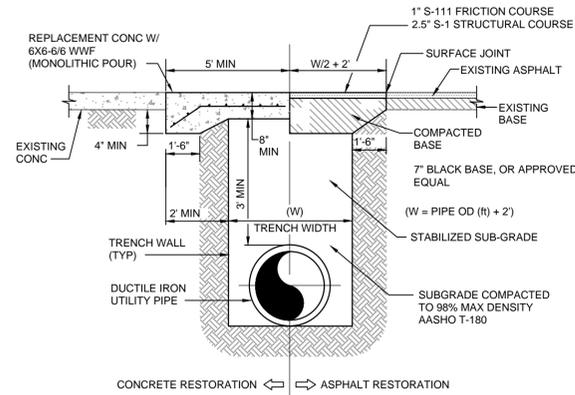
TOWN OF FORT MYERS BEACH STANDARD DETAIL

TOWN OF FT. MYERS BEACH
STANDARD DETAIL NO. 10.50
VALLEY GUTTER
INTERSECTION DETAIL



1 DETAIL
SCALE: NTS

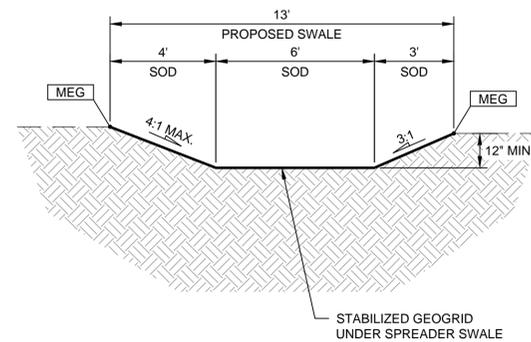
UTILITY CROSSING, OPEN CUT



- NOTES:
- CONTRACTOR SHALL FILL OPEN CUT TO ALLOW TRAFFIC TO PASS FREELY AND SAFELY PROMPTLY AFTER INSTALLATION. IF PERMANENT RESTORATION IS TO BE DEFERRED, THE CONTRACTOR SHALL MAINTAIN THE TEMPORARY CONDITION TO THE RESIDENT INSPECTOR'S SATISFACTION.
 - EXISTING SURFACE AND BASE CUTS SHALL BE MECHANICALLY SAWN.
 - LONGITUDINAL CUTS REQUIRED OVERLAY/RESURFACING TO THE COMPLETE WIDTH OF THE ROAD ON COUNTY AND EXPRESSWAY AUTHORITY OWNED ROADWAYS.
 - CUTS AT INTERSECTIONS REQUIRE COMPLETE OVERLAY/RESURFACING TO THE END OF ALL RETURN RADII AND/OR 10FT BEYOND CUT, WHICHEVER IS GREATER FOR AND COUNTY AND EXPRESSWAY AUTHORITY OWNED ROADWAY INTERSECTIONS.
 - CUTS THROUGH TURNOUTS AND CUL-DE-SACS REQUIRE COMPLETE OVERLAY/RESURFACING ON COUNTY AND EXPRESSWAY AUTHORITY OWNED ROADWAYS.
 - ALL UTILITY PIPE INSTALLED UNDERNEATH ASPHALT OR CONCRETE ROADWAY SHALL BE DUCTILE IRON.

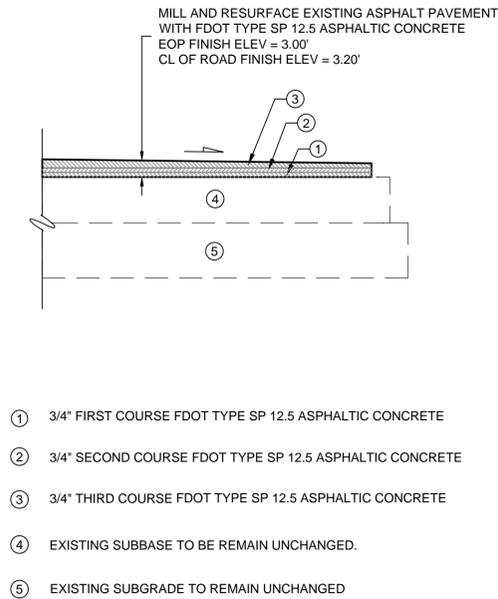
2 DETAIL
SCALE: NTS

TYPICAL SWALE



3 DETAIL
SCALE: NTS

MILL & RESURFACE EXISTING ASPHALT PAVEMENT

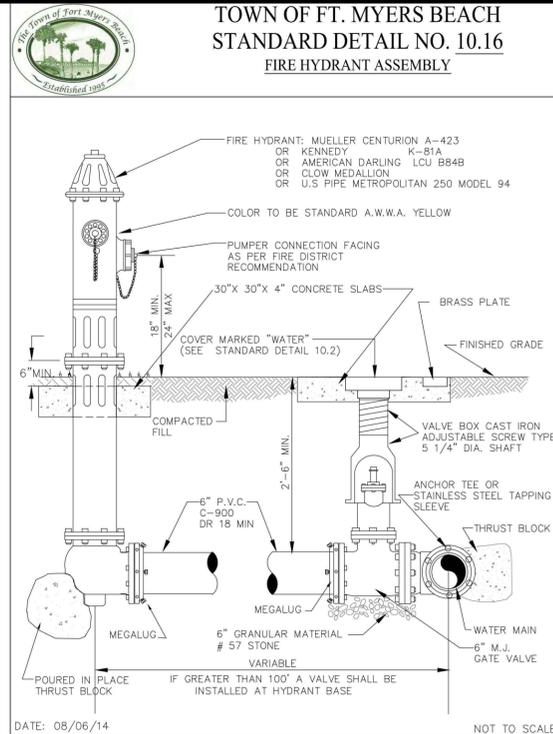


- 3/4" FIRST COURSE FDOT TYPE SP 12.5 ASPHALTIC CONCRETE
- 3/4" SECOND COURSE FDOT TYPE SP 12.5 ASPHALTIC CONCRETE
- 3/4" THIRD COURSE FDOT TYPE SP 12.5 ASPHALTIC CONCRETE
- EXISTING SUBBASE TO BE REMAIN UNCHANGED.
- EXISTING SUBGRADE TO REMAIN UNCHANGED

4 DETAIL
SCALE: NTS

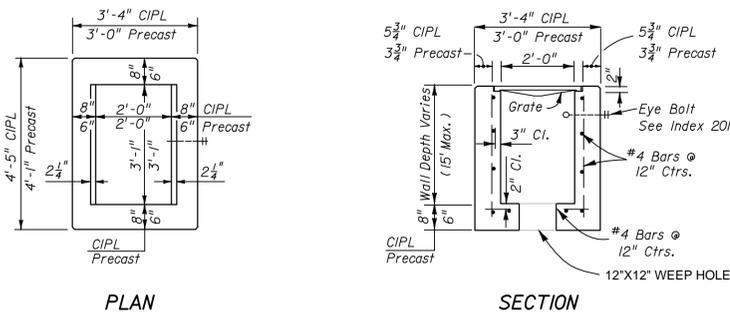
TOWN OF FORT MYERS BEACH STANDARD DETAIL

TOWN OF FT. MYERS BEACH
STANDARD DETAIL NO. 10.16
FIRE HYDRANT ASSEMBLY



5 DETAIL
SCALE: NTS

TYPE "C" INLET



HORIZONTAL WALL REINFORCING
SCHEDULES (TABLE 1)

| WALL DEPTH | SCHEDULE | AREA (in ² /ft) | MAX. SPACING BARS | WWF |
|------------|----------|----------------------------|-------------------|-----|
| 0'-15' | A12 | 0.20 | 12" | 8" |

TYPE C
Recommended Maximum Pipe Size:
2'-0" Wall - 18" Pipe
3'-1" Wall - 24" Pipe (18" where an 18" pipe
enters a 2'-0" wall)

6 DETAIL
SCALE: NTS

5/18/2016 9:09:25 AM - P:\PIER7\74765\200-74765-16002\CAD\SHETS\CARLOS CIRCLE\501_CARLOS CIRCLE.DWG - REYES, HECTOR



Brett T. Messner, P.E.
P.E. No. 77093, FL
Tetra Tech Inc.
201 E Pine Street, Suite 1000
Orlando, FL 32801
Engineering Business No. 2429

DATE

www.tetrattech.com
10600 CHEVROLET WAY, SUITE 300
ESTERO, FL 33928
PHONE: (239) 390-1467 FAX: (407) 839-3790

| MARK | DATE | DESCRIPTION |
|------|------|-------------|
| BY | CIS | |

TOWN OF FORT MYERS BEACH
NORTH ESTERO BLVD. - PHASE II
CARLOS CIRCLE WIDEN AND STORM IMPROVEMENTS
CIVIL DETAILS

Project No.: 200-74765-16002
Designed By:
Drawn By:
Checked By:

C-504

Bar Measures 1 inch

Copyright: Tetra Tech



TETRA TECH

Appendix B

**APPENDIX B COST INFORMATION ON ALTERNATIVES AND NET
PRESENT VALUE ANALYSIS**

Town of Fort Myers Beach
Stormwater Facility Plan
Preliminary Engineer's Opinion of Probable Cost
No Action Alternative

| Item No. | Description | Qty | Unit | Maintenance Unit Cost | Replacement Unit Cost | Maintenance Subtotal | Replacement Subtotal |
|----------|--|-------|------|-----------------------|-----------------------|----------------------|----------------------|
| 1 | Swale | 29800 | LF | \$ 0.50 | \$ 1 | \$ 14,900 | \$ 29,800 |
| 2 | Storm Pipe | 33100 | LF | \$ 1.50 | \$ 47 | \$ 49,650 | \$ 1,555,700 |
| 3 | Inlet | 396 | EA | \$ 25 | \$ 6,000 | \$ 9,900 | \$ 2,376,000 |
| 4 | Outfall | 100 | EA | \$ 100 | \$ 35,000 | \$ 10,000 | \$ 3,500,000 |
| | | | | | | | |
| | | | | Totals | | \$ 84,450 | \$ 7,461,500 |
| | Annual Replacement Costs in Today's Dollars | | | | | | \$ 179,076 |

Town of Fort Myers Beach
Stormwater Facility Plan
Preliminary Engineer's Opinion of Probable Cost
Sediment Boxes Alternative

| Item No. | Description | Estimated Quantity | Unit | Unit Price | Total Price |
|----------|--|--------------------|------|---------------|-----------------|
| 1 | Open Systems 24-inch Outfall or Smaller | 37,120 | LF | \$ 27.00 | \$ 1,002,240.00 |
| 2 | Mixed System Greater than 24-inch Outfall - Swale Section | 63,727 | LF | \$ 37.00 | \$ 2,357,899.00 |
| 3 | Mixed Systems Greater than 24-inch Outfall - Closed Section | 16,157 | LF | \$ 57.00 | \$ 920,949.00 |
| 4 | Closed Systems | 13,090 | LF | \$ 50.00 | \$ 654,500.00 |
| 5 | 15-inch cross drain | 8,774 | LF | \$ 45.00 | \$ 394,830.00 |
| 6 | Inlets | 585 | EA | \$ 2,700.00 | \$ 1,579,500.00 |
| 7 | New Outfalls | 6 | EA | \$ 20,000.00 | \$ 120,000.00 |
| 8 | Upsized Outfalls | 66 | EA | \$ 20,000.00 | \$ 1,320,000.00 |
| 9 | Rehab Outfalls | 15 | EA | \$ 10,000.00 | \$ 150,000.00 |
| 10 | 6x12 Sediment Box | 39 | EA | \$ 120,000.00 | \$ 4,680,000.00 |
| 11 | 8x14 Sediment Box | 8 | EA | \$ 140,000.00 | \$ 1,120,000.00 |
| 12 | Maintenance of Adequately Sized System | 5,390 | LF | \$ 6.00 | \$ 32,340.00 |
| 13 | Backflow Preventor | 87 | EA | \$ 5,000.00 | \$ 435,000.00 |
| 14 | Mill and Resurface Roadway with Crown | 194,667 | SY | \$ 15.00 | \$ 2,920,000.00 |
| 15 | Roadway Crossing Reconstruction | 6,499 | SY | \$ 40.00 | \$ 259,970.37 |

| | | | | |
|------------------------|---|----|-----------------|-----------------|
| North Estero Phase IIA | 1 | LS | \$ 2,266,000.00 | \$ 2,266,000.00 |
|------------------------|---|----|-----------------|-----------------|

*Only included in Grand Total

| | |
|---------------------------------|-------------------------|
| Total Construction Cost | \$ 17,947,228.37 |
| Contractor General Requirements | \$ 1,794,722.84 |
| Design and Permitting | \$ 3,589,445.67 |
| Contingency (25%) | \$ 4,486,807.09 |
| Grand Total | \$ 30,200,000.00 |

| Unit Price of Maintenance | Annual Maintenance Cost | Recurring Capital Cost |
|---|-------------------------|------------------------|
| \$4.50/LF Performed over 4-year timeframe | \$ 41,760 | |
| \$4.50/LF Performed over 4-year timeframe | \$ 71,693 | |
| \$6.00/LF Performed over 4-year timeframe | \$ 24,236 | |
| \$6.00/LF Performed over 4-year timeframe | \$ 19,635 | |
| \$6.00/LF Performed over 4-year timeframe | \$ 13,161 | |
| \$100/EA Performed over 4-year timeframe | \$ 14,625 | |
| \$1,000/EA Performed over 10-year timeframe | \$ 600 | |
| \$1,000/EA Performed over 10-year timeframe | \$ 6,600 | |
| \$1,000/EA Performed over 10-year timeframe | \$ 1,500 | |
| \$1,200/EA Annually | \$ 46,800 | |
| \$1,200/EA Annually | \$ 9,600 | |
| \$4.50/LF Performed over 4-year timeframe | \$ 6,064 | |
| | | |
| | | |
| | | |

| | |
|-----------------------|-----------|
| Phase IIA Maintenance | \$ 31,724 |
|-----------------------|-----------|

| | |
|-------|---------------|
| Total | \$ 287,997.13 |
|-------|---------------|

Town of Fort Myers Beach
Stormwater Facility Plan
Preliminary Engineer's Opinion of Probable Cost
Exfiltration Alternative

| Item No. | Description | Estimated Quantity | Unit | Unit Price | Total Price |
|----------|---|--------------------|------|---------------|-----------------|
| 1 | Open Systems 24-inch Outfall or Smaller | 37,120 | LF | \$ 27.00 | \$ 1,002,240.00 |
| 2 | Mixed Systems Greater than 24-inch Outfall - Swale Section | 63,727 | LF | \$ 37.00 | \$ 2,357,899.00 |
| 3 | Closed Systems | 2,080 | LF | \$ 50.00 | \$ 104,000.00 |
| 4 | Exfiltration | 27,167 | LF | \$ 150.00 | \$ 4,075,050.00 |
| 5 | Exfiltration Cleanouts/Inlets | 544 | EA | \$ 3,200.00 | \$ 1,740,800.00 |
| 6 | 15-inch cross drain | 8,774 | LF | \$ 45.00 | \$ 394,830.00 |
| 7 | Inlets | 41 | EA | \$ 2,700.00 | \$ 110,700.00 |
| 8 | New Outfalls | 6 | EA | \$ 20,000.00 | \$ 120,000.00 |
| 9 | Upsized Outfalls | 54 | EA | \$ 20,000.00 | \$ 1,080,000.00 |
| 10 | Rehab Outfalls | 27 | EA | \$ 10,000.00 | \$ 270,000.00 |
| 11 | 6x12 Sediment Box | 11 | EA | \$ 120,000.00 | \$ 1,320,000.00 |
| 12 | 8x14 Sediment Box | - | EA | \$ 140,000.00 | \$ - |
| 13 | Maintenance of Adequately Sized System | 5,390 | LF | \$ 6.00 | \$ 32,340.00 |
| 14 | Backflow Preventor | 87 | EA | \$ 5,000.00 | \$ 435,000.00 |
| 15 | Roadway Reconstruction | 73,000 | LF | \$ 40.00 | \$ 2,920,000.00 |

| | | | | |
|------------------------|---|----|-----------------|-----------------|
| North Estero Phase IIA | 1 | LS | \$ 2,266,000.00 | \$ 2,266,000.00 |
|------------------------|---|----|-----------------|-----------------|

*Only included in Grand Total

| | |
|---------------------------------|------------------|
| Total Construction Cost | \$ 15,962,859.00 |
| Contractor General Requirements | \$ 1,596,285.90 |
| Design and Permitting | \$ 3,192,571.80 |
| Contingency (25%) | \$ 3,990,714.75 |
| Grand Total | \$ 27,100,000.00 |

| Unit Price of Maintenance | Annual Maintenance Cost | Recurring Capital Cost |
|---|-------------------------|------------------------|
| \$4.50/LF Performed over 4-year timeframe | \$ 41,760 | |
| \$4.50/LF Performed over 4-year timeframe | \$ 71,693 | |
| \$6.00/LF Performed over 4-year timeframe | \$ 3,120 | |
| | | \$2,850,000/17 years |
| \$100/EA Performed over 4-year timeframe | \$ 54,400 | |
| \$6.00/LF Performed over 4-year timeframe | \$ 13,161 | |
| \$100/EA Performed over 4-year timeframe | \$ 1,025 | |
| \$1,000/EA Performed over 10-year timeframe | \$ 600 | |
| \$1,000/EA Performed over 10-year timeframe | \$ 5,400 | |
| \$1,000/EA Performed over 10-year timeframe | \$ 2,700 | |
| \$1,200/EA Annually | \$ 13,200 | |
| \$1,200/EA Annually | \$ - | |
| \$4.50/LF Performed over 4-year timeframe | \$ 6,064 | |
| | | \$1086680/17 years |

| | |
|-----------------------|-----------|
| Phase IIA Maintenance | \$ 31,724 |
|-----------------------|-----------|

| | |
|-------|---------------|
| Total | \$ 244,846.63 |
|-------|---------------|

Town of Fort Myers Beach
Stormwater Facility Plan
Preliminary Engineer's Opinion of Probable Cost
Net Present Value Analysis

| NPV Factor 0.04625 | Year | Exfiltration and Sediment Boxes | | | Sediment Boxes Only | | | No Action | | |
|-----------------------|------|---------------------------------|-------------|----------------------|---------------------|-------------|----------------------|---------------|-------------|---------------------|
| | | Capital Costs | O & M Costs | Sum | Capital Costs | O & M Costs | Sum | Capital Costs | O & M Costs | Sum |
| | 1 | \$ 27,100,000 | | \$ 27,100,000 | \$ 30,200,000.00 | | \$ 30,200,000 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 2 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 3 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 4 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 5 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 6 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 7 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 8 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 9 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 10 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 11 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 12 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 13 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 14 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 15 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 16 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 17 | \$ 5,161,730 | \$ 244,847 | \$ 5,406,577 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 18 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 19 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 20 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 21 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 22 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 23 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 24 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 25 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 26 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 27 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 28 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 29 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 30 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 31 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 32 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 33 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 34 | \$ 5,161,730 | \$ 244,847 | \$ 5,406,577 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 35 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 36 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 37 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 38 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 39 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 40 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 41 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 42 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 43 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 44 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 45 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 46 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 47 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 48 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 49 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | 50 | | \$ 244,847 | \$ 244,847 | | \$ 287,997 | \$ 287,997 | \$ 179,076 | \$ 84,450 | \$ 263,526 |
| | | Total | | \$ 33,912,832 | Total | | \$ 34,167,307 | Total | | \$ 5,103,652 |
| | | Say | | \$ 34,000,000 | Say | | \$ 34,200,000 | Say | | \$ 5,200,000 |

APPENDIX C FINANCIAL FEASIBILITY



TETRA TECH

Attachment 1

CONSTRUCTION PLANS FOR
**NORTH ESTERO BOULEVARD
 DRAINAGE IMPROVEMENT PROJECT**
FORT MYERS BEACH
 SECTION 24, TOWNSHIP 46, RANGE 24 EAST
 LEE COUNTY, FLORIDA

INDEX OF DRAWINGS

| | |
|--------------|---------------------------------------|
| C-01 | COVER |
| C-02 | ABBREVIATIONS, LEGEND, STANDARD NOTES |
| C-03 | OVERALL AND MASTER DRAINAGE PLAN |
| C-04 TO C-09 | PLAN AND PROFILES |
| C-10 TO C-11 | HARDSCAPE, SIGNING AND MARKING PLAN |
| C-12 | TYPICAL SECTIONS |
| C-13 | DRAINAGE BED DETAILS |
| C-14 | MISC. DETAILS |
| C-15 | FDOT DETAILS |

LIST OF UTILITY SERVICE AREAS:

POWER
 FLORIDA POWER AND LIGHT
 15834 WINKLER ROAD
 FORT MYERS, FLORIDA 33908
 (239) 415-1302

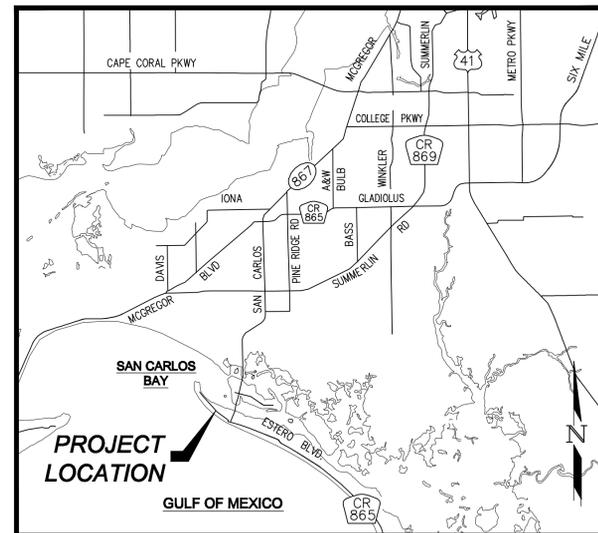
WATER
 TOWN OF FORT MYERS BEACH
 2523 ESTERO BOULEVARD
 FORT MYERS BEACH, FLORIDA 33931
 (239) 765-0202

SEWER
 LEE COUNTY UTILITIES
 1500 MONROE STREET
 FORT MYERS, FLORIDA 33906
 (239) 533-8181

NATURAL GAS
 TECO / PEOPLES GAS
 5901 ENTERPRISE PARKWAY
 FORT MYERS, FLORIDA 33905
 (239) 690-5507

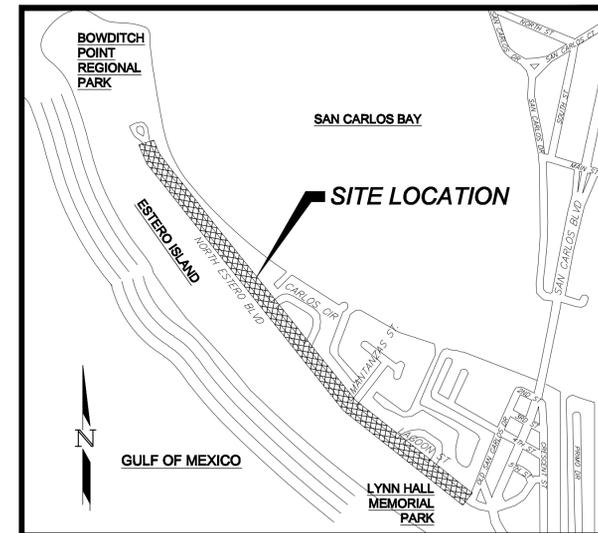
TELEPHONE
 EMBARQ / UNITED TELEPHONE-FLORIDA
 P. O. BOX 370
 FORT MYERS, FLORIDA 33901
 (239) 336-2011

CABLE
 COMCAST CABLE
 1418 SE 10TH STREET
 CAPE CORAL, FLORIDA 33990
 (239) 574-2020



PROJECT LOCATION MAP

NOT TO SCALE



PROJECT SITE MAP

NOT TO SCALE

NORTH ESTERO BOULEVARD
 DRAINAGE IMPROVEMENT PROJECT
 PROJECT NO. 05-0722

PREPARED FOR

**FORT MYERS BEACH
 TOWN COUNCIL**

DENNIS C. BOBACK, MAYOR
 LARRY KIKER, VICE MAYOR
 HERB ACKEN, COUNCILMAN
 BILL SHENKO, JR. COUNCILMAN
 CHARLES MEADOR, JR., COUNCILMAN

DEPARTMENT OF PUBLIC WORKS

JACK GREEN, PUBLIC WORKS DIRECTOR
 2523 ESTERO BOULEVARD
 FORT MYERS BEACH, FLORIDA-33931
 TELEPHONE (239) 765-0202 & FAX (239) 765-0600

PREPARED BY:

ECT
Environmental Consulting & Technology, Inc.
 4100 CENTER POINTE DRIVE
 FORT MYERS, FLORIDA 33916
 Tel (239) 277-0003 Fax (239) 277-1211
 e-mail ectcorp@ectinc.com
 http://www.ectinc.com
 CA#5520

THIS IS TO CERTIFY THAT THESE PLANS AND THE ASSOCIATED CONSTRUCTION PROJECT ARE IN SUBSTANTIAL COMPLIANCE WITH THE TOWN OF FORT MYERS BEACH LAND DEVELOPMENT CODE WITH THE EXCEPTION OF ANY DEVIATIONS WHICH HAVE BEEN APPROVED BY THE DIRECTOR OF PUBLIC WORKS.

Deviations: None

Florida P.E. #: 45200

 Engineer Signature Date

 Development Order Approved:
 Public Works Administration

 Director of Public Works Date

REVISIONS

| NO. | DATE | REVISION | BY | APPROVED |
|-----|------|----------|----|----------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

RONALD M. EDENFIELD, P.E. DATE
 FLORIDA P.E. No. 48200

THESE DRAWINGS ARE NOT APPROVED FOR CONSTRUCTION
 UNLESS ORIGINALLY SIGNED AND SEALED.

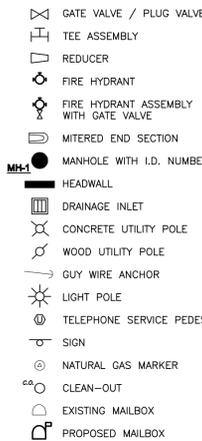
SHEET NUMBER
C-01

S:\ENGINEERING\PROJECTS\North Estero\Bid SET\050722-00-COVER.dwg (COVER) Apr 01, 2009 - 3:05pm Jhamon

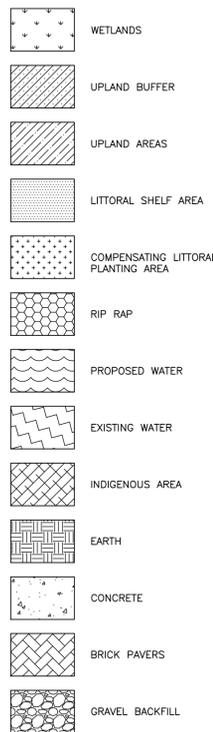
ABBREVIATIONS:

A ALT.
 APPROX. APPROXIMATE
 ASB ASBESTOS
 B.M. BENCH MARK
 C.B. CATCH BASIN
 CFM CUBIC FEET PER MINUTE
 CI CAST IRON PIPE
 C.I.P. CAST IRON PIPE
 C.J. CONJUGATED METAL PIPE
 C.M.P. CLEANOUT
 C.V. CHECK VALVE
 C.V.F. CUBIC FOOT
 C.Y. CUBIC YARD
 C.L. CENTER LINE
 C.L.F. CHAIN LINK FENCE
 COLL. COLLUMIN
 CONC. CONCRETE
 CONST. CONSTRUCT
 CONT. CONTINUOUS
 CONTR. CONTRACTOR
 CU COPPER
 C.I. CUBIC INCH
 DIA. # DIAMETER
 DIAG. DIAGONAL
 DIM. DIMENSION
 DIST. DISTANCE
 D.I.P. DUCTILE IRON PIPE
 D.E. DRAINAGE EASEMENT
 DRWG. DRAWING
 E. EACH
 EA. ELEVATION
 EQUIP. EQUIPMENT
 ERCP ELLIPTICAL REINFORCED CONCRETE PIPE
 EX. EXIST.
 F.F. FINISHED FLOOR
 F.F.E. FINISHED FLOOR ELEVATION
 FM FORCE MAIN
 FOUND. FOUNDATION
 FIN. FINISH
 FRP FIBERGLASS REINFORCED PLASTIC
 FT. FEET
 NAT. NATURAL GAS
 G.C. GENERAL CONTRACTOR
 G.I. GALVANIZED IRON
 GPM GALLONS PER MINUTE
 G.V. GATE VALVE
 GA. GAUGE
 G. GALLON
 GR. GRADE
 HDPE HIGH DENSITY POLYETHYLENE
 HOR. HORIZONTAL
 HYD. HYDRANT
 I.D. INSIDE DIAMETER
 INV. INVERT
 L.A.E. LAKE ACCESS EASEMENT
 MGD MILLION GALLONS PER DAY
 MB. MAILBOX
 MH. MANHOLE
 M.J. MECHANICAL JOINT
 MAX. MAXIMUM
 MECH. MECHANICAL
 M.E.S. MITERED END SECTION
 MANF. MANUFACTURER
 MIN. MINIMUM
 MISC. MISCELLANEOUS
 N. NORTH
 NE. NORTHEAST
 NW. NORTHWEST
 N.P.W. NON POTABLE WATER
 N.T.S. NOT TO SCALE
 NO. # NUMBER
 NOM. NOMINAL
 NAT. NATURAL GAS
 O.C. ON CENTER
 O.C.E.W. ON CENTER EACH WAY
 O.D. OUTSIDE DIAMETER
 PSF POUNDS PER SQUARE FOOT
 PSI POUNDS PER SQUARE INCH
 P.V. PLUG VALVE
 PVC POLYVINYL CHLORIDE
 PE POLYETHYLENE
 P.V.M.T. PAVEMENT
 PC POINT OF CURVATURE
 P. PROPERTY LINE
 PW POTABLE WATER
 PT. POINT OF TANGENCY
 P.U.E. PUBLIC UTILITY EASEMENT
 P.V.I. POINT OF VERTICAL INTERSECTION
 QTY. QUANTITY
 R. ROAD
 RCP REINFORCED CONCRETE PIPE
 REQ'D. REQUIRED
 R.O.W. RIGHT OF WAY
 R.W. RIGHT OF WAY
 S. SOUTH
 SE. SOUTHEAST
 SW. SOUTHWEST
 S.S. STAINLESS STEEL
 SAN. SANITARY
 SCHED. SCHEDULE
 SECT. SECTION
 SEW. SEWER
 SHT. SHEET
 SPEC. SPECIFICATION
 SQ. SQUARE
 ST. STREET
 STA. STATION
 ST. STEEL
 STAND. STANDARD
 SYM. SYMMETRICAL
 TOL. TOLERANCE
 TOB. TOP OF BANK
 THK. THICK
 TEL. TELEPHONE
 TEMP. TEMPERATURE
 TRANS. TRANSFORMER
 TYP. TYPICAL
 U.S.P.S. UNITED STATES POSTAL SERVICE
 U.E. UTILITY EASEMENT
 VERT. VERTICAL
 WATER WATER
 WM. WATER MAIN
 W. WITH
 W.O. WITHOUT
 WD. WOOD
 WT. WEIGHT
 WSWT. WET SEASON WATER TABLE
 W.V. WATER VALVE

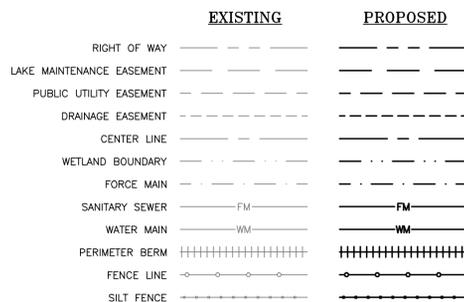
SYMBOLS



HATCH PATTERNS



LINETYPES



GENERAL NOTES:

- ELEVATIONS ARE REFERENCED TO NATIONAL GEODETIC VERTICAL DATUM N.G.V.D. OF 1929.
- ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCED, THE CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER IMMEDIATELY.
- EXISTING FACILITIES SHALL BE RESTORED TO A CONDITION EQUIVALENT TO THAT WHICH EXISTED PRIOR TO COMMENCING CONSTRUCTION, AT NO ADDITIONAL COST TO THE OWNER.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, ROADWAY AND TRAFFIC DESIGN STANDARDS (LATEST EDITION), LEE COUNTY DEVELOPMENT STANDARDS AND SPECIFICATIONS, LEE COUNTY UTILITIES REQUIREMENTS AND THE TOWN OF FORT MYERS BEACH REQUIREMENTS.
- THE CONTRACTOR IS REQUIRED TO ADJUST ALL VALVE BOXES, MANHOLE RIMS, GRATES, ETC., AS NECESSARY TO MATCH PROPOSED FINISHED GRADES.
- CONTRACTOR SHALL NOTIFY THE LEE COUNTY DIVISION OF DEVELOPMENT REVIEW AND TOWN OF FORT MYERS BEACH A MINIMUM OF 72 HOURS PRIOR TO ALL REQUIRED INSPECTIONS.
- CONTRACTOR TO PROVIDE SILT FENCE, STAKED BALES AND/OR OTHER APPROPRIATED MEASURES TO EFFECT THE FILTRATION OF SURFACE WATER FLOWS AND TO PROVIDE EROSION PROTECTION DURING CONSTRUCTION ACTIVITIES. PROTECTION IS TO BE MAINTAINED DURING THE CONSTRUCTION PERIOD UNTIL DISTURBED SOILS HAVE BEEN STABILIZED WITH GRASS OR SUITABLE EROSION PROTECTION TREATMENT AS APPROVED BY THE ENGINEER.
- PROPOSED ROADWAYS SHOWN ARE PUBLIC AND SHALL BE PUBLICLY MAINTAINED.
- ALL UNPAVED AREAS DISTURBED DURING CONSTRUCTION SHALL BE SEEDED AND MULCHED UNLESS OTHERWISE NOTED.
- EXISTING OFF-SITE DRAINAGE PATTERNS SHALL BE MAINTAINED DURING CONSTRUCTION.
- CONTRACTOR SHALL RETAIN, ON THE WORK SITE, COPIES OF ANY PERMITS NECESSARY FOR CONSTRUCTION.
- CONTRACTOR SHALL PROMPTLY REPORT ANY REQUESTS FOR FIELD CHANGES DIRECTLY TO ENGINEER FOR APPROVAL.
- CONTRACTOR SHALL CLEAR ALL EXCAVATION AND FILL AREAS; ACTUAL LIMITS OF CLEARING SHALL BE DETERMINED IN THE FIELD BY THE OWNER AND/OR ENGINEER.
- CONTRACTOR SHALL REMOVE ANY/ALL MUCK AND OTHER UNSUITABLE MATERIAL FROM FILL AREAS PRIOR TO PLACEMENT OF FILL. ALL MUCK AND OTHER UNSUITABLE MATERIALS EXCAVATED FROM LAKES OR REMOVED FROM FILL AREAS SHALL BE STOCKPILED AT THE PROPOSED PROJECT AS DETERMINED BY THE ENGINEER.
- SITE GRADES MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
- LOCATION OF STORM DRAINAGE HEADWALLS OR OUTFALLS ARE SUBJECT TO MODIFICATION IN THE FIELD BY OWNER OR ENGINEER TO PRESERVE EXISTING FEATURES.
- CONTRACTOR SHALL USE DESIGNATED CONSTRUCTION ENTRANCES FOR EMPLOYEES AND DELIVERY OF MATERIALS.
- THE LOCATIONS OF EXISTING UTILITIES AND STORM SEWERS SHOWN ON THIS PLAN HAVE BEEN TAKEN FROM RECORD DRAWINGS AND FIELD INFORMATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXACT LOCATION PRIOR TO CONSTRUCTION AND REPORT IN WRITING ANY DISCREPANCIES TO THE ENGINEER.
- DURING CONSTRUCTION, GRATE INLET AND JUNCTION BOX OPENINGS SHALL BE COVERED WITH FILTER FABRIC (MIRAFI 140N OR APPROVED EQUAL) TO PREVENT DEBRIS AND FILL FROM FALLING INTO THE STORM SYSTEM.
- THE CONTRACTOR SHALL ACCURATELY PLOT THE LOCATIONS AND DEPTHS OF ALL IMPROVEMENTS INSTALLED ON A FINAL SET OF RECORD DRAWINGS WHICH SHALL BE TURNED OVER TO THE ENGINEER FOR REVIEW.
- CONTRACTOR IS REQUIRED TO OBTAIN FROM THE ENGINEER AND OWNER WRITTEN APPROVAL FOR ANY DEVIATIONS FROM THE PLANS AND/OR SPECIFICATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC AND USAGE OF THE EXISTING STREETS ADJACENT TO THE PROJECT. ALL TRAFFIC MAINTENANCE CONTROL SHALL BE IN ACCORDANCE WITH THE FLORIDA MANUAL OF CONTROL AND SAFE PRACTICES FOR STREETS AND HIGHWAY CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS. A "MAINTENANCE OF TRAFFIC" (MOT) PLAN, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER SHALL BE SUBMITTED TO THE OWNER/ENGINEER PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY REQUIRED DEWATERING PERMITS, WATER USE PERMITS OR DREDGING PERMITS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY REQUIRED TREE REMOVAL PERMITS, CLEARING PERMIT AND EROSION CONTROL PERMITS.
- THE PRODUCTS AND/OR MATERIALS SELECTED FOR THE PROPRIETARY COMPONENTS SHOWN ON THESE PLANS WERE DETERMINED BASED ON THEIR APPLICATION(S) TO THIS PROJECT. THE PRODUCT AND/OR MATERIAL SPECIFIED SHALL BE CONSIDERED THE MINIMUM PERFORMANCE ACCEPTABLE IN ACCORDANCE WITH THE ASSOCIATED PRODUCT(S). THE CONTRACTOR HAS THE OPPORTUNITY TO PROPOSE ALTERNATIVE PRODUCTS AND MATERIALS FOR THE PURPOSES OF PROVIDING AN "OR EQUAL" SUBSTITUTION. HOWEVER, THE PROPOSED ALTERNATIVE PRODUCT(S) AND/OR MATERIAL MUST PROVIDE AT LEAST THE SAME QUALITIES AS THOSE SPECIFIED FOR THE APPLICATION. ALL PRODUCT(S) AND/OR MATERIAL MUST EQUALLY CONFORM TO THE LATEST ASTM SPECIFICATIONS OR OTHER LISTED COMMERCIAL SPECIFICATIONS (e: UL) COVERING THE CLASS OR KIND OF PRODUCT(S) AND/OR MATERIAL BEING USED.
- DURING CONSTRUCTION, IF ANY FORTUITOUS (HISTORICAL OR ARCHAEOLOGICAL) FINDS ARE DISCOVERED OR OBSERVED, ALL WORK SHALL CEASE IN THE AREA. THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE PROJECT ENGINEER WHO WILL NOTIFY THE OWNER. EXAMPLES MAY INCLUDE, BUT ARE NOT LIMITED TO: FRAGMENTS OF STONE TOOLS, SHELLS, SHELL TOOLS, POTTERY, GLASS, BOTTLES, ANIMAL BONES, BUILDING FOUNDATIONS, SHELL MOUNDS OR SAND MOUNDS. THE OWNER WILL ASSESS THE SIGNIFICANCE OF THE FINDS IN A TIMELY MANNER.
- IF ANY HUMAN SKELETAL REMAINS (UNMARKED BURIALS) ARE FOUND, ALL WORK IN THE AREA MUST STOP AND THE NEAREST (LOCAL) LAW ENFORCEMENT AGENCY SHALL BE IMMEDIATELY NOTIFIED. ACCORDING TO STATE LAW (F.S. 872.05), IT IS UNLAWFUL TO DAMAGE OR DESTROY A HUMAN BURIAL SITE.
- THE BASE DRAWING INFORMATION WAS TAKEN FROM THE TOPO SURVEY PROVIDED BY BEAN, WHITAKER, LUTZ DATED 5/1/2006. ALL ELEVATIONS ARE BASED UPON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88) AS ESTABLISHED BY BEAN, WHITAKER, LUTZ.
- THESE DRAWINGS ARE NOT INTENDED TO REPRESENT A BOUNDARY SURVEY AS DEFINED BY FLORIDA STATUTE.
- ALL EXISTING MONUMENTATION SHALL BE PROTECTED. IF MONUMENTATION IS DISTURBED OR DESTROYED IT SHALL BE REPLACED AFTER CONSTRUCTION IS COMPLETE TO THE REQUIRED ACCURACY BY A FLORIDA LICENSED PROFESSIONAL SURVEYOR AND MAPPER (PSM) AT THE CONTRACTOR'S EXPENSE.
- A PERMANENT BENCHMARK(S) MUST BE ESTABLISHED WITHIN 100' OF THE STORM WATER STRUCTURE OR GROUP OF STRUCTURES BY A FLORIDA STATE LICENSED PROFESSIONAL SURVEYOR AND MAPPER (PSM).
- THE CONTRACTOR SHALL MAINTAIN ON SITE A CURRENT AND UPDATED SET OF AS-BUILT DRAWINGS AT ALL TIMES AND PROVIDE ONE (1) COPY TO THE PROJECT ENGINEER UPON COMPLETION OF CONSTRUCTION.
- THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO THE INITIATION OF ANY DEVIATION FROM THE APPROVED PLANS. NO SUCH DEVIATIONS SHALL BE AUTHORIZED WITHOUT PRIOR WRITTEN APPROVAL BY THE PROJECT ENGINEER.
- IF A REQUIRED DIMENSION IS NOT SHOWN OR A DISCREPANCY IS FOUND ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO COMMENCING THAT PART OF THE AFFECTED CONSTRUCTION.
- THE CONTRACTOR SHALL PROVIDE COMPLIANT IN-PLACE DENSITY TESTS (1 PER ±500 SQUARE FEET) TO THE PROJECT ENGINEER FOR THE LIMEROCK-TYPE BASE AREAS PRIOR TO PLACEMENT OF THE ASPHALT PAVING.

TRAFFIC CONTROL NOTES:

- CONTRACTOR SHALL SUBMIT A "MAINTENANCE OF TRAFFIC" (MOT) PLAN, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER, TO THE PROJECT ENGINEER FOR REVIEW AND APPROVAL PRIOR TO MOBILIZATION. ALLOW 7-10 BUSINESS DAYS FOR REVIEW.
- THE (MOT) SHALL FOLLOW THE MUTCD AND FDOT STANDARD INDEX 600 (LATEST EDITION) PROCEDURES, INCLUDING FLAGGING.
- THE MOT MUST INCLUDE PROVISIONS FOR PEDESTRIAN AND VEHICULAR TRAFFIC SENSITIVE TO THE BEACH TOURIST POPULATION IN THIS AREA. OWNER WILL PERIODICALLY GAUGE THE MOT AND ITS EFFECTIVENESS AND RECOMMEND ALTERNATIVES TO MAINTAIN GOOD PUBLIC RELATIONS.

PAVING, GRADING AND DRAINAGE NOTES:

- THIS SITE CAN BE SAFELY UTILIZED FOR BUILDING PURPOSES WITHOUT UNDUE DANGER FROM FLOODING OR ADVERSE SOIL CONDITIONS.
- LENGTH OF STORM PIPES ARE APPROXIMATE AND ARE MEASURED FROM INSIDE FACE OF STRUCTURE.
- VERTICAL SAW CUTS THROUGH EXISTING PAVEMENT AND BASE MATERIAL ARE REQUIRED WHERE NEW PAVEMENT MATCHES TO EXISTING PAVEMENT.
- SURFACES SHALL VARY EVENLY AND SMOOTHLY BETWEEN INDICATED GRADES, UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. A TWO AND ONE-HALF (2 1/2") ALLOWANCE (OVER EXCAVATION) SHALL BE PROVIDED FOR ALL SODDED AREAS FROM THAT SHOWN AS "FINISHED GRADE" TO THE "TOP OF SOD".
- LOCATIONS OF INLETS AND STORM DRAINS MAY BE FIELD ADJUSTED TO MATCH OR PRESERVE EXISTING SITE FEATURES.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EACH INLET FOR REVIEW AND WRITTEN APPROVAL BY THE PROJECT ENGINEER PRIOR TO FABRICATION. ALL INLETS ARE TO BE PROVIDED WITH STEEL GRATES PER FDOT STANDARD INDEX (LATEST EDITION).
- EXISTING OFF-SITE DRAINAGE PATTERNS SHALL BE MAINTAINED DURING CONSTRUCTION.
- CONTRACTOR SHALL NOTIFY THE OWNER AND CONTACT ALL UTILITY COMPANIES FOR LOCATIONS OF EXISTING UTILITIES IN THE AREA AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION.
- CONTRACTOR TO UTILIZE LATEST EDITION OF FDOT DESIGN STANDARDS MANUAL FOR ALL CATCH BASINS, INLETS, GRATES, STORM PIPING, AND STORM STRUCTURES.

UTILITY NOTES:

- ALL UTILITIES TO BE INSTALLED IN ACCORDANCE WITH THE CURRENT LEE COUNTY UTILITY DEPARTMENT DETAILS AND SPECIFICATIONS.
- CONTRACTOR SHALL NOTIFY THE OWNER AND CONTACT ALL UTILITY COMPANIES FOR LOCATIONS OF EXISTING UTILITIES IN THE AREA AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION.
- UTILITY MATERIALS AND INSTALLATION SHALL CONFORM TO ALL LEE COUNTY UTILITY STANDARDS FOR SEPARATION BETWEEN PIPES AND STRUCTURES. BENDS, DIPS AND OFFSETS SHALL BE INSTALLED IN PIPES WHERE NECESSARY TO AVOID CONFLICTS AND OBTAIN CLEARANCES; WHETHER SHOWN ON PLANS SPECIFICALLY OR NOT.

DEMOLITION / PROTECTION NOTES:

- CONTRACTOR SHALL REMOVE, STORE, PROTECT AND REINSTALL MISC. ITEMS WITHIN THE RIGHT OF WAY AS LISTED BELOW:
 - STREET SIGNS, INFORMATIONAL SIGNS, SPEED LIMIT SIGNS, NO PARKING SIGNS,
 - DIRECTIONAL SIGNS, TROLLEE-STOP SIGNS, BEACH ACCESS SIGNS, LOADING ZONE SIGNS,
 - STOP SIGNS, PEDESTRIAN CROSSING SIGNS, ETC.
 - MAILBOXES (PRIVATE AND/OR PUBLIC)
 - TROLLEE-STOP BENCHES AND TRASH RECEPTACLES
 - PUBLIC TRASH RECEPTACLES
 - CONCRETE WHEEL STOPS
 - PARKING METERS
 - BOLLARDS
- CONTRACTOR SHALL REMOVE, PROTECT AND TURN OVER TO THE OWNER MISC. ITEMS WITHIN THE RIGHT OF WAY AS LISTED BELOW:
 - PRIVATE SIGNS, PRIVATE BUSINESS SIGNS
 - PRIVATE LIGHT POLES, SIGN LIGHTS
 - PRIVATE LANDSCAPING MATERIALS, EDGING, RETAINING WALLS, ACCENT LIGHTING
 - PRIVATE LAWN DECORATIONS
 - PRIVATE DUMPSTERS, SCREENS, ENCLOSURES
 - NEWSPAPER DISPENSERS
 - FENCES, GUIDERAILS, GATES, POLES
 - PRIVATE FLAGS, FLAGPOLES, PLAQUES
 - BRICK PAVERS
 - CONCRETE WHEELS STOPS NOT BEING REINSTALLED
 - FRAMES AND GRATES
 - FIRE HYDRANTS, VALVES, UTILITY EQUIPMENT
- CONTRACTOR SHALL RELOCATE AND/OR ADJUST ITEMS WITHIN THE RIGHT OF WAY TO ACCOUNT FOR PROPOSED FINISHED GRADE AS LISTED BELOW:
 - GUYWIRES
 - SANITARY MANHOLE RIMS
 - VALVE BOXES
 - CATCH BASINS, JUNCTION BOXES, STORMWATER MANHOLES

WASTE MANAGEMENT AND DISPOSAL:

- THIS PROJECT SHALL BE SERVED BY PORTABLE SANITARY FACILITIES DURING CONSTRUCTION.
- ALL WASTE MATERIAL SHALL BE COLLECTED AND STORED IN A LIDDED METAL CONTAINER AND IN ACCORDANCE WITH THE OWNER'S SOLID WASTE STANDARDS. THE DUMPSTER SHALL BE EMPTIED A MINIMUM OF ONCE PER WEEK OR MORE OFTEN IF NECESSARY.
- ALL HAZARDOUS OR TOXIC MATERIAL SHALL BE PROPERLY CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE APPROPRIATE STATE AND/OR FEDERAL REGULATIONS.
- ANY FUEL OR OTHER PETROLEUM PRODUCTS RELEASED SHALL BE ADDRESSED IMMEDIATELY BY THE CONTRACTOR IN ACCORDANCE WITH CHAPTER 62-770 (FAC).

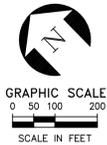
STORM WATER POLLUTION PREVENTION PLAN (SWP3):

- THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER WITH A COPY OF THE SWP3 PRIOR TO THE START OF CONSTRUCTION.
- ALL POLLUTION PREVENTION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER ANY STORM EVENT GREATER THAN 1/2" INCH IN 24 HOURS.
- ALL POLLUTION PREVENTION CONTROL MEASURES SHALL BE MAINTAINED IN PROPER WORKING ORDER AT ALL TIMES. ALL REPAIRS SHALL BE INITIATED IMMEDIATELY, BUT NOT LONGER THAN 24 HOURS AFTER DISCOVERY.

PRE-CONSTRUCTION DOCUMENTATION:

- THE CONTRACTOR SHALL OBTAIN PRE-CONSTRUCTION PHOTOGRAPHS AND VIDEO OF THE ENTIRE PROJECT AREA CLEARLY DEPICTING THE PRE-CONSTRUCTION CONDITION OF THE CONSTRUCTION AREA AND ADJACENT PROPERTIES. THE VIDEO SHALL PAY SPECIAL ATTENTION TO ITEMS SUCH AS FENCES, SIGNS, SHEDS, TREES, LANDSCAPING AND EXISTING UTILITIES. A COPY OF THE PHOTOS SHALL BE PROVIDED TO THE OWNER ON CD AND A COPY OF THE VIDEO SHALL BE PROVIDED TO THE OWNER ON DVD. FOLLOWING RESTORATION AND CONSTRUCTION OF THE SITE, THE CONTRACTOR SHALL OBTAIN POST-CONSTRUCTION PHOTOS AND A VIDEO TO DOCUMENT THE SATISFACTORY RESTORATION OF THE CONSTRUCTION AREA. COPIES OF THESE PHOTOS AND VIDEO MUST BE IN THE SAME FORMAT AS THE PRE-CONSTRUCTION MATERIAL.

| | | |
|---|---|--|
| REVISIONS | DATE | |
| | DESCRIPTION | |
| NO. | | |
| | | |
| Environmental Consulting & Technology, Inc. 4700 Center Pointe Drive, Suite 172 Fort Myers, FL 33916 (239) 277-0003 CA#5520 | | |
| CLIENT: | TOWN OF FORT MYERS BEACH FORT MYERS BEACH 2523 ESTERO BLVD. FORT MYERS BEACH, FL 33951 (239) 765-0202 | |
| PROJECT: | NORTH ESTERO BLVD. DRAINAGE IMPROVEMENTS TOWN OF FORT MYERS BEACH LEE COUNTY, FLORIDA | |
| SHEET TITLE: | ABBREVIATIONS, LEGENDS AND STANDARD NOTES | |
| DATE: | DECEMBER 2008 | |
| PROJECT NO.: | 05-0722 | |
| FILE NO.: | 24-46-23 | |
| SCALE: | NONE | |
| SHEET NUMBER | C-02 | |



| NO. | REVISIONS | DESCRIPTION | DATE |
|-----|-----------|-------------|------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

R.M. EDENWELD
FLORIDA, P.E. #43290

ECT
Environmental Consulting & Technology, Inc.
4700 Center Pointe Drive, Suite 112
Fort Myers, FL 33916
(239) 277-0003 CA#5520

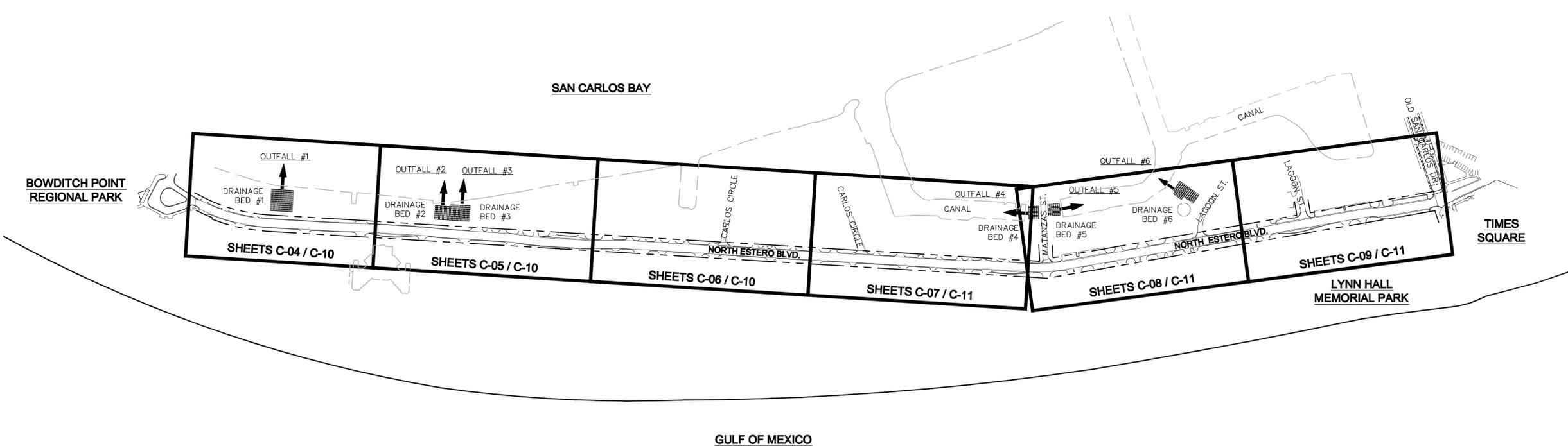
CLIENT:
TOWN OF
FORT MYERS BEACH
2523 ESTERO BLVD.
FORT MYERS BEACH, FL 33931
(239) 765-0202

PROJECT:
NORTH ESTERO BLVD.
DRAINAGE IMPROVEMENTS
TOWN OF FORT MYERS BEACH
LEE COUNTY, FLORIDA

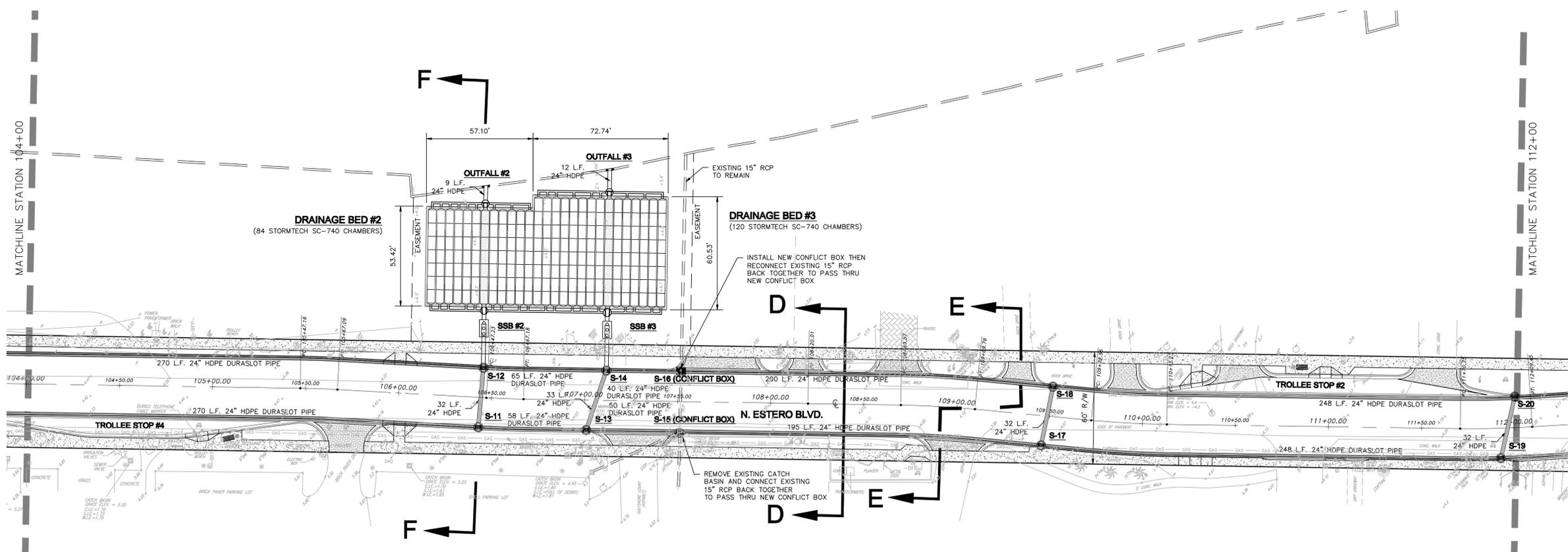
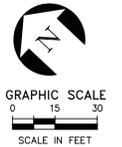
SHEET TITLE:
OVERALL AND
MASTER DRAINAGE PLAN

DATE: DECEMBER 2008
PROJECT NO: 05-0722
FILE NO: 24-46-23
SCALE: 1" = 200'

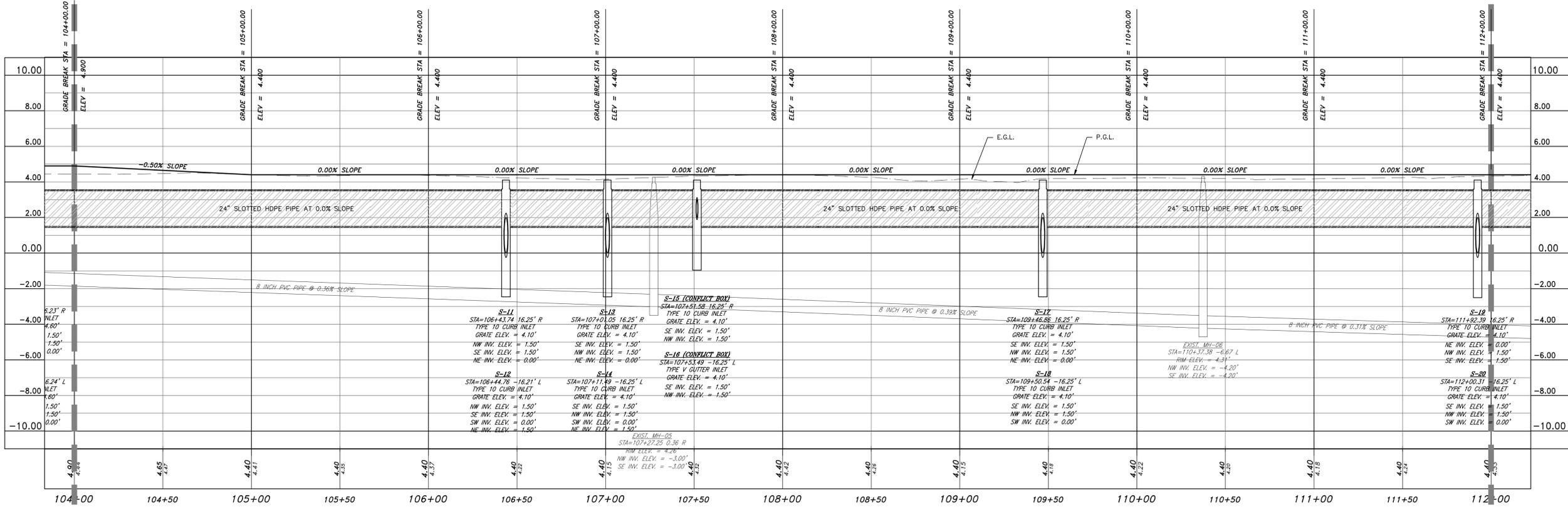
SHEET NUMBER
C-03



S:\ENGINEERING PROJECTS\FMB\Estero Blvd\North Estero Blvd SET\050722-BID-MDP.dwg (1/20/08) Apr 01, 2009 - 3:11pm Jorman



PLAN
SCALE: 1"=30'



PROFILE
SCALE: 1"=30' HORIZ.
1"=3' VERT.

| NO. | REVISIONS | DATE |
|-----|-----------|------|
| | | |
| | | |
| | | |

CLIENT:
TOWN OF FORT MYERS BEACH
2523 ESTERO BLVD.
FORT MYERS BEACH, FL 33931
(239) 765-0202

PROJECT:
**NORTH ESTERO BLVD.
DRAINAGE IMPROVEMENTS**

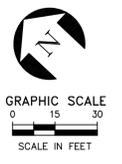
SHEET TITLE:
PLAN AND PROFILE

DATE: DECEMBER 2008
PROJECT NO: 05-0722
FILE NO: 24-46-23
SCALE: 1" = 30'

SHEET NUMBER
C-05

CA#5520
Environmental Consulting & Technology, Inc.
4700 Center Pointe Drive, Suite 112
Fort Myers, FL 33916
(239) 277-0003
P.M. EDENFIELD
FLORIDA, P.E. #43200

S:\ENGINEERING\PROJECTS\FMB\Estero Blvd\North Estero Blvd SET\050722-RD-PP3.dwg (SHEET 5) Apr 01, 2008 3:16pm jhamon



| NO. | REVISIONS | DATE |
|-----|-----------|------|
| | | |
| | | |
| | | |
| | | |

R.M. EDENFIELD
FLORIDA, P.E. #43290

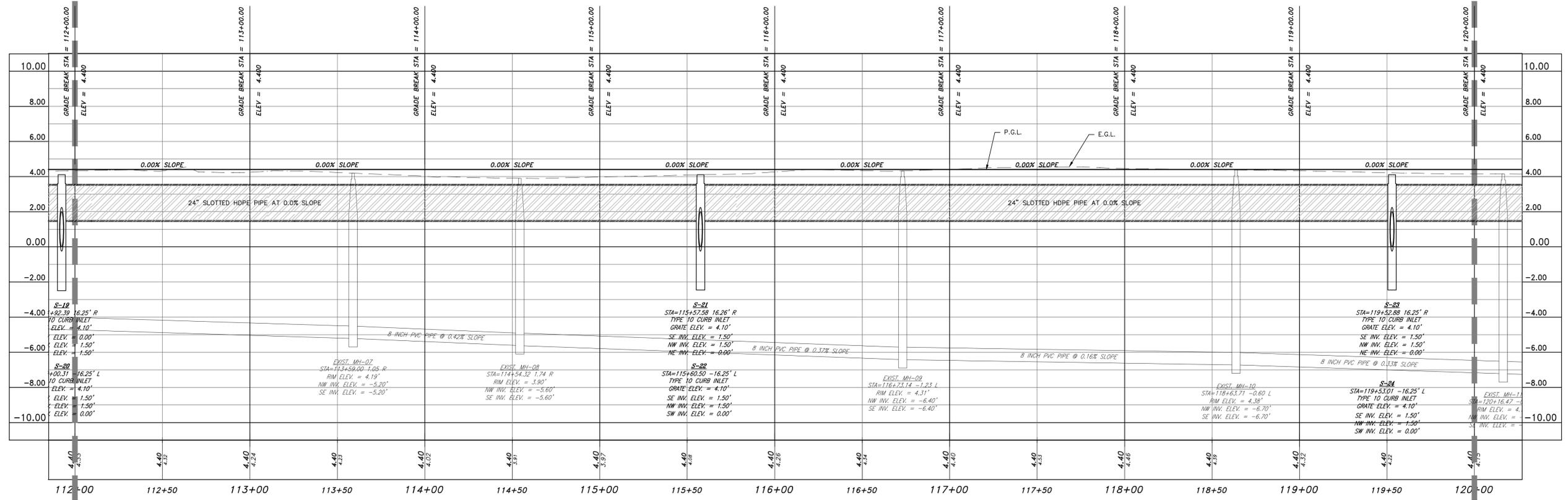
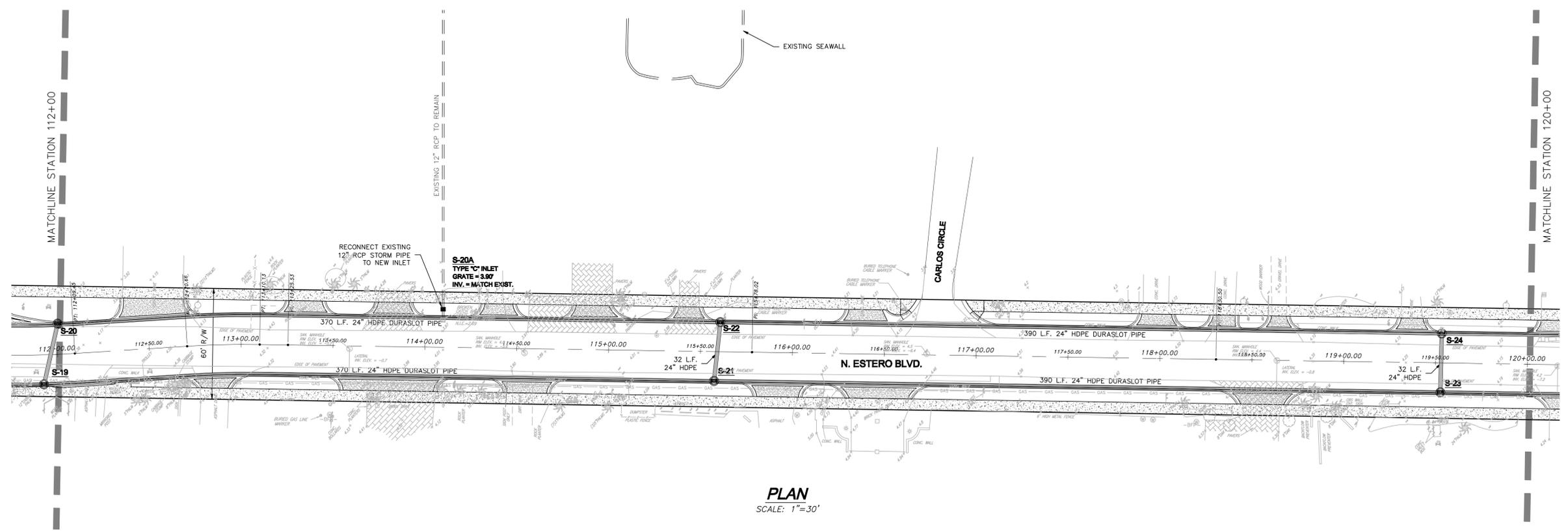
ECT
Environmental Consulting & Technology, Inc.
4700 Center Pointe Drive, Suite 112
Fort Myers, FL 33916
(239) 277-0003 CA#5520

CLIENT:
TOWN OF FORT MYERS BEACH
2523 ESTERO BLVD.
FORT MYERS BEACH, FL 33931
(239) 765-0202

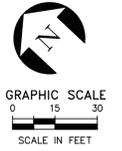
PROJECT:
**NORTH ESTERO BLVD.
DRAINAGE IMPROVEMENTS**

SHEET TITLE:
PLAN AND PROFILE

DATE: DECEMBER 2008
PROJECT NO: 05-0722
FILE NO: 24-46-23
SCALE: 1" = 30'
SHEET NUMBER
C-06



S:\ENGINEERING\PROJECTS\FM\Estero Blvd\North Estero Blvd\PP3.dwg (SHEET 6) Apr 01, 2008 3:17pm jamon



| NO. | REVISIONS | DESCRIPTION | DATE |
|-----|-----------|-------------|------|
| | | | |
| | | | |
| | | | |

P. M. EISENFIELD
FLORIDA, P.E. #15290

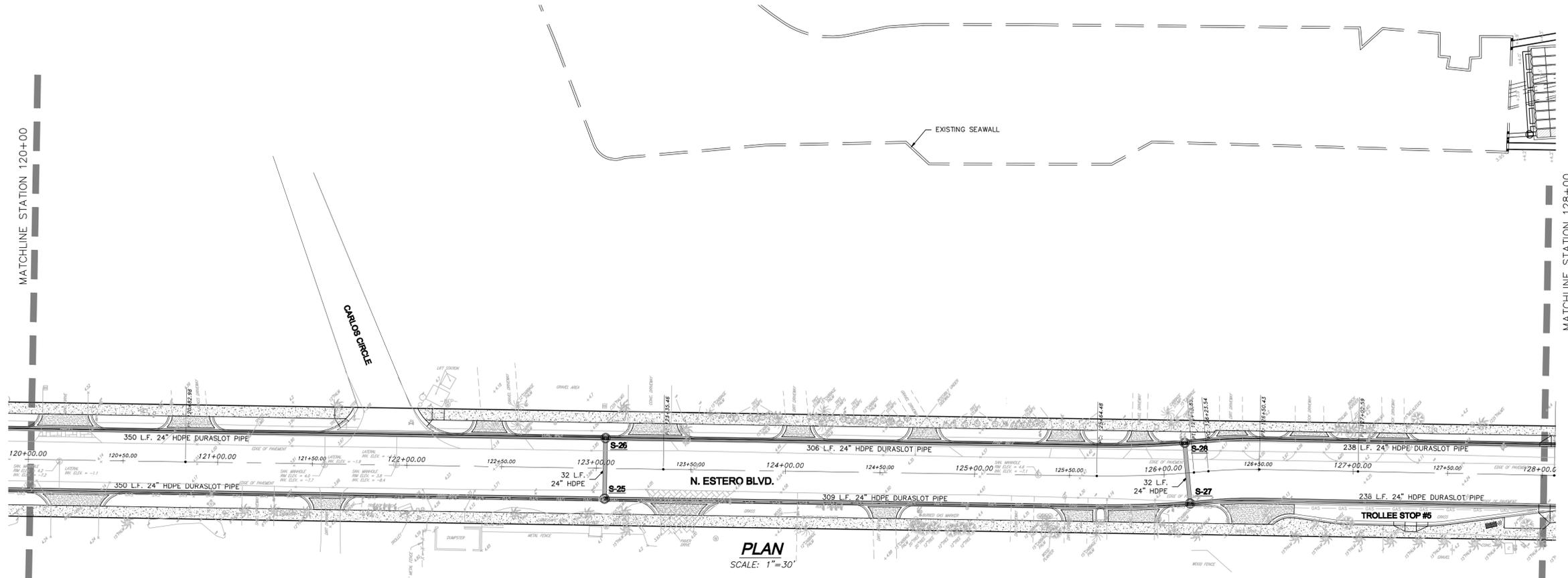
ECT
Environmental Consulting & Technology, Inc.
4700 Center Pointe Drive, Suite 112
Fort Myers, FL 33916
(239) 277-0003 CA#5520

CLIENT:
TOWN OF FORT MYERS BEACH
2523 ESTERO BLVD.
FORT MYERS BEACH, FL 33981
(239) 765-0202

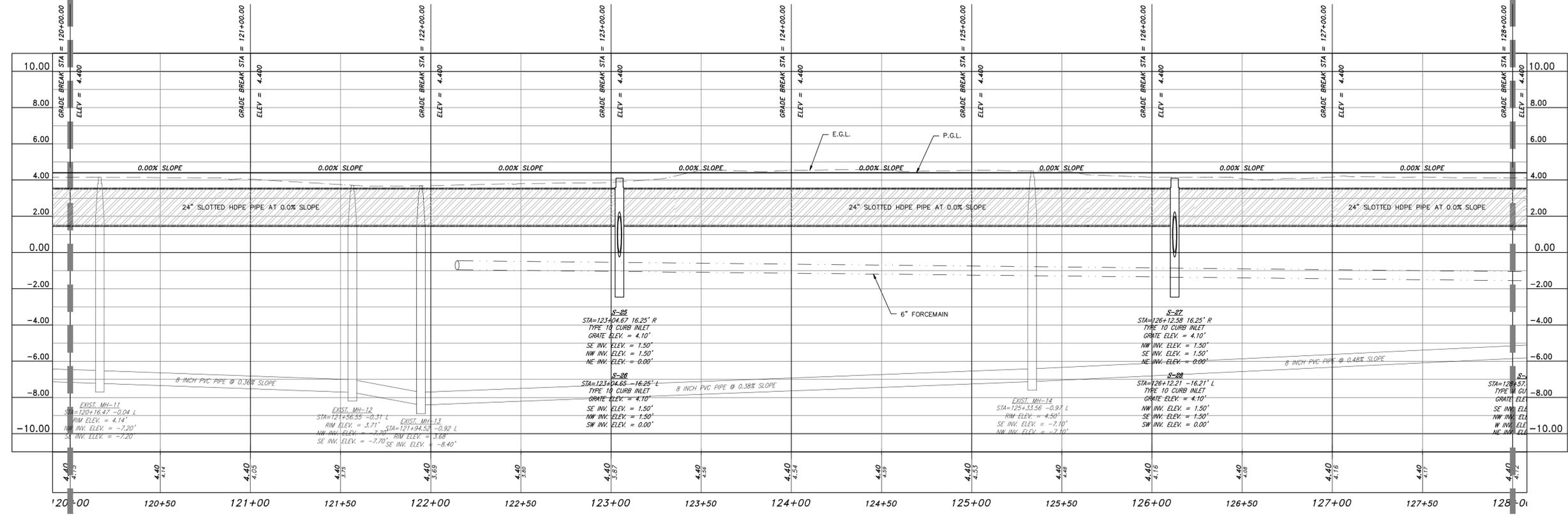
PROJECT:
**NORTH ESTERO BLVD.
DRAINAGE IMPROVEMENTS**

SHEET TITLE:
PLAN AND PROFILE

DATE: DECEMBER 2008
PROJECT NO: 05-0722
FILE NO: 24-46-23
SCALE: 1" = 30'
SHEET NUMBER
C-07

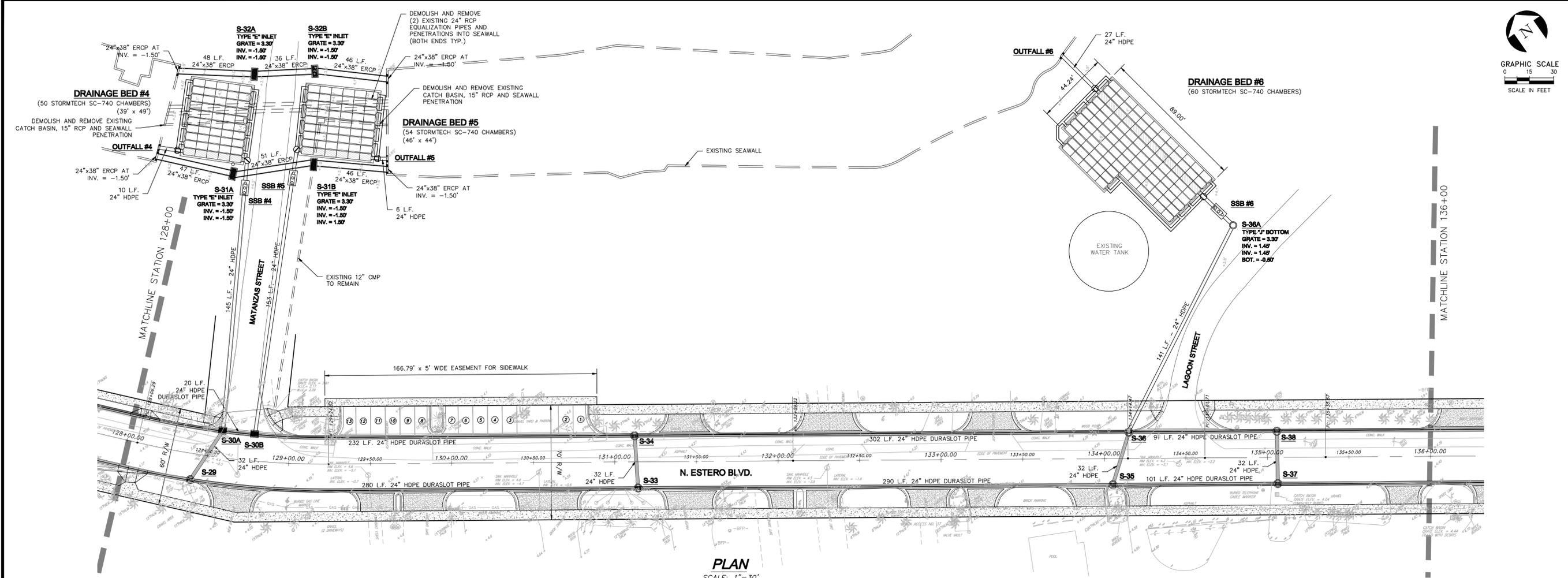


PLAN
SCALE: 1" = 30'

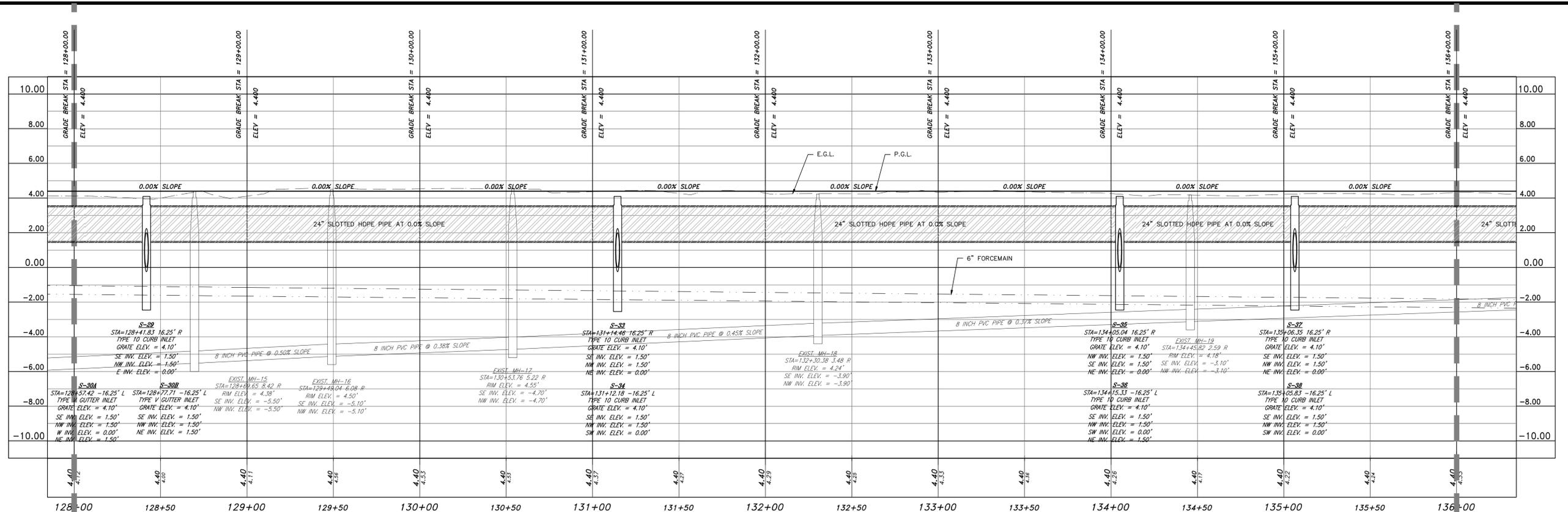


PROFILE
SCALE: 1" = 30' HORIZ.
1" = 3' VERT.

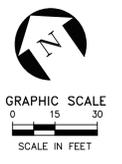
S:\ENGINEERING\PROJECTS\FM\North Estero Blvd\050722-01D-PP3.dwg (SHEET 7) Apr 01, 2008 3:18pm jhamon



PLAN
SCALE: 1"=30'



PROFILE
SCALE: 1"=30' HORIZ.
1"=3' VERT.



| NO. | REVISIONS | DESCRIPTION | DATE |
|-----|-----------|-------------|------|
| | | | |
| | | | |
| | | | |

R.M. EDENFIELD
FLORIDA, P.E. #13290

ECT
Environmental Consulting & Technology, Inc.
4700 Center Pointe Drive, Suite 112
Fort Myers, FL 33916
(239) 277-0003 CA#5520

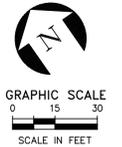
CLIENT:
TOWN OF FORT MYERS BEACH
2523 ESTERO BLVD.
FORT MYERS BEACH, FL 33951
(239) 765-0202

PROJECT:
**NORTH ESTERO BLVD.
DRAINAGE IMPROVEMENTS**

SHEET TITLE:
PLAN AND PROFILE

DATE: DECEMBER 2008
PROJECT NO: 05-0722
FILE NO: 24-46-23
SCALE: 1" = 30'
SHEET NUMBER
C-08

S:\ENGINEERING\PROJECTS\FMB\Estero Blvd\North Estero Blvd SET\050722-BID-PP3.dwg (SHEET 8) Apr 01, 2008 - 3:19pm Jhamon



| NO. | REVISIONS | DESCRIPTION | DATE |
|-----|-----------|-------------|------|
| | | | |
| | | | |
| | | | |

CLIENT:
TOWN OF FORT MYERS BEACH
 2523 ESTERO BLVD.
 FORT MYERS BEACH, FL 33981
 (239) 765-0202

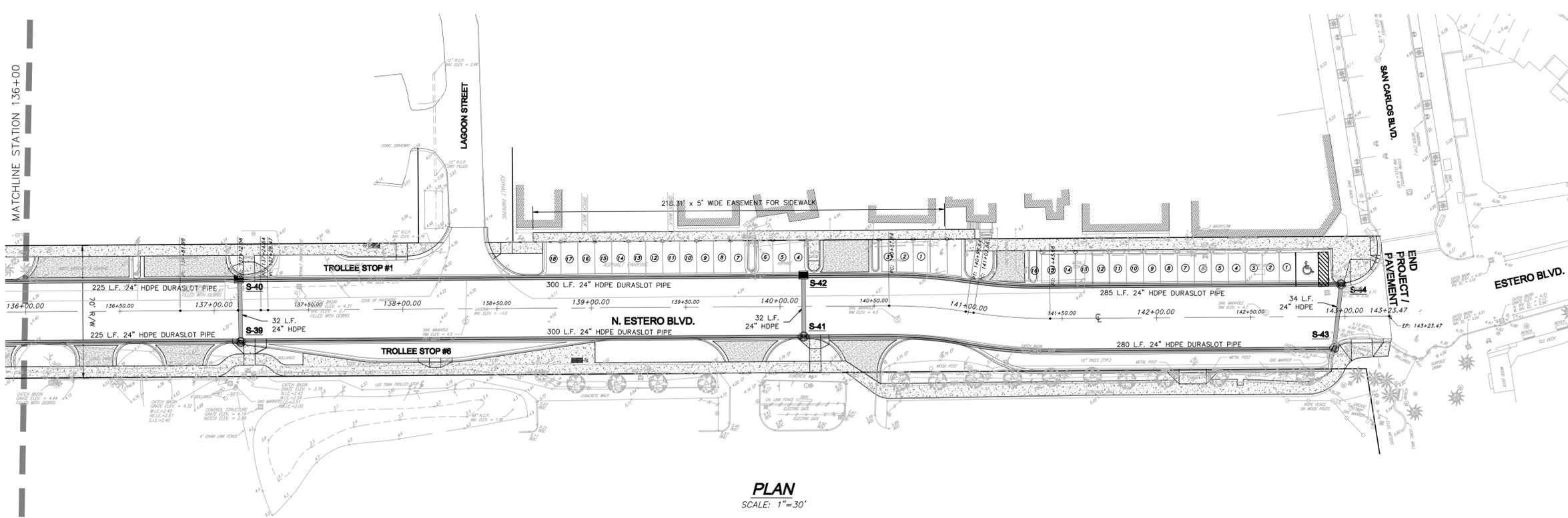
PROJECT:
**NORTH ESTERO BLVD.
 DRAINAGE IMPROVEMENTS**

SHEET TITLE:
PLAN AND PROFILE

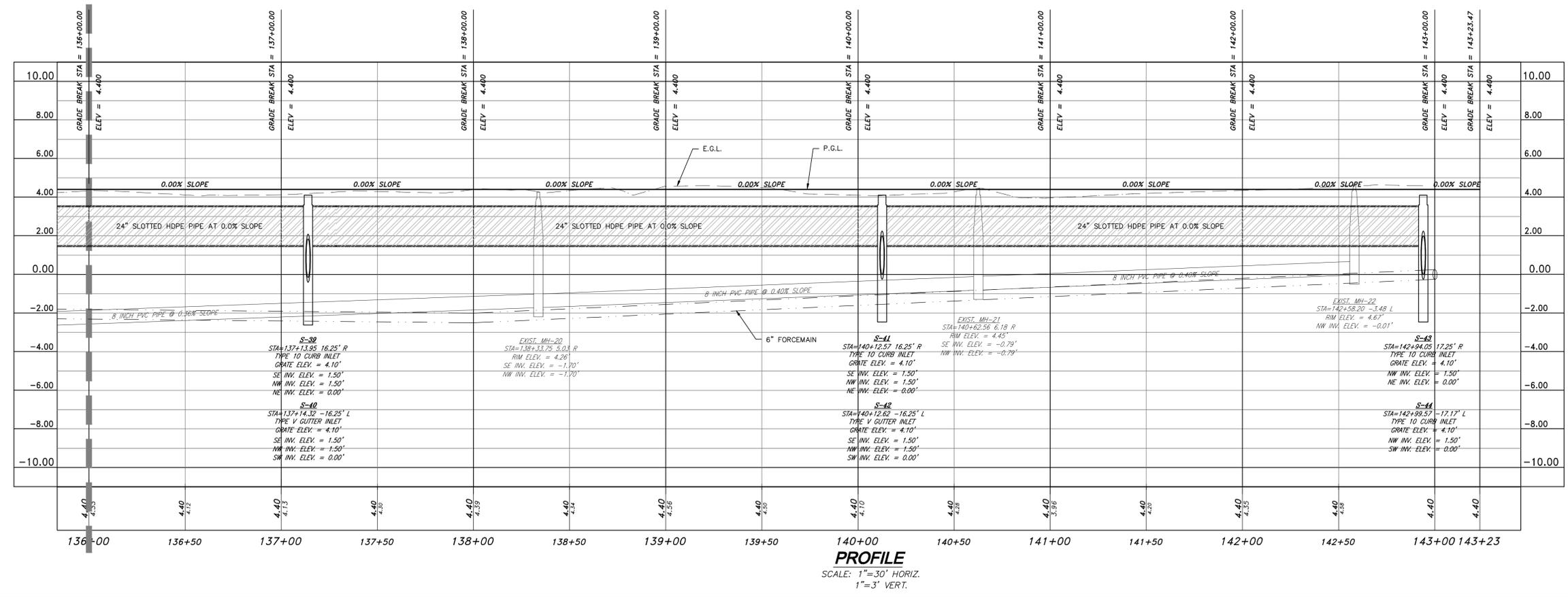
DATE: DECEMBER 2008
 PROJECT NO: 05-0722
 FILE NO: 24-46-23
 SCALE: 1" = 30'

SHEET NUMBER
C-09

Environmental Consulting & Technology, Inc.
 4700 Center Pointe Drive, Suite 112
 Fort Myers, FL 33916
 CA#5520
 P.M. EISENFIELD
 FLORIDA, P.E. #13290

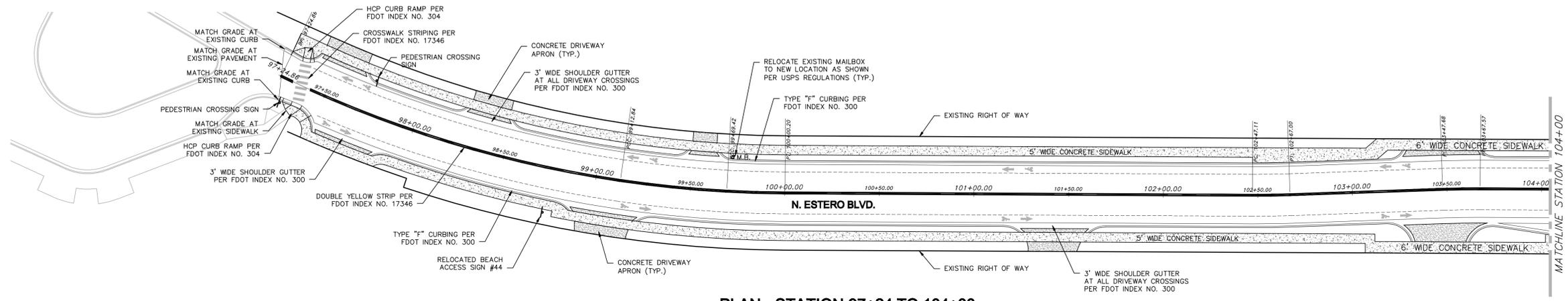
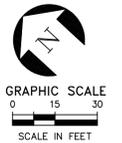


PLAN
 SCALE: 1" = 30'

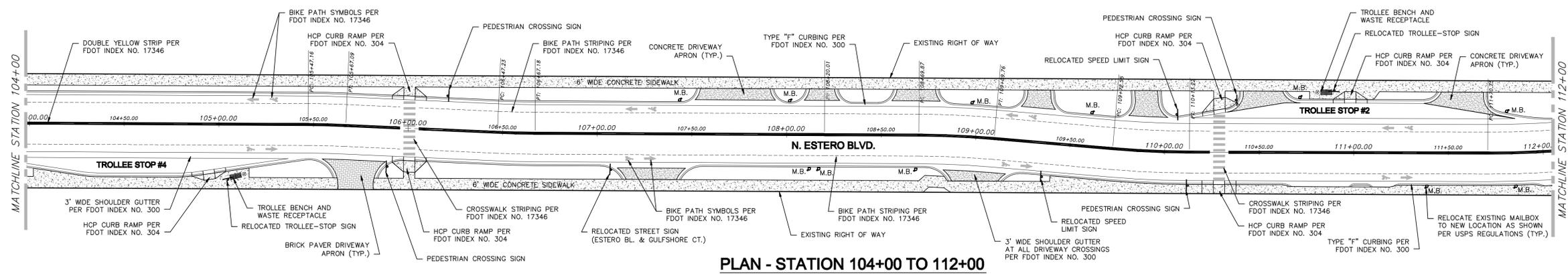


PROFILE
 SCALE: 1" = 30' HORIZ.
 1" = 3' VERT.

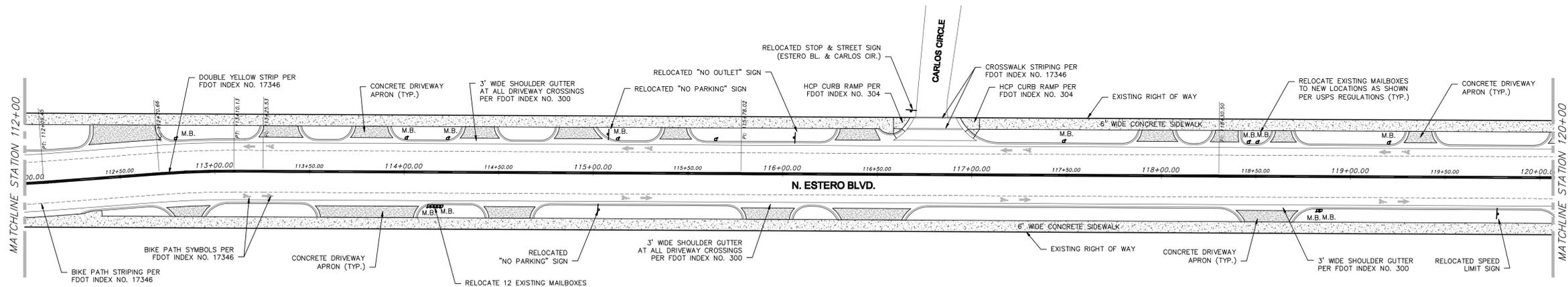
S:\ENGINEERING\PROJECTS\FMB\Estero Blvd\North Estero Blvd SET\050722-RID-PP3.dwg (SHEET 9) Apr 01, 2009 - 3:19pm Jhamon



PLAN - STATION 97+24 TO 104+00
SCALE: 1"=30'



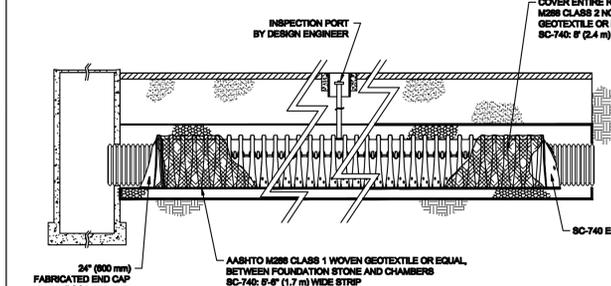
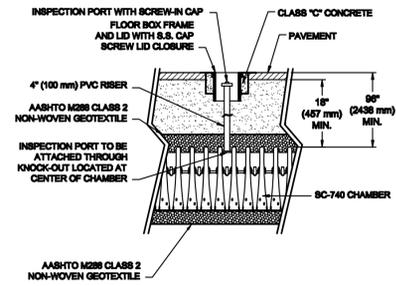
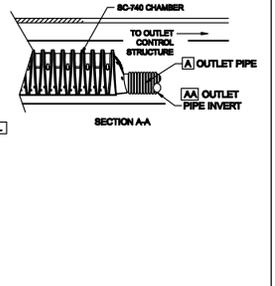
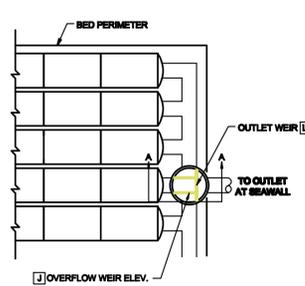
PLAN - STATION 104+00 TO 112+00
SCALE: 1"=30'



PLAN - STATION 112+00 TO 120+00
SCALE: 1"=30'

S:\ENGINEERING PROJECTS\FAB\Estero Blvd\North Estero Blvd SET\050722-00-SW03.dwg (Layout1) Apr 01, 2009 - 3:21pm Jhaman

| | | |
|---|---|--|
| REVISIONS | DATE | |
| | DESCRIPTION | |
| NO. | | |
| <p>ECT Environmental Consulting & Technology, Inc. 4700 Center Pointe Drive, Suite 112 Fort Myers, FL 33916 (239) 277-0003 CA#5520</p> | | |
| CLIENT: | <p>TOWN OF FORT MYERS BEACH 2523 ESTERO BLVD. FORT MYERS BEACH, FL 33931 (239) 765-0202</p> | |
| PROJECT: | <p>NORTH ESTERO BLVD. DRAINAGE IMPROVEMENTS TOWN OF FORT MYERS BEACH LEE COUNTY, FLORIDA</p> | |
| SHEET TITLE: | <p>HARDSCAPE, SIGNING AND MARKING PLANS</p> | |
| DATE: | DECEMBER 2008 | |
| PROJECT NO.: | 05-0722 | |
| FILE NO.: | 24-46-23 | |
| SCALE: | 1" = 30' | |
| SHEET NUMBER | <p>C-10</p> | |



ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

| MATERIAL LOCATION | DESCRIPTION | AASHTO M43 DESIGNATION(1) | COMPACTION/DENSITY REQUIREMENT |
|-------------------|---|---|--|
| (D) | FILL MATERIAL FOR LAYER D STARTS FROM THE TOP OF THE C LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISH GRADE ABOVE. NOTE THAT PAVEMENT SUB-BASE MAY BE PART OF THIS LAYER. | NA | PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS. |
| (C) | FILL MATERIAL FOR LAYER C STARTS FROM THE TOP OF THE EMBEDED STONE (B) LAYERS TO 18" (457 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUB-BASE MAY BE A PART OF THIS LAYER. | 3, 3B7, 4, 4B7, 5, 5B, 5T, 6, 6B, 7, 7B, 8, 8B, 9, 10 | BEGIN COMPACTION AFTER 12" (305 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (152 mm) LIFTS TO A MIN. 90% STANDARD PROCTOR DENSITY (2). ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (55 kN). DYNAMIC FORCE NOT TO EXCEED 2000 lbs (90 kN). |
| (B) | EMBEDMENT STONE SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A) LAYER TO THE C LAYER ABOVE. | 3, 3B7, 4, 4B7, 5, 5B, 5T | NO COMPACTION REQUIRED. |
| (A) | FOUNDATION STONE BELOW CHAMBERS BELOW THE FOOT (BOTTOM) OF THE CHAMBER. | 3, 3B, 4, 4B7, 5, 5B, 5T | PLATE COMPACT OR ROLL TO ACHIEVE A 90% STANDARD PROCTOR DENSITY (2). |

PLEASE NOTE:
 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 2. AS AN ALTERNATE TO PROCTOR TESTING AND PROCTOR TESTING AND FIELD DENSITY MEASUREMENTS IN OPEN GRADED STONE, STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (152 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH AN APPROPRIATE COMPACTOR.

| | 1 OUTLET ELEVATIONS | | | | | | 2 INSPECTION PORT | | | | | | 3 ISOLATOR ROW PROFILE VIEW | | | | | |
|-------------------|---------------------|-------|-----|-----|-----|-------|-------------------|-------|-------|-------|-----|-----|-----------------------------|-------|-------|-------|--|--|
| | A | AA | B | BB | C | CC | D | DD | E | F | G | H | HH | J | K | L | | |
| BED 1 | 24" | 1.25' | N/A | N/A | 18" | 1.25' | 18" | 1.25' | 1.00' | 0.00' | N/A | 24" | N/A | 3.50' | 1.25' | 3.60' | | |
| BEDS 2,3,4,5, & 6 | 24" | 1.75' | N/A | N/A | 18" | 1.75' | 18" | 1.75' | 1.50' | 0.50' | N/A | 24" | N/A | 4.00' | 1.75' | 4.10' | | |

STORMTECH CHAMBERS - ISOLATOR ROW INSPECTION & MAINTENANCE

INSPECTION
 The frequency of inspection and maintenance varies by location. A routine inspection schedule needs to be established for each individual location based upon site specific variables. The type of land use (i.e. industrial, commercial, residential), anticipated pollutant load, percent imperviousness, climate, etc. all play a critical role in determining the actual frequency of inspection and maintenance practices.

At a minimum, StormTech recommends annual inspections. Initially, the Isolator row should be inspected every 6 months for the first year of operation. For subsequent years, the inspection should be adjusted based upon previous observation of sediment deposition.

The Isolator Row incorporates a combination of standard manhole(s) and strategically located injection ports (as needed). The inspection ports allow for easy access to the system from the surface, eliminating the need to perform a confined space entry for inspection purposes.

If upon visual inspection it is found that sediment has accumulated, a stadia rod should be inserted to determine the depth of sediment. When the average depth of sediment exceeds 3 inches throughout the length of the Isolator row, clean-out should be performed.

MAINTENANCE
 The Isolator row was designed to reduce the cost of periodic maintenance. By "isolating" sediments to just one row, costs are dramatically reduced by eliminating the need to clean out each row of the entire storage bed. If inspection indicates the potential need for maintenance, access is provided via a manhole(s) located on the end(s) of the row for cleanout. If entry into the manhole is required, please follow local and OSHA rules for confined space entries.

Maintenance is accomplished with the JetVac process. The JetVac process utilizes a high pressure water nozzle to propel itself down the Isolator row while scouring and suspending sediments. As the nozzle is retrieved, the captured pollutants are flushed back into the manhole for vacuuming. Most sewer and pipe maintenance companies have vacuum/JetVac combination vehicles. Selection of an appropriate JetVac nozzle will improve maintenance efficiency. Fixed nozzles designed for culverts or large diameter pipe cleaning are preferable. Rear facing jets with an effective spread of at least 45° are best. Most JetVac reels have 400 feet of hose allowing maintenance of an Isolator row up to 50 chambers long. The JetVac process shall only be performed on StormTech Isolator Rows that have AASHTO class 1 woven geotextile (as specified by StormTech) over their angular base stone.

STORMTECH CHAMBERS - ISOLATOR ROW STEP BY STEP MAINTENANCE PROCEDURES

STEP 1) Inspect Isolator Row for Sediment

A) INSPECTION PORTS (IF PRESENT)

- Remove lid from floor box frame
- Remove cap from inspection riser
- Using a flashlight and stadia rod, measure depth of sediment and record results on maintenance log.
- If sediment is at, or above 3 inch depth proceed to Step 2. If not proceed to Step 3.

B) ALL ISOLATOR ROWS

- Remove cover from manhole at upstream end of Isolator Row
- Using a flashlight, inspect down Isolator Row through outlet pipe
 - Mirrors on poles or cameras may be used to avoid a confined space entry
 - Follow OSHA regulations for confined space entry if entering manhole
- If sediment is at or above the lower row of sidewall holes (approximately 3 inches) proceed to Step 2. If not proceed to Step 3.

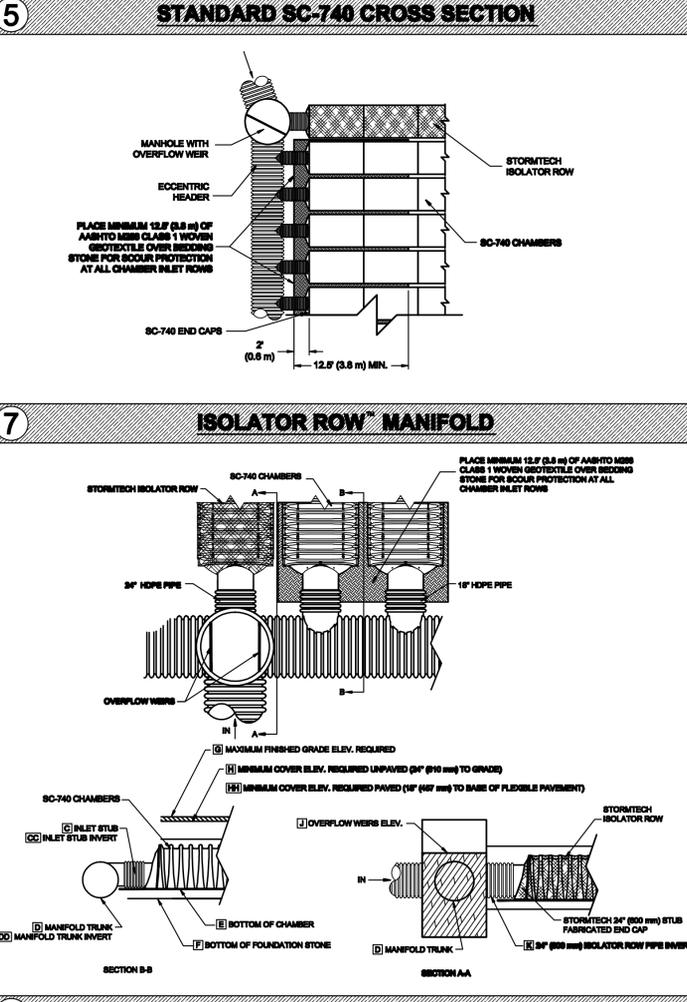
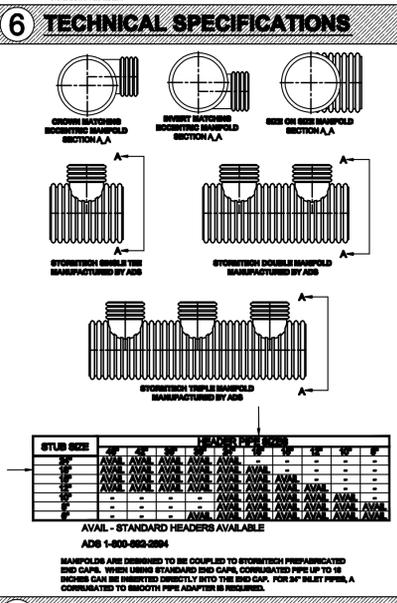
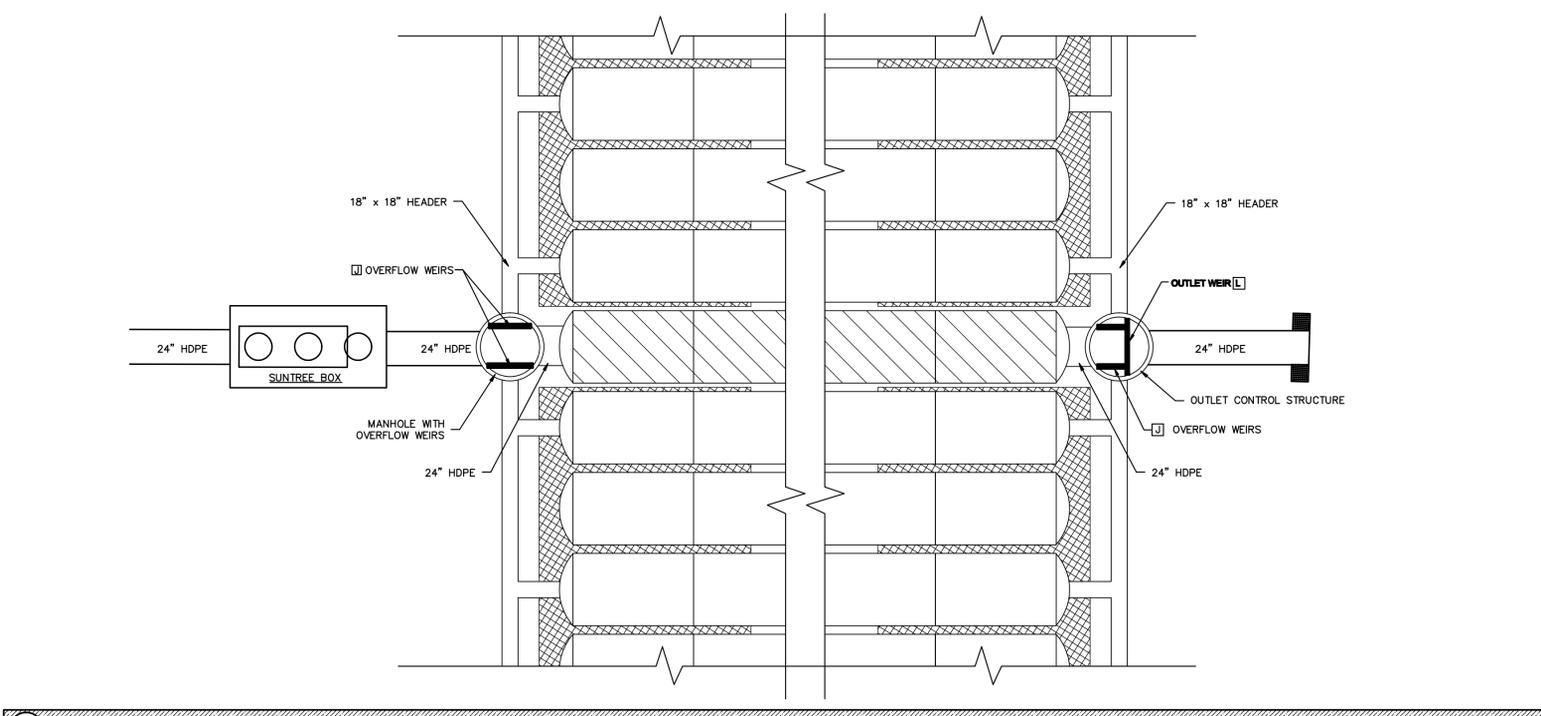
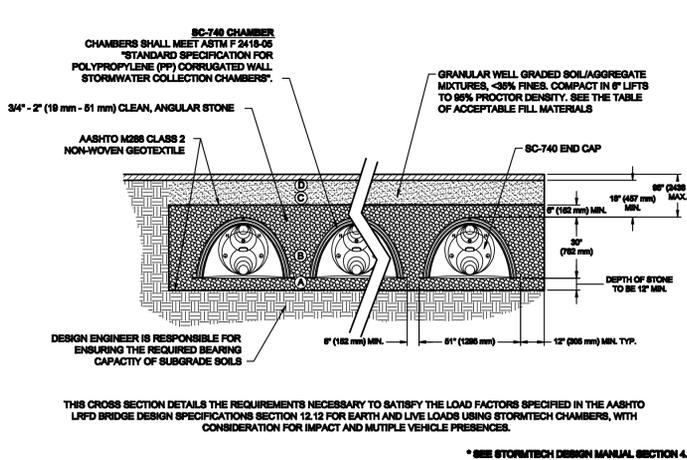
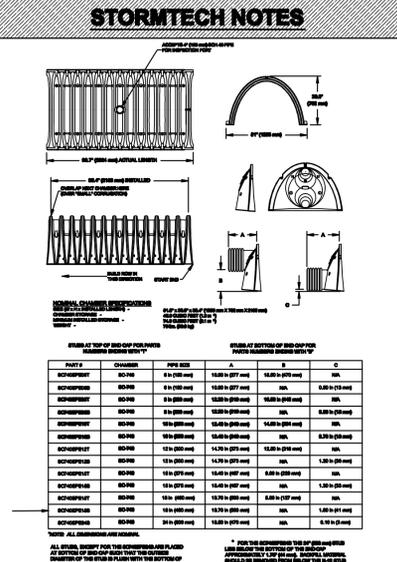
STEP 2) Clean out the Isolator Row using the JetVac process

- A fixed culvert cleaning nozzle with rear facing nozzle spread of 45 inches or more is preferable
- Apply multiple passes of JetVac until backflush water is clean
- Vacuum manhole sump as required

STEP 3) Replace all caps, lids and covers, record observations and actions

STEP 4) Inspect & clean catch basins and manholes upstream of the StormTech system

- ALL DESIGN SPECIFICATIONS FOR STORMTECH CHAMBERS SHALL BE IN ACCORDANCE WITH THE STORMTECH DESIGN MANUAL
- THE INSTALLATION OF STORMTECH CHAMBERS SHALL BE IN ACCORDANCE WITH THE LATEST STORMTECH INSTALLATION INSTRUCTIONS
- THE CONTRACTOR IS ADVISED TO REVIEW AND UNDERSTAND THE INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION. CALL 1-888-882-2884 OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF THE LATEST STORMTECH INSTALLATION INSTRUCTIONS
- CHAMBERS SHALL MEET THE DESIGN REQUIREMENTS AND LOAD FACTORS SPECIFIED IN SECTION 12.12 OF THE LATEST EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS



REVISIONS

| NO. | DESCRIPTION | DATE |
|-----|------------------------------|---------|
| 1 | AS NOTED CHANGES ON DRAWINGS | 5-18-09 |

CLIENT: TOWN OF FORT MYERS BEACH
 FORT MYERS BEACH
 2523 ESTERO BLVD.
 FORT MYERS BEACH, FL 33981
 (239) 765-0202

PROJECT: NORTH ESTERO BLVD. DRAINAGE IMPROVEMENTS
 TOWN OF FORT MYERS BEACH
 LEE COUNTY, FLORIDA

SHEET TITLE: DRAINAGE BED DETAILS

DATE: DECEMBER 2008
PROJECT NO.: 05-0722
FILE NO.: 24-46-23
SCALE: NONE
SHEET NUMBER: C-13

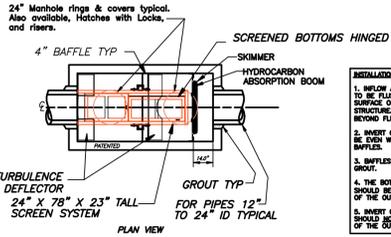
ECI
 Environmental Consulting & Technology, Inc.
 4100 Center Pointe Drive, Suite 112
 Fort Myers, FL 33916
 (239) 277-0003
 CA#5530
 R.M. EDENFIELD
 FLORIDA, P.E. #15200

SUNTREE TECHNOLOGIES MODEL NUMBER: NSBB-4-8-84

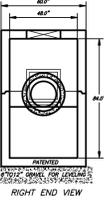
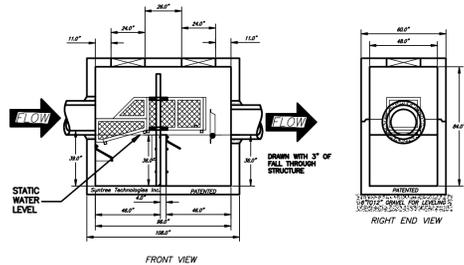
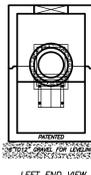
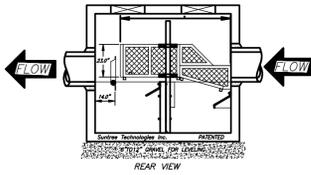
FLOW & BY-PASS SPECIFICATIONS FOR THE BIOMASS SEPARATING SCREEN SYSTEM, SEDIMENT STORAGE, AND SKIMMER SPECIFICATIONS.

- Inflow Pipe Area (18" RCP AS DRAWN) — 1.77 sq.ft.
 - Open office area in screen system — 13.86 sq.ft.
 - Open office area in screen system with 50% blockage — 6.93 sq.ft.
 - Open office area in screen system with 75% blockage — 3.46 sq.ft.
 - By-pass through screen system — 2.97 sq.ft.
 - Minimum by-pass around screen system — 3.2 sq.ft.
 - Screen system storage volume — 20.06 cu.ft.
- SEDIMENT STORAGE:
- Volume of first chamber — 46 cu.ft.
 - Volume of second chamber — 46 cu.ft.
 - Volume of total sediment storage — 92 cu.ft.
- SKIMMER SPECIFICATIONS:
- Flow area under skimmer — 3.97 sq.ft.
 - Area of pipe in line with skimmer — 1.77 sq.ft.
 - Area between skimmer and outflow pipe parallel with the surface of the pipe — 4.31 sq.ft.

PATENTED AND PATENTS PENDING



INSTALLATION NOTES:
 1. INFLOW AND OUTFLOW PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE. CAN NOT INTRUDE BEYOND FLUSH.
 2. INVERT OF OUTFLOW PIPE SHOULD BE ON WITH THE TOP OF THE BAFFLES.
 3. BAFFLES SHOULD BE SEALED WITH GROUT.
 4. THE BOTTOM OF THE SKIMMER SHOULD BE 6" BELOW THE INVERT OF THE OUTFLOW PIPE.
 5. INVERT OF THE INFLOW PIPE SHOULD BE 6" BELOW THE INVERT OF THE OUTFLOW PIPE.



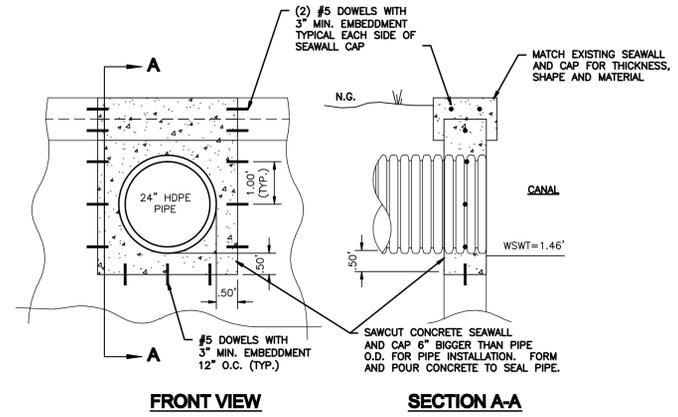
PEAK TREATMENT DESIGN FLOW
8 ft³/sec

PEAK DESIGN FLOW
12 ft³/sec

| | |
|--|-----------------|
| SUNTREE TECHNOLOGIES, INC. 798 CLEARLAKE ROAD SUITE #2 COCOA, FL 32922 | |
| PROJECT NO: | 2-03-06-08-01 |
| MODEL NO. NSBB-4-8-84 | DATE: 02/13/08 |
| SCALE: SF = 72 | DRAWN BY: T.H.2 |
| UNITS = INCHES | |

Hydrodynamic, Volume, & Physical Specifications Of The Nutrient Separating Baffle Box Model Number: NSBB-4-8-84

- The stormwater treatment structure will not be positioned in an off line treatment configuration. It will sized so that the entire flow of a 24" pipe will always receive treatment by passing it through the inside of the stormwater treatment structure.
- For flows of 8 cfs a removal efficiency of at least 80% for TSS will be achieved, and flows of up to 12 cfs will be able to pass through the stormwater treatment structure.
- The stormwater treatment structure will be able to store captured solid debris such as leaves and litter in a dry state between rain events. The volume of dry storage will be approximately 20 cubic feet.
- The stormwater treatment structure will have the capacity to store approximately 92 cubic feet of captured sediment.
- The stormwater treatment structure will have a skimmer 24" tall located in front of the outflow opening. The bottom of the skimmer will be located 6" below the static water level. The horizontal cross sectional area from behind the skimmer to the concrete wall of the stormwater treatment structure will be approximately 3.97 ft². Adjacent to the face of the skimmer, a hydrocarbon absorption boom will float at the top surface of the water in the stormwater treatment structure.
- The nutrient separating screen system shall be positioned approximately 3.5" above the static water level within the baffle box. Adjacent to the inflow, the screen system will have openings on both sides that have a combined cross sectional area that exceeds the cross sectional area of the pipe. These openings will act as an internal bypass for water flow in the event that the screen system becomes full of debris.
- The nutrient separating screen system shall have a minimum of 6" of vertical adjustment. The adjustment method shall be a system with brackets that are attached to the sides of the screen system that will slide vertically along 3" x 3" aluminum square poles. Two stainless steel bolts on each bracket can be tightened to lock the screen system in place, or loosened to allow for vertical adjustment of the screen system. The square poles are anchored to the baffle wall by stainless steel bolts.
- The nutrient separating screen system shall have a minimum of 3" of horizontal adjustment in the direction of the length of the concrete structure. The brackets that clamp the vertical adjustment poles to the side of the screen system can be repositioned to allow of horizontal adjustment.
- The nutrient separating screen system shall have a bottom section adjacent to the inflow which is hinged and can be opened for cleaning. This bottom section will function as a screened ramp to direct debris into the main body of the screened system. The sides of the screen system adjacent to the inflow will be made with stainless steel screen and transition in vertical height from a minimum of 8" above the inflow invert to the height of the main body of the screen system. The lower sides of the screen system adjacent to the inflow will provide bypass for water flow around the main body of the screen system if necessary. The cross sectional area of the bypass around the screen system will be equal to or exceed the cross sectional area of the inflow pipe.
- The nutrient separating screen system shall give access from above grade to the lower sediment collection chambers by the following method: The bottom of the screen system will contain hinged screened doors that can be opened in such a way as to allow adequate access for a vacuum truck to remove everything in all the lower collection chambers.
- The screen system structure will be a welded aluminum framework spanned by stainless steel screen, be generally rectangular in shape, and be formed to make a bottom, 2 long sides, and 1 end; and the top and 1 end will remain open. The screen system will consist of panel sections that are held together with stainless steel bolts. When the panel sections are unbolted and separated from each other they will be able to pass through an access hatch or round manhole in the top of the baffle box for removal purposes. The aluminum frame work will be made of mostly 2" x 2" x 1/4" aluminum angle beam. The screen used to span the aluminum frame is described as follows: For the body of the screen system, flattened expanded stainless steel sheet 1/2" No. 16 F; Open area = 60%; Grade = 304 Stainless Steel. For the riser section of the screen system, flattened expanded stainless steel sheet 3/4" #13 F; open area = 75%; Grade 304 Stainless Steel. The screen will be attached to the screen system frame by sandwiching the screen to the aluminum frame between a series of 1 1/4" x 3/16" aluminum bars and welded in place.
- A turbulence deflector will be attached near the top of each of the baffles and adjacent to the inflow with stainless steel bolts and stainless steel fender washers. The turbulence deflectors will be made from laminated fiberglass and measure a minimum of 3/8" in thickness. A turbulence deflector will be attached to the baffle and will form a horizontal ledge that measures 10" from the downstream side of the baffle, and span the full width of the baffle box. Adjacent to the inflow will set of 2 turbulence deflectors that each measure 12" wide x 15" long.
- The structure of the box will be precast concrete. The concrete will be 28 day compressive strength fc = 5,000 psi. Steel reinforcing will be ASTM A - 615 Grade 60. Structure will support on H20 loading as indicated by AASHTO. The joint between the concrete sections will ship lap and the joint sealed with Ram-Nek or equal butyl rubber joint sealant. A concrete baffle will separate the bottom of the structure into 2 chambers for the settling and collection of sediment. The baffle will be sealed with non-shrink grout to form 2 water tight chambers.
- For access into the Nutrient Separating Baffle Box, two 30" round openings will be cast into the top of the vault.
- The inflow and outflow pipes will not intrude beyond flush with the inside surface of the Nutrient Separating Baffle Box. The space between the pipe holes in the ends of the Nutrient Separating Baffle Box and the outside surface of the pipe will be filled with non-shrink grout to form a water proof seal. The invert of the outflow pipe will be even with the tops of the baffles.



OUTFALL DETAIL

SCALE: 1"=2'

Minimum Recommended Service Procedures for

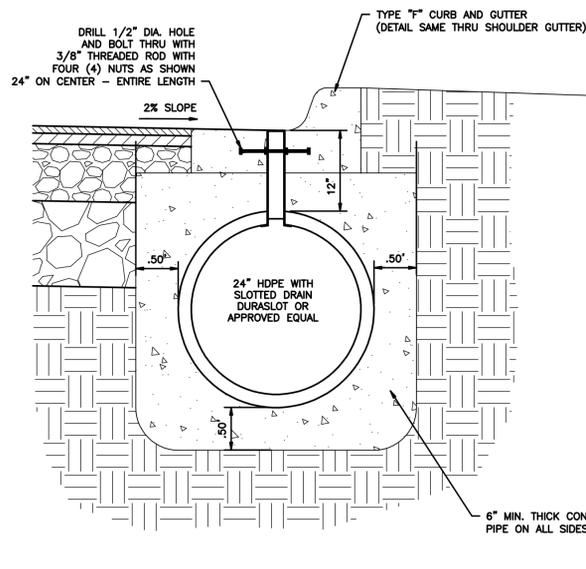
Suntree Technologies, Inc.
Nutrient Separating Baffle Box

Description: The frequency of service should be 1 - 4 times per year determined by the accumulation of sediment and debris in the Nutrient Separating Baffle Box. The service will include cleaning the screen system, removing collected sediment from the baffle chambers and inspecting the Storm Boom for replacement in the skimmer system.

The primary method used to service the Nutrient Separating Baffle Box is by vacuuming with a Vector type unit.

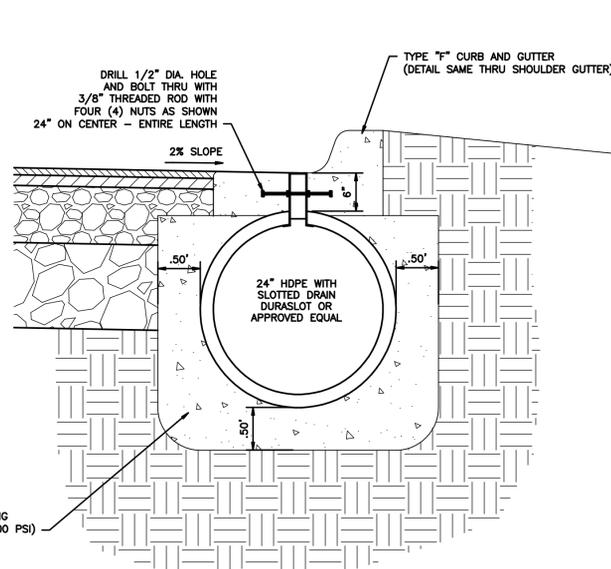
Vacuum Servicing

- Open the hatches or manholes on top of the Baffle Box.
- Vacuum the debris and sediment accumulated on the screen system.
- Swing open the screen system to expose the sediment collection chambers.
- Vacuum the sediment collected in each of the chambers.
- Inspect the oil skimmer system Storm Boom for oil accumulation. Change Storm Boom if significantly contaminated.
- Swing down the screen system, and close the hatches or replace the manhole covers.



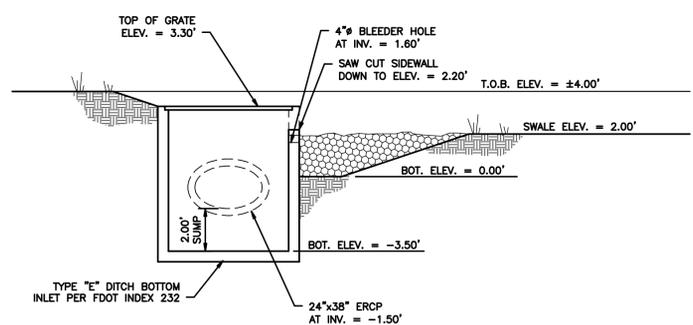
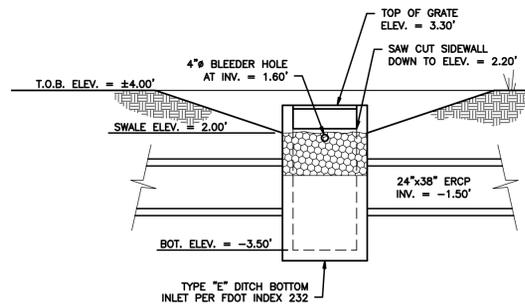
SECTION THRU 12" TALL SLOT

SCALE: 1"=2'



SECTION THRU 6" TALL SLOT

SCALE: 1"=2'



DETAILS OF STRUCTURES 32A & 32-B

SCALE: 1"=4'

| NO. | REVISIONS | DATE |
|-----|-----------------------------------|---------|
| 1 | ADD BATTLE BOX SERVICE PROCEDURES | 5-18-09 |

ECT
 Environmental Consulting & Technology, Inc.
 4100 Center Pointe Drive, Suite 172
 Fort Myers, FL 33916
 (239) 277-0003 CA#95920

CUSTOMER:
 TOWN OF FORT MYERS BEACH
 FORT MYERS BEACH
 2523 ESTERO BLVD.
 FORT MYERS BEACH, FL 33981
 (239) 765-0202

PROJECT:
 NORTH ESTERO BLVD.
 DRAINAGE IMPROVEMENTS
 TOWN OF FORT MYERS BEACH
 LEE COUNTY, FLORIDA

SHEET TITLE:
 MISC. DETAILS

DATE: DECEMBER 2008
 PROJECT NO: 05-0722
 FILE NO: 24-46-23
 SCALE: AS SHOWN

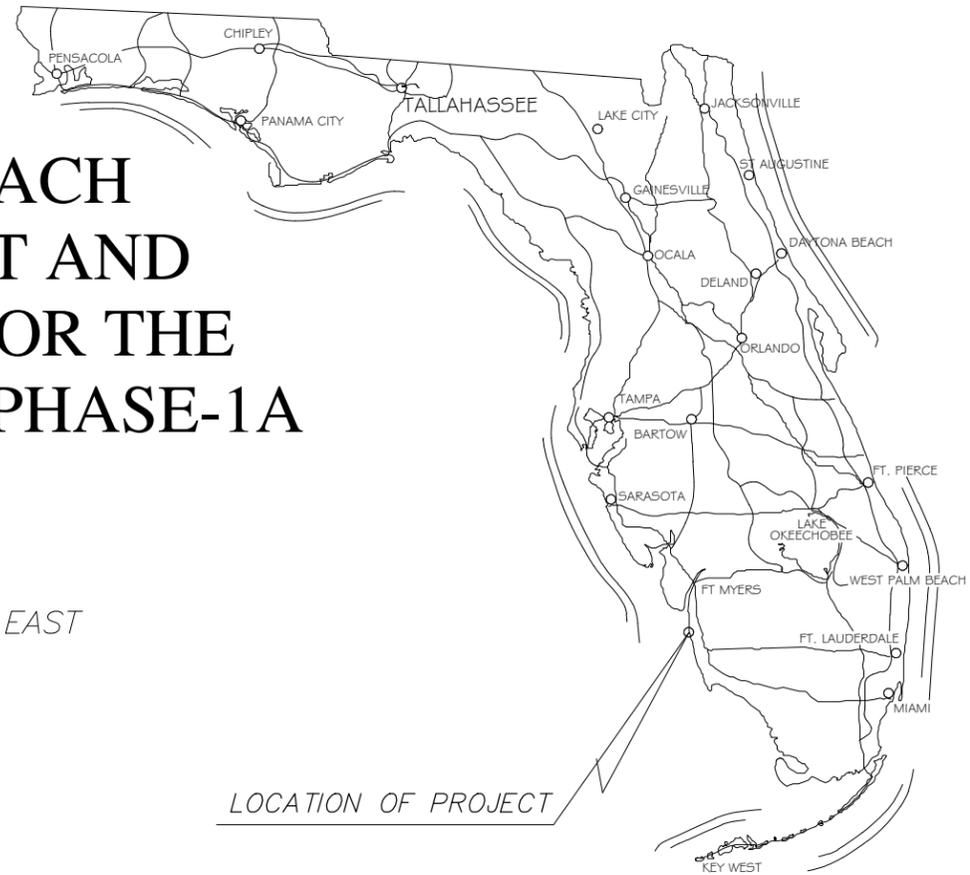
SHEET NUMBER
C-14

S:\ENGINEERING\PROJECTS\FMB\Estero Blvd\North Estero Blvd SET\050722-80-DETAILS-MISC (Rev 5-19-09).dwg (DETAIL-SH14) May 20, 2009 - 12:18pm dchapp



RECORD DRAWINGS TOWN OF FORT MYERS BEACH WATER MAIN REPLACEMENT AND DRAINAGE IMPROVEMENTS FOR THE BASIN BASED NEIGHBORHOOD PHASE-1A

FOR
Town of Fort Myers Beach
LOCATED IN
SECTION 19, TOWNSHIP 46 SOUTH, RANGE 24 EAST
LEE COUNTY, FLORIDA
FEBRUARY 19, 2015



LOCATION MAP
N.T.S.



| INDEX OF SHEETS | |
|-----------------|--|
| SHEET | TITLE |
| 01 | Cover |
| 02 | Notes & Legends |
| Plan & Profile | |
| 03 | Tropical Shores Way Station -0+50_to_7+00 |
| 04 | Tropical Shores Way Station 7+00_to_18+50 |
| 05 | Mango Street Station -0+50_to_9+00 |
| 06 | Mango Street Station 9+00_to_17+00 |
| 07 | Fairweather Lane Station -0+50_to_9+50 |
| 08 | Fairweather Lane Station 9+50_to_17+50 |
| 09 | Delmar Avenue Station -0+50_to_10+00 |
| 10 | Delmar Avenue Station 10+00_to_16+50 |
| 11 | Pearl Street Station -0+50_to_10+00 |
| 12 | Pearl Street Station 10+00_to_16+00 |
| 13 | Bayview Drive & Alley between Bayview & Estero Blvd. |
| 14 | Gulf Beach Road Station -0+50_to_6+50 |

PROJECT SITE

For Information Regarding
This Project, Contact:
Michael S. Dickey, PE (Water Main)
Ricardo Acosta, PE (Drainage)

MICHAEL S. DICKEY, PE
FL License No. 60057

RICARDO ACOSTA, PE
FL License No. 69121

RECORD DRAWING
February 19, 2015

DESIGN CONSULTANT



2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE (239) 334-0046
FAX (239) 334-3661
E.B. #642 & L.B. #642

**JOHNSON
ENGINEERING**

2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE (239) 334-0046
FAX (239) 334-3661
E.B. #642 & L.B. #642

FOR DRAINAGE
REVISIONS BY
MICHAEL S. DICKEY, PE
FL License No. 69121

FOR WATER MAIN
REVISIONS BY
MICHAEL S. DICKEY, PE
FL License No. 60057



RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1A
LEE COUNTY, FLORIDA

| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| | | |
| | | |
| | | |
| | | |

DATE: FEBRUARY 19, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

COVER
RECORD DRAWINGS

SHEET NUMBER

01



**OSTEGO
BAY**

**GULF OF
MEXICO**

RECORD DRAWING
February 19, 2015



0 100 200 400

(INTENDED DISPLAY SCALE: 1"=200')

NOTICE TO ALL CONTRACTORS
IT'S THE LAW IN FLORIDA
2 BUSINESS DAYS BEFORE YOU DIG
CALL SUNSHINE 1-800-432-4770
STATE, COUNTIES & CITIES ARE "NOT"
PART OF THE ONE CALL SYSTEM.
THEY MUST BE CALLED INDIVIDUALLY.

STATE OF FLORIDA DOT
ALL INTERSTATE RIGHT-OF-WAY
HIGHWAY LIGHTING
7-DAY NOTICE REQUIRED
239-656-7811
239-656-7742 FAX



**JOHNSON
ENGINEERING**

2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE (239) 334-0046
FAX (239) 334-3661
E.B. #642 & L.B. #642

FOR DRAINAGE
REPLACEMENT
FL License No. 68121
FOR WATER MAIN
REPLACEMENT
MICHAEL S. DICKEY, PE
FL License No. 60057



**RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1A
LEE COUNTY, FLORIDA**

SEPARATION OF WATER AND SEWER LINES

| HORIZONTAL SEPARATION OF PIPELINES | |
|-------------------------------------|--|
| Minimum Separation Distance | Between The Outside Of The Water Main And The Outside Of Any Existing Or Proposed |
| Three feet | Storm sewer, stormwater force main, or reclaimed water main |
| Three feet, and preferably ten feet | Vacuum-type sanitary sewer. |
| Six feet, and preferably ten feet | Gravity- or pressure-type sanitary sewer, wastewater force main, or reclaimed water main not regulated under part III of chapter 62-610, F.A.C. The minimum horizontal separation distance between water mains and gravity-type sanitary sewers shall be reduced to three feet where the bottom of the water main is laid at least six inches above the top of the sewer. |
| Ten feet | "On-site sewage treatment and disposal system" |

| VERTICAL SEPARATION OF PIPELINES | |
|---|---|
| Minimum Separation Distance From The (Outside To The Outside) | New Or Relocated, Underground Water Mains Crossing Any Existing Or Proposed |
| Six inches, and preferably 12 inches above | Gravity- or vacuum-type sanitary sewer or storm sewer |
| 12 inches below | Gravity- or vacuum-type sanitary sewer or storm sewer |
| 12 inches above or below | Pressure-type sanitary sewer, wastewater, stormwater force main, or pipeline conveying reclaimed water main |
| One full length of water main pipe shall be centered above or below the other pipeline so the water main joints will be as far as possible from the other pipeline. Alternatively, the pipes shall be arranged so that all water main joints are at least three feet from all joints in vacuum-type sanitary sewers, storm sewers, stormwater force mains, or reclaimed water mains, and at least six feet from all joints in gravity- or pressure-type sanitary sewers, wastewater force mains, or reclaimed water mains. | |

- ELEVATION NOTES:**
- Elevations shown are in North American Vertical Datum of 1988 (NAVD88).
 - 10-year Stillwater Elevation for Ostego Bay = 2.5 ft (NAVD88).
 - 10-year Stillwater elevation for the Gulf of Mexico = 4.9 ft (NAVD88).
 - Mean High Water Elevation for Ostego Bay = 0.14 ft (NAVD88).

- ALTERNATE CONSTRUCTION**
- Where an underground water main is being laid less than the required minimum horizontal distance from another pipeline and where an underground water main is crossing another pipeline and joints in the water main are being located less than the required minimum distance from joints in the other pipeline
- Use of pressure-rated pipe conforming to the American Water Works Association standards incorporated into Rule 62-555.330, F.A.C., for the other pipeline if it is a gravity- or vacuum-type pipeline;
 - Use of welded, fused, or otherwise restrained joints for either the water main or the other pipeline; or
 - Use of watertight casing pipe or concrete encasement at least four inches thick for either the water main or the other pipeline.

- Where an underground water main is being laid less than three feet horizontally from another pipeline and where an underground water main is crossing another pipeline and is being laid less than the required minimum vertical distance from the other pipeline
- Use of pipe, or casing pipe, having high impact strength (i.e., having an impact strength at least equal to that of 0.25-inch-thick ductile iron pipe) or concrete encasement at least four inches thick for the water main; and
 - Use of pipe, or casing pipe, having high impact strength (i.e., having an impact strength at least equal to that of 0.25-inch-thick ductile iron pipe) or concrete encasement at least four inches thick for the other pipeline if it is new and is conveying wastewater or reclaimed water.

- MISC. NOTES:**
- Vertical saw cuts through existing pavement and base material are required where new pavement matches to existing pavement.

| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| | | |
| | | |
| | | |

DATE: FEBRUARY 19, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

NOTES & LEGENDS
RECORD DRAWINGS

SHEET NUMBER
02



RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1A
LEE COUNTY, FLORIDA

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |
| | | |
| | | |
| | | |

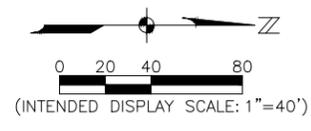
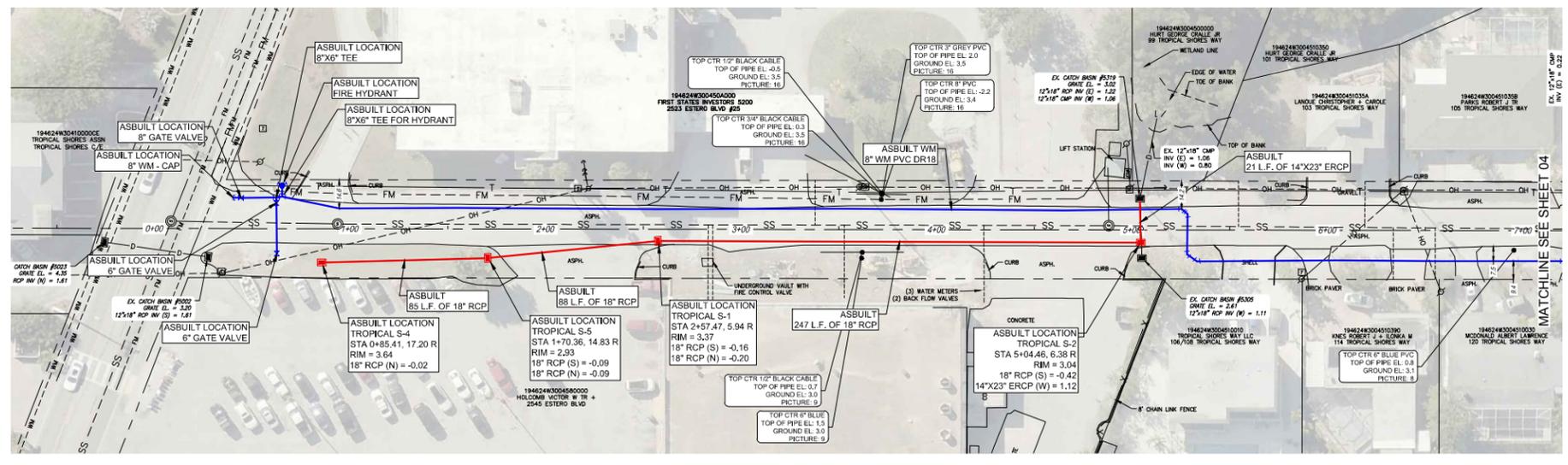
DATE: FEBRUARY 19, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
TROPICAL SHORES
WAY STATION
-0+50_TO_7+00

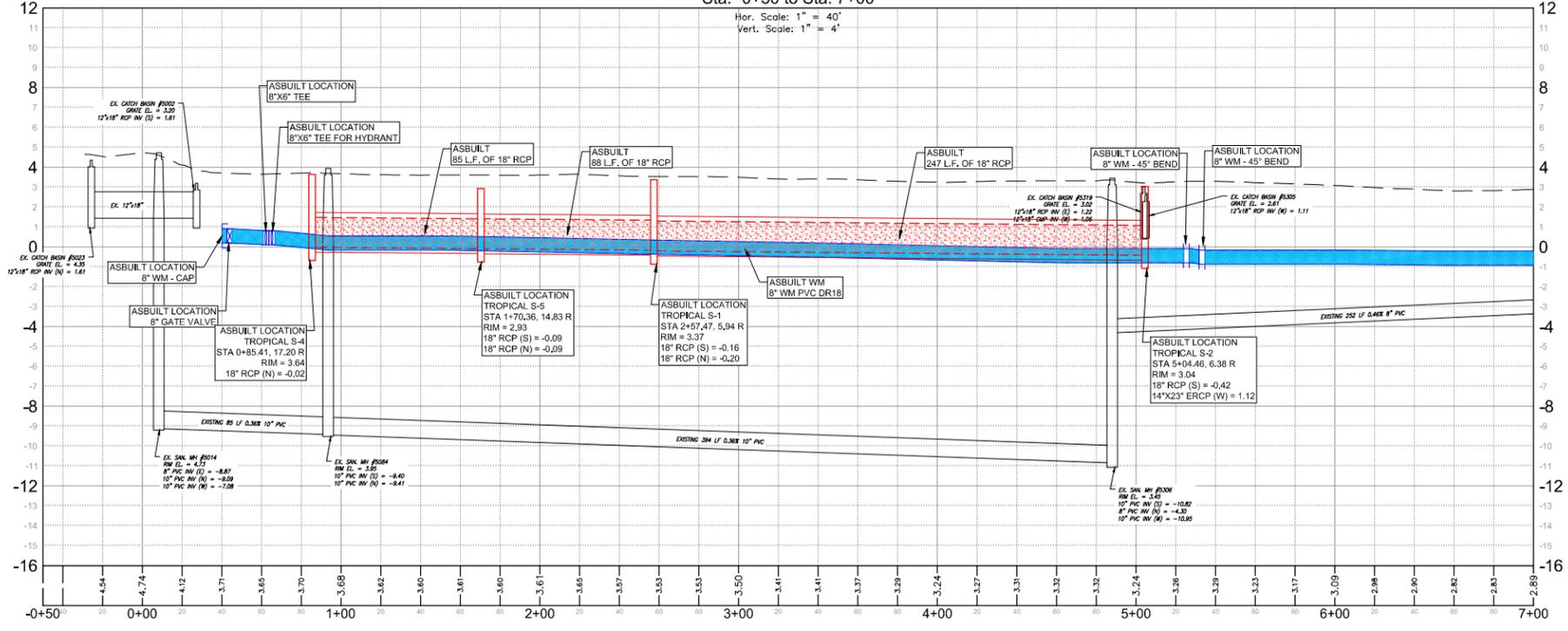
RECORD DRAWINGS

SHEET NUMBER

03



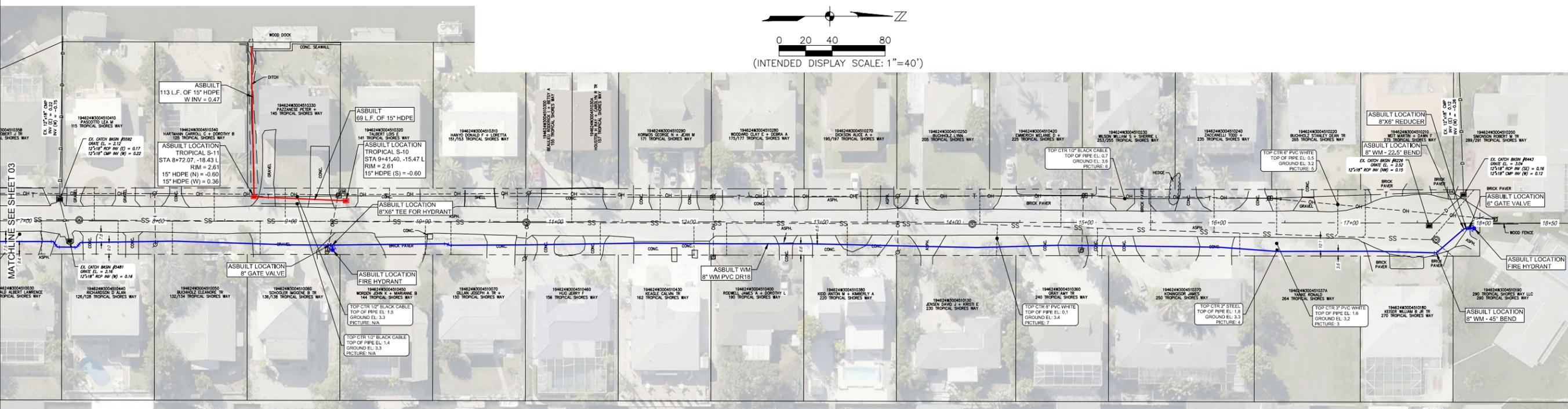
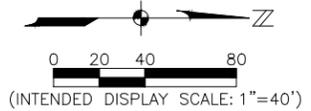
Profile View of Tropical Shores Way
Sta: -0+50 to Sta: 7+00



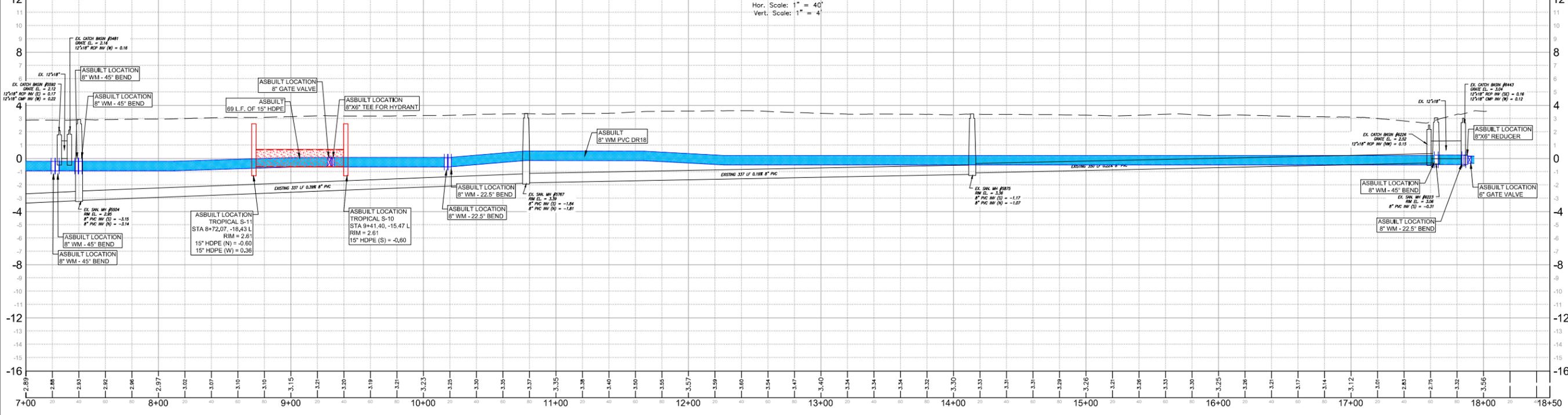
RECORD DRAWING

PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
 AS-BUILT DRAINAGE
 AS-BUILT WATER MAIN



Profile View of Tropical Shores Way
Sta: 7+00 to Sta: 18+50



RECORD DRAWING

PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
█ AS-BUILT DRAINAGE
█ AS-BUILT WATER MAIN

RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1A
LEE COUNTY, FLORIDA

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |
| | | |
| | | |
| | | |

DATE: FEBRUARY 19, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
TROPICAL SHORES
WAY STATION
7+00_TO_18+50

RECORD DRAWINGS

SHEET NUMBER

FOR DRAINAGE RECORD DRAWING
FL License No. 689721

FOR WATER MAIN RECORD DRAWING
MICHAEL S. DICKEY, PE
FL License No. 60057



RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1A
LEE COUNTY, FLORIDA

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |
| | | |
| | | |

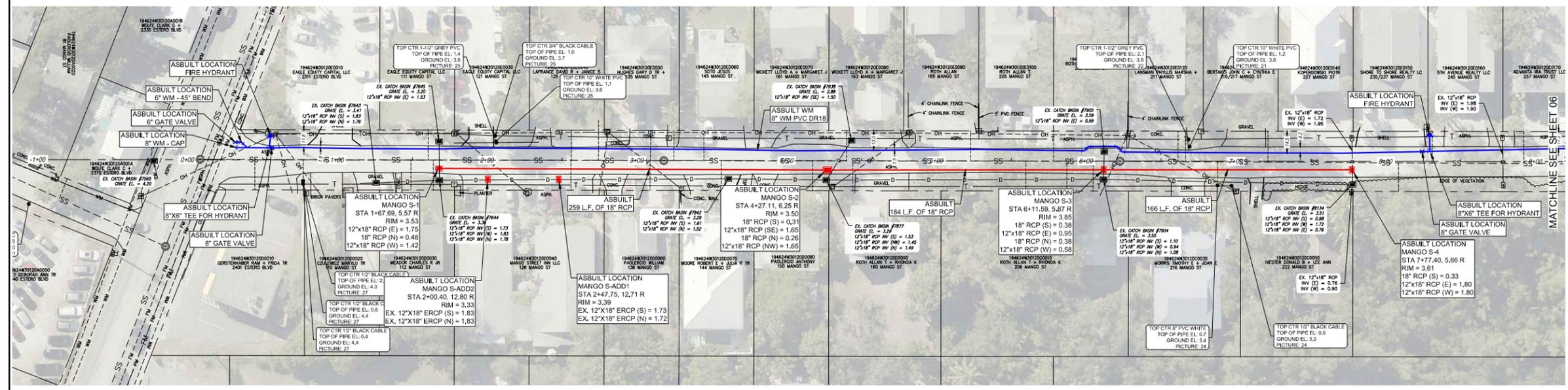
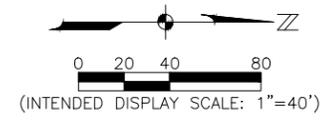
DATE: FEBRUARY 19, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
MANGO STREET
STATION -0+50_0+90

RECORD DRAWINGS

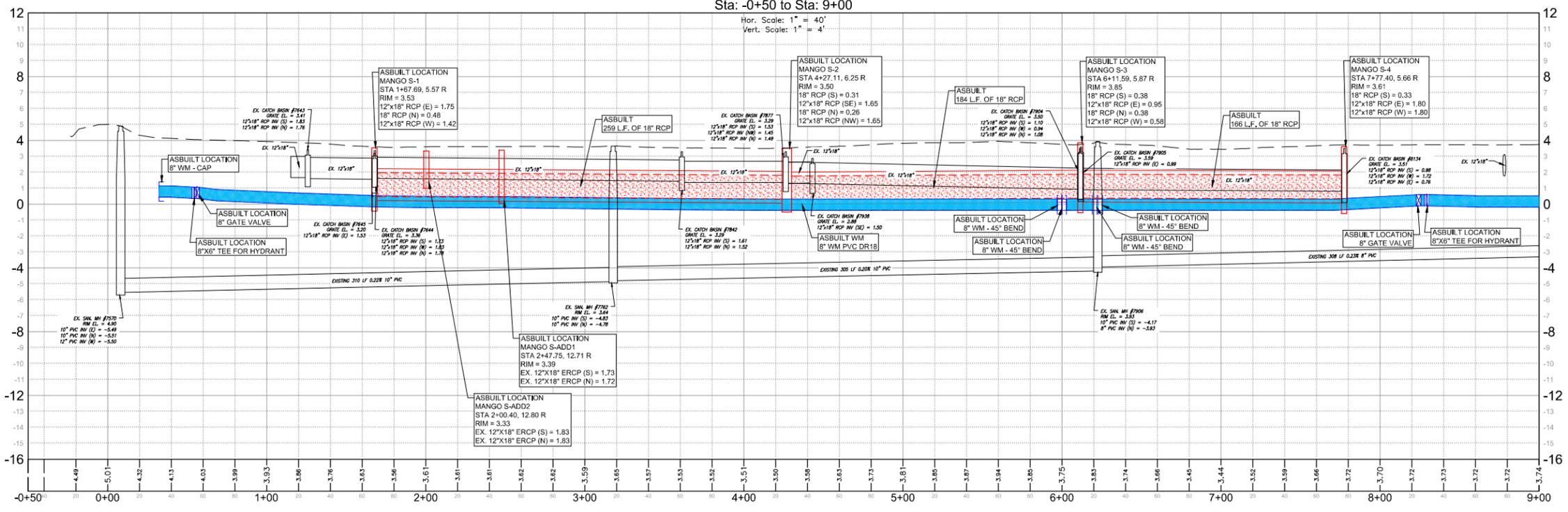
SHEET NUMBER

05



Profile View of Mango Street
Sta: -0+50 to Sta: 9+00

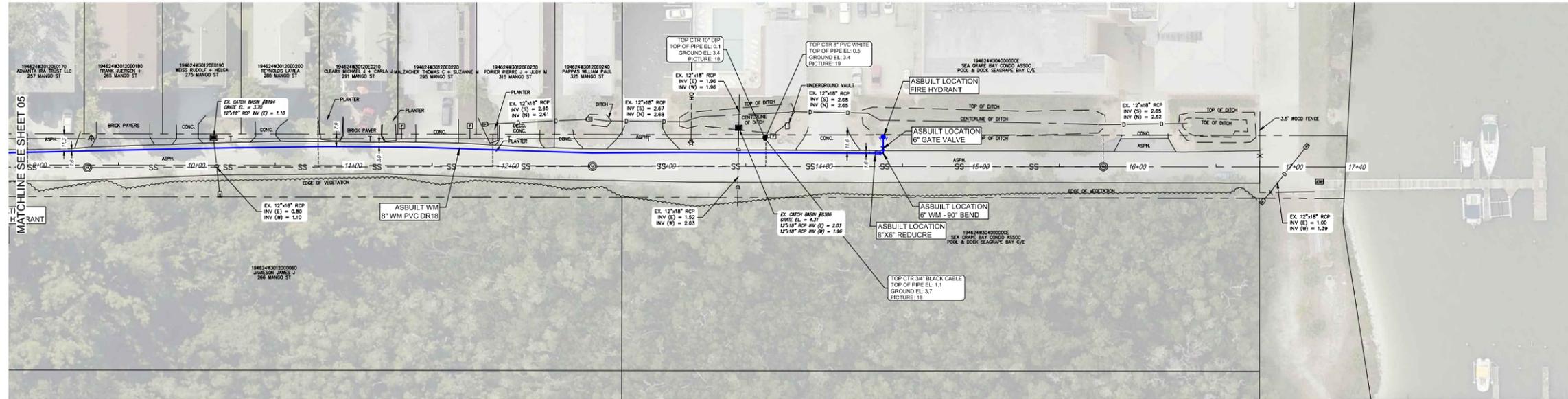
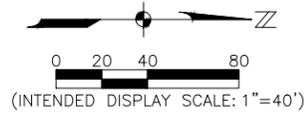
Hor. Scale: 1" = 40'
Vert. Scale: 1" = 4'



RECORD DRAWING

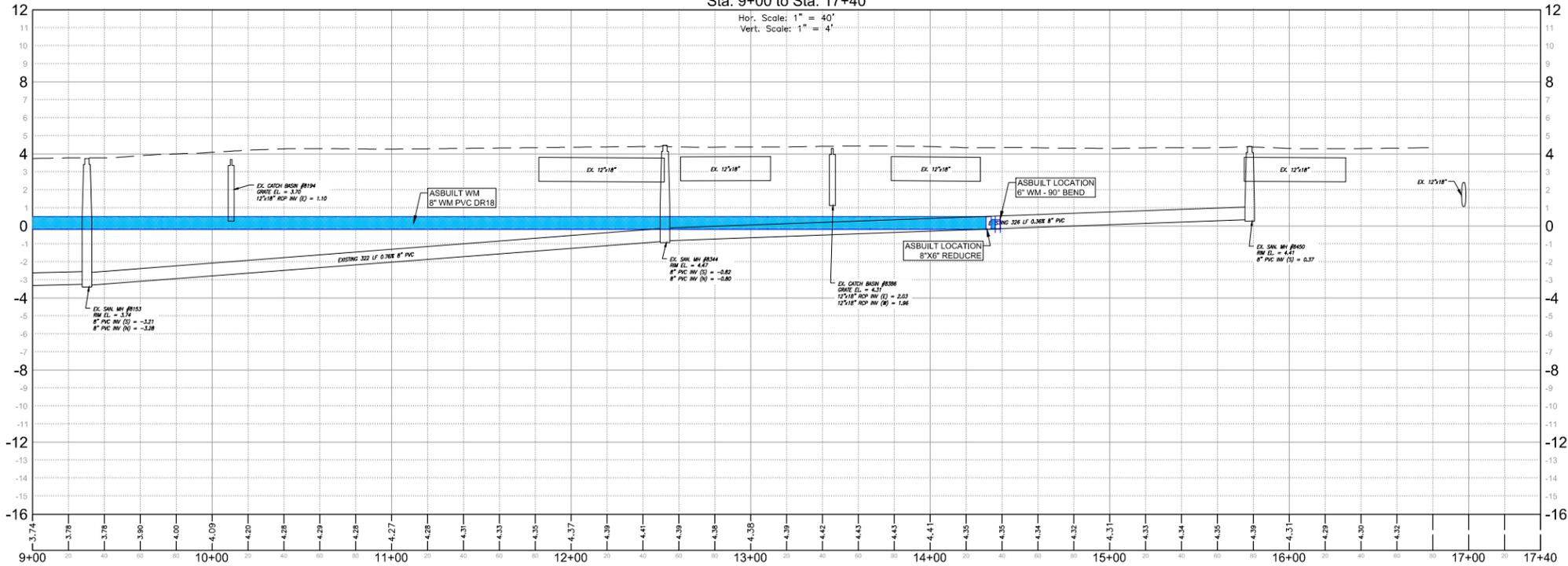
PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
 AS-BUILT DRAINAGE
 AS-BUILT WATER MAIN



Profile View of Mango Street
Sta: 9+00 to Sta: 17+40

Hor. Scale: 1" = 40'
Vert. Scale: 1" = 4'



RECORD DRAWING

PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
- - - AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

RECORD DRAWINGS
 WATER MAIN REPLACEMENT AND
 DRAINAGE IMPROVEMENTS FOR THE
 BASIN BASED NEIGHBORHOOD
 PHASE-1A
 LEE COUNTY, FLORIDA

| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| | | |
| | | |
| | | |
| | | |

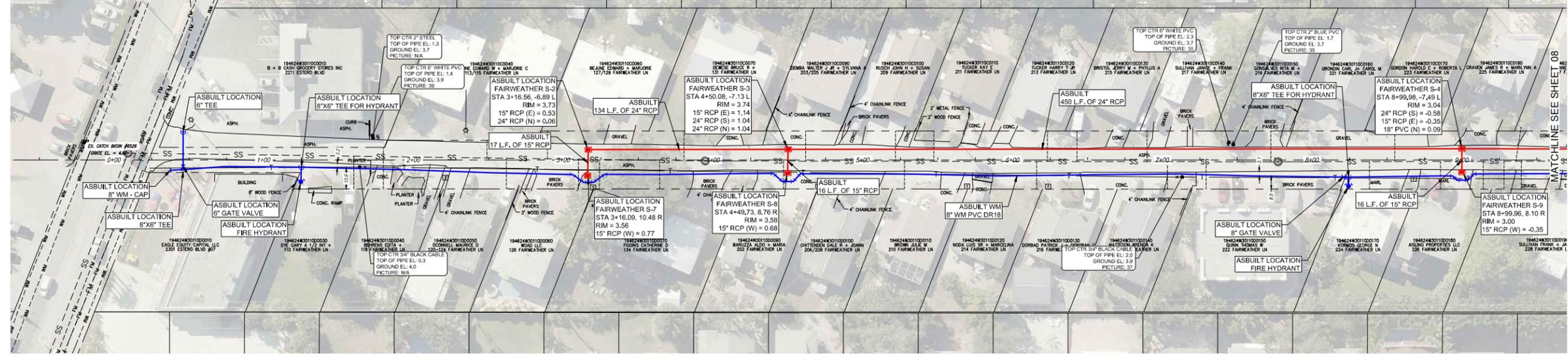
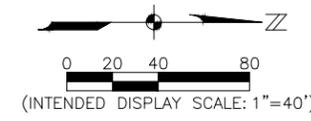
DATE: FEBRUARY 19, 2015
 PROJECT NO. 20139512-000
 FILE NO. 19-46-24
 SCALE: As Shown

PLAN & PROFILE
 MANGO STREET
 STATION
 9+00_TO_17+00

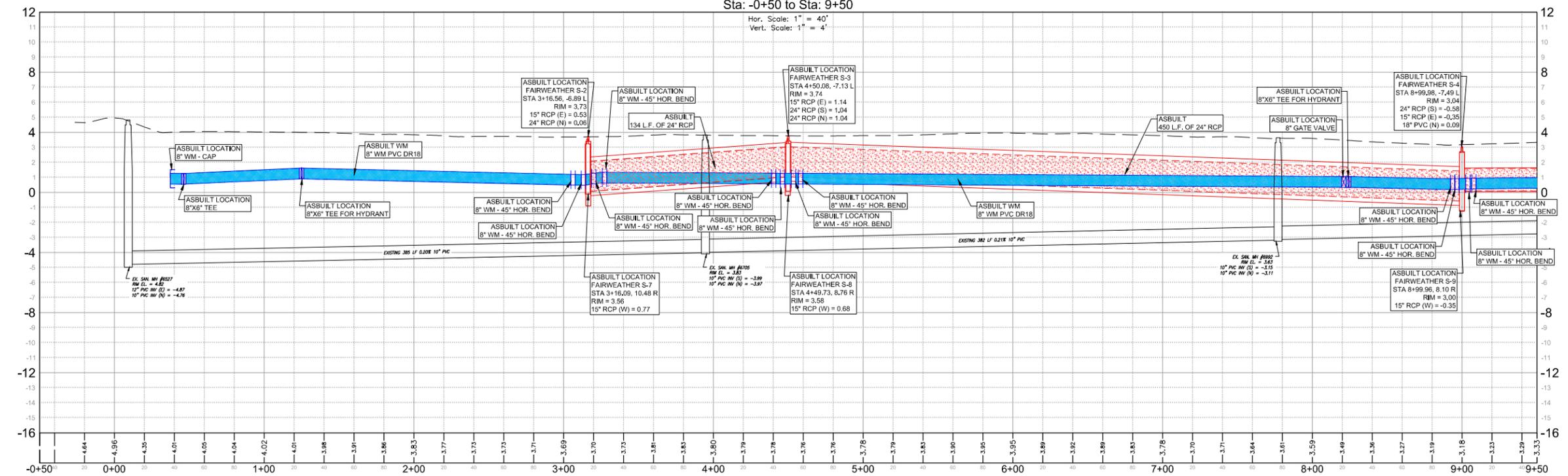
RECORD DRAWINGS

SHEET NUMBER

06



Profile View of Fairweather Lane
Sta: -0+50 to Sta: 9+50



RECORD DRAWING

PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
▨ AS-BUILT DRAINAGE
▨ AS-BUILT WATER MAIN

RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1A
LEE COUNTY, FLORIDA

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |
| | | |
| | | |
| | | |

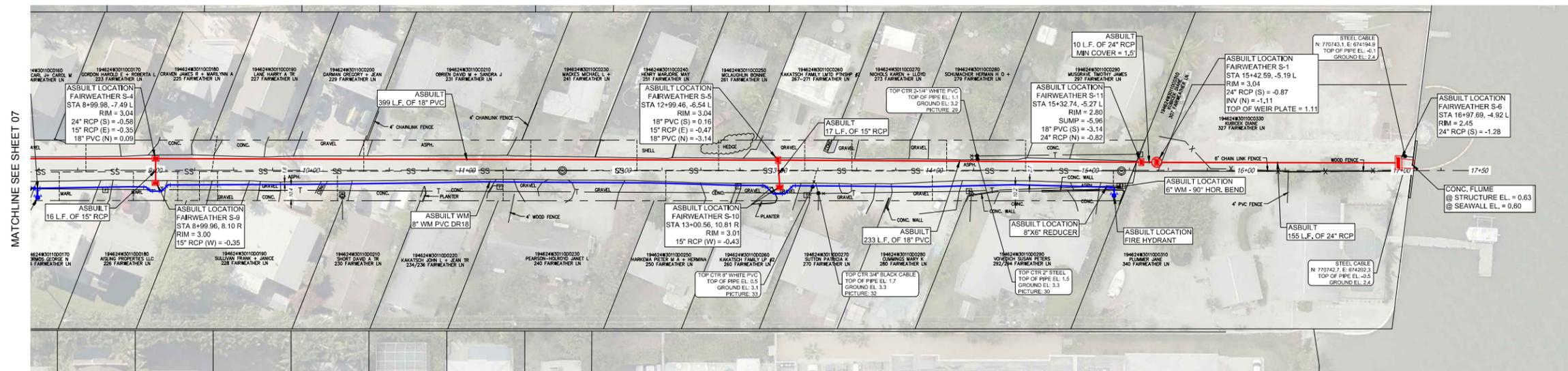
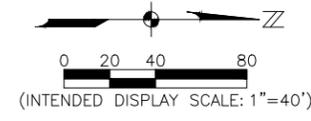
DATE: FEBRUARY 19, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
FAIRWEATHER LANE
STATION -0+50_TO_9+50

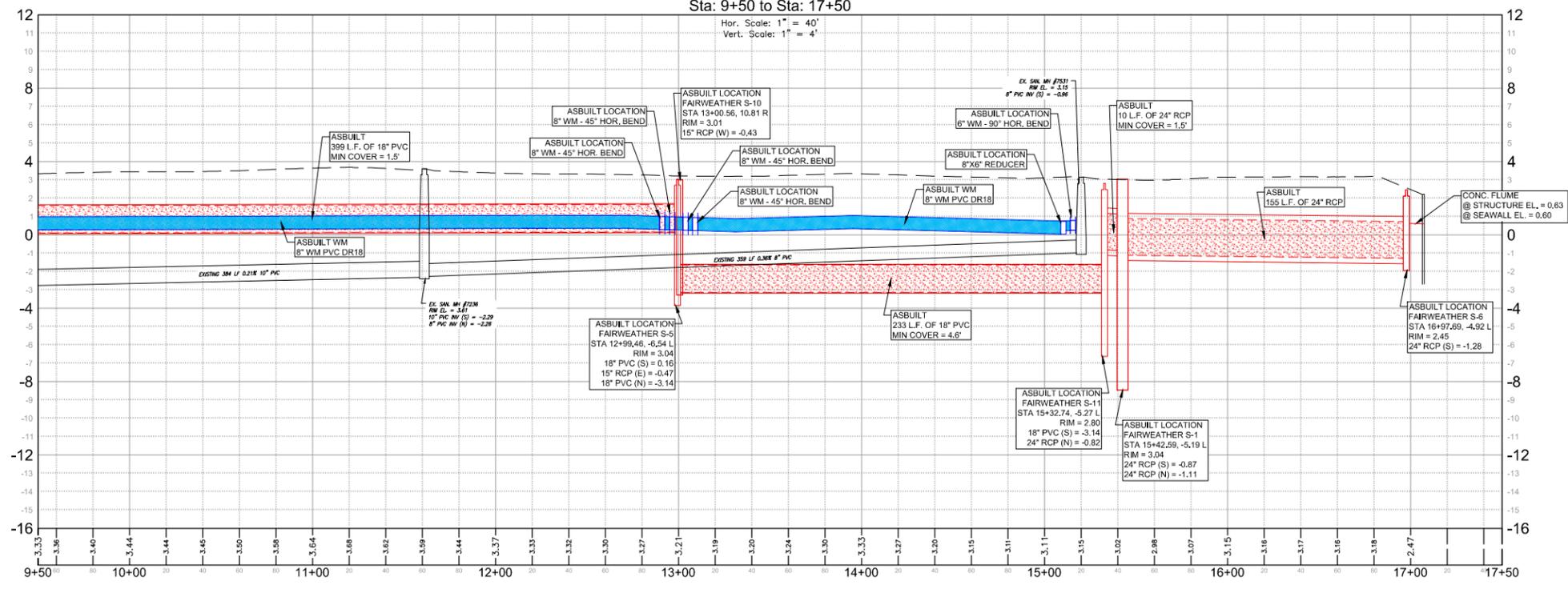
RECORD DRAWINGS

SHEET NUMBER

07



Profile View of Fairweather Lane
Sta: 9+50 to Sta: 17+50



RECORD DRAWING

PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
 AS-BUILT DRAINAGE
 AS-BUILT WATER MAIN

RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1A
LEE COUNTY, FLORIDA

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |
| | | |
| | | |
| | | |

DATE: FEBRUARY 19, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
FAIRWEATHER LANE
STATION
9+50_TO_17+50

RECORD DRAWINGS

SHEET NUMBER

FOR DRAINAGE
RECORD DRAWING
FL License No. 689721

FOR WATER MAIN
RECORD DRAWING
MICHAEL S. DICKEY, PE
FL License No. 689721



RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1A
LEE COUNTY, FLORIDA

REVISIONS

| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| | | |
| | | |
| | | |
| | | |

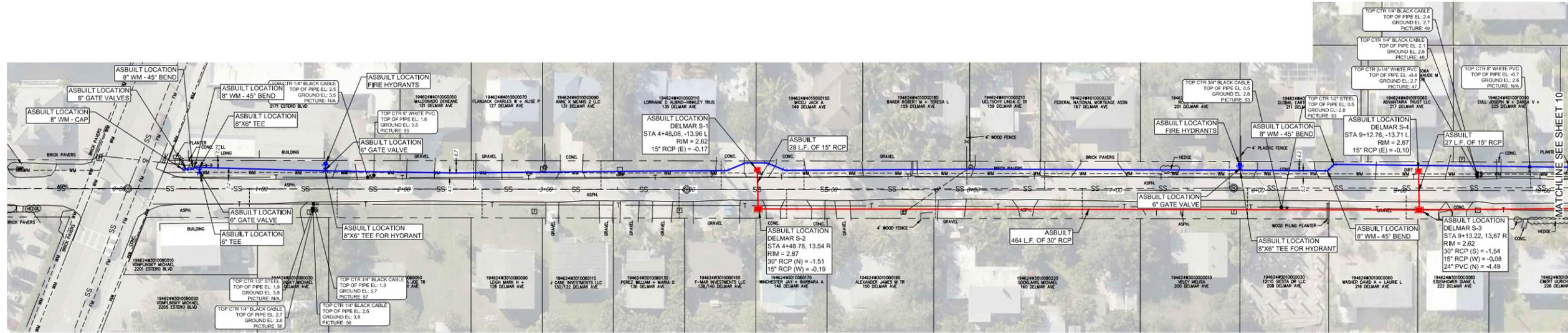
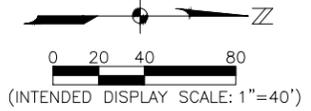
DATE: FEBRUARY 19, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
DELMAR AVENUE
STATION
-0+50_TO_10+00

RECORD DRAWINGS

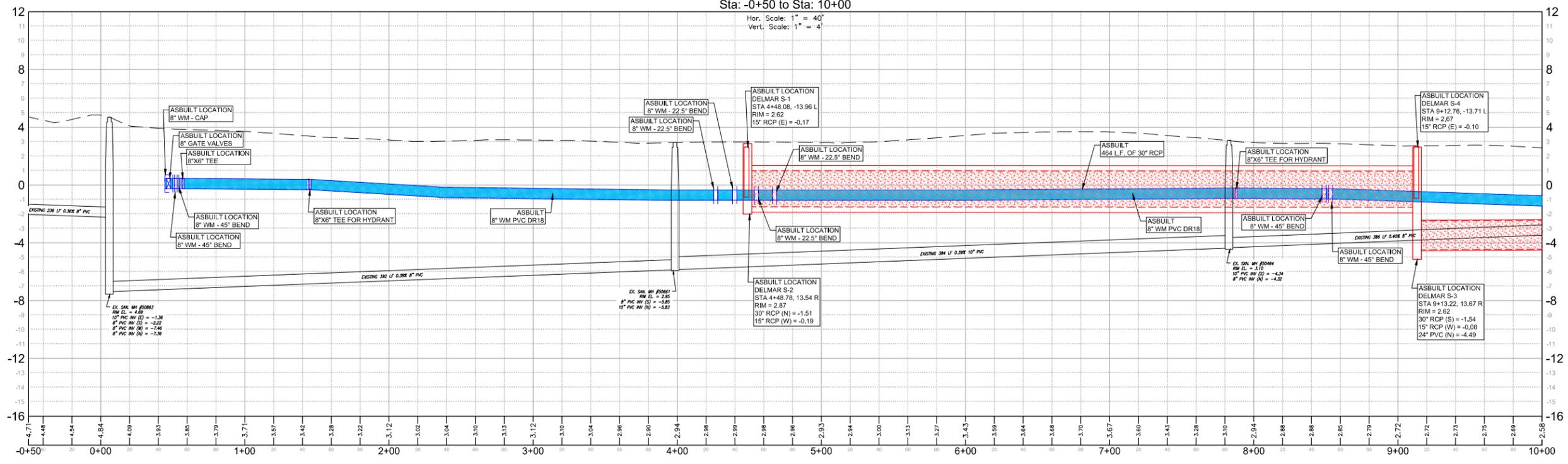
SHEET NUMBER

09



Profile View of Delmar Avenue
Sta: -0+50 to Sta: 10+00

Hor. Scale: 1" = 40'
Vert. Scale: 1" = 4'



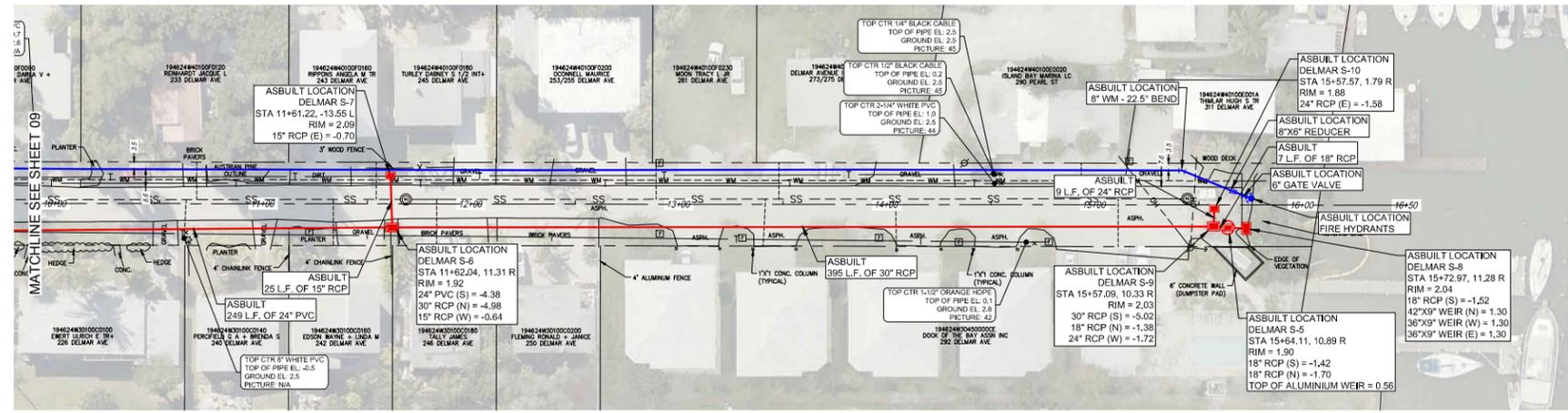
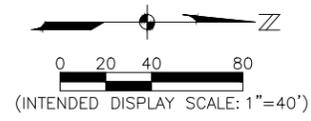
RECORD DRAWING

PLAN VIEW

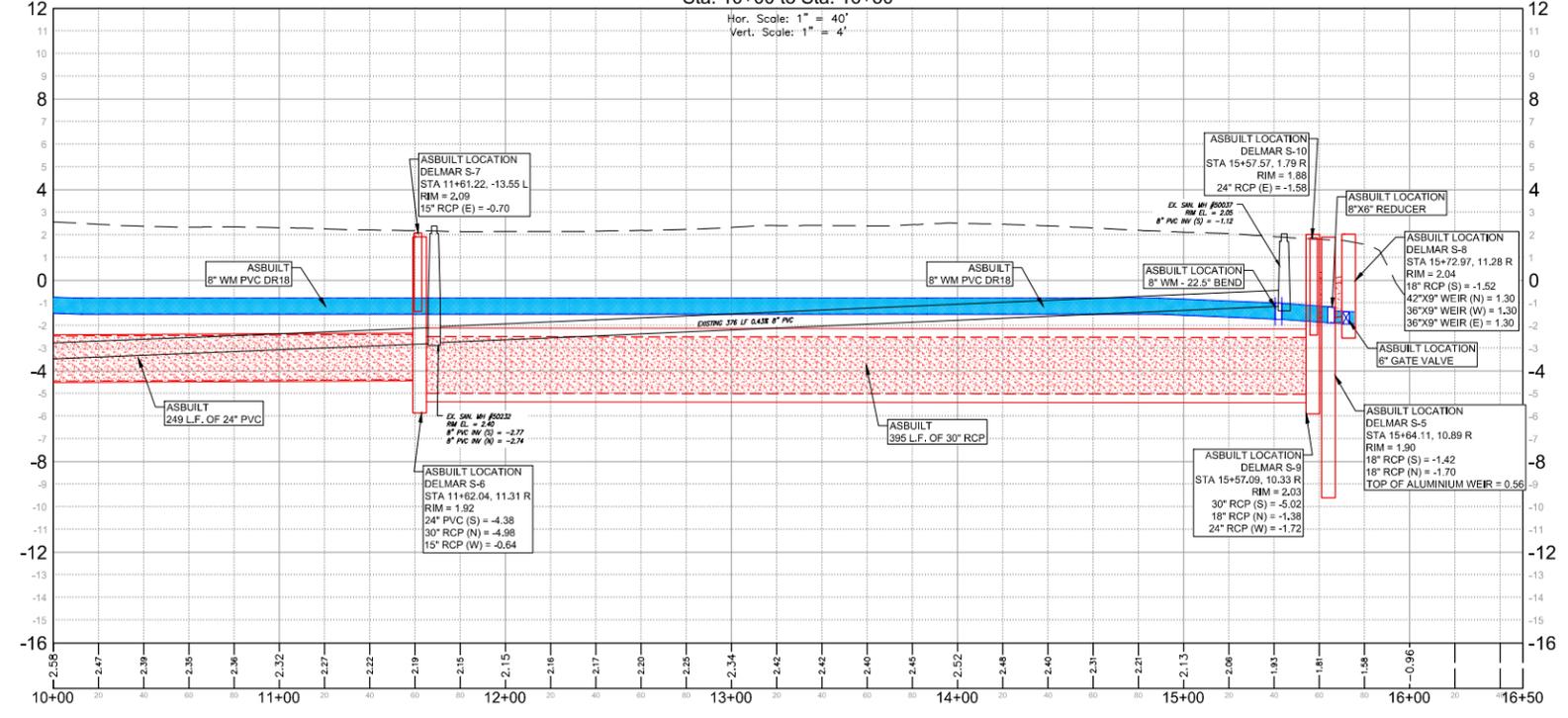
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW

AS-BUILT DRAINAGE
AS-BUILT WATER MAIN



Profile View of Delmar Avenue
Sta: 10+00 to Sta: 16+50



RECORD DRAWING

PLAN VIEW
 — AS-BUILT DRAINAGE
 — AS-BUILT WATER MAIN

PROFILE VIEW
 [Red Hatched] AS-BUILT DRAINAGE
 [Blue] AS-BUILT WATER MAIN

JOHNSON ENGINEERING
 2122 JOHNSON STREET
 P.O. BOX 1550
 FORT MYERS, FLORIDA 33902-1550
 PHONE (239) 334-0046
 FAX (239) 334-3661
 E.B. #642 & L.B. #642

FOR DRAINAGE
 RICK STRATTON
 FL License No. 687121

FOR WATER MAIN
 MICHAEL S. DICKEY, PE
 FL License No. 60057



RECORD DRAWINGS
 WATER MAIN REPLACEMENT AND
 DRAINAGE IMPROVEMENTS FOR THE
 BASIN BASED NEIGHBORHOOD
 PHASE-1A
 LEE COUNTY, FLORIDA

| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| | | |
| | | |
| | | |
| | | |

DATE: FEBRUARY 19, 2015
 PROJECT NO. 20139512-000
 FILE NO. 19-46-24
 SCALE: As Shown

PLAN & PROFILE
 DELMAR AVENUE
 STATION
 10+00_TO_16+50

RECORD DRAWINGS
 SHEET NUMBER



RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1A
LEE COUNTY, FLORIDA

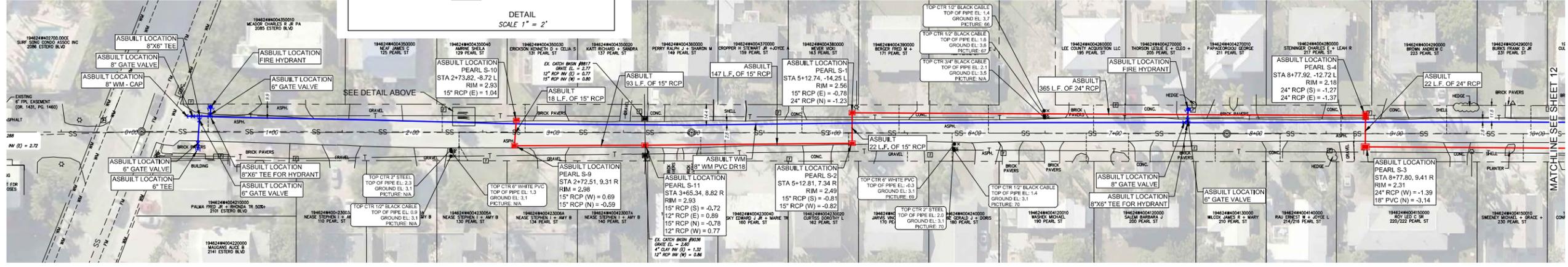
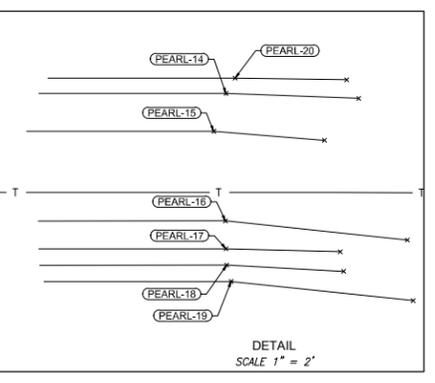
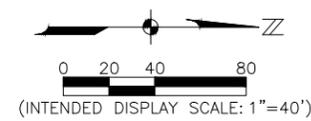
| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |
| | | |
| | | |
| | | |

DATE: FEBRUARY 19, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
PEARL STREET
STATION
-0+50_TO_10+00

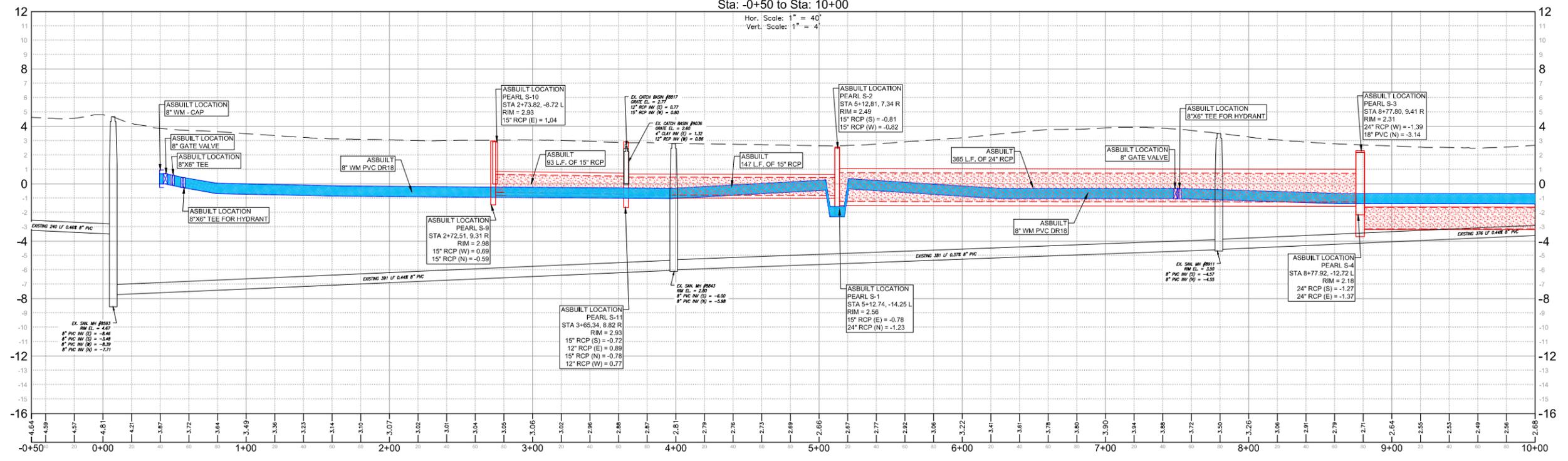
RECORD DRAWINGS

SHEET NUMBER



Profile View of Pearl Street
Sta: -0+50 to Sta: 10+00

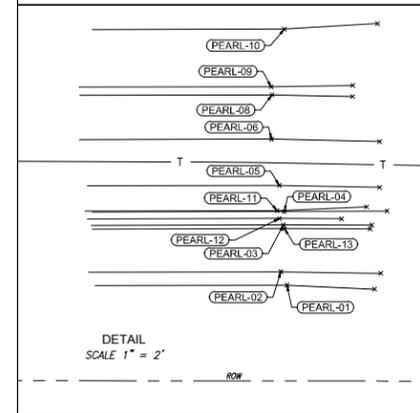
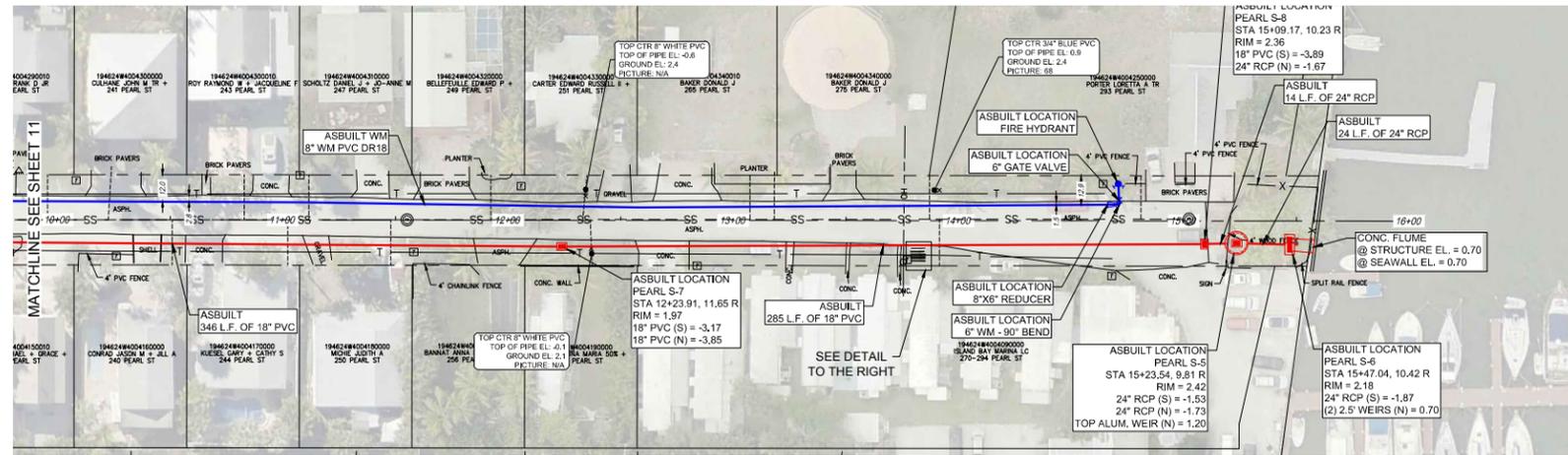
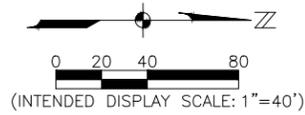
Hor. Scale: 1" = 40'
Vert. Scale: 1" = 4'



RECORD DRAWING

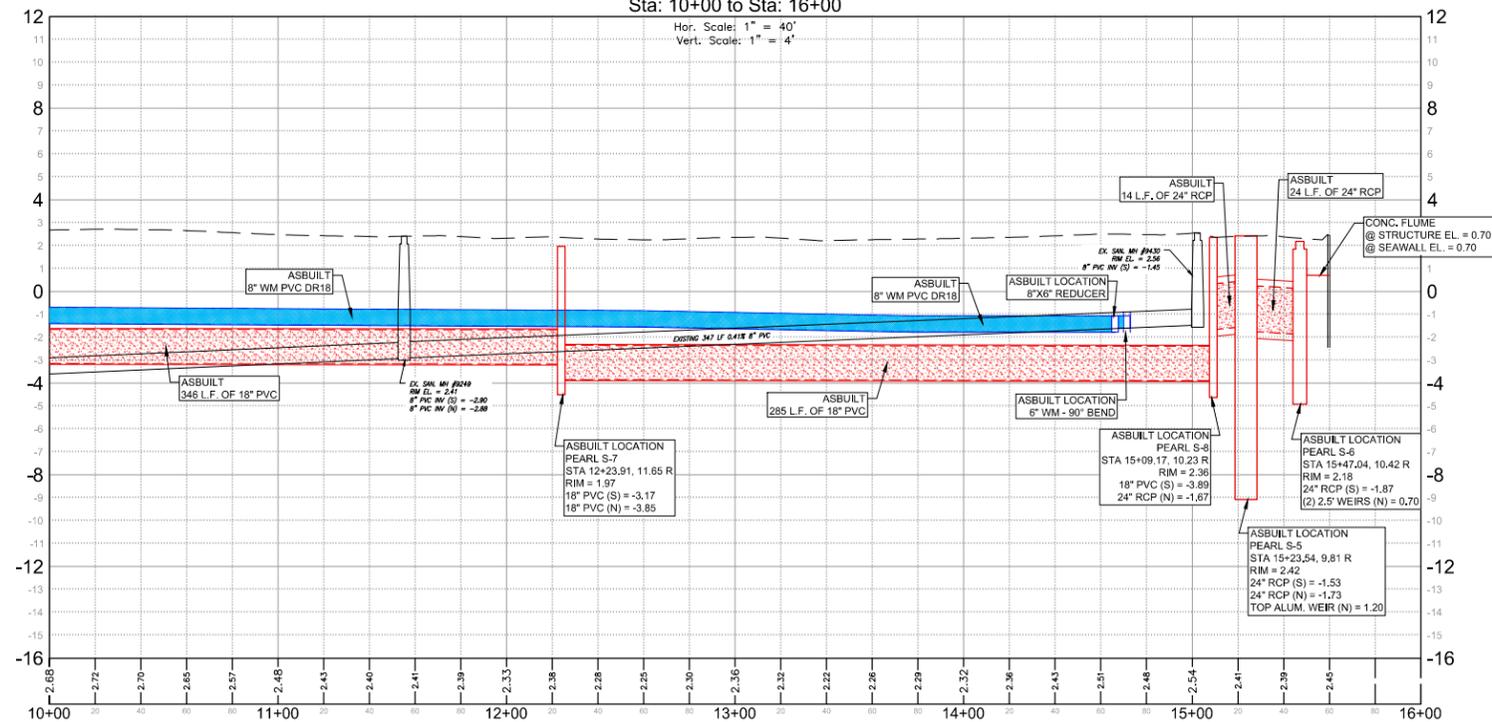
PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
--- AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN



Profile View of Pearl Street
Sta: 10+00 to Sta: 16+00

Hor. Scale: 1" = 40'
Vert. Scale: 1" = 4'



RECORD DRAWING

PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
 AS-BUILT DRAINAGE
 AS-BUILT WATER MAIN



RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1A
LEE COUNTY, FLORIDA

| NO. | REVISIONS | DATE |
|-----|-----------|------|
| | | |
| | | |
| | | |
| | | |

DATE: FEBRUARY 19, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
PEARL STREET
STATION
10+00_TO_16+00

RECORD DRAWINGS

SHEET NUMBER



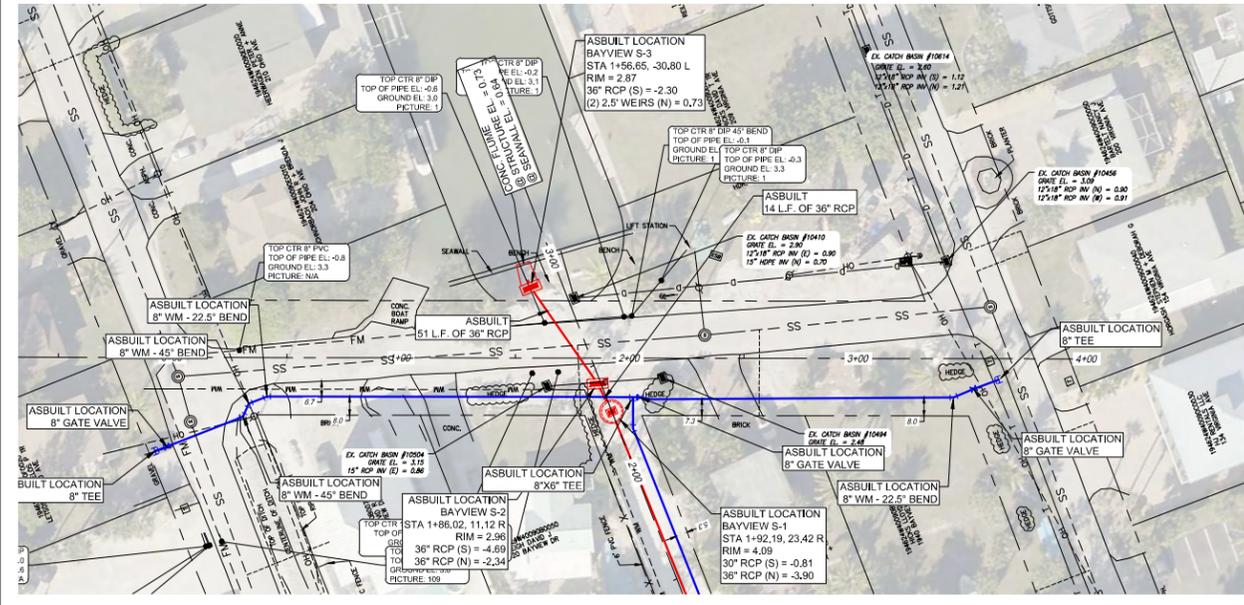
| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |
| | | |
| | | |

DATE: FEBRUARY 19, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

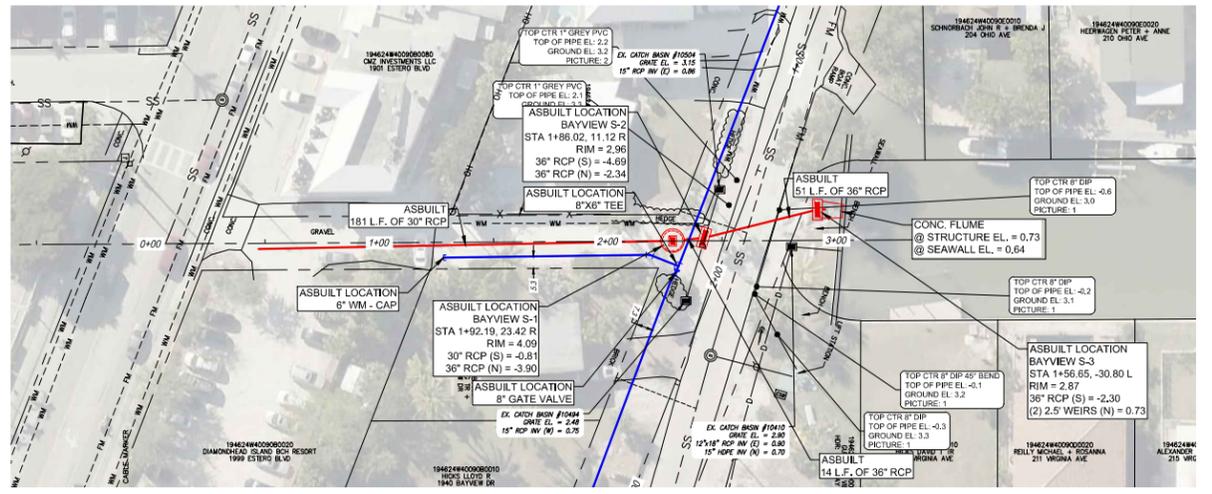
PLAN & PROFILE
BAYVIEW DRIVE &
ALLEY BETWEEN
BAYVIEW & ESTERO
BLVD.

RECORD DRAWINGS
SHEET NUMBER

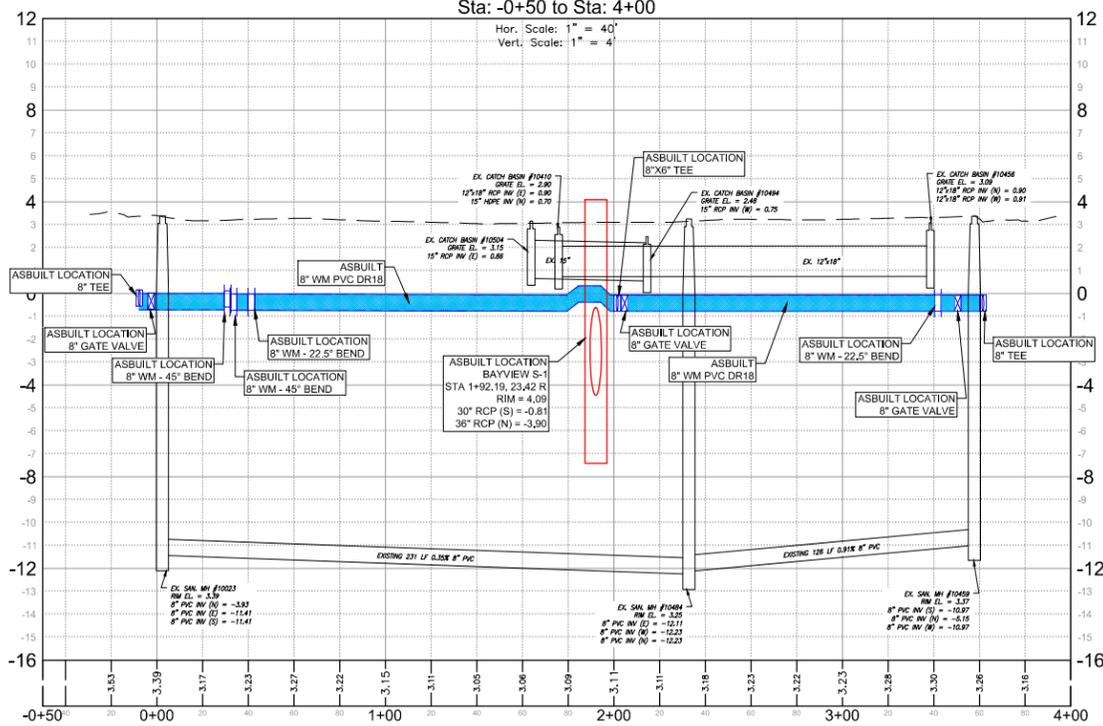
0 20 40 80
(INTENDED DISPLAY SCALE: 1"=40')



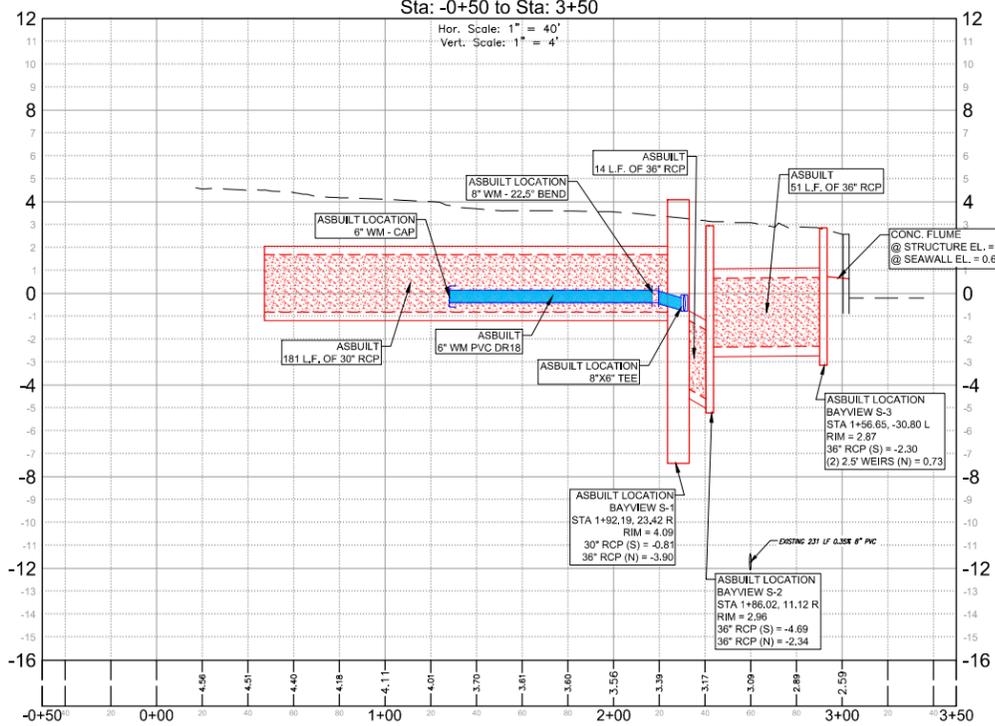
0 20 40 80
(INTENDED DISPLAY SCALE: 1"=40')



Profile View of Bayview Drive
Sta: -0+50 to Sta: 4+00



Profile View of Bayview (Alley)
Sta: -0+50 to Sta: 3+50

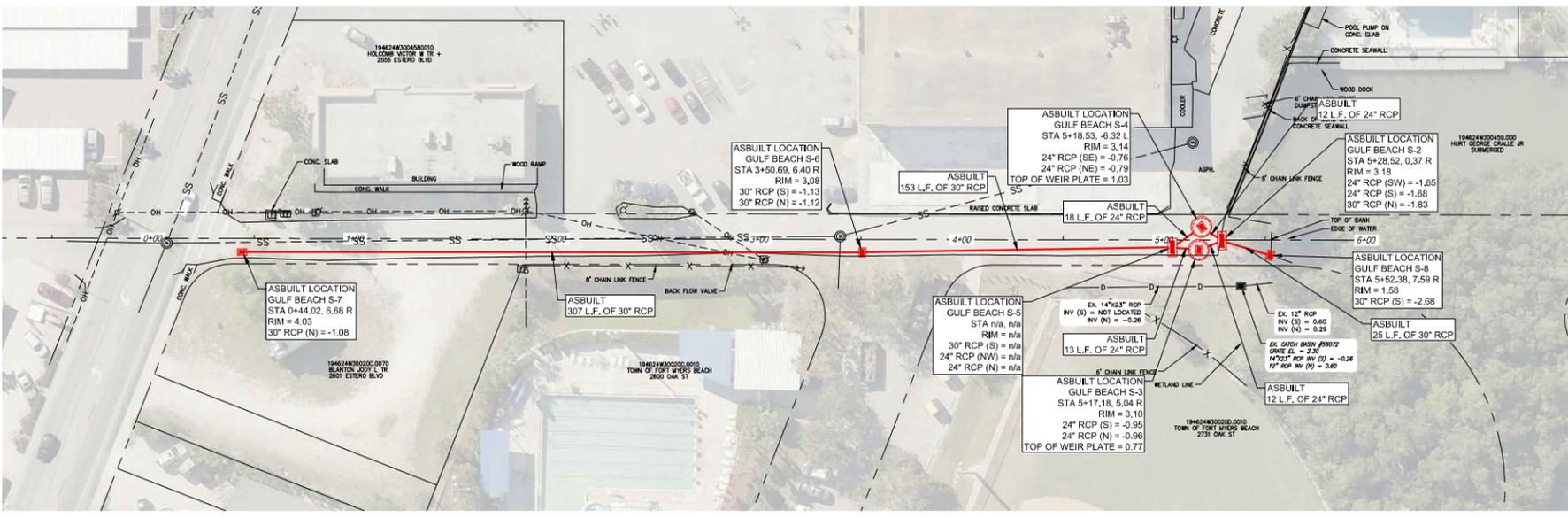
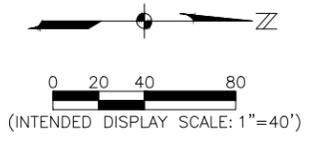


RECORD DRAWING

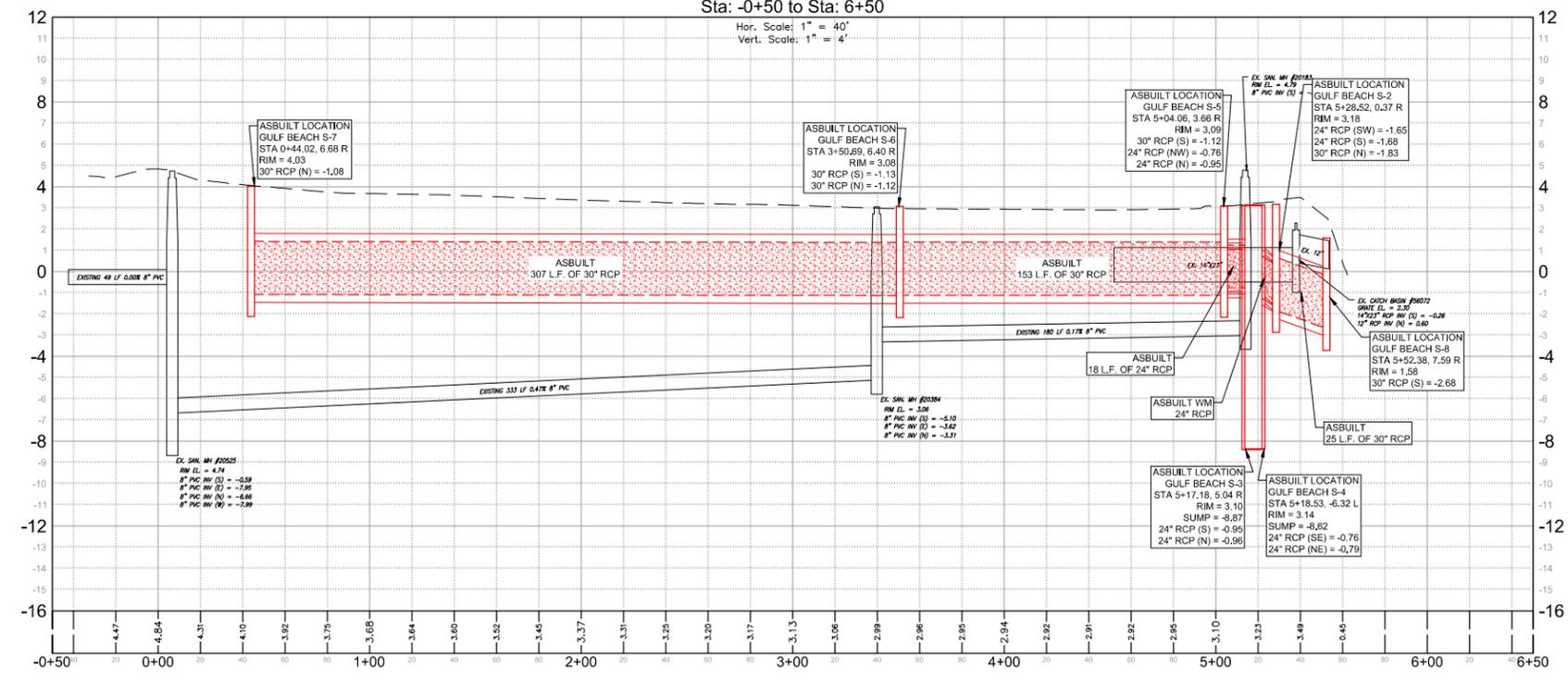
PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
 AS-BUILT DRAINAGE
 AS-BUILT WATER MAIN

FOR DRAINAGE REVISIONS: RICK STREIBER, PE, FL License No. 68121
FOR WATER MAIN REVISIONS: MICHAEL S. DICKEY, PE, FL License No. 60057



Profile View of Gulf Beach Road
Sta: -0+50 to Sta: 6+50



RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1A
LEE COUNTY, FLORIDA

| NO. | REVISIONS | DATE |
|-----|-----------|------|
| | | |
| | | |
| | | |
| | | |

DATE: FEBRUARY 19, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
GULF BEACH ROAD
STATION -0+50_TO_6+50

RECORD DRAWINGS
SHEET NUMBER

RECORD DRAWING

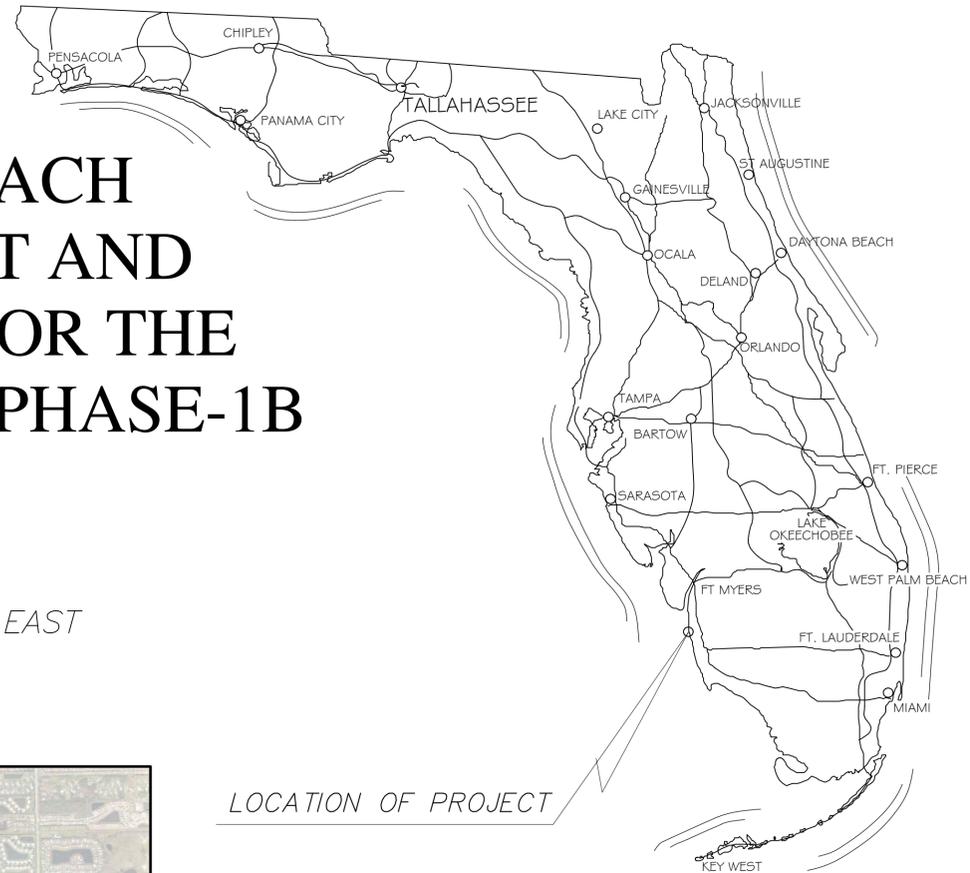
PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
 AS-BUILT DRAINAGE
 AS-BUILT WATER MAIN



TOWN OF FORT MYERS BEACH WATER MAIN REPLACEMENT AND DRAINAGE IMPROVEMENTS FOR THE BASIN BASED NEIGHBORHOOD PHASE-1B

FOR
Town of Fort Myers Beach
LOCATED IN
SECTION 19, TOWNSHIP 46 SOUTH, RANGE 24 EAST
LEE COUNTY, FLORIDA
FEBRUARY 24, 2015



| Sheet List Table | |
|------------------|---|
| Sheet No. | Sheet Title |
| 01 | Cover |
| 02 | Notes & Key Map |
| Plan & Profile | |
| 03 | Carolina Avenue Station -0+50_to_9+00 |
| 04 | Carolina Avenue Station 9+00_to_13+00 |
| 05 | Ostego Drive Station -0+50_to_8+50 |
| 06 | Ostego Drive Station 8+50_to_12+00 |
| 07 | Miramar Street Station -0+50_to_10+00 |
| 08 | Miramar Street Station 10+00_to_14+50 |
| 09 | Ohio Avenue Station -0+50_to_7+00 |
| 10 | Ohio Avenue Station 7+00_to_14+50 |
| 11 | Virginia Avenue Station -0+50_to_7+00 |
| 12 | Virginia Avenue Station 7+00_to_15+00 |
| 13 | Chapel Street Station -0+50_to_7+00 |
| 14 | Mango (Gulf Side) Station -0+50_to_3+50 |
| 15 | Cottage Avenue Station -0+50_to_7+00 |
| 16 | Alva Drive Station -0+50_to_2+00 |
| 17 | Avenue E Station -0+50_to_2+50 |
| 18 | I Street Station 1+00_to_4+50 |
| 19 | Delmar Avenue (Gulf Side) Station -0+50_to_3+00 |
| 20 | Palm Avenue (Gulf Side) Station -0+50_to_3+50 |
| 21 | Pearl Street (Gulf Side) Station -0+50_to_3+50 |



LOCATION MAP
N.T.S.

PROJECT SITE

LOCATION OF PROJECT



RECORD DRAWING
February 24, 2015

For Information Regarding
This Project, Contact:
Michael S. Dickey, PE (Water Main)
Ricardo Acosta, PE (Drainage)

MICHAEL S. DICKEY, PE
FL License No. 60057

RICARDO ACOSTA, PE
FL License No. 69121

DESIGN CONSULTANT



2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE (239) 334-0046
FAX (239) 334-3661
E.B. #642 & L.B. #642

**JOHNSON
ENGINEERING**

2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE (239) 334-0046
FAX (239) 334-3661
E.B. #642 & L.B. #642

FOR DRAINAGE
PE
MICHAEL S. DICKEY, PE
FL License No. 60057

FOR WATER MAIN
PE
MICHAEL S. DICKEY, PE
FL License No. 60057



RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1B
LEE COUNTY, FLORIDA

| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| | | |
| | | |
| | | |
| | | |

DATE: FEBRUARY 24, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: AS SHOWN

COVER
RECORD DRAWINGS
SHEET NUMBER
01



OSTEGO BAY

GULF OF MEXICO

RECORD DRAWING
February 24, 2015



0 100 200 400

(INTENDED DISPLAY SCALE: 1"=200')

NOTICE TO ALL CONTRACTORS
IT'S THE LAW IN FLORIDA
2 BUSINESS DAYS BEFORE YOU DIG
CALL SUNSHINE 1-800-432-4770
STATE, COUNTIES & CITIES ARE "NOT"
PART OF THE ONE CALL SYSTEM.
THEY MUST BE CALLED INDIVIDUALLY.

STATE OF FLORIDA DOT
ALL INTERSTATE RIGHT-OF-WAY
HIGHWAY LIGHTING
7-DAY NOTICE REQUIRED
239-656-7811
239-656-7742 FAX



JOHNSON ENGINEERING

2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE (239) 334-0046
FAX (239) 334-3661
E.B. #642 & L.B. #642

FOR DRAINAGE
RICK
FL License No. 69121

FOR WATER MAIN
MICHAEL S. DICKEY, PE
FL License No. 60037



RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1B
LEE COUNTY, FLORIDA

SEPARATION OF WATER AND SEWER LINES

| HORIZONTAL SEPARATION OF PIPELINES | |
|-------------------------------------|--|
| Minimum Separation Distance | Between The Outside Of The Water Main And The Outside Of Any Existing Or Proposed |
| Three feet | Storm sewer, stormwater force main, or reclaimed water main |
| Three feet, and preferably ten feet | Vacuum-type sanitary sewer. |
| Six feet, and preferably ten feet | Gravity- or pressure-type sanitary sewer, wastewater force main, or reclaimed water main not regulated under part III of chapter 62-610, F.A.C. The minimum horizontal separation distance between water mains and gravity-type sanitary sewers shall be reduced to three feet where the bottom of the water main is laid at least six inches above the top of the sewer. |
| Ten feet | "On-site sewage treatment and disposal system" |

| VERTICAL SEPARATION OF PIPELINES | |
|---|---|
| Minimum Separation Distance From The (Outside To The Outside) | New Or Relocated, Underground Water Mains Crossing Any Existing Or Proposed |
| Six inches, and preferably 12 inches above | Gravity- or vacuum-type sanitary sewer or storm sewer |
| 12 inches below | Gravity- or vacuum-type sanitary sewer or storm sewer |
| 12 inches above or below | Pressure-type sanitary sewer, wastewater, stormwater force main, or pipeline conveying reclaimed water main |
| One full length of water main pipe shall be centered above or below the other pipeline so the water main joints will be as far as possible from the other pipeline. Alternatively, the pipes shall be arranged so that all water main joints are at least three feet from all joints in vacuum-type sanitary sewers, storm sewers, stormwater force mains, or reclaimed water mains, and at least six feet from all joints in gravity- or pressure-type sanitary sewers, wastewater force mains, or reclaimed water mains. | |

- ELEVATION NOTES:**
- Elevations shown are in North American Vertical Datum of 1988 (NAVD88).
 - 10-year Stillwater Elevation for Ostego Bay = 2.5 ft (NAVD88).
 - 10-year Stillwater elevation for the Gulf of Mexico = 4.9 ft (NAVD88).
 - Mean High Water Elevation for Ostego Bay = 0.14 ft (NAVD88).

ALTERNATE CONSTRUCTION

- Where an underground water main is being laid less than the required minimum horizontal distance from another pipeline and where an underground water main is crossing another pipeline and joints in the water main are being located less than the required minimum distance from joints in the other pipeline
- Use of pressure-rated pipe conforming to the American Water Works Association standards incorporated into Rule 62-555.330, F.A.C., for the other pipeline if it is a gravity- or vacuum-type pipeline;
 - Use of welded, fused, or otherwise restrained joints for either the water main or the other pipeline; or
 - Use of watertight casing pipe or concrete encasement at least four inches thick for either the water main or the other pipeline.

Where an underground water main is being laid less than three feet horizontally from another pipeline and where an underground water main is crossing another pipeline and is being laid less than the required minimum vertical distance from the other pipeline

- Use of pipe, or casing pipe, having high impact strength (i.e., having an impact strength at least equal to that of 0.25-inch-thick ductile iron pipe) or concrete encasement at least four inches thick for the water main; and
- Use of pipe, or casing pipe, having high impact strength (i.e., having an impact strength at least equal to that of 0.25-inch-thick ductile iron pipe) or concrete encasement at least four inches thick for the other pipeline if it is new and is conveying wastewater or reclaimed water.

MISC. NOTES:

- Vertical saw cuts through existing pavement and base material are required where new pavement matches to existing pavement.

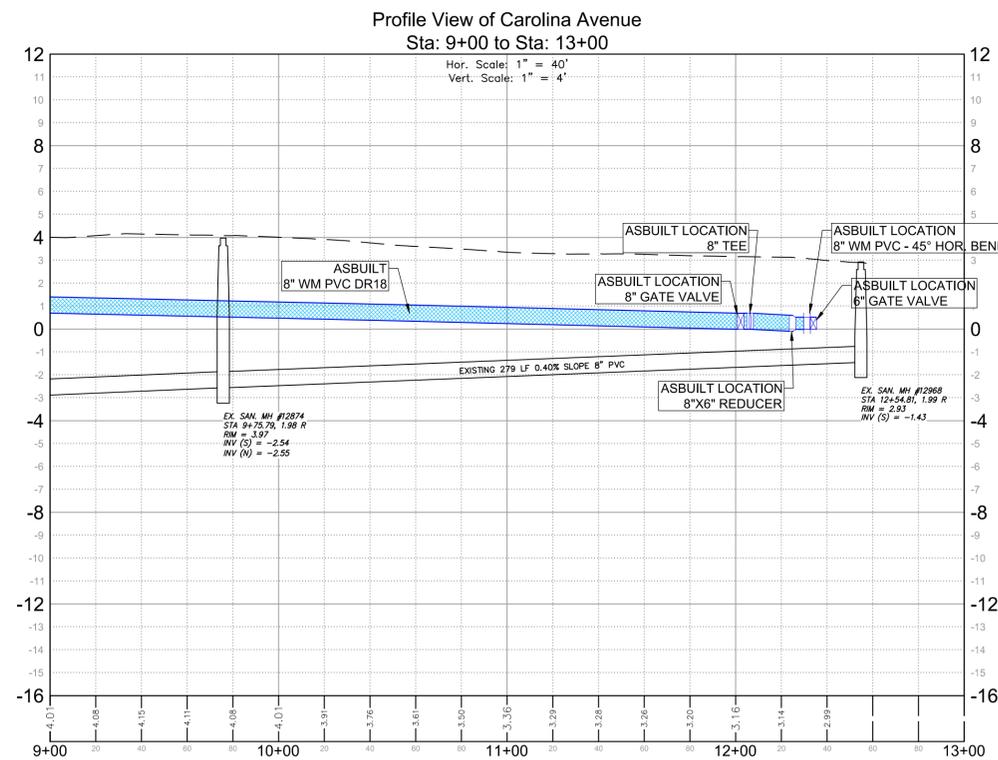
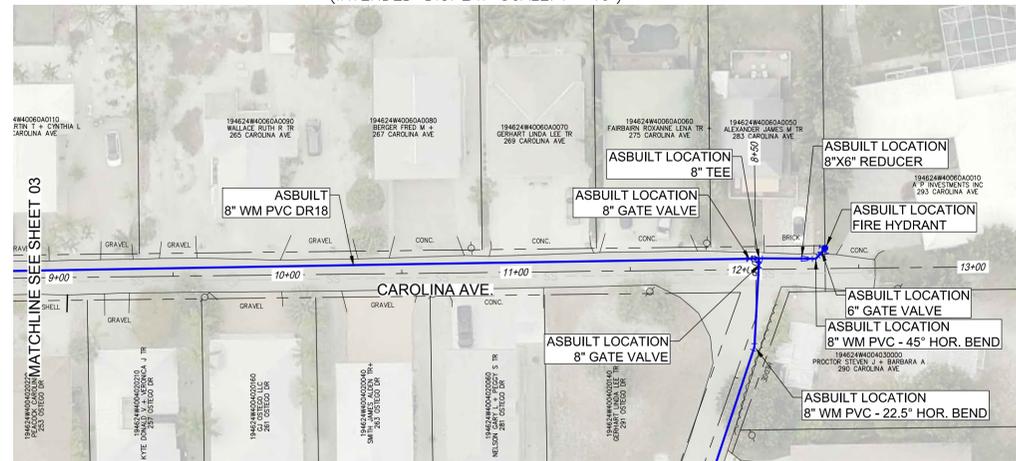
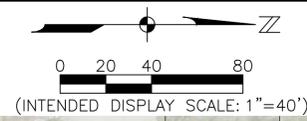
| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| | | |
| | | |
| | | |

DATE: FEBRUARY 24, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: AS SHOWN

NOTES & KEY MAP
RECORD DRAWINGS

SHEET NUMBER

02



RECORD DRAWING

PLAN VIEW
 — AS-BUILT DRAINAGE
 — AS-BUILT WATER MAIN

PROFILE VIEW
 [Patterned Box] AS-BUILT DRAINAGE
 [Solid Blue Box] AS-BUILT WATER MAIN

FOR DRAINAGE
 MICHAEL S. DICKEY, P.E.
 FL License No. 69121

FOR WATER MAIN
 MICHAEL S. DICKEY, P.E.
 FL License No. 60037



RECORD DRAWINGS
 WATER MAIN REPLACEMENT AND
 DRAINAGE IMPROVEMENTS FOR THE
 BASIN BASED NEIGHBORHOOD
 PHASE-1B
 LEE COUNTY, FLORIDA

| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| | | |
| | | |
| | | |
| | | |

DATE: FEBRUARY 24, 2015
 PROJECT NO. 20139512-000
 FILE NO. 19-46-24
 SCALE: As Shown

PLAN & PROFILE
 CAROLINA AVENUE
 STATION
 9+00_TO_13+00

RECORD DRAWINGS
 SHEET NUMBER



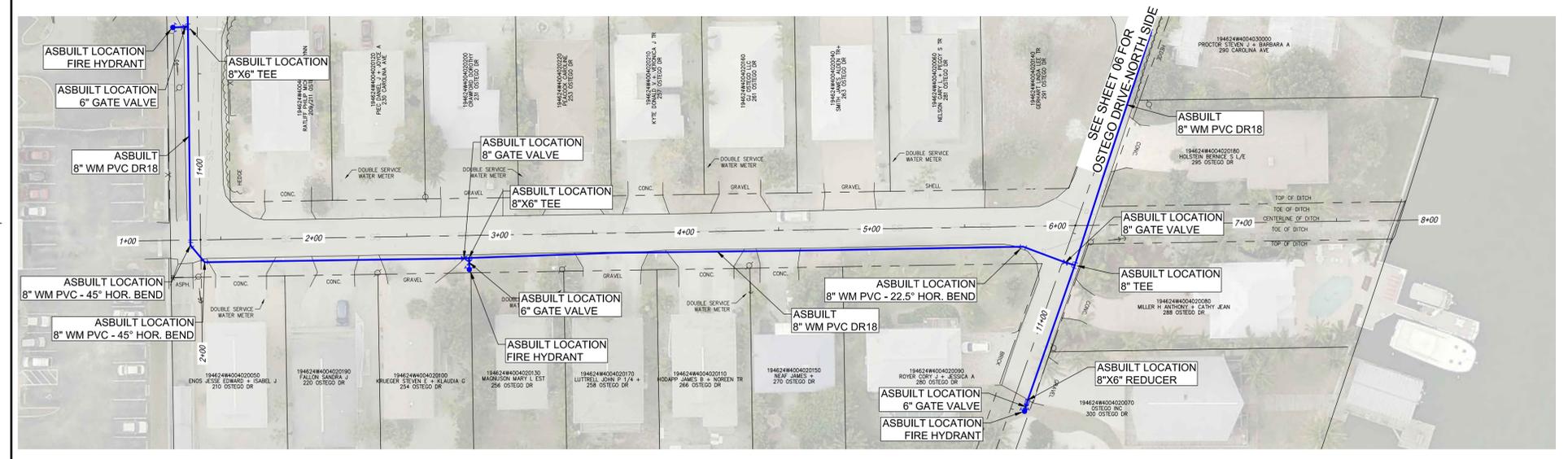
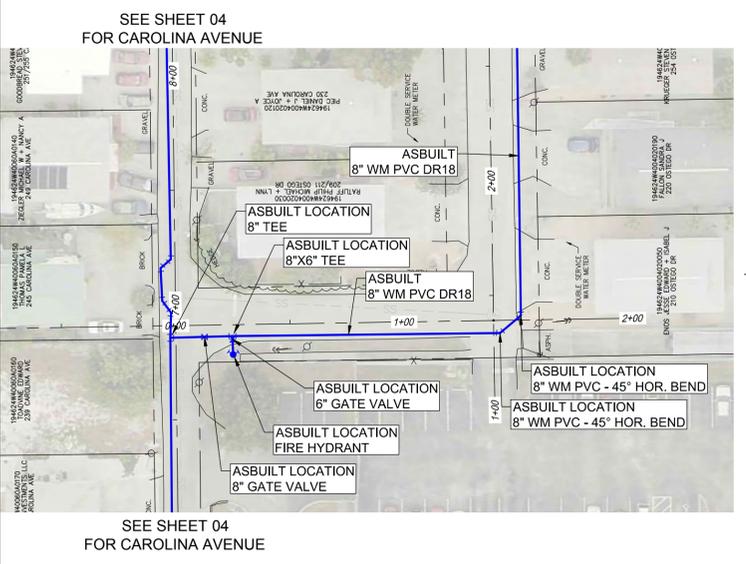
| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| | | |
| | | |
| | | |
| | | |

DATE: FEBRUARY 24, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

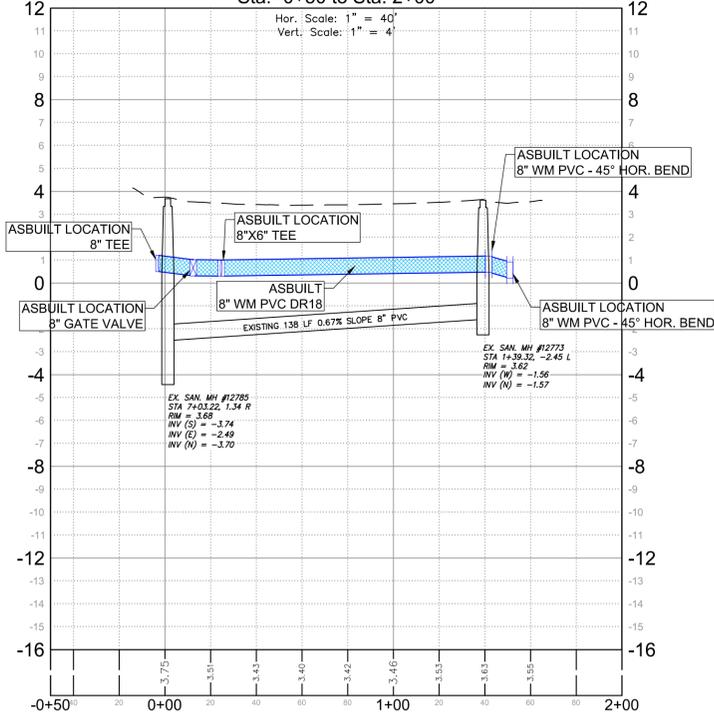
PLAN & PROFILE
OSTEGO DRIVE
STATION -0+50_TO_8+50

RECORD DRAWINGS
SHEET NUMBER

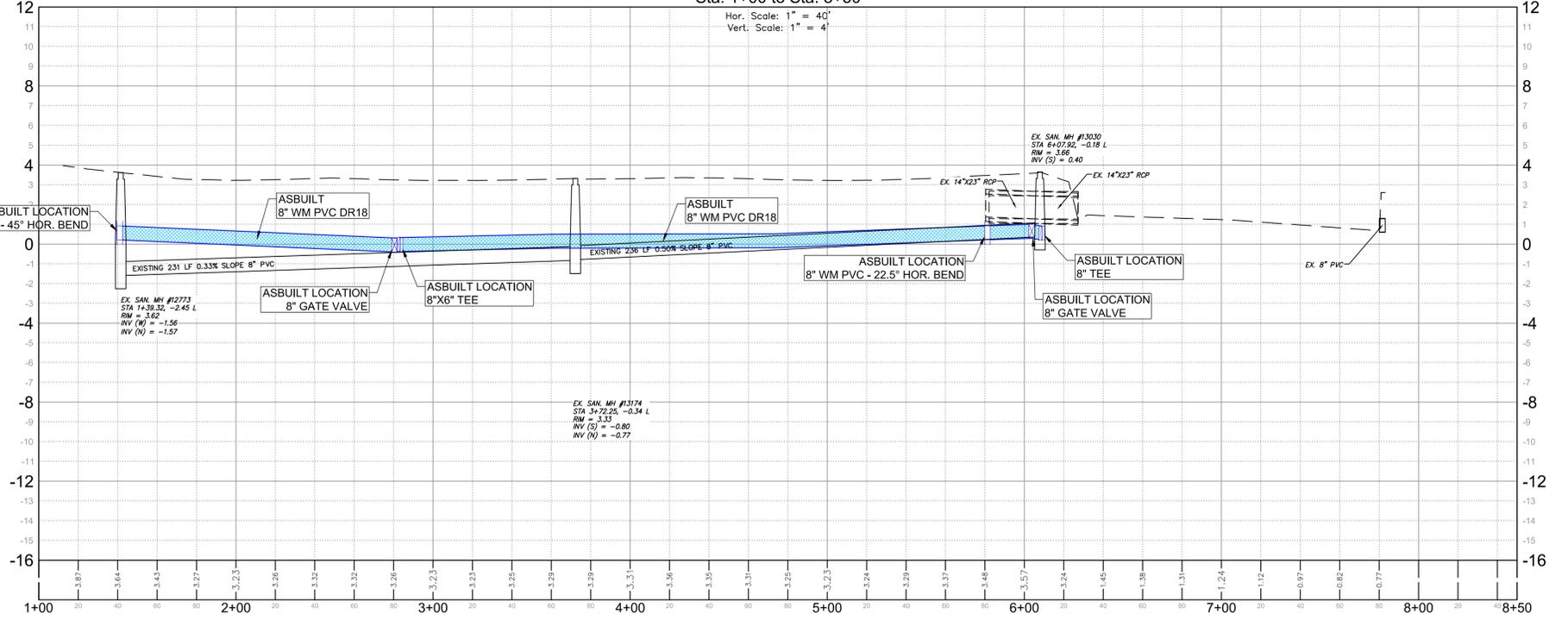
0 20 40 80
(INTENDED DISPLAY SCALE: 1"=40')



Profile View of Ostego Drive (1)
Sta: -0+50 to Sta: 2+00



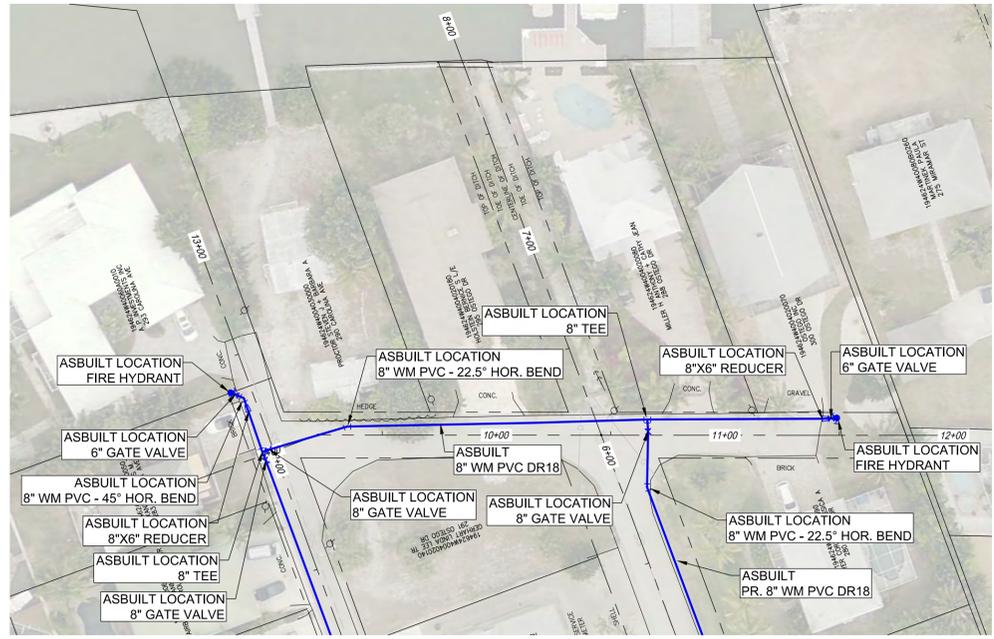
Profile View of Ostego Drive (2)
Sta: 1+00 to Sta: 8+50



RECORD DRAWING

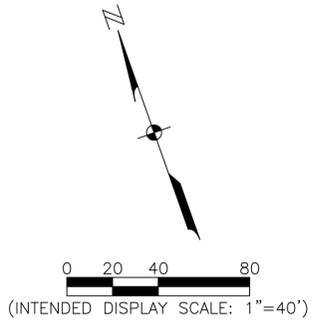
PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
 AS-BUILT DRAINAGE
 AS-BUILT WATER MAIN

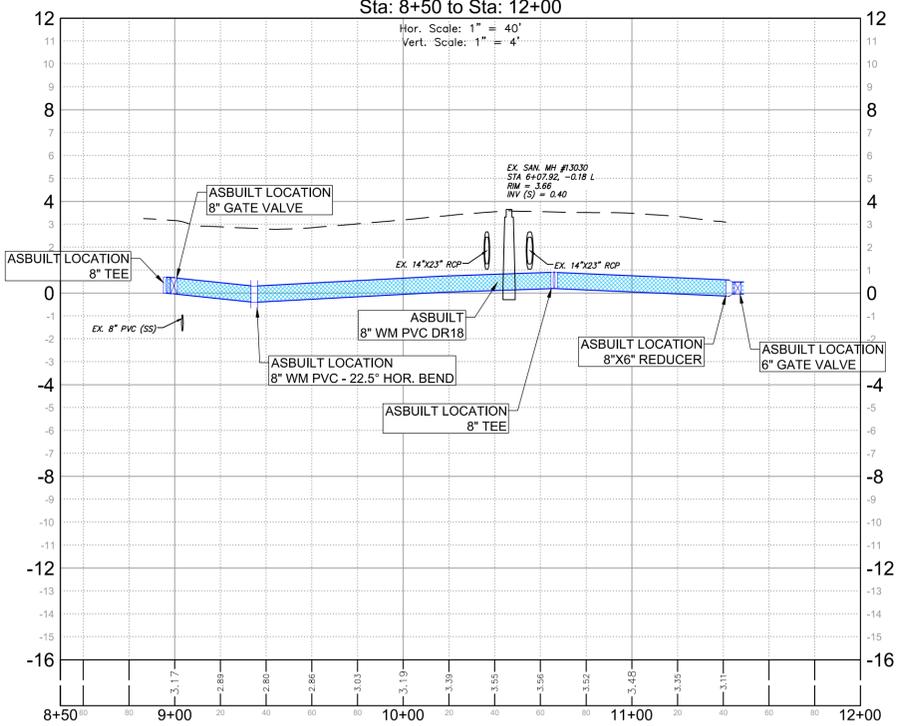


SEE SHEET 04
FOR CAROLINA AVENUE

SEE SHEET 05
FOR OSTEGO DRIVE



Profile View of Ostego Drive-North End
Sta: 8+50 to Sta: 12+00



RECORD DRAWING

PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
 AS-BUILT DRAINAGE
 AS-BUILT WATER MAIN

RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1B
LEE COUNTY, FLORIDA

| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| | | |
| | | |
| | | |
| | | |

DATE: FEBRUARY 24, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
OSTEGO DRIVE
STATION
8+50_TO_12+00

RECORD DRAWINGS
SHEET NUMBER

FOR DRAINAGE
REPLACEMENT
FL License No. 689121

FOR WATER MAIN
REPLACEMENT
MICHAEL S. DICKEY, PE
FL License No. 66037



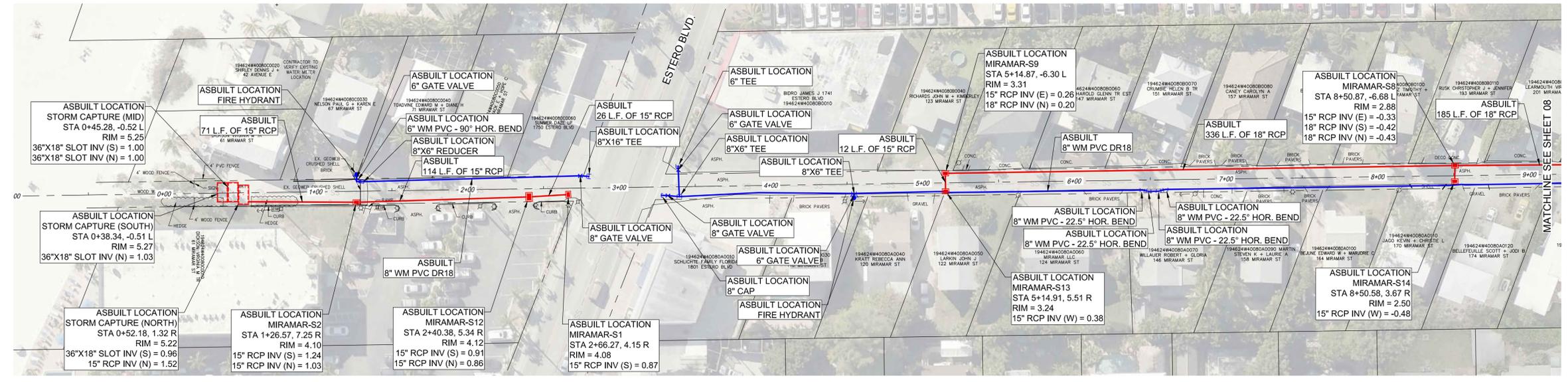
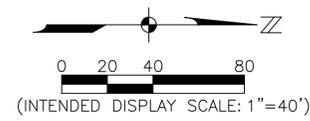
RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1B
LEE COUNTY, FLORIDA

| NO. | DESCRIPTION | DATE |
|-----|--------------------------------|---------|
| 1 | REMOVE (1) STORM CAPTURE UNIT. | 5/20/14 |

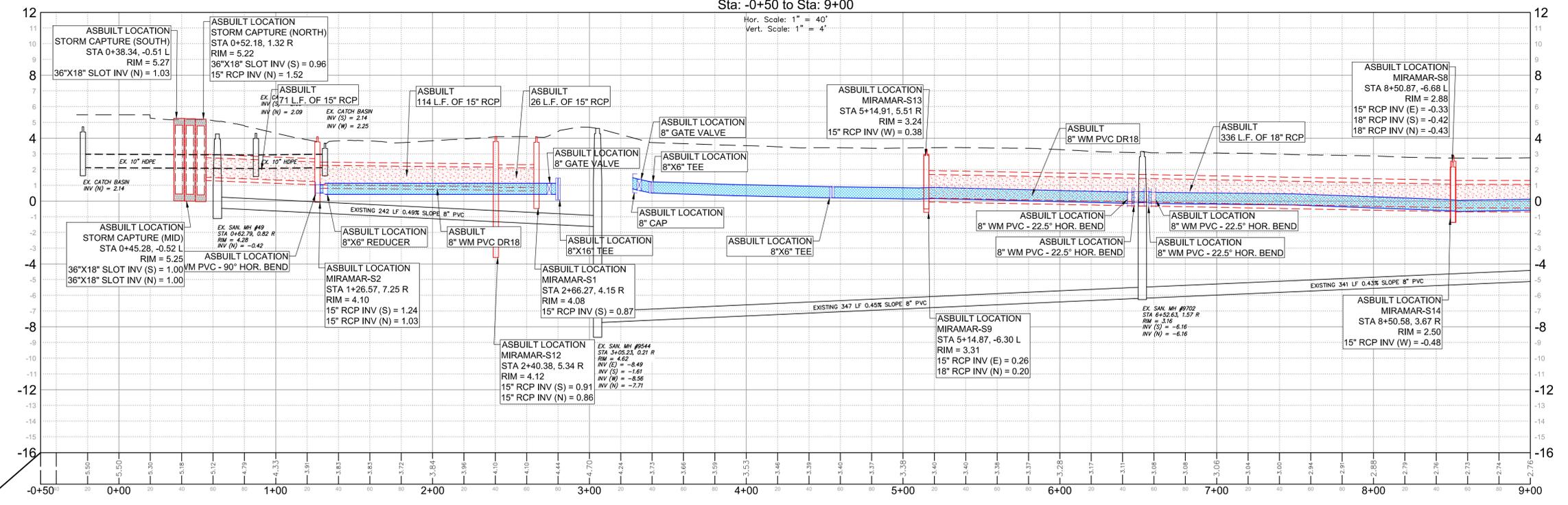
DATE: FEBRUARY 24, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
MIRAMAR STREET
STATION
-0+50_TO_10+00

RECORD DRAWINGS
SHEET NUMBER



Profile View of Miramar Street
Sta: -0+50 to Sta: 9+00



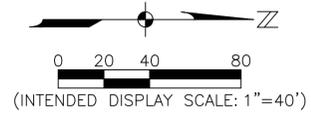
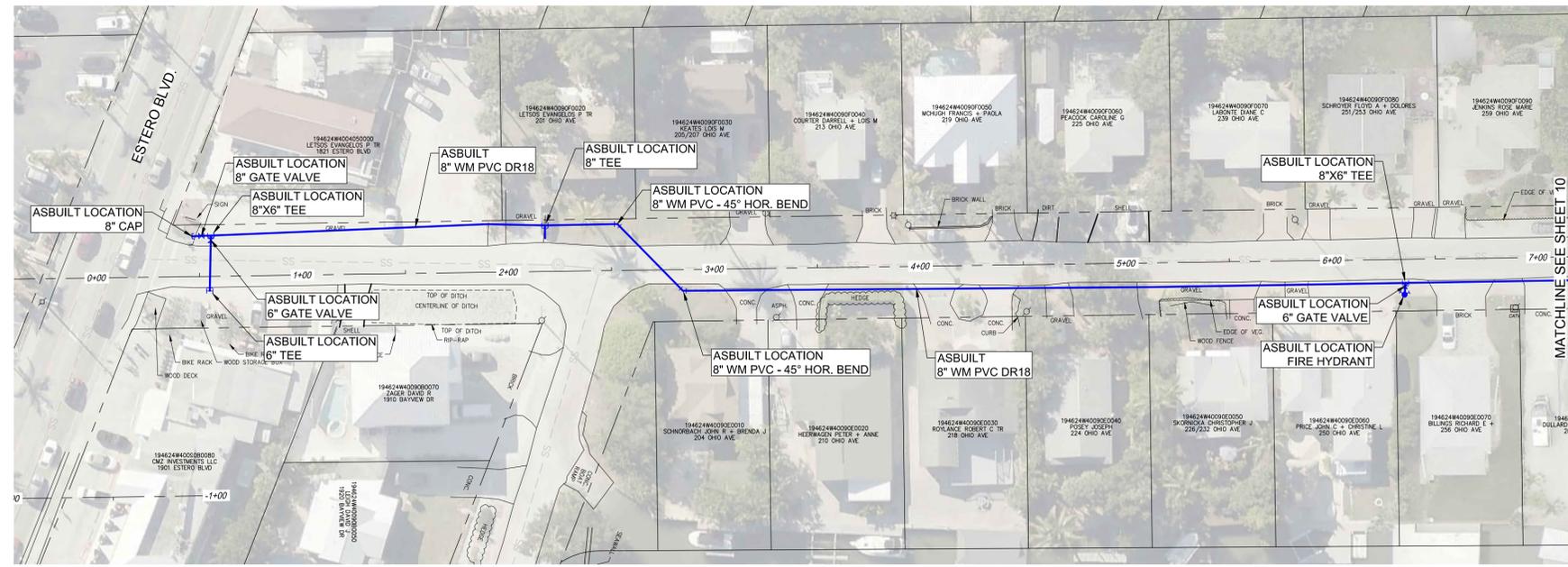
RECORD DRAWING

PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

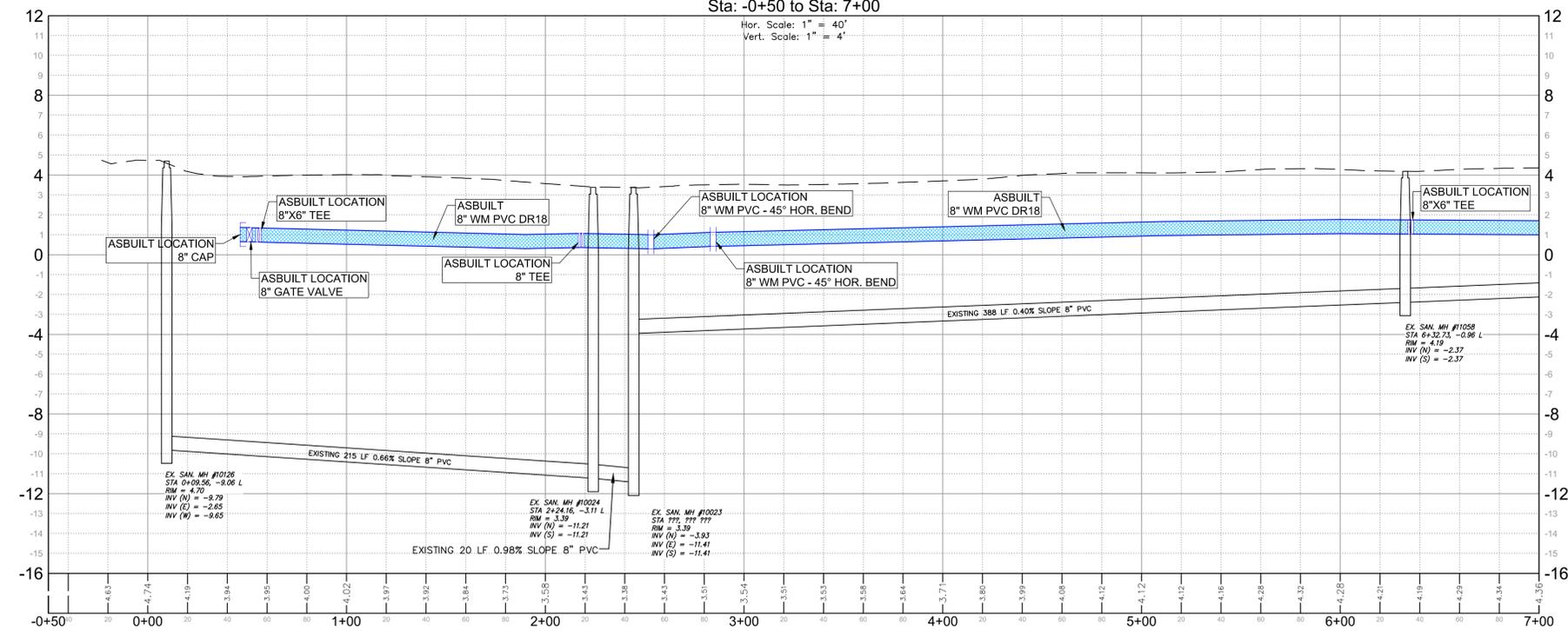
PROFILE VIEW
 AS-BUILT DRAINAGE
 AS-BUILT WATER MAIN

FOR DRAINAGE
RICK W. DE
FL License No. 68721

FOR WATER MAIN
MICHAEL S. DICKEY, PE
FL License No. 60037



Profile View of Ohio Avenue
Sta: -0+50 to Sta: 7+00



RECORD DRAWING

PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
 AS-BUILT DRAINAGE
 AS-BUILT WATER MAIN

RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1B
LEE COUNTY, FLORIDA

| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| | | |
| | | |
| | | |
| | | |

DATE: FEBRUARY 24, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

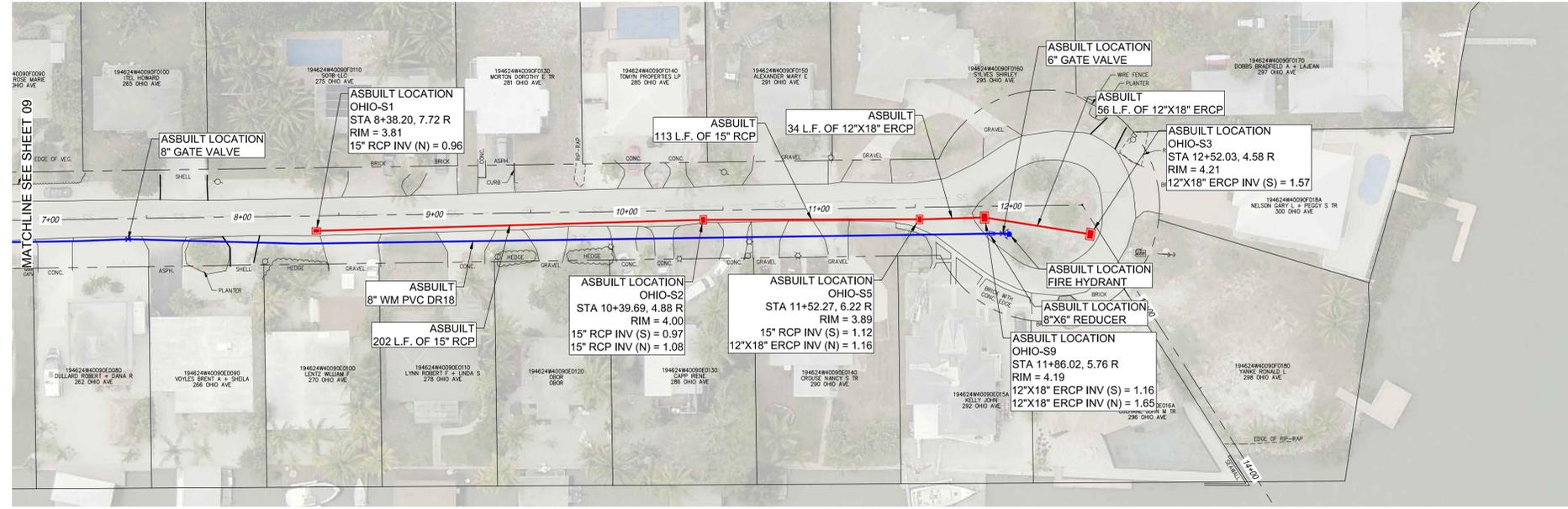
PLAN & PROFILE
OHIO AVENUE STATION
-0+50_TO_7+00

RECORD DRAWINGS
SHEET NUMBER

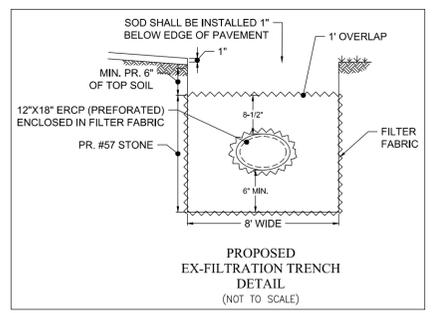
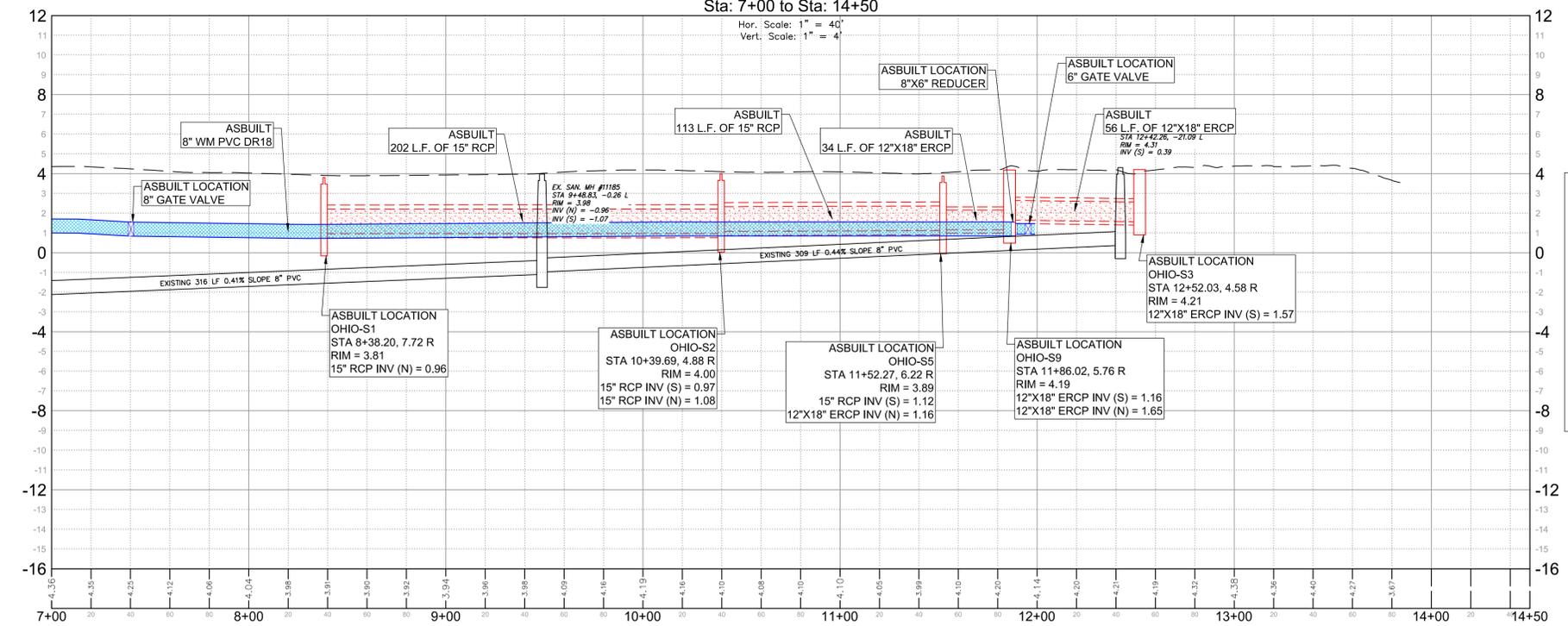
09

FOR DRAINAGE
RICK HARRIS, P.E.
FL License No. 68921

FOR WATER MAIN
MICHAEL S. DICKEY, P.E.
FL License No. 60057



Profile View of Ohio Avenue
Sta: 7+00 to Sta: 14+50



RECORD DRAWING

PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
 AS-BUILT DRAINAGE
 AS-BUILT WATER MAIN

RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1B
LEE COUNTY, FLORIDA

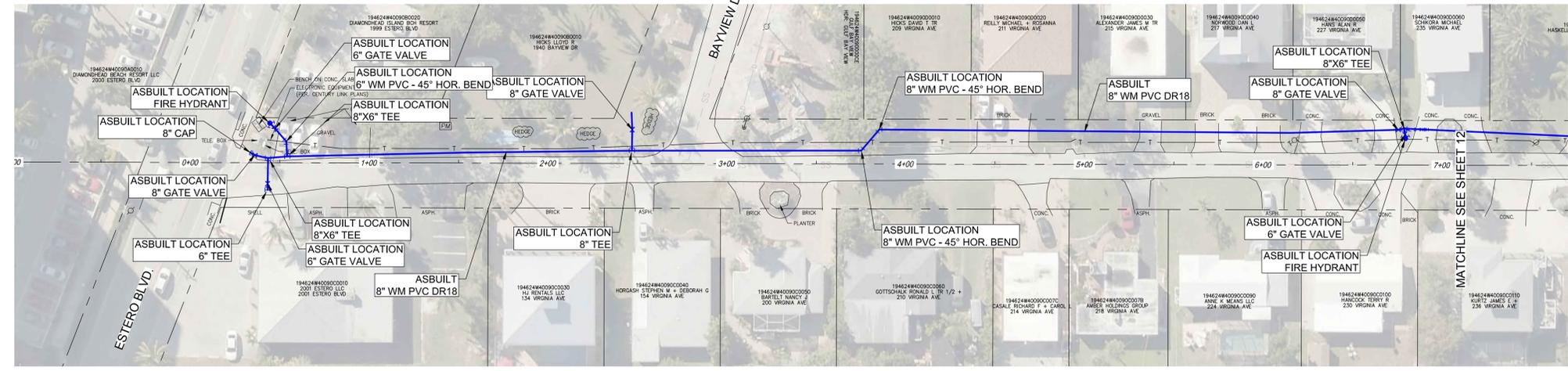
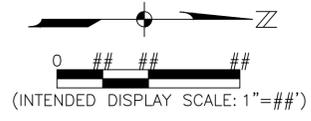
| NO. | DESCRIPTION | DATE |
|-----|---------------------------------|---------|
| 1 | MOVE HYD TO E. SIDE @ STA. 7+50 | 5/12/14 |

DATE: FEBRUARY 24, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

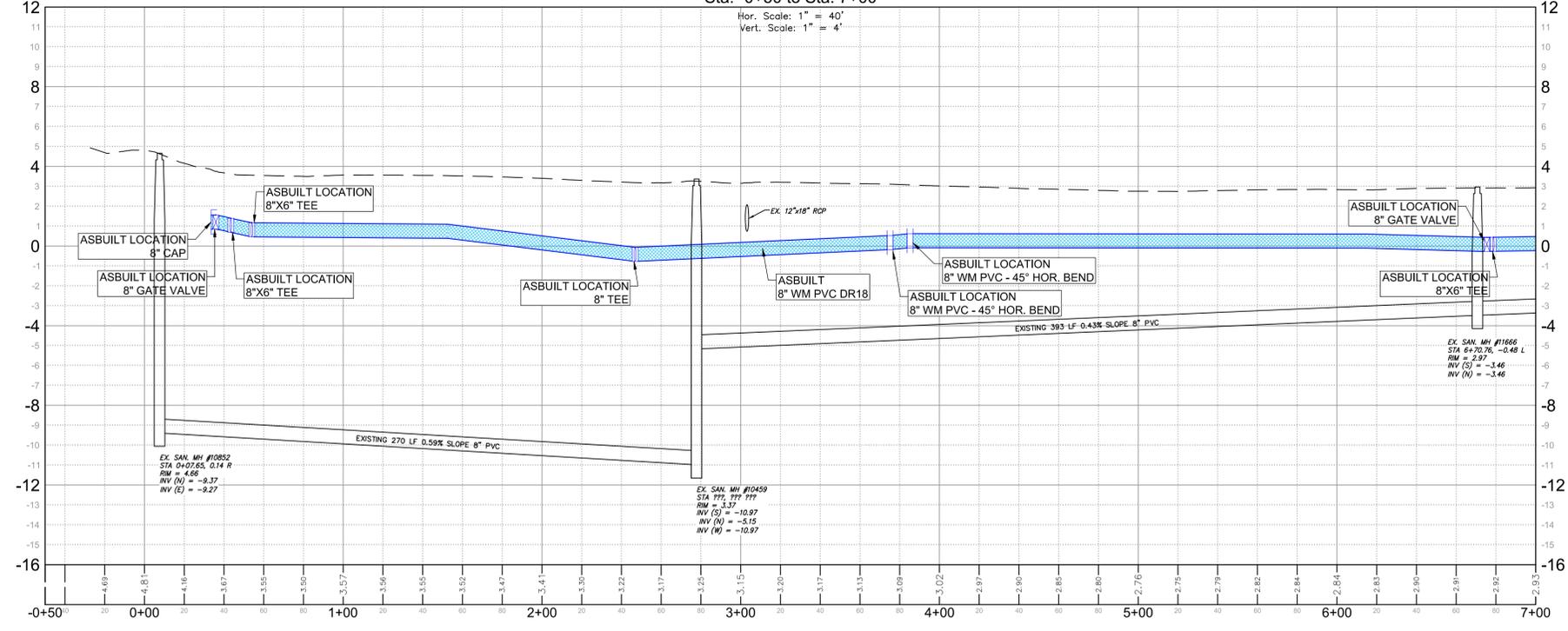
PLAN & PROFILE
OHIO AVENUE STATION
7+00_TO_14+50

RECORD DRAWINGS

SHEET NUMBER



Profile View of Virginia Avenue
Sta: -0+50 to Sta: 7+00



RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1B
LEE COUNTY, FLORIDA

| NO. | DESCRIPTION | DATE |
|-----|-------------------------------|---------|
| 1 | MOVE WM TO WEST SIDE OF ROAD. | 5/12/14 |

DATE: FEBRUARY 24, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

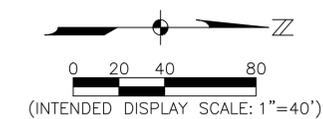
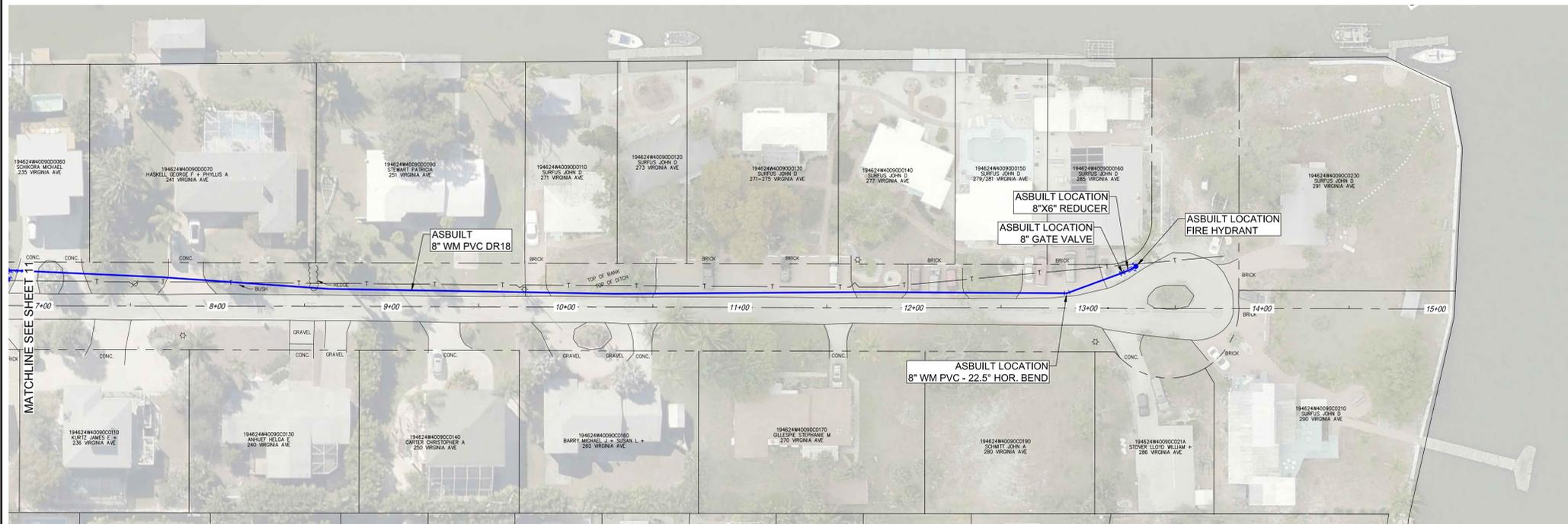
PLAN & PROFILE
VIRGINIA AVENUE
STATION -0+50_TO_7+00

RECORD DRAWINGS
SHEET NUMBER

RECORD DRAWING

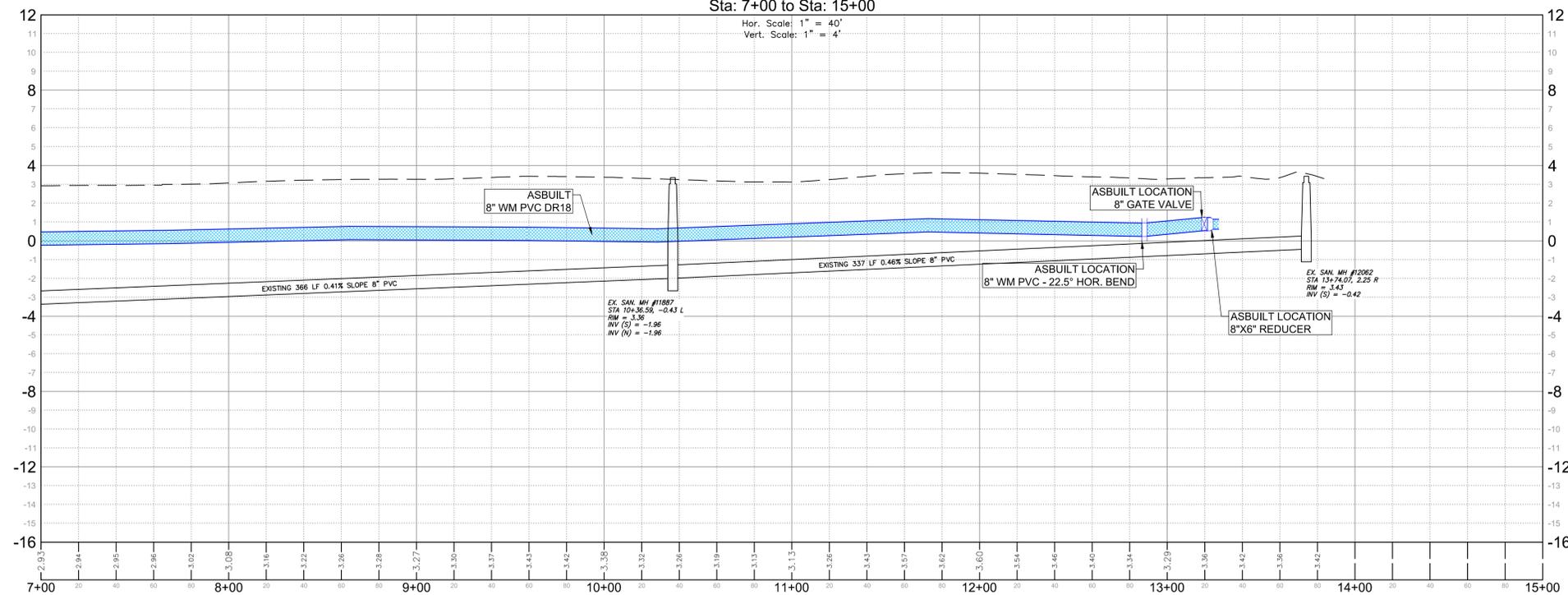
PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
 AS-BUILT DRAINAGE
 AS-BUILT WATER MAIN



Profile View of Virginia Avenue
Sta: 7+00 to Sta: 15+00

Hor. Scale: 1" = 40'
Vert. Scale: 1" = 4'



RECORD DRAWING

- PLAN VIEW
 - AS-BUILT DRAINAGE
 - AS-BUILT WATER MAIN
- PROFILE VIEW
 - AS-BUILT DRAINAGE
 - AS-BUILT WATER MAIN



RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1B
LEE COUNTY, FLORIDA

| NO. | DESCRIPTION | DATE |
|-----|-------------------------------|---------|
| 1 | MOVE WM TO WEST SIDE OF ROAD. | 5/12/14 |

DATE: FEBRUARY 24, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
VIRGINIA AVENUE
STATION
7+00_TO_15+00

RECORD DRAWINGS

SHEET NUMBER

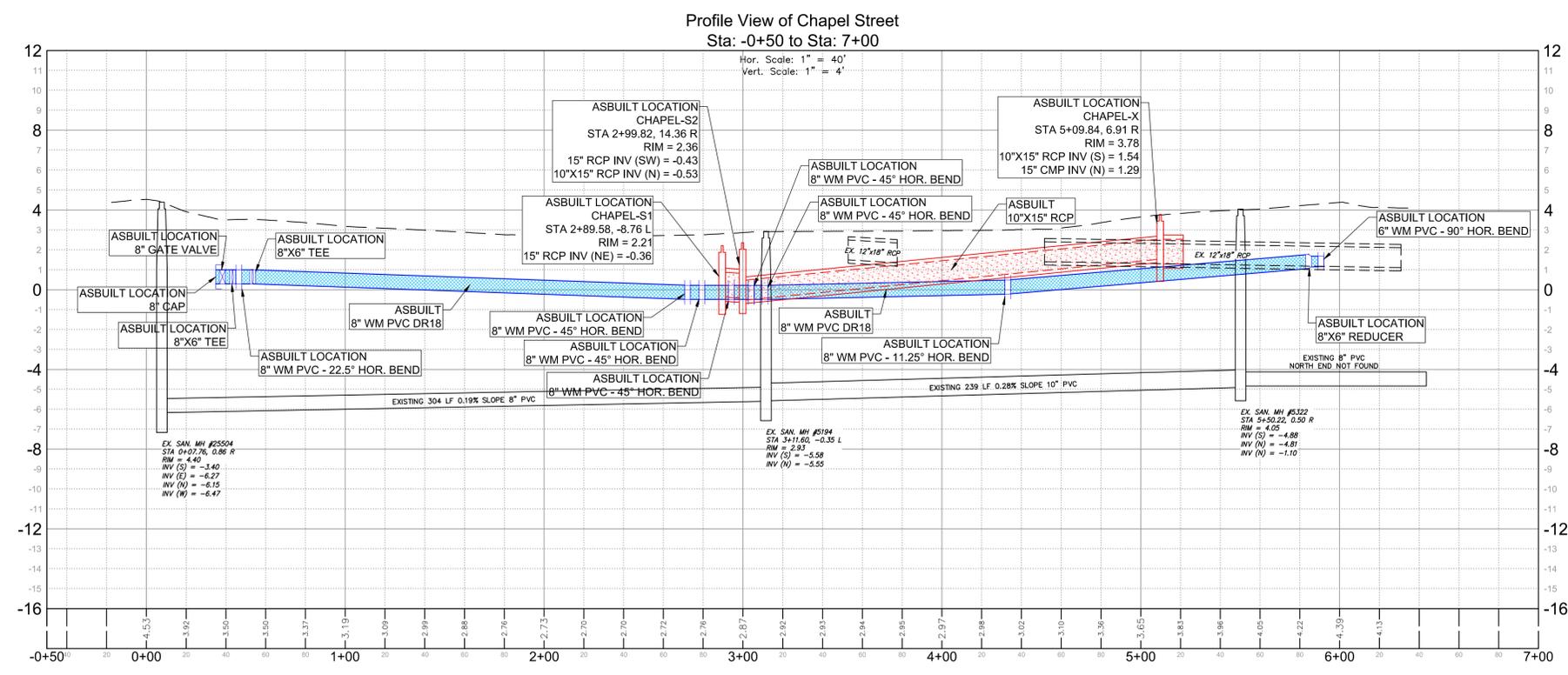
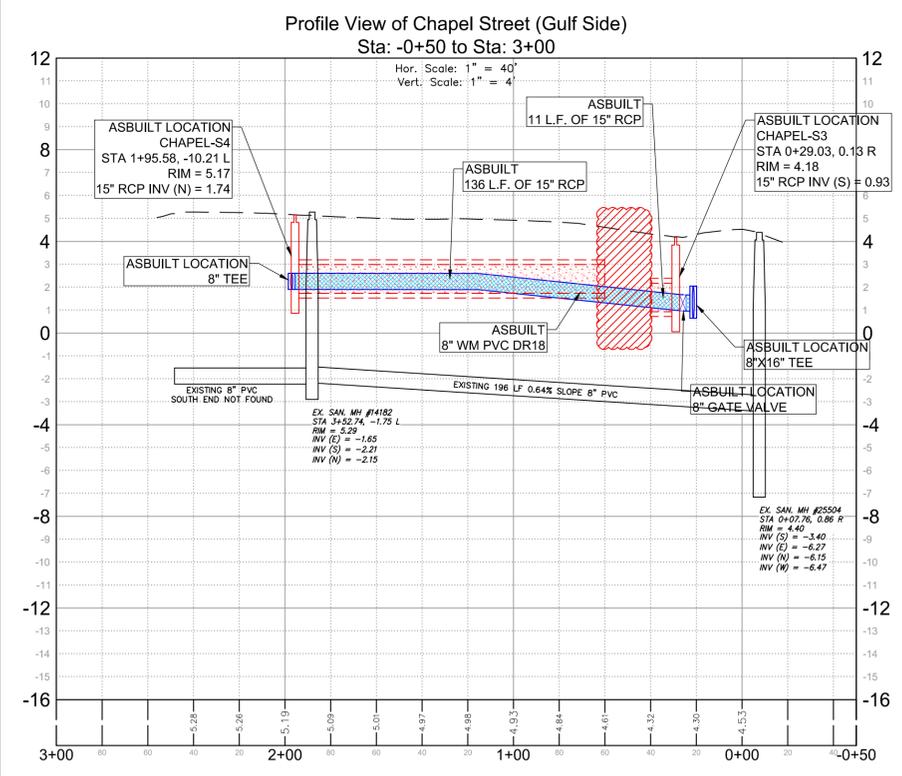
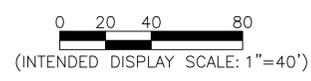
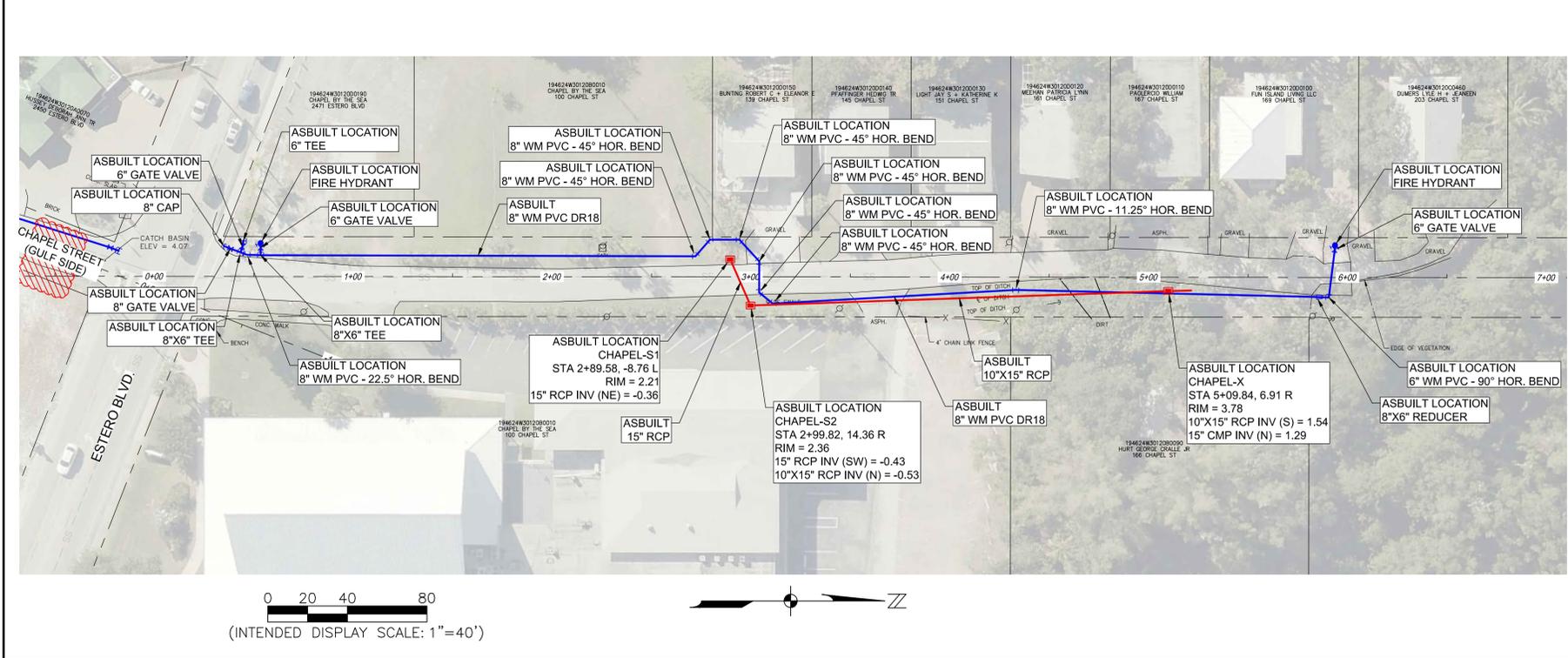
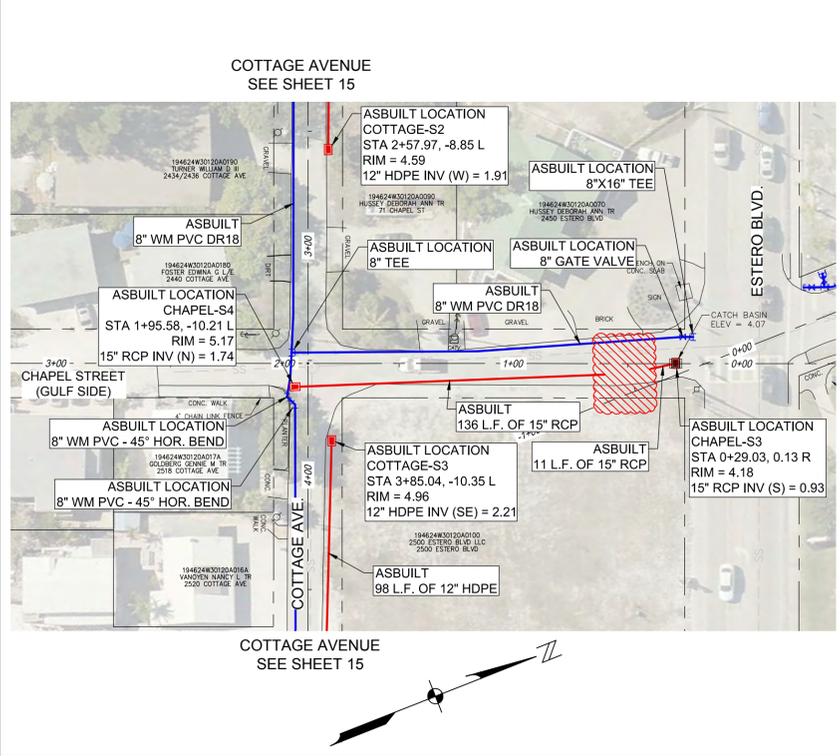


| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |
| | | |
| | | |

DATE: FEBRUARY 24, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
CHAPEL STREET
STATION -0+50_7+00

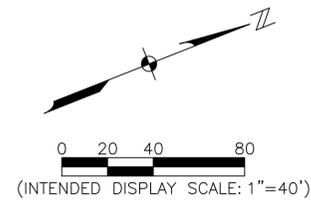
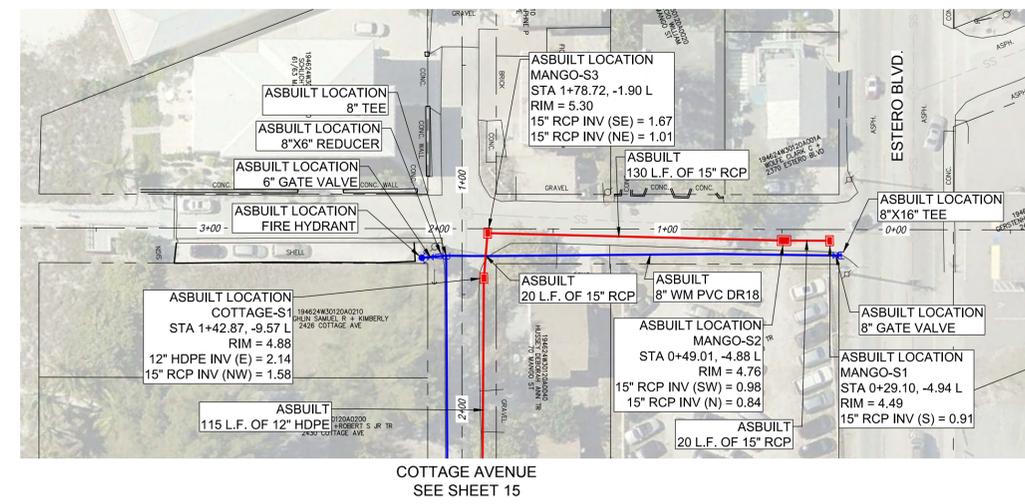
RECORD DRAWINGS
SHEET NUMBER



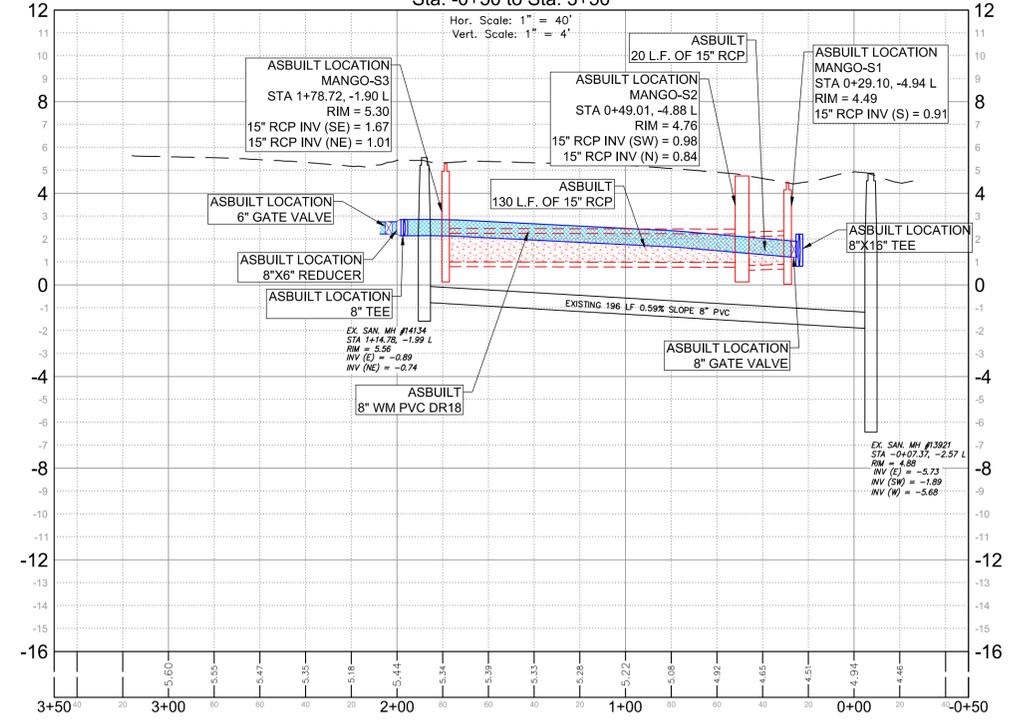
RECORD DRAWING

PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
 AS-BUILT DRAINAGE
 AS-BUILT WATER MAIN



Profile View of Mango Street (Gulf Side)
Sta: -0+50 to Sta: 3+50



RECORD DRAWING

PLAN VIEW

- AS-BUILT DRAINAGE
- AS-BUILT WATER MAIN

PROFILE VIEW

- AS-BUILT DRAINAGE
- AS-BUILT WATER MAIN

RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1B
LEE COUNTY, FLORIDA

| NO. | DESCRIPTION | DATE |
|-----|--------------------------|---------|
| 1 | REVISE INV. AT MANGO-S2. | 5/20/14 |

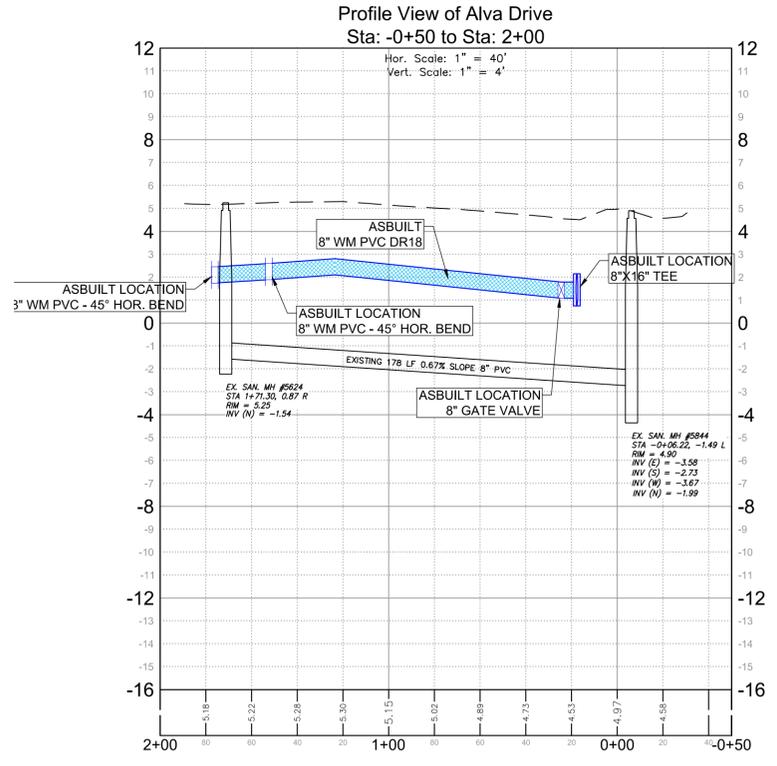
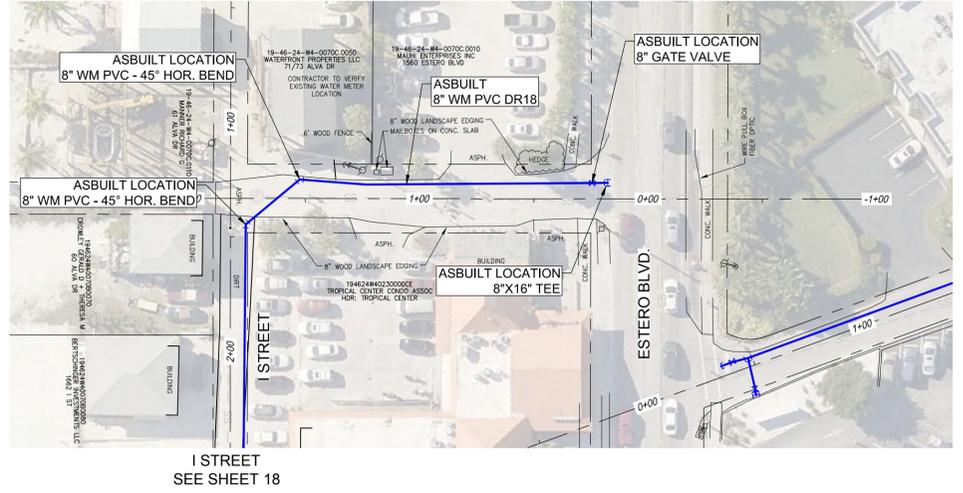
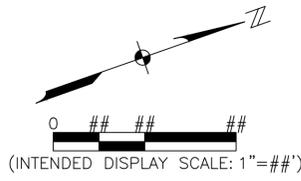
DATE: FEBRUARY 24, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
MANGO (GULF SIDE)
STATION -0+50_TO_3+50

RECORD DRAWINGS

SHEET NUMBER

14



RECORD DRAWING

PLAN VIEW
 — AS-BUILT DRAINAGE
 — AS-BUILT WATER MAIN

PROFILE VIEW
 [Pattern] AS-BUILT DRAINAGE
 [Pattern] AS-BUILT WATER MAIN

JOHNSON ENGINEERING
 2122 JOHNSON STREET
 P.O. BOX 1550
 FORT MYERS, FLORIDA 33902-1550
 PHONE (239) 334-0046
 FAX (239) 334-3661
 E.B. #542 & L.B. #542

FOR DRAINAGE
 RICHARD S. DICKET, PE
 FL License No. 689121

FOR WATER MAIN
 MICHAEL S. DICKEY, PE
 FL License No. 60037



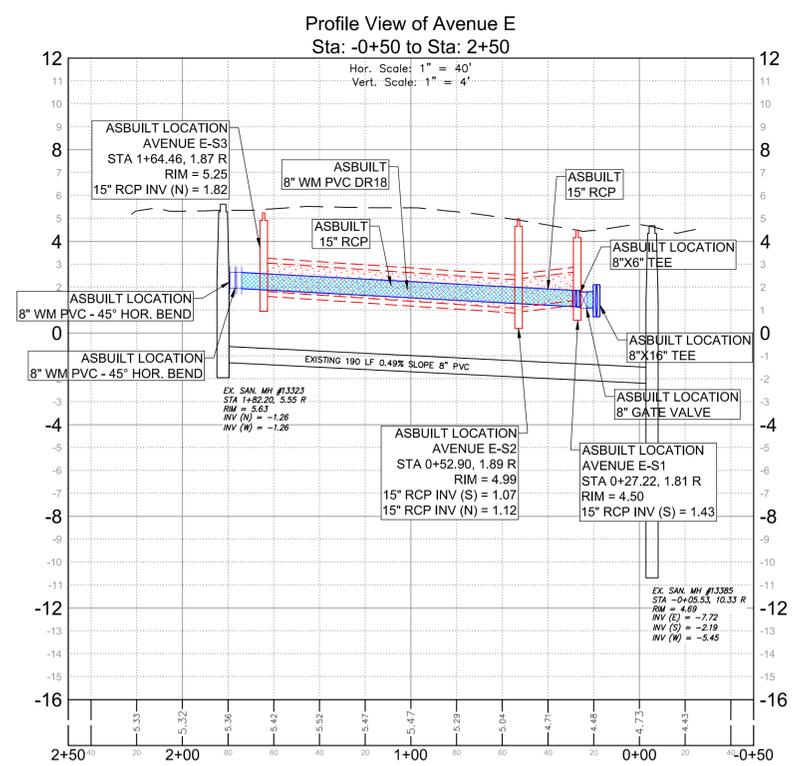
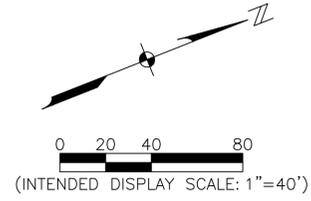
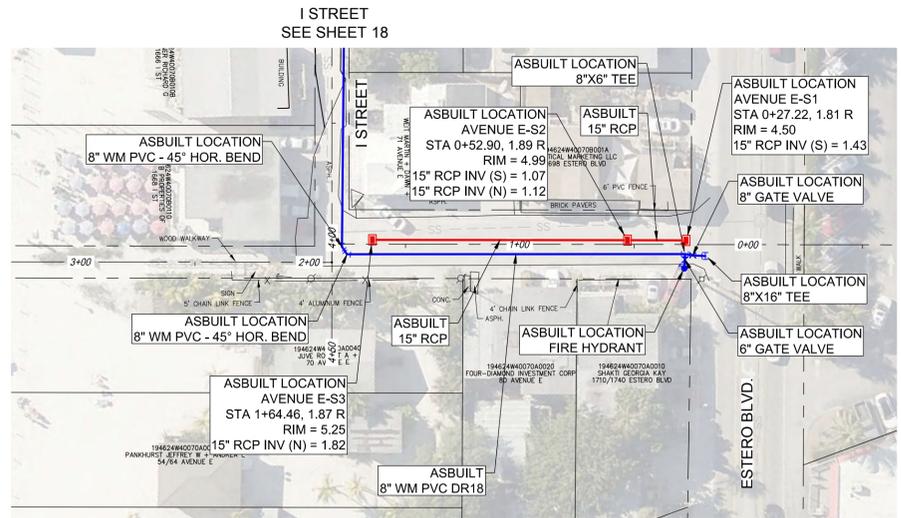
RECORD DRAWINGS
 WATER MAIN REPLACEMENT AND
 DRAINAGE IMPROVEMENTS FOR THE
 BASIN BASED NEIGHBORHOOD
 PHASE-1B
 LEE COUNTY, FLORIDA

| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| | | |
| | | |
| | | |
| | | |

DATE: FEBRUARY 24, 2015
 PROJECT NO. 20139512-000
 FILE NO. 19-46-24
 SCALE: As Shown

PLAN & PROFILE
 ALVA DRIVE STATION
 -0+50_TO_2+00

RECORD DRAWINGS
 SHEET NUMBER



RECORD DRAWING

PLAN VIEW

- AS-BUILT DRAINAGE
- AS-BUILT WATER MAIN

PROFILE VIEW

- AS-BUILT DRAINAGE
- AS-BUILT WATER MAIN

RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1B
LEE COUNTY, FLORIDA

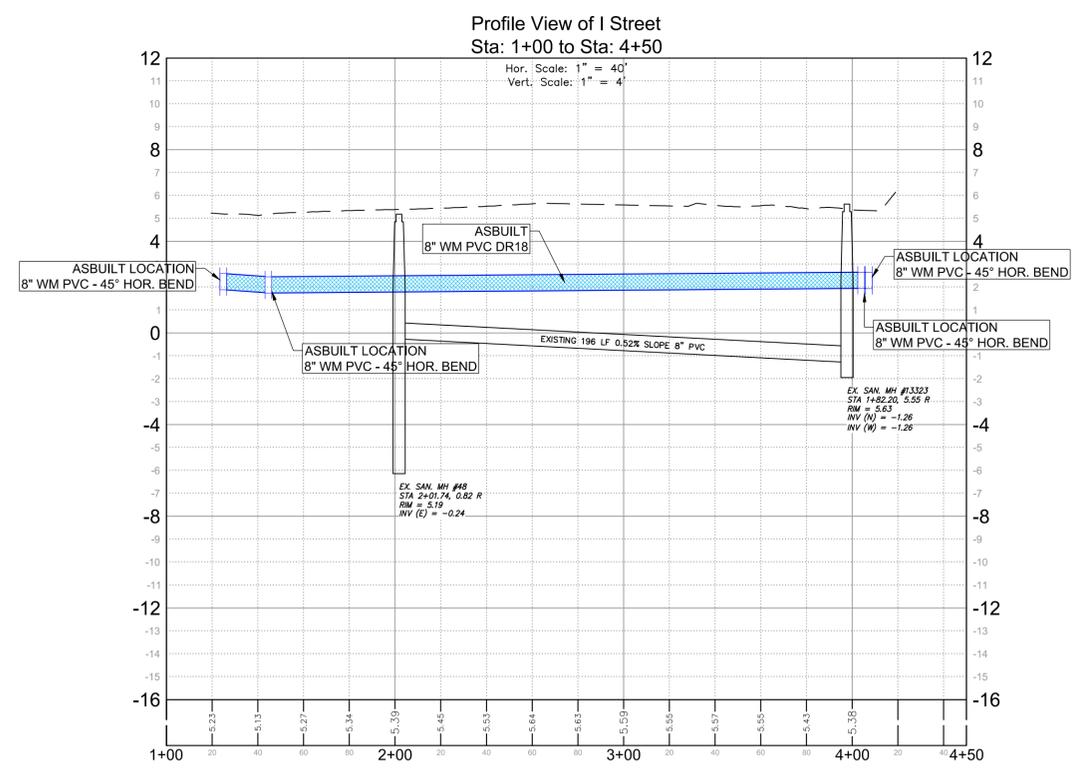
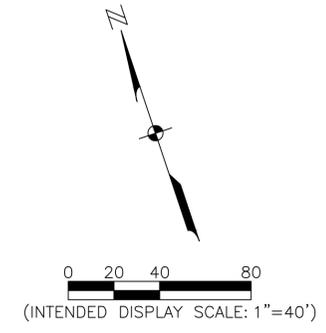
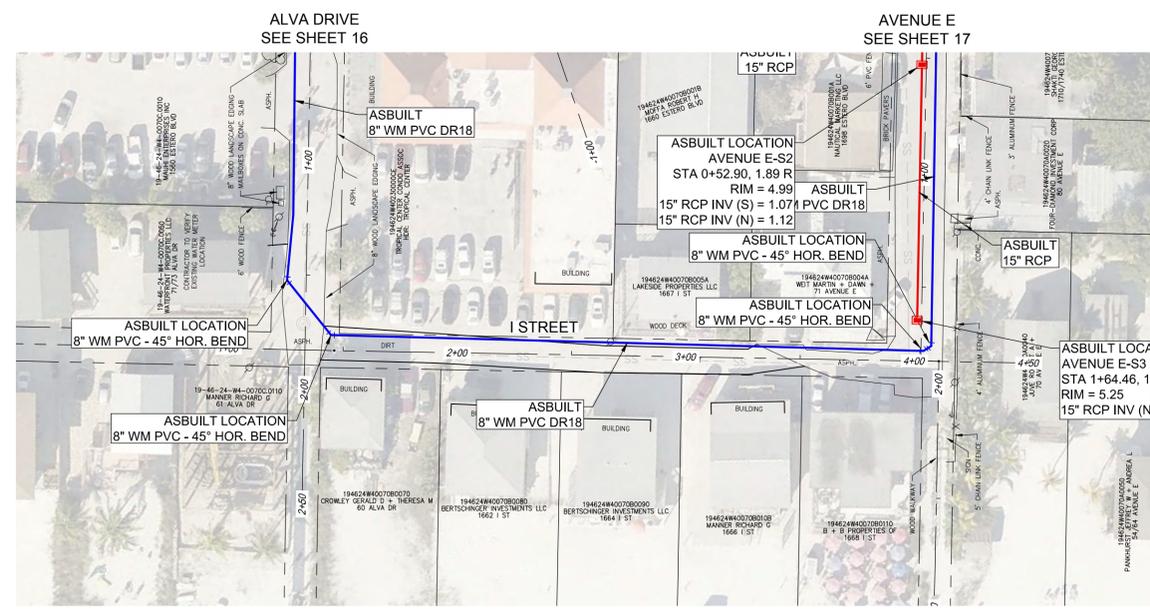
| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| | | |
| | | |
| | | |
| | | |

DATE: FEBRUARY 24, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
AVENUE E STATION
-0+50_TO_2+50

RECORD DRAWINGS

SHEET NUMBER



RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1B
LEE COUNTY, FLORIDA

| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| | | |
| | | |
| | | |
| | | |

DATE: FEBRUARY 24, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

RECORD DRAWING

PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
 AS-BUILT DRAINAGE
 AS-BUILT WATER MAIN

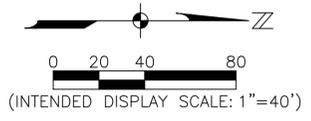
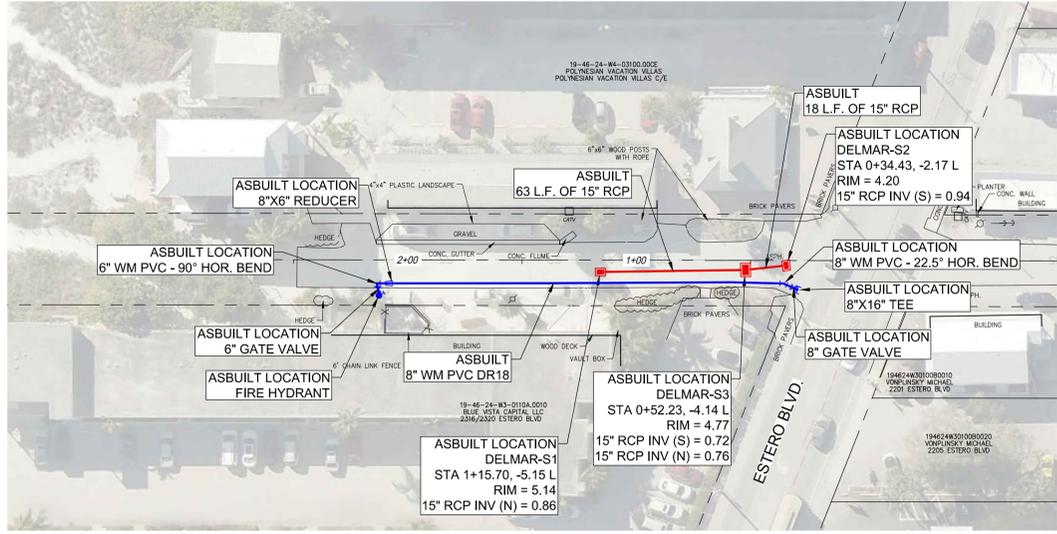
PLAN & PROFILE
I STREET STATION
1+00_TO_4+50

RECORD DRAWINGS

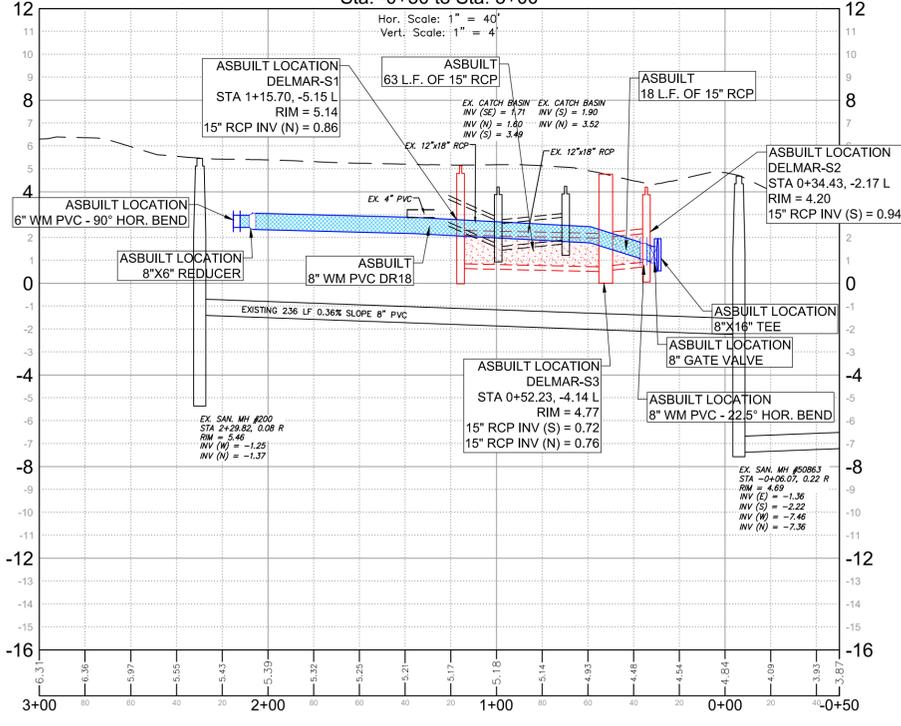
SHEET NUMBER

FOR DRAINAGE
RICK W. BROWN, P.E.
FL License No. 689121

FOR WATER MAIN
MICHAEL S. DICKEY, P.E.
FL License No. 60037



Profile View of Delmar Avenue (Gulf Side)
Sta: -0+50 to Sta: 3+00



RECORD DRAWING

PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
 AS-BUILT DRAINAGE
 AS-BUILT WATER MAIN

RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1B
LEE COUNTY, FLORIDA

| NO. | DESCRIPTION | DATE |
|-----|---------------------------|---------|
| 1 | REVISE INV. AT DELMAR-S1. | 5/20/14 |

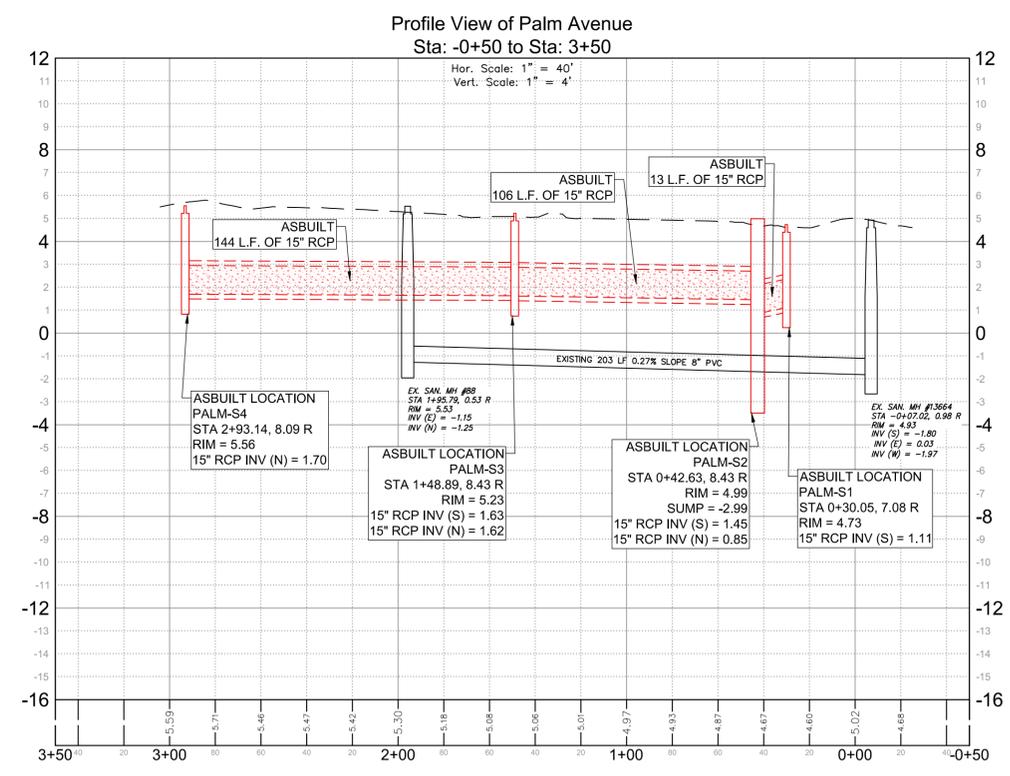
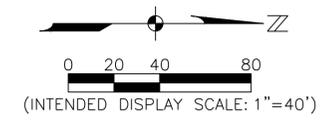
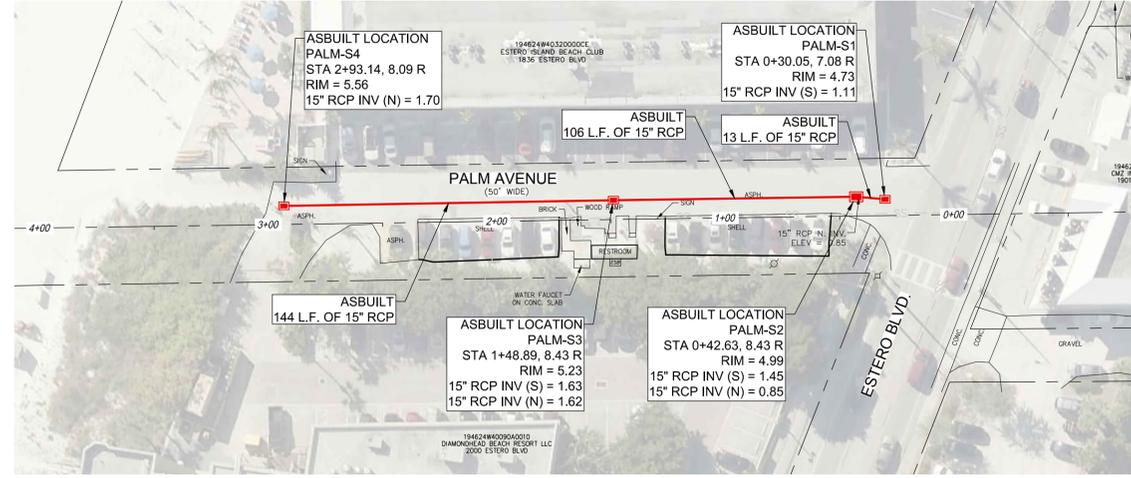
DATE: FEBRUARY 24, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
DELMAR AVENUE (GULF
SIDE) STATION
-0+50_TO_3+00

RECORD DRAWINGS
SHEET NUMBER

FOR DRAINAGE
RICK S. DICKKEY, P.E.
FL License No. 69121

FOR WATER MAIN
MICHAEL S. DICKKEY, P.E.
FL License No. 60037



RECORD DRAWING

PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
 AS-BUILT DRAINAGE
 AS-BUILT WATER MAIN

RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1A
LEE COUNTY, FLORIDA

| NO. | DATE | DESCRIPTION |
|-----|---------|----------------------------|
| 1 | 4/23/15 | ADD DRAINAGE AS-BUILT INFO |

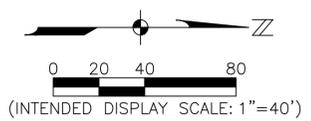
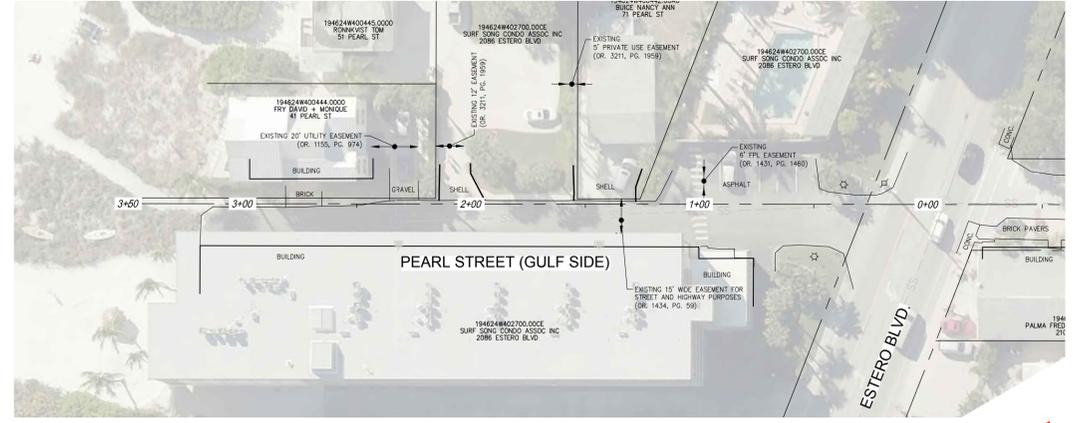
DATE: FEBRUARY 19, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
PALM AVENUE (GULF
SIDE) STATION
-0+50_TO_3+50

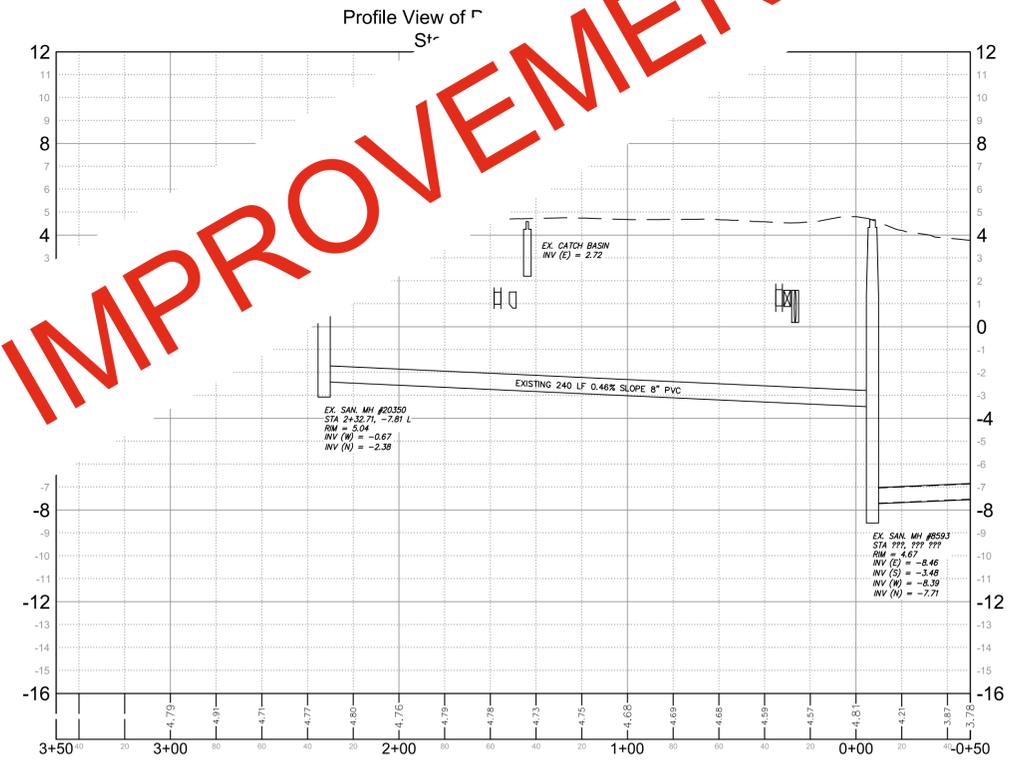
RECORD DRAWINGS
SHEET NUMBER

FOR DRAINAGE
MICHAEL S. DICKEY, P.E.
FL License No. 689121

FOR WATER MAIN
MICHAEL S. DICKEY, P.E.
FL License No. 68037



NO IMPROVEMENTS MADE



RECORD DRAWING

PLAN VIEW
— AS-BUILT DRAINAGE
— AS-BUILT WATER MAIN

PROFILE VIEW
 AS-BUILT DRAINAGE
 AS-BUILT WATER MAIN

RECORD DRAWINGS
WATER MAIN REPLACEMENT AND
DRAINAGE IMPROVEMENTS FOR THE
BASIN BASED NEIGHBORHOOD
PHASE-1B
LEE COUNTY, FLORIDA

| REVISIONS | DATE |
|-----------|------|
| | |
| | |
| | |
| | |

DATE: FEBRUARY 24, 2015
PROJECT NO. 20139512-000
FILE NO. 19-46-24
SCALE: As Shown

PLAN & PROFILE
PEARL STREET (GULF
SIDE) STATION
-0+50_TO_3+50

RECORD DRAWINGS
SHEET NUMBER



TOWN of FORT MYERS BEACH
RFQ #13-02-PW Design-Build Services for Phase 1 Water Distribution System Improvements

EXHIBIT "G"
ESTIMATE AND REQUISITION FOR PAYMENT
 (1 of 3 Pages)

Bid No.: _____ RFQ No.: 13-02 Date: 1/31/16
 Estimate No.: 21 (Partial Final) for Period 7/13/15 to 1/31/16
 Project Name: AMENDMENTS 1,2 AND 3 PW DESIGN-BUILD SERVICES FOR PHASE 1 WATER DISTRIBUTION SYSTEM IMPROVEMENTS (NEIGHBORHOOD STREETS)

PAYEE: Firm's Name: Mitchell & Stark Construction Co. Inc.
 Mailing Address: 6001 Shirley St.
 City & State Naples ZIP CODE 34109

Deliver Warrant: Special Instructions - If Other than Mail

Attach a list of names and addresses of all Sub-Contractors, material men, or suppliers that are to be paid from this requisition.

CONTRACTUAL FINANCIAL DATA

Date of Original Contract: 9/6/13.

Total Amount of Original Contract \$743,088.46

| | | | | |
|-----------------------------|---------------|-------|----------------|------------------------|
| PLUS: Change Order # | <u>Amen 2</u> | dated | <u>11/8/13</u> | <u>\$2,415,928.14</u> |
| Change Order # | <u>Amen 3</u> | dated | <u>4/8/14</u> | <u>\$ 2,558,388.85</u> |
| Change Order # | <u>Amen5</u> | dated | | <u>\$ 321,894.83</u> |
| Change Order # | | dated | | <u>\$</u> |
| Change Order # | | dated | | <u>\$</u> |
| Change Order # | | dated | | <u>\$</u> |

Total Change Orders ADDING to cost of Contract \$5,296,211.82

| | | | | |
|-----------------------------|--|-------|--|-----------|
| LESS: Change Order # | | dated | | <u>\$</u> |
| Change Order # | | dated | | <u>\$</u> |
| Change Order # | | dated | | <u>\$</u> |
| Change Order # | | dated | | <u>\$</u> |
| Change Order # | | dated | | <u>\$</u> |
| Change Order # | | dated | | <u>\$</u> |

Total Change Orders SUBTRACTING from cost of Contract \$0

Less Total Unit Price Amount Not Used Per Final Field Measurements \$0

TOTAL OF ABOVE \$6,039,300.28

SPECIAL NOTE: Any change orders which affect the contract not previously transmitted to the Town's Finance Office or to Contracts Mgmt must be properly executed and attached to this form before payment will be made.

| | | | |
|---|-----------------------|-----------|------------|
| Total Completed this Requisition | <u>\$375,054.08</u> | Retainage | <u>\$0</u> |
| Total Complete to Date (Column F, Sheet 3) | <u>\$5,651,093.74</u> | | |
| Retainage 0% (Percent required in Contract Documents) . . . amendment two, three and five only. | <u>\$0</u> | | |
| Total Earned Less Retainage | <u>\$5,651,093.74</u> | | |
| Less Prior Payments Made | <u>\$5,046,500.28</u> | | |
| Less Liquidated Damages | <u></u> | | |
| Amount of this Requisition | <u>\$604,593.46</u> | | |



TOWN of FORT MYERS BEACH

RFQ #13-02-PW Design-Build Services for Phase 1 Water Distribution System Improvements

Total Amount Paid to DBE's from above \$0



TOWN of FORT MYERS BEACH
RFQ #13-02-PW Design-Build Services for Phase 1 Water Distribution System Improvements



EXHIBIT B
 FINAL PAYMENT CERTIFICATION AND PRICES STATEMENT

DATE: 12/10/13

TO: TOWN OF FORT MYERS BEACH
 FROM: [Signature]
 PROJECT NO: [Number]
 PROJECT NAME: [Name]
 PROJECT ADDRESS: [Address]

I, the undersigned, certify that the above information is true and correct to the best of my knowledge and belief, and that the work has been completed in accordance with the terms and conditions of the contract. I further certify that the work was completed in accordance with the specifications and drawings provided to me by the Town of Fort Myers Beach.

[Signature]
 CONTRACTOR

[Signature]
 TOWN OF FORT MYERS BEACH



[Signature]
 TOWN OF FORT MYERS BEACH

I, the undersigned, certify that the above information is true and correct to the best of my knowledge and belief, and that the work has been completed in accordance with the terms and conditions of the contract. I further certify that the work was completed in accordance with the specifications and drawings provided to me by the Town of Fort Myers Beach.

[Signature]
 CONTRACTOR

[Signature]
 TOWN OF FORT MYERS BEACH



TOWN of FORT MYERS BEACH

RFQ #13-02-PW Design-Build Services for Phase 1 Water Distribution System Improvements

EXHIBIT "G"
FINAL PAYMENT CERTIFICATION AND FIRM'S AFFIDAVIT
(3 of 3 Pages)

Project Name: PW DESIGN BUILD SERVICES PH 1 WATER NEIGHBORHOOD STREETS

RFQ No.: 13-02

Contract No.:

Estimate No.: 21

Project No.:

Requisition Date: 1/31/16

Period From: 7/13/15

To: 1/31/16

I do hereby certify that all items and amounts shown in the requisition for payment are correct and all work has been performed and materials delivered. This waiver and release of lien is conditioned upon payment of the consideration specified herein. It is not effective until said payment is received. I further certify that the consideration received in exchange for this final waiver and release of lien, when received is designated by the Contractor to be applied to the payment of subcontractors, material men, and suppliers who have furnished such services, labor, materials and supplies for which this request for payment is being made.

For warranty and guarantee start date, it is understood and agreed that the date of the final completion of the Work shall apply unless otherwise provided in the Certificate of substantial completion at which time the OWNER initiates occupancy or utilizes the Work or designated portion thereof for the use for which it is intended, whichever is first.

Signed: [Signature] Firm

Date: 1/31/16

CORPORATE SEAL

STATE OF FLORIDA
COUNTY OF COLLIER

The foregoing instrument was signed and acknowledged before me this 31 day of JANUARY

2016, BRIAN PENNER

by [Signature] (Print or Type Name)

who has produced P-560-076-59-348-0 as identification. (Type of Identification and Number)

[Signature] Notary Public Signature

Belinda Burgbacher Printed Name of Notary Public

1-16-2014 1-22-19 Notary Commission Number/Expiration



I do hereby certify that to the best of my knowledge and belief, all items and amounts shown in this Estimate and Requisition for Payment are correct and that all work has been performed in accordance with the requirements of the Contract Documents. Accordingly, I hereby certify the amount of \$604,593.28 to the Town of Fort Myers Beach for final payment.

Substantial Completion Date: 12/31/15

Final Completion Date: 1/31/16

Signed: [Signature] Owner's Rep. Preparing Estimate

Signed: Department/Division Director

Date: 2-5-16

Date:

APPROVAL RECOMMENDED

By:



TOWN of FORT MYERS BEACH
RFQ #13-02-PW Design-Build Services for Phase 1 Water Distribution System Improvements

Date: Town Attorney

TO: TOWN OF FORT MYER BEACH
FOR: RFQ # 13-02 PW DESIGN BUILD SERVICES FOR PH. I WATER DISTRIBUTION SYSTEMS IMPROVEMENTS
NEIGHBOR STREETS
FROM: MITCHELL & STARK CONST. CO. INC.
DATE: 1/31/2016
PAY EST: 21

LIST OF SUB CONTRACTORS, MATERIAL MEN OR SUPPLIERS THAT ARE TO BE PAID FROM THIS REQUISITIONS

- 1 NONE
- 2
- 3

TOWN OF FORT MYERS BEACH
2523 ESTERO BLVD.
FORT MYERS BEACH LEE COUNTY FLORIDA 33931

PROJECT: RFQ #13-02-PW DESIGN-BUILD SERVICES FOR PH. 1
WATER DISTRIBUTION IMPROVEMENTS
M&S JOB # #131647

APPLICATION # 21
PERIOD FROM: 7/13/2015
PERIOD TO: 1/31/2016
MS JOB #: 131647
CONTRACT DAT 9/5/2013

MITCHELL & STARK CONST. CO., INC.
6001 SHIRLEY STREET
NAPLES, FLORIDA 34109

OWNER ENGINEER TETRA TECH, INC.
10600 CHEROKEE WAY SUITE 300
ESTERO, FL. 33928

Application is made for Payment, as shown below

| | ADDITIONS | DEDUCTIONS | |
|-----------------|-----------------------|---------------|-----------------------|
| AMENDMENT TWO | \$2,415,928.14 | \$0.00 | \$743,088.46 |
| AMENDMENT THREE | \$2,558,388.85 | \$0.00 | \$5,296,211.82 |
| AMENDMENT FIVE | \$321,894.83 | \$0.00 | \$6,039,300.28 |
| TOTALS | \$5,296,211.82 | \$0.00 | \$5,651,093.74 |
| | | | \$0.00 |
| | | | \$0.00 |
| | | | \$0.00 |
| | | | \$5,651,093.74 |
| | | | \$5,046,500.28 |
| | | | \$604,593.46 |
| | | | \$388,206.54 |

CONTRACTOR: MITCHELL & STARK CONSTRUCTION CO. INC.
BY:  BRIAN PENNER CEO
DATE: 1/31/2016

State of: Florida County of: COLLIER
Subscribe and Sworn to me January 31, 2016



Notary Public: _____
AMOUNT CERTIFIED _____

ENGINEER: _____
By: _____
This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

| PROJECT NAME: RFQ: 13-02-PW DESIGN -BUILD SERVICES FOR PHASE1 WATER DISTRIBUTION SYSTEM IMPROVEMENTS | | | | | | | | | | PROJECT NO: 131647 | |
|--|-------------------|------|--------------|------------------|-------------------|------------------|------------------|----------------|----------------|--------------------|--|
| | | | | | | | | | | ESTIMATE NO: 21 | |
| DESCRIPTION | ORIGINAL QUANTITY | UNIT | UNIT PRICE | CURRENT CONTRACT | PREVIOUS QUANTITY | PREVIOUS AMOUNTS | CURRENT QUANTITY | CURRENT AMOUNT | TOTAL QUANTITY | TOTAL AMOUNT | |
| M/S BILLINGS | | | | | | | | | | | |
| PROJECT MANAGEMENT | 1 | T&M | \$9,690.00 | \$9,690.00 | 0.8173373 | \$7,920.00 | 0.8173373 | \$0.00 | 0.8173373 | \$7,920.00 | |
| WATER MAIN DESIGN SERVICE B/ | 1 | T&M | \$12,000.00 | \$12,000.00 | 0.875 | \$10,500.00 | 0.875 | \$0.00 | 0.875 | \$10,500.00 | |
| DESIGN SERVICE LEE COUNTY M/S | 1 | T&M | \$17,050.00 | \$17,050.00 | 0.8592374 | \$14,650.00 | 0.8592374 | \$0.00 | 0.8592374 | \$14,650.00 | |
| SURVEY SERVICES AND SUE M/S | 1 | T&M | \$3,600.00 | \$3,600.00 | 0 | \$0.00 | 0 | \$0.00 | 0 | \$0.00 | |
| SKETCH AND DESCRIPTIONS M/S | 1 | T&M | \$43,200.00 | \$43,200.00 | 0.0138888 | \$600.00 | 0.0138888 | \$0.00 | 0.0138888 | \$600.00 | |
| PERMITTING ASSISTANCE M/S | 1 | T&M | \$150.00 | \$150.00 | 0 | \$0.00 | 0 | \$0.00 | 0 | \$0.00 | |
| REIMBURSABLES M/S | 1 | T&M | \$1,800.00 | \$1,800.00 | 0.4166653 | \$750.00 | 0.4166653 | \$0.00 | 0.4166653 | \$750.00 | |
| PUBLIC AWARENESS M/S | 1 | T&M | \$4,000.00 | \$4,000.00 | 0 | \$0.00 | 0 | \$0.00 | 0 | \$0.00 | |
| | | | \$1,200.00 | \$1,200.00 | 1.25 | \$1,500.00 | 1.25 | \$0.00 | 1.25 | \$1,500.00 | |
| JEI BILLINGS WITH M/S FEE | | | | | | | | | | | |
| PROJECT MANAGEMENT | 1 | LS | \$27,720.00 | \$27,720.00 | 1 | \$27,720.00 | 1 | \$0.00 | 1 | \$27,720.00 | |
| WATER MAIN DESIGN SERVICE B/ | 1 | LS | \$84,700.00 | \$84,700.00 | 1 | \$84,700.00 | 1 | \$0.00 | 1 | \$84,700.00 | |
| DESIGN SERVICE LEE COUNTY M/S | 1 | LS | \$220,990.00 | \$220,990.00 | 1 | \$220,990.00 | 1 | \$0.00 | 1 | \$220,990.00 | |
| SURVEY SERVICES AND SUE M/S | 1 | LS | \$17,622.00 | \$17,622.00 | 0 | \$0.00 | 0 | \$0.00 | 0 | \$0.00 | |
| SKETCH AND DESCRIPTIONS M/S | 1 | LS | \$189,832.50 | \$189,832.50 | 1 | \$189,832.50 | 1 | \$0.00 | 1 | \$189,832.50 | |
| PERMITTING ASSISTANCE M/S | 1 | T&M | \$3,355.00 | \$3,355.00 | 1 | \$3,355.00 | 1 | \$0.00 | 1 | \$3,355.00 | |
| REIMBURSABLES M/S | 1 | T&M | \$65,824.00 | \$65,824.00 | 0.70801595 | \$48,694.45 | 0.70801595 | \$0.00 | 0.70801595 | \$48,694.45 | |
| PUBLIC AWARENESS M/S | 1 | T&M | \$5,500.00 | \$5,500.00 | 0.12078 | \$5,631.40 | 0.12078 | \$0.00 | 0.12078 | \$5,631.40 | |
| | | | \$0.00 | \$0.00 | 0 | \$0.00 | 0 | \$0.00 | 0 | \$0.00 | |
| CMA BILLINGS WITH M/S FEE | | | | | | | | | | | |
| PUBLIC AWARENESS CMA | 1 | T&M | \$34,854.96 | \$34,854.96 | 1 | \$34,854.96 | 1 | \$0.00 | 1 | \$34,854.96 | |
| TOTAL PROJECT FOR AMENDMENT ONE WORK | | | | \$743,088.46 | | | | \$0.00 | | \$651,698.30 | |
| AMENDMENT TWO WORK | | | | | | | | | | | |
| M/S BILLINGS | | | | | | | | | | | |
| 4.1 PUBLIC INFORMATION PROGRAM | 1 | T&M | \$6,000.00 | \$6,000.00 | 0.5 | \$3,000.00 | 0.5 | \$0.00 | 0.5 | \$3,000.00 | |
| 4.2 TELEPHONE HOTLINE & EMAIL HC | 1 | T&M | \$300.00 | \$300.00 | 0 | \$0.00 | 0 | \$0.00 | 0 | \$0.00 | |
| 4.3 COORDINATION MEETINGS | 1 | T&M | \$2,400.00 | \$2,400.00 | 0.0625 | \$150.00 | 0.0625 | \$0.00 | 0.0625 | \$150.00 | |
| 4.4 NOTIFICATIONS TO EX. BUSINES | 1 | T&M | \$300.00 | \$300.00 | 0 | \$0.00 | 0 | \$0.00 | 0 | \$0.00 | |
| 4.5 INTERRUPTION OF SERVICE NOTIF | 1 | T&M | \$300.00 | \$300.00 | 0 | \$0.00 | 0 | \$0.00 | 0 | \$0.00 | |
| Project Reimbursables | 1 | T&M | \$1,000.00 | \$1,000.00 | 0 | \$0.00 | 0 | \$0.00 | 0 | \$0.00 | |
| JEI BILLINGS WITH M/S FEE | | | | | | | | | | | |
| SURVEY / RECORD DRAWINGS | 1 | LS | \$16,280.00 | \$16,280.00 | 1 | \$16,280.00 | 1 | \$0.00 | 1 | \$16,280.00 | |
| CONSTRUCTION ADMINISTRATION A | 1 | LS | \$32,747.00 | \$32,747.00 | 0.9976484 | \$32,670.00 | 0.9976484 | \$0.00 | 0.9976484 | \$32,670.00 | |
| REIMBURSABLES | 1 | T&M | \$1,100.00 | \$1,100.00 | | \$0.00 | | \$0.00 | | \$0.00 | |
| CMA BILLINGS WITH M/S FEE | | | | | | | | | | | |
| CONSTRUCTION | 1 | T&M | \$265,496.33 | \$265,496.33 | 0.91 | \$250,150.27 | 0.91 | \$0.00 | 0.91 | \$250,150.27 | |
| subtotal for engineering and public awareness | | | | | | | | | | | |
| STORM DRAINAGE | | | | | | | | | | | |
| 24X38 ERCP | 557 | LF | \$87.16 | \$48,548.12 | 0 | \$0.00 | 0 | \$0.00 | 0 | \$0.00 | |
| 15 INCH RCP | 208 | LF | \$39.01 | \$8,114.08 | 118 | \$4,603.18 | 118 | \$0.00 | 118 | \$4,603.18 | |
| 18 INCH RCP | 777 | LF | \$43.25 | \$33,605.25 | 1387 | \$59,987.75 | 1387 | \$0.00 | 1387 | \$59,987.75 | |

| DESCRIPTION | QUANTITY | UNIT | EST. PRICE | TOTAL | EST. PRICE | TOTAL | EST. PRICE | TOTAL | EST. PRICE | TOTAL | EST. PRICE | TOTAL |
|-------------------------------------|----------|-------|--------------|--------------|------------|--------------|------------|--------|------------|-------|--------------|--------|
| 24 INCH RCP | 1844 | LF | \$57.08 | \$105,255.52 | 2131 | \$121,637.48 | 2131 | \$0.00 | \$0.00 | 2131 | \$121,637.48 | \$0.00 |
| 30 INCH RCP | 1323 | LF | \$70.50 | \$93,271.50 | 1042 | \$73,461.00 | 1042 | \$0.00 | \$0.00 | 1042 | \$73,461.00 | \$0.00 |
| H INLET | 6 | EA | \$5,540.00 | \$33,240.00 | 6 | \$33,240.00 | 6 | \$0.00 | \$0.00 | 6 | \$33,240.00 | \$0.00 |
| C INLET | 18 | EA | \$2,310.00 | \$41,580.00 | 17 | \$39,270.00 | 17 | \$0.00 | \$0.00 | 17 | \$39,270.00 | \$0.00 |
| E INLET | 9 | EA | \$3,240.00 | \$29,160.00 | 9 | \$29,160.00 | 9 | \$0.00 | \$0.00 | 9 | \$29,160.00 | \$0.00 |
| 2400 STORMCEPTOR | 1 | EA | \$50,130.00 | \$50,130.00 | 1 | \$50,130.00 | 1 | \$0.00 | \$0.00 | 1 | \$50,130.00 | \$0.00 |
| 450 STORMCEPTOR | 3 | EA | \$22,270.00 | \$66,810.00 | 3 | \$66,810.00 | 3 | \$0.00 | \$0.00 | 3 | \$66,810.00 | \$0.00 |
| 7200 STORMCEPTOR | 1 | EA | \$110,000.00 | \$110,000.00 | 1 | \$110,000.00 | 1 | \$0.00 | \$0.00 | 1 | \$110,000.00 | \$0.00 |
| INLET PROTECTION 102 | 15 | EA | \$100.00 | \$1,500.00 | 15 | \$1,500.00 | 15 | \$0.00 | \$0.00 | 15 | \$1,500.00 | \$0.00 |
| GRATE INLET SKIMMERS | 8 | EA | \$1,630.00 | \$13,040.00 | 8 | \$13,040.00 | 8 | \$0.00 | \$0.00 | 8 | \$13,040.00 | \$0.00 |
| REMOVE EX. INLET | 2 | EA | \$500.00 | \$1,000.00 | 2 | \$1,000.00 | 2 | \$0.00 | \$0.00 | 2 | \$1,000.00 | \$0.00 |
| REMOVE 15 RCP | 30 | LF | \$9.00 | \$270.00 | 30 | \$270.00 | 30 | \$0.00 | \$0.00 | 30 | \$270.00 | \$0.00 |
| RIP RAP | 5 | TN | \$67.00 | \$335.00 | 5 | \$335.00 | 5 | \$0.00 | \$0.00 | 5 | \$335.00 | \$0.00 |
| FLOATING TURBIDITY CURTAIN | 460 | LF | \$15.00 | \$6,900.00 | 460 | \$6,900.00 | 460 | \$0.00 | \$0.00 | 460 | \$6,900.00 | \$0.00 |
| REMOVE MES AND RCP | 1 | EA | \$500.00 | \$500.00 | 1 | \$500.00 | 1 | \$0.00 | \$0.00 | 1 | \$500.00 | \$0.00 |
| MODIFY SEAWALL FOR PIPE CONNE | 4 | EA | \$10,000.00 | \$40,000.00 | 4 | \$40,000.00 | 4 | \$0.00 | \$0.00 | 4 | \$40,000.00 | \$0.00 |
| CONNECT TO EX. STRUCTURE | 1 | EA | \$500.00 | \$500.00 | 1 | \$500.00 | 1 | \$0.00 | \$0.00 | 1 | \$500.00 | \$0.00 |
| SILT FENCE | 1410 | LF | \$1.00 | \$1,410.00 | 300 | \$300.00 | 300 | \$0.00 | \$0.00 | 300 | \$300.00 | \$0.00 |
| BOND | 1 | LS | \$9,101.00 | \$9,101.00 | 1 | \$9,101.00 | 1 | \$0.00 | \$0.00 | 1 | \$9,101.00 | \$0.00 |
| SHOPPING CENTER DRIVEWAY REP. | 2 | EA | \$1,600.00 | \$3,200.00 | 2 | \$3,200.00 | 2 | \$0.00 | \$0.00 | 2 | \$3,200.00 | \$0.00 |
| ASPHALT DRIVEWAY REPAIR | 11 | EA | \$1,200.00 | \$13,200.00 | 11 | \$13,200.00 | 11 | \$0.00 | \$0.00 | 11 | \$13,200.00 | \$0.00 |
| CONCRETE DRIVEWAY REPAIR | 20 | EA | \$1,200.00 | \$24,000.00 | 20 | \$24,000.00 | 20 | \$0.00 | \$0.00 | 20 | \$24,000.00 | \$0.00 |
| GRAVEL/SHELL DRIVEWAY REPAIR | 11 | EA | \$300.00 | \$3,300.00 | 11 | \$3,300.00 | 11 | \$0.00 | \$0.00 | 11 | \$3,300.00 | \$0.00 |
| PAVER BRICK DRIVEWAY REPAIR | 7 | EA | \$1,100.00 | \$7,700.00 | 7 | \$7,700.00 | 7 | \$0.00 | \$0.00 | 7 | \$7,700.00 | \$0.00 |
| ROAD CROSSING REPAIR | 9 | EA | \$3,000.00 | \$27,000.00 | 9 | \$27,000.00 | 9 | \$0.00 | \$0.00 | 9 | \$27,000.00 | \$0.00 |
| ROAD REPAIR | 2054 | LF | \$25.00 | \$51,350.00 | 2054 | \$51,350.00 | 2054 | \$0.00 | \$0.00 | 2054 | \$51,350.00 | \$0.00 |
| CURB REPAIR | 20 | LF | \$35.00 | \$700.00 | 20 | \$700.00 | 20 | \$0.00 | \$0.00 | 20 | \$700.00 | \$0.00 |
| MOT | 1 | LS | \$8,000.00 | \$8,000.00 | 1 | \$8,000.00 | 1 | \$0.00 | \$0.00 | 1 | \$8,000.00 | \$0.00 |
| SOD | 10893 | SY | \$2.00 | \$21,786.00 | 10893 | \$21,786.00 | 10893 | \$0.00 | \$0.00 | 10893 | \$21,786.00 | \$0.00 |
| DENSITY TEST | 1 | LS | \$3,500.00 | \$3,500.00 | 1 | \$3,500.00 | 1 | \$0.00 | \$0.00 | 1 | \$3,500.00 | \$0.00 |
| GENERAL CONDITIONS | 1 | LS | \$18,000.00 | \$18,000.00 | 1 | \$18,000.00 | 1 | \$0.00 | \$0.00 | 1 | \$18,000.00 | \$0.00 |
| GEO TECHNICAL SERVICES | 1 | LS | \$3,000.00 | \$3,000.00 | 1 | \$3,000.00 | 1 | \$0.00 | \$0.00 | 1 | \$3,000.00 | \$0.00 |
| RELOCATE WATER SERVICES | 40 | EA | \$200.00 | \$8,000.00 | 0 | \$0.00 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 | \$0.00 |
| HOLD POWER POLE | 1 | EA | \$1,500.00 | \$1,500.00 | 1 | \$1,500.00 | 1 | \$0.00 | \$0.00 | 1 | \$1,500.00 | \$0.00 |
| FLAP GATE | 1 | ALLOW | \$15,000.00 | \$15,000.00 | 0 | \$0.00 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 | \$0.00 |
| VIDEO | 4500 | LF | \$0.35 | \$1,575.00 | 4500 | \$1,575.00 | 4500 | \$0.00 | \$0.00 | 4500 | \$1,575.00 | \$0.00 |
| CLEARING INCLUDING REMOVAL OF | 1 | LS | \$25,000.00 | \$25,000.00 | 1 | \$25,000.00 | 1 | \$0.00 | \$0.00 | 1 | \$25,000.00 | \$0.00 |
| TOTAL STORM DRAINAGE ADMENDMENT TWO | | | | | | \$874,556.41 | | | | | \$874,556.41 | |
| WATERMAIN | | | | | | | | | | | | |
| 8 INCH DR 18 WM | 8260 | LF | \$24.01 | \$198,322.60 | 8160 | \$195,921.60 | 8160 | \$0.00 | \$0.00 | 8160 | \$195,921.60 | \$0.00 |
| 8 INCH GATE VALVE | 11 | EA | \$1,360.00 | \$14,960.00 | 11 | \$14,960.00 | 11 | \$0.00 | \$0.00 | 11 | \$14,960.00 | \$0.00 |
| ARV | 1 | EA | \$2,810.00 | \$2,810.00 | 0 | \$0.00 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 | \$0.00 |
| 8 INCH DEFLECTION | 14 | EA | \$1,880.00 | \$26,320.00 | 14 | \$26,320.00 | 14 | \$0.00 | \$0.00 | 14 | \$26,320.00 | \$0.00 |
| FIRE HYDRANT | 15 | EA | \$4,150.00 | \$62,250.00 | 15 | \$62,250.00 | 15 | \$0.00 | \$0.00 | 15 | \$62,250.00 | \$0.00 |
| CONNECT TO EX. WATER MAIN | 5 | EA | \$4,490.00 | \$22,450.00 | 5 | \$22,450.00 | 5 | \$0.00 | \$0.00 | 5 | \$22,450.00 | \$0.00 |
| SINGLE WATER SERVICE SHORT | 60 | EA | \$650.00 | \$39,000.00 | 60 | \$39,000.00 | 60 | \$0.00 | \$0.00 | 60 | \$39,000.00 | \$0.00 |
| SINGLE WATER SERVICE LONG | 100 | EA | \$1,495.00 | \$149,500.00 | 100 | \$149,500.00 | 100 | \$0.00 | \$0.00 | 100 | \$149,500.00 | \$0.00 |
| DOUBLE WATER SERVICE SHORT | 11 | EA | \$831.00 | \$9,141.00 | 11 | \$9,141.00 | 11 | \$0.00 | \$0.00 | 11 | \$9,141.00 | \$0.00 |
| DOUBLE WATER SERVICE LOING | 34 | EA | \$1,702.00 | \$57,868.00 | 34 | \$57,868.00 | 34 | \$0.00 | \$0.00 | 34 | \$57,868.00 | \$0.00 |
| RECONNECT SINGLE WATER SERVIC | 160 | EA | \$100.00 | \$16,000.00 | 160 | \$16,000.00 | 160 | \$0.00 | \$0.00 | 160 | \$16,000.00 | \$0.00 |
| RECONNECT DOUBLE WATER SERV | 45 | EA | \$180.00 | \$8,100.00 | 45 | \$8,100.00 | 45 | \$0.00 | \$0.00 | 45 | \$8,100.00 | \$0.00 |
| 3/4 INCH DOUBLE DETECTOR CHECK V | 205 | EA | \$180.00 | \$36,900.00 | 205 | \$36,900.00 | 205 | \$0.00 | \$0.00 | 205 | \$36,900.00 | \$0.00 |
| NEW WATER METERS 5/8 - 3/4 | 205 | EA | \$365.00 | \$74,825.00 | 205 | \$74,825.00 | 205 | \$0.00 | \$0.00 | 205 | \$74,825.00 | \$0.00 |
| MOT | 1 | LS | \$5,000.00 | \$5,000.00 | 1 | \$5,000.00 | 1 | \$0.00 | \$0.00 | 1 | \$5,000.00 | \$0.00 |
| WATER MAIN TESTING | 1 | LS | \$14,000.00 | \$14,000.00 | 1 | \$14,000.00 | 1 | \$0.00 | \$0.00 | 1 | \$14,000.00 | \$0.00 |
| CONCRETE DRIVEWAY RESTORATIC | 33 | EA | \$1,200.00 | \$39,600.00 | 23 | \$27,600.00 | 23 | \$0.00 | \$0.00 | 23 | \$27,600.00 | \$0.00 |
| ASPHALT DRIVEWAY RESTORATION | 8 | EA | \$1,200.00 | \$9,600.00 | 14 | \$16,800.00 | 14 | \$0.00 | \$0.00 | 14 | \$16,800.00 | \$0.00 |

| | | | | | | | | | |
|--|---------|--|--------------|--------------|------|-------------|--------|------|--------------|
| 15 INCH RCP | 324 LF | | \$39.70 | \$12,862.80 | 324 | \$12,862.80 | \$0.00 | 324 | \$12,862.80 |
| 12X18 ERCP | 24 LF | | \$48.50 | \$1,164.00 | 24 | \$1,164.00 | \$0.00 | 24 | \$1,164.00 |
| TYPE C INLET FRAME AND PEDESTAL | 89 LF | | \$87.25 | \$7,765.25 | 89 | \$7,765.25 | \$0.00 | 89 | \$7,765.25 |
| ROAD REPAIR | 4 EA | | \$2,753.00 | \$11,012.00 | 4 | \$11,012.00 | \$0.00 | 4 | \$11,012.00 |
| ROAD CROSSING | 340 LF | | \$25.00 | \$8,500.00 | 340 | \$8,500.00 | \$0.00 | 340 | \$8,500.00 |
| SUBTOTAL | 1 EA | | \$3,000.00 | \$3,000.00 | 1 | \$3,000.00 | \$0.00 | 1 | \$3,000.00 |
| | | | \$44,304.05 | \$44,304.05 | | | \$0.00 | | \$44,304.05 |
| CHAPEL ST. (BAY SIDE) | | | | | | | | | |
| 15 INCH RCP | 26 LF | | \$39.70 | \$1,032.20 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 |
| TYPE C INLET FRAME AND PEDESTAL | 2 EA | | \$2,753.00 | \$5,506.00 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 |
| ROAD CROSSING | 1 EA | | \$3,000.00 | \$3,000.00 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 |
| SWALE | 340 LF | | \$8.00 | \$2,720.00 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 |
| SUBTOTAL | | | \$12,258.20 | \$12,258.20 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 |
| TOTAL BAY SIDE DRAINAGE NO GENERAL CONDITIONS | | | \$220,292.25 | \$220,292.25 | | | \$0.00 | | \$208,034.05 |
| GULF SIDE STORM DRAINAGE | | | | | | | | | |
| MIROMAR ST. GULF SIDE OPTION TWO STORM CAPTURE | | | | | | | | | |
| 3/4 INCH ASPHALT S-III ONE LIFT | 622 SY | | \$9.50 | \$5,909.00 | 622 | \$5,909.00 | \$0.00 | 622 | \$5,909.00 |
| 6 INCH LIMEROCK | 622 SY | | \$13.00 | \$8,086.00 | 622 | \$8,086.00 | \$0.00 | 622 | \$8,086.00 |
| 12 INCH STABILIZE SUBGRADE | 622 SY | | \$4.00 | \$2,488.00 | 622 | \$2,488.00 | \$0.00 | 622 | \$2,488.00 |
| STORM CAPTURE 6X12X3 | 4 EA | | \$21,480.00 | \$85,920.00 | 3 | \$64,440.00 | \$0.00 | 3 | \$64,440.00 |
| REMOVE CATCH BASIN | 1 EA | | \$500.00 | \$500.00 | 1 | \$500.00 | \$0.00 | 1 | \$500.00 |
| ADJUST SANITARY MANHOLE | 1 EA | | \$300.00 | \$300.00 | 1 | \$300.00 | \$0.00 | 1 | \$300.00 |
| RAISE EX. GRATE | 1 EA | | \$300.00 | \$300.00 | 1 | \$300.00 | \$0.00 | 1 | \$300.00 |
| REMOVE GEO WEB | 1 EA | | \$800.00 | \$800.00 | 1 | \$800.00 | \$0.00 | 1 | \$800.00 |
| REMOVE EX. 10 INCH PIPE | 20 LF | | \$10.00 | \$200.00 | 20 | \$200.00 | \$0.00 | 20 | \$200.00 |
| PLUG EX. 10 INCH PIPE | 1 EA | | \$100.00 | \$100.00 | 1 | \$100.00 | \$0.00 | 1 | \$100.00 |
| REGRADE EX. DRIVEWAY | 1 EA | | \$7,500.00 | \$7,500.00 | 1 | \$7,500.00 | \$0.00 | 1 | \$7,500.00 |
| REMOVE EX. HEDGE (Town to Replac | 1 LS | | \$1,900.00 | \$1,900.00 | 1 | \$1,900.00 | \$0.00 | 1 | \$1,900.00 |
| 15 INCH PERF RCP | 213 LF | | \$74.08 | \$15,779.04 | 213 | \$15,779.04 | \$0.00 | 213 | \$15,779.04 |
| 15 INCH RCP | 25 LF | | \$39.70 | \$992.50 | 25 | \$992.50 | \$0.00 | 25 | \$992.50 |
| TYPE C INLET FRAME AND PEDESTAL | 2 EA | | \$2,753.00 | \$5,506.00 | 2 | \$5,506.00 | \$0.00 | 2 | \$5,506.00 |
| TYPE E INLET WITH SKIMMERS, FRAM | 1 EA | | \$4,731.00 | \$4,731.00 | 1 | \$4,731.00 | \$0.00 | 1 | \$4,731.00 |
| SUBTOTAL | | | \$141,011.54 | \$141,011.54 | | | \$0.00 | | \$119,531.54 |
| CHAPEL ST. GULF SIDE ONLY OPTION TWO | | | | | | | | | |
| 3/4 INCH ASPHALT S-III ONE LIFT | 410 SY | | \$9.50 | \$3,895.00 | 410 | \$3,895.00 | \$0.00 | 410 | \$3,895.00 |
| 6 INCH LIMEROCK | 410 SY | | \$13.00 | \$5,330.00 | 410 | \$5,330.00 | \$0.00 | 410 | \$5,330.00 |
| 12 INCH STABILIZE SUBGRADE | 410 SY | | \$4.00 | \$1,640.00 | 410 | \$1,640.00 | \$0.00 | 410 | \$1,640.00 |
| STONE TRENCH | 1000 SF | | \$7.10 | \$7,100.00 | 1000 | \$7,100.00 | \$0.00 | 1000 | \$7,100.00 |
| 15 INCH RCP | 18 LF | | \$39.70 | \$714.60 | 18 | \$714.60 | \$0.00 | 18 | \$714.60 |
| 15 INCH PERF RCP | 151 LF | | \$74.08 | \$11,186.08 | 151 | \$11,186.08 | \$0.00 | 151 | \$11,186.08 |
| TYPE C INLET FRAME AND PEDESTAL | 2 EA | | \$2,753.00 | \$5,506.00 | 2 | \$5,506.00 | \$0.00 | 2 | \$5,506.00 |
| TYPE E INLET WITH SKIMMERS, FRAM | 1 EA | | \$4,731.00 | \$4,731.00 | 1 | \$4,731.00 | \$0.00 | 1 | \$4,731.00 |
| SUBTOTAL | | | \$40,102.68 | \$40,102.68 | | | \$0.00 | | \$40,102.68 |
| MANGO ST GULF SIDE ONLY OPTION TWO | | | | | | | | | |
| 3/4 INCH ASPHALT S-III ONE LIFT | 355 SY | | \$9.50 | \$3,372.50 | 355 | \$3,372.50 | \$0.00 | 355 | \$3,372.50 |
| 6 INCH LIMEROCK | 355 SY | | \$13.00 | \$4,615.00 | 355 | \$4,615.00 | \$0.00 | 355 | \$4,615.00 |
| 12 INCH STABILIZE SUBGRADE | 355 SY | | \$4.00 | \$1,420.00 | 355 | \$1,420.00 | \$0.00 | 355 | \$1,420.00 |
| STONE TRENCH | 1800 SF | | \$7.10 | \$12,780.00 | 1800 | \$12,780.00 | \$0.00 | 1800 | \$12,780.00 |
| 15 INCH RCP | 21 LF | | \$39.70 | \$833.70 | 21 | \$833.70 | \$0.00 | 21 | \$833.70 |
| 15 INCH PERF RCP | 130 LF | | \$74.08 | \$9,630.40 | 130 | \$9,630.40 | \$0.00 | 130 | \$9,630.40 |
| TYPE C INLET FRAME AND PEDESTAL | 2 EA | | \$2,753.00 | \$5,506.00 | 2 | \$5,506.00 | \$0.00 | 2 | \$5,506.00 |

| | | | | | | | | |
|---|-----------|----------------|----------------|--------|----------------|--------|--------|----------------|
| ROAD CROSSING | 18 EA | \$3,000.00 | \$54,000.00 | 18 | \$54,000.00 | \$0.00 | 18 | \$54,000.00 |
| CONNECT TO EX. WATER MAIN | 13 EA | \$4,490.00 | \$58,370.00 | 13 | \$58,370.00 | \$0.00 | 13 | \$58,370.00 |
| SINGLE WATER SERVICE SHORT | 107 EA | \$650.00 | \$69,550.00 | 107 | \$69,550.00 | \$0.00 | 107 | \$69,550.00 |
| SINGLE WATER SERVICE LONG | 128 EA | \$1,495.00 | \$191,360.00 | 128 | \$191,360.00 | \$0.00 | 128 | \$191,360.00 |
| RECONNECT SINGLE WATER SERVICE | 235 EA | \$100.00 | \$23,500.00 | 200 | \$20,000.00 | \$0.00 | 200 | \$20,000.00 |
| 2 INCH WATER SERVICE NO RELOC | 2 EA | \$2,100.00 | \$4,200.00 | 2 | \$4,200.00 | \$0.00 | 2 | \$4,200.00 |
| 2 INCH METER NO ADJUSTMENT OF | 2 EA | \$746.00 | \$1,492.00 | 2 | \$1,492.00 | \$0.00 | 2 | \$1,492.00 |
| RECONNECT 2 INCH WATER SERVICE | 2 EA | \$150.00 | \$300.00 | 2 | \$300.00 | \$0.00 | 2 | \$300.00 |
| 3/4 INCH DOUBLE DECTOR CHECK V | 235 EA | \$180.00 | \$42,300.00 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 |
| NEW WATER METERS 5/8 - 3/4 | 235 EA | \$65,775.00 | \$0.00 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 |
| MOT | 1 LS | \$5,000.00 | \$5,000.00 | 1 | \$5,000.00 | \$0.00 | 1 | \$5,000.00 |
| WATER MAIN TESTING | 1 LS | \$18,190.00 | \$18,190.00 | 1 | \$18,190.00 | \$0.00 | 1 | \$18,190.00 |
| CONCRETE DRIVEWAY RESTORATION | 22 EA | \$1,200.00 | \$26,400.00 | 22 | \$26,400.00 | \$0.00 | 22 | \$26,400.00 |
| ASPHALT DRIVEWAY RESTORATION | 1 EA | \$1,200.00 | \$1,200.00 | 1 | \$1,200.00 | \$0.00 | 1 | \$1,200.00 |
| STONE DRIVEWAY RESTORATION | 11 EA | \$300.00 | \$3,300.00 | 11 | \$3,300.00 | \$0.00 | 11 | \$3,300.00 |
| PAVER DRIVEWAY RESTORATION | 12 EA | \$1,000.00 | \$12,000.00 | 12 | \$12,000.00 | \$0.00 | 12 | \$12,000.00 |
| 3/4 INCH S-III ASPHALT | 7557 SY | \$9.50 | \$71,791.50 | 7557 | \$71,791.50 | \$0.00 | 7557 | \$71,791.50 |
| 6 INCH LIMEROCK | 7557 SY | \$13.00 | \$98,241.00 | 7557 | \$98,241.00 | \$0.00 | 7557 | \$98,241.00 |
| 12 INCH STABILIZE SUBGRADE | 7557 SY | \$4.00 | \$30,228.00 | 7557 | \$30,228.00 | \$0.00 | 7557 | \$30,228.00 |
| 3/4 INCH MILL/LEVELING COURSE FIN | 1 ALLOW | \$12,000.00 | \$12,000.00 | 1 | \$12,000.00 | \$0.00 | 1 | \$12,000.00 |
| 3/4 INCH ASPHALT OVERLAY S-III F | 20211 SY | \$5.75 | \$116,213.25 | 20211 | \$116,213.25 | \$0.00 | 20211 | \$116,213.25 |
| 3/4 INCH ASPHALT OVERLAY S-III FIN | 21111 SY | \$5.75 | \$121,388.25 | 21111 | \$121,388.25 | \$0.00 | 21111 | \$121,388.25 |
| ADJUST CATCH BAINS | 12 EA | \$500.00 | \$6,000.00 | 12 | \$6,000.00 | \$0.00 | 12 | \$6,000.00 |
| SOD | 10893 SY | \$2.00 | \$21,786.00 | 7315 | \$14,630.00 | \$0.00 | 7315 | \$14,630.00 |
| GENERAL CONDITIONS | 1 LS | \$20,000.00 | \$20,000.00 | 1 | \$20,000.00 | \$0.00 | 1 | \$20,000.00 |
| RELOCATE /REPAIR WATER SERVICE | 20 EA | \$200.00 | \$4,000.00 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 |
| VIDEO | 9095 LF | \$0.35 | \$3,183.25 | 9095 | \$3,183.25 | \$0.00 | 9095 | \$3,183.25 |
| CLEARING INCLUDE REMOVAL OF DI | 1 LS | \$29,000.00 | \$29,000.00 | 1 | \$29,000.00 | \$0.00 | 1 | \$29,000.00 |
| BOND | 1 LS | \$14,000.00 | \$14,000.00 | 1 | \$14,000.00 | \$0.00 | 1 | \$14,000.00 |
| DENSITY TESTING WATER MAIN | 1 LS | \$7,450.00 | \$7,450.00 | 1 | \$7,450.00 | \$0.00 | 1 | \$7,450.00 |
| INVESTIGATE UNKNOWN WATER SE | 1 ALLOW | \$25,000.00 | \$25,000.00 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 |
| TOTAL WATER MAIN | | \$1,579,690.67 | \$1,579,690.67 | 0 | \$1,406,339.67 | \$0.00 | 0 | \$1,406,339.67 |
| LEE COUNTY SEWER RELOCATION | | | | 0 | \$0.00 | \$0.00 | 0 | \$0.00 |
| RELOCATE EX. SEWER LATERALS | 20 EA | \$2,000.00 | \$40,000.00 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 |
| ADD DEWATER AND EXCAVATION CO | 422 LF | \$30.00 | \$12,660.00 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 |
| TOTAL LEE COUNTY SEWER RELOCATION | | \$0.00 | \$52,660.00 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 |
| CONTINGENCY | 1 LS | \$50,000.00 | \$50,000.00 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 |
| SUBTOTAL FOR CONTINGENCY | | \$0.00 | \$50,000.00 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 |
| TOTAL FOR AMENDMENT THREE | | \$2,558,388.85 | \$2,558,388.85 | 0 | \$2,234,360.13 | \$0.00 | 0 | \$2,234,360.13 |
| TOTAL FOR AMENDMENT ONE AND TWO AND THREE | | \$5,717,405.45 | \$5,717,405.45 | | \$5,087,375.70 | \$0.00 | | \$5,087,375.70 |
| AMENDMENT FIVE | | | | | | | | |
| AMENDMENT FIVE MOT | 12 DAY | \$2,163.77 | \$25,965.19 | 7 | \$15,146.39 | \$0.00 | 7 | \$15,146.39 |
| AMENDMENT 5 PIPE COAT AND SAN | 27851 SY | \$0.54 | \$15,011.69 | 25639 | \$15,011.69 | \$0.00 | 25639 | \$15,011.69 |
| AMENDMENT 5 1" ASPHALT | 27851 SY | \$7.68 | \$213,895.68 | 25639 | \$196,907.52 | \$0.00 | 25639 | \$196,907.52 |
| AMENDMENT 5 1 INCH ASPHALT MILL | 27851 SY | \$3.66 | \$102,018.21 | 22994 | \$102,018.21 | \$0.00 | 22994 | \$102,018.21 |
| AMENDMENT 5 REGRADE EX. LIMER | 27851 SY | \$3.30 | \$91,908.30 | 0 | \$0.00 | \$0.00 | 0 | \$0.00 |
| AMENDMENT 5 WATER TRUCK | 12 DAY | \$700.00 | \$8,400.00 | 2 | \$1,400.00 | \$0.00 | 2 | \$1,400.00 |
| AMENDMENT 5 LEVELING COURSE \$ | 1 ALLOW | \$25,000.00 | \$25,000.00 | 0 | \$18,484.40 | \$0.00 | 0 | \$18,484.40 |
| AMENDMENT 5 3/4 INCH OVERLAY R | -27879 SY | \$5.75 | -\$160,304.24 | -27879 | -\$160,304.25 | \$0.00 | -27879 | -\$160,304.25 |
| TOTAL FOR AMENDMENT FIVE | | \$48,951.00 | \$48,951.00 | 1 | \$48,951.00 | \$0.00 | 1 | \$48,951.00 |
| ADDITIONAL WORK REQUESTED BY OWNER | | | | | | | | |
| Elimination of dbl. water service to | | | | | | | | |
| single services | 1 LS | \$48,951.00 | \$48,951.00 | 1 | \$48,951.00 | \$0.00 | 1 | \$48,951.00 |

| | | | | | | | | | |
|---|------|----------------|----------------|----------------|--|---|--------------|---|----------------|
| Tropical Shores storm drainage change | 1 LS | \$43,324.72 | \$43,324.72 | | | 1 | \$43,324.72 | 1 | \$43,324.72 |
| Add Gulf Beach Storm Drainage | 1 LS | \$166,840.46 | \$166,840.46 | | | 1 | \$166,840.46 | 1 | \$166,840.46 |
| add two storm inlets gulfside manate | | | | | | | | | |
| storm drainage | 1 LS | \$8,045.00 | \$8,045.00 | | | 1 | \$8,045.00 | 1 | \$8,045.00 |
| Bay View & Virginia storm change | 1 LS | \$19,080.00 | \$19,080.00 | | | 1 | \$19,080.00 | 1 | \$19,080.00 |
| Add 3 Manatee Grates | 1 LS | \$10,155.00 | \$10,155.00 | | | 1 | \$10,155.00 | 1 | \$10,155.00 |
| Add Labor only install water meter | 1 LS | \$22,795.00 | \$22,795.00 | | | 1 | \$22,795.00 | 1 | \$22,795.00 |
| Add labor only 3/4" check valve | 1 LS | \$23,500.00 | \$23,500.00 | | | 1 | \$23,500.00 | 1 | \$23,500.00 |
| Add Watermain at Gulf Beach Road | 1 LS | \$32,362.90 | \$32,362.90 | | | 1 | \$32,362.90 | 1 | \$32,362.90 |
| SUBTOTAL OF ADDED WORK | | | | | | 0 | \$375,054.08 | 0 | \$375,054.08 |
| TOTAL FOR AMENDMENT ONE, TWO, THREE, FIVE AND ADDITIONAL WORK | | \$5,717,405.45 | \$5,717,405.45 | \$5,276,039.66 | | 0 | \$0.00 | 0 | \$0.00 |
| | | | | | | | \$375,054.08 | | \$5,651,093.74 |

SCOPE OF WORK FOR THIS GMP (AMENDMENT SEVEN)

This GMP does not include all the work that is proposed for the Design-Build Services for Phase 1 Water Distribution System Improvements. The scope of work for amendment seven is to provide a reconciling change order and additional work for Neighborhood Streets, Bay Beach Lane, and Laguna Shores.

TASK INDEX

TASK 1.0 Neighborhood Streets

Additional storm drainage and water main scope of work was added by Fort Myers Beach for the Neighborhood Streets,

ADDITIONAL WORK TO ADDED BY CHANGE ORDER

| | | |
|---|---|--------------|
| 1 | Elimination of double water services to all single water services | \$48,951.00 |
| 2 | TROPICAL SHORES STORM DRAINAGE CHANGE | \$43,324.72 |
| 3 | ADD GULF BEACH STORM DRAINAGE | \$166,840.46 |
| 4 | ADD TWO STORM INLETS GULF SIDE MANATEE STORM DRAINAGE | \$8,045.00 |
| 5 | BAY VIEW VIRGINA STORM CHANGE | \$19,080.00 |
| 6 | ADD 3 MANATEE GRATES | \$10,155.00 |
| 7 | ADD LABOR ONLY INSTALL WATER METER (OWNER PROVIDING MATERIAL) 235EA@\$97.00 | \$22,795.00 |
| 8 | ADD LABOR ONLY INSTALL 3/4 INCH CHECK VAVLE (OWNER PROVIDING MATERIAL) 235 EA @ \$100.00 | \$23,500.00 |
| 9 | ADD WATERMAIN GULF BEACH ROAD | \$32,362.90 |

TOTAL ADD TO CONTRACT **\$375,054.08**

CREDIT FROM RECONCILING FINAL PAY ESTIMATE **\$763,260.62**

TOTAL CREDIT TO CONTRACT **\$388,206.54**

CREDIT APPLICABLE TO LEE COUNTY **\$169,882.00**

CREDIT FOR TOWN OF FORT MYERS BEACH WORK **\$218,324.54**



TETRA TECH

Tetra Tech
10600 Chevrolet Way
Suite 300
Estero, FL 33928

tetratech.com